



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

LR Internal Dept 14

Attn : ---

---, ---

---, ---

Phone: ---, Fax:---

November 5, 2010

Date Rec. : 28 September 2010

LR Report : CA03121-SEP10

Project : CALR-12390-001

Client Ref : Avalon Rare Metals

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t
1: Head Comp 1	380	170	64	480	66	17	2300	570	< 2	490	73	80	22
2: Head Comp 2	490	250	78	590	92	27	2700	680	< 2	610	94	69	32
3: Head Comp 3	420	190	76	560	73	21	2700	660	< 2	580	83	95	25

Sample ID	U g/t	Yb g/t	Ag g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t	Li g/t	Mo g/t
1: Head Comp 1	23	130	< 10	< 30	110	12	< 20	< 2	< 10	41	15	45	32
2: Head Comp 2	23	200	< 10	< 30	100	23	< 20	< 2	< 10	44	13	64	< 10
3: Head Comp 3	24	150	< 10	< 30	140	14	< 20	< 2	< 10	42	21	50	< 10

Sample ID	Ni g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Tl g/t	V g/t	Zn g/t	F %	Cl g/t	S %	CO2 %
1: Head Comp 1	< 20	< 50	< 60	< 30	< 50	32	< 30	< 4	120	1.11	540	0.02	1.68
2: Head Comp 2	< 20	< 50	< 60	< 30	< 50	45	< 30	< 4	190	0.89	536	0.01	2.78
3: Head Comp 3	< 20	< 50	< 60	< 30	< 50	35	< 30	< 4	160	1.05	499	0.02	2.04

Tom Watt
Project Coordinator



SGS Canada Inc.

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

LR Internal Dept 14

Attn : Kevin Bradley

---, ---

---, ---

Phone: ---, Fax:---

November 1, 2010

Date Rec. : 30 September 2010

LR Report : CA03282-SEP10

Project : CALR-11806-005

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t	U g/t
1: F25 Mozley Conc	26000	2300	1100	410	2800	430	11000	110	13000	3300	6	3100	470	530	140	110
2: F25 Bulk Ro Tail	540	55	29	7.4	60	11	230	3.8	270	66	< 2	58	9.8	10	4.3	6.0
3: F25 Bulk 1st Cl Sc Tail	1300	150	81	21	170	29	680	10	750	190	< 2	170	27	27	12	10
4: G4 Slimes	6000	450	210	77	600	78	2600	22	3000	760	< 2	620	84	94	27	22
5: G4 Mags	1300	180	74	24	190	30	650	7.0	740	190	< 2	190	32	35	9.4	8.8
6-DUP: F25 Bulk 1st Cl Sc Tail	1400	150	80	21	160	29	680	10	750	190	< 2	160	27	27	12	11

Sample ID	Y g/t	Yb g/t	Zr %	Nb %	P %	Fe %	Si %	Ta %	Na %	K %	F %	Cl g/t	Ga %	S %	CO3 %	Buck wt. g
1: F25 Mozley Conc	9700	860	13.5	1.38	0.26	11.3	13.2	0.13	0.35	0.99	2.15	288	0.010	0.17	8.55	48.1
2: F25 Bulk Ro Tail	240	27	0.29	0.05	< 0.01	1.90	33.1	0.01	2.97	5.27	0.39	159	0.014	0.05	< 0.05	55.5
3: F25 Bulk 1st Cl Sc Tail	670	74	0.89	0.11	0.02	3.35	31.6	0.01	2.54	4.66	0.70	249	0.014	0.01	0.52	46.5
4: G4 Slimes	1700	170	2.13	0.27	0.06	10.9	21.6	0.02	1.60	4.14	0.72	271	0.016	0.06	5.91	49.2
5: G4 Mags	610	54	0.71	0.13	0.02	53.6	7.37	< 0.01	0.35	0.79	1.60	154	0.010	0.02	1.26	50.2
6-DUP: F25 Bulk 1st Cl Sc Tail	680	75	---	---	---	---	---	---	---	---	0.70	249	0.014	0.01	0.52	---



SGS Canada Inc.

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

LR Report : CA03282-SEP10

Tom Watt
Project Coordinator



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Internal Dept 14

Attn : Kevin Bradley

Phone: ---, Fax:---

November 1, 2010

Date Rec. : 08 October 2010

LR Report : CA02474-OCT10

Project : CALR-11806-005

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t
1: Master Conc	27000	2100	1000	400	2800	400	12000	100	14000	3300	5	3100	460	530	130
2: F28 Conc Comp	24000	2000	940	360	2600	370	11000	99	12000	3100	5	2800	410	470	120
3: F29 Conc Comp	26000	1900	910	370	2600	360	12000	93	13000	3300	4	2900	410	470	120
4: F30 Conc Comp	30000	2400	1100	460	3200	460	13000	110	15000	3700	6	3400	520	630	150

Sample ID	U g/t	Y g/t	Yb g/t	Zr %	Nb %	P %	Fe %	Si %	Ta %	Na %	K %	F %	Cl g/t	Ga %	Buck wt. g
1: Master Conc	100	9100	790	12.6	1.28	0.29	11.7	12.0	0.11	0.27	1.11	2.80	207	< 0.004	82.6
2: F28 Conc Comp	93	8500	750	12.0	1.24	0.25	11.4	12.7	0.12	0.34	1.26	2.66	219	< 0.004	94.3
3: F29 Conc Comp	87	8000	720	10.5	1.11	0.30	11.6	11.5	0.11	0.26	1.28	3.10	253	< 0.004	96.2
4: F30 Conc Comp	120	10000	880	14.1	1.43	0.31	12.1	10.9	0.15	0.26	0.90	2.74	202	< 0.004	95.1

Tom Watt

Project Coordinator



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

LR Internal Dept 14

Attn : ---

---, ---

---, ---

Phone: ---, Fax:---

November 18, 2010

Date Rec. : 25 October 2010

LR Report : CA03087-OCT10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t	Li g/t	Mg g/t	Mn g/t
1: F25 Mozley Conc	< 10	15000	160	270	63	< 20	61000	< 2	< 20	100	< 50	31	17000	3800

Sample ID	Mo g/t	Ni g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Hf %	B g/t	Hg g/t
1: F25 Mozley Conc	13	91	< 200	< 60	< 30	< 200	89	690	< 30	6	270	0.25	63	< 0.3

Tom Watt

Project Coordinator



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

LR Internal Dept 14

Attn : ---

---, ---

---, ---

Phone: ---, Fax:---

November 18, 2010

Date Rec. : 25 October 2010

LR Report : CA03088-OCT10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t	Li g/t	Mg g/t	Mn g/t
1: Master Conc	< 20	16000	160	260	60	< 20	70000	< 2	< 20	130	< 50	35	20000	4500
2: F28 Conc Comp	< 20	17000	150	260	56	< 20	66000	< 2	< 20	120	< 50	40	20000	4500
3: F29 Conc Comp	< 20	17000	150	210	51	< 20	80000	< 2	< 20	110	< 50	40	24000	4900
4: F30 Conc Comp	< 20	13000	170	290	66	< 20	64000	< 2	< 20	120	< 50	26	17000	3900

Sample ID	Mo g/t	Ni g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Hf %	B g/t	Hg g/t
1: Master Conc	16	99	< 200	< 60	< 30	< 200	93	670	< 30	6	290	0.24	59	< 0.3
2: F28 Conc Comp	16	100	< 200	< 60	< 30	< 200	90	660	< 30	6	290	0.26	60	< 0.3
3: F29 Conc Comp	12	92	< 200	< 60	< 30	< 200	91	610	< 30	5	290	0.23	52	< 0.3
4: F30 Conc Comp	17	100	< 200	< 60	< 30	< 200	94	690	< 30	< 4	320	0.30	66	< 0.3

Tom Watt

Project Coordinator



SGS Canada Inc.

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

LR Internal Dept 14

Attn : Kevin Bradley

---, ---

---, ---

Phone: ---, Fax:---

December 2, 2010

Date Rec. : 25 October 2010
LR Report : CA03108-OCT10
Project : CALR-11806-007
Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t	U g/t	Y g/t	Yb g/t	Zr %
1: F33 Mozley Conc Comp	23000	1900	800	320	2400	320	10000	85	12000	2900	4	2600	380	410	110	85	7100	630	11.5
2: F36 Mozley Conc Comp	22000	1800	820	300	2200	320	9300	87	11000	2700	4	2400	360	270	110	73	7000	650	9.39

Sample ID	Nb %	Ta %	Ga %	Cl g/t	F %	Hf %	B g/t	Hg g/t	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t
1: F33 Mozley Conc Comp	1.18	0.11	0.004	325	2.96	0.24	63	< 0.3	< 10	23000	< 30	280	63	< 20	62000	< 2	< 4	70	< 80
2: F36 Mozley Conc Comp	1.01	0.09	< 0.004	224	1.98	0.18	69	< 0.3	< 10	17000	< 30	210	89	< 20	61000	< 2	< 4	51	< 80

Sample ID	Fe g/t	K g/t	Li g/t	Mg g/t	Mn g/t	Mo g/t	Na g/t	Ni g/t	P g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Si %
1: F33 Mozley Conc Comp	100000	16000	< 30	24000	4000	21	4200	85	380	< 200	< 60	< 30	88	99	820	< 30	< 6	240	11.5
2: F36 Mozley Conc Comp	130000	13000	< 30	28000	6900	24	6100	56	420	< 200	< 60	< 30	100	110	900	< 30	< 6	360	13.8

Sample ID	Buck wt. g
1: F33 Mozley Conc Comp	47.0
2: F36 Mozley Conc Comp	46.8



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Report :

CA03108-OCT10

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t	U g/t	Y g/t	Yb g/t	Zr %
3: F37 Mozley Conc Comp	24000	1800	770	340	2500	310	10000	90	12000	2900	5	2700	370	440	110	89	7200	650	10.6
4: Master Tail	1900	170	83	27	210	31	850	9.6	970	250	< 2	210	32	31	11	9.5	680	71	0.88
5: F25 Combined Tail	1600	130	60	21	160	23	680	6.5	780	200	< 2	170	24	24	8.0	7.4	500	49	0.74
6: F28 Combined Tail	2600	200	98	34	260	37	1100	11	1300	330	< 2	270	39	38	13	11	810	82	1.07
7: F29 Combined Tail	1900	200	100	28	240	37	870	12	970	240	< 2	220	37	36	14	11	770	89	1.07

Sample ID	Nb %	Ta %	Ga %	Cl g/t	F %	Hf %	B g/t	Hg g/t	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t
3: F37 Mozley Conc Comp	1.02	0.10	< 0.004	326	2.41	0.25	57	< 0.3	< 10	23000	< 30	380	73	< 20	54000	< 2	< 4	41	< 80
4: Master Tail	0.10	< 0.01	0.010	157	0.55	< 0.05	< 40	< 0.3	< 10	62000	< 30	71	5.1	< 20	8000	< 2	6	630	< 80
5: F25 Combined Tail	0.09	0.01	0.010	185	0.54	< 0.05	< 40	< 0.3	< 10	65000	< 30	74	4.1	< 20	6600	< 2	6	600	< 80
6: F28 Combined Tail	0.14	0.02	0.009	179	0.65	0.05	< 40	< 0.3	< 10	59000	< 30	81	5.9	< 20	12000	< 2	8	820	< 80
7: F29 Combined Tail	0.13	0.02	0.009	151	0.49	< 0.05	< 40	< 0.3	< 10	61000	< 30	75	5.6	< 20	9100	< 2	7	600	< 80

Sample ID	Fe g/t	K g/t	Li g/t	Mg g/t	Mn g/t	Mo g/t	Na g/t	Ni g/t	P g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Si %
3: F37 Mozley Conc Comp	100000	14000	< 30	24000	3200	21	4700	52	980	< 200	< 60	< 30	100	100	1100	< 30	< 6	360	11.5
4: Master Tail	88000	30000	38	12000	1000	71	25000	380	160	< 200	< 60	< 30	24	23	190	< 30	< 6	80	26.3
5: F25 Combined Tail	83000	27000	46	13000	890	65	26000	360	160	< 200	< 60	< 30	< 20	21	190	< 30	< 6	84	26.2
6: F28 Combined Tail	100000	30000	44	14000	1300	88	22000	480	210	< 200	< 60	< 30	29	27	230	< 30	< 6	95	25.2
7: F29 Combined Tail	83000	40000	35	10000	930	68	21000	360	150	< 200	< 60	< 30	23	23	210	< 30	< 6	72	25.5

Sample ID	Buck wt. g
3: F37 Mozley Conc Comp	34.3
4: Master Tail	53.9
5: F25 Combined Tail	49.5
6: F28 Combined Tail	49.4
7: F29 Combined Tail	49.7



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Report :

CA03108-OCT10

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t	Tm g/t	U g/t	Y g/t	Yb g/t	Zr %
8: F30 Combined Tail	2400	210	110	34	260	40	1100	13	1200	310	< 2	260	40	38	15	11	850	93	1.20
9: F33 Combined Tail	1500	120	57	20	150	22	660	5.9	730	190	< 2	160	24	23	7.5	8.2	460	45	0.69
10: F36 Combined Tail	1800	190	98	27	210	36	800	11	910	240	< 2	200	34	25	13	9.6	750	82	1.17
11: F37 Combined Tail	1800	130	58	24	180	23	800	5.9	880	230	< 2	180	27	26	7.4	9.6	480	44	0.73
12-DUP: F36 Combined Tail	1900	200	100	29	220	37	870	11	980	250	< 2	220	36	27	14	10	800	84	1.14

Sample ID	Nb %	Ta %	Ga %	Cl g/t	F %	Hf %	B g/t	Hg g/t	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t
8: F30 Combined Tail	0.14	0.01	0.010	312	0.58	< 0.05	< 40	< 0.3	< 10	61000	< 30	430	6.2	< 20	10000	< 2	6	630	< 80
9: F33 Combined Tail	0.10	0.01	0.010	140	0.47	< 0.05	< 40	< 0.3	< 10	68000	< 30	85	5.0	< 20	7100	< 2	6	690	< 80
10: F36 Combined Tail	0.11	0.02	0.009	151	0.52	< 0.05	< 40	< 0.3	< 10	59000	< 30	75	6.7	< 20	8300	< 2	12	690	< 80
11: F37 Combined Tail	0.09	< 0.01	0.010	185	0.54	< 0.05	< 40	< 0.3	< 10	68000	< 30	96	4.4	< 20	7800	< 2	13	790	< 80
12-DUP: F36 Combined Tail	0.13	0.02	0.009	146	0.52	< 0.05	< 40	< 0.3	< 10	60000	< 30	78	7.1	< 20	9100	< 2	11	730	< 80

Sample ID	Fe g/t	K g/t	Li g/t	Mg g/t	Mn g/t	Mo g/t	Na g/t	Ni g/t	P g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Si %
8: F30 Combined Tail	85000	37000	40	13000	1200	67	23000	370	190	< 200	< 60	< 30	29	29	210	< 30	< 6	92	22.4
9: F33 Combined Tail	86000	30000	40	12000	940	74	26000	410	120	< 200	< 60	< 30	23	25	170	< 30	< 6	89	26.1
10: F36 Combined Tail	91000	39000	49	14000	1200	68	22000	410	87	< 200	< 60	< 30	28	26	190	< 30	< 6	120	26.0
11: F37 Combined Tail	94000	42000	41	14000	850	82	27000	470	150	< 200	< 60	< 30	< 20	25	210	< 30	< 6	110	25.9
12-DUP: F36 Combined Tail	92000	37000	53	14000	1300	74	21000	430	97	< 200	< 60	< 30	36	27	200	< 30	< 6	130	25.5

Sample ID	Buck wt. g
8: F30 Combined Tail	12.6
9: F33 Combined Tail	43.7
10: F36 Combined Tail	56.8
11: F37 Combined Tail	54.9
12-DUP: F36 Combined Tail	---



SGS Canada Inc.

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

LR Report : CA03108-OCT10

Tom Watt
Project Coordinator



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Internal Dept 14

Attn : B. Bowman

---, ---

---, ---

Phone: ---, Fax:---

December 8, 2010

Date Rec. : 05 November 2010

LR Report : CA02281-NOV10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t
1: Master Comp 3	5700	420	180	74	570	72	2500	21	2600	740	2	610	86
2: XPS PP Comp 1 Conc	26000	1800	730	330	2600	290	11000	77	13000	3500	8	2900	370

Sample ID	Th g/t	Tm g/t	U g/t	Y g/t	Yb g/t	Zr g/t	Nb g/t	Ta g/t	Ga g/t	Hf g/t	Ag g/t	Al g/t	As g/t
1: Master Comp 3	93	24	23	1600	150	24000	2400	340	100	560	< 10	58000	69
2: XPS PP Comp 1 Conc	410	96	73	6300	570	84000	8200	1200	99	2000	< 10	18000	210

Sample ID	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t	Fe g/t	K g/t	Li g/t	Mg g/t	Mn g/t
1: Master Comp 3	130	14	< 20	20000	< 2	< 20	59	< 80	91000	46000	45	16000	1500
2: XPS PP Comp 1 Conc	210	58	< 20	90000	< 2	< 20	6	< 80	97000	11000	29	19000	5600

Sample ID	Mo g/t	Na g/t	Ni g/t	P g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	V g/t	Zn g/t	Si %	Cl g/t	F %
1: Master Comp 3	< 5	16000	23	440	< 200	< 60	< 30	36	35	260	< 30	< 4	150	27.2	360	1.04
2: XPS PP Comp 1 Conc	< 5	2700	110	440	< 200	< 60	< 30	95	100	520	< 30	5	300	12.6	184	3.21

Tom Watt

Project Coordinator



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Internal Dept 14

Attn : Barbar Bowman

---, ---

Phone: ---

Fax:---

December 10, 2010

Date Rec. : 05 November 2010

LR Report : CA02284-NOV10

Project : CALR-11806-007

Client Ref : Avalon Rare Metals

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	La g/t	Zr g/t	Nb g/t	Ta g/t	AR Metals Prep	Ga %	Cl g/t	F %	Hf g/t	Hg g/t	Si %
1: Head Comp 1	4300	2100	19000	2200	290	1	0.013	392	1.03	470	< 0.3	23.8
2: Head Comp 2	5200	2500	25000	2600	360	1	0.013	378	0.89	570	< 0.3	24.7
3: Head Comp 3	5100	2500	24000	2800	350	1	0.014	473	0.99	560	< 0.3	22.3

Tom Watt

Project Coordinator



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

LR Internal Dept 14

Attn : B. Bowman

---, ---

---, ---

Phone: ---, Fax:---

January 5, 2011

Date Rec. : 22 November 2010

LR Report : CA03020-NOV10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ce g/t	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	La g/t	Lu g/t	Nd g/t	Pr g/t	Sc g/t
1: XPS PP COMP1 TLS	1260	186	89.5	24.3	190	35.0	547	10.1	654	157	< 2

Sample ID	Sm g/t	Tb g/t	Th g/t	Tm g/t	Yb g/t	P g/t	Ta g/t	Hf g/t	Ga g/t	Si %	F %	Cl g/t
1: XPS PP COMP1 TLS	169	33.8	36.4	12.2	73.2	130	125	255	100	24.8	0.57	151

Tom Watt

Project Coordinator



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

LR Internal Dept 14

Attn : B. Bowman

---, ---

---, ---

Phone: ---, Fax:---

January 17, 2011

Date Rec. : 16 December 2010

LR Report : CA02784-DEC10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SA with fusion Prep	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	Lu g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t
1: XPS PP COMP2 TLS	1	180	82.3	25.4	198	32.1	9.10	173	< 2	186	33.7	34.2

Sample ID	Tm g/t	Yb g/t	Hf g/t	Ga %	Si %	F %	Cl g/t	Ce %	La %	Nd %	Zr %	Nb %	Ta %
1: XPS PP COMP2 TLS	11.1	66.7	247	0.012	27.0	0.50	162	0.15	0.06	0.09	1.12	0.14	0.02

Tom Watt

Project Coordinator



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

LR Internal Dept 14

Attn : ---

---, ---

---, ---

Phone: ---, Fax:---

January 5, 2011

Date Rec. : 17 December 2010

LR Report : CA02814-DEC10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Zr %	Nb %
1: XPS PP COMP1 TLS	1.13	0.12

Tom Watt

Project Coordinator



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

LR Internal Dept 14

Attn : B. Bowman

---, ---

---, ---

Phone: ---, Fax:---

January 17, 2011

Date Rec. : 17 December 2010

LR Report : CA02850-DEC10

Project : CALR-11806-007

Client Ref : Avalon Ventures Ltd

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SA with fusion Prep	Dy g/t	Er g/t	Eu g/t	Gd g/t	Ho g/t	Lu g/t	Pr g/t	Sc g/t	Sm g/t	Tb g/t	Th g/t
1: XPS PP COMP2 Head	1	437	227	71.6	501	83.5	24.9	595	< 2	504	81.1	69.0
2: XPS PP COMP3 Head	1	371	176	71.4	500	69.8	19.4	584	< 2	508	77.3	84.3

Sample ID	Tm g/t	Yb g/t	Hf g/t	Ga %	Si %	F %	Cl g/t	Ce %	La %	Nd %	Zr %	Nb %	Ta %
1: XPS PP COMP2 Head	31.1	184	565	0.009	24.2	0.69	159	0.57	0.25	0.32	2.68	0.30	0.03
2: XPS PP COMP3 Head	23.7	142	570	0.010	23.8	0.91	170	0.56	0.27	0.30	2.70	0.30	0.03

Tom Watt

Project Coordinator



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

LR Internal Dept 14
Attn : Kevin Bradley

February 11, 2011

Date Rec. : 07 January 2011
LR Report : CA02222-JAN11
Project : CALR-11806-005
Client Ref : Avalon Ventures Ltd.

Phone: ---
Fax:---

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ag g/t	Al g/t	As g/t	Ba g/t	Be g/t	Bi g/t	Ca g/t	Cd g/t	Co g/t	Cr g/t	Cu g/t	Fe g/t	K g/t	Li g/t	Mg g/t
1: Ro Tail Decant	< 10	74300	< 30	211	8.00	< 20	12500	< 2	< 6	24	27.8	89900	56200	101	28500

Sample ID	Mn g/t	Mo g/t	Na g/t	Ni g/t	P g/t	Pb g/t	Sb g/t	Se g/t	Sn g/t	Sr g/t	Ti g/t	Tl g/t	U g/t	V g/t	Y g/t	Zn g/t
1: Ro Tail Decant	1430	< 5	15500	76	494	30	< 20	< 30	< 80	44.5	328	< 30	< 20	< 4	1080	174

Sample ID	Buck wt. g
1: Ro Tail Decant	4.9

Tom Watt
Project Coordinator



ANALYSIS REPORT

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

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

Batch: T10-01722.0

Date: 08-Dec-2010

Lakefield Research Ltd.

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

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

attn: Brian Graham

Client Ref. Nov 11616
P.O: 55876

1 solid sample

Received: 26-Nov-2010

Page 1 of 1

<u>Results of Analysis</u>						
Sample	Test	Result	Units	Date	Method	
XPS PP Comp 1 Tls Ra-226		0.17	Bq/g	08-Dec-2010	GAMMA	
XPS PP Comp 1 Tls Pb-210		0.13	Bq/g	08-Dec-2010	GAMMA	
XPS PP Comp 1 Tls Ra-228		0.13	Bq/g	08-Dec-2010	GAMMA	

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/g Becquerels per gram

These results relate only to the samples analysed and only to the items tested.
Ra-228 was estimated from Ac-228.

08-Dec-2010 approved by: _____

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

Batch: T10-01609.0

Date: 07-Dec-2010

Lakefield Research Ltd.

