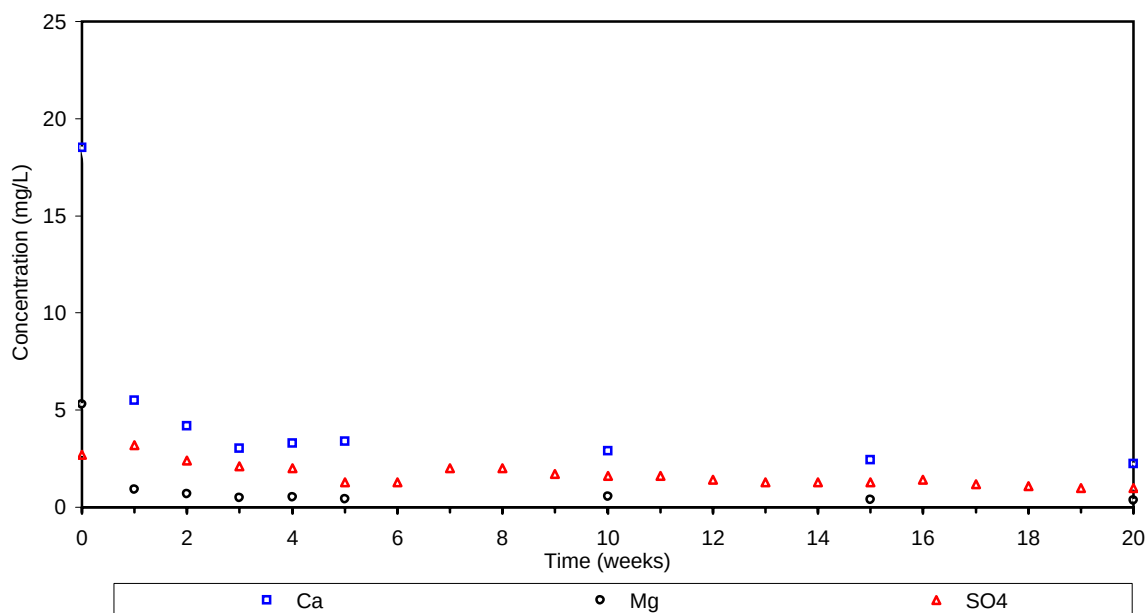




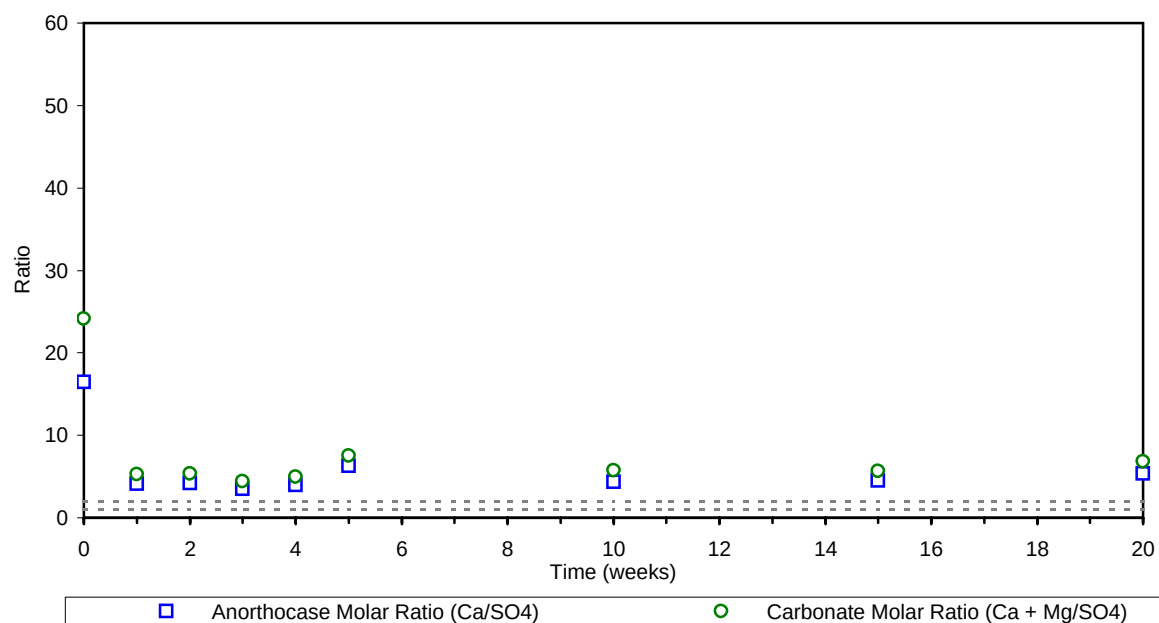
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate F37 Comb TIs



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio F37 Comb TIs





Test Specimen

Sample	Weight (g)
Master Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
			10296-DEC10	10297-DEC10	10298-DEC10	10026-JAN11	10055-JAN11	10084-JAN11	10113-JAN11	10025-FEB11	10054-FEB11	10083-FEB11	10115-FEB11	10024-MAR11
LIMS														
Hum Cell Leachate Vol	mLs		830	897	910	939	908	865	882	883	914	937	926	904
²²⁸ Ra	Bq/L	0.37	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
²²⁸ Ra	Bq/L		0.5	---	---	---	---	< 0.1	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.67	7.53	8.15	7.49	7.16	6.87	*6.84	7.11	7.14	7.12	7.08	7.05
Conductivity	µS/cm		75	65	153	33	22	18	15	22	21	24	26	15
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		29	25	62	12	9	7	6	8	9	9	10	7
SO ₄	mg/L		3.0	3.0	9.2	1.0	0.7	0.5	0.6	0.9	0.9	0.8	0.9	0.8
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L		0.02	< 0.01	< 0.01	< 0.01	0.02	< 0.01	---	---	---	---	0.02	---
As	mg/L	0.50	0.0005	0.0003	0.0009	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	0.0002	---
B	mg/L		0.0174	0.0135	0.0393	0.0083	0.0052	0.0057	---	---	---	---	0.0064	---
Ba	mg/L		0.00142	0.00152	0.00412	0.00064	0.00105	0.00036	---	---	---	---	0.00071	---
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---	< 0.00002	---
Bi	mg/L		0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L		6.83	6.81	21.4	4.10	2.80	2.01	---	---	---	---	2.80	---
Cd	mg/L		< 0.000003	< 0.000003	0.000015	< 0.000003	< 0.000003	< 0.000003	---	---	---	---	0.000012	---
Co	mg/L		0.000042	0.000067	0.000076	0.000051	< 0.000002	< 0.000002	---	---	---	---	0.000028	---
Cr	mg/L		0.0013	0.0010	0.0027	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0009	0.0007	0.0027	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Fe	mg/L		0.004	0.004	0.005	< 0.002	0.007	0.009	---	---	---	---	0.031	---
K	mg/L		1.61	1.20	2.84	0.607	0.466	0.310	---	---	---	---	0.496	---
Li	mg/L		0.003	0.002	0.006	0.001	< 0.001	< 0.001	---	---	---	---	0.001	---
Mg	mg/L		1.24	1.05	3.16	0.483	0.362	0.248	---	---	---	---	0.403	---
Mn	mg/L		0.0416	0.0410	0.0946	0.0812	0.0467	0.0360	---	---	---	---	0.0468	---
Mo	mg/L		0.0164	0.0129	0.0334	0.00513	0.00244	0.00187	---	---	---	---	0.00334	---
Na	mg/L		4.42	3.41	9.19	1.22	0.89	0.64	---	---	---	---	0.81	---
Ni	mg/L	0.50	0.0011	0.0010	0.0040	0.0007	0.0004	0.0002	---	---	---	---	0.0002	---
Pb	mg/L	0.20	0.00005	< 0.00002	0.00004	< 0.00002	< 0.00002	0.00037	---	---	---	---	0.00006	---
Sb	mg/L		0.0008	0.0004	0.0009	0.0003	< 0.0002	0.0002	---	---	---	---	0.0003	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		1.01	0.91	2.57	0.50	0.31	0.19	---	---	---	---	0.52	---
Sn	mg/L		0.00946	0.00225	0.00121	0.00023	0.00012	0.00017	---	---	---	---	0.00045	---
Sr	mg/L		0.0211	0.0190	0.0597	0.0097	0.0071	0.0047	---	---	---	---	0.0073	---
Th	mg/L		0.000172	< 0.000004	< 0.000004	0.000024	< 0.000004	0.000008	---	---	---	---	0.000016	---
Ti	mg/L		< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0002	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00474	0.00426	0.0116	0.00129	0.000815	0.000903	---	---	---	---	0.000770	---
V	mg/L		0.00004	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L		0.000361	0.000154	0.000255	0.000173	0.000067	0.000090	---	---	---	---	0.000324	---
Zn	mg/L	0.50	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	---	---	---	---	0.002	---
Zr	mg/L		0.00239	0.00037	0.00063	0.00050	0.00011	0.00025	---	---	---	---	0.00018	---

*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.

*Reassay LIMS 11100-FEB11

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html>



Test Specimen

Sample	Weight (g)
Master TIs	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	12	13	14	15	16	17	18	19	20
LIMS			10054-MAR11	10090-MAR11	10122-MAR11	10243-MAR11	10027-APR11	10060-APR11	10149-APR11	11075-APR11	10037-MAY11
Hum Cell Leachate Vol	mLs		899	881	885	897	875	887	930	935	930
²²⁶ Ra	Bq/L	0.37	---	---	---	0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.3
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	6.89	6.90	*6.87	6.86	6.88	7.05	6.96	7.15	7.07
Conductivity	µS/cm		15	12	16	14	**14	***15	20	18	22
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		8	6	6	6	6	7	8	8	8
SO ₄	mg/L		0.7	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	< 0.01	---	---	---	---	< 0.01
As	mg/L	0.50	---	---	---	0.0002	---	---	---	---	< 0.0002
B	mg/L		---	---	---	0.0041	---	---	---	---	0.0035
Ba	mg/L		---	---	---	0.00033	---	---	---	---	0.00055
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	1.82	---	---	---	---	2.35
Cd	mg/L		---	---	---	0.000005	---	---	---	---	0.000007
Co	mg/L		---	---	---	0.000011	---	---	---	---	0.000030
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	0.005	---	---	---	---	< 0.002
K	mg/L		---	---	---	0.36	---	---	---	---	0.376
Li	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L		---	---	---	0.272	---	---	---	---	0.373
Mn	mg/L		---	---	---	0.0243	---	---	---	---	0.0344
Mo	mg/L		---	---	---	0.00233	---	---	---	---	0.00212
Na	mg/L		---	---	---	0.54	---	---	---	---	0.56
Ni	mg/L	0.50	---	---	---	0.0002	---	---	---	---	0.0001
Pb	mg/L	0.20	---	---	---	< 0.00002	---	---	---	---	0.00003
Sb	mg/L		---	---	---	< 0.0002	---	---	---	---	0.0003
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	0.35	---	---	---	---	0.40
Sn	mg/L		---	---	---	0.00011	---	---	---	---	< 0.00001
Sr	mg/L		---	---	---	0.0046	---	---	---	---	0.0058
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	< 0.000004
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000364	---	---	---	---	0.00037
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000035	---	---	---	---	0.000064
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	< 0.001
Zr	mg/L		---	---	---	0.00003	---	---	---	---	0.00006

*Department of Justice Canada. 2002. Metal Mining Effluent
Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002>

*Reassay LIMS 11272-APR11

**Reassay LIMS 10213-MAY11

***Reassay LIMS 10214-MAY11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Master Tls	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11295-NOV10
Sulphur (S)	%	0.006
Sulphide (S ⁻)	%	<0.01
NP	t CaCO ₃ /1000 t	22.4
CO ₃ NP	t CaCO ₃ /1000 t	13.4

Leachate Parameters Measured

Acid Generation ¹

Acid Neutralization ¹

Weekly Leach No.	Volume Collected mL	pH units	Acidity CaCO ₃ eq. mg/L	Alkalinity CaCO ₃ eq. mg/L	Conductivity μS/cm	SO ₄ mg/L	SO ₄ Production Rate g/t/wk	Cumulative SO ₄ Production g/t	Weekly S ⁼ Depletion %	Cumulative S ⁼ Depletion %	NP Consumption CaCO ₃ , g/t/wk	Cumulative NP Depletion %	Cumulative CO ₃ NP Depletion %
0	830	7.67	<2	29	75	3.0	2.5	2.5	0.83	0.83	2.59	0.01	0.02
1	897	7.53	<2	25	65	3.0	2.7	5.2	0.90	1.73	2.80	0.02	0.04
2	910	8.15	<2	62	153	9.2	8.4	13.6	2.79	4.52	8.72	0.06	0.11
3	939	7.49	<2	12	33	1.0	0.9	14.5	0.31	4.83	0.98	0.07	0.11
4	908	7.16	<2	9	22	0.7	0.6	15.1	0.21	5.04	0.66	0.07	0.12
5	865	6.87	<2	7	18	0.5	0.4	15.6	0.14	5.19	0.45	0.07	0.12
6	882	6.84	<2	6	15	0.6	0.5	16.1	0.18	5.36	0.55	0.07	0.13
7	883	7.11	<2	8	22	0.9	0.8	16.9	0.26	5.63	0.83	0.08	0.13
8	914	7.14	<2	9	21	0.9	0.8	17.7	0.27	5.90	0.86	0.08	0.14
9	937	7.12	<2	9	24	0.8	0.7	18.5	0.25	6.15	0.78	0.09	0.14
10	926	7.08	<2	10	26	0.9	0.8	19.3	0.28	6.43	0.87	0.09	0.15
11	904	7.05	<2	7	15	0.8	0.7	20.0	0.24	6.67	0.75	0.09	0.16
12	899	6.89	<2	8	15	0.7	0.6	20.6	0.21	6.88	0.66	0.10	0.16
13	881	6.90	<2	6	12	0.6	0.5	21.2	0.18	7.06	0.55	0.10	0.16
14	885	6.87	<2	6	16	0.6	0.5	21.7	0.18	7.23	0.55	0.10	0.17
15	897	6.86	<2	6	14	0.7	0.6	22.3	0.21	7.44	0.65	0.10	0.17
16	875	6.88	<2	6	14	0.7	0.6	22.9	0.20	7.65	0.64	0.11	0.18
17	887	7.05	<2	7	15	0.6	0.5	23.5	0.18	7.82	0.55	0.11	0.18
18	930	6.96	<2	8	20	0.6	0.6	24.0	0.19	8.01	0.58	0.11	0.19
19	935	7.15	<2	8	18	0.6	0.6	24.6	0.19	8.20	0.58	0.11	0.19
20	930	7.07	<2	8	22	0.6	0.6	25.2	0.19	8.38	0.58	0.12	0.20

* Initial Week 0 leachate may include soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.

¹ Calculated values

Summary - Weeks 0 to 20

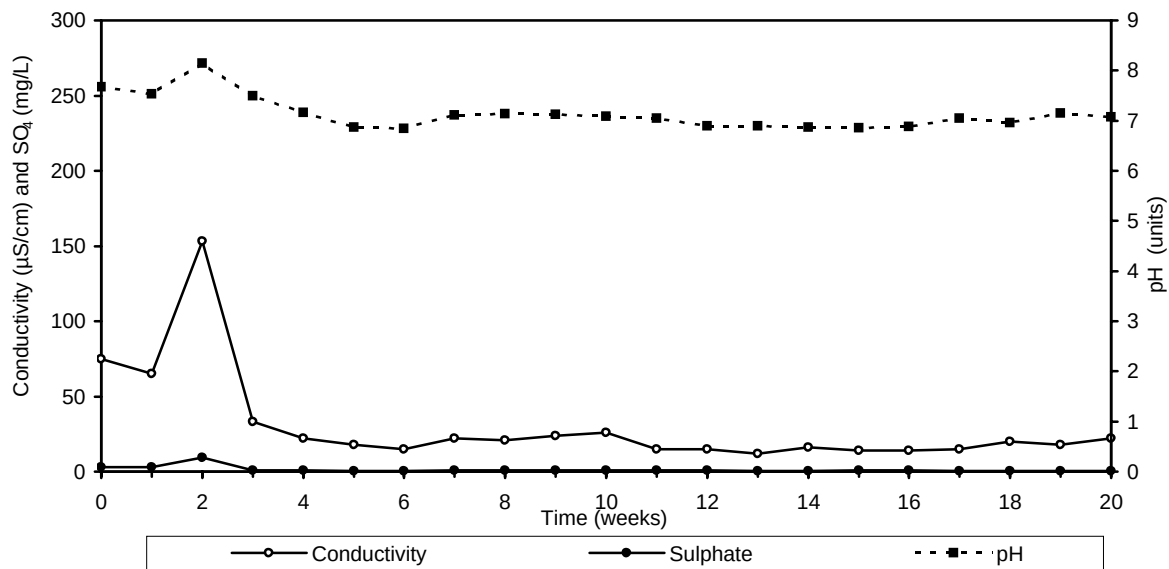
Maximum Value	8.15	2	62	153	9.2	8.4	-	2.79	-	8.7	-	-
Minimum Value	6.84	<2	6	12	0.5	0.4	-	0.14	-	0.5	-	-
Average Value	7.05	2	12	30	1.3	1.2	-	0.40	-	1.25	-	-



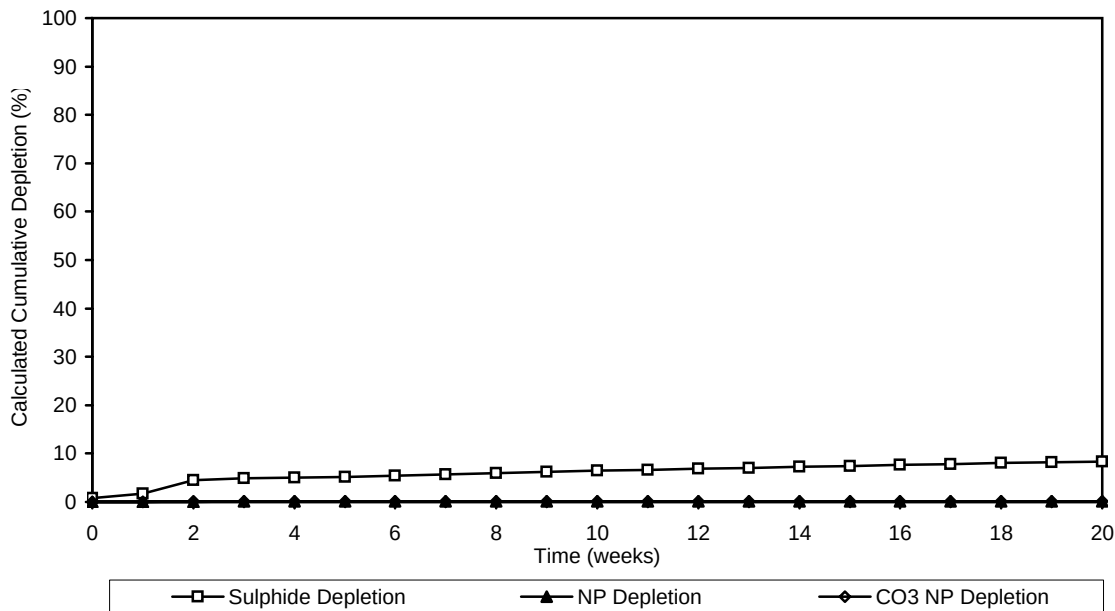
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate Master TIs



Cumulative Sulphide and NP Depletion Master TIs



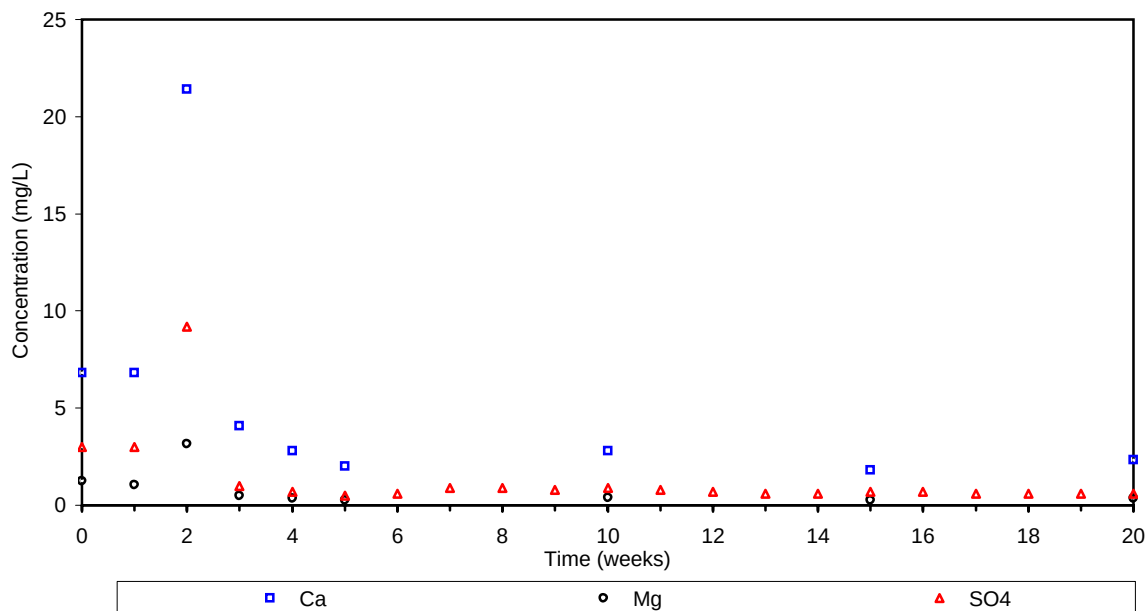
Note: NP depletion calculated based on sulphate assay.