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

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

Client Ref.
Nov 11298.R10
P.O: 55876

attn: D. Griffin

16 rock samples

Received: 09-Nov-2010

Page 1 of 3

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
Master Comb 3	Ra-226	0.32	Bq/g	21-Nov-2010	GAMMA
F25 Comb Tls	Ra-226	0.11	Bq/g	22-Nov-2010	GAMMA
F28 Comb Tls	Ra-226	0.13	Bq/g	23-Nov-2010	GAMMA
F29 Comb Tls	Ra-226	0.16	Bq/g	23-Nov-2010	GAMMA
Master Conc	Ra-226	1.4	Bq/g	23-Nov-2010	GAMMA
Master Tls	Ra-226	0.12	Bq/g	24-Nov-2010	GAMMA
Avalon Head Sample 1	Ra-226	0.28	Bq/g	24-Nov-2010	GAMMA
F33 Mozley Conc Comp	Ra-226	1.4	Bq/g	25-Nov-2010	GAMMA
F33 Comb Tls	Ra-226	0.15	Bq/g	25-Nov-2010	GAMMA
Avalon Head Sample 2	Ra-226	0.30	Bq/g	25-Nov-2010	GAMMA
F36 Mozley Conc Comp	Ra-226	1.2	Bq/g	26-Nov-2010	GAMMA
F36 Comb Tls	Ra-226	0.15	Bq/g	26-Nov-2010	GAMMA
Avalon Head Sample 3	Ra-226	0.36	Bq/g	01-Dec-2010	GAMMA
F37 Mozley Conc Comp	Ra-226	1.5	Bq/g	01-Dec-2010	GAMMA
F37 Comb Tls	Ra-226	0.14	Bq/g	01-Dec-2010	GAMMA
XPS PP Comb 1 Conc	Ra-226	1.2	Bq/g	02-Dec-2010	GAMMA
Master Comb 3	Pb-210	0.20	Bq/g	21-Nov-2010	GAMMA
F25 Comb Tls	Pb-210	0.11	Bq/g	22-Nov-2010	GAMMA
F28 Comb Tls	Pb-210	0.10	Bq/g	23-Nov-2010	GAMMA
F29 Comb Tls	Pb-210	0.13	Bq/g	23-Nov-2010	GAMMA
Master Conc	Pb-210	0.28	Bq/g	23-Nov-2010	GAMMA
Master Tls	Pb-210	0.15	Bq/g	24-Nov-2010	GAMMA
Avalon Head Sample 1	Pb-210	0.16	Bq/g	24-Nov-2010	GAMMA
F33 Mozley Conc Comp	Pb-210	0.25	Bq/g	25-Nov-2010	GAMMA
F33 Comb Tls	Pb-210	0.12	Bq/g	25-Nov-2010	GAMMA
Avalon Head Sample 2	Pb-210	0.19	Bq/g	25-Nov-2010	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: T10-01609.0

Date: 07-Dec-2010

Page 2 of 3

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
F36 Mozley Conc Comp	Pb-210	0.33	Bq/g	26-Nov-2010	GAMMA
F36 Comb Tls	Pb-210	0.12	Bq/g	26-Nov-2010	GAMMA
Avalon Head Sample 3	Pb-210	0.19	Bq/g	01-Dec-2010	GAMMA
F37 Mozley Conc Comp	Pb-210	0.30	Bq/g	01-Dec-2010	GAMMA
F37 Comb Tls	Pb-210	0.10	Bq/g	01-Dec-2010	GAMMA
XPS PP Comb 1 Conc	Pb-210	0.28	Bq/g	02-Dec-2010	GAMMA
Master Comb 3	Ra-228	0.38	Bq/g	21-Nov-2010	GAMMA
F25 Comb Tls	Ra-228	0.12	Bq/g	22-Nov-2010	GAMMA
F28 Comb Tls	Ra-228	0.11	Bq/g	23-Nov-2010	GAMMA
F29 Comb Tls	Ra-228	0.16	Bq/g	23-Nov-2010	GAMMA
Master Conc	Ra-228	1.9	Bq/g	23-Nov-2010	GAMMA
Master Tls	Ra-228	0.13	Bq/g	24-Nov-2010	GAMMA
Avalon Head Sample 1	Ra-228	0.31	Bq/g	24-Nov-2010	GAMMA
F33 Mozley Conc Comp	Ra-228	1.9	Bq/g	25-Nov-2010	GAMMA
F33 Comb Tls	Ra-228	0.09	Bq/g	25-Nov-2010	GAMMA
Avalon Head Sample 2	Ra-228	0.28	Bq/g	25-Nov-2010	GAMMA
F36 Mozley Conc Comp	Ra-228	1.2	Bq/g	26-Nov-2010	GAMMA
F36 Comb Tls	Ra-228	0.10	Bq/g	26-Nov-2010	GAMMA
Avalon Head Sample 3	Ra-228	0.38	Bq/g	01-Dec-2010	GAMMA
F37 Mozley Conc Comp	Ra-228	1.8	Bq/g	01-Dec-2010	GAMMA
F37 Comb Tls	Ra-228	0.11	Bq/g	01-Dec-2010	GAMMA
XPS PP Comb 1 Conc	Ra-228	1.8	Bq/g	02-Dec-2010	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: T10-01609.0

Date: 07-Dec-2010

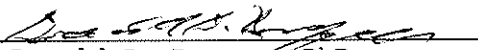
Page 3 of 3

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/g Becquerels per gram

These results relate only to the samples analysed and only to the items tested.
Ra-228 was estimated from Ac-228 and Th-228 from Pb-212.

07-Dec-2010 approved by:


Donald D. Burgess PhD

Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

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

Batch: T10-01852.0

Date: 21-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 10272
P.O: 55876

attn: Dianne Griffin

4 solid samples

Received: 21-Dec-2010

Page 1 of 1

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
F28 Conc Blend	Ra-226	1.2	Bq/g	05-Jan-2011	GAMMA
F29 Conc Blend	Ra-226	1.2	Bq/g	05-Jan-2011	GAMMA
F30 Conc Blend	Ra-226	1.6	Bq/g	07-Jan-2011	GAMMA
F30 Comb Tls	Ra-226	0.2	Bq/g	12-Jan-2011	GAMMA
F28 Conc Blend	Pb-210	0.3	Bq/g	05-Jan-2011	GAMMA
F29 Conc Blend	Pb-210	0.2	Bq/g	05-Jan-2011	GAMMA
F30 Conc Blend	Pb-210	0.3	Bq/g	07-Jan-2011	GAMMA
F30 Comb Tls	Pb-210	< 0.3	Bq/g	12-Jan-2011	GAMMA
F28 Conc Blend	Ra-228	1.7	Bq/g	05-Jan-2011	GAMMA
F29 Conc Blend	Ra-228	1.6	Bq/g	05-Jan-2011	GAMMA
F30 Conc Blend	Ra-228	2.1	Bq/g	07-Jan-2011	GAMMA
F30 Comb Tls	Ra-228	0.1	Bq/g	12-Jan-2011	GAMMA

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/g Becquerels per gram

These results relate only to the samples analysed and only to the items tested.
Ra-228 was estimated from Ac-228.

21-Jan-2011 approved by:

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

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

Batch: T10-01854.0

Date: 19-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 10333
P.O: 55876

attn: Dianne Griffin

1 solid sample

Received: 21-Dec-2010

Page 1 of 1

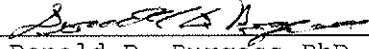
<u>Results of Analysis</u>						
Sample	Test	Result	Units	Date	Method	
XPS PP Comp 2 Tls	Ra-226	0.2	Bq/g	12-Jan-2011	GAMMA	
XPS PP Comp 2 Tls	Pb-210	0.2	Bq/g	12-Jan-2011	GAMMA	
XPS PP Comp 2 Tls	Ra-228	0.2	Bq/g	12-Jan-2011	GAMMA	

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/g Becquerels per gram

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

19-Jan-2011 approved by:


Donald D. Burgess PhD

Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

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

Batch: T10-01853.0

Date: 31-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 10360
P.O: 55876

attn: Dianne Griffin

2 solid samples

Received: 21-Dec-2010

Page 1 of 1

Results of Analysis					
Sample	Test	Result	Units	Date	Method
XPS PP Comp 2 Head	Ra-226	0.2	Bq/g	11-Jan-2011	GAMMA
XPS PP Comp 3 Head	Ra-226	0.4	Bq/g	12-Jan-2011	GAMMA
XPS PP Comp 2 Head	Pb-210	0.2	Bq/g	11-Jan-2011	GAMMA
XPS PP Comp 3 Head	Pb-210	0.3	Bq/g	12-Jan-2011	GAMMA
XPS PP Comp 2 Head	Ra-228	0.3	Bq/g	11-Jan-2011	GAMMA
XPS PP Comp 3 Head	Ra-228	0.4	Bq/g	12-Jan-2011	GAMMA

Methods: GAMMA BQ-RAD-GAMMA gamma-ray spectrometry

Units: Bq/g Becquerels per gram

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

31-Jan-2011 approved by:

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.

FEB 2 2011



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

Shake Flask 3:1 L:S - use 500g for extraction - return
extraction solids to Barb
Project : CALR-11806-007

Wednesday, January 19, 2011

Date Rec. : 05 November 2010

LR Report: CA11297-NOV10

Reference: 11806-007-01

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Comp 3	6: TisF28 Comb	7: TisF29 Comb	8: Tis	9: Master Conc	10: Master Tis Avalon Head	11: Sample 1	12: F33 Mozley Conc Comp
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	29-Nov-10	08:14	500	500	500	500	500	500	348	500
Volume mL [D.I. H2O]	29-Nov-10	08:14	1500	1500	1500	1500	1500	1500	1044	1500
InitialpH [units]	29-Nov-10	08:14	9.90	8.30	8.59	8.62	9.10	8.52	9.82	8.92
Final pH [units]	29-Nov-10	08:14	9.56	8.44	8.66	8.66	9.02	8.59	9.50	8.93
pH [no unit]	01-Dec-10	12:17	9.27	7.91	7.87	7.81	7.71	7.81	9.21	7.93
Conductivity [uS/cm]	01-Dec-10	12:17	237	104	105	111	84	112	227	75
Fluoride [mg/L]	01-Dec-10	12:13	12.0	1.29	1.23	1.39	1.31	1.40	12.2	0.97
Chloride [mg/L]	03-Dec-10	15:24	11	1.4	1.7	1.9	1.3	1.8	11	1.1
Mercury [mg/L]	01-Dec-10	17:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	05-Dec-10	18:50	< 0.00001	0.00052	0.00010	0.00018	0.00010	0.00039	< 0.00001	0.00005
Aluminum [mg/L]	02-Dec-10	17:52	0.11	0.56	0.26	0.28	0.06	0.58	0.13	0.07
Arsenic [mg/L]	05-Dec-10	18:50	0.0010	0.0024	0.0027	0.0031	0.0047	0.0032	0.0010	0.0113
Boron [mg/L]	05-Dec-10	18:50	0.110	0.0784	0.0565	0.0614	0.0795	0.0894	0.109	0.0755
Barium [mg/L]	05-Dec-10	18:50	0.404	0.206	0.0984	0.125	0.0737	0.183	0.457	0.0231
Beryllium [mg/L]	05-Dec-10	18:50	< 0.00002	0.00009	0.00002	0.00005	< 0.00002	0.00008	< 0.00002	< 0.00002
Bismuth [mg/L]	05-Dec-10	18:50	0.00004	0.00006	0.00002	0.00002	0.00002	0.00003	< 0.00001	< 0.00001
Calcium [mg/L]	02-Dec-10	17:52	8.09	13.1	12.8	13.0	10.1	13.3	7.30	7.20
Cadmium [mg/L]	05-Dec-10	18:50	0.000024	0.000339	0.000081	0.000131	0.000066	0.000248	0.000032	0.000035

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Comp 3	6: TisF28 Comb	7: TisF29 Comb	8: Tis	9: Master Conc	10: Master Tis	11: Avalon Head Sample 1	12: F33 Mozley Conc Comp
Cerium [mg/L]	05-Dec-10	18:50	0.00061	0.0645	0.0123	0.0327	0.0170	0.0501	0.00076	0.00586
Cobalt [mg/L]	05-Dec-10	18:50	0.000036	0.000103	0.000075	0.000076	0.000056	0.000084	0.000026	0.000066
Chromium [mg/L]	05-Dec-10	18:50	< 0.0005	0.0036	0.0049	0.0062	0.0012	0.0048	< 0.0005	0.0007
Copper [mg/L]	05-Dec-10	18:50	< 0.0005	0.0042	0.0020	0.0029	0.0020	0.0028	< 0.0005	0.0020
Dysprosium [mg/L]	05-Dec-10	18:50	0.000072	0.00741	0.00209	0.00387	0.00130	0.00610	0.000094	0.000647
Erbium [mg/L]	05-Dec-10	18:50	0.000032	0.00320	0.000909	0.00177	0.000567	0.00271	0.000043	0.000325
Europium [mg/L]	05-Dec-10	18:50	0.000125	0.000964	0.000235	0.000475	0.000233	0.000735	0.000137	0.000082
Iron [mg/L]	02-Dec-10	17:52	0.015	0.304	0.081	0.123	0.104	0.198	0.018	0.083
Gallium [mg/L]	05-Dec-10	18:51	0.0105	0.00150	0.00118	0.00154	0.00146	0.00161	0.0105	0.00163
Gadolinium [mg/L]	05-Dec-10	18:51	0.00009	0.00792	0.00183	0.00390	0.00176	0.00604	0.00011	0.00068
Hafnium [mg/L]	05-Dec-10	18:51	0.000035	0.00333	0.000671	0.00109	0.000671	0.00249	0.000041	0.000351
Homium [mg/L]	05-Dec-10	18:51	0.000014	0.00132	0.000386	0.000739	0.000231	0.00113	0.000019	0.000122
Potassium [mg/L]	02-Dec-10	17:52	27.9	2.33	3.44	3.47	0.872	2.69	24.4	1.57
Lanthanum [mg/L]	05-Dec-10	18:51	0.00029	0.0291	0.00512	0.01394	0.00711	0.0218	0.00034	0.00256
Lithium [mg/L]	05-Dec-10	18:51	0.023	0.007	0.009	0.006	0.004	0.007	0.024	0.006
Lutetium [mg/L]	05-Dec-10	18:51	0.000005	0.000259	0.000063	0.000124	0.000054	0.000207	0.000003	0.000028
Magnesium [mg/L]	02-Dec-10	17:52	3.52	2.41	2.20	2.10	0.914	2.30	3.00	0.855
Manganese [mg/L]	05-Dec-10	18:51	0.00243	0.112	0.0725	0.0717	0.0272	0.0729	0.00402	0.0204
Molybdenum [mg/L]	05-Dec-10	18:51	0.0246	0.0204	0.0220	0.0242	0.00531	0.0247	0.0381	0.00524
Sodium [mg/L]	02-Dec-10	17:52	21.8	6.70	6.75	9.29	7.79	9.18	25.1	8.53
Niobium [mg/L]	05-Dec-10	18:51	0.000475	0.0280	0.00556	0.0108	0.00534	0.0219	0.000525	0.00328
Neodymium [mg/L]	05-Dec-10	18:51	0.00039	0.0306	0.00678	0.0165	0.00830	0.0245	0.00046	0.00296
Nickel [mg/L]	05-Dec-10	18:51	0.0004	0.0023	0.0012	0.0016	< 0.0001	0.0018	0.0004	0.0005
Lead [mg/L]	05-Dec-10	18:51	< 0.00002	0.00044	0.00016	0.00017	0.00039	0.00031	< 0.00002	0.00017
Praseodymium [mg/L]	05-Dec-10	18:51	0.00009	0.00724	0.00153	0.00383	0.00196	0.00576	0.00011	0.00070
Antimony [mg/L]	05-Dec-10	18:51	0.0008	0.0007	0.0007	0.0008	0.0009	0.0008	0.0008	0.0011
Scandium [mg/L]	05-Dec-10	18:51	0.00457	0.00796	0.00635	0.00610	0.00320	0.00703	0.00384	0.00346
Selenium [mg/L]	05-Dec-10	18:51	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	02-Dec-10	17:53	3.36	7.72	6.44	6.17	3.31	7.56	3.50	3.50
Samarium [mg/L]	05-Dec-10	18:51	0.00009	0.00734	0.00157	0.00369	0.00183	0.00573	0.00011	0.00067
Tin [mg/L]	05-Dec-10	18:51	0.00002	0.00062	0.00012	0.00016	0.00037	0.00063	< 0.00001	0.00029
Strontium [mg/L]	02-Dec-10	17:53	0.0438	0.0473	0.0401	0.0404	0.0357	0.0444	0.0402	0.0228
Tantalum [mg/L]	05-Dec-10	18:51	0.000082	0.00333	0.000712	0.00119	0.000638	0.00239	0.000057	0.000341
Terbium [mg/L]	05-Dec-10	18:51	0.000007	0.00140	0.000362	0.000704	0.000254	0.00111	0.000009	0.000108

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Comp 3	6: TlsF28 Comb	7: TlsF29 Comb	8: Tls	9: Master Conc	10: Master Tls	11: Avalon Head Sample 1	12: F33 Mozley Conc Comp
Thorium [mg/L]	05-Dec-10	18:51	0.00223	0.00280	0.000702	0.00186	0.000514	0.002330	0.000577	0.000248
Titanium [mg/L]	05-Dec-10	18:51	0.0002	0.0019	0.0005	0.0008	0.0007	0.0012	0.0001	0.0004
Thallium [mg/L]	05-Dec-10	18:51	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Thulium [mg/L]	05-Dec-10	18:51	< 0.000001	0.000365	0.000088	0.000189	0.000060	0.000302	< 0.000001	0.000027
Uranium [mg/L]	05-Dec-10	18:51	0.000143	0.00132	0.00119	0.00131	0.00105	0.00136	0.000327	0.000180
Vanadium [mg/L]	05-Dec-10	18:51	0.00009	0.00024	0.00029	0.00022	0.00028	0.00021	0.00005	0.00045
Yttrium [mg/L]	05-Dec-10	18:51	0.000323	0.0342	0.0121	0.0227	0.00652	0.0328	0.000335	0.00376
Ytterbium [mg/L]	05-Dec-10	18:51	0.000019	0.00210	0.000529	0.00106	0.000409	0.00171	0.000028	0.000220
Zinc [mg/L]	05-Dec-10	18:51	0.001	0.008	0.006	0.006	0.004	0.011	0.002	0.008
Zirconium [mg/L]	05-Dec-10	18:51	0.00119	0.142	0.0284	0.0480	0.0292	0.108	0.00161	0.0147

Revised the sample weight and volume for sample "Avalon Head Sample 3" Jan. 17/11

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

Shake Flask 3:1 L:S - use 500g for extraction - return
extraction solids to Barb
Project : CALR-11806-007

Wednesday, January 19, 2011

Date Rec. : 05 November 2010

LR Report: CA11297-NOV10

Reference: 11806-007-01

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	13: F33 Comb Tls Avalon Head Sample 2	14: F36 MozleyF36 Comb Tls Avalon Head Sample 2	15: F36 MozleyF36 Comb Tls Avalon Head Sample 3	16: F37 MozleyF37 Comb Tls Avalon Head Sample 3	17: F37 MozleyF37 Comb Tls Avalon Head Sample 3	18: F37 MozleyF37 Comb Tls Avalon Head Sample 3	19: F37 MozleyF37 Comb Tls Avalon Head Sample 3	20: XPS PP Comp 1 Conc
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	29-Nov-10	08:14	500	216	500	500	388	500	500	500
Volume mL [D.I. H2O]	29-Nov-10	08:14	1500	650	1500	1500	1163	1500	1500	1500
Initial pH [units]	29-Nov-10	08:14	8.86	9.87	8.68	8.84	9.86	8.87	8.92	8.90
Final pH [units]	29-Nov-10	08:14	8.91	9.61	8.75	8.84	9.54	8.89	8.95	8.80
pH [no unit]	01-Dec-10	12:17	7.90	8.96	7.61	8.02	9.33	7.61	8.09	7.78
Conductivity [uS/cm]	01-Dec-10	12:17	150	223	87	140	228	78	140	83
Fluoride [mg/L]	01-Dec-10	12:13	2.40	10.3	0.90	2.33	11.8	0.90	2.71	1.08
Chloride [mg/L]	03-Dec-10	15:24	2.6	11	1.1	3.3	10	1.0	3.6	2.0
Mercury [mg/L]	01-Dec-10	17:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	05-Dec-10	18:50	0.00007	< 0.00001	0.00015	0.00011	< 0.00001	0.00001	0.00005	< 0.00001
Aluminum [mg/L]	02-Dec-10	17:52	0.10	0.11	0.06	0.11	0.11	0.02	0.10	0.09
Arsenic [mg/L]	05-Dec-10	18:50	0.0079	0.0011	0.0107	0.0081	0.0010	0.0093	0.0066	0.0019
Boron [mg/L]	05-Dec-10	18:50	0.0650	0.116	0.0996	0.0805	0.103	0.0801	0.0695	0.0653
Barium [mg/L]	05-Dec-10	18:50	0.110	0.311	0.0536	0.218	0.345	0.0308	0.158	0.105
Beryllium [mg/L]	05-Dec-10	18:50	0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	05-Dec-10	18:50	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	02-Dec-10	17:52	13.1	7.25	8.18	13.8	7.99	7.46	14.1	10.4
Cadmium [mg/L]	05-Dec-10	18:50	0.000056	0.000020	0.000095	0.000078	0.000018	0.000015	0.000034	0.000015

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	13: F33 Comb Tls	14: Avalon Head Sample 2	15: F36 Mozley Conc Comp	16: F36 Comb Tls	17: Avalon Head Sample 3	18: F37 Mozley Conc Comp	19: F37 Comb Tls	20: XPS PP Comp 1 Conc
Cerium [mg/L]	05-Dec-10	18:50	0.00739	0.00056	0.00416	0.0112	0.00020	0.00192	0.00995	0.00053
Cobalt [mg/L]	05-Dec-10	18:50	0.000076	0.000029	0.000043	0.000083	0.000023	0.000042	0.000071	0.000046
Chromium [mg/L]	05-Dec-10	18:50	0.0023	< 0.0005	0.0006	0.0031	0.0006	< 0.0005	0.0022	< 0.0005
Copper [mg/L]	05-Dec-10	18:50	0.0049	< 0.0005	0.0008	0.0063	< 0.0005	0.0006	0.0056	0.0006
Dysprosium [mg/L]	05-Dec-10	18:50	0.00148	0.000075	0.000713	0.00204	0.000033	0.000214	0.00173	0.000071
Erbium [mg/L]	05-Dec-10	18:50	0.000654	0.000042	0.000479	0.000917	0.000019	0.000113	0.000666	0.000042
Europium [mg/L]	05-Dec-10	18:50	0.000166	0.000098	0.000078	0.000266	0.000094	0.000036	0.000212	0.000039
Iron [mg/L]	02-Dec-10	17:52	0.041	0.010	0.070	0.079	0.003	0.031	0.056	0.014
Gallium [mg/L]	05-Dec-10	18:51	0.00134	0.00752	0.00101	0.00104	0.01086	0.00194	0.00176	0.00266
Gadolinium [mg/L]	05-Dec-10	18:51	0.00126	0.00009	0.00053	0.00184	< 0.00005	0.00024	0.00162	0.00008
Hafnium [mg/L]	05-Dec-10	18:51	0.000430	0.000064	0.000965	0.000735	0.000017	0.000093	0.000313	0.000095
Homium [mg/L]	05-Dec-10	18:51	0.000278	0.000016	0.000157	0.000380	0.000006	0.000041	0.000300	0.000015
Potassium [mg/L]	02-Dec-10	17:52	7.79	24.2	4.52	8.52	28.3	2.75	7.96	1.73
Lanthanum [mg/L]	05-Dec-10	18:51	0.00328	0.00027	0.00168	0.00505	0.00009	0.00083	0.00463	0.00022
Lithium [mg/L]	05-Dec-10	18:51	0.014	0.031	0.008	0.016	0.024	0.006	0.011	0.005
Lutetium [mg/L]	05-Dec-10	18:51	0.000038	0.000004	0.000053	0.000055	0.000001	0.000011	0.000035	0.000004
Magnesium [mg/L]	02-Dec-10	17:52	2.46	3.38	1.12	2.70	3.57	0.929	2.50	1.53
Manganese [mg/L]	05-Dec-10	18:51	0.0339	0.00414	0.0359	0.0479	0.00168	0.0159	0.0219	0.0332
Molybdenum [mg/L]	05-Dec-10	18:51	0.0151	0.0153	0.00332	0.0158	0.0251	0.00349	0.0144	0.00690
Sodium [mg/L]	02-Dec-10	17:52	9.95	21.8	7.14	10.3	22.0	8.13	10.9	4.56
Niobium [mg/L]	05-Dec-10	18:51	0.00426	0.000503	0.00288	0.00737	0.000564	0.00184	0.00520	0.000428
Neodymium [mg/L]	05-Dec-10	18:51	0.00403	0.00038	0.00201	0.00606	0.00012	0.00100	0.00543	0.00028
Nickel [mg/L]	05-Dec-10	18:51	0.0019	0.0004	0.0004	0.0020	0.0003	< 0.0001	0.0015	0.0004
Lead [mg/L]	05-Dec-10	18:51	0.00008	< 0.00002	0.00005	0.00018	< 0.00002	0.00003	0.00013	0.00002
Praseodymium [mg/L]	05-Dec-10	18:51	0.00092	0.00008	0.00048	0.00137	0.00003	0.00024	0.00125	0.00007
Antimony [mg/L]	05-Dec-10	18:51	0.0006	0.0007	0.0010	0.0007	0.0011	0.0010	0.0007	0.0013
Scandium [mg/L]	05-Dec-10	18:51	0.00579	0.00459	0.00318	0.00565	0.00347	0.00319	0.00522	0.00243
Selenium [mg/L]	05-Dec-10	18:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Silica [mg/L]	02-Dec-10	17:53	5.74	4.28	3.29	5.85	3.46	3.40	5.58	2.65
Samarium [mg/L]	05-Dec-10	18:51	0.00101	0.00009	0.00051	0.00156	0.00003	0.00023	0.00131	0.00006
Tin [mg/L]	05-Dec-10	18:51	0.00013	0.00016	0.00023	0.00076	0.00015	0.00006	0.00031	0.00008
Strontium [mg/L]	02-Dec-10	17:53	0.0434	0.0478	0.0313	0.0507	0.0423	0.0237	0.0405	0.0341
Tantalum [mg/L]	05-Dec-10	18:51	0.000461	0.000048	0.000515	0.000826	0.000226	0.000152	0.000529	0.000061
Terbium [mg/L]	05-Dec-10	18:51	0.000246	0.000002	0.000098	0.000356	< 0.000001	0.000028	0.000301	0.000006