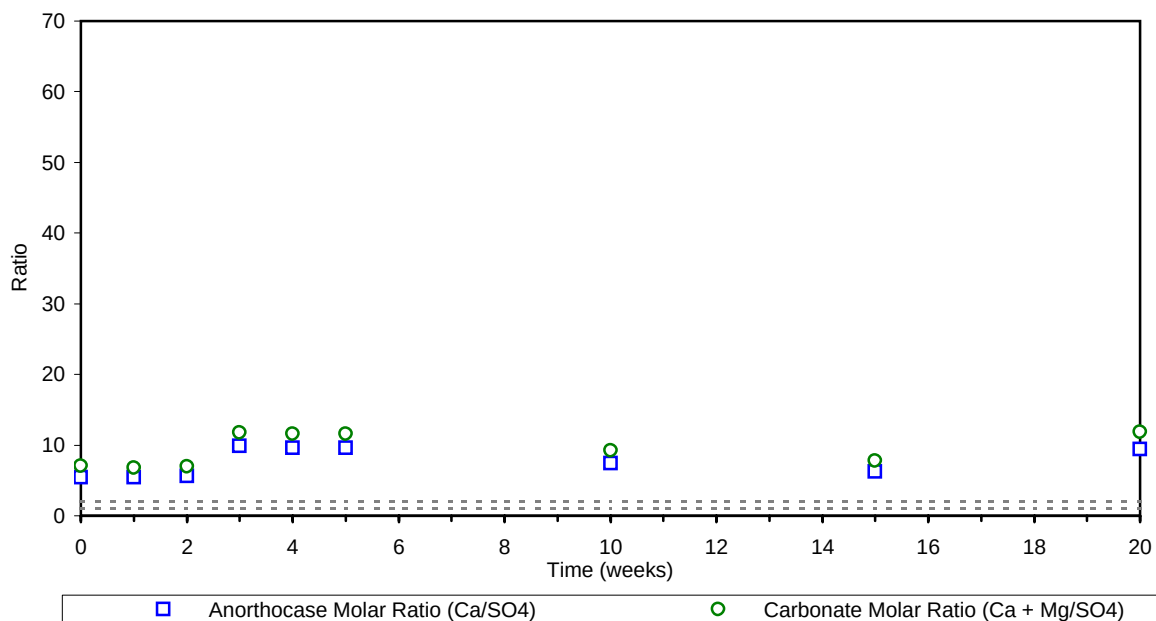
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Master TIs



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio Master TIs





Test Specimen

Sample	Weight (g)
XPS PP Comp 1 Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
			10296-DEC10	10297-DEC10	10298-DEC10	10026-JAN11	10055-JAN11	10084-JAN11	10113-JAN11	10025-FEB11	10054-FEB11	10083-FEB11	10115-FEB11	10024-MAR11
LIMS														
Hum Cell Leachate Vol	mLs		823	978	975	961	954	913	961	934	951	944	949	952
²²⁸ Ra	Bq/L	0.37	0.01	---	---	---	---	0.07	---	---	---	---	< 0.01	---
²²⁸ Ra	Bq/L		< 0.6	---	---	---	---	< 0.1	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.72	7.79	7.63	7.56	7.19	6.94	* 6.89	7.19	7.11	7.07	6.86	7.18
Conductivity	µS/cm		95	79	55	44	36	30	26	31	30	27	28	23
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		27	25	15	13	10	8	7	9	8	8	8	9
SO ₄	mg/L		11	11	6.5	5.0	4.5	3.6	3.1	4.1	3.9	3.4	3.2	3.0
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L		0.05	0.04	0.02	0.02	0.02	0.01	---	---	---	---	0.06	---
As	mg/L	0.50	0.0005	0.0003	0.0004	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
B	mg/L		0.0196	0.0178	0.0141	0.0104	0.0088	0.0082	---	---	---	---	0.0072	---
Ba	mg/L		0.00128	0.00121	0.00071	0.00056	0.00054	0.00050	---	---	---	---	0.00057	---
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---	< 0.00002	---
Bi	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L		6.85	7.61	5.47	4.05	3.30	2.92	---	---	---	---	2.31	---
Cd	mg/L		< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000006	---	---	---	---	0.000019	---
Co	mg/L		0.000038	0.000052	0.000009	0.000013	< 0.000002	< 0.000002	---	---	---	---	0.000021	---
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Fe	mg/L		0.038	0.037	0.016	0.010	0.004	0.017	---	---	---	---	0.077	---
K	mg/L		4.22	3.71	2.30	2.18	1.86	1.49	---	---	---	---	1.41	---
Li	mg/L		0.003	0.003	0.002	0.002	0.001	0.001	---	---	---	---	0.001	---
Mg	mg/L		1.17	1.31	0.840	0.627	0.553	0.469	---	---	---	---	0.413	---
Mn	mg/L		0.0530	0.0550	0.0488	0.0444	0.0249	0.0264	---	---	---	---	0.0250	---
Mo	mg/L		0.0161	0.0133	0.00763	0.00638	0.00539	0.00419	---	---	---	---	0.00395	---
Na	mg/L		5.35	5.55	3.16	2.25	1.98	1.72	---	---	---	---	1.27	---
Ni	mg/L	0.50	0.0008	0.0005	0.0004	0.0003	0.0002	0.0002	---	---	---	---	0.0002	---
Pb	mg/L	0.20	0.00009	0.00002	< 0.00002	< 0.00002	< 0.00002	0.00061	---	---	---	---	0.00003	---
Sb	mg/L		0.0009	0.0006	0.0005	0.0004	0.0003	0.0003	---	---	---	---	0.0003	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		0.74	0.75	0.46	0.46	0.36	0.31	---	---	---	---	0.48	---
Sn	mg/L		0.00470	0.00275	0.00077	0.00044	0.00038	0.00038	---	---	---	---	0.00065	---
Sr	mg/L		0.0195	0.0497	0.0127	0.0100	0.0086	0.0073	---	---	---	---	0.0058	---
Th	mg/L		0.000088	0.000017	< 0.000004	0.000025	< 0.000004	0.000013	---	---	---	---	0.000052	---
Ti	mg/L		0.0003	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0003	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00215	0.00208	0.00121	0.000901	0.000669	0.000592	---	---	---	---	0.000469	---
V	mg/L		0.00004	0.00003	< 0.00003	< 0.00003	< 0.00003	0.00003	---	---	---	---	< 0.00003	---
Y	mg/L		0.000572	0.000471	0.000225	0.000195	0.000062	0.000258	---	---	---	---	0.000558	---
Zn	mg/L	0.50	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	0.002	---
Zr	mg/L		0.00511	0.00362	0.00152	0.00157	0.00045	0.00157	---	---	---	---	0.00065	---

*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.

*Reassay LIMS 11100-FEB11

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html>



Test Specimen

Sample	Weight (g)
XPS PP Comp 1 Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	12	13	14	15	16	17	18	19	20
			10054-MAR11	10090-MAR11	10122-MAR11	10243-MAR11	10027-APR11	10060-APR11	10149-APR11	11075-APR11	10037-MAY11
LIMS											
Hum Cell Leachate Vol	mLs		955	940	940	956	938	943	934	947	965
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	0.2	---	---	---	---	< 0.2
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	6.92	6.99	*7.11	6.98	7.00	7.19	7.20	7.17	7.03
Conductivity	µS/cm		27	18	23	20	**19	18	23	20	26
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		8	8	8	7	7	7	8	8	8
SO ₄	mg/L		2.9	2.6	2.4	2.3	2.3	2.1	2.2	2.0	1.8
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	0.02	---	---	---	---	0.02
As	mg/L	0.50	---	---	---	< 0.0002	---	---	---	---	< 0.0002
B	mg/L		---	---	---	0.0072	---	---	---	---	0.0060
Ba	mg/L		---	---	---	0.00044	---	---	---	---	0.00049
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	2.20	---	---	---	---	2.09
Cd	mg/L		---	---	---	0.000004	---	---	---	---	0.000021
Co	mg/L		---	---	---	0.000009	---	---	---	---	0.000023
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	0.002	---	---	---	---	0.009
K	mg/L		---	---	---	1.31	---	---	---	---	1.11
Li	mg/L		---	---	---	0.001	---	---	---	---	< 0.001
Mg	mg/L		---	---	---	0.391	---	---	---	---	0.405
Mn	mg/L		---	---	---	0.0289	---	---	---	---	0.0331
Mo	mg/L		---	---	---	0.00297	---	---	---	---	0.00201
Na	mg/L		---	---	---	1.11	---	---	---	---	0.95
Ni	mg/L	0.50	---	---	---	0.0001	---	---	---	---	0.0001
Pb	mg/L	0.20	---	---	---	< 0.00002	---	---	---	---	< 0.00002
Sb	mg/L		---	---	---	< 0.0002	---	---	---	---	0.0003
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	0.38	---	---	---	---	0.37
Sn	mg/L		---	---	---	0.00021	---	---	---	---	0.00004
Sr	mg/L		---	---	---	0.0052	---	---	---	---	0.0048
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	0.000006
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000380	---	---	---	---	0.000388
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000052	---	---	---	---	0.000144
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	0.001
Zr	mg/L		---	---	---	0.00020	---	---	---	---	0.00083

*Department of Justice Canada. 2002. Metal Mining Effluent
Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002>

*Reassay LIMS 11272-APR11 **Reassay LIMS 10213-MAY11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
XPS PP Comp 1 TIs	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11295-NOV10
Sulphur (S)	%	0.007
Sulphide (S ⁻)	%	<0.01
NP	t CaCO ₃ /1000 t	18.3
CO ₃ NP	t CaCO ₃ /1000 t	8.5

Leachate Parameters Measured

Acid Generation ¹

Acid Neutralization ¹

Weekly Leach No.	Volume Collected mL	pH units	Acidity CaCO ₃ eq. mg/L	Alkalinity CaCO ₃ eq. mg/L	Conductivity μS/cm	SO ₄ mg/L	SO ₄ Production Rate g/t/wk	Cumulative SO ₄ Production g/t	Weekly S ⁼ Depletion %	Cumulative S ⁼ Depletion %	NP Consumption CaCO ₃ , g/t/wk	Cumulative NP Depletion %	Cumulative CO ₃ NP Depletion %
0	823	7.72	<2	27	95	11	9.1	9.1	3.02	3.02	9.43	0.05	0.11
1	978	7.79	<2	25	79	11	10.8	19.8	3.59	6.60	11.21	0.11	0.24
2	975	7.63	<2	15	55	6.5	6.3	26.1	2.11	8.72	6.60	0.15	0.32
3	961	7.56	<2	13	44	5.0	4.8	31.0	1.60	10.32	5.01	0.18	0.38
4	954	7.19	<2	10	36	4.5	4.3	35.2	1.43	11.75	4.47	0.20	0.43
5	913	6.94	<2	8	30	3.6	3.3	38.5	1.10	12.84	3.42	0.22	0.47
6	961	6.89	<2	7	26	3.1	3.0	41.5	0.99	13.84	3.10	0.24	0.51
7	934	7.19	<2	9	31	4.1	3.8	45.3	1.28	15.11	3.99	0.26	0.56
8	951	7.11	<2	8	30	3.9	3.7	49.1	1.24	16.35	3.86	0.28	0.60
9	944	7.07	<2	8	27	3.4	3.2	52.3	1.07	17.42	3.34	0.30	0.64
10	949	6.86	<2	8	28	3.2	3.0	55.3	1.01	18.43	3.16	0.31	0.68
11	952	7.18	<2	9	23	3.0	2.9	58.2	0.95	19.38	2.98	0.33	0.71
12	955	6.92	<2	8	27	2.9	2.8	60.9	0.92	20.31	2.88	0.35	0.75
13	940	6.99	<2	8	18	2.6	2.4	63.4	0.81	21.12	2.55	0.36	0.78
14	940	7.11	<2	8	23	2.4	2.3	65.6	0.75	21.87	2.35	0.37	0.80
15	956	6.98	<2	7	20	2.3	2.2	67.8	0.73	22.61	2.29	0.39	0.83
16	938	7.00	<2	7	19	2.3	2.2	70.0	0.72	23.33	2.25	0.40	0.86
17	943	7.19	<2	7	18	2.1	2.0	72.0	0.66	23.99	2.06	0.41	0.88
18	934	7.20	<2	8	23	2.2	2.1	74.0	0.68	24.67	2.14	0.42	0.91
19	947	7.17	<2	8	20	2	1.9	75.9	0.63	25.30	1.97	0.43	0.93
20	965	7.03	<2	8	26	1.8	1.7	77.6	0.58	25.88	1.81	0.44	0.95

* Initial Week 0 leachate may include soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.

¹ Calculated values

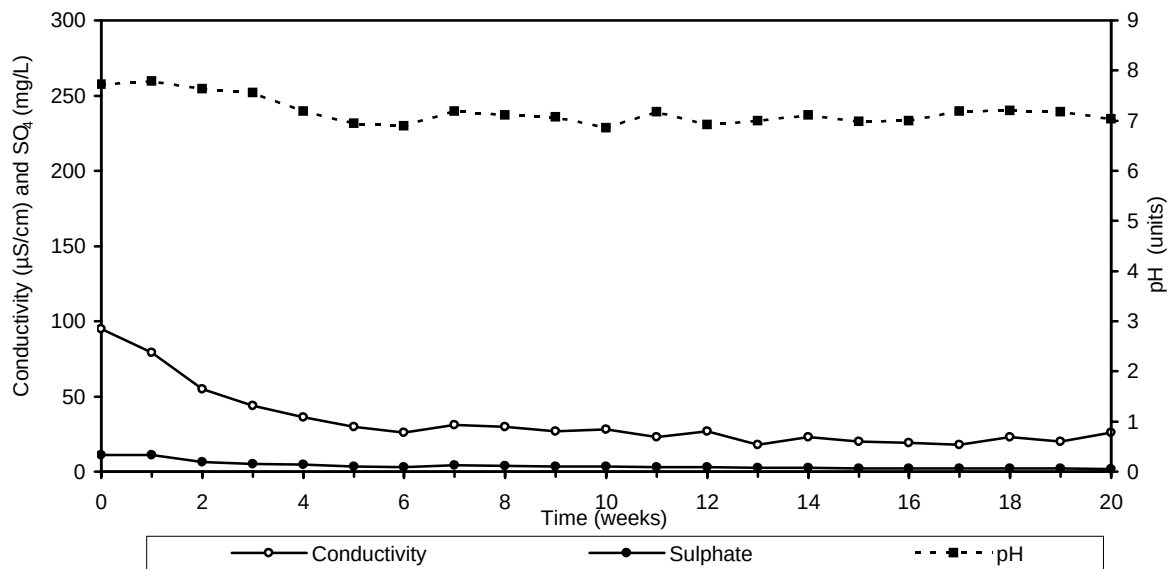
Summary - Weeks 0 to 20

Maximum Value	7.79	2	27	95	11	10.8	-	3.59	-	11.2	-	-
Minimum Value	6.86	<2	7	18	1.8	1.7	-	0.58	-	1.8	-	-
Average Value	7.11	2	10	33	3.9	3.7	-	1.23	-	3.85	-	-

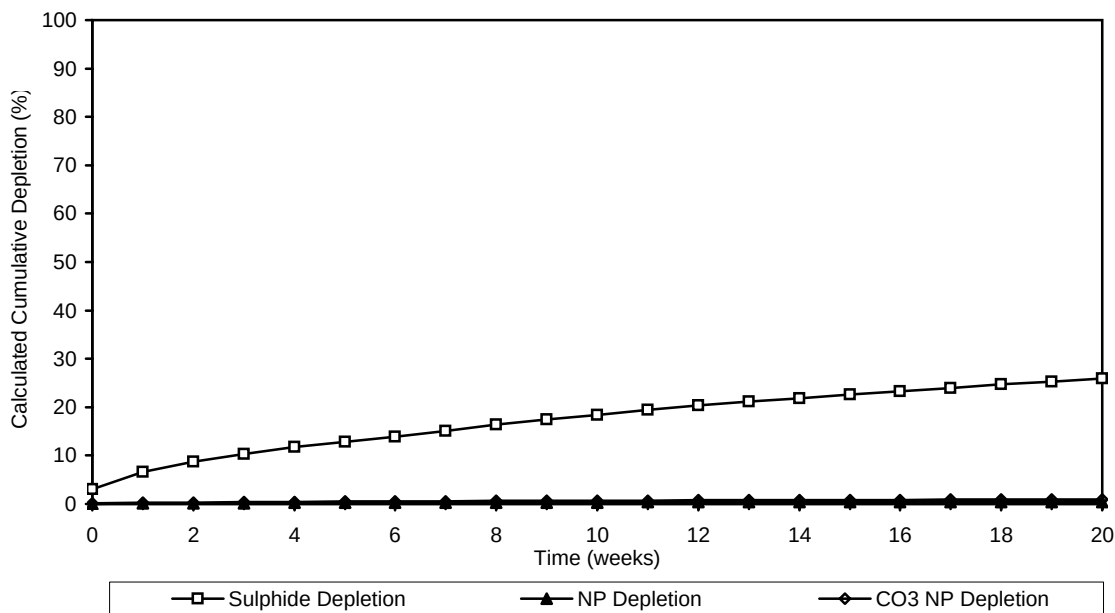
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate XPS PP Comp 1 TIs



Cumulative Sulphide and NP Depletion XPS PP Comp 1 TIs



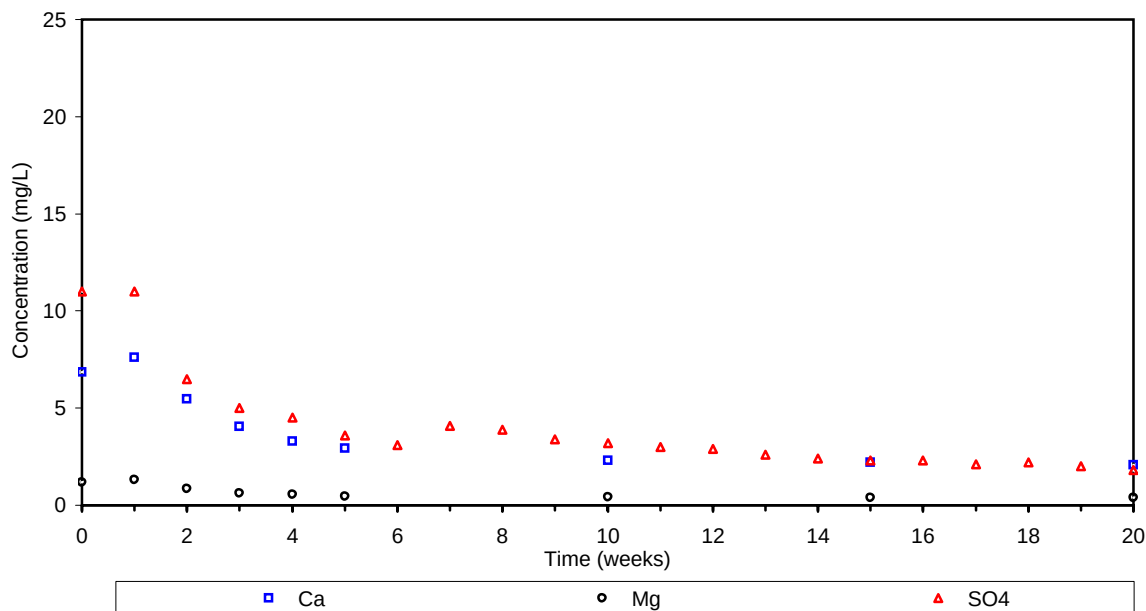
Note: NP depletion calculated based on sulphate assay.