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	13: F33 Comb Tls	14: Avalon Head Sample 2	15: F36 Mozley Conc Comp	16: F36 Comb Tls	17: Avalon Head Sample 3	18: F37 Mozley Conc Comp	19: F37 Comb Tls	20: XPS PP Comp 1 Conc
Thorium [mg/L]	05-Dec-10	18:51	0.000354	0.000365	0.000169	0.000577	0.000066	0.000089	0.000420	0.000039
Titanium [mg/L]	05-Dec-10	18:51	0.0004	0.0001	0.0006	0.0005	< 0.0001	0.0003	0.0004	0.0002
Thallium [mg/L]	05-Dec-10	18:51	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Thulium [mg/L]	05-Dec-10	18:51	0.000053	< 0.000001	0.000055	0.000084	< 0.000001	0.000003	0.000055	< 0.000001
Uranium [mg/L]	05-Dec-10	18:51	0.00410	0.000169	0.000078	0.00429	0.000462	0.000103	0.00514	0.00154
Vanadium [mg/L]	05-Dec-10	18:51	0.00030	0.00003	0.00026	0.00027	0.00051	0.00028	0.00025	0.00032
Yttrium [mg/L]	05-Dec-10	18:51	0.0100	0.000440	0.00518	0.0127	0.000128	0.00148	0.0111	0.000354
Ytterbium [mg/L]	05-Dec-10	18:51	0.000333	0.000028	0.000411	0.000489	0.000010	0.000082	0.000316	0.000028
Zinc [mg/L]	05-Dec-10	18:51	0.004	0.002	0.006	0.008	0.001	0.005	0.010	0.004
Zirconium [mg/L]	05-Dec-10	18:51	0.0178	0.00276	0.0430	0.0311	0.00061	0.00413	0.0130	0.00313

Revised the sample weight and volume for sample "Avalon Head Sample 3" Jan. 17/11

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: T10-01737.0

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.
 Nov 11297 R10

attn: Brian Graham

17 water samples

Received: 01-Dec-2010

Page 1 of 3

<u>Results of Analysis</u>						
Sample	Test	Result	Units	Date	Method	
Master Comp	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F25 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F28 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F29 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
Master Conc	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
Master Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
Avalon Head Sample 1	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F33 Mozley Conc Comp	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F33 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
Avalon Head Sample 2	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F36 Mozley Conc Comp	Ra-226	0.01	Bq/l	18-Jan-2011	ALPHA	
F36 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
Avalon Head Sample 3	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F37 Mozley Conc Comp	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
F37 Comb Tls	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
XPS PP Comp 1 Conc	Ra-226	< 0.01	Bq/l	18-Jan-2011	ALPHA	
\$dI Leachate Blank	Ra-226	< 0.01	Bq/l	19-Jan-2011	ALPHA	
Master Comp	Ra-228	< 0.3	Bq/l	19-Dec-2010	GAMMA	
F25 Comb Tls	Ra-228	< 0.2	Bq/l	05-Jan-2011	GAMMA	
F28 Comb Tls	Ra-228	< 0.1	Bq/l	21-Dec-2010	GAMMA	
F29 Comb Tls	Ra-228	< 0.3	Bq/l	23-Dec-2010	GAMMA	
Master Conc	Ra-228	< 0.1	Bq/l	23-Dec-2010	GAMMA	
Master Tls	Ra-228	< 0.1	Bq/l	26-Dec-2010	GAMMA	
Avalon Head Sample 1	Ra-228	< 0.1	Bq/l	27-Dec-2010	GAMMA	
F33 Mozley Conc Comp	Ra-228	< 0.3	Bq/l	28-Dec-2010	GAMMA	
F33 Comb Tls	Ra-228	< 0.3	Bq/l	29-Dec-2010	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: T10-01737.0

Date: 20-Jan-2011

Page 2 of 3

<u>Results of Analysis</u>						
Sample	Test		Result	Units	Date	Method
Avalon Head Sample 2	Ra-228	<	0.4	Bq/l	31-Dec-2010	GAMMA
F36 Mozley Conc Comp	Ra-228	<	0.1	Bq/l	24-Dec-2010	GAMMA
F36 Comb Tls	Ra-228	<	0.1	Bq/l	26-Dec-2010	GAMMA
Avalon Head Sample 3	Ra-228	<	0.3	Bq/l	28-Dec-2010	GAMMA
F37 Mozley Conc Comp	Ra-228	<	0.1	Bq/l	31-Dec-2010	GAMMA
F37 Comb Tls	Ra-228	<	0.1	Bq/l	04-Jan-2011	GAMMA
XPS PP Comp 1 Conc	Ra-228	<	0.3	Bq/l	02-Jan-2011	GAMMA
\$dI Leachate Blank	Ra-228	<	0.1	Bq/l	04-Jan-2011	GAMMA
Master Comp	Pb-210		0.3	Bq/l	19-Jan-2011	GFPC
F25 Comb Tls	Pb-210		0.2	Bq/l	19-Jan-2011	GFPC
F28 Comb Tls	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
F29 Comb Tls	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
Master Conc	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
Master Tls	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
Avalon Head Sample 1	Pb-210		0.1	Bq/l	19-Jan-2011	GFPC
F33 Mozley Conc Comp	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
F33 Comb Tls	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
Avalon Head Sample 2	Pb-210	<	0.1	Bq/l	19-Jan-2011	GFPC
F36 Mozley Conc Comp	Pb-210		0.1	Bq/l	20-Jan-2011	GFPC
F36 Comb Tls	Pb-210	<	0.1	Bq/l	20-Jan-2011	GFPC
Avalon Head Sample 3	Pb-210		0.2	Bq/l	20-Jan-2011	GFPC
F37 Mozley Conc Comp	Pb-210	<	0.1	Bq/l	20-Jan-2011	GFPC
F37 Comb Tls	Pb-210	<	0.1	Bq/l	20-Jan-2011	GFPC
XPS PP Comp 1 Conc	Pb-210	<	0.1	Bq/l	20-Jan-2011	GFPC
\$dI Leachate Blank	Pb-210	<	0.1	Bq/l	20-Jan-2011	GFPC



ANALYSIS REPORT

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

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

Batch: T10-01737.0

Date: 20-Jan-2011

Page 3 of 3

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

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.

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

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.

**SGS Canada Inc.**

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

Shake Flask 3:1 L:S - use 500g for
extraction - return extraction solids to Barb

Project : CALR-11806-007

Environmental Met

Attn : Barb Bowman

Monday, January 17, 2011

Date Rec. : 22 November 2010

LR Report: CA11611-NOV10

Reference: 11806-007-03

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1 TIs
Sample Date & Time			Date:N/A
Sample [weight(g)]	06-Dec-10	08:55	300
Volume mL [D.I. H2O]	06-Dec-10	08:55	900
InitialpH [units]	06-Dec-10	08:55	9.28
Final pH [units]	06-Dec-10	08:55	8.81
pH [no unit]	07-Dec-10	13:19	7.95
Conductivity [uS/cm]	07-Dec-10	13:19	216
Fluoride [mg/L]	06-Dec-10	11:27	1.83
Chloride [mg/L]	10-Dec-10	08:38	3.6
Mercury [mg/L]	07-Dec-10	16:33	< 0.0001
Silver [mg/L]	08-Dec-10	14:23	< 0.00001
Aluminum [mg/L]	07-Dec-10	11:26	0.03
Arsenic [mg/L]	08-Dec-10	14:23	0.0199
Boron [mg/L]	08-Dec-10	14:23	0.103
Barium [mg/L]	08-Dec-10	14:23	0.199
Beryllium [mg/L]	08-Dec-10	14:23	< 0.00002
Bismuth [mg/L]	08-Dec-10	14:23	< 0.00001
Calcium [mg/L]	07-Dec-10	11:26	21.0
Cadmium [mg/L]	08-Dec-10	14:24	0.000043
Cerium [mg/L]	08-Dec-10	14:24	0.00062
Cobalt [mg/L]	08-Dec-10	14:24	0.0104
Chromium [mg/L]	08-Dec-10	14:24	< 0.0005
Copper [mg/L]	08-Dec-10	14:24	0.0010
Dysprosium [mg/L]	08-Dec-10	14:24	0.000114
Erbium [mg/L]	08-Dec-10	14:24	0.000054
Europium [mg/L]	08-Dec-10	14:24	0.000027
Iron [mg/L]	07-Dec-10	11:26	0.041
Gallium [mg/L]	08-Dec-10	14:24	0.00111
Gadolinium [mg/L]	08-Dec-10	14:24	0.00011
Hafnium [mg/L]	08-Dec-10	14:24	0.000109
Homium [mg/L]	08-Dec-10	14:24	0.000020
Potassium [mg/L]	07-Dec-10	11:26	8.76
Lanthanum [mg/L]	08-Dec-10	14:24	0.00027

SGS Canada Inc.

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

Shake Flask 3:1 L:S - use 500g for
extraction - return extraction solids to Barb

Project : CALR-11806-007

LR Report : CA11611-NOV10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1 TIs
Lithium [mg/L]	08-Dec-10	14:24	0.011
Lutetium [mg/L]	08-Dec-10	14:24	0.000005
Magnesium [mg/L]	07-Dec-10	11:26	3.20
Manganese [mg/L]	08-Dec-10	14:24	0.0145
Molybdenum [mg/L]	08-Dec-10	14:24	0.0366
Sodium [mg/L]	07-Dec-10	11:27	13.4
Niobium [mg/L]	08-Dec-10	14:24	0.000656
Neodymium [mg/L]	08-Dec-10	14:24	0.00036
Nickel [mg/L]	08-Dec-10	14:24	0.0059
Lead [mg/L]	08-Dec-10	14:24	0.00004
Praseodymium [mg/L]	08-Dec-10	14:24	0.00008
Antimony [mg/L]	08-Dec-10	14:24	0.0026
Scandium [mg/L]	08-Dec-10	14:24	0.00125
Selenium [mg/L]	08-Dec-10	14:24	< 0.001
Silica [mg/L]	07-Dec-10	11:27	4.72
Samarium [mg/L]	08-Dec-10	14:24	0.00010
Tin [mg/L]	08-Dec-10	14:24	0.00010
Strontium [mg/L]	07-Dec-10	11:27	0.0599
Tantalum [mg/L]	08-Dec-10	14:24	0.000116
Terbium [mg/L]	08-Dec-10	14:24	0.000020
Thorium [mg/L]	08-Dec-10	14:24	0.000832
Titanium [mg/L]	08-Dec-10	14:24	0.0004
Thallium [mg/L]	08-Dec-10	14:24	< 0.00002
Thulium [mg/L]	08-Dec-10	14:24	0.000006
Uranium [mg/L]	08-Dec-10	14:24	0.00535
Vanadium [mg/L]	08-Dec-10	14:24	0.00033
Yttrium [mg/L]	08-Dec-10	14:24	0.000546
Ytterbium [mg/L]	08-Dec-10	14:24	0.000036
Zinc [mg/L]	08-Dec-10	14:24	0.003
Zirconium [mg/L]	08-Dec-10	14:24	0.00382

Revised sample weight and volume Jan. 17/11 DG



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: T10-01769.0

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. Nov 11611
P.O: 55876

attn: Diane Griffin

1 water sample

Received: 07-Dec-2010

Page 1 of 1

		<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method		
XPS PP Comp 1 Tls	Ra-228	< 0.3	Bq/l	31-Dec-2010	GAMMA		
XPS PP Comp 1 Tls	Pb-210	< 0.1	Bq/l	10-Jan-2011	GFPC		
XPS PP Comp 1 Tls	Ra-226	< 0.01	Bq/l	09-Jan-2011	ALPHA		

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.
The detection limit for Ra-228 was elevated due to lack of sample.

20-Jan-2011 approved by:

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.

**SGS Canada Inc.**

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

Shake Flask 3:1 L:S - use 500g for
 extraction - return extraction solids to Barb

Project : CALR-11806-007

Thursday, January 27, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 04 January 2011

LR Report: CA10837-JAN11

Reference: 11806-007-13

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs	6: XPS PP Comp 2 Head	7: XPS PP Comp 3 Head
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A
Sample [weight(g)]	18-Jan-11	12:10	500	250	250
Volume mL [D.I. H2O]	18-Jan-11	12:10	1500	750	750
InitialpH [units]	18-Jan-11	12:10	9.08	9.97	9.86
Final pH [units]	18-Jan-11	12:10	8.82	9.46	9.51
pH [no unit]	27-Jan-11	14:38	8.12	8.50	8.92
Conductivity [uS/cm]	25-Jan-11	14:07	209	258	242
Fluoride [mg/L]	25-Jan-11	11:36	4.43	0.98	11.0
Chloride [mg/L]	27-Jan-11	13:51	5.0	12	11
Mercury [mg/L]	25-Jan-11	12:31	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	26-Jan-11	14:34	0.00003	< 0.00001	< 0.00001
Aluminum [mg/L]	26-Jan-11	12:59	0.05	0.03	0.05
Arsenic [mg/L]	26-Jan-11	14:34	0.0060	0.0013	0.0008
Boron [mg/L]	26-Jan-11	14:34	0.118	0.167	0.133
Barium [mg/L]	26-Jan-11	14:34	0.507	0.654	0.550
Beryllium [mg/L]	26-Jan-11	14:34	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	26-Jan-11	14:34	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	26-Jan-11	12:57	14.5	7.12	6.44
Cadmium [mg/L]	26-Jan-11	14:34	0.000019	0.000113	0.000043
Cerium [mg/L]	26-Jan-11	14:34	0.00120	0.00048	0.00054
Cobalt [mg/L]	26-Jan-11	14:34	0.000035	0.000029	0.000016
Chromium [mg/L]	26-Jan-11	14:34	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	26-Jan-11	14:34	0.0008	0.0013	0.0009
Dysprosium [mg/L]	26-Jan-11	14:34	0.000144	0.000058	0.000061
Erbium [mg/L]	26-Jan-11	14:34	0.000061	0.000036	0.000028
Europium [mg/L]	26-Jan-11	14:34	0.000070	0.000085	0.000076
Iron [mg/L]	26-Jan-11	12:57	0.072	0.012	0.014
Gallium [mg/L]	26-Jan-11	14:34	0.00185	0.00511	0.00833
Gadolinium [mg/L]	26-Jan-11	14:34	0.00017	0.00007	0.00008
Hafnium [mg/L]	26-Jan-11	14:34	0.000207	0.000138	0.000069
Homium [mg/L]	26-Jan-11	14:34	0.000030	0.000013	0.000011
Potassium [mg/L]	26-Jan-11	12:57	12.8	24.0	20.2
Lanthanum [mg/L]	26-Jan-11	14:34	0.00053	0.00024	0.00028

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs	6: XPS PP Comp 2 Head	7: XPS PP Comp 3 Head
Lithium [mg/L]	26-Jan-11	14:34	0.010	0.038	0.023
Lutetium [mg/L]	26-Jan-11	14:34	0.000007	0.000003	0.000002
Magnesium [mg/L]	26-Jan-11	12:57	5.31	3.31	2.83
Manganese [mg/L]	26-Jan-11	14:34	0.00824	0.0133	0.00536
Molybdenum [mg/L]	26-Jan-11	14:34	0.0321	0.0162	0.0239
Sodium [mg/L]	26-Jan-11	12:57	17.4	22.2	16.8
Niobium [mg/L]	26-Jan-11	14:34	0.001073	0.000519	0.000536
Neodymium [mg/L]	26-Jan-11	14:34	0.00065	0.00028	0.00032
Nickel [mg/L]	26-Jan-11	14:34	0.0015	0.0003	0.0003
Lead [mg/L]	26-Jan-11	14:34	0.00006	0.00047	0.00072
Praseodymium [mg/L]	26-Jan-11	14:34	0.00016	0.00007	0.00007
Antimony [mg/L]	26-Jan-11	14:34	0.0031	0.0007	0.0006
Scandium [mg/L]	26-Jan-11	14:34	0.00045	0.00067	0.00044
Selenium [mg/L]	26-Jan-11	14:34	< 0.001	< 0.001	< 0.001
Silica [mg/L]	26-Jan-11	12:57	3.35	4.42	2.67
Samarium [mg/L]	26-Jan-11	14:34	0.00017	0.00007	0.00007
Tin [mg/L]	26-Jan-11	14:34	0.00025	0.00007	0.00006
Strontium [mg/L]	26-Jan-11	12:58	0.0801	0.0547	0.0361
Tantalum [mg/L]	26-Jan-11	14:34	0.000195	0.000059	0.000056
Terbium [mg/L]	26-Jan-11	14:34	0.000030	< 0.000001	< 0.000001
Thorium [mg/L]	26-Jan-11	14:34	0.000377	0.000489	0.000300
Titanium [mg/L]	26-Jan-11	14:34	0.0003	0.0002	0.0002
Thallium [mg/L]	26-Jan-11	14:34	< 0.00002	< 0.00002	< 0.00002
Thulium [mg/L]	26-Jan-11	14:34	0.000010	< 0.000001	< 0.000001
Uranium [mg/L]	26-Jan-11	14:34	0.00535	0.000160	0.000165
Vanadium [mg/L]	26-Jan-11	14:34	0.00014	0.00009	0.00009
Yttrium [mg/L]	26-Jan-11	14:34	0.000850	0.000390	0.000315
Ytterbium [mg/L]	26-Jan-11	14:34	0.000041	0.000027	0.000016
Zinc [mg/L]	26-Jan-11	14:34	0.010	0.006	0.003
Zirconium [mg/L]	26-Jan-11	14:34	0.00364	0.00292	0.00128

Radionuclides subcontracted to Becquerel Laboratories



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: T11-00097.0

Date: 29-Mar-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 10837

attn: Dianne Griffin

3 water samples

Received: 25-Jan-2011

Page 1 of 1

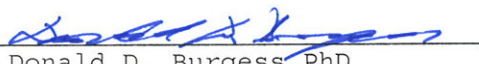
						<u>Results of Analysis</u>					
Sample						Test	Result		Units	Date	Method
XPS	PP	Comp	2	Tls	Ra-228	<	0.3	Bq/l	08-Feb-2011	GAMMA	
XPS	PP	Comp	2	Head	Ra-228	<	0.1	Bq/l	09-Feb-2011	GAMMA	
XPS	PP	Comp	3	Head	Ra-228	<	0.3	Bq/l	10-Feb-2011	GAMMA	
XPS	PP	Comp	2	Tls	Ra-226	<	0.01	Bq/l	28-Jan-2011	ALPHA	
XPS	PP	Comp	2	Head	Ra-226	<	0.01	Bq/l	28-Jan-2011	ALPHA	
XPS	PP	Comp	3	Head	Ra-226	<	0.01	Bq/l	28-Jan-2011	ALPHA	
XPS	PP	Comp	2	Tls	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	
XPS	PP	Comp	2	Head	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	
XPS	PP	Comp	3	Head	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	

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

Units: Bq/l Becquerels per litre

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

29-Mar-2011 approved by:


Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.

**SGS Canada Inc.**

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

Env ICP-MS Metals

Project : CALR-11806-007

Wednesday, December 08, 2010

Environmental Met

Attn : Barb Bowman

Date Rec. : 24 November 2010

LR Report: CA10297-NOV10

Reference: 11806-007-02

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5	6: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5 Dissolved
Sample Date & Time			Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	20.0	20.0
pH [no unit]	26-Nov-10	14:53	8.20	---
Alkalinity [mg/L as CaCO ₃]	26-Nov-10	14:53	119	---
EMF [mV]	25-Nov-10	15:41	284	---
Acidity [mg/L as CaCO ₃]	26-Nov-10	14:53	< 2	---
Conductivity [uS/cm]	26-Nov-10	14:53	617	---
Solids (Total Dissolved) [mg/L]	29-Nov-10	08:57	400	---
Tot. Suspended Solids [mg/L]	26-Nov-10	20:48	14	---
Chloride [mg/L]	30-Nov-10	11:54	44	---
Sulphate [mg/L]	30-Nov-10	11:54	100	---
Fluoride [mg/L]	26-Nov-10	13:59	4.43	---
Nitrite (as nitrogen) [mg/L]	26-Nov-10	12:06	< 0.06	---
Nitrate (as nitrogen) [mg/L]	26-Nov-10	12:06	< 0.05	---
Nitrate + Nitrite (as nitrogen) [mg/L]	26-Nov-10	12:06	< 0.06	---
Tot.Reactive Phos. [mg/L]	25-Nov-10	11:05	0.10	---
Total Organic Carbon [mg/L]	26-Nov-10	11:11	12.2	---
Ammonia+Ammonium (N) [mg/L]	25-Nov-10	13:15	< 0.1	---
Thiosalts [as S ₂ O ₃ mg/L]	01-Dec-10	10:04	< 10	---
Mercury [ug/L]	08-Dec-10	10:46	< 0.1	< 0.1
Silver [mg/L]	30-Nov-10	08:12	0.00003	< 0.00001
Aluminum [mg/L]	26-Nov-10	15:17	0.62	0.06
Arsenic [mg/L]	30-Nov-10	08:12	0.0022	0.0025
Barium [mg/L]	30-Nov-10	08:12	0.0131	0.0113
Beryllium [mg/L]	30-Nov-10	08:12	0.00006	< 0.00002
Boron [mg/L]	30-Nov-10	08:12	0.128	0.126
Bismuth [mg/L]	30-Nov-10	08:12	0.00013	0.00007

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5	6: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5 Dissolved
Calcium [mg/L]	26-Nov-10	15:17	43.7	40.0
Cadmium [mg/L]	30-Nov-10	08:12	0.000067	0.000067
Cobalt [mg/L]	30-Nov-10	08:12	0.000198	0.000176
Chromium [mg/L]	30-Nov-10	08:12	0.0011	0.0015
Copper [mg/L]	30-Nov-10	08:12	0.0023	0.0024
Iron [mg/L]	26-Nov-10	15:17	0.570	0.025
Potassium [mg/L]	26-Nov-10	15:17	28.8	27.0
Lithium [mg/L]	30-Nov-10	08:12	0.031	0.030
Magnesium [mg/L]	26-Nov-10	15:17	9.14	8.15
Manganese [mg/L]	30-Nov-10	08:12	0.0788	0.0488
Molybdenum [mg/L]	30-Nov-10	08:12	0.0471	0.0440
Sodium [mg/L]	26-Nov-10	15:17	70.4	66.0
Nickel [mg/L]	30-Nov-10	08:12	0.0070	0.0066
Lead [mg/L]	30-Nov-10	08:12	0.00060	0.00033
Antimony [mg/L]	30-Nov-10	08:12	0.0033	0.0035
Selenium [mg/L]	30-Nov-10	08:12	< 0.001	0.001
Silica [mg/L]	26-Nov-10	15:17	8.10	6.24
Tin [mg/L]	30-Nov-10	08:12	0.00123	0.00077
Strontium [mg/L]	26-Nov-10	15:17	0.237	0.125
Thorium [mg/L]	30-Nov-10	08:13	0.000694	0.000082
Titanium [mg/L]	30-Nov-10	08:13	0.0032	0.0018
Thallium [mg/L]	30-Nov-10	08:13	< 0.0002	< 0.0002
Uranium [mg/L]	30-Nov-10	08:13	0.00880	0.00836
Vanadium [mg/L]	30-Nov-10	08:13	0.00058	0.00068
Yttrium [mg/L]	30-Nov-10	08:13	0.00877	0.000376
Zinc [mg/L]	26-Nov-10	15:17	0.007	0.004
Cerium [mg/L]	30-Nov-10	08:13	0.139	0.00149
Dysprosium [mg/L]	30-Nov-10	08:13	0.00252	0.000085
Erbium [mg/L]	30-Nov-10	08:13	0.000581	0.000028
Europium [mg/L]	30-Nov-10	08:13	0.00109	0.000021
Gallium [mg/L]	30-Nov-10	08:13	0.00286	0.00186
Gadolinium [mg/L]	30-Nov-10	08:13	0.00937	0.00016
Hafnium [mg/L]	30-Nov-10	08:13	0.000267	0.000053
Homium [mg/L]	30-Nov-10	08:13	0.000312	0.000012
Lanthanum [mg/L]	30-Nov-10	08:13	0.0688	0.00074
Lutetium [mg/L]	30-Nov-10	08:13	0.000033	0.000001
Niobium [mg/L]	30-Nov-10	08:13	0.00257	0.000209
Neodymium [mg/L]	30-Nov-10	08:13	0.0616	0.00083
Praseodymium [mg/L]	30-Nov-10	08:13	0.0173	0.00022
Scandium [mg/L]	30-Nov-10	08:13	0.00339	0.00223
Samarium [mg/L]	30-Nov-10	08:13	0.0110	0.00017
Tantalum [mg/L]	30-Nov-10	08:13	0.000230	0.000029

SGS Canada Inc.