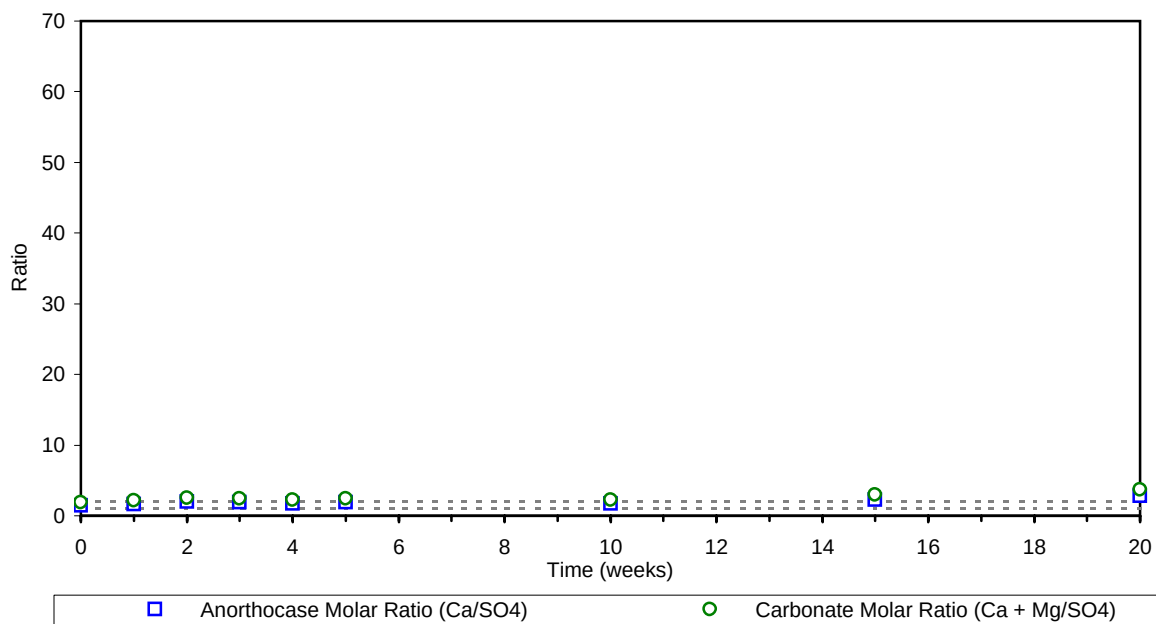
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate XPS PP Comp 1 Tls



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio XPS PP Comp 1 Tls





Test Specimen

Sample	Weight (g)
XPS PP Comp 2 Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
LIMS			10263-JAN11	10264-JAN11	10088-FEB11	10089-FEB11	10090-FEB11	10120-FEB11	10029-MAR11	10059-MAR11	10095-MAR11	10127-MAR11	10248-MAR11	10032-APR11
Hum Cell Leachate Vol	mLs		856	985	979	985	944	941	938	934	925	947	931	926
²²⁸ Ra	Bq/L	0.37	< 0.01	---	---	---	---	< 0.02	---	---	---	---	< 0.01	---
²²⁸ Ra	Bq/L		< 0.1	---	---	---	---	< 0.1	---	---	---	---	0.3	---
²¹⁰ Pb	Bq/L		0.1	---	---	---	---	0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.69	*7.88	7.93	7.80	7.37	6.99	7.35	7.05	7.14	*7.24	7.00	7.30
Conductivity	uS/cm		85	65	103	82	28	27	24	20	4	29	27	30
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		34	25	36	27	11	9	10	9	9	10	9	10
SO ₄	mg/L		2.5	2.4	5.4	3.1	1.2	1.3	1.7	1.6	1.7	1.9	1.9	2.3
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L		0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L		0.07	0.04	0.04	0.03	0.04	0.25	---	---	---	---	0.04	---
As	mg/L	0.50	0.0004	0.0005	0.0009	0.0004	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
B	mg/L		0.0381	0.0175	0.0459	0.0241	0.0072	0.0070	---	---	---	---	0.0068	---
Ba	mg/L		0.00225	0.00076	0.00143	0.00089	0.00037	0.00146	---	---	---	---	0.00038	---
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	---	---	---	---	< 0.00002	---
Bi	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L		4.38	3.95	5.15	4.59	2.28	1.82	---	---	---	---	2.10	---
Cd	mg/L		< 0.000003	< 0.000003	0.000050	0.000014	< 0.000003	0.000154	---	---	---	---	< 0.000003	---
Co	mg/L		0.000430	0.000425	0.000081	0.000049	0.000093	0.000047	---	---	---	---	0.000024	---
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0012	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Fe	mg/L		0.055	0.040	0.021	0.019	0.009	0.579	---	---	---	---	0.011	---
K	mg/L		5.92	4.42	8.19	4.06	1.99	2.04	---	---	---	---	1.90	---
Li	mg/L		0.002	0.002	0.003	0.002	< 0.001	0.001	---	---	---	---	< 0.001	---
Mg	mg/L		1.03	1.10	1.80	1.26	0.534	0.664	---	---	---	---	0.520	---
Mn	mg/L		0.0539	0.0473	0.0414	0.0594	0.0371	0.0320	---	---	---	---	0.0277	---
Mo	mg/L		0.0108	0.00970	0.0184	0.00938	0.00300	0.00308	---	---	---	---	0.00292	---
Na	mg/L		5.66	4.82	8.82	3.88	1.54	1.39	---	---	---	---	1.38	---
Ni	mg/L	0.50	0.0008	0.0004	0.0062	0.0029	0.0032	0.0007	---	---	---	---	0.0001	---
Pb	mg/L	0.20	0.00057	0.00003	0.00003	0.00002	0.00005	0.00017	---	---	---	---	< 0.00002	---
Sb	mg/L		0.0008	0.0005	0.0009	0.0007	0.0003	0.0003	---	---	---	---	0.0003	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		0.58	0.43	0.84	0.52	0.26	0.90	---	---	---	---	0.32	---
Sn	mg/L		0.00224	0.00127	0.00068	0.00041	0.00023	0.00083	---	---	---	---	0.00015	---
Sr	mg/L		0.0128	0.0118	0.0178	0.0134	0.0055	0.0049	---	---	---	---	0.0053	---
Th	mg/L		0.000079	0.000066	0.000008	0.000009	< 0.000004	0.000297	---	---	---	---	< 0.000004	---
Ti	mg/L		0.0003	0.0003	0.0002	< 0.0001	< 0.0001	0.0021	---	---	---	---	< 0.0001	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.00002	---
U	mg/L		0.000852	0.000875	0.00155	0.000959	0.000349	0.000419	---	---	---	---	0.000320	---
V	mg/L		0.00025	< 0.00003	0.00005	< 0.00003	< 0.00003	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L		0.000931	0.000513	0.000257	0.000282	0.000179	0.00458	---	---	---	---	0.000158	---
Zn	mg/L	0.50	0.006	< 0.001	< 0.001	< 0.001	< 0.001	0.003	---	---	---	---	< 0.001	---
Zr	mg/L		0.00530	0.00246	0.00126	0.00124	0.00071	0.00491	---	---	---	---	0.00042	---

*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.

*Reassay LIMS 11101-FEB11

*Reassay LIMS 11271-APR11

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html>



Test Specimen

Sample	Weight (g)
XPS PP Comp 2 Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	12	13	14	15	16	17	18	19	20
LIMS			10065-APR11	10154-APR11	11080-APR11	10042-MAY11	10094-MAY11	10128-MAY11	10147-MAY11	10014-JUN11	10052-JUN11
Hum Cell Leachate Vol	mLs		927	925	951	941	940	930	950	960	945
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.6
²¹⁰ Pb	Bq/L		---	---	---	0.1	---	---	---	---	0.2
pH	units	6.0-9.5	7.57	7.14	7.29	7.18	7.25	7.48	7.39	7.35	7.13
Conductivity	uS/cm		40	32	25	23	28	32	23	26	26
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		13	9	10	9	7	11	10	9	9
SO ₄	mg/L		3.2	2.3	2.4	*2.1	2.4	2.3	2.4	2.3	2.1
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	0.02	---	---	---	---	0.02
As	mg/L	0.50	---	---	---	< 0.0002	---	---	---	---	0.0003
B	mg/L		---	---	---	0.0060	---	---	---	---	0.0058
Ba	mg/L		---	---	---	0.00038	---	---	---	---	0.00043
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	2.02	---	---	---	---	1.89
Cd	mg/L		---	---	---	0.000011	---	---	---	---	0.000021
Co	mg/L		---	---	---	0.000012	---	---	---	---	0.000042
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	0.011	---	---	---	---	0.008
K	mg/L		---	---	---	1.61	---	---	---	---	1.52
Li	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L		---	---	---	0.547	---	---	---	---	0.537
Mn	mg/L		---	---	---	0.0233	---	---	---	---	0.0268
Mo	mg/L		---	---	---	0.00240	---	---	---	---	0.00247
Na	mg/L		---	---	---	1.21	---	---	---	---	0.95
Ni	mg/L	0.50	---	---	---	0.0001	---	---	---	---	0.0002
Pb	mg/L	0.20	---	---	---	<0.00002	---	---	---	---	0.00004
Sb	mg/L		---	---	---	0.0003	---	---	---	---	0.0003
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	0.30	---	---	---	---	0.32
Sn	mg/L		---	---	---	0.00016	---	---	---	---	0.00044
Sr	mg/L		---	---	---	0.0051	---	---	---	---	0.0045
Th	mg/L		---	---	---	0.000009	---	---	---	---	< 0.000004
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000288	---	---	---	---	0.000216
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000145	---	---	---	---	0.000044
Zn	mg/L	0.50	---	---	---	<0.001	---	---	---	---	<0.001
Zr	mg/L		---	---	---	0.00050	---	---	---	---	0.00011

*Department of Justice Canada. 2002. Metal Mining Effluent

*Reassay 10431-MAY11

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002>



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
XPS PP Comp 2 Tls	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11295-NOV10
Sulphur (S)	%	<0.005
Sulphide (S ⁻)	%	<0.01
NP	t CaCO ₃ /1000 t	16.7
CO ₃ NP	t CaCO ₃ /1000 t	7.8

Leachate Parameters Measured

Acid Generation ¹

Acid Neutralization ¹

Weekly Leach No.	Volume Collected mL	pH units	Acidity CaCO ₃ eq. mg/L	Alkalinity CaCO ₃ eq. mg/L	Conductivity μS/cm	SO ₄ mg/L	SO ₄ Production Rate g/t/wk	Cumulative SO ₄ Production g/t	Weekly S ⁼ Depletion %	Cumulative S ⁼ Depletion %	NP Consumption CaCO ₃ , g/t/wk	Cumulative NP Depletion %	Cumulative CO ₃ NP Depletion %
0	856	7.69	<2	34	85	2.5	2.1	2.1	0.71	0.71	2.23	0.01	0.03
1	985	7.88	<2	25	65	2.4	2.4	4.5	0.79	1.50	2.46	0.03	0.06
2	979	7.93	<2	36	103	5.4	5.3	9.8	1.76	3.26	5.51	0.06	0.13
3	985	7.80	<2	27	82	3.1	3.1	12.8	1.02	4.28	3.18	0.08	0.17
4	944	7.37	<2	11	28	1.2	1.1	14.0	0.38	4.66	1.18	0.09	0.19
5	941	6.99	<2	9	27	1.3	1.2	15.2	0.41	5.07	1.27	0.09	0.20
6	938	7.35	<2	10	24	1.7	1.6	16.8	0.53	5.60	1.66	0.10	0.22
7	934	7.05	<2	9	20	1.6	1.5	18.3	0.50	6.10	1.56	0.11	0.24
8	925	7.14	<2	9	4	1.7	1.6	19.9	0.52	6.62	1.64	0.12	0.27
9	947	7.24	<2	10	29	1.9	1.8	21.7	0.60	7.22	1.87	0.14	0.29
10	931	7.00	<2	9	27	1.9	1.8	23.4	0.59	7.81	1.84	0.15	0.31
11	926	7.30	<2	10	30	2.3	2.1	25.6	0.71	8.52	2.22	0.16	0.34
12	927	7.57	<2	13	40	3.2	3.0	28.5	0.99	9.51	3.09	0.18	0.38
13	925	7.14	<2	9	32	2.3	2.1	30.7	0.71	10.22	2.22	0.19	0.41
14	951	7.29	<2	10	25	2.4	2.3	32.9	0.76	10.98	2.38	0.21	0.44
15	941	7.18	<2	9	23	2.1	2.0	34.9	0.66	11.64	2.06	0.22	0.47
16	940	7.25	<2	7	28	2.4	2.3	37.2	0.75	12.39	2.35	0.23	0.50
17	930	7.48	<2	11	32	2.3	2.1	39.3	0.71	13.10	2.23	0.25	0.52
18	950	7.39	<2	10	23	2.4	2.3	41.6	0.76	13.86	2.38	0.26	0.56
19	960	7.35	<2	9	26	2.3	2.2	43.8	0.74	14.60	2.30	0.27	0.58
20	945	7.13	<2	9	26	2.1	2.0	45.8	0.66	15.26	2.07	0.29	0.61

* Initial Week 0 leachate may include soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.

¹ Calculated values

Summary - Weeks 0 to 20

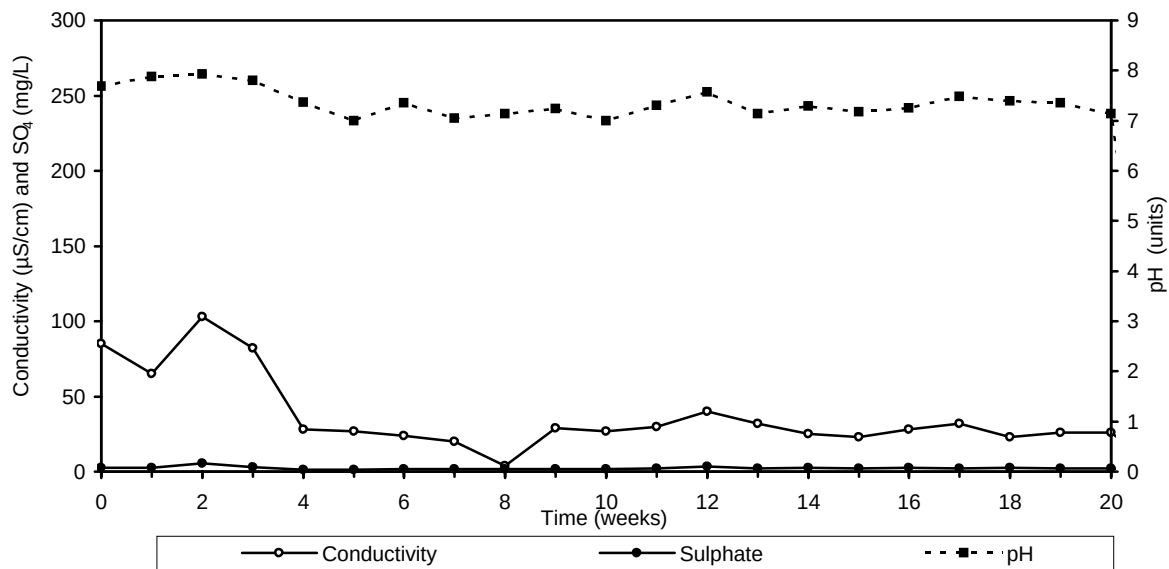
Maximum Value	7.93	2	36	103	5.4	5.3	-	1.76	-	5.5	-	-
Minimum Value	6.99	<2	7	4	1.2	1.1	-	0.38	-	1.2	-	-
Average Value	7.29	2	14	37	2.3	2.2	-	0.73	-	2.27	-	-



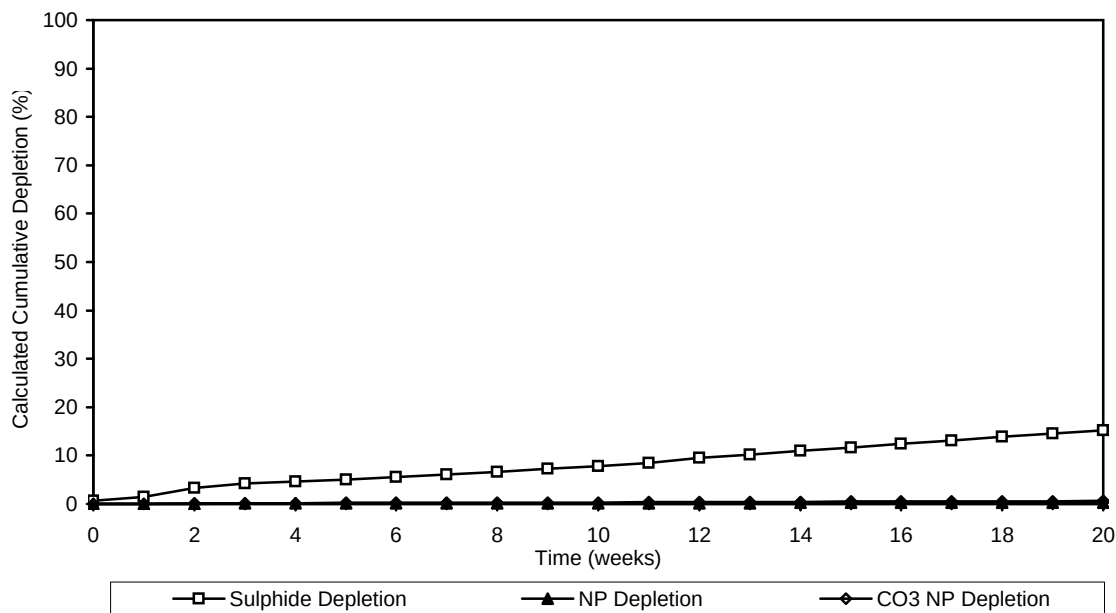
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate XPS PP Comp 2 TIs



Cumulative Sulphide and NP Depletion XPS PP Comp 2 TIs



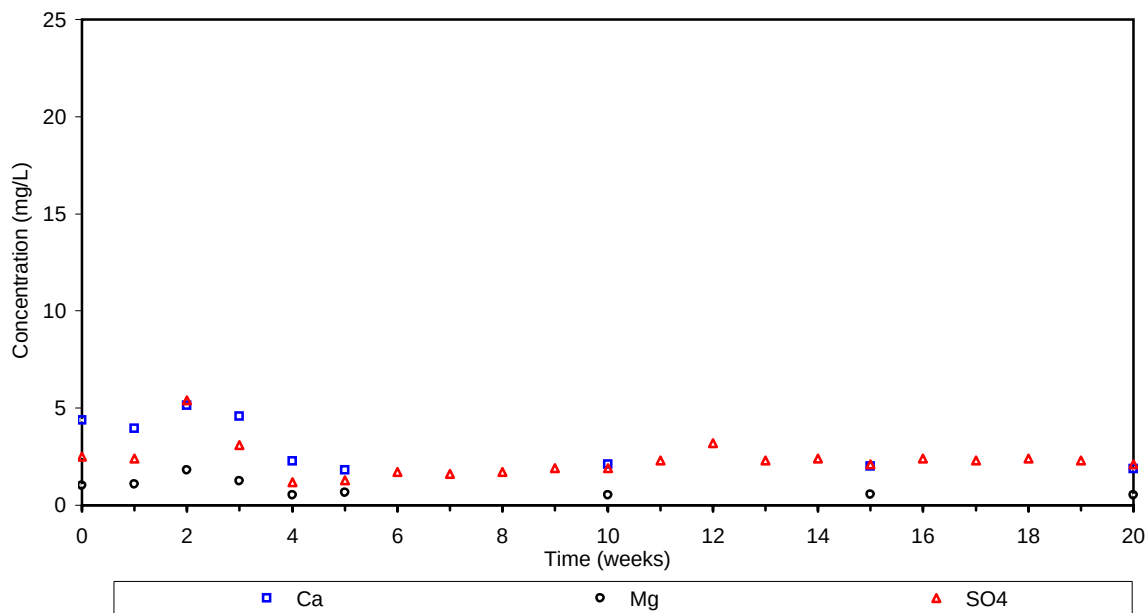
Note: NP depletion calculated based on sulphate assay.



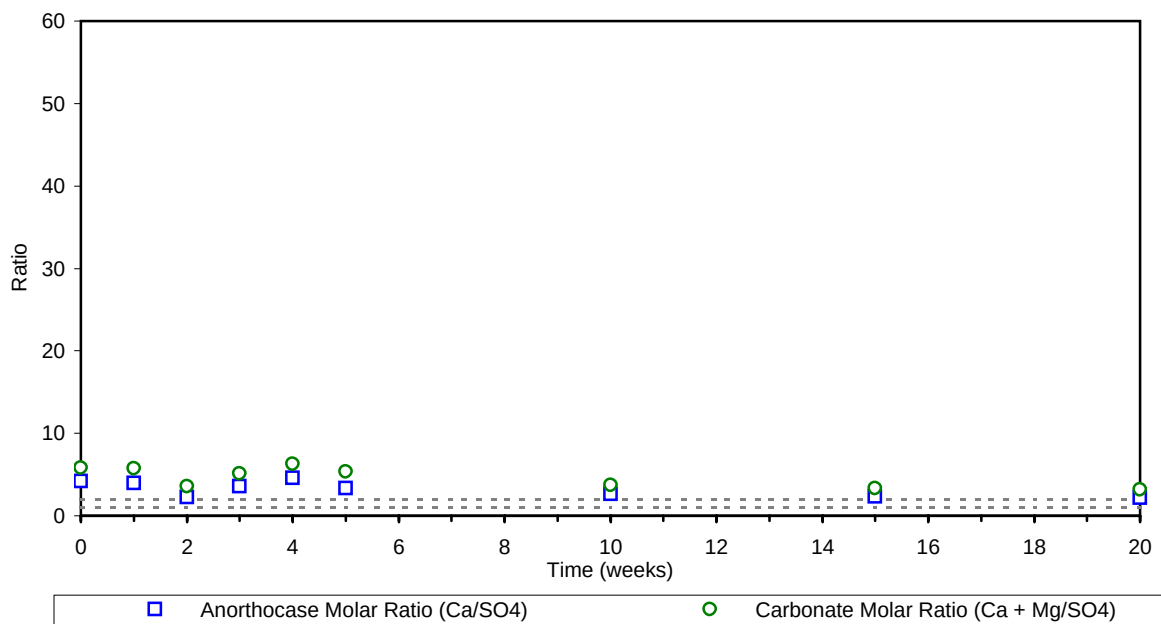
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate XPS PP Comp 2 Tls



Carbonate (Ca + Mg/SO₄) and Anorthoclase (Ca/SO₄) Molar Ratio XPS PP Comp 2 Tls





Test Specimen

Sample	Weight (g)
Master Conc	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
			10296-DEC10	10297-DEC10	10298-DEC10	10026-JAN11	10055-JAN11	10084-JAN11	10113-JAN11	10025-FEB11	10054-FEB11	10083-FEB11	10115-FEB11	10024-MAR11
LIMS														
Hum Cell Leachate Vol	mLs		878	956	853	886	972	825	836	838	919	865	961	910
²²⁸ Ra	Bq/L	0.37	0.05	---	---	---	---	0.11	---	---	---	---	< 0.01	---
²²⁸ Ra	Bq/L		< 0.5	---	---	---	---	< 0.2	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	0.2	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.22	7.64	7.56	7.44	7.69	7.86	7.84	8.05	8.01	7.83	7.88	8.12
Conductivity	µS/cm		33	55	47	39	50	160	111	112	103	99	99	75
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		11	21	13	12	27	59	51	58	49	44	46	44
SO ₄	mg/L		2.0	1.9	2.5	1.6	2.7	11	1.5	1.7	1.6	1.8	1.5	1.4
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00003	---	---	---	---	< 0.00001	---
Al	mg/L		< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.05	---	---	---	---	0.08	---
As	mg/L	0.50	0.0002	0.0002	0.0005	0.0004	0.0005	0.0059	---	---	---	---	0.0032	---
B	mg/L		0.0111	0.0104	0.0165	0.0132	0.0188	0.120	---	---	---	---	0.0296	---
Ba	mg/L		0.00075	0.00073	0.00058	0.00063	0.00235	0.00374	---	---	---	---	0.00356	---
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---	< 0.00002	---
Bi	mg/L		0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L		3.01	2.82	3.41	2.97	5.04	22.1	---	---	---	---	15.6	---
Cd	mg/L		< 0.000003	< 0.000003	0.000006	< 0.000003	< 0.000003	< 0.000003	---	---	---	---	0.000058	---
Co	mg/L		0.000041	0.000060	0.000012	0.000145	0.000013	0.000079	---	---	---	---	0.000055	---
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0018	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0006	< 0.0005	< 0.0005	0.0007	0.0006	0.0030	---	---	---	---	0.0006	---
Fe	mg/L		0.007	0.008	0.010	0.005	0.003	0.046	---	---	---	---	0.077	---
K	mg/L		0.255	0.210	0.199	0.162	0.306	1.28	---	---	---	---	1.18	---
Li	mg/L		0.001	< 0.001	< 0.001	< 0.001	0.001	0.007	---	---	---	---	0.004	---
Mg	mg/L		0.233	0.263	0.298	0.224	0.443	2.23	---	---	---	---	1.41	---
Mn	mg/L		0.0569	0.0412	0.0383	0.0419	0.0352	0.0333	---	---	---	---	0.0317	---
Mo	mg/L		0.00214	0.00216	0.00269	0.00360	0.00329	0.0150	---	---	---	---	0.00202	---
Na	mg/L		2.15	2.04	2.18	1.56	2.78	18.4	---	---	---	---	1.77	---
Ni	mg/L	0.50	0.0002	0.0002	0.0002	0.0005	0.0002	0.0008	---	---	---	---	0.0003	---
Pb	mg/L	0.20	0.00009	0.00003	0.00004	0.00006	< 0.00002	0.00046	---	---	---	---	0.00013	---
Sb	mg/L		0.0007	0.0003	0.0004	0.0004	0.0003	0.0016	---	---	---	---	0.0009	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	---	---	---	---	< 0.001	---
Si	mg/L		0.29	0.32	0.38	0.30	0.54	3.46	---	---	---	---	2.44	---
Sn	mg/L		0.00301	0.00065	0.00068	0.00143	0.00094	0.00342	---	---	---	---	0.00481	---
Sr	mg/L		0.0094	0.0091	0.0086	0.0084	0.0173	0.0757	---	---	---	---	0.0538	---
Th	mg/L		0.000222	< 0.000004	< 0.000004	0.000033	0.000010	0.000067	---	---	---	---	0.000060	---
Ti	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	---	---	---	---	0.0006	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00226	0.00248	0.00331	0.00232	0.00476	0.01860	---	---	---	---	0.00376	---
V	mg/L		< 0.00003	< 0.00003	< 0.00003	0.00004	< 0.00003	0.00031	---	---	---	---	0.00008	---
Y	mg/L		0.000525	0.000209	0.000420	0.000443	0.000203	0.00145	---	---	---	---	0.00135	---
Zn	mg/L	0.50	< 0.001	< 0.001	< 0.001	0.002	0.002	0.001	---	---	---	---	0.002	---
Zr	mg/L		0.00199	0.00052	0.00110	0.00086	0.00042	0.0111	---	---	---	---	0.00160	---

*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html>



Test Specimen

Sample	Weight (g)
Master Conc	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	12	13	14	15	16	17	18	19	20
			10054-MAR11	10090-MAR11	10122-MAR11	10243-MAR11	10027-APR11	10060-APR11	10149-APR11	11075-APR11	10037-MAY11
LIMS											
Hum Cell Leachate Vol	mLs		856	858	873	900	861	858	930	932	995
²²⁶ Ra	Bq/L	0.37	---	---	---	0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	0.2	---	---	---	---	< 0.4
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	7.75	7.97	*8.03	7.71	7.97	8.07	7.79	8.00	7.86
Conductivity	µS/cm		67	67	98	84	81	75	86	66	78
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		45	46	47	45	44	48	42	38	45
SO ₄	mg/L		1.6	1.4	1.0	1.8	1.4	1.2	1.4	0.6	1.7
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	0.08	---	---	---	---	0.08
As	mg/L	0.50	---	---	---	0.0018	---	---	---	---	0.0012
B	mg/L		---	---	---	0.0196	---	---	---	---	0.0117
Ba	mg/L		---	---	---	0.00339	---	---	---	---	0.00354
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	15.1	---	---	---	---	16.3
Cd	mg/L		---	---	---	0.000010	---	---	---	---	0.000007
Co	mg/L		---	---	---	0.000024	---	---	---	---	0.000056
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	0.002	---	---	---	---	< 0.002
K	mg/L		---	---	---	1.25	---	---	---	---	1.16
Li	mg/L		---	---	---	0.003	---	---	---	---	0.002
Mg	mg/L		---	---	---	1.48	---	---	---	---	1.73
Mn	mg/L		---	---	---	0.0340	---	---	---	---	0.0405
Mo	mg/L		---	---	---	0.00164	---	---	---	---	0.00140
Na	mg/L		---	---	---	0.65	---	---	---	---	0.38
Ni	mg/L	0.50	---	---	---	0.0004	---	---	---	---	0.0006
Pb	mg/L	0.20	---	---	---	< 0.00002	---	---	---	---	0.00004
Sb	mg/L		---	---	---	0.0005	---	---	---	---	0.0007
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	1.75	---	---	---	---	1.45
Sn	mg/L		---	---	---	0.00310	---	---	---	---	0.00234
Sr	mg/L		---	---	---	0.0502	---	---	---	---	0.0500
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	0.000029
Ti	mg/L		---	---	---	0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.00229	---	---	---	---	0.00236
V	mg/L		---	---	---	0.00004	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000115	---	---	---	---	0.000081
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	< 0.001
Zr	mg/L		---	---	---	0.00030	---	---	---	---	0.00021

*Department of Justice Canada. 2002. Metal Mining Effluents
Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002>

*Reassay LIMS 11272-APR11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Master Conc	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11295-NOV10
Sulphur (S)	%	0.118
Sulphide (S ⁻)	%	0.10
NP	t CaCO ₃ /1000 t	139
CO ₃ NP	t CaCO ₃ /1000 t	117

Leachate Parameters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity CaCO ₃ eq. mg/L	Alkalinity CaCO ₃ eq. mg/L	Conductivity μS/cm	SO ₄ mg/L
0	878	7.22	<2	11	33	2.0
1	956	7.64	<2	21	55	1.9
2	853	7.56	<2	13	47	2.5
3	886	7.44	<2	12	39	1.6
4	972	7.69	<2	27	50	2.7
5	825	7.86	<2	59	160	11
6	836	7.84	<2	51	111	1.5
7	838	8.05	<2	58	112	1.7
8	919	8.01	<2	49	103	1.6
9	865	7.83	<2	44	99	1.8
10	961	7.88	<2	46	99	1.5
11	910	8.12	<2	44	75	1.4
12	856	7.75	<2	45	67	1.6
13	858	7.97	<2	46	67	1.4
14	873	8.03	<2	47	98	1.0
15	900	7.71	<2	45	84	1.8
16	861	7.97	<2	44	81	1.4
17	858	8.07	<2	48	75	1.2
18	930	7.79	<2	42	86	1.4
19	932	8.00	<2	38	66	0.6
20	995	7.86	<2	45	78	1.7

Acid Generation ¹

SO ₄ Production Rate g/t/wk	Cumulative SO ₄ Production g/t	Weekly S ⁼ Depletion %	Cumulative S ⁼ Depletion %
1.8	1.8	0.06	0.06
1.8	3.6	0.06	0.12
2.1	5.7	0.07	0.19
1.4	7.1	0.05	0.24
2.6	9.7	0.09	0.32
9.1	18.8	0.30	0.63
1.3	20.1	0.04	0.67
1.4	21.5	0.05	0.72
1.5	23.0	0.05	0.77
1.6	24.5	0.05	0.82
1.4	26.0	0.05	0.87
1.3	27.2	0.04	0.91
1.4	28.6	0.05	0.95
1.2	29.8	0.04	0.99
0.9	30.7	0.03	1.02
1.6	32.3	0.05	1.08
1.2	33.5	0.04	1.12
1.0	34.5	0.03	1.15
1.3	35.8	0.04	1.19
0.6	36.4	0.02	1.21
1.7	38.1	0.06	1.27

Acid Neutralization ¹

NP Consumption CaCO ₃ , g/t/wk	Cumulative NP Depletion %	Cumulative CO ₃ NP Depletion %
1.83	0.00	0.00
1.89	0.00	0.00
2.22	0.00	0.01
1.48	0.01	0.01
2.73	0.01	0.01
9.45	0.01	0.02
1.31	0.02	0.02
1.48	0.02	0.02
1.53	0.02	0.02
1.62	0.02	0.02
1.50	0.02	0.02
1.33	0.02	0.02
1.43	0.02	0.03
1.25	0.02	0.03
0.91	0.02	0.03
1.69	0.02	0.03
1.26	0.03	0.03
1.07	0.03	0.03
1.36	0.03	0.03
0.58	0.03	0.03
1.76	0.03	0.03

* Initial Week 0 leachate may include soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.

¹ Calculated values

Summary - Weeks 0 to 20

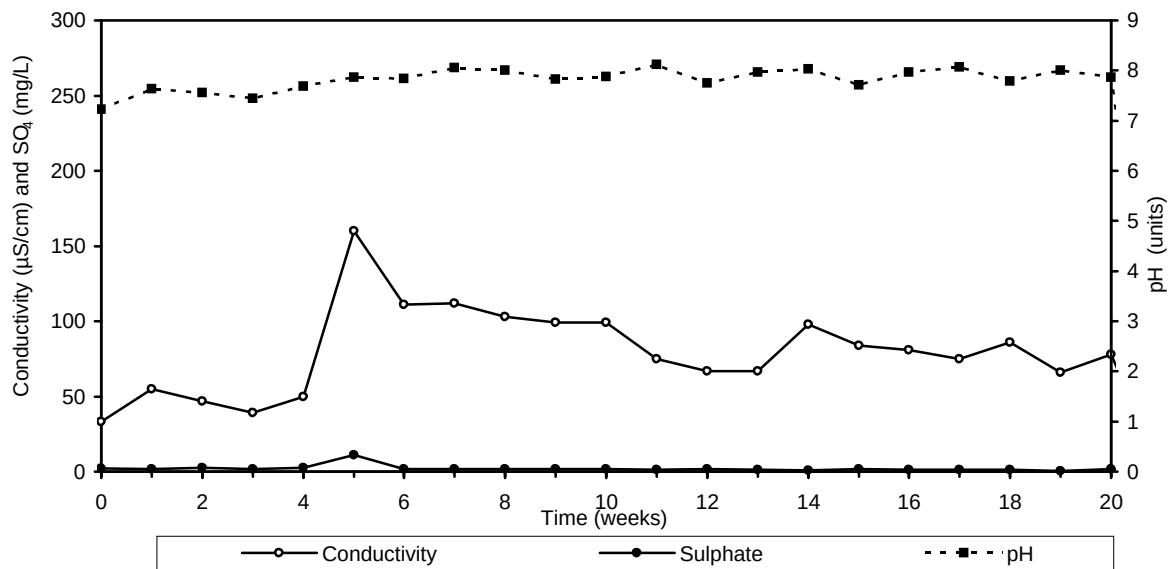
Maximum Value	8.12	2	59	160	11	9.1	-	0.30	-	9.5	-	-
Minimum Value	7.22	<2	11	33	0.6	0.6	-	0.02	-	0.6	-	-
Average Value	7.76	2	40	80	2.1	1.8	-	0.06	-	1.89	-	-



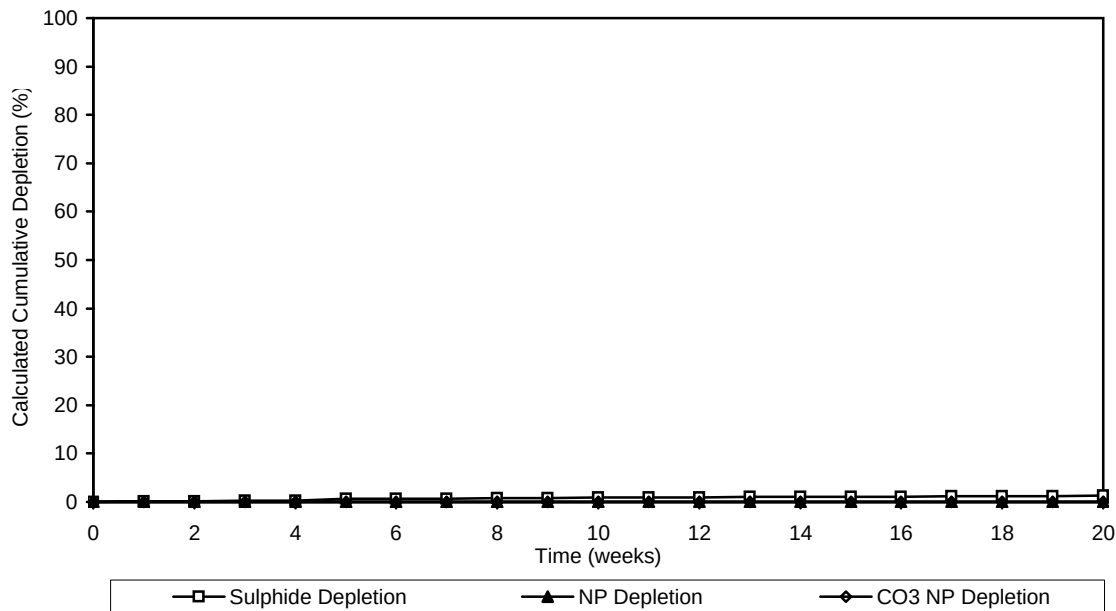
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate Master Conc



Cumulative Sulphide and NP Depletion Master Conc



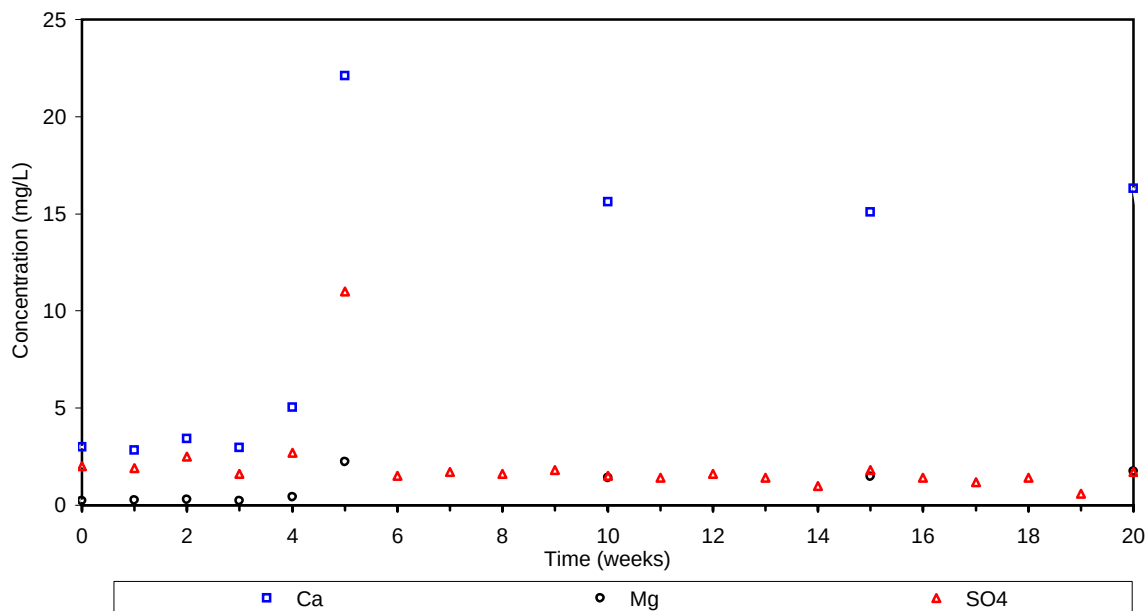
Note: NP depletion calculated based on sulphate assay.