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

Env ICP-MS Metals

Project : CALR-11806-007

LR Report : CA10297-NOV10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5	6: Nov 24/10 XPS PP Comp 1 Tls Decant Day 5 Dissolved
Terbium [mg/L]	30-Nov-10	08:13	0.000819	0.000015
Thullium [mg/L]	30-Nov-10	08:13	0.000046	< 0.000001
Ytterbium [mg/L]	30-Nov-10	08:13	0.000324	0.000014
Zirconium [mg/L]	30-Nov-10	08:13	0.00329	0.00072



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

Env ICP-MS Metals

Project : CALR-11806-007

Wednesday, November 17, 2010

Environmental Met

Attn : Barb Bowman

Date Rec. : 09 November 2010

LR Report: CA11346-NOV10

Reference: 11806-007-02

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Thor Lake Water # 4	6: Thor Lake Water # 7	7: Thor Lake Water # 4 Diss	8: Thor Lake Water # 7 Diss
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	19.0	19.0	19.0	19.0
pH [no unit]	12-Nov-10	10:15	8.19	8.26	---	---
Alkalinity [mg/L as CaCO3]	12-Nov-10	10:15	144	142	---	---
EMF [mV]	10-Nov-10	13:17	303	281	---	---
Acidity [mg/L as CaCO3]	12-Nov-10	10:15	< 2	< 2	---	---
Conductivity [uS/cm]	12-Nov-10	10:15	277	280	---	---
Solids (Total Dissolved) [mg/L]	12-Nov-10	10:14	186	180	---	---
Tot. Suspended Solids [mg/L]	11-Nov-10	13:50	< 2	2	---	---
Chloride [mg/L]	15-Nov-10	15:54	3.8	3.8	---	---
Sulphate [mg/L]	15-Nov-10	15:54	0.4	0.4	---	---
Fluoride [mg/L]	12-Nov-10	10:28	1.01	1.02	---	---
Nitrite (as nitrogen) [mg/L]	11-Nov-10	10:56	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	11-Nov-10	10:56	< 0.05	< 0.05	---	---
Nitrate + Nitrite (as nitrogen) [mg/L]	11-Nov-10	10:56	< 0.06	< 0.06	---	---
Tot.Reactive Phos. [mg/L]	11-Nov-10	11:16	< 0.03	< 0.03	---	---
Total Organic Carbon [mg/L]	16-Nov-10	19:11	12.2	13.0	---	---
Ammonia+Ammonium (N) [mg/L]	11-Nov-10	12:11	< 0.1	< 0.1	---	---
Thiosalts [as S2O3 mg/L]	12-Nov-10	10:42	< 10	< 10	---	---
Mercury [ug/L]	11-Nov-10	09:34	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	12-Nov-10	07:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	11-Nov-10	07:45	0.01	< 0.01	< 0.01	< 0.01
Arsenic [mg/L]	12-Nov-10	07:43	0.0009	0.0008	0.0008	0.0009
Barium [mg/L]	12-Nov-10	07:43	0.0674	0.0650	0.0621	0.0629
Beryllium [mg/L]	12-Nov-10	07:43	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	12-Nov-10	07:43	0.0231	0.0229	0.0223	0.0230
Bismuth [mg/L]	12-Nov-10	07:43	0.00002	0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	11-Nov-10	07:45	32.1	31.3	30.5	30.2
Cadmium [mg/L]	12-Nov-10	07:43	< 0.000003	< 0.000003	0.000086	< 0.000003
Cobalt [mg/L]	12-Nov-10	07:43	0.000071	0.000061	0.000067	0.000065
Chromium [mg/L]	12-Nov-10	07:43	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	12-Nov-10	07:43	< 0.0005	< 0.0005	0.0006	< 0.0005
Iron [mg/L]	11-Nov-10	07:45	0.019	0.013	< 0.002	0.008
Potassium [mg/L]	11-Nov-10	07:45	1.87	1.82	1.81	1.76
Lithium [mg/L]	12-Nov-10	07:43	0.004	0.005	0.005	0.005
Magnesium [mg/L]	11-Nov-10	07:45	17.5	17.1	16.4	16.3
Manganese [mg/L]	12-Nov-10	07:43	0.0116	0.00613	0.00037	0.00040
Molybdenum [mg/L]	12-Nov-10	07:43	0.00204	0.00206	0.00179	0.00192

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

LR Report : CA11346-NOV10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Thor Lake Water # 4	6: Thor Lake Water # 7	7: Thor Lake Water # 4 Diss	8: Thor Lake Water # 7 Diss
Sodium [mg/L]	11-Nov-10	07:45	5.94	5.83	5.55	5.49
Nickel [mg/L]	12-Nov-10	07:43	0.0006	0.0006	0.0007	0.0008
Lead [mg/L]	12-Nov-10	07:43	0.00006	0.00007	0.00007	0.00008
Antimony [mg/L]	12-Nov-10	07:43	0.0003	0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	12-Nov-10	07:43	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	11-Nov-10	07:45	3.12	3.03	2.95	2.92
Tin [mg/L]	12-Nov-10	07:43	0.00012	0.00012	0.00009	0.00017
Strontium [mg/L]	11-Nov-10	07:45	0.0602	0.0583	0.0568	0.0564
Thorium [mg/L]	12-Nov-10	07:43	0.000115	0.000079	0.000022	0.000023
Titanium [mg/L]	12-Nov-10	07:43	0.0002	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	12-Nov-10	07:43	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	12-Nov-10	07:43	0.000402	0.000373	0.000338	0.000350
Vanadium [mg/L]	12-Nov-10	07:43	0.00008	0.00009	0.00042	0.00013
Yttrium [mg/L]	12-Nov-10	07:43	0.000007	0.000007	0.000007	0.000015
Zinc [mg/L]	11-Nov-10	07:45	< 0.002	< 0.002	< 0.002	< 0.002
Cerium [mg/L]	12-Nov-10	07:43	< 0.00007	< 0.00007	< 0.00007	0.00008
Dysprosium [mg/L]	12-Nov-10	07:43	< 0.000003	< 0.000003	< 0.000003	0.000003
Erbium [mg/L]	12-Nov-10	07:43	0.000001	0.000001	< 0.000001	0.000001
Europium [mg/L]	12-Nov-10	07:43	0.000006	0.000006	0.000005	0.000006
Gallium [mg/L]	12-Nov-10	07:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Gadolinium [mg/L]	12-Nov-10	07:43	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Hafnium [mg/L]	12-Nov-10	07:43	0.000401	0.000200	0.000069	0.000073
Homium [mg/L]	12-Nov-10	07:43	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Lanthanum [mg/L]	12-Nov-10	07:43	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Lutetium [mg/L]	12-Nov-10	07:43	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Niobium [mg/L]	12-Nov-10	07:43	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Neodymium [mg/L]	12-Nov-10	07:43	< 0.00003	< 0.00003	< 0.00003	0.00004
Praseodymium [mg/L]	12-Nov-10	07:43	< 0.00001	< 0.00001	< 0.00001	0.00001
Scandium [mg/L]	12-Nov-10	07:43	0.00061	0.00050	0.00029	0.00034
Samarium [mg/L]	12-Nov-10	07:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Tantalum [mg/L]	12-Nov-10	07:43	0.000012	< 0.000001	< 0.000001	< 0.000001
Terbium [mg/L]	12-Nov-10	07:43	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Thulium [mg/L]	12-Nov-10	07:43	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Ytterbium [mg/L]	12-Nov-10	07:43	< 0.000002	< 0.000002	< 0.000002	< 0.000002
Zirconium [mg/L]	12-Nov-10	07:43	0.00013	0.00008	0.00005	0.00004



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

Env ICP-MS Metals

Project : CALR-11806-007

Tuesday, December 21, 2010

Environmental Met

Attn : Barb Bowman

Date Rec. : 10 December 2010

LR Report: CA10242-DEC10

Reference: 11806-007

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CH-WT1 PLS+Wash	6: RAR-1 Filtrate
Sample Date & Time			Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	13.0	13.0
pH [no unit]	14-Dec-10	20:53	7.73	7.46
Alkalinity [mg/L as CaCO ₃]	14-Dec-10	20:53	118	82
EMF [mV]	14-Dec-10	20:40	214	---
Acidity [mg/L as CaCO ₃]	14-Dec-10	20:53	< 2	< 2
Conductivity [uS/cm]	14-Dec-10	20:53	13400	13300
Solids (Total Dissolved) [mg/L]	15-Dec-10	20:39	16800	---
Chloride [mg/L]	15-Dec-10	08:06	55	---
Sulphate [mg/L]	14-Dec-10	15:41	11000	12000
Fluoride [mg/L]	20-Dec-10	11:24	1.82	---
Nitrite (as nitrogen) [mg/L]	15-Dec-10	10:13	< 0.6	---
Nitrate (as nitrogen) [mg/L]	15-Dec-10	10:13	< 0.5	---
Nitrate + Nitrite (as nitrogen) [mg/L]	15-Dec-10	10:13	< 0.6	---
Tot.Reactive Phos. [mg/L]	13-Dec-10	11:20	0.07	---
Total Organic Carbon [mg/L]	14-Dec-10	16:31	53.9	---
Ammonia+Ammonium (N) [mg/L]	15-Dec-10	10:35	91.7	---
Thiosalts [as S ₂ O ₃ mg/L]	14-Dec-10	20:15	< 10	---
Mercury [ug/L]	15-Dec-10	11:25	< 0.1	< 0.1
Silver [mg/L]	16-Dec-10	11:27	0.00012	0.00007
Aluminum [mg/L]	14-Dec-10	12:13	< 0.01	< 0.01
Arsenic [mg/L]	16-Dec-10	11:27	0.0022	0.0024
Barium [mg/L]	16-Dec-10	11:27	0.0772	0.0328
Beryllium [mg/L]	16-Dec-10	11:27	0.00002	0.00002
Boron [mg/L]	16-Dec-10	11:27	0.0971	0.104
Bismuth [mg/L]	16-Dec-10	11:27	0.00008	0.00011
Calcium [mg/L]	14-Dec-10	12:13	393	387
Cadmium [mg/L]	16-Dec-10	11:27	0.000232	0.000321
Cobalt [mg/L]	16-Dec-10	11:27	0.00402	0.00666
Chromium [mg/L]	16-Dec-10	11:27	0.0188	0.0043
Copper [mg/L]	16-Dec-10	11:27	0.0226	0.0470
Iron [mg/L]	14-Dec-10	12:13	0.150	0.138
Potassium [mg/L]	14-Dec-10	12:13	86.8	87.8

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

LR Report : CA10242-DEC10

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: CH-WT1 PLS+Wash	6: RAR-1 Filtrate
Lithium [mg/L]	16-Dec-10	11:27	2.18	2.22
Magnesium [mg/L]	14-Dec-10	12:13	1530	1550
Manganese [mg/L]	16-Dec-10	11:27	6.15	6.33
Molybdenum [mg/L]	16-Dec-10	11:27	0.00902	0.0113
Sodium [mg/L]	14-Dec-10	14:24	1580	1470
Nickel [mg/L]	16-Dec-10	11:27	0.0701	0.0726
Lead [mg/L]	16-Dec-10	11:27	0.00052	0.00075
Antimony [mg/L]	16-Dec-10	11:27	0.0002	0.0003
Selenium [mg/L]	16-Dec-10	11:27	0.005	0.008
Silica [mg/L]	14-Dec-10	12:13	2.47	2.55
Tin [mg/L]	16-Dec-10	11:27	0.00013	0.00019
Strontium [mg/L]	14-Dec-10	12:13	11.2	11.0
Thorium [mg/L]	16-Dec-10	11:27	0.002945	0.000690
Titanium [mg/L]	16-Dec-10	11:27	0.0051	0.0047
Thallium [mg/L]	16-Dec-10	11:27	0.0002	0.0003
Uranium [mg/L]	16-Dec-10	11:27	0.0239	0.0167
Vanadium [mg/L]	16-Dec-10	11:27	0.00063	0.00083
Yttrium [mg/L]	16-Dec-10	11:27	0.009046	0.0344
Zinc [mg/L]	14-Dec-10	12:13	< 0.002	0.030
Cerium [mg/L]	16-Dec-10	11:27	0.00529	0.791
Dysprosium [mg/L]	16-Dec-10	11:27	0.000800	0.00800
Erbium [mg/L]	16-Dec-10	11:27	0.000400	0.00150
Europium [mg/L]	16-Dec-10	11:27	0.000100	0.00270
Gallium [mg/L]	16-Dec-10	11:27	0.00049	0.00085
Gadolinium [mg/L]	16-Dec-10	11:27	0.00090	0.0313
Hafnium [mg/L]	16-Dec-10	11:27	0.000638	0.000139
Homium [mg/L]	16-Dec-10	11:27	0.000200	0.00100
Lanthanum [mg/L]	16-Dec-10	11:27	0.0120	0.566
Lutetium [mg/L]	16-Dec-10	11:27	< 0.000001	0.000100
Niobium [mg/L]	16-Dec-10	11:27	0.00465	0.000411
Neodymium [mg/L]	16-Dec-10	11:27	0.00370	0.219
Praseodymium [mg/L]	16-Dec-10	11:27	0.00090	0.06850
Scandium [mg/L]	16-Dec-10	11:27	0.00120	0.00120
Samarium [mg/L]	16-Dec-10	11:27	0.00070	0.0256
Tantalum [mg/L]	16-Dec-10	11:27	0.000088	0.000030
Terbium [mg/L]	16-Dec-10	11:27	0.000100	0.00280
Thulium [mg/L]	16-Dec-10	11:27	0.000100	0.000100
Ytterbium [mg/L]	16-Dec-10	11:27	0.000300	0.000600
Zirconium [mg/L]	16-Dec-10	11:27	0.0351	0.00395



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

Env ICP-MS Metals

Project : CALR-11806-007

Thursday, January 06, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 20 December 2010

LR Report: CA10361-DEC10

Reference: 11806-007-13

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Dec 20/10 XPS PP Comp 2 TIs Decant Day 5	8: Dec 20/10 XPS PP Comp 2 TIs Decant Day 5 Dissolved
Sample Date & Time			Date:N/A	Date:N/B
Temperature Upon Receipt [°C]	---	---	15.0	15.0
pH [no unit]	22-Dec-10	15:49	8.41	---
Alkalinity [mg/L as CaCO ₃]	22-Dec-10	15:49	148	---
EMF [mV]	22-Dec-10	14:39	178	---
Acidity [mg/L as CaCO ₃]	22-Dec-10	15:49	< 2	---
Conductivity [uS/cm]	22-Dec-10	15:49	603	---
Solids (Total Dissolved) [mg/L]	05-Jan-11	13:47	354	---
Tot. Suspended Solids [mg/L]	21-Dec-10	15:55	2	---
Chloride [mg/L]	29-Dec-10	13:49	63	---
Sulphate [mg/L]	29-Dec-10	13:49	29	---
Fluoride [mg/L]	05-Jan-11	13:47	9.35	---
Nitrite (as nitrogen) [mg/L]	21-Dec-10	16:59	< 0.06	---
Nitrate (as nitrogen) [mg/L]	21-Dec-10	16:59	< 0.05	---
Nitrate + Nitrite (as nitrogen) [mg/L]	21-Dec-10	16:59	< 0.06	---
Tot.Reactive Phos. [mg/L]	24-Dec-10	08:52	0.05	---
Total Organic Carbon [mg/L]	24-Dec-10	11:35	17.1	---
Ammonia+Ammonium (N) [mg/L]	23-Dec-10	12:20	< 0.1	---
Thiosalts [as S ₂ O ₃ mg/L]	22-Dec-10	17:45	< 10	---
Mercury [ug/L]	21-Dec-10	15:21	< 0.1	< 0.1
Silver [mg/L]	23-Dec-10	07:18	0.00004	< 0.00001
Aluminum [mg/L]	22-Dec-10	09:04	1.05	0.05
Arsenic [mg/L]	23-Dec-10	07:18	0.0047	0.0048
Barium [mg/L]	23-Dec-10	07:18	0.0131	0.0111
Beryllium [mg/L]	23-Dec-10	07:18	0.00005	< 0.00002
Boron [mg/L]	23-Dec-10	07:18	0.179	0.171
Bismuth [mg/L]	23-Dec-10	07:18	0.00003	< 0.00001

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Dec 20/10 XPS PP Comp 2 Tls Decant Day 5	8: Dec 20/10 XPS PP Comp 2 Tls Decant Day 5 Dissolved
Calcium [mg/L]	22-Dec-10	09:05	21.8	22.1
Cadmium [mg/L]	23-Dec-10	07:18	0.000077	0.000043
Cobalt [mg/L]	23-Dec-10	07:18	0.000155	0.000118
Chromium [mg/L]	23-Dec-10	07:18	0.0016	0.0013
Copper [mg/L]	23-Dec-10	07:18	0.0007	0.0027
Iron [mg/L]	22-Dec-10	09:05	0.706	0.020
Potassium [mg/L]	22-Dec-10	09:05	37.0	36.8
Lithium [mg/L]	23-Dec-10	07:18	0.028	0.027
Magnesium [mg/L]	22-Dec-10	09:05	12.3	12.3
Manganese [mg/L]	23-Dec-10	07:18	0.0317	0.0240
Molybdenum [mg/L]	23-Dec-10	07:18	0.0786	0.0767
Sodium [mg/L]	22-Dec-10	09:05	74.5	74.8
Nickel [mg/L]	23-Dec-10	07:18	0.0068	0.0065
Lead [mg/L]	23-Dec-10	07:18	0.00026	0.00011
Antimony [mg/L]	23-Dec-10	07:18	0.0048	0.0048
Selenium [mg/L]	23-Dec-10	07:18	< 0.001	< 0.001
Silica [mg/L]	22-Dec-10	09:05	8.19	4.70
Tin [mg/L]	23-Dec-10	07:18	0.00142	0.00136
Strontium [mg/L]	22-Dec-10	09:05	0.112	0.114
Thorium [mg/L]	23-Dec-10	07:18	0.00140	0.000193
Titanium [mg/L]	23-Dec-10	07:18	0.0027	0.0008
Thallium [mg/L]	23-Dec-10	07:18	< 0.0002	< 0.0002
Uranium [mg/L]	23-Dec-10	07:18	0.00784	0.00742
Vanadium [mg/L]	23-Dec-10	07:18	< 0.00003	< 0.00003
Yttrium [mg/L]	23-Dec-10	07:18	0.00436	0.000464
Zinc [mg/L]	22-Dec-10	09:05	0.002	0.003
Cerium [mg/L]	23-Dec-10	07:18	0.0193	0.00112
Dysprosium [mg/L]	23-Dec-10	07:18	0.00125	0.000082
Erbium [mg/L]	23-Dec-10	07:18	0.000490	0.000042
Europium [mg/L]	23-Dec-10	07:18	0.000257	0.000022
Gallium [mg/L]	23-Dec-10	07:18	0.00354	0.00228
Gadolinium [mg/L]	23-Dec-10	07:18	0.00211	0.00015
Hafnium [mg/L]	23-Dec-10	07:18	0.000171	0.000038
Homium [mg/L]	23-Dec-10	07:18	0.000206	0.000018
Lanthanum [mg/L]	23-Dec-10	07:18	0.00818	0.00044
Lutetium [mg/L]	23-Dec-10	07:18	0.000030	0.000003
Niobium [mg/L]	23-Dec-10	07:18	0.00395	0.000405
Neodymium [mg/L]	23-Dec-10	07:18	0.0102	0.00092
Praseodymium [mg/L]	23-Dec-10	07:18	0.00242	0.00018
Scandium [mg/L]	23-Dec-10	07:18	0.00277	0.00164
Samarium [mg/L]	23-Dec-10	07:18	0.00211	0.00015
Tantalum [mg/L]	23-Dec-10	07:18	0.000514	0.000041

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Dec 20/10 XPS PP Comp 2 Tls Decant Day 5 Dissolved	8: Dec 20/10 XPS PP Comp 2 Tls Decant Day 5 Dissolved
Terbium [mg/L]	23-Dec-10	07:18	0.000279	0.000013
Thullium [mg/L]	23-Dec-10	07:18	0.000045	< 0.000001
Ytterbium [mg/L]	23-Dec-10	07:18	0.000229	0.000028
Zirconium [mg/L]	23-Dec-10	07:18	0.00648	0.00089

Revised temperature upon receipt Jan. 6/11



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

Env ICP-MS Metals

Project : CALR-11806-007

Monday, January 31, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 18 January 2011

LR Report: CA10262-JAN11

Reference: 11806-007-15

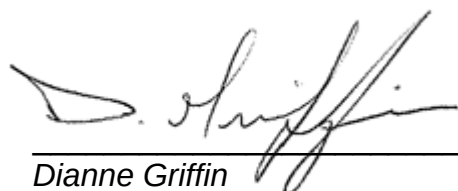
Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Jan 18/11 XPS PP Comp 1TIs Decant Day 60	6: XPS Tap Water PP Comp 1TIs 14-JAN-11 Decant Day 60	7: XPS Tap Water PP Comp 1TIs Diss	8: XPS Tap Water 14-JAN-11 Diss
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	18.0	18.0	18.0	18.0
pH [no unit]	20-Jan-11	22:17	8.16	7.62	---	---
Alkalinity [mg/L as CaCO ₃]	20-Jan-11	22:17	126	51	---	---
EMF [mV]	19-Jan-11	10:51	207	686	---	---
Acidity [mg/L as CaCO ₃]	20-Jan-11	22:17	< 2	< 2	---	---
Conductivity [uS/cm]	20-Jan-11	22:17	662	311	---	---
Solids (Total Dissolved) [mg/L]	20-Jan-11	15:40	406	200	---	---
Tot. Suspended Solids [mg/L]	20-Jan-11	21:26	< 2	< 2	---	---
Chloride [mg/L]	24-Jan-11	15:58	44	48	---	---
Sulphate [mg/L]	24-Jan-11	15:58	110	20	---	---
Fluoride [mg/L]	20-Jan-11	15:55	4.46	0.06	---	---
Nitrite (as nitrogen) [mg/L]	20-Jan-11	14:36	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	20-Jan-11	14:36	< 0.05	0.27	---	---
Nitrate + Nitrite (as nitrogen) [mg/L]	20-Jan-11	14:36	< 0.06	0.27	---	---
Tot.Reactive Phos. [mg/L]	19-Jan-11	13:10	0.20	0.15	---	---
Total Organic Carbon [mg/L]	31-Jan-11	15:22	7.2	2.3	---	---
Ammonia+Ammonium (N) [mg/L]	18-Jan-11	21:28	< 0.1	< 0.1	---	---
Thiosalts [as S ₂ O ₃ mg/L]	21-Jan-11	10:05	< 10	< 10	---	---
Mercury [ug/L]	21-Jan-11	14:41	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	25-Jan-11	10:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	21-Jan-11	11:11	0.05	< 0.01	0.02	< 0.01
Arsenic [mg/L]	25-Jan-11	10:10	0.0019	0.0015	0.0019	0.0017
Barium [mg/L]	25-Jan-11	10:10	0.0114	0.0074	0.0110	0.0074
Beryllium [mg/L]	25-Jan-11	10:10	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	25-Jan-11	10:10	0.131	0.0088	0.124	0.0084
Bismuth [mg/L]	25-Jan-11	10:10	< 0.00001	< 0.00001	0.00001	< 0.00001
Calcium [mg/L]	21-Jan-11	11:11	41.2	25.6	40.9	30.2
Cadmium [mg/L]	25-Jan-11	10:10	< 0.000003	< 0.000003	0.000013	0.000017
Cobalt [mg/L]	25-Jan-11	10:10	0.000111	0.000041	0.000053	0.000034
Chromium [mg/L]	25-Jan-11	10:10	0.0005	0.0007	< 0.0005	0.0006
Copper [mg/L]	25-Jan-11	10:10	0.0012	0.0342	0.0027	0.0335
Iron [mg/L]	21-Jan-11	11:11	0.025	0.008	< 0.002	0.002
Potassium [mg/L]	21-Jan-11	11:11	26.4	1.37	26.4	1.62
Lithium [mg/L]	25-Jan-11	10:10	0.027	0.001	0.027	0.001
Magnesium [mg/L]	21-Jan-11	11:11	8.56	5.57	8.43	6.60

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Jan 18/11 XPS Comp 1TIs Decant Day 60	6: XPS Tap Water 14-JAN-11	7: Jan 18/11 XPS PP Comp 1TIs Decant Day 60 Diss	8: XPS Tap Water 14-JAN-11 Diss
Manganese [mg/L]	25-Jan-11	10:10	0.00808	0.00024	0.00140	0.00013
Molybdenum [mg/L]	25-Jan-11	10:10	0.0444	0.00090	0.0421	0.00121
Sodium [mg/L]	21-Jan-11	11:12	66.5	20.3	66.5	23.5
Nickel [mg/L]	25-Jan-11	10:10	0.0048	0.0009	0.0046	0.0011
Lead [mg/L]	25-Jan-11	10:10	0.00051	0.00016	0.00011	0.00005
Antimony [mg/L]	25-Jan-11	10:10	0.0037	< 0.0002	0.0038	< 0.0002
Selenium [mg/L]	25-Jan-11	10:10	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	21-Jan-11	11:12	6.31	7.15	6.23	8.40
Tin [mg/L]	25-Jan-11	10:10	0.00885	0.00039	0.00085	0.00035
Strontium [mg/L]	21-Jan-11	11:12	0.130	0.0401	0.129	0.0474
Thorium [mg/L]	25-Jan-11	10:10	0.000385	0.000026	0.000084	0.000006
Titanium [mg/L]	25-Jan-11	10:10	0.0009	0.0003	0.0008	0.0003
Thallium [mg/L]	25-Jan-11	10:10	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	25-Jan-11	10:10	0.00865	0.000322	0.00863	0.000345
Vanadium [mg/L]	25-Jan-11	10:10	0.00011	0.00080	0.00011	0.00080
Yttrium [mg/L]	25-Jan-11	10:10	0.000174	0.000006	0.000091	0.000007
Zinc [mg/L]	21-Jan-11	11:12	0.003	0.204	< 0.002	0.241
Cerium [mg/L]	25-Jan-11	10:10	0.00023	< 0.00007	0.00013	< 0.00007
Dysprosium [mg/L]	25-Jan-11	10:10	0.000028	< 0.000003	0.000011	< 0.000003
Erbium [mg/L]	25-Jan-11	10:10	0.000015	0.000001	0.000008	0.000001
Europium [mg/L]	25-Jan-11	10:10	0.000005	0.000001	0.000002	0.000001
Gallium [mg/L]	25-Jan-11	10:10	0.00179	0.00001	0.00173	0.00002
Gadolinium [mg/L]	25-Jan-11	10:10	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Hafnium [mg/L]	25-Jan-11	10:10	0.000015	< 0.000005	< 0.000005	< 0.000005
Homium [mg/L]	25-Jan-11	10:10	0.000006	< 0.000001	0.000003	< 0.000001
Lanthanum [mg/L]	25-Jan-11	10:10	0.00012	< 0.00004	0.00007	< 0.00004
Lutetium [mg/L]	25-Jan-11	10:10	0.000001	< 0.000001	0.000001	< 0.000001
Niobium [mg/L]	25-Jan-11	10:10	0.000110	0.000002	0.000025	< 0.000001
Neodymium [mg/L]	25-Jan-11	10:10	0.00015	< 0.00003	0.00008	< 0.00003
Praseodymium [mg/L]	25-Jan-11	10:10	0.00003	< 0.00001	0.00002	< 0.00001
Scandium [mg/L]	25-Jan-11	10:10	0.00082	0.00086	0.00073	0.00083
Samarium [mg/L]	25-Jan-11	10:10	0.00003	< 0.00001	0.00002	< 0.00001
Tantalum [mg/L]	25-Jan-11	10:10	0.000016	0.000001	0.000003	0.000001
Terbium [mg/L]	25-Jan-11	10:10	0.000006	< 0.000001	0.000001	< 0.000001
Thulium [mg/L]	25-Jan-11	10:10	0.000002	< 0.000001	< 0.000001	< 0.000001
Ytterbium [mg/L]	25-Jan-11	10:10	0.000008	< 0.000002	0.000006	< 0.000002
Zirconium [mg/L]	25-Jan-11	10:10	0.00075	< 0.00001	0.00009	0.00007



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

Env ICP-MS Metals

Project : CALR-11806-007

Tuesday, February 08, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 20 January 2011

LR Report: CA10289-JAN11

Copy: #1

CERTIFICATE OF ANALYSIS

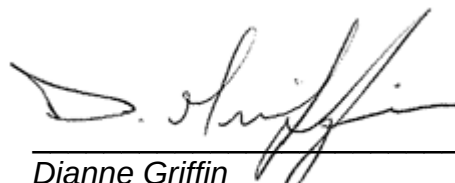
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	7: Ortech Tap Water	8: Ortech Tap Water Dissolved
Sample Date & Time			Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	18.0	18.0
pH [no unit]	21-Jan-11	20:45	7.96	---
Alkalinity [mg/L as CaCO ₃]	21-Jan-11	20:45	89	---
EMF [mV]	21-Jan-11	10:21	576	---
Acidity [mg/L as CaCO ₃]	21-Jan-11	20:46	< 2	---
Conductivity [uS/cm]	21-Jan-11	20:46	308	---
Solids (Total Dissolved) [mg/L]	24-Jan-11	08:31	186	---
Tot. Suspended Solids [mg/L]	25-Jan-11	11:55	< 2	---
Chloride [mg/L]	24-Jan-11	11:08	29	---
Sulphate [mg/L]	24-Jan-11	11:08	27	---
Fluoride [mg/L]	24-Jan-11	08:50	0.34	---
Nitrite (as nitrogen) [mg/L]	24-Jan-11	13:33	< 0.06	---
Nitrate (as nitrogen) [mg/L]	24-Jan-11	13:33	0.49	---
Nitrate + Nitrite (as nitrogen) [mg/L]	24-Jan-11	13:33	0.49	---
Tot.Reactive Phos. [mg/L]	24-Jan-11	11:29	< 0.03	---
Total Organic Carbon [mg/L]	24-Jan-11	18:24	1.6	---
Ammonia+Ammonium (N) [mg/L]	21-Jan-11	19:06	< 0.1	---
Thiosulphate [mg/L]	31-Jan-11	16:39	< 2	---
Mercury [ug/L]	24-Jan-11	12:54	< 0.1	< 0.1
Silver [mg/L]	25-Jan-11	10:12	< 0.00001	< 0.00001
Aluminum [mg/L]	25-Jan-11	12:51	0.04	0.04
Arsenic [mg/L]	25-Jan-11	10:12	0.0007	0.0008
Barium [mg/L]	25-Jan-11	10:12	0.0224	0.0218
Beryllium [mg/L]	25-Jan-11	10:12	< 0.00002	< 0.00002
Boron [mg/L]	25-Jan-11	10:12	0.0250	0.0248
Bismuth [mg/L]	25-Jan-11	10:12	< 0.00001	< 0.00001
Calcium [mg/L]	25-Jan-11	12:51	35.4	35.4

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	7: Ortech Tap Water	8: Ortech Tap Water Dissolved
Cadmium [mg/L]	25-Jan-11	10:12	< 0.000003	< 0.000003
Cobalt [mg/L]	25-Jan-11	10:12	0.000053	0.000042
Chromium [mg/L]	25-Jan-11	10:12	< 0.0005	< 0.0005
Copper [mg/L]	25-Jan-11	10:12	0.0025	0.0030
Iron [mg/L]	25-Jan-11	12:51	0.006	0.003
Potassium [mg/L]	25-Jan-11	12:51	1.82	1.83
Lithium [mg/L]	25-Jan-11	10:12	0.002	0.002
Magnesium [mg/L]	25-Jan-11	12:51	9.37	9.43
Manganese [mg/L]	25-Jan-11	10:12	0.00118	0.00040
Molybdenum [mg/L]	25-Jan-11	10:12	0.00139	0.00131
Sodium [mg/L]	25-Jan-11	12:51	16.1	16.2
Nickel [mg/L]	25-Jan-11	10:12	0.0008	0.0008
Lead [mg/L]	25-Jan-11	10:12	0.00095	0.00085
Antimony [mg/L]	25-Jan-11	10:12	0.0002	0.0003
Selenium [mg/L]	25-Jan-11	10:12	< 0.001	< 0.001
Silica [mg/L]	25-Jan-11	12:52	0.47	0.49
Tin [mg/L]	25-Jan-11	10:12	0.00133	0.00129
Strontium [mg/L]	25-Jan-11	12:52	0.184	0.186
Thorium [mg/L]	25-Jan-11	10:12	0.000027	0.000004
Titanium [mg/L]	25-Jan-11	10:12	0.0004	0.0003
Thallium [mg/L]	25-Jan-11	10:12	< 0.0002	< 0.0002
Uranium [mg/L]	25-Jan-11	10:12	0.000310	0.000289
Vanadium [mg/L]	25-Jan-11	10:12	0.00024	0.00026
Yttrium [mg/L]	25-Jan-11	10:12	0.000017	0.000012
Zinc [mg/L]	25-Jan-11	12:52	0.007	0.006
Cerium [mg/L]	25-Jan-11	10:12	< 0.00007	< 0.00007
Dysprosium [mg/L]	25-Jan-11	10:12	0.000003	< 0.000003
Erbium [mg/L]	25-Jan-11	10:12	0.000002	0.000001
Europium [mg/L]	25-Jan-11	10:12	0.000002	0.000001
Gallium [mg/L]	25-Jan-11	10:12	0.00010	0.00006
Gadolinium [mg/L]	25-Jan-11	10:12	< 0.00005	< 0.00005
Hafnium [mg/L]	25-Jan-11	10:12	< 0.000005	< 0.000005
Homium [mg/L]	25-Jan-11	10:12	0.000001	< 0.000001
Lanthanum [mg/L]	25-Jan-11	10:12	< 0.00004	< 0.00004
Lutetium [mg/L]	25-Jan-11	10:12	< 0.000001	< 0.000001
Niobium [mg/L]	25-Jan-11	10:12	< 0.000001	< 0.000001
Neodymium [mg/L]	25-Jan-11	10:12	< 0.00003	< 0.00003
Praseodymium [mg/L]	25-Jan-11	10:12	< 0.00001	< 0.00001
Scandium [mg/L]	25-Jan-11	10:12	0.00008	< 0.00005
Samarium [mg/L]	25-Jan-11	10:12	< 0.00001	< 0.00001
Tantalum [mg/L]	25-Jan-11	10:12	< 0.000001	< 0.000001
Terbium [mg/L]	25-Jan-11	10:12	< 0.000001	< 0.000001

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	7: Ortech Tap Water	8: Ortech Tap Water Dissolved
Thulium [mg/L]	25-Jan-11	10:12	< 0.000001	< 0.000001
Ytterbium [mg/L]	25-Jan-11	10:12	0.000002	< 0.000002
Zirconium [mg/L]	25-Jan-11	10:12	0.00001	< 0.00001

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

Env ICP-MS Metals

Project : CALR-11806-007

Monday, February 28, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 14 February 2011

LR Report: CA11122-FEB11

Reference: 11806-007-18

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Feb 14/11 XPS PP Comp 2 Tls Decant Day 61	6: Feb 14/11 XPS PP Comp 2 Tls Decant Day 61 Diss
Sample Date & Time			Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	19.0	---
pH [no unit]	17-Feb-11	15:51	8.39	---
Alkalinity [mg/L as CaCO ₃]	17-Feb-11	15:51	154	---
EMF [mV]	15-Feb-11	11:26	190	---
Acidity [mg/L as CaCO ₃]	17-Feb-11	15:51	< 2	---
Conductivity [uS/cm]	17-Feb-11	15:51	576	---
Solids (Total Dissolved) [mg/L]	18-Feb-11	13:52	371	---
Tot. Suspended Solids [mg/L]	22-Feb-11	16:08	5	---
Chloride [mg/L]	17-Feb-11	13:48	68	---
Sulphate [mg/L]	17-Feb-11	13:48	31	---
Fluoride [mg/L]	25-Feb-11	13:54	9.19	---
Nitrite (as nitrogen) [mg/L]	16-Feb-11	18:24	< 0.06	---
Nitrate (as nitrogen) [mg/L]	16-Feb-11	18:24	< 0.05	---
Nitrate + Nitrite (as nitrogen) [mg/L]	16-Feb-11	18:24	< 0.06	---
Tot.Reactive Phos. [mg/L]	18-Feb-11	20:16	0.11	---
Total Organic Carbon [mg/L]	16-Feb-11	19:44	11.0	---
Ammonia+Ammonium (N) [mg/L]	16-Feb-11	12:22	< 0.1	---
Thiosalts [as S ₂ O ₃ mg/L]	22-Feb-11	13:59	< 10	---
Mercury (total) [mg/L]	16-Feb-11	15:22	< 0.0001	< 0.0001
Silver [mg/L]	18-Feb-11	15:17	< 0.00001	< 0.00001
Aluminum [mg/L]	18-Feb-11	14:29	0.07	0.04
Arsenic [mg/L]	18-Feb-11	15:17	0.0049	0.0049
Barium [mg/L]	18-Feb-11	15:17	0.0121	0.0119
Beryllium [mg/L]	18-Feb-11	15:17	< 0.00002	< 0.00002
Boron [mg/L]	18-Feb-11	15:17	0.179	0.177
Bismuth [mg/L]	18-Feb-11	15:17	< 0.00001	< 0.00001
Calcium [mg/L]	18-Feb-11	14:29	22.1	21.5

**SGS Canada Inc.**

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

Env ICP-MS Metals**Project :** CALR-11806-007**LR Report :** CA11122-FEB11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Feb 14/11 XPS PP Comp 2 Tls Decant Day 61	6: Feb 14/11 XPS PP Comp 2 Tls Decant Day 61 Diss
Cadmium [mg/L]	18-Feb-11	15:17	0.000015	0.000005
Cobalt [mg/L]	18-Feb-11	15:17	0.000059	0.000056
Chromium [mg/L]	18-Feb-11	15:17	0.0015	0.0017
Copper [mg/L]	18-Feb-11	15:17	0.0018	0.0018
Iron [mg/L]	18-Feb-11	14:29	0.041	0.003
Potassium [mg/L]	18-Feb-11	14:29	39.6	38.4
Lithium [mg/L]	18-Feb-11	15:17	0.028	0.029
Magnesium [mg/L]	18-Feb-11	14:30	12.4	12.0
Manganese [mg/L]	18-Feb-11	15:17	0.0217	0.0216
Molybdenum [mg/L]	18-Feb-11	15:17	0.0724	0.0707
Sodium [mg/L]	18-Feb-11	14:30	77.3	73.5
Nickel [mg/L]	18-Feb-11	15:17	0.0061	0.0060
Lead [mg/L]	18-Feb-11	15:17	0.00029	0.00008
Antimony [mg/L]	18-Feb-11	15:17	0.0051	0.0052
Selenium [mg/L]	18-Feb-11	15:17	< 0.001	< 0.001
Silica [mg/L]	18-Feb-11	14:30	4.88	4.63
Tin [mg/L]	18-Feb-11	15:17	0.00022	0.00027
Strontium [mg/L]	18-Feb-11	14:30	0.114	0.108
Thorium [mg/L]	18-Feb-11	15:17	0.000020	< 0.000004
Titanium [mg/L]	18-Feb-11	15:17	0.0010	0.0009
Thallium [mg/L]	18-Feb-11	15:17	< 0.0002	< 0.0002
Uranium [mg/L]	18-Feb-11	15:17	0.00698	0.00685
Vanadium [mg/L]	18-Feb-11	15:17	0.00137	0.00101
Yttrium [mg/L]	18-Feb-11	15:17	0.000512	0.000231
Zinc [mg/L]	18-Feb-11	14:30	< 0.002	< 0.002
Cerium [mg/L]	18-Feb-11	15:17	0.00126	0.00017
Dysprosium [mg/L]	18-Feb-11	15:17	0.000103	0.000027
Erbium [mg/L]	18-Feb-11	15:17	0.000044	0.000015
Europium [mg/L]	18-Feb-11	15:17	0.000020	0.000007
Gallium [mg/L]	18-Feb-11	15:17	0.00210	0.00199
Gadolinium [mg/L]	18-Feb-11	15:17	0.00014	< 0.00005
Hafnium [mg/L]	18-Feb-11	15:17	0.000017	< 0.000005
Homium [mg/L]	18-Feb-11	15:17	0.000018	0.000005
Lanthanum [mg/L]	18-Feb-11	15:17	0.00055	0.00008
Lutetium [mg/L]	18-Feb-11	15:17	0.000003	0.000001
Niobium [mg/L]	18-Feb-11	15:17	0.000405	0.000128
Neodymium [mg/L]	18-Feb-11	15:17	0.00075	0.00014
Praseodymium [mg/L]	18-Feb-11	15:17	0.00017	0.00003
Scandium [mg/L]	18-Feb-11	15:17	0.00156	0.00146
Samarium [mg/L]	18-Feb-11	15:17	0.00016	0.00003
Tantalum [mg/L]	18-Feb-11	15:17	0.000059	0.000005
Terbium [mg/L]	18-Feb-11	15:17	0.000019	0.000003
Thulium [mg/L]	18-Feb-11	15:17	0.000004	< 0.000001

SGS Canada Inc.

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

Env ICP-MS Metals

Project : CALR-11806-007

LR Report : CA11122-FEB11

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Feb 14/11 XPS PP Comp 2 TIs Decant Day 61	6: Feb 14/11 XPS PP Comp 2 TIs Decant Day 61 Diss
Ytterbium [mg/L]	18-Feb-11	15:17	0.000025	0.000009
Zirconium [mg/L]	18-Feb-11	15:17	0.00085	0.00021



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: T10-01768.0

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 10168
P.O: 55876

attn: Diane Griffin

3 water samples

Received: 07-Dec-2010

Page 1 of 1

<u>Results of Analysis</u>					
Sample	Test	Result	Units	Date	Method
Thor Lake Water #4	Ra-228 <	0.2	Bq/l	02-Jan-2011	GAMMA
Thor Lake Water #7	Ra-228 <	0.2	Bq/l	04-Jan-2011	GAMMA
Nov 24/10 XPS PP Comp	Ra-228	0.3	Bq/l	04-Jan-2011	GAMMA
1 Tls Decant Day 5					
Thor Lake Water #4	Pb-210 <	0.1	Bq/l	10-Jan-2011	GFPC
Thor Lake Water #7	Pb-210 <	0.1	Bq/l	10-Jan-2011	GFPC
Nov 24/10 XPS PP Comp	Pb-210 <	0.1	Bq/l	10-Jan-2011	GFPC
1 Tls Decant Day 5					
Thor Lake Water #4	Ra-226 <	0.01	Bq/l	09-Jan-2011	ALPHA
Thor Lake Water #7	Ra-226 <	0.01	Bq/l	09-Jan-2011	ALPHA
Nov 24/10 XPS PP Comp	Ra-226 <	0.01	Bq/l	09-Jan-2011	ALPHA
1 Tls Decant Day 5					

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.
The detection limit for Ra-228 was elevated due to lack of sample.

20-Jan-2011 approved by:


Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.

JAN 25 2011



ANALYSIS REPORT

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

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

Batch: T10-01851.0

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 10361
P.O: 55876

attn: Dianne Griffin

3 water samples

Received: 22-Dec-2010

Page 1 of 1

Results of Analysis					
Sample	Test	Result	Units	Date	Method
Dec 20/10 XPS PP Comp 2 Tls Decant Day 5	Ra-228 <	0.4	Bq/l	14-Jan-2011	GAMMA
CH-QT-1 PLS + Wash	Ra-228 <	0.2	Bq/l	15-Jan-2011	GAMMA
RAR-1 Filtrate	Ra-228 <	0.4	Bq/l	17-Jan-2011	GAMMA
Dec 20/10 XPS PP Comp 2 Tls Decant Day 5	Pb-210	0.1	Bq/l	11-Jan-2011	GFPC
CH-QT-1 PLS + Wash	Pb-210 <	0.1	Bq/l	11-Jan-2011	GFPC
RAR-1 Filtrate	Pb-210	0.1	Bq/l	11-Jan-2011	GFPC
Dec 20/10 XPS PP Comp 2 Tls Decant Day 5	Ra-226 <	0.01	Bq/l	09-Jan-2011	ALPHA
CH-QT-1 PLS + Wash	Ra-226	0.10	Bq/l	09-Jan-2011	ALPHA
RAR-1 Filtrate	Ra-226 <	0.01	Bq/l	09-Jan-2011	ALPHA

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.

20-Jan-2011 approved by:


Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

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

Batch: T11-00098.0

Date: 29-Mar-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 10289

attn: Dianne Griffin

3 water samples

Received: 25-Jan-2011

Page 1 of 2

		<u>Results of Analysis</u>					
Sample	Test		Result	Units	Date	Method	
Jan 18/11 XPS Comp 1 Tls Decan	Ra-226		0.02	Bq/l	28-Jan-2011	ALPHA	
XPS Tap Water 14-Jan-11	Ra-226	<	0.01	Bq/l	28-Jan-2011	ALPHA	
Ortech Tap Water	Ra-226	<	0.01	Bq/l	28-Jan-2011	ALPHA	
Jan 18/11 XPS Comp 1 Tls Decan	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	
XPS Tap Water 14-Jan-11	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	
Ortech Tap Water	Pb-210	<	0.1	Bq/l	02-Feb-2011	GFPC	
Jan 18/11 XPS Comp 1 Tls Decan	Ra-228	<	0.3	Bq/l	14-Feb-2011	GAMMA	
XPS Tap Water 14-Jan-11	Ra-228	<	0.1	Bq/l	15-Feb-2011	GAMMA	
Ortech Tap Water	Ra-228	<	0.2	Bq/l	16-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: T11-00098.0

Date: 29-Mar-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.

29-Mar-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

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



ANALYSIS REPORT

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

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

Batch: T11-00194.0

Date: 28-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.
Feb 11122 R.11
P.O: 55876

attn: Brian Graham

1 water sample

Received: 15-Feb-2011

Page 1 of 1

Results of Analysis					
Sample	Test	Result	Units	Date	Method
Feb 14-1 XPS	Ra-226	< 0.01	Bq/l	24-Feb-2011	ALPHA
PP Comp 2 Tls					
Decant Day 61					
Feb 14-1 XPS	Pb-210	0.1	Bq/l	24-Feb-2011	GFPC
PP Comp 2 Tls					
Decant Day 61					
Feb 14-1 XPS	Ra-228	< 0.1	Bq/l	24-Feb-2011	GFPC
PP Comp 2 Tls					
Decant Day 61					

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

Units: Bq/l Becquerels per litre

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

28-Feb-2011 approved by:



Donald D. Burgess PhD
Senior Scientist, Division Supervisor

This test report shall not be reproduced, except in full, without written approval of Becquerel Laboratories Inc.