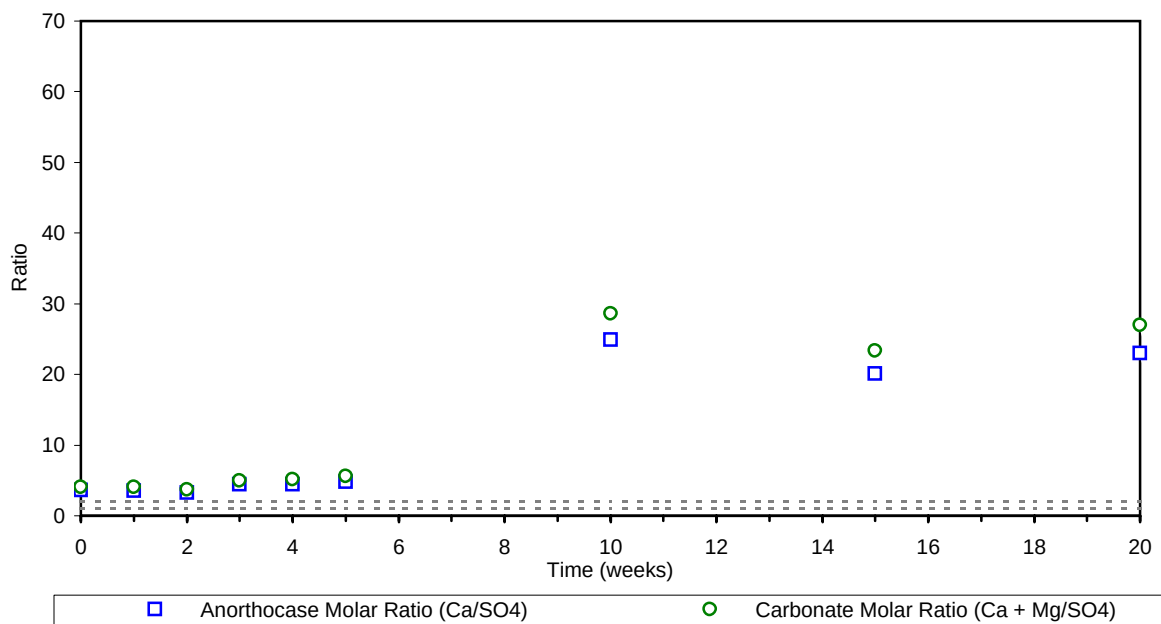
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Master Conc



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio Master Conc





Test Specimen

Sample	Weight (g)
XPS PP Comp 1 Conc	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
			10296-DEC10	10297-DEC10	10298-DEC10	10026-JAN11	10055-JAN11	10084-JAN11	10113-JAN11	10025-FEB11	10054-FEB11	10083-FEB11	10115-FEB11	10024-MAR11
LIMS														
Hum Cell Leachate Vol	mLs		869	934	936	966	992	917	931	956	988	905	940	942
²²⁶ Ra	Bq/L	0.37	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
²²⁸ Ra	Bq/L		< 0.3	---	---	---	---	0.4	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	< 0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	8.01	8.11	8.13	8.13	8.01	7.77	*7.26	7.33	7.52	7.34	6.90	7.28
Conductivity	µS/cm		264	126	96	97	91	96	30	26	26	20	22	19
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		80	58	44	46	42	44	13	12	11	9	9	9
SO ₄	mg/L		22	1.9	1.8	1.7	2.0	2.2	0.5	0.4	0.5	0.5	0.6	0.7
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L		0.02	0.05	0.07	0.08	0.11	0.11	---	---	---	---	0.06	---
As	mg/L	0.50	0.0033	0.0028	0.0027	0.0026	0.0022	0.0021	---	---	---	---	< 0.0002	---
B	mg/L		0.190	0.0608	0.0505	0.0364	0.0294	0.0294	---	---	---	---	0.0031	---
Ba	mg/L		0.00697	0.00292	0.00246	0.00250	0.00243	0.00302	---	---	---	---	0.00098	---
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---	< 0.00002	---
Bi	mg/L		0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L		5.43	11.1	12.5	12.1	12.0	16.3	---	---	---	---	3.91	---
Cd	mg/L		< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	---	---	---	---	0.000065	---
Co	mg/L		0.000154	0.000067	0.000026	0.000028	0.000011	0.000012	---	---	---	---	0.000032	---
Cr	mg/L		0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0019	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Fe	mg/L		0.011	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	---	---	0.188	---
K	mg/L		2.56	2.32	2.50	2.44	2.32	2.47	---	---	---	---	0.445	---
Li	mg/L		0.016	0.006	0.006	0.004	0.004	0.004	---	---	---	---	< 0.001	---
Mg	mg/L		0.968	2.38	2.42	2.05	1.87	2.41	---	---	---	---	0.395	---
Mn	mg/L		0.0933	0.0555	0.0625	0.0513	0.0471	0.0550	---	---	---	---	0.120	---
Mo	mg/L		0.0469	0.00762	0.00554	0.00479	0.00412	0.00447	---	---	---	---	0.00097	---
Na	mg/L		4.05	4.02	2.45	1.54	1.14	1.13	---	---	---	---	0.08	---
Ni	mg/L	0.50	0.0095	0.0034	0.0026	0.0018	0.0015	0.0017	---	---	---	---	0.0007	---
Pb	mg/L	0.20	0.00006	< 0.00002	< 0.00002	0.00003	< 0.00002	0.00012	---	---	---	---	0.00015	---
Sb	mg/L		0.0070	0.0057	0.0057	0.0055	0.0053	0.0057	---	---	---	---	0.0006	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		0.61	2.73	2.53	2.32	2.07	2.11	---	---	---	---	0.29	---
Sn	mg/L		0.0125	0.00295	0.00087	0.00058	0.00043	0.00045	---	---	---	---	0.00060	---
Sr	mg/L		0.0147	0.0420	0.0431	0.0412	0.0402	0.0526	---	---	---	---	0.0087	---
Th	mg/L		0.000088	< 0.000004	< 0.000004	0.000008	< 0.000004	0.000005	---	---	---	---	0.000393	---
Ti	mg/L		0.0004	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0004	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.0147	0.00599	0.00505	0.00460	0.00447	0.00454	---	---	---	---	0.000558	---
V	mg/L		0.00068	0.00053	0.00058	0.00055	0.00052	0.00057	---	---	---	---	< 0.00003	---
Y	mg/L		0.000218	0.000094	0.000077	0.000064	0.000048	0.000078	---	---	---	---	0.00418	---
Zn	mg/L	0.50	0.003	0.002	< 0.001	0.001	< 0.001	< 0.001	---	---	---	---	0.002	---
Zr	mg/L		0.00014	0.00001	0.00003	0.00003	< 0.00001	0.00001	---	---	---	---	0.00025	---

*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.

*Reassay LIMS 11100-FEB11

Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html>



Test Specimen

Sample	Weight (g)
XPS PP Comp 1 Conc	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	12	13	14	15	16	17	18	19	20
LIMS			0054-MAR11	0090-MAR11	10122-MAR11	10243-MAR11	10027-APR11	10060-APR11	10149-APR11	11075-APR11	10037-MAY11
Hum Cell Leachate Vol	mLs		955	937	936	952	942	942	934	945	955
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	0.1	---	---	---	---	< 0.4
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	6.97	6.98	*7.12	7.35	7.11	7.31	7.25	7.28	7.34
Conductivity	µS/cm		17	15	21	28	5	16	22	19	19
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		10	9	9	14	9	9	9	9	13
SO ₄	mg/L		0.8	0.7	0.7	0.9	1.0	0.8	1.0	0.9	0.8
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	< 0.01	---	---	---	---	< 0.01
As	mg/L	0.50	---	---	---	< 0.0002	---	---	---	---	< 0.0002
B	mg/L		---	---	---	0.0039	---	---	---	---	0.0034
Ba	mg/L		---	---	---	0.00085	---	---	---	---	0.00095
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	3.29	---	---	---	---	3.06
Cd	mg/L		---	---	---	< 0.000003	---	---	---	---	< 0.000003
Co	mg/L		---	---	---	0.000019	---	---	---	---	0.000033
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	< 0.002	---	---	---	---	0.002
K	mg/L		---	---	---	0.441	---	---	---	---	0.401
Li	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L		---	---	---	0.328	---	---	---	---	0.326
Mn	mg/L		---	---	---	0.0915	---	---	---	---	0.0880
Mo	mg/L		---	---	---	0.00119	---	---	---	---	0.00091
Na	mg/L		---	---	---	0.10	---	---	---	---	0.10
Ni	mg/L	0.50	---	---	---	0.0006	---	---	---	---	0.0006
Pb	mg/L	0.20	---	---	---	< 0.00002	---	---	---	---	< 0.00002
Sb	mg/L		---	---	---	0.0003	---	---	---	---	0.0007
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	0.21	---	---	---	---	0.20
Sn	mg/L		---	---	---	0.00053	---	---	---	---	0.00090
Sr	mg/L		---	---	---	0.0084	---	---	---	---	0.0078
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	< 0.000004
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000460	---	---	---	---	0.000379
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000061	---	---	---	---	0.000056
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	< 0.001
Zr	mg/L		---	---	---	0.00003	---	---	---	---	< 0.00001

*Department of Justice Canada. 2002. Metal Mining Effluent
Available Online: <http://laws.justice.gc.ca/en/F-14/SOR-2002>

*Reassay LIMS 11272-APR11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
XPS PP Comp 1 Conc	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11295-NOV10
Sulphur (S)	%	0.098
Sulphide (S ⁻)	%	0.08
NP	t CaCO ₃ /1000 t	188
CO ₃ NP	t CaCO ₃ /1000 t	159

Leachate Parameters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity CaCO ₃ eq. mg/L	Alkalinity CaCO ₃ eq. mg/L	Conductivity μS/cm	SO ₄ mg/L
0	869	8.01	<2	80	264	22
1	934	8.11	<2	58	126	1.9
2	936	8.13	<2	44	96	1.8
3	966	8.13	<2	46	97	1.7
4	992	8.01	<2	42	91	2.0
5	917	7.77	<2	44	96	2.2
6	931	7.26	<2	13	30	0.5
7	956	7.33	<2	12	26	0.4
8	988	7.52	<2	11	26	0.5
9	905	7.34	<2	9	20	0.5
10	940	6.90	<2	9	22	0.6
11	942	7.28	<2	9	19	0.7
12	955	6.97	<2	10	17	0.8
13	937	6.98	<2	9	15	0.7
14	936	7.12	<2	9	21	0.7
15	952	7.35	<2	14	28	0.9
16	942	7.11	<2	9	5	1.0
17	942	7.31	<2	9	16	0.8
18	934	7.25	<2	9	22	1
19	945	7.28	<2	9	19	0.9
20	955	7.34	<2	13	19	0.8

Acid Generation ¹

SO ₄ Production Rate g/t/wk	Cumulative SO ₄ Production g/t	Weekly S ⁼ Depletion %	Cumulative S ⁼ Depletion %
19.1	19.1	0.80	0.80
1.8	20.9	0.07	0.87
1.7	22.6	0.07	0.94
1.6	24.2	0.07	1.01
2.0	26.2	0.08	1.09
2.0	28.2	0.08	1.18
0.5	28.7	0.02	1.20
0.4	29.1	0.02	1.21
0.5	29.6	0.02	1.23
0.5	30.0	0.02	1.25
0.6	30.6	0.02	1.27
0.7	31.2	0.03	1.30
0.8	32.0	0.03	1.33
0.7	32.7	0.03	1.36
0.7	33.3	0.03	1.39
0.9	34.2	0.04	1.42
0.9	35.1	0.04	1.46
0.8	35.9	0.03	1.49
0.9	36.8	0.04	1.53
0.9	37.7	0.04	1.57
0.8	38.4	0.03	1.60

Acid Neutralization ¹

NP Consumption CaCO ₃ , g/t/wk	Cumulative NP Depletion %	Cumulative CO ₃ NP Depletion %
19.91	0.01	0.01
1.85	0.01	0.01
1.76	0.01	0.01
1.71	0.01	0.02
2.07	0.01	0.02
2.10	0.02	0.02
0.48	0.02	0.02
0.40	0.02	0.02
0.51	0.02	0.02
0.47	0.02	0.02
0.59	0.02	0.02
0.69	0.02	0.02
0.80	0.02	0.02
0.68	0.02	0.02
0.68	0.02	0.02
0.89	0.02	0.02
0.98	0.02	0.02
0.79	0.02	0.02
0.97	0.02	0.02
0.89	0.02	0.02
0.80	0.02	0.03

* Initial Week 0 leachate may include soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.

¹ Calculated values

Summary - Weeks 0 to 20

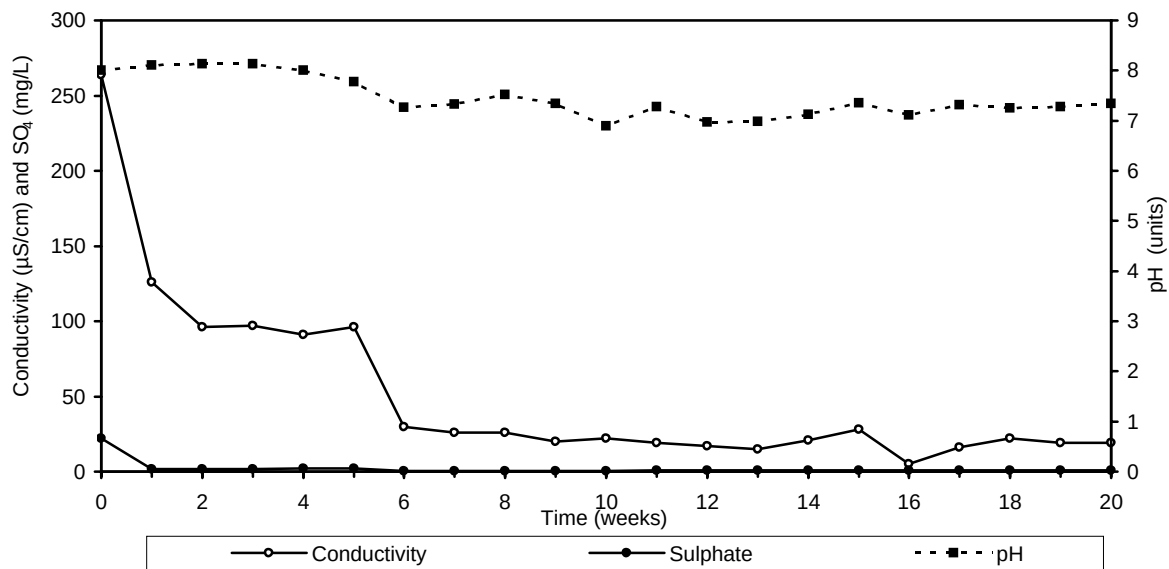
Maximum Value	8.13	2	80	264	22	19.1	-	0.80	-	19.9	-	-
Minimum Value	6.90	<2	9	5	0.4	0.4	-	0.02	-	0.4	-	-
Average Value	7.31	2	22	51	2.0	1.8	-	0.08	-	1.91	-	-



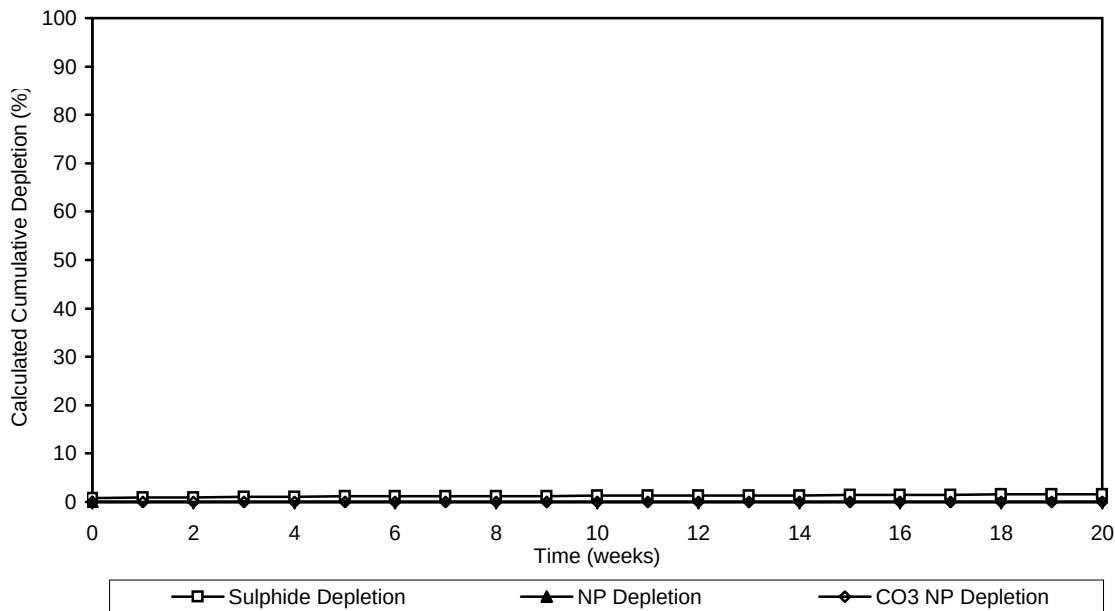
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate XPS PP Comp 1 Conc



Cumulative Sulphide and NP Depletion XPS PP Comp 1 Conc



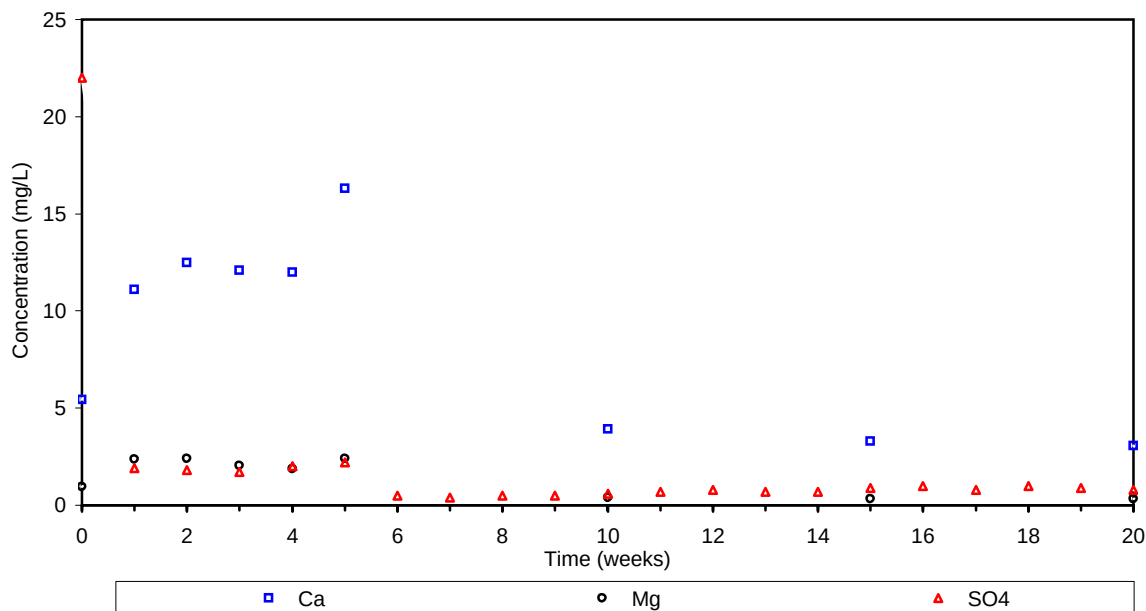
Note: NP depletion calculated based on sulphate assay.



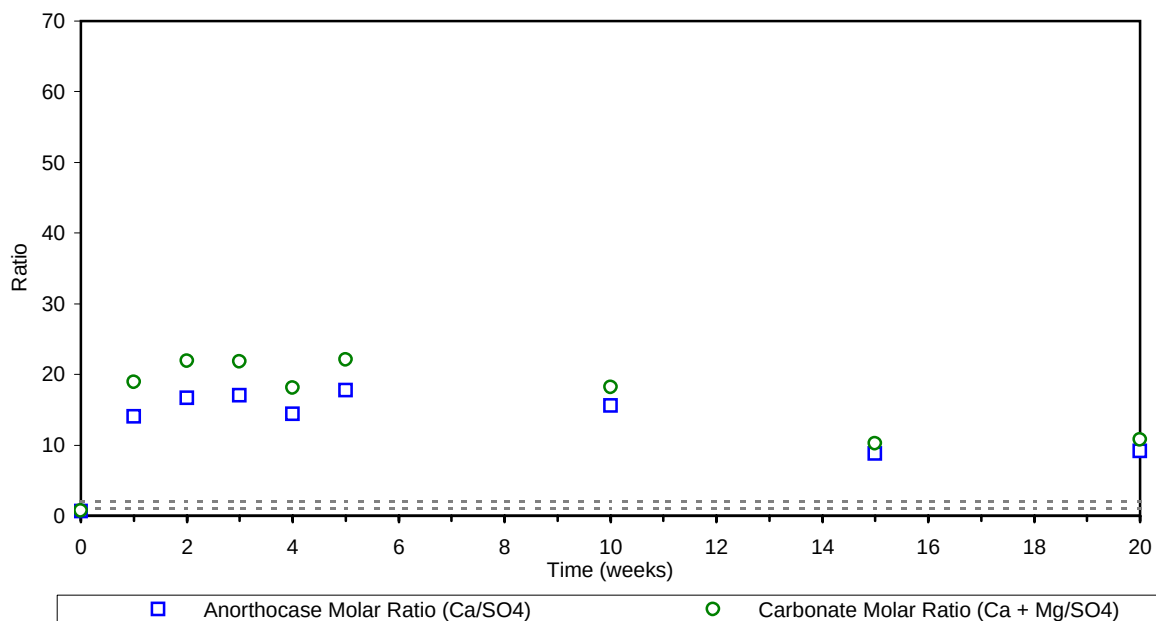
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate XPS PP Comp 1 Conc



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio XPS PP Comp 1 Conc



Appendix F – Humidity Cell Certificates of Analysis

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Thursday, January 27, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 19 January 2011**LR Report:** CA10263-JAN11**Reference:** Wk#0**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk#0
Sample Date & Time			19-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	856
pH [no unit]	20-Jan-11	22:24	7.69
Conductivity [uS/cm]	20-Jan-11	22:24	85
Acidity [mg/L as CaCO ₃]	20-Jan-11	22:24	< 2
Alkalinity [mg/L as CaCO ₃]	20-Jan-11	22:24	34
Sulphate [mg/L]	27-Jan-11	09:33	2.5
Mercury [mg/L]	25-Jan-11	09:25	< 0.0001
Silver [mg/L]	24-Jan-11	09:07	0.00002
Aluminum [mg/L]	26-Jan-11	15:05	0.07
Arsenic [mg/L]	24-Jan-11	09:07	0.0004
Boron [mg/L]	24-Jan-11	09:07	0.0381
Barium [mg/L]	24-Jan-11	09:07	0.00225
Beryllium [mg/L]	24-Jan-11	09:07	< 0.00002
Bismuth [mg/L]	24-Jan-11	09:07	< 0.00001
Calcium [mg/L]	26-Jan-11	15:06	4.38
Cadmium [mg/L]	24-Jan-11	09:07	< 0.000003
Cobalt [mg/L]	24-Jan-11	09:07	0.000430
Chromium [mg/L]	24-Jan-11	09:07	< 0.0005
Copper [mg/L]	24-Jan-11	09:07	0.0012
Iron [mg/L]	26-Jan-11	15:06	0.055
Potassium [mg/L]	26-Jan-11	15:06	5.92
Lithium [mg/L]	24-Jan-11	09:07	0.002
Magnesium [mg/L]	26-Jan-11	15:06	1.03
Manganese [mg/L]	24-Jan-11	09:07	0.0539
Molybdenum [mg/L]	24-Jan-11	09:07	0.0108
Sodium [mg/L]	26-Jan-11	15:06	5.66
Nickel [mg/L]	24-Jan-11	09:08	0.0008
Lead [mg/L]	24-Jan-11	09:08	0.00057

SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10263-JAN11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk#0
Antimony [mg/L]	24-Jan-11	09:08	0.0008
Selenium [mg/L]	24-Jan-11	09:08	< 0.001
Silica [mg/L]	26-Jan-11	15:06	0.58
Tin [mg/L]	24-Jan-11	09:08	0.00224
Strontium [mg/L]	26-Jan-11	15:06	0.0128
Thorium [mg/L]	24-Jan-11	09:08	0.000079
Titanium [mg/L]	24-Jan-11	09:08	0.0003
Thallium [mg/L]	24-Jan-11	09:08	< 0.0002
Uranium [mg/L]	24-Jan-11	09:08	0.000852
Vanadium [mg/L]	24-Jan-11	09:08	0.00025
Yttrium [mg/L]	24-Jan-11	09:08	0.000931
Zinc [mg/L]	24-Jan-11	09:08	0.006
Zirconium [mg/L]	24-Jan-11	09:08	0.00530

Radionuclides subcontracted to Becquerel Laboratories


Dianne Griffin
Project Specialist



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Wednesday, January 05, 2011

Date Rec. : 15 December 2010

LR Report: CA10296-DEC10

Reference: Wk#0

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#0	6: Master TlsF33 Wk#0	7: Comb TlsF36 Wk#0	8: Comb TlsF37 Wk#0	9: Comb TlsXPS PP Comp Wk#0 1 Conc Wk#0	10: XPS PP Comp Wk#0 1 Tls Wk#0	11: XPS PP Comp Wk#0 1 Tls Wk#0
Sample Date & Time			15-Dec-10	15-Dec-10	15-Dec-10	15-Dec-10	15-Dec-10	15-Dec-10	15-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	878	830	863	880	838	869	823
pH [no unit]	17-Dec-10	10:24	7.22	7.67	7.37	7.47	7.80	8.01	7.72
Conductivity [uS/cm]	17-Dec-10	10:24	33	75	41	55	69	264	95
Acidity [mg/L as CaCO3]	17-Dec-10	10:24	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	17-Dec-10	10:24	11	29	15	21	28	80	27
Sulphate [mg/L]	23-Dec-10	16:10	2.0	3.0	2.0	2.4	2.7	22	11
Mercury [mg/L]	17-Dec-10	07:23	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	20-Dec-10	11:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	20-Dec-10	09:15	< 0.01	0.02	0.02	< 0.01	0.02	0.02	0.05
Arsenic [mg/L]	20-Dec-10	11:39	0.0002	0.0005	0.0006	0.0006	0.0009	0.0033	0.0005
Boron [mg/L]	20-Dec-10	11:39	0.0111	0.0174	0.0106	0.0154	0.0195	0.190	0.0196
Barium [mg/L]	20-Dec-10	11:39	0.00075	0.00142	0.00069	0.00115	0.00110	0.00697	0.00128
Beryllium [mg/L]	20-Dec-10	11:39	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	20-Dec-10	11:39	0.00003	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Calcium [mg/L]	20-Dec-10	09:15	3.01	6.83	3.34	4.45	18.5	5.43	6.85
Cadmium [mg/L]	20-Dec-10	11:39	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	20-Dec-10	11:39	0.000041	0.000042	0.000015	0.000020	0.000028	0.000154	0.000038
Chromium [mg/L]	20-Dec-10	11:39	< 0.0005	0.0013	< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005
Copper [mg/L]	20-Dec-10	11:39	0.0006	0.0009	0.0005	0.0007	0.0010	0.0019	< 0.0005
Iron [mg/L]	20-Dec-10	09:15	0.007	0.004	0.016	0.010	< 0.002	0.011	0.038
Potassium [mg/L]	20-Dec-10	09:15	0.255	1.61	1.50	2.06	4.69	2.56	4.22
Lithium [mg/L]	20-Dec-10	11:39	0.001	0.003	0.003	0.004	0.004	0.016	0.003



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10296-DEC10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#0	6: Master TlsF33 Wk#0	7: Comb TlsF36 Wk#0	8: Comb TlsF37 Wk#0	9: Comb TlsF37 Wk#0	10: XPS PP Comp 1 Conc Wk#0	11: XPS PP Comp 1 Tls Wk#0
Magnesium [mg/L]	20-Dec-10	09:15	0.233	1.24	0.490	0.787	5.30	0.968	1.17
Manganese [mg/L]	20-Dec-10	11:39	0.0569	0.0416	0.0888	0.0951	0.0463	0.0933	0.0530
Molybdenum [mg/L]	20-Dec-10	11:39	0.00214	0.0164	0.00441	0.00626	0.00676	0.0469	0.0161
Sodium [mg/L]	20-Dec-10	09:15	2.15	4.42	2.20	3.07	16.9	4.05	5.35
Nickel [mg/L]	20-Dec-10	11:39	0.0002	0.0011	0.0008	0.0010	0.0010	0.0095	0.0008
Lead [mg/L]	20-Dec-10	11:39	0.00009	0.00005	0.00005	0.00003	0.00004	0.00006	0.00009
Antimony [mg/L]	20-Dec-10	11:39	0.0007	0.0008	0.0004	0.0005	0.0005	0.0070	0.0009
Selenium [mg/L]	20-Dec-10	11:39	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	20-Dec-10	09:15	0.29	1.01	0.38	0.44	3.86	0.61	0.74
Tin [mg/L]	20-Dec-10	11:39	0.00301	0.00946	0.00307	0.00367	0.00551	0.0125	0.00470
Strontium [mg/L]	20-Dec-10	09:15	0.0094	0.0211	0.0094	0.0145	0.0868	0.0147	0.0195
Thorium [mg/L]	20-Dec-10	11:39	0.000222	0.000172	0.000128	0.000109	0.000092	0.000088	0.000088
Titanium [mg/L]	20-Dec-10	11:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0003
Thallium [mg/L]	20-Dec-10	11:39	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	20-Dec-10	11:39	0.00226	0.00474	0.00168	0.00272	0.00369	0.0147	0.00215
Vanadium [mg/L]	20-Dec-10	11:39	< 0.00003	0.00004	< 0.00003	< 0.00003	0.00003	0.00068	0.00004
Yttrium [mg/L]	20-Dec-10	11:39	0.000525	0.000361	0.000630	0.000436	0.000390	0.000218	0.000572
Zinc [mg/L]	20-Dec-10	11:39	< 0.001	< 0.001	0.003	< 0.001	0.001	0.003	0.003
Zirconium [mg/L]	20-Dec-10	11:39	0.00199	0.00239	0.00784	0.00529	0.00265	0.00014	0.00511

Radionuclides subcontracted to Becquerel Laboratories.


Dianne Griffin
Project Specialist



ANALYSIS REPORT

Becquerel Laboratories Inc. Phone: (905) 826-3080
 6790 Kitimat Rd., Unit 4 FAX: (905) 826-4151
 Mississauga, Ontario
 Canada, L5N 5L9

Batch: T10-01850.0

Date: 20-Jan-2011

Lakefield Research Ltd.

185 Concession St., Postal Bag 4300
 Lakefield, ON, K0L 2H0

Phone: (705) 652-2038

FAX: (705) 652-1918

Client Ref. Dec 10296

P.O: 55876

attn: Dianne Griffin

7 water samples Sampled: 15-Dec-2010

Received: 22-Dec-2010

Page 1 of 2

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
Master Conc Wk#0	Ra-228	< 0.5	Bq/l	05-Jan-2011	GAMMA
Master Tls Wk#0	Ra-228	0.5	Bq/l	06-Jan-2011	GAMMA
F33 Comb Tls Wk#0	Ra-228	0.4	Bq/l	07-Jan-2011	GAMMA
F36 Comb Tls Wk#0	Ra-228	< 0.7	Bq/l	08-Jan-2011	GAMMA
F37 Comb Tls Wk#0	Ra-228	< 0.5	Bq/l	10-Jan-2011	GAMMA
XPS PP Compl Conc Wk#0	Ra-228	< 0.3	Bq/l	11-Jan-2011	GAMMA
XPS PP Compl Tls Wk#0	Ra-228	< 0.6	Bq/l	12-Jan-2011	GAMMA
Master Conc Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
Master Tls Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
F33 Comb Tls Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
F36 Comb Tls Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
F37 Comb Tls Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
XPS PP Compl Conc Wk#0	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC
XPS PP Compl Tls Wk#0	Pb-210	< 0.1	Bq/l	11-Jan-2011	GFPC
Master Conc Wk#0	Ra-226	0.05	Bq/l	09-Jan-2011	ALPHA
Master Tls Wk#0	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA
F33 Comb Tls Wk#0	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA
F36 Comb Tls Wk#0	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA
F37 Comb Tls Wk#0	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA
XPS PP Compl Conc Wk#0	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA
XPS PP Compl Tls Wk#0	Ra-226	0.01	Bq/l	09-Jan-2011	ALPHA



ANALYSIS REPORT

Becquerel Laboratories Inc.
6790 Kitimat Rd., Unit 4
Mississauga, Ontario
Canada, L5N 5L9

Phone: (905) 826-3080
FAX: (905) 826-4151

Batch: T10-01850.0

Date: 20-Jan-2011

Page 2 of 2

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry
 GFPC BQ-RAD-GFPC gas-flow proportional counting
 ALPHA BQ-RAD-ALPHA alpha-particle spectrometry

Units: Bq/l Becquerels per litre

These results relate only to the samples analysed and only to the items tested.
Detection limits were elevated for Ra-228 due to lack of sample.

20-Jan-2011 approved by:

A handwritten signature in blue ink, appearing to read "Donald D. Burgess", is written over a horizontal line.

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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ANALYSIS REPORT

Becquerel Laboratories Inc.
6790 Kitimat Rd., Unit 4
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Phone: (905) 826-3080
FAX: (905) 826-4151

Batch: T11-00084.0

Date: 09-Feb-2011

Lakefield Research Ltd.

185 Concession St., Postal Bag 4300
Lakefield, ON, K0L 2H0

Phone: (705) 652-2038
FAX: (705) 652-1918

Client Ref.
Jan 10263 R.11.

attn: Brian Graham

1 water sample Sampled: 19-Jan-2011 Received: 21-Jan-2011 Page 1 of 1

Results of Analysis						
Sample	Test	Result	Units	Date	Method	
XPS PP comp 2 Tls WK#0	Ra-226 <	0.01	Bq/l	28-Jan-2011	ALPHA	
XPS PP comp 2 Tls WK#0	Pb-210	0.1	Bq/l	02-Feb-2011	GFPC	
XPS PP comp 2 Tls WK#0	Ra-228 <	0.1	Bq/l	28-Jan-2011	GAMMA	

Methods: ALPHA BQ-RAD-ALPHA alpha-particle spectrometry
 GFPC BQ-RAD-GFPC gas-flow proportional counting
 GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/l Becquerels per litre

These results relate only to the samples analysed and only to the items tested.

09-Feb-2011 approved by:


Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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**SGS Canada Inc.**

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Tuesday, February 01, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 26 January 2011**LR Report:** CA10264-JAN11**Reference:** Wk#1**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk#1
Sample Date & Time			26-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	985
pH [no unit]	28-Jan-11	11:30	7.20
Conductivity [uS/cm]	28-Jan-11	11:30	65
Acidity [mg/L as CaCO3]	28-Jan-11	11:30	< 2
Alkalinity [mg/L as CaCO3]	28-Jan-11	11:30	25
Sulphate [mg/L]	01-Feb-11	09:48	2.4
Mercury [mg/L]	28-Jan-11	07:52	< 0.0001
Silver [mg/L]	31-Jan-11	08:02	0.00001
Aluminum [mg/L]	31-Jan-11	11:23	0.04
Arsenic [mg/L]	31-Jan-11	08:02	0.0005
Boron [mg/L]	31-Jan-11	08:02	0.0175
Barium [mg/L]	31-Jan-11	08:02	0.00076
Beryllium [mg/L]	31-Jan-11	08:02	< 0.00002
Bismuth [mg/L]	31-Jan-11	08:02	< 0.00001
Calcium [mg/L]	31-Jan-11	11:24	3.95
Cadmium [mg/L]	31-Jan-11	08:02	< 0.000003
Cobalt [mg/L]	31-Jan-11	08:02	0.000425
Chromium [mg/L]	31-Jan-11	08:03	< 0.0005
Copper [mg/L]	31-Jan-11	08:03	< 0.0005
Iron [mg/L]	31-Jan-11	11:24	0.040
Potassium [mg/L]	31-Jan-11	11:24	4.42
Lithium [mg/L]	31-Jan-11	08:03	0.002
Magnesium [mg/L]	31-Jan-11	11:24	1.10
Manganese [mg/L]	31-Jan-11	08:03	0.0473
Molybdenum [mg/L]	31-Jan-11	08:03	0.00970
Sodium [mg/L]	31-Jan-11	11:24	4.82
Nickel [mg/L]	31-Jan-11	08:03	0.0004
Lead [mg/L]	31-Jan-11	08:03	0.00003

SGS Canada Inc.

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10264-JAN11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk#1
Antimony [mg/L]	31-Jan-11	08:03	0.0005
Selenium [mg/L]	31-Jan-11	08:03	< 0.001
Silica [mg/L]	31-Jan-11	11:24	0.43
Tin [mg/L]	31-Jan-11	08:03	0.00127
Strontium [mg/L]	31-Jan-11	11:24	0.0118
Thorium [mg/L]	31-Jan-11	08:03	0.000066
Titanium [mg/L]	31-Jan-11	08:03	0.0003
Thallium [mg/L]	31-Jan-11	08:03	< 0.0002
Uranium [mg/L]	31-Jan-11	08:03	0.000875
Vanadium [mg/L]	31-Jan-11	08:03	< 0.00003
Yttrium [mg/L]	31-Jan-11	08:03	0.000513
Zinc [mg/L]	31-Jan-11	08:03	< 0.001
Zirconium [mg/L]	31-Jan-11	08:03	0.00246



Dianne Griffin
Project Specialist



SGS Canada Inc.

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Lakefield - Ontario - KOL 2H0

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Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Wednesday, January 05, 2011

Date Rec. : 22 December 2010

LR Report: CA10297-DEC10

Reference: Wk#1

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#1	6: Master TlsF33 Wk#1	7: Comb TlsF36 Wk#1	8: Comb TlsF37 Wk#1	9: Comb TlsXPS Wk#1	10: PP Comp Wk#1	11: XPS PP Comp 1 Tls Wk#1
Sample Date & Time			22-Dec-10	22-Dec-10	22-Dec-10	22-Dec-10	22-Dec-10	22-Dec-10	22-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	956	897	892	972	980	934	978
pH [no unit]	31-Dec-10	07:50	7.64	7.53	7.51	7.82	7.68	8.11	7.79
Conductivity [uS/cm]	31-Dec-10	07:50	55	65	45	94	59	126	79
Acidity [mg/L as CaCO3]	31-Dec-10	07:50	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	31-Dec-10	07:50	21	25	16	40	24	58	25
Sulphate [mg/L]	05-Jan-11	11:02	1.9	3.0	2.9	4.9	3.2	1.9	11
Mercury [mg/L]	24-Dec-10	09:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	24-Dec-10	09:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	24-Dec-10	09:03	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.05	0.04
Arsenic [mg/L]	24-Dec-10	09:03	0.0002	0.0003	0.0005	0.0006	0.0007	0.0028	0.0003
Boron [mg/L]	24-Dec-10	09:03	0.0104	0.0135	0.0146	0.0272	0.0183	0.0608	0.0178
Barium [mg/L]	24-Dec-10	09:03	0.00073	0.00152	0.00094	0.00330	0.00117	0.00292	0.00121
Beryllium [mg/L]	24-Dec-10	09:03	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	24-Dec-10	09:03	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	24-Dec-10	09:03	2.82	6.81	3.92	9.32	5.49	11.1	7.61
Cadmium [mg/L]	24-Dec-10	09:03	< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	24-Dec-10	09:03	0.000060	0.000067	0.000052	0.000063	0.000066	0.000067	0.000052
Chromium [mg/L]	24-Dec-10	09:03	< 0.0005	0.0010	< 0.0005	0.0007	< 0.0005	< 0.0005	< 0.0005



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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10297-DEC10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#1	6: Master TlsF33 Wk#1	7: Comb TlsF36 Wk#1	8: Comb TlsF37 Wk#1	9: Comb TlsXPS Wk#1	10: PP Comp 1 Conc Wk#1	11: XPS PP Comp 1 Tls Wk#1
Copper [mg/L]	24-Dec-10	09:03	< 0.0005	0.0007	0.0007	0.0010	0.0009	< 0.0005	< 0.0005
Iron [mg/L]	24-Dec-10	09:03	0.008	0.004	0.007	0.007	0.009	< 0.002	0.037
Potassium [mg/L]	24-Dec-10	09:03	0.210	1.20	1.94	3.45	2.34	2.32	3.71
Lithium [mg/L]	24-Dec-10	09:03	< 0.001	0.002	0.004	0.007	0.003	0.006	0.003
Magnesium [mg/L]	24-Dec-10	09:03	0.263	1.05	0.818	1.81	0.928	2.38	1.31
Manganese [mg/L]	24-Dec-10	09:03	0.0412	0.0410	0.0699	0.101	0.0615	0.0555	0.0550
Molybdenum [mg/L]	24-Dec-10	09:03	0.00216	0.0129	0.00569	0.0108	0.00691	0.00762	0.0133
Sodium [mg/L]	24-Dec-10	09:03	2.04	3.41	3.19	5.48	3.95	4.02	5.55
Nickel [mg/L]	24-Dec-10	09:03	0.0002	0.0010	0.0010	0.0020	0.0009	0.0034	0.0005
Lead [mg/L]	24-Dec-10	09:03	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002
Antimony [mg/L]	24-Dec-10	09:03	0.0003	0.0004	0.0002	0.0004	0.0003	0.0057	0.0006
Selenium [mg/L]	24-Dec-10	09:03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	24-Dec-10	09:03	0.32	0.91	0.48	0.79	0.65	2.73	0.75
Tin [mg/L]	24-Dec-10	09:03	0.00065	0.00225	0.00153	0.00176	0.00179	0.00295	0.00275
Strontium [mg/L]	24-Dec-10	09:03	0.0091	0.0190	0.0125	0.0331	0.0139	0.0420	0.0497
Thorium [mg/L]	24-Dec-10	09:03	< 0.000004	< 0.000004	0.000005	0.000004	< 0.000004	< 0.000004	0.000017
Titanium [mg/L]	24-Dec-10	09:03	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Thallium [mg/L]	24-Dec-10	09:03	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	24-Dec-10	09:03	0.00248	0.00426	0.00262	0.00652	0.00386	0.00599	0.00208
Vanadium [mg/L]	24-Dec-10	09:03	< 0.00003	< 0.00003	< 0.00003	0.00004	< 0.00003	0.00053	0.00003
Yttrium [mg/L]	24-Dec-10	09:03	0.000209	0.000154	0.000194	0.000305	0.000257	0.000094	0.000471
Zinc [mg/L]	24-Dec-10	09:03	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
Zirconium [mg/L]	24-Dec-10	09:03	0.00052	0.00037	0.00137	0.00210	0.00138	0.00001	0.00362


Dianne Griffin
Project Specialist

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Friday, February 18, 2011

Environmental Met

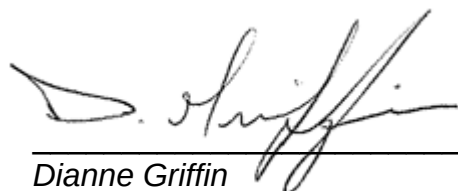
Attn : Barb Bowman

Date Rec. : 11 February 2011**LR Report:** CA11101-FEB11**Reference:** Wk#1**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	pH no unit
3: Analysis Approval Date		16-Feb-11
4: Analysis Approval Time		09:34
5: XPS PP Comp 2 Tls Wk#1	Date:N/A	7.88



Dianne Griffin
Project Specialist

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Thursday, February 10, 2011

Environmental Met**Attn :** Barb Bowman**Date Rec. :** 02 February 2011**LR Report:** CA10088-FEB11**Reference:** Wk#2**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk# 2
Sample Date & Time			02-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	979
pH [no unit]	03-Feb-11	14:46	7.93
Conductivity [uS/cm]	03-Feb-11	14:46	103
Acidity [mg/L as CaCO ₃]	03-Feb-11	14:46	< 2
Alkalinity [mg/L as CaCO ₃]	03-Feb-11	14:46	36
Sulphate [mg/L]	10-Feb-11	10:59	5.4
Mercury [mg/L]	04-Feb-11	14:34	< 0.0001
Silver [mg/L]	08-Feb-11	12:03	< 0.00001
Aluminum [mg/L]	08-Feb-11	14:14	0.04
Arsenic [mg/L]	08-Feb-11	12:03	0.0009
Boron [mg/L]	08-Feb-11	12:03	0.0459
Barium [mg/L]	08-Feb-11	12:03	0.00143
Beryllium [mg/L]	08-Feb-11	12:03	< 0.00002
Bismuth [mg/L]	08-Feb-11	12:03	< 0.00001
Calcium [mg/L]	08-Feb-11	14:14	5.15
Cadmium [mg/L]	08-Feb-11	12:03	0.000050
Cobalt [mg/L]	08-Feb-11	12:03	0.000081
Chromium [mg/L]	08-Feb-11	12:03	< 0.0005
Copper [mg/L]	08-Feb-11	12:03	< 0.0005
Iron [mg/L]	08-Feb-11	14:14	0.021
Potassium [mg/L]	08-Feb-11	14:14	8.19
Lithium [mg/L]	08-Feb-11	12:03	0.003
Magnesium [mg/L]	08-Feb-11	14:14	1.80
Manganese [mg/L]	08-Feb-11	12:03	0.0414
Molybdenum [mg/L]	08-Feb-11	12:03	0.0184
Sodium [mg/L]	08-Feb-11	14:14	8.82
Nickel [mg/L]	08-Feb-11	12:03	0.0062
Lead [mg/L]	08-Feb-11	12:03	0.00003

SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10088-FEB11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk# 2
Antimony [mg/L]	08-Feb-11	12:03	0.0009
Selenium [mg/L]	08-Feb-11	12:03	< 0.001
Silica [mg/L]	08-Feb-11	14:14	0.84
Tin [mg/L]	08-Feb-11	12:03	0.00068
Strontium [mg/L]	08-Feb-11	14:14	0.0178
Thorium [mg/L]	08-Feb-11	12:03	0.000008
Titanium [mg/L]	08-Feb-11	12:03	0.0002
Thallium [mg/L]	08-Feb-11	12:03	< 0.0002
Uranium [mg/L]	08-Feb-11	12:02	0.00155
Vanadium [mg/L]	08-Feb-11	12:02	0.00005
Yttrium [mg/L]	08-Feb-11	12:02	0.000257
Zinc [mg/L]	08-Feb-11	12:02	< 0.001
Zirconium [mg/L]	08-Feb-11	12:02	0.00126


Dianne Griffin
Project Specialist



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Monday, January 10, 2011

Date Rec. : 29 December 2010

LR Report: CA10298-DEC10

Reference: Wk#2

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#2	6: Master Tls Wk#2	7: F33 Comb Tls Wk#2	8: F36 Comb Tls Wk#2	9: F37 Comb Tls Wk#2	10: XPS PP Comp 1 Conc Wk#2	11: XPS PP Comp 1 Tls Wk#2
Sample Date & Time			29-Dec-10	29-Dec-10	29-Dec-10	29-Dec-10	29-Dec-10	29-Dec-10	29-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	853	910	940	973	985	936	975
pH [no unit]	31-Dec-10	07:56	7.56	8.15	7.51	7.99	7.60	8.13	7.63
Conductivity [uS/cm]	31-Dec-10	07:56	47	153	41	94	44	96	55
Acidity [mg/L as CaCO3]	31-Dec-10	07:56	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	31-Dec-10	07:56	13	62	13	37	15	44	15
Sulphate [mg/L]	05-Jan-11	13:24	2.5	9.2	2.8	4.9	2.4	1.8	6.5
Mercury [mg/L]	05-Jan-11	14:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	06-Jan-11	11:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	04-Jan-11	15:39	< 0.01	< 0.01	0.02	< 0.01	0.02	0.07	0.02
Arsenic [mg/L]	06-Jan-11	11:31	0.0005	0.0009	0.0006	0.0009	0.0005	0.0027	0.0004
Boron [mg/L]	06-Jan-11	11:31	0.0165	0.0393	0.0177	0.0316	0.0172	0.0505	0.0141
Barium [mg/L]	06-Jan-11	11:31	0.00058	0.00412	0.00069	0.00259	0.00083	0.00246	0.00071
Beryllium [mg/L]	06-Jan-11	11:31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	06-Jan-11	11:31	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	04-Jan-11	15:39	3.41	21.4	3.49	9.78	4.18	12.5	5.47
Cadmium [mg/L]	06-Jan-11	11:31	0.000006	0.000015	< 0.000003	0.000006	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	06-Jan-11	11:31	0.000012	0.000076	0.000023	0.000020	0.000010	0.000026	0.000009
Chromium [mg/L]	06-Jan-11	11:31	< 0.0005	0.0027	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005



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Project : CALR-11806-007

LR Report : CA10298-DEC10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#2	6: Master Tls Wk#2	7: F33 Comb Tls Wk#2	8: F36 Comb Tls Wk#2	9: F37 Comb Tls Wk#2	10: XPS PP Comp 1 Conc Wk#2	11: XPS PP Comp 1 Tls Wk#2
Copper [mg/L]	06-Jan-11	11:31	< 0.0005	0.0027	0.0012	0.0011	0.0007	< 0.0005	< 0.0005
Iron [mg/L]	04-Jan-11	15:40	0.010	0.005	0.004	0.007	0.004	< 0.002	0.016
Potassium [mg/L]	04-Jan-11	15:40	0.199	2.84	1.85	3.81	1.88	2.50	2.30
Lithium [mg/L]	06-Jan-11	11:31	< 0.001	0.006	0.003	0.007	0.002	0.006	0.002
Magnesium [mg/L]	04-Jan-11	15:40	0.298	3.16	0.720	1.86	0.699	2.42	0.840
Manganese [mg/L]	06-Jan-11	11:31	0.0383	0.0946	0.0704	0.105	0.0521	0.0625	0.0488
Molybdenum [mg/L]	06-Jan-11	11:31	0.00269	0.0334	0.00574	0.0102	0.00496	0.00554	0.00763
Sodium [mg/L]	04-Jan-11	15:40	2.18	9.19	2.88	5.60	2.90	2.45	3.16
Nickel [mg/L]	06-Jan-11	11:32	0.0002	0.0040	0.0012	0.0019	0.0007	0.0026	0.0004
Lead [mg/L]	06-Jan-11	11:32	0.00004	0.00004	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Antimony [mg/L]	06-Jan-11	11:32	0.0004	0.0009	0.0003	0.0004	0.0003	0.0057	0.0005
Selenium [mg/L]	06-Jan-11	11:32	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	04-Jan-11	15:40	0.38	2.57	0.44	0.90	0.52	2.53	0.46
Tin [mg/L]	06-Jan-11	11:32	0.00068	0.00121	0.00137	0.00060	0.00094	0.00087	0.00077
Strontium [mg/L]	04-Jan-11	15:40	0.0086	0.0597	0.0092	0.0318	0.0088	0.0431	0.0127
Thorium [mg/L]	06-Jan-11	11:32	< 0.000004	< 0.000004	< 0.000004	< 0.000004	< 0.000004	< 0.000004	< 0.000004
Titanium [mg/L]	06-Jan-11	11:32	< 0.0001	0.0003	< 0.0001	0.0001	< 0.0001	0.0005	0.0001
Thallium [mg/L]	06-Jan-11	11:32	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	06-Jan-11	11:32	0.00331	0.0116	0.00221	0.00626	0.00235	0.00505	0.00121
Vanadium [mg/L]	06-Jan-11	11:32	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00058	< 0.00003
Yttrium [mg/L]	06-Jan-11	11:32	0.000420	0.000255	0.000180	0.000260	0.000097	0.000077	0.000225
Zinc [mg/L]	06-Jan-11	11:32	< 0.001	0.003	0.001	0.001	0.002	< 0.001	< 0.001
Zirconium [mg/L]	06-Jan-11	11:32	0.00110	0.00063	0.00122	0.00202	0.00025	0.00003	0.00152


Dianne Griffin
Project Specialist



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Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Tuesday, January 11, 2011

Date Rec. : 05 January 2011

LR Report: CA10026-JAN11

Reference: Wk#3

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#3	6: Master TlsF33 Wk#3	7: Comb TlsF36 Wk#3	8: Comb TlsF37 Wk#3	9: Comb TlsXPS PP Comp Wk#3 1 Conc Wk#3	10: XPS PP Comp 1 Tls Wk#3	11: XPS PP Comp 1 Tls Wk#3
Sample Date & Time			05-Jan-10	05-Jan-10	05-Jan-10	05-Jan-10	05-Jan-10	05-Jan-10	05-Jan-10
Hum Cell Leachate Volume [mLs]	---	---	886	939	868	945	930	966	961
pH [no unit]	07-Jan-11	11:29	7.44	7.49	7.52	7.56	7.54	8.13	7.56
Conductivity [uS/cm]	07-Jan-11	11:29	39	33	33	39	37	97	44
Acidity [mg/L as CaCO3]	07-Jan-11	11:29	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	07-Jan-11	11:29	12	12	12	13	12	46	13
Sulphate [mg/L]	10-Jan-11	15:09	1.6	1.0	1.6	2.0	2.1	1.7	5.0
Mercury [mg/L]	06-Jan-11	15:55	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	10-Jan-11	10:51	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	07-Jan-11	10:56	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.08	0.02
Arsenic [mg/L]	10-Jan-11	10:51	0.0004	< 0.0002	0.0007	0.0005	0.0005	0.0026	< 0.0002
Boron [mg/L]	10-Jan-11	10:51	0.0132	0.0083	0.0099	0.0136	0.0124	0.0364	0.0104
Barium [mg/L]	10-Jan-11	10:51	0.00063	0.00064	0.00042	0.00079	0.00060	0.00250	0.00056
Beryllium [mg/L]	10-Jan-11	10:51	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	10-Jan-11	10:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	07-Jan-11	10:56	2.97	4.10	3.51	3.18	3.03	12.1	4.05
Cadmium [mg/L]	10-Jan-11	10:51	< 0.000003	< 0.000003	0.000005	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	10-Jan-11	10:51	0.000145	0.000051	0.000020	0.000015	0.000013	0.000028	0.000013
Chromium [mg/L]	10-Jan-11	10:51	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005



SGS Canada Inc.

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10026-JAN11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#3	6: Master TlsF33 Wk#3	7: Comb TlsF36 Wk#3	8: Comb TlsF37 Wk#3	9: Comb TlsXPS Wk#3	10: PP Comp 1 Conc Wk#3	11: PP Comp 1 Tls Wk#3
Copper [mg/L]	10-Jan-11	10:51	0.0007	< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005
Iron [mg/L]	07-Jan-11	10:56	0.005	< 0.002	0.006	< 0.002	< 0.002	< 0.002	0.010
Potassium [mg/L]	07-Jan-11	10:56	0.162	0.607	1.45	1.80	1.56	2.44	2.18
Lithium [mg/L]	10-Jan-11	10:51	< 0.001	0.001	0.002	0.003	0.002	0.004	0.002
Magnesium [mg/L]	07-Jan-11	10:56	0.224	0.483	0.481	0.644	0.496	2.05	0.627
Manganese [mg/L]	10-Jan-11	10:51	0.0419	0.0812	0.0686	0.0452	0.0336	0.0513	0.0444
Molybdenum [mg/L]	10-Jan-11	10:51	0.00360	0.00513	0.00381	0.00490	0.00463	0.00479	0.00638
Sodium [mg/L]	07-Jan-11	10:56	1.56	1.22	1.78	2.21	2.21	1.54	2.25
Nickel [mg/L]	10-Jan-11	10:51	0.0005	0.0007	0.0004	0.0006	0.0005	0.0018	0.0003
Lead [mg/L]	10-Jan-11	10:51	0.00006	< 0.00002	0.00002	0.00002	< 0.00002	0.00003	< 0.00002
Antimony [mg/L]	10-Jan-11	10:51	0.0004	0.0003	0.0003	< 0.0002	0.0003	0.0055	0.0004
Selenium [mg/L]	10-Jan-11	10:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	07-Jan-11	10:56	0.30	0.50	0.48	0.44	0.44	2.32	0.46
Tin [mg/L]	10-Jan-11	10:51	0.00143	0.00023	0.00079	0.00021	0.00050	0.00058	0.00044
Strontium [mg/L]	07-Jan-11	10:56	0.0084	0.0097	0.0089	0.0109	0.0075	0.0412	0.0100
Thorium [mg/L]	10-Jan-11	10:51	0.000033	0.000024	0.000026	0.000012	0.000011	0.000008	0.000025
Titanium [mg/L]	10-Jan-11	10:51	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	10-Jan-11	10:51	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	10-Jan-11	10:51	0.00232	0.00129	0.000958	0.00197	0.00149	0.00460	0.000901
Vanadium [mg/L]	10-Jan-11	10:51	0.00004	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00055	< 0.00003
Yttrium [mg/L]	10-Jan-11	10:51	0.000443	0.000173	0.000416	0.000104	0.000131	0.000064	0.000195
Zinc [mg/L]	10-Jan-11	10:51	0.002	< 0.001	< 0.001	0.001	0.002	0.001	< 0.001
Zirconium [mg/L]	10-Jan-11	10:51	0.00086	0.00050	0.00383	0.00062	0.00036	0.00003	0.00157


Dianne Griffin
Project Specialist

**SGS Canada Inc.**

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Thursday, February 24, 2011

Environmental Met**Attn :** Barb Bowman**Date Rec. :** 09 February 2011**LR Report:** CA10089-FEB11**Reference:** Wk#3**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk#3
Sample Date & Time			09-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	985
pH [no unit]	11-Feb-11	15:40	7.80
Conductivity [uS/cm]	11-Feb-11	15:40	82
Acidity [mg/L as CaCO ₃]	11-Feb-11	15:40	< 2
Alkalinity [mg/L as CaCO ₃]	11-Feb-11	15:40	27
Sulphate [mg/L]	19-Feb-11	15:53	3.1
Mercury [mg/L]	11-Feb-11	12:54	< 0.0001
Silver [mg/L]	14-Feb-11	12:20	< 0.00001
Aluminum [mg/L]	15-Feb-11	10:46	0.03
Arsenic [mg/L]	14-Feb-11	12:20	0.0004
Boron [mg/L]	14-Feb-11	12:20	0.0241
Barium [mg/L]	14-Feb-11	12:20	0.00089
Beryllium [mg/L]	14-Feb-11	12:20	< 0.00002
Bismuth [mg/L]	14-Feb-11	12:20	< 0.00001
Calcium [mg/L]	15-Feb-11	10:47	4.59
Cadmium [mg/L]	14-Feb-11	12:20	0.000014
Cobalt [mg/L]	14-Feb-11	12:20	0.000049
Chromium [mg/L]	14-Feb-11	12:20	< 0.0005
Copper [mg/L]	14-Feb-11	12:20	< 0.0005
Iron [mg/L]	15-Feb-11	10:47	0.019
Potassium [mg/L]	15-Feb-11	10:47	4.06
Lithium [mg/L]	14-Feb-11	12:20	0.002
Magnesium [mg/L]	15-Feb-11	10:47	1.26
Manganese [mg/L]	14-Feb-11	12:20	0.0594
Molybdenum [mg/L]	14-Feb-11	12:20	0.00938
Sodium [mg/L]	15-Feb-11	10:47	3.88
Nickel [mg/L]	14-Feb-11	12:20	0.0029
Lead [mg/L]	14-Feb-11	12:21	0.00002

SGS Canada Inc.

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10089-FEB11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk#3
Antimony [mg/L]	14-Feb-11	12:21	0.0007
Selenium [mg/L]	14-Feb-11	12:21	< 0.001
Silica [mg/L]	15-Feb-11	10:47	0.52
Tin [mg/L]	14-Feb-11	12:21	0.00041
Strontium [mg/L]	15-Feb-11	10:47	0.0134
Thorium [mg/L]	14-Feb-11	12:21	0.000009
Titanium [mg/L]	14-Feb-11	12:21	< 0.0001
Thallium [mg/L]	14-Feb-11	12:21	< 0.0002
Uranium [mg/L]	14-Feb-11	12:21	0.000959
Vanadium [mg/L]	14-Feb-11	12:21	< 0.00003
Yttrium [mg/L]	14-Feb-11	12:21	0.000282
Zinc [mg/L]	14-Feb-11	12:21	< 0.001
Zirconium [mg/L]	14-Feb-11	12:21	0.00124


Dianne Griffin
Project Specialist



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Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Wednesday, January 19, 2011

Date Rec. : 12 January 2011

LR Report: CA10055-JAN11

Reference: Wk#4

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#4	6: Master TlsF33 Wk#4	7: Comb TlsF36 Wk#4	8: Comb TlsF37 Wk#4	9: Comb TlsXPS Wk#4	10: PP Comp Wk#4	11: XPS PP Comp 1 Tls Wk#4
Sample Date & Time			12-Jan-11	12-Jan-11	12-Jan-11	12-Jan-11	12-Jan-11	12-Jan-11	12-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	972	908	901	932	951	992	954
pH [no unit]	14-Jan-11	10:30	7.69	7.16	7.68	7.40	7.35	8.01	7.19
Conductivity [uS/cm]	14-Jan-11	10:30	50	22	44	40	35	91	36
Acidity [mg/L as CaCO3]	14-Jan-11	10:30	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	14-Jan-11	10:30	27	9	16	14	11	42	10
Sulphate [mg/L]	19-Jan-11	15:42	2.7	0.7	2.6	2.4	2.0	2.0	4.5
Mercury [mg/L]	14-Jan-11	12:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	18-Jan-11	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	17-Jan-11	14:05	0.02	0.02	0.02	0.02	0.01	0.11	0.02
Arsenic [mg/L]	18-Jan-11	09:59	0.0005	< 0.0002	0.0008	0.0005	0.0004	0.0022	< 0.0002
Boron [mg/L]	18-Jan-11	09:59	0.0188	0.0052	0.0131	0.0150	0.0119	0.0294	0.0088
Barium [mg/L]	18-Jan-11	09:59	0.00235	0.00105	0.00091	0.00115	0.00083	0.00243	0.00054
Beryllium [mg/L]	18-Jan-11	09:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	18-Jan-11	09:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	17-Jan-11	14:05	5.04	2.80	3.68	3.72	3.30	12.0	3.30
Cadmium [mg/L]	18-Jan-11	09:59	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003
Cobalt [mg/L]	18-Jan-11	09:59	0.000013	< 0.000002	< 0.000002	< 0.000002	< 0.000002	0.000011	< 0.000002
Chromium [mg/L]	18-Jan-11	09:59	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005



SGS Canada Inc.

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Lakefield - Ontario - KOL 2HO

Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

LR Report : CA10055-JAN11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#4	6: Master TlsF33 Wk#4	7: Comb TlsF36 Wk#4	8: Comb TlsF37 Wk#4	9: Comb TlsXPS Wk#4	10: PP Comp 1 Conc Wk#4	11: PP Comp 1 Tls Wk#4
Copper [mg/L]	18-Jan-11	09:59	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	17-Jan-11	14:05	0.003	0.007	0.009	0.003	< 0.002	< 0.002	0.004
Potassium [mg/L]	17-Jan-11	14:05	0.306	0.466	1.65	1.99	1.48	2.32	1.86
Lithium [mg/L]	18-Jan-11	09:59	0.001	< 0.001	0.003	0.003	0.002	0.004	0.001
Magnesium [mg/L]	17-Jan-11	14:05	0.443	0.362	0.587	0.743	0.524	1.87	0.553
Manganese [mg/L]	18-Jan-11	09:59	0.0352	0.0467	0.0691	0.0424	0.0463	0.0471	0.0249
Molybdenum [mg/L]	18-Jan-11	09:59	0.00329	0.00244	0.00462	0.00512	0.00387	0.00412	0.00539
Sodium [mg/L]	17-Jan-11	14:05	2.78	0.89	2.30	2.60	2.14	1.14	1.98
Nickel [mg/L]	18-Jan-11	09:59	0.0002	0.0004	0.0005	0.0007	0.0005	0.0015	0.0002
Lead [mg/L]	18-Jan-11	09:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Antimony [mg/L]	18-Jan-11	09:59	0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0053	0.0003
Selenium [mg/L]	18-Jan-11	09:59	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	17-Jan-11	14:06	0.54	0.31	0.52	0.49	0.41	2.07	0.36
Tin [mg/L]	18-Jan-11	09:59	0.00094	0.00012	0.00055	0.00016	0.00030	0.00043	0.00038
Strontium [mg/L]	17-Jan-11	14:06	0.0173	0.0071	0.0104	0.0127	0.0081	0.0402	0.0086
Thorium [mg/L]	18-Jan-11	09:59	0.000010	< 0.000004	0.000012	< 0.000004	< 0.000004	< 0.000004	< 0.000004
Titanium [mg/L]	18-Jan-11	09:59	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	18-Jan-11	09:59	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	18-Jan-11	09:59	0.00476	0.000815	0.00132	0.00217	0.00143	0.00447	0.000669
Vanadium [mg/L]	18-Jan-11	09:59	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00052	< 0.00003
Yttrium [mg/L]	18-Jan-11	09:59	0.000203	0.000067	0.000348	0.000084	0.000086	0.000048	0.000062
Zinc [mg/L]	18-Jan-11	09:59	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Zirconium [mg/L]	18-Jan-11	09:59	0.00042	0.00011	0.00279	0.00078	0.00027	< 0.00001	0.00045


Dianne Griffin
Project Specialist

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Monday, February 28, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 16 February 2011**LR Report:** CA10090-FEB11**Reference:** Wk#4**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk#4
Sample Date & Time			16-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	944
pH [no unit]	21-Feb-11	18:26	7.37
Conductivity [uS/cm]	21-Feb-11	18:26	28
Acidity [mg/L as CaCO3]	21-Feb-11	18:26	< 2
Alkalinity [mg/L as CaCO3]	21-Feb-11	18:26	11
Sulphate [mg/L]	25-Feb-11	14:51	1.2
Mercury [mg/L]	17-Feb-11	13:13	< 0.0001
Silver [mg/L]	18-Feb-11	11:06	< 0.00001
Aluminum [mg/L]	22-Feb-11	10:41	0.04
Arsenic [mg/L]	18-Feb-11	11:06	< 0.0002
Boron [mg/L]	18-Feb-11	11:06	0.0072
Barium [mg/L]	18-Feb-11	11:06	0.00037
Beryllium [mg/L]	18-Feb-11	11:06	< 0.00002
Bismuth [mg/L]	18-Feb-11	11:06	< 0.00001
Calcium [mg/L]	22-Feb-11	10:41	2.28
Cadmium [mg/L]	18-Feb-11	11:06	< 0.000003
Cobalt [mg/L]	18-Feb-11	11:06	0.000093
Chromium [mg/L]	18-Feb-11	11:06	< 0.0005
Copper [mg/L]	18-Feb-11	11:06	< 0.0005
Iron [mg/L]	22-Feb-11	10:41	0.009
Potassium [mg/L]	22-Feb-11	10:41	1.99
Lithium [mg/L]	18-Feb-11	11:06	< 0.001
Magnesium [mg/L]	22-Feb-11	10:41	0.534
Manganese [mg/L]	18-Feb-11	11:06	0.0371
Molybdenum [mg/L]	18-Feb-11	11:06	0.00300
Sodium [mg/L]	22-Feb-11	10:42	1.54
Nickel [mg/L]	18-Feb-11	11:06	0.0032
Lead [mg/L]	18-Feb-11	11:06	0.00005
Antimony [mg/L]	18-Feb-11	11:06	0.0003
Selenium [mg/L]	18-Feb-11	11:06	< 0.001
Silica [mg/L]	22-Feb-11	10:42	0.26
Tin [mg/L]	18-Feb-11	11:06	0.00023

**SGS Canada Inc.**

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007**LR Report :** CA10090-FEB11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls Wk#4
Strontium [mg/L]	22-Feb-11	10:42	0.0055
Thorium [mg/L]	18-Feb-11	11:06	< 0.000004
Titanium [mg/L]	18-Feb-11	11:06	< 0.0001
Thallium [mg/L]	18-Feb-11	11:06	< 0.0002
Uranium [mg/L]	18-Feb-11	11:06	0.000349
Vanadium [mg/L]	18-Feb-11	11:06	< 0.00003
Yttrium [mg/L]	18-Feb-11	11:06	0.000179
Zinc [mg/L]	18-Feb-11	11:06	< 0.001
Zirconium [mg/L]	18-Feb-11	11:06	0.00071



Dianne Griffin
Project Specialist



SGS Canada Inc.