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

Modified ABA (Price 1997)

Project : CALR-11806-007

Friday, December 03, 2010

Date Rec. : 05 November 2010

LR Report: CA11295-NOV10

Reference: 11806-007-01

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Comp 3	6: TisF28 Comb	7: TisF29 Comb	8: Tis	9: Master Conc	10: Master Tis	11: Avalon Head Sample 1	12: F33 MozleyF33 Comb Conc Comp	13: Tis
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	22-Nov-10	07:15	9.12	9.40	9.40	8.90	9.29	9.30	9.54	9.10	9.37
Fizz Rate [---]	22-Nov-10	07:15	3	2	2	2	3	2	3	3	2
Sample [weight(g)]	22-Nov-10	07:15	2.04	2.00	2.02	2.01	2.05	2.04	2.05	1.97	1.98
HCl added [mL]	22-Nov-10	07:15	40.00	20.00	20.00	20.00	87.30	20.00	31.20	70.70	20.00
HCl [Normality]	22-Nov-10	07:15	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	22-Nov-10	07:15	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	22-Nov-10	07:15	21.97	12.31	11.92	10.83	30.18	10.85	13.81	27.37	11.95
Final pH [units]	22-Nov-10	07:15	1.61	1.58	1.57	1.31	1.90	1.86	1.97	1.87	1.74
NP [t CaCO3/1000t]	22-Nov-10	07:15	44.2	19.2	20.0	22.8	139	22.4	42.4	110	20.3
AP [t CaCO3/1000 t]	03-Dec-10	10:13	0.31	0.31	0.31	0.31	3.26	0.31	0.31	2.94	0.31
Net NP [t CaCO3/1000 t]	03-Dec-10	10:13	43.9	18.9	19.7	22.5	136	22.1	42.1	107	20.0
NP/AP [ratio]	03-Dec-10	10:13	143	61.9	64.5	73.5	42.8	72.3	137	37.4	65.5
Total Sulphur [%]	01-Dec-10	06:49	0.021	0.007	< 0.005	0.006	0.118	0.006	0.016	0.116	0.008
Acid Leachable SO4-S [%]	03-Dec-10	10:13	0.02	< 0.01	< 0.01	< 0.01	0.01	< 0.01	0.02	0.02	< 0.01
Sulphide-S [%]	03-Dec-10	10:13	< 0.01	< 0.01	< 0.01	< 0.01	0.10	< 0.01	< 0.01	0.09	< 0.01
Total Carbon [%]	01-Dec-10	06:49	0.690	0.344	0.321	0.377	2.86	0.405	0.655	2.02	0.312
Carbonate (CO3) [%]	03-Dec-10	10:14	1.97	0.608	0.599	0.699	7.03	0.810	1.98	5.36	0.604



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : CA11295-NOV10

*NP (Neutralization Potential)

= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25

*Net NP (Net Neutralization Potential) = NP-AP

NP/AP Ratio = NP/AP

*Results expressed as tonnes CaCO₃ equivalent/1000 tonnes of material

Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)


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

Modified ABA (Price 1997)

Project : CALR-11806-007

Friday, December 03, 2010

Date Rec. : 05 November 2010

LR Report: CA11295-NOV10

Reference: 11806-007-01

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	14: Avalon Head Sample 2	15: F36 Mozley Conc Comp	16: F36 Comb Tls	17: Avalon Head Sample 3	18: F37 Mozley Conc Comp	19: F37 Comb Tls	20: XPS PP Comp 1 Conc
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A	Date:N/A
Paste pH [units]	22-Nov-10	07:15	9.58	9.21	9.38	9.57	9.17	9.41	8.96
Fizz Rate [---]	22-Nov-10	07:15	3	3	2	3	3	2	3
Sample [weight(g)]	22-Nov-10	07:15	1.97	1.96	1.98	2.00	1.95	1.97	2.02
HCl added [mL]	22-Nov-10	07:15	44.30	108.90	25.40	39.60	75.50	20.00	124.70
HCl [Normality]	22-Nov-10	07:15	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	22-Nov-10	07:15	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	22-Nov-10	07:15	17.73	41.60	15.20	21.55	34.21	11.62	48.60
Final pH [units]	22-Nov-10	07:15	1.94	1.62	1.60	1.60	1.77	1.75	1.74
NP [t CaCO3/1000t]	22-Nov-10	07:15	67.4	172	25.8	45.1	106	21.3	188
AP [t CaCO3/1000 t]	03-Dec-10	10:13	0.31	1.89	0.31	0.31	4.05	0.31	2.62
Net NP [t CaCO3/1000 t]	03-Dec-10	10:13	67.1	170	25.5	44.8	102	21.0	186
NP/AP [ratio]	03-Dec-10	10:13	217	91.0	83.2	145	26.2	68.7	71.9
Total Sulphur [%]	01-Dec-10	06:49	0.023	0.078	0.006	0.019	0.135	0.006	0.098
Acid Leachable SO4-S [%]	03-Dec-10	10:13	0.02	0.02	< 0.01	0.02	< 0.01	< 0.01	0.01
Sulphide-S [%]	03-Dec-10	10:13	< 0.01	0.06	< 0.01	< 0.01	0.13	< 0.01	0.08
Total Carbon [%]	01-Dec-10	06:49	0.992	2.64	0.406	0.713	1.93	0.316	3.08
Carbonate (CO3) [%]	03-Dec-10	10:14	3.30	8.50	0.903	2.26	4.81	0.622	9.59



SGS Canada Inc.

P.O. Box 4300 - 185 Concession St.

Lakefield - Ontario - KOL 2H0

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

Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : CA11295-NOV10

*NP (Neutralization Potential)

= $50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25

*Net NP (Net Neutralization Potential) = NP-AP

NP/AP Ratio = NP/AP

*Results expressed as tonnes CaCO₃ equivalent/1000 tonnes of material

Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)


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

Modified ABA (Price 1997)**Project :** CALR-11806-007

Friday, December 03, 2010

Environmental Met

Attn : Barb Bowman

Date Rec. : 22 November 2010**LR Report:** CA11613-NOV10**Reference:** 11806-007-04**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1TIs
Sample Date & Time			
Paste pH [units]	29-Nov-10	08:18	9.32
Fizz Rate [---]	29-Nov-10	08:18	1
Sample [weight(g)]	29-Nov-10	08:18	2.02
HCl added [mL]	29-Nov-10	08:18	20.00
HCl [Normality]	29-Nov-10	08:18	0.10
NaOH [Normality]	29-Nov-10	08:18	0.10
NaOH to [pH=8.3 mL]	29-Nov-10	08:18	12.62
Final pH [units]	29-Nov-10	08:18	1.69
NP [t CaCO3/1000t]	29-Nov-10	08:18	18.3
AP [t CaCO3/1000 t]	03-Dec-10	10:18	0.31
Net NP [t CaCO3/1000 t]	03-Dec-10	10:18	18.0
NP/AP [ratio]	03-Dec-10	10:18	59.0
Total Sulphur [%]	03-Dec-10	10:18	0.007
Acid Leachable SO4-S [%]	03-Dec-10	10:18	< 0.01
Sulphide-S [%]	03-Dec-10	10:18	< 0.01
Total Carbon [%]	03-Dec-10	10:18	0.214
Carbonate (CO3) [%]	03-Dec-10	10:18	0.515

SGS Canada Inc.

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

Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : CA11613-NOV10

*NP (Neutralization Potential)

$$= 50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25

*Net NP (Net Neutralization Potential) = NP-AP

NP/AP Ratio = NP/AP

*Results expressed as tonnes CaCO₃ equivalent/1000 tonnes of material

Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)


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

Modified ABA (Price 1997)**Project : CALR-11806-007**

Wednesday, January 05, 2011

Environmental Met

Attn : Barb Bowman

Date Rec. : 16 December 2010**LR Report: CA10330-DEC10****Copy: #1**

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls
Sample Date & Time			
Paste pH [units]	30-Dec-10	15:08	8.92
Fizz Rate [---]	30-Dec-10	15:08	2
Sample [weight(g)]	30-Dec-10	15:08	2.03
HCl added [mL]	30-Dec-10	15:08	20.00
HCl [Normality]	30-Dec-10	15:08	0.10
NaOH [Normality]	30-Dec-10	15:08	0.10
NaOH to [pH=8.3 mL]	30-Dec-10	15:08	13.21
Final pH [units]	30-Dec-10	15:08	1.51
NP [t CaCO3/1000t]	30-Dec-10	15:08	16.7
AP [t CaCO3/1000 t]	04-Jan-11	12:12	0.31
Net NP [t CaCO3/1000 t]	04-Jan-11	12:12	16.4
NP/AP [ratio]	04-Jan-11	12:12	53.9
Total Sulphur [%]	23-Dec-10	07:57	< 0.005
Acid Leachable SO4-S [%]	23-Dec-10	09:48	< 0.01
Sulphide-S [%]	23-Dec-10	09:48	< 0.01
Total Carbon [%]	23-Dec-10	07:57	0.196
Carbonate (CO3) [%]	23-Dec-10	09:05	0.469

SGS Canada Inc.

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

Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : CA10330-DEC10

*NP (Neutralization Potential)

$$= 50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25

*Net NP (Net Neutralization Potential) = NP-AP

NP/AP Ratio = NP/AP

*Results expressed as tonnes CaCO₃ equivalent/1000 tonnes of material

Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)


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

Modified ABA (Price 1997)**Project :** CALR-11806-007

Wednesday, January 05, 2011

Environmental Met**Attn :** Barb Bowman**Date Rec. :** 17 December 2010**LR Report:** CA10357-DEC10**Reference:** CofC:11806-007-12**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Head	6: XPS PP Comp 3 Head
Sample Date & Time			Date:N/A	Date:N/A
Paste pH [units]	30-Dec-10	15:08	9.59	9.51
Fizz Rate [---]	30-Dec-10	15:08	3	3
Sample [weight(g)]	30-Dec-10	15:08	1.97	1.96
HCl added [mL]	30-Dec-10	15:08	50.50	33.50
HCl [Normality]	30-Dec-10	15:08	0.10	0.10
NaOH [Normality]	30-Dec-10	15:08	0.10	0.10
NaOH to [pH=8.3 mL]	30-Dec-10	15:08	23.86	14.82
Final pH [units]	30-Dec-10	15:08	1.75	1.92
NP [t CaCO3/1000t]	30-Dec-10	15:08	67.6	47.7
AP [t CaCO3/1000 t]	04-Jan-11	12:12	0.31	0.31
Net NP [t CaCO3/1000 t]	04-Jan-11	12:12	67.3	47.4
NP/AP [ratio]	04-Jan-11	12:12	218	154
Total Sulphur [%]	23-Dec-10	07:58	< 0.005	< 0.005
Acid Leachable SO4-S [%]	23-Dec-10	09:48	< 0.01	< 0.01
Sulphide-S [%]	23-Dec-10	09:48	< 0.01	< 0.01
Total Carbon [%]	23-Dec-10	07:58	0.930	0.680
Carbonate (CO3) [%]	23-Dec-10	09:06	3.21	2.08

SGS Canada Inc.

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

Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : CA10357-DEC10

*NP (Neutralization Potential)

$$= 50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})$$

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25

*Net NP (Net Neutralization Potential) = NP-AP

NP/AP Ratio = NP/AP

*Results expressed as tonnes CaCO₃ equivalent/1000 tonnes of material

Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)


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

NAG Test**Project :** CALR-11806-007

Monday, November 22, 2010

Environmental Met**Attn :** Barb Bowman**Date Rec. :** 05 November 2010**LR Report:** CA11296-NOV10**Reference:** 11806-007-01**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Sample weight(g)	vol H2O2 mL	Final pH units	NaOH Normality	Vol NaOH to PH 4.5 mL	Vol NaOH to PH 7.0 mL	NAG @pH4.5	NAG @pH7
3: Analysis Approval Date		22-Nov-10	22-Nov-10	22-Nov-10	22-Nov-10	22-Nov-10	22-Nov-10	22-Nov-10	22-Nov-10
4: Analysis Approval Time		07:19	07:19	07:19	07:19	07:19	07:19	07:19	07:19
5: Master Comp 3	Date:N/A	1.53	150	10.88	0.10	0.00	0.00	0	0
6: F25 Comb Tls	Date:N/A	1.50	150	10.39	0.10	0.00	0.00	0	0
7: F28 Comb Tls	Date:N/A	1.49	150	10.41	0.10	0.00	0.00	0	0
8: F29 Comb Tls	Date:N/A	1.52	150	10.50	0.10	0.00	0.00	0	0
9: Master Conc	Date:N/A	1.49	150	10.61	0.10	0.00	0.00	0	0
10: Master Tls	Date:N/A	1.50	150	10.40	0.10	0.00	0.00	0	0
11: Avalon Head Sample 1	Date:N/A	1.48	150	10.65	0.10	0.00	0.00	0	0
12: F33 Mozley Conc Comp	Date:N/A	1.55	150	10.50	0.10	0.00	0.00	0	0
13: F33 Comb Tls	Date:N/A	1.54	150	10.39	0.10	0.00	0.00	0	0
14: Avalon Head Sample 2	Date:N/A	1.49	150	10.63	0.10	0.00	0.00	0	0
15: F36 Mozley Conc Comp	Date:N/A	1.52	150	10.34	0.10	0.00	0.00	0	0
16: F36 Comb Tls	Date:N/A	1.53	150	10.42	0.10	0.00	0.00	0	0
17: Avalon Head Sample 3	Date:N/A	1.53	150	10.90	0.10	0.00	0.00	0	0
18: F37 Mozley Conc Comp	Date:N/A	1.51	150	10.84	0.10	0.00	0.00	0	0
19: F37 Comb Tls	Date:N/A	1.51	150	10.51	0.10	0.00	0.00	0	0
20: XPS PP Comp 1 Conc	Date:N/A	1.53	150	9.40	0.10	0.00	0.00	0	0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne


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

NAG Test

Project : CALR-11806-007

Friday, December 03, 2010

Date Rec. : 22 November 2010

LR Report: CA11614-NOV10

Reference: 11806-007-04

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1TIs
Sample Date & Time			
Sample [weight(g)]	03-Dec-10	10:01	1.49
vol H2O2 [mL]	03-Dec-10	10:01	150
Final pH [units]	03-Dec-10	10:01	9.76
NaOH [Normality]	03-Dec-10	10:01	0.10
Vol NaOH to PH 4.5 [mL]	03-Dec-10	10:01	0.00
Vol NaOH to PH 7.0 [mL]	03-Dec-10	10:01	0.00
NAG [@pH4.5]	03-Dec-10	10:01	0
NAG [@pH7]	03-Dec-10	10:01	0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne


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

NAG Test**Project :** CALR-11806-007

Monday, January 10, 2011

Environmental Met**Attn :** Barb Bowman**Date Rec. :** 16 December 2010**LR Report:** CA10331-DEC10**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 TIs
Sample Date & Time			
Sample [weight(g)]	05-Jan-11	15:24	1.55
vol H2O2 [mL]	05-Jan-11	15:24	150
Final pH [units]	05-Jan-11	15:24	10.21
NaOH [Normality]	05-Jan-11	15:24	0.10
Vol NaOH to PH 4.5 [mL]	05-Jan-11	15:24	0.00
Vol NaOH to PH 7.0 [mL]	05-Jan-11	15:24	0.00
NAG [@pH4.5]	05-Jan-11	15:24	0
NAG [@pH7]	05-Jan-11	15:24	0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne



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

NAG Test

Project : CALR-11806-007

Monday, January 10, 2011

Date Rec. : 17 December 2010

LR Report: CA10358-DEC10

Reference: CofCO11806-007-12

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Head	6: XPS PP Comp 3 Head
Sample Date & Time				
Sample [weight(g)]	05-Jan-11	15:24	1.47	1.50
vol H2O2 [mL]	05-Jan-11	15:24	150	150
Final pH [units]	05-Jan-11	15:24	10.76	10.84
NaOH [Normality]	05-Jan-11	15:24	0.10	0.10
Vol NaOH to PH 4.5 [mL]	05-Jan-11	15:24	0.00	0.00
Vol NaOH to PH 7.0 [mL]	05-Jan-11	15:24	0.00	0.00
NAG [@pH4.5]	05-Jan-11	15:24	0	0
NAG [@pH7]	05-Jan-11	15:24	0	0

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne


Dianne Griffin
Project Specialist

Appendix C – XRD Test Report



Qualitative X-Ray Diffraction

Report Prepared for: Avalon Rare Metals

Project Number/ LIMS No. 11806-005/MI4508-JAN11

Reporting Date: February 9, 2011

Instrument: BRUKER AXS D8 Advance Diffractometer

Test Conditions: Co radiation, 40 kV, 35 mA
Regular Scanning: Step: 0.02°, Step time: 0.2s, 2θ range: 3-70°

Interpretations : PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva software.

Detection Limit : 0.5-2%. Strongly dependent on crystallinity.

Contents:

- 1) Method Summary
- 2) Summary of Mineral Assemblages
- 3) XRD Pattern(s)

Anita Coppaway
Mineralogical Technologist

Huyun Zhou, Ph.D.
Senior Mineralogist



Method Summary

Mineral Identification and Interpretation:

Mineral identification and interpretation involve matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds. Mineral proportions are based on relative peak heights and may be strongly influenced by crystallinity, structural group or preferred orientations. Interpretations and relative proportions should be accompanied by supporting petrographic and geochemical data (Whole Rock Analysis, Inductively Coupled Plasma - Optical Emission Spectroscopy, etc.).

Summary of Qualitative X-ray Diffraction Results

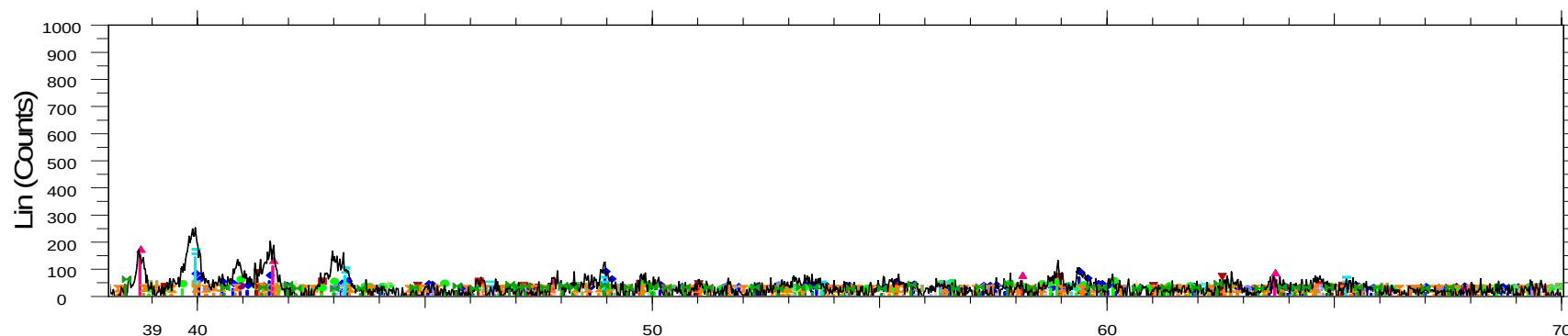
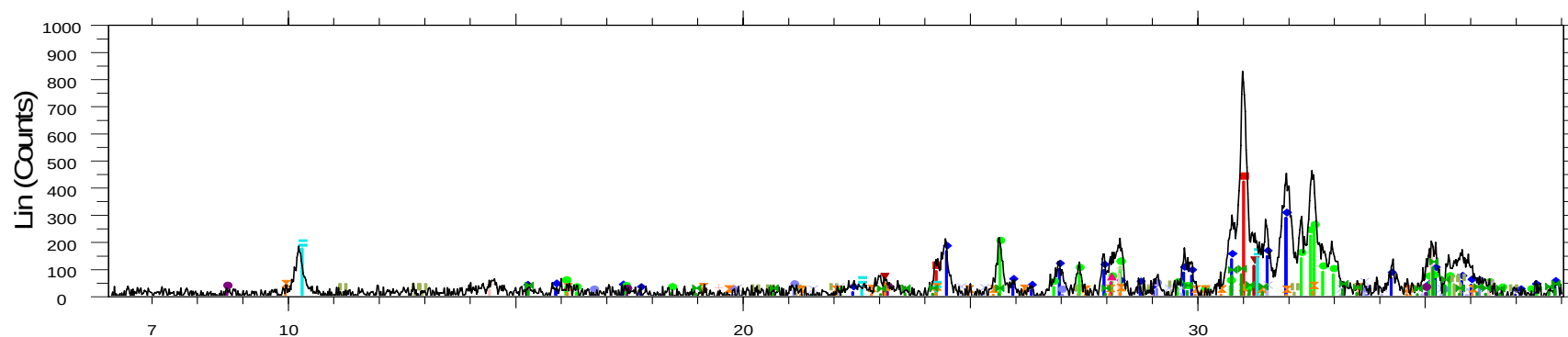
Crystalline Mineral Assemblage (relative proportions based on peak height)

Sample	Major	Moderate	Minor	Trace
Ro Tail Decant	-	potassium feldspar, plagioclase	quartz, mica, hematite, zircon, ferrocolumbite, monetite	*allanite, *monazite, *bastnaestite, *palygorskite, *montmorillonite

* tentative identification due to low concentrations, diffraction line overlap or poor crystallinity

Mineral	Composition
Allanite	$(\text{Ca,Ce})_2(\text{Fe}^{2+}, \text{Fe}^{3+})\text{Al}_2\text{O}(\text{SiO}_4)(\text{Si}_2\text{O}_7)(\text{OH})$
Bastnaestite	$\text{Ce}(\text{CO}_3)\text{F}$
Columbite	$(\text{Fe,Mn})\text{Nb}_2\text{O}_6$
Hematite	Fe_2O_3
Mica	$\text{K}(\text{Mg,Fe})\text{Al}_2\text{Si}_3\text{AlO}_{10}(\text{OH})_2$
Monazite	$(\text{Ce,L a,Y,Th})\text{PO}_4$
Monetite	$\text{CaPO}_3(\text{OH})$
Montmorillonite	$(\text{Al,Mg})_8(\text{Si}_4\text{O}_{10})_3(\text{OH})_{10} \cdot 12\text{H}_2\text{O}$
Palygorskite	$(\text{Mg,Al})_2\text{Si}_4\text{O}_{10}(\text{OH}) \cdot 4\text{H}_2\text{O}$
Plagioclase	$(\text{NaSi,CaAl})\text{AlSi}_2\text{O}_8$
Potassium Feldspar	KAlSi_3O_8
Quartz	SiO_2
Zircon	ZrSiO_4

Ro Tail Decant



2-Theta - Scale

- | | |
|--|--|
|  Ro Tail Decant - File: Jan4508-1.raw |  00-010-0366 (D) - Allanite - $(\text{Ca}, \text{Fe}+2)_2(\text{Al}, \text{Ce}, \text{Fe}+3)_3\text{Si}_3\text{O}_{12}(\text{OH})$ |
|  01-079-1910 (C) - Quartz - SiO_2 |  01-077-0429 (C) - Monazite - $\text{Ce}(\text{PO}_4)$ |
|  01-084-0708 (C) - Microcline - KAlSi_3O_8 |  01-081-1537 (C) - Bastnaesite-(Ce) - $\text{Ce}(\text{CO}_3)\text{F}$ |
|  01-080-1094 (C) - Albite low - $\text{Na}(\text{AlSi}_3\text{O}_8)$ |  00-016-0337 (D) - Ferrocolumbite - $(\text{Fe}, \text{Mn})(\text{Nb}, \text{Ta})_2\text{O}_6$ |
|  01-087-1166 (C) - Hematite - Fe_2O_3 |  00-002-0037 (D) - Montmorillonite - $\text{AlSi}_2\text{O}_6(\text{OH})_2$ |
|  01-081-0590 (C) - Zircon - $\text{Zr}(\text{SiO}_4)$ |  01-082-1873 (C) - Palygorskite - $(\text{Mg}_{2.074}\text{Al}_{1.026})(\text{Si}_4\text{O}_{10.48})_2(\text{OH})_2(\text{H}_2\text{O})_{10}$ |
|  00-010-0358 (D) - Hydrobiotite - $\text{K}(\text{Mg}, \text{Fe})_6(\text{Si}, \text{Al}, \text{Fe})_8\text{O}_{20}(\text{OH})_4 \cdot 4\text{H}_2\text{O}$ | |
|  00-009-0080 (I) - Monetite, syn - $\text{CaPO}_3(\text{OH})$ | |

Appendix D – LC₅₀ Acute Lethality Testing of Daphnia Magna and Rainbow Trout Test Reports



AquaTox Testing & Consulting Inc.
11B Nicholas Beaver Rd.
RR 3
Guelph ON N1H 6H9
Tel: (519) 763-4412 Fax: (519) 763-4419

TOXICITY TEST REPORT

Daphnia magna

Page 1 of 2

Work Order : 218173
Sample Number : 29158

SAMPLE IDENTIFICATION

Company :	SGS Lakefield Research Limited	Time Collected :	11:30
Location :	Lakefield ON	Date Collected :	2010-11-24
Substance :	Nov 24/10 XPS PP Comp 1 Tls Decant Day 5	Date Received :	2010-11-25
Sampling Method :	Grab	Date Tested :	2010-11-26
Sampled By :	B. Bowman	Temp. on arrival :	12.0° C
Sample Description :	Cloudy, colourless, odourless		
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000).		

TEST RESULTS

Effect	Value	95% Confidence Limits	Slope	Calculation Method
48-h LC50	>100%	-	-	-

The results reported relate only to the sample tested.

SODIUM CHLORIDE REFERENCE TOXICANT DATA

Organism Batch :	Dm10-22	Historical Mean LC50 :	6.7 g/L
Date Tested (yyyy/mm/dd) :	2010-11-16	Warning Limits ($\pm$ 2SD) :	6.0 - 7.5 g/L
LC50 (95% Confidence Limits) :	6.3 g/L (6.0 - 6.6)	Analyst(s) :	LB
Statistical Method :	Binomial		

Daphnia magna CULTURE HEALTH DATA

Time to First Brood :	7.2 days	Mean Young Per Brood :	28.9
Culture Mortality :	0.9% (previous 7 days)		

TEST CONDITIONS

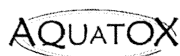
Sample Treatment :	None	Number of Replicates :	1
pH Adjustment :	None	Test Organisms / Replicate :	10
Test Aeration :	None	Total Organisms / Test Level :	10
Organism Batch :	Dm10-22	Organism Loading Rate :	15.0 mL/organism
		Test Method Deviation(s) :	None

Date:

2010-12-01
yyyy-mm-dd

Approved by:

J. Indas
Project Manager

**TOXICITY TEST REPORT***Daphnia magna*

Page 2 of 2

Work Order: 218173

Sample Number: 29158

	Hardness (mg/L as CaCO ₃)	Hardness Adjustment	pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O ₂ Sat. (%)*	Total Pre-Aeration Time (h) @ 30 mL/min/L
Initial Water Chemistry:	160	None	7.8	7.4	673	20.5	85	0:00

0 hours

Date & Time 2010-11-26 13:35
Technician: LB/NK

Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O ₂ Sat. (%)*	Hardness
100	0	0	7.8	7.4	673	20.5	85	160
50	0	0	8.2	8.1	537	20.5		
25	0	0	8.3	8.3	474	20.5		
12.5	0	0	8.3	8.3	439	20.5		
6.25	0	0	8.3	8.4	423	20.5		
Control	0	0	8.5	8.5	405	20.5	98	210

Notes:

24 hours

Date & Time 2010-11-27 13:35
Technician: KG

Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.
100	0	0	—	—	—	21.5
50	0	0	—	—	—	21.5
25	0	0	—	—	—	21.5
12.5	0	0	—	—	—	21.5
6.25	0	0	—	—	—	21.5
Control	0	0	—	—	—	21.5

Notes:

48 hours

Date & Time 2010-11-28 13:35
Technician: KG

Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.
100	0	0	8.4	8.5	685	21.0
50	0	0	8.5	8.5	541	21.0
25	0	0	8.5	8.6	477	21.0
12.5	0	0	8.5	8.6	444	21.0
6.25	0	0	8.5	8.6	426	21.0
Control	0	0	8.5	8.7	411	21.0

Notes:

of control organisms showing stress: 0

Daphnia Batch #: Dm10-22

Number immobile does not include number of mortalities.

— = not measured

* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: *Sm*
Date: *2010-11-30*



AquaTox Testing & Consulting Inc.
11B Nicholas Beaver Rd.
RR 3
Guelph ON N1H 6H9
Tel: (519) 763-4412 Fax: (519) 763-4419

TOXICITY TEST REPORT

Rainbow Trout

Page 1 of 2

Work Order : 218173
Sample Number : 29158

SAMPLE IDENTIFICATION

Company :	SGS Lakefield Research Limited	Time Collected :	11:30
Location :	Lakefield ON	Date Collected :	2010-11-24
Substance :	Nov 24/10 XPS PP Comp 1 Tls Decant Day 5	Date Received :	2010-11-25
Sampling Method :	Grab	Date Tested :	2010-11-25
Sampled By :	B. Bowman	Temp. on arrival :	12.0 °C
Sample Description :	Cloudy, colourless, odourless		
Test Method :	Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 amendments).		

TEST RESULTS

Effect	Value	95% Confidence Limits	Slope	Calculation Method
96-h LC50	>100%	-	-	-

The results reported relate only to the sample tested.

POTASSIUM CHLORIDE REFERENCE TOXICANT DATA

Organism Batch :	T10-18		
Date Tested (yyyy-mm-dd) :	2010-11-22	Historical Mean LC50 :	3920 mg/L
LC50 (95% Confidence Limits) :	3867 mg/L (3551 - 4211)	Warning Limits ($\pm$ 2SD) :	3359 - 4576 mg/L
Statistical Method :	Spearman-Kärber	Analyst(s) :	DK/FS/SK

TEST FISH

Control Fish Sample Size :	10	Cumulative stock tank mortality :	0 % (prev. 7 days)
Mean Fish Weight ($\pm$ 2 SD) :	0.33 $\pm$ 0.05 g	Mean Fish Fork Length ($\pm$ 2 SD) :	34.5 $\pm$ 2.2 mm
Range of Weights :	0.30 - 0.36 g	Range of Fork Lengths :	33 - 36 mm
Fish Loading Rate :	0.3 g/L		

TEST CONDITIONS

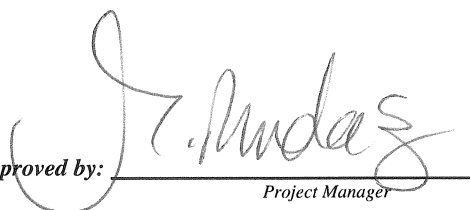
Sample Treatment :	None	Volume Tested (L) :	11
pH Adjustment :	None	Number of Replicates :	1
Test Aeration :	Yes	Organisms Per Replicate :	10
Pre-aeration/Aeration Rate :	6.5 $\pm$ 1 mL/min/L	Total Organisms Per Test Level :	10
Organism Batch :	T10-18	Test Method Deviation(s) :	None

Date:

2010-12-01

yyyy-mm-dd

Approved by:



Project Manager

Work Order: 218173
Sample Number: 29158

Total Pre-Aeration		pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O ₂ Sat. (%) [*]
Time (h)	Initial Water Chemistry:	8.0	6.9	621	14.5	—
0:30	Chemistry after 30min air:	8.0	7.3	619	14.5	76

0 hours

Date & Time 2010-11-25 15:10
Technician: FS

Test Conc. (%)	Mortality	Immortality	pH	D.O.	Cond.	Temp.	O ₂ Sat. (%) [*]
100	0	0	8.0	7.3	619	14.5	76
50	0	0	8.1	9.5	652	15.0	
25	0	0	8.2	9.4	674	15.0	
12.5	0	0	8.3	9.5	684	15.0	
6.25	0	0	8.3	9.6	685	15.0	
Control	0	0	8.2	9.7	711	15.0	100

Notes:

24 hours

Date & Time 2010-11-26 15:10
Technician: FS

Test Conc. (%)	Mortality	Immortality	pH	D.O.	Cond.	Temp.
100	0	0	—	—	—	15.0
50	0	0	—	—	—	15.0
25	0	0	—	—	—	15.0
12.5	0	0	—	—	—	15.0
6.25	0	0	—	—	—	15.0
Control	0	0	—	—	—	15.0

Notes:

48 hours

Date & Time 2010-11-27 15:10
Technician: TL

Test Conc. (%)	Mortality	Immortality	pH	D.O.	Cond.	Temp.
100	0	0	—	—	—	15.0
50	0	0	—	—	—	15.0
25	0	0	—	—	—	15.0
12.5	0	0	—	—	—	15.0
6.25	0	0	—	—	—	15.0
Control	0	0	—	—	—	15.0

Notes:

72 hours

Date & Time 2010-11-28 15:10
Technician: TL

Test Conc. (%)	Mortality	Immortality	pH	D.O.	Cond.	Temp.
100	0	0	—	—	—	15.5
50	0	0	—	—	—	15.5
25	0	0	—	—	—	15.5
12.5	0	0	—	—	—	15.5
6.25	0	0	—	—	—	15.5
Control	0	0	—	—	—	15.5

Notes:

96 hours

Date & Time 2010-11-29 15:10
Technician: DK

Test Conc. (%)	Mortality	Immortality	pH	D.O.	Cond.	Temp.
100	0	0	7.8	9.4	638	15.0
50	0	0	8.0	9.4	676	15.0
25	0	0	8.2	9.4	694	15.0
12.5	0	0	8.1	9.5	673	15.0
6.25	0	0	8.1	9.5	651	15.0
Control	0	0	8.1	9.7	633	15.0

Notes:

of control organisms showing stress: 0

Trout Batch #: T10-18

Number immobile does not include number of mortalities.

^{*} adjusted for actual temp. & barometric pressure

"—" = not measured

Test Data Reviewed By: Sm
Date: 2010-11-30

Appendix E – Humidity Cell Test Reports



Test Specimen

Sample	Weight (g)
F33 Comb 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		863	892	940	868	901	801	867	861	917	929	916	920
²²⁸ Ra	Bq/L	0.37	< 0.01	---	---	---	---	< 0.01	---	---	---	---	0.02	---
²²⁸ Ra	Bq/L		0.4	---	---	---	---	< 0.4	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	0.2	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.37	7.51	7.51	7.52	7.68	7.62	**8.11	7.96	7.80	7.53	7.32	7.48
Conductivity	µS/cm		41	45	41	33	44	54	*98	155	61	51	34	28
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		15	16	13	12	16	26	91	73	31	24	15	15
SO ₄	mg/L		2.0	2.9	2.8	1.6	2.6	1.7	*1.5	0.8	0.7	0.4	0.3	0.4
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	0.00002	---	---	---	---	0.00002	---
Al	mg/L		0.02	< 0.01	0.02	< 0.01	0.02	0.03	---	---	---	---	0.12	---
As	mg/L	0.50	0.0006	0.0005	0.0006	0.0007	0.0008	0.0006	---	---	---	---	0.0006	---
B	mg/L		0.0106	0.0146	0.0177	0.0099	0.0131	0.0085	---	---	---	---	0.0042	---
Ba	mg/L		0.00069	0.00094	0.00069	0.00042	0.00091	0.00050	---	---	---	---	0.00123	---
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		3.34	3.92	3.49	3.51	3.68	4.83	---	---	---	---	3.89	---
Cd	mg/L		< 0.000003	< 0.000003	< 0.000003	0.000005	< 0.000003	0.000010	---	---	---	---	0.000024	---
Co	mg/L		0.000015	0.000052	0.000023	0.000020	< 0.000002	< 0.000002	---	---	---	---	0.000036	---
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0005	0.0007	0.0012	< 0.0005	< 0.0005	0.0006	---	---	---	---	< 0.0005	---
Fe	mg/L		0.016	0.007	0.004	0.006	0.009	0.027	---	---	---	---	0.250	---
K	mg/L		1.50	1.94	1.85	1.45	1.65	1.29	---	---	---	---	1.53	---
Li	mg/L		0.003	0.004	0.003	0.002	0.003	0.002	---	---	---	---	0.003	---
Mg	mg/L		0.490	0.818	0.720	0.481	0.587	0.584	---	---	---	---	0.774	---
Mn	mg/L		0.0888	0.0699	0.0704	0.0686	0.0691	0.0757	---	---	---	---	0.0714	---
Mo	mg/L		0.00441	0.00569	0.00574	0.00381	0.00462	0.00313	---	---	---	---	0.00057	---
Na	mg/L		2.20	3.19	2.88	1.78	2.30	1.86	---	---	---	---	0.50	---
Ni	mg/L	0.50	0.0008	0.0010	0.0012	0.0004	0.0005	0.0004	---	---	---	---	0.0006	---
Pb	mg/L	0.20	0.00005	< 0.00002	< 0.00002	0.00002	< 0.00002	0.00032	---	---	---	---	0.00011	---
Sb	mg/L		0.0004	0.0002	0.0003	0.0003	< 0.0002	0.0003	---	---	---	---	0.0003	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		0.38	0.48	0.44	0.48	0.52	0.49	---	---	---	---	1.01	---
Sn	mg/L		0.00307	0.00153	0.00137	0.00079	0.00055	0.00042	---	---	---	---	0.00068	---
Sr	mg/L		0.0094	0.0125	0.0092	0.0089	0.0104	0.0115	---	---	---	---	0.0107	---
Th	mg/L		0.000128	0.000005	< 0.000004	0.000026	0.000012	0.000035	---	---	---	---	0.000079	---
Ti	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0010	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00168	0.00262	0.00221	0.000958	0.00132	0.000869	---	---	---	---	0.000701	---
V	mg/L		< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L		0.000630	0.000194	0.000180	0.000416	0.000348	0.000783	---	---	---	---	0.00226	---
Zn	mg/L	0.50	0.003	< 0.001	0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	0.003	---
Zr	mg/L		0.00784	0.00137	0.00122	0.00383	0.00279	0.00856	---	---	---	---	0.00558	---

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

*Reassay LIMS 10238-FEB11

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

**Reassay LIMS 11100-FEB11



Test Specimen

Sample	Weight (g)
F33 Comb 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		849	877	888	880	880	885	972	919	440
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.8
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	8.06	8.06	*8.00	7.94	7.94	8.02	7.96	7.91	7.74
Conductivity	µS/cm		157	141	101	114	96	88	122	108	138
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		71	68	66	62	59	57	61	60	71
SO ₄	mg/L		2.7	0.6	1.0	1.0	0.6	0.6	0.6	0.5	1.1
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	0.00003	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	0.07	---	---	---	---	0.06
As	mg/L	0.50	---	---	---	0.0062	---	---	---	---	0.0040
B	mg/L		---	---	---	0.0124	---	---	---	---	0.0063
Ba	mg/L		---	---	---	0.00327	---	---	---	---	0.00833
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	16.8	---	---	---	---	21.5
Cd	mg/L		---	---	---	0.000118	---	---	---	---	0.000047
Co	mg/L		---	---	---	0.000027	---	---	---	---	0.000064
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	0.0008	---	---	---	---	0.0007
Fe	mg/L		---	---	---	0.012	---	---	---	---	0.020
K	mg/L		---	---	---	6.84	---	---	---	---	6.30
Li	mg/L		---	---	---	0.011	---	---	---	---	0.007
Mg	mg/L		---	---	---	3.39	---	---	---	---	3.97
Mn	mg/L		---	---	---	0.0783	---	---	---	---	0.122
Mo	mg/L		---	---	---	0.00284	---	---	---	---	0.00242
Na	mg/L		---	---	---	1.68	---	---	---	---	1.03
Ni	mg/L	0.50	---	---	---	0.0009	---	---	---	---	0.0011
Pb	mg/L	0.20	---	---	---	0.00005	---	---	---	---	0.00004
Sb	mg/L		---	---	---	0.0004	---	---	---	---	0.0005
Se	mg/L		---	---	---	< 0.001	---	---	---	---	0.001
Si	mg/L		---	---	---	5.81	---	---	---	---	4.71
Sn	mg/L		---	---	---	0.00029	---	---	---	---	0.00020
Sr	mg/L		---	---	---	0.0481	---	---	---	---	0.0567
Th	mg/L		---	---	---	0.000011	---	---	---	---	0.000038
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.00267	---	---	---	---	0.00236
V	mg/L		---	---	---	0.00021	---	---	---	---	0.00012
Y	mg/L		---	---	---	0.000462	---	---	---	---	0.000131
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	0.002
Zr	mg/L		---	---	---	0.00530	---	---	---	---	0.00116

*Department of Justice Canada. 2002. Metal Mining Effluen

*Reassay LIMS 11272-APR11

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

Note: Low leachate volume recovery for week 20 due to laboratory accident after collection of solution.



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
F33 Comb 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	20.3
CO ₃ NP	t CaCO ₃ /1000 t	10.0

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	863	7.37	<2	15	41	2.0	1.7	1.7	0.72	0.72	1.80	0.01	0.02
1	892	7.51	<2	16	45	2.9	2.6	4.3	1.08	1.80	2.69	0.02	0.04
2	940	7.51	<2	13	41	2.8	2.6	6.9	1.10	2.89	2.74	0.04	0.07
3	868	7.52	<2	12	33	1.6	1.4	8.3	0.58	3.47	1.45	0.04	0.09
4	901	7.68	<2	16	44	2.6	2.3	10.7	0.98	4.45	2.44	0.05	0.11
5	801	7.62	<2	26	54	1.7	1.4	12.0	0.57	5.02	1.42	0.06	0.13
6	867	8.11	<2	91	98	1.5	1.3	13.3	0.54	5.56	1.35	0.07	0.14
7	861	7.96	<2	73	155	0.8	0.7	14.0	0.29	5.84	0.72	0.07	0.15
8	917	7.80	<2	31	61	0.7	0.6	14.7	0.27	6.11	0.67	0.08	0.15
9	929	7.53	<2	24	51	0.4	0.4	15.0	0.15	6.27	0.39	0.08	0.16
10	916	7.32	<2	15	34	0.3	0.3	15.3	0.11	6.38	0.29	0.08	0.16
11	920	7.48	<2	15	28	0.4	0.4	15.7	0.15	6.53	0.38	0.08	0.16
12	849	8.06	<2	71	157	2.7	2.3	18.0	0.96	7.49	2.39	0.09	0.19
13	877	8.06	<2	68	141	0.6	0.5	18.5	0.22	7.71	0.55	0.09	0.19
14	888	8.00	<2	66	101	1.0	0.9	19.4	0.37	8.08	0.93	0.10	0.20
15	880	7.94	<2	62	114	1.0	0.9	20.3	0.37	8.45	0.92	0.10	0.21
16	880	7.94	<2	59	96	0.6	0.5	20.8	0.22	8.67	0.55	0.11	0.22
17	885	8.02	<2	57	88	0.6	0.5	21.3	0.22	8.89	0.55	0.11	0.22
18	972	7.96	<2	61	122	0.6	0.6	21.9	0.24	9.13	0.61	0.11	0.23
19	919	7.91	<2	60	108	0.5	0.5	22.4	0.19	9.32	0.48	0.11	0.23
20	440	7.74	<2	71	138	1.1	0.5	22.9	0.20	9.52	0.50	0.12	0.24

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

¹ Calculated values

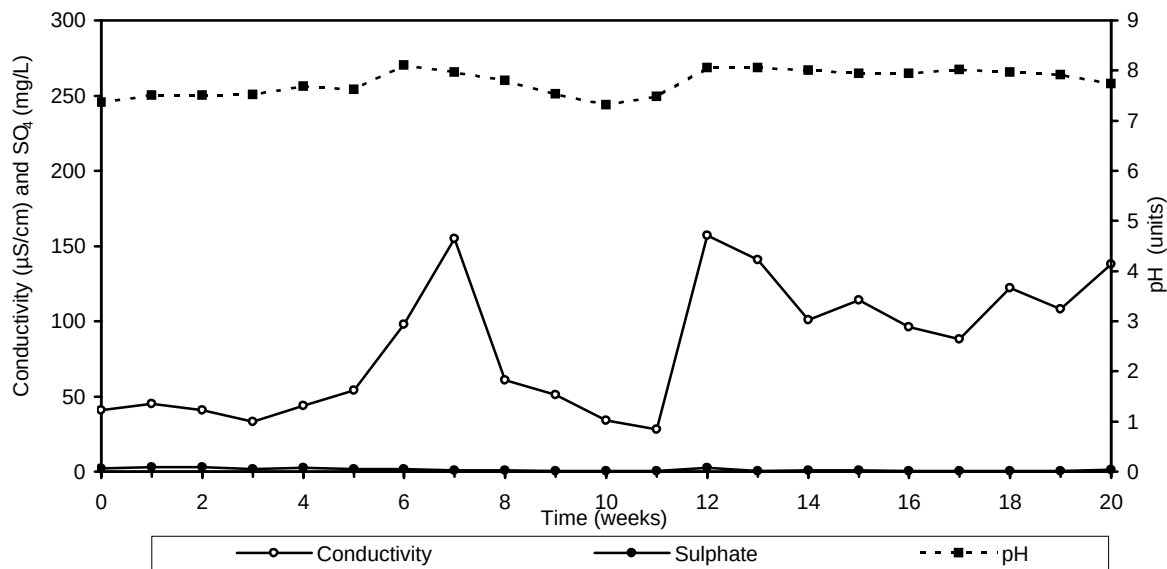
Summary - Weeks 0 to 20

Maximum Value	8.11	2	91	157	2.9	2.6	-	1.10	-	2.7	-	-
Minimum Value	7.32	<2	12	28	0.3	0.3	-	0.11	-	0.3	-	-
Average Value	7.69	2	44	83	1.3	1.1	-	0.45	-	1.13	-	-

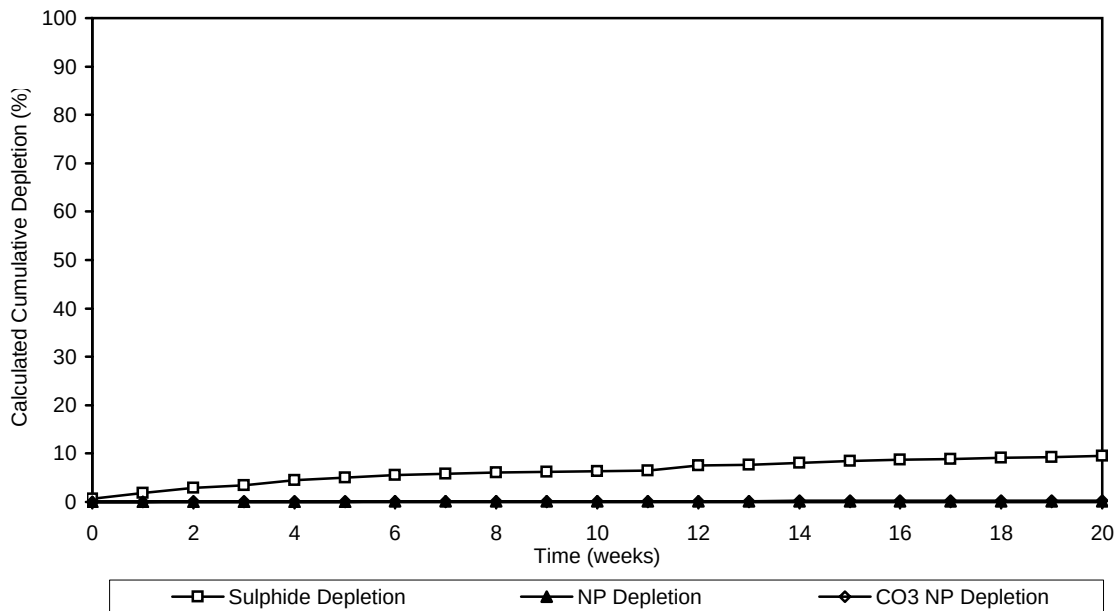
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate F33 Comb Tls



Cumulative Sulphide and NP Depletion F33 Comb Tls



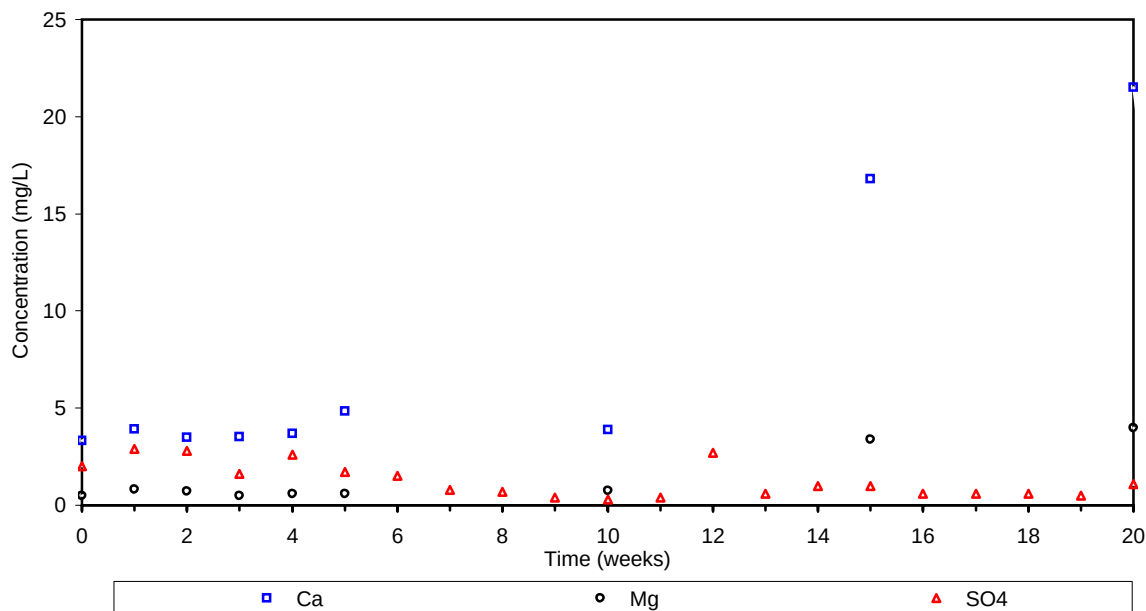
Note: NP depletion calculated based on sulphate assay.