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Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Monday, January 31, 2011

Date Rec. : 19 January 2011
LR Report: CA10084-JAN11
Reference: Wk#5

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk# 5	6: Master TlsF33 Wk# 5	7: Comb TlsF36 Wk# 5	8: Comb TlsF37 Wk# 5	9: Comb Tls Wk# 5	10: XPS PP Comp 1 Conc Wk# 5	11: XPS PP Comp 1 Tls Wk# 5
Sample Date & Time			19-Jan-11	19-Jan-11	19-Jan-11	19-Jan-11	19-Jan-11	19-Jan-11	19-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	825	865	801	911	904	917	913
pH [no unit]	20-Jan-11	22:25	7.86	6.87	7.62	6.94	7.01	7.77	6.94
Conductivity [uS/cm]	20-Jan-11	22:25	160	18	54	26	32	96	30
Acidity [mg/L as CaCO3]	20-Jan-11	22:25	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	20-Jan-11	22:25	59	7	26	9	12	44	8
Sulphate [mg/L]	28-Jan-11	14:43	11	0.5	1.7	1.3	1.3	2.2	3.6
Mercury [mg/L]	25-Jan-11	09:22	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	24-Jan-11	09:02	0.00003	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	27-Jan-11	07:33	0.05	< 0.01	0.03	< 0.01	0.03	0.11	0.01
Arsenic [mg/L]	24-Jan-11	09:03	0.0059	< 0.0002	0.0006	0.0003	0.0003	0.0021	< 0.0002
Boron [mg/L]	24-Jan-11	09:03	0.120	0.0057	0.0085	0.0089	0.0080	0.0294	0.0082
Barium [mg/L]	24-Jan-11	09:03	0.00374	0.00036	0.00050	0.00060	0.00050	0.00302	0.00050
Beryllium [mg/L]	24-Jan-11	09:03	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	24-Jan-11	09:03	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	27-Jan-11	07:33	22.1	2.01	4.83	2.21	3.40	16.3	2.92
Cadmium [mg/L]	24-Jan-11	09:03	< 0.000003	< 0.000003	0.000010	0.000003	< 0.000003	< 0.000003	0.000006
Cobalt [mg/L]	24-Jan-11	09:03	0.000079	< 0.000002	< 0.000002	< 0.000002	< 0.000002	0.000012	< 0.000002
Chromium [mg/L]	24-Jan-11	09:03	0.0018	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005



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Project : CALR-11806-007

LR Report : CA10084-JAN11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk# 5	6: Master TlsF33 Wk# 5	7: Comb TlsF36 Wk# 5	8: Comb TlsF37 Wk# 5	9: Comb Tls Wk# 5	10: XPS PP Comp 1 Conc Wk# 5	11: XPS PP Comp 1 Tls Wk# 5
Copper [mg/L]	24-Jan-11	09:03	0.0030	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron [mg/L]	27-Jan-11	07:33	0.046	0.009	0.027	0.008	0.010	< 0.002	0.017
Potassium [mg/L]	27-Jan-11	07:33	1.28	0.310	1.29	1.09	1.03	2.47	1.49
Lithium [mg/L]	24-Jan-11	09:03	0.007	< 0.001	0.002	0.002	0.001	0.004	0.001
Magnesium [mg/L]	27-Jan-11	07:33	2.23	0.248	0.584	0.413	0.419	2.41	0.469
Manganese [mg/L]	24-Jan-11	09:03	0.0333	0.0360	0.0757	0.0427	0.0526	0.0550	0.0264
Molybdenum [mg/L]	24-Jan-11	09:03	0.0150	0.00187	0.00313	0.00270	0.00248	0.00447	0.00419
Sodium [mg/L]	27-Jan-11	07:33	18.4	0.64	1.86	1.41	1.58	1.13	1.72
Nickel [mg/L]	24-Jan-11	09:03	0.0008	0.0002	0.0004	0.0004	0.0003	0.0017	0.0002
Lead [mg/L]	24-Jan-11	09:03	0.00046	0.00037	0.00032	0.00027	0.00061	0.00012	0.00061
Antimony [mg/L]	24-Jan-11	09:03	0.0016	0.0002	0.0003	0.0002	0.0002	0.0057	0.0003
Selenium [mg/L]	24-Jan-11	09:03	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	27-Jan-11	07:33	3.46	0.19	0.49	0.26	0.32	2.11	0.31
Tin [mg/L]	24-Jan-11	09:03	0.00342	0.00017	0.00042	0.00021	0.00028	0.00045	0.00038
Strontium [mg/L]	27-Jan-11	07:33	0.0757	0.0047	0.0115	0.0070	0.0070	0.0526	0.0073
Thorium [mg/L]	24-Jan-11	09:03	0.000067	0.000008	0.000035	0.000013	0.000013	0.000005	0.000013
Titanium [mg/L]	24-Jan-11	09:03	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	24-Jan-11	09:03	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	24-Jan-11	09:03	0.01860	0.000903	0.000869	0.000864	0.000769	0.00454	0.000592
Vanadium [mg/L]	24-Jan-11	09:03	0.00031	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00057	0.00003
Yttrium [mg/L]	24-Jan-11	09:03	0.00145	0.000090	0.000783	0.000191	0.000266	0.000078	0.000258
Zinc [mg/L]	24-Jan-11	09:03	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Zirconium [mg/L]	24-Jan-11	09:03	0.0111	0.00025	0.00856	0.00133	0.00133	0.00001	0.00157

Radionuclides subcontracted to Becquerel Laboratories


Dianne Griffin
Project Specialist

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Wednesday, March 09, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 23 February 2011**LR Report:** CA10120-FEB11**Reference:** Wk#5**Copy:** #1

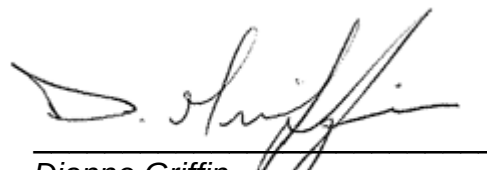
CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk# 5
Sample Date & Time			23-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	941
pH [no unit]	28-Feb-11	09:18	6.99
Conductivity [uS/cm]	28-Feb-11	09:18	27
Acidity [mg/L as CaCO ₃]	28-Feb-11	09:18	< 2
Alkalinity [mg/L as CaCO ₃]	28-Feb-11	09:18	9
Sulphate [mg/L]	01-Mar-11	20:52	1.3
Mercury [mg/L]	28-Feb-11	13:16	< 0.0001
Silver [mg/L]	02-Mar-11	10:43	< 0.00001
Aluminum [mg/L]	26-Feb-11	16:25	0.25
Arsenic [mg/L]	02-Mar-11	10:43	< 0.0002
Boron [mg/L]	02-Mar-11	10:43	0.0070
Barium [mg/L]	02-Mar-11	10:43	0.00146
Beryllium [mg/L]	02-Mar-11	10:43	0.00003
Bismuth [mg/L]	02-Mar-11	10:43	< 0.00001
Calcium [mg/L]	26-Feb-11	16:25	1.82
Cadmium [mg/L]	02-Mar-11	10:43	0.000154
Cobalt [mg/L]	02-Mar-11	10:43	0.000047
Chromium [mg/L]	02-Mar-11	10:43	< 0.0005
Copper [mg/L]	02-Mar-11	10:43	< 0.0005
Iron [mg/L]	26-Feb-11	16:25	0.579
Potassium [mg/L]	26-Feb-11	16:25	2.04
Lithium [mg/L]	02-Mar-11	10:43	0.001
Magnesium [mg/L]	26-Feb-11	16:25	0.664
Manganese [mg/L]	02-Mar-11	10:43	0.0320
Molybdenum [mg/L]	02-Mar-11	10:43	0.00308
Sodium [mg/L]	26-Feb-11	16:25	1.39
Nickel [mg/L]	02-Mar-11	10:43	0.0007
Lead [mg/L]	02-Mar-11	10:43	0.00017

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk# 5
Antimony [mg/L]	02-Mar-11	10:43	0.0003
Selenium [mg/L]	02-Mar-11	10:43	< 0.001
Silica [mg/L]	26-Feb-11	16:25	0.90
Tin [mg/L]	02-Mar-11	10:43	0.00083
Strontium [mg/L]	26-Feb-11	16:25	0.0049
Thorium [mg/L]	02-Mar-11	10:43	0.000297
Titanium [mg/L]	02-Mar-11	10:43	0.0021
Thallium [mg/L]	02-Mar-11	10:43	< 0.0002
Uranium [mg/L]	02-Mar-11	10:43	0.000419
Vanadium [mg/L]	02-Mar-11	10:43	< 0.00003
Yttrium [mg/L]	02-Mar-11	10:43	0.00458
Zinc [mg/L]	02-Mar-11	10:43	0.003
Zirconium [mg/L]	02-Mar-11	10:43	0.00491

Radionuclides subcontracted to Becquerel Laboratories



Dianne Griffin
Dianne Griffin
Project Specialist

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Friday, February 18, 2011

Environmental Met

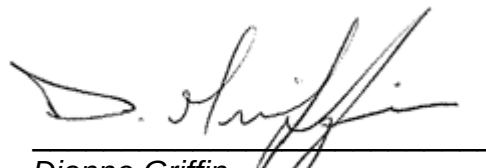
Attn : Barb Bowman

Date Rec. : 11 February 2011**LR Report:** CA11099-FEB11**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	pH no unit
3: Analysis Approval Date		16-Feb-11
4: Analysis Approval Time		09:34
5: Master Tls Wk# 5	19-Jan-11	6.84
6: F36 Comb Tls Wk# 5	19-Jan-11	6.98
7: F37 Comb Tls Wk# 5	19-Jan-11	7.19
8: XPS PP Comp 1 Tls Wk# 5	19-Jan-11	6.84


Dianne Griffin
Project Specialist



ANALYSIS REPORT

Becquerel Laboratories Inc.
6790 Kitimat Rd., Unit 4
Mississauga, Ontario
Canada, L5N 5L9

Phone: (905) 826-3080
FAX: (905) 826-4151

Batch: T11-00085.0

Date: 09-Feb-2011

Lakefield Research Ltd.

185 Concession St., Postal Bag 4300
Lakefield, ON, K0L 2H0

Phone: (705) 652-2038
FAX: (705) 652-1918

Client Ref.
Jan 10084 R.11.

attn: Brian Graham

7 water samples Sampled: 19-Jan-2011

Received: 21-Jan-2011

Page 1 of 2

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
Master Conc WK#5	Ra-226	0.11	Bq/l	02-Feb-2011	ALPHA
Master Tls WK#5	Ra-226 <	0.01	Bq/l	28-Jan-2011	ALPHA
F33 Comb Tls WK#5	Ra-226 <	0.01	Bq/l	02-Feb-2011	ALPHA
F36 Comb Tls WK#5	Ra-226	0.04	Bq/l	02-Feb-2011	ALPHA
F87 Comb Tls WK#5	Ra-226	0.03	Bq/l	28-Jan-2011	ALPHA
XPS PP Comp 1 Conc WK#5	Ra-226 <	0.01	Bq/l	02-Feb-2011	ALPHA
XPS PP Comp 1 Tls WK#5	Ra-226	0.07	Bq/l	28-Jan-2011	ALPHA
Master Conc WK#5	Pb-210	0.2	Bq/l	02-Feb-2011	GFPC
Master Tls WK#5	Pb-210	0.1	Bq/l	02-Feb-2011	GFPC
F33 Comb Tls WK#5	Pb-210	0.2	Bq/l	02-Feb-2011	GFPC
F36 Comb Tls WK#5	Pb-210 <	0.1	Bq/l	02-Feb-2011	GFPC
F87 Comb Tls WK#5	Pb-210	0.1	Bq/l	02-Feb-2011	GFPC
XPS PP Comp 1 Conc WK#5	Pb-210 <	0.1	Bq/l	02-Feb-2011	GFPC
XPS PP Comp 1 Tls WK#5	Pb-210	0.1	Bq/l	02-Feb-2011	GFPC
Master Conc WK#5	Ra-228 <	0.2	Bq/l	28-Jan-2011	GAMMA
Master Tls WK#5	Ra-228 <	0.1	Bq/l	29-Jan-2011	GAMMA
F33 Comb Tls WK#5	Ra-228 <	0.4	Bq/l	31-Jan-2011	GAMMA
F36 Comb Tls WK#5	Ra-228	0.3	Bq/l	01-Feb-2011	GAMMA
F87 Comb Tls WK#5	Ra-228 <	0.2	Bq/l	04-Feb-2011	GAMMA
XPS PP Comp 1 Conc WK#5	Ra-228	0.4	Bq/l	06-Feb-2011	GAMMA
XPS PP Comp 1 Tls WK#5	Ra-228 <	0.1	Bq/l	08-Feb-2011	GAMMA



ANALYSIS REPORT

Becquerel Laboratories Inc.
6790 Kitimat Rd., Unit 4
Mississauga, Ontario
Canada, L5N 5L9

Phone: (905) 826-3080
FAX: (905) 826-4151

Batch: T11-00085.0

Date: 09-Feb-2011

Page 2 of 2

Methods: ALPHA BQ-RAD-ALPHA alpha-particle spectrometry
 GFPC BQ-RAD-GFPC gas-flow proportional counting
 GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/l Becquerels per litre

These results relate only to the samples analysed and only to the items tested.
Some detection limits for Ra-228 were elevated due to lack of sample.

09-Feb-2011 approved by: 
Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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ANALYSIS REPORT

Becquerel Laboratories Inc.
6790 Kitimat Rd., Unit 4
Mississauga, Ontario
Canada, L5N 5L9

Phone: (905) 826-3080
FAX: (905) 826-4151

Batch: T11-00254.0

Date: 07-Apr-2011

Lakefield Research Ltd.

185 Concession St., Postal Bag 4300
Lakefield, ON, K0L 2H0

Phone: (705) 652-2038
FAX: (705) 652-1918

Client Ref.
Feb 10120
P.O: 55876

attn: Dianne Griffin

1 water sample Sampled: 23-Feb-2011 Received: 01-Mar-2011 Page 1 of 1

Results of Analysis					
Sample	Test	Result	Units	Date	Method
XPS PP Comp 2 Tls Wk#5	Ra-228	< 0.1	Bq/l	01-Apr-2011	GFPC
XPS PP Comp 2 Tls Wk#5	Ra-226	< 0.02	Bq/l	16-Mar-2011	ALPHA
XPS PP Comp 2 Tls Wk#5	Pb-210	0.1	Bq/l	14-Mar-2011	GFPC

Methods: GFPC BQ-RAD-GFPC gas-flow proportional counting
 ALPHA BQ-RAD-ALPHA alpha-particle spectrometry

Units: Bq/l Becquerels per litre

These results relate only to the samples analysed and only to the items tested.

07-Apr-2011 approved by: Donald D. Burgess
Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Thursday, March 17, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 02 March 2011
LR Report: CA10029-MAR11
Reference: Wk#6

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs Wk# 6
Sample Date & Time			02-Mar-11
Hum Cell Leachate Volume [mL]	---	---	938
pH [units]	03-Mar-11	12:38	7.35
Conductivity [μ S/cm]	16-Mar-11	10:34	24
Acidity [mg/L as CaCO ₃]	03-Mar-11	12:38	< 2
Alkalinity [mg/L as CaCO ₃]	03-Mar-11	12:38	10
Sulphate [mg/L]	09-Mar-11	11:28	1.7


Dianne Griffin
Project Specialist



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Tuesday, February 01, 2011

Date Rec. : 26 January 2011
LR Report: CA10113-JAN11
Reference: Wk#6

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk# 6	6: Master TlsF33 Wk# 6	7: Comb TlsF36 Wk# 6	8: Comb TlsF37 Wk# 6	9: Comb Tls Wk# 6	10: XPS PP Comp 1 Conc Wk# 6	11: XPS PP Comp 1 Tls Wk# 6
Sample Date & Time			26-Jan-11	26-Jan-11	26-Jan-11	26-Jan-11	26-Jan-11	26-Jan-11	26-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	836	882	867	918	953	931	961
pH [no unit]	28-Jan-11	11:30	7.84	6.62	8.21	6.64	6.70	6.91	6.64
Conductivity [uS/cm]	28-Jan-11	11:30	111	15	276	20	25	30	26
Acidity [mg/L as CaCO3]	28-Jan-11	11:30	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	28-Jan-11	11:30	51	6	91	7	8	13	7
Sulphate [mg/L]	01-Feb-11	12:57	1.5	0.6	17	1.1	1.3	0.5	3.1



Dianne Griffin
Project Specialist

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11806-007

Friday, February 18, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 11 February 2011**LR Report:** CA11100-FEB11**Reference:** Wk#6**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	pH no unit
3: Analysis Approval Date		16-Feb-11
4: Analysis Approval Time		09:33
5: Master Tls Wk# 6	Date:N/A	6.84
6: F33 Comb Tls Wk# 6	Date:N/A	8.11
7: F36 Comb Tls Wk# 6	Date:N/A	6.91
8: F37 Comb Tls Wk# 6	Date:N/A	7.13
9: XPS PP Comp 1 Conc Wk# 6	Date:N/A	7.26
10: XPS PP Comp 1 Tls Wk# 6	Date:N/A	6.89



Dianne Griffin
Project Specialist



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met

Attn : Barb Bowman

Project : CALR-11806-007

Thursday, February 10, 2011

Date Rec. : 02 February 2011

LR Report: CA10025-FEB11

Reference: Wk#7

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Master Conc Wk#7	6: Master TlsF33 Wk#7	7: Comb TlsF36 Wk#7	8: Comb TlsF37 Wk#7	9: Comb TlsXPS Wk#7	10: PP Comp Wk#7	11: XPS PP Comp 1 Tls Wk#7
Sample Date & Time			02-Feb-11	02-Feb-11	02-Feb-11	02-Feb-11	02-Feb-11	02-Feb-11	02-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	838	883	861	938	928	956	934
pH [no unit]	07-Feb-11	08:42	8.05	7.11	7.96	7.33	7.30	7.33	7.19
Conductivity [uS/cm]	07-Feb-11	08:42	112	22	155	39	32	26	31
Acidity [mg/L as CaCO3]	07-Feb-11	08:42	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity [mg/L as CaCO3]	07-Feb-11	08:42	58	8	73	13	11	12	9
Sulphate [mg/L]	10-Feb-11	10:44	1.7	0.9	0.8	2.5	2.0	0.4	4.1



Dianne Griffin
Project Specialist