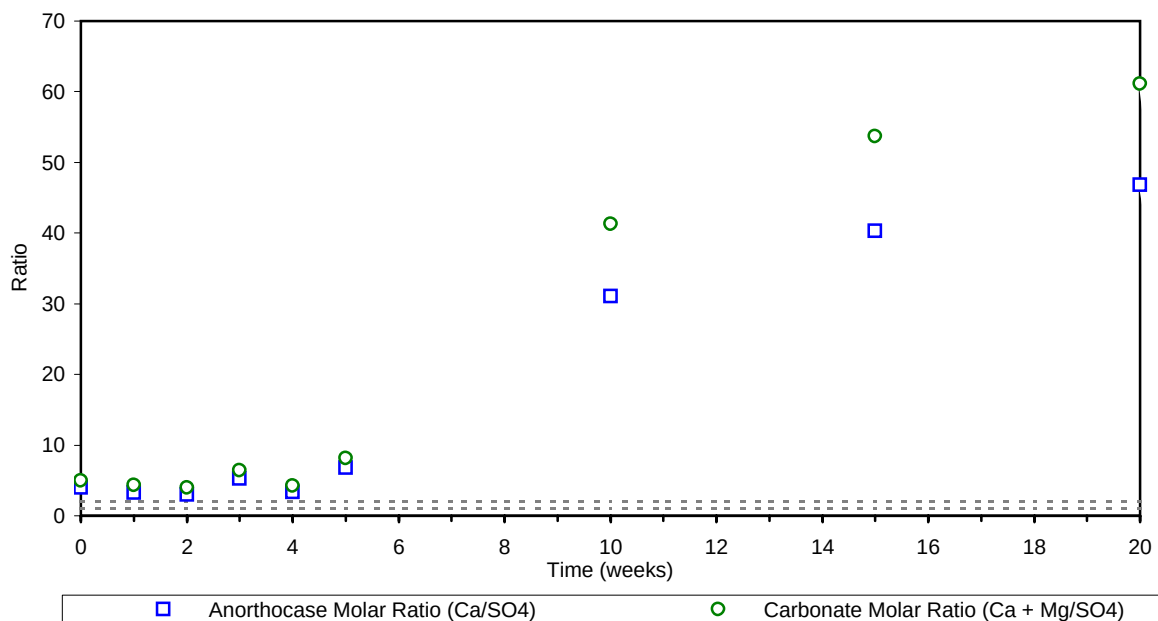
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate F33 Comb TIs



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio F33 Comb TIs





Test Specimen

Sample	Weight (g)
F36 Comb 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		880	972	973	945	932	911	918	938	934	931	936	920
²²⁸ Ra	Bq/L	0.37	< 0.01	---	---	---	---	0.04	---	---	---	---	< 0.02	---
²²⁸ Ra	Bq/L		< 0.7	---	---	---	---	0.3	---	---	---	---	0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	< 0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.47	7.82	7.99	7.56	7.40	6.94	*6.91	7.33	7.27	7.44	7.26	7.38
Conductivity	µS/cm		55	94	94	39	40	26	20	39	27	44	40	28
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		21	40	37	13	14	9	7	13	9	15	13	12
SO ₄	mg/L		2.4	4.9	4.9	2.0	2.4	1.3	1.1	2.5	1.7	2.7	2.2	1.8
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		< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	---	---	---	---	0.08	---
As	mg/L	0.50	0.0006	0.0006	0.0009	0.0005	0.0005	0.0003	---	---	---	---	0.0007	---
B	mg/L		0.0154	0.0272	0.0316	0.0136	0.0150	0.0089	---	---	---	---	0.0141	---
Ba	mg/L		0.00115	0.00330	0.00259	0.00079	0.00115	0.00060	---	---	---	---	0.00129	---
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		4.45	9.32	9.78	3.18	3.72	2.21	---	---	---	---	3.27	---
Cd	mg/L		< 0.000003	0.000003	0.000006	< 0.000003	< 0.000003	0.000003	---	---	---	---	0.000122	---
Co	mg/L		0.000020	0.000063	0.000020	0.000015	< 0.000002	< 0.000002	---	---	---	---	0.000024	---
Cr	mg/L		< 0.0005	0.0007	0.0006	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0007	0.0010	0.0011	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	0.0006	---
Fe	mg/L		0.010	0.007	0.007	< 0.002	0.003	0.008	---	---	---	---	0.147	---
K	mg/L		2.06	3.45	3.81	1.80	1.99	1.09	---	---	---	---	2.09	---
Li	mg/L		0.004	0.007	0.007	0.003	0.003	0.002	---	---	---	---	0.004	---
Mg	mg/L		0.787	1.81	1.86	0.644	0.743	0.413	---	---	---	---	0.670	---
Mn	mg/L		0.0951	0.101	0.105	0.0452	0.0424	0.0427	---	---	---	---	0.0444	---
Mo	mg/L		0.00626	0.0108	0.0102	0.00490	0.00512	0.00270	---	---	---	---	0.00404	---
Na	mg/L		3.07	5.48	5.60	2.21	2.60	1.41	---	---	---	---	1.87	---
Ni	mg/L	0.50	0.0010	0.0020	0.0019	0.0006	0.0007	0.0004	---	---	---	---	0.0007	---
Pb	mg/L	0.20	0.00003	< 0.00002	< 0.00002	0.00002	< 0.00002	0.00027	---	---	---	---	0.00008	---
Sb	mg/L		0.0005	0.0004	0.0004	< 0.0002	< 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		0.44	0.79	0.90	0.44	0.49	0.26	---	---	---	---	0.86	---
Sn	mg/L		0.00367	0.00176	0.00060	0.00021	0.00016	0.00021	---	---	---	---	0.00066	---
Sr	mg/L		0.0145	0.0331	0.0318	0.0109	0.0127	0.0070	---	---	---	---	0.0110	---
Th	mg/L		0.000109	0.000004	< 0.000004	0.000012	< 0.000004	0.000013	---	---	---	---	0.000043	---
Ti	mg/L		< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0006	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00272	0.00652	0.00626	0.00197	0.00217	0.000864	---	---	---	---	0.00131	---
V	mg/L		< 0.00003	0.00004	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	---	---	0.00004	---
Y	mg/L		0.000436	0.000305	0.000260	0.000104	0.000084	0.000191	---	---	---	---	0.00127	---
Zn	mg/L	0.50	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	---	---	---	---	0.002	---
Zr	mg/L		0.00529	0.00210	0.00202	0.00062	0.00078	0.00133	---	---	---	---	0.00451	---

*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)
F36 Comb 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		969	926	934	940	942	947	918	950	958
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	< 0.1	---	---	---	---	< 1
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	6.91	7.14	*7.17	7.11	7.04	7.34	7.20	7.37	7.17
Conductivity	µS/cm		20	**29	27	25	20	21	24	29	25
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		10	11	10	10	9	10	8	11	11
SO ₄	mg/L		1.3	1.2	1.2	1.2	1.0	1.0	1.0	1.1	0.9
Hg	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L		---	---	---	0.02	---	---	---	---	0.01
As	mg/L	0.50	---	---	---	0.0007	---	---	---	---	0.0008
B	mg/L		---	---	---	0.0101	---	---	---	---	0.0076
Ba	mg/L		---	---	---	0.00071	---	---	---	---	0.00090
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	2.70	---	---	---	---	2.83
Cd	mg/L		---	---	---	0.000017	---	---	---	---	0.000026
Co	mg/L		---	---	---	0.000011	---	---	---	---	0.000026
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		---	---	---	1.75	---	---	---	---	1.67
Li	mg/L		---	---	---	0.003	---	---	---	---	0.003
Mg	mg/L		---	---	---	0.520	---	---	---	---	0.604
Mn	mg/L		---	---	---	0.0389	---	---	---	---	0.0390
Mo	mg/L		---	---	---	0.00210	---	---	---	---	0.00147
Na	mg/L		---	---	---	1.18	---	---	---	---	1.03
Ni	mg/L	0.50	---	---	---	0.0003	---	---	---	---	0.0003
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		---	---	---	0.55	---	---	---	---	0.56
Sn	mg/L		---	---	---	0.00017	---	---	---	---	0.00005
Sr	mg/L		---	---	---	0.0085	---	---	---	---	0.0090
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	0.000007
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000715	---	---	---	---	0.000751
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000073	---	---	---	---	0.000080
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	< 0.001
Zr	mg/L		---	---	---	0.00033	---	---	---	---	0.00049

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

*Reassay LIMS 11272-APR11
**Reassay LIMS 11273-APR11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
F36 Comb 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	25.8
CO ₃ NP	t CaCO ₃ /1000 t	15.0

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	880	7.47	<2	21	55	2.4	2.1	2.1	0.70	0.70	2.20	0.01	0.01
1	972	7.82	<2	40	94	4.9	4.8	6.9	1.59	2.29	4.96	0.03	0.05
2	973	7.99	<2	37	94	4.9	4.8	11.6	1.59	3.88	4.97	0.05	0.08
3	945	7.56	2	13	39	2.0	1.9	13.5	0.63	4.51	1.97	0.05	0.09
4	932	7.40	<2	14	40	2.4	2.2	15.8	0.75	5.26	2.33	0.06	0.11
5	911	6.94	<2	9	26	1.3	1.2	17.0	0.39	5.65	1.23	0.07	0.12
6	918	6.91	<2	7	20	1.1	1.0	18.0	0.34	5.99	1.05	0.07	0.12
7	938	7.33	<2	13	39	2.5	2.3	20.3	0.78	6.77	2.44	0.08	0.14
8	934	7.27	<2	9	27	1.7	1.6	21.9	0.53	7.30	1.65	0.09	0.15
9	931	7.44	<2	15	44	2.7	2.5	24.4	0.84	8.14	2.62	0.10	0.17
10	936	7.26	<2	13	40	2.2	2.1	26.5	0.69	8.82	2.15	0.11	0.18
11	920	7.38	<2	12	28	1.8	1.7	28.1	0.55	9.38	1.73	0.11	0.20
12	969	6.91	<2	10	20	1.3	1.3	29.4	0.42	9.79	1.31	0.12	0.20
13	926	7.14	<2	11	29	1.2	1.1	30.5	0.37	10.17	1.16	0.12	0.21
14	934	7.17	<2	10	27	1.2	1.1	31.6	0.37	10.54	1.17	0.13	0.22
15	940	7.11	<2	10	25	1.2	1.1	32.7	0.38	10.91	1.18	0.13	0.23
16	942	7.04	<2	9	20	1.0	0.9	33.7	0.31	11.23	0.98	0.14	0.23
17	947	7.34	<2	10	21	1.0	0.9	34.6	0.32	11.54	0.99	0.14	0.24
18	918	7.20	<2	8	24	1.0	0.9	35.6	0.31	11.85	0.96	0.14	0.25
19	950	7.37	<2	11	29	1.1	1.0	36.6	0.35	12.20	1.09	0.15	0.25
20	958	7.17	<2	11	25	0.9	0.9	37.5	0.29	12.49	0.90	0.15	0.26

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

¹ Calculated values

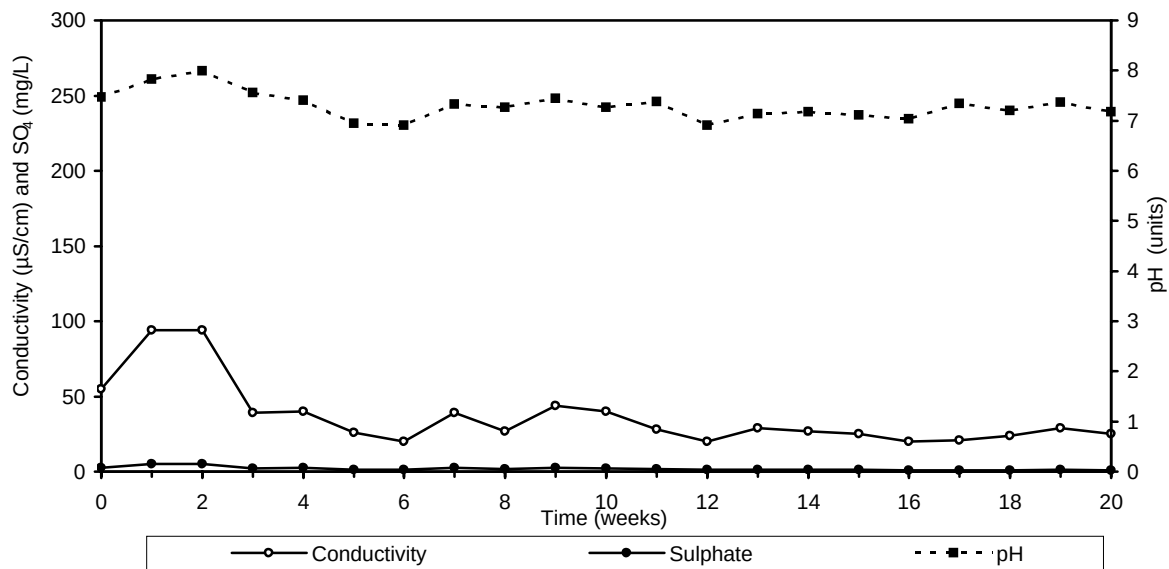
Summary - Weeks 0 to 20

Maximum Value	7.99	2	40	94	4.9	4.8	-	1.59	-	5.0	-	-
Minimum Value	6.91	<2	7	20	0.9	0.9	-	0.29	-	0.9	-	-
Average Value	7.23	2	14	36	1.9	1.8	-	0.59	-	1.86	-	-

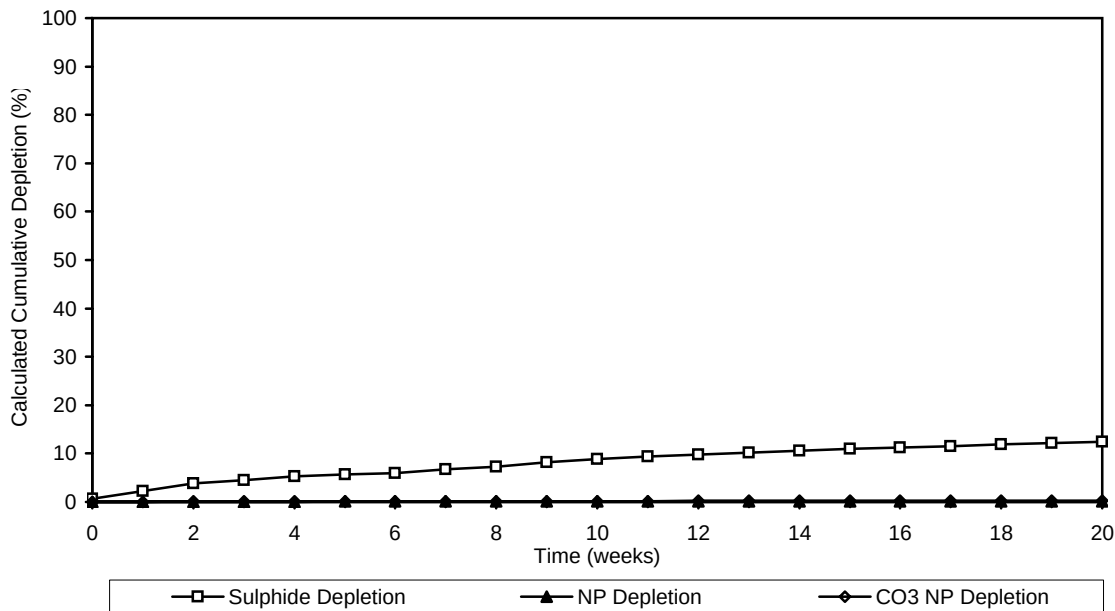
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate F36 Comb TIs



Cumulative Sulphide and NP Depletion F36 Comb TIs



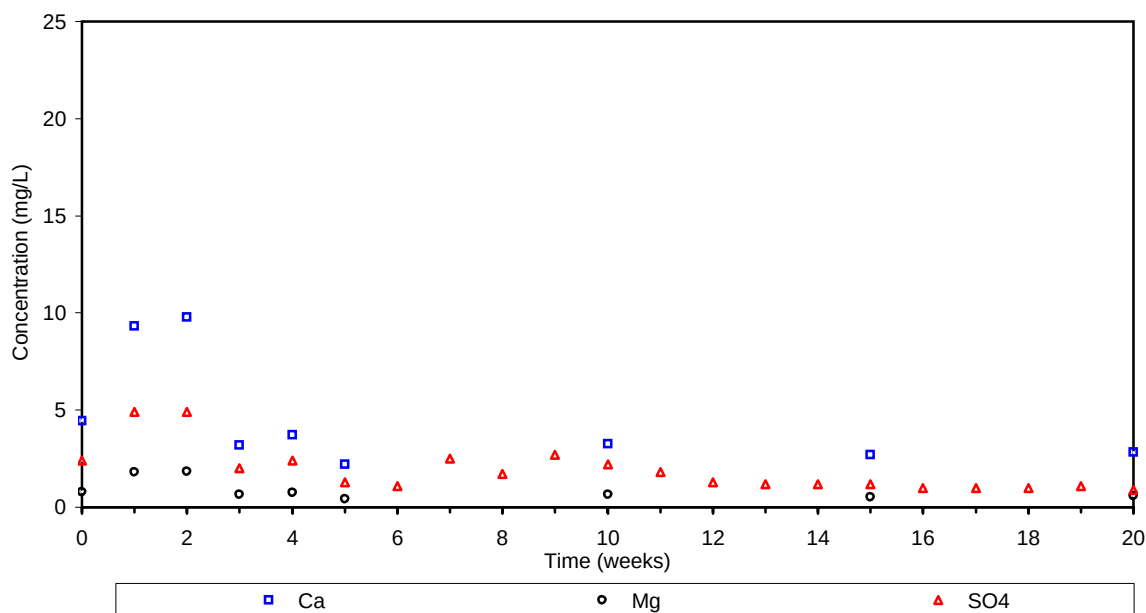
Note: NP depletion calculated based on sulphate assay.



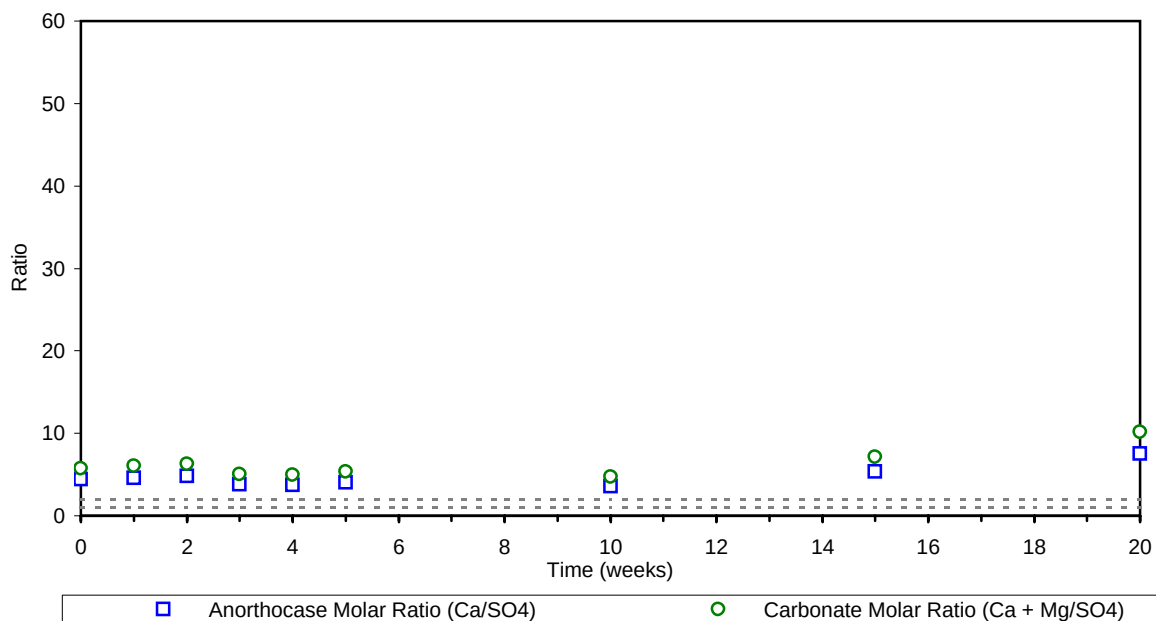
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate F36 Comb Tls



Carbonate ($\text{Ca} + \text{Mg}/\text{SO}_4$) and Anorthoclase (Ca/SO_4) Molar Ratio F36 Comb Tls





Test Specimen

Sample	Weight (g)
F37 Comb Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	*MMER	0	1	2	3	4	5	6	7	8	9	10	11
LIMS			10296-DEC10	10297-DEC10	10298-DEC10	10026-JAN11	10055-JAN11	10084-JAN11	10113-JAN11	10025-FEB11	10054-FEB11	10083-FEB11	10115-FEB11	10024-MAR11
Hum Cell Leachate Vol	mLs		838	980	985	930	951	904	953	928	943	945	935	947
²²⁶ Ra	Bq/L	0.37	< 0.01	---	---	---	---	0.03	---	---	---	---	0.02	---
²²⁸ Ra	Bq/L		< 0.5	---	---	---	---	< 0.2	---	---	---	---	< 0.1	---
²¹⁰ Pb	Bq/L		< 0.1	---	---	---	---	0.1	---	---	---	---	< 0.1	---
pH	units	6.0-9.5	7.80	7.68	7.60	7.54	7.35	*7.19	**7.13	7.30	7.24	7.23	6.95	7.32
Conductivity	µS/cm		69	59	44	37	35	32	25	32	31	28	29	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		28	24	15	12	11	12	8	11	10	10	10	10
SO ₄	mg/L		2.7	3.2	2.4	2.1	2.0	1.3	1.3	2.0	2.0	1.7	1.6	1.6
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	0.02	< 0.01	0.01	0.03	---	---	---	---	0.20	---
As	mg/L	0.50	0.0009	0.0007	0.0005	0.0005	0.0004	0.0003	---	---	---	---	0.0004	---
B	mg/L		0.0195	0.0183	0.0172	0.0124	0.0119	0.0080	---	---	---	---	0.0086	---
Ba	mg/L		0.00110	0.00117	0.00083	0.00060	0.00083	0.00050	---	---	---	---	0.00134	---
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		18.5	5.49	4.18	3.03	3.30	3.40	---	---	---	---	2.91	---
Cd	mg/L		< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	< 0.000003	---	---	---	---	0.000036	---
Co	mg/L		0.000028	0.000066	0.000010	0.000013	< 0.000002	< 0.000002	---	---	---	---	0.000029	---
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.30	0.0010	0.0009	0.0007	0.0006	< 0.0005	< 0.0005	---	---	---	---	0.0008	---
Fe	mg/L		< 0.002	0.009	0.004	< 0.002	< 0.002	0.010	---	---	---	---	0.373	---
K	mg/L		4.69	2.34	1.88	1.56	1.48	1.03	---	---	---	---	1.23	---
Li	mg/L		0.004	0.003	0.002	0.002	0.002	0.001	---	---	---	---	0.002	---
Mg	mg/L		5.30	0.928	0.699	0.496	0.524	0.419	---	---	---	---	0.558	---
Mn	mg/L		0.0463	0.0615	0.0521	0.0336	0.0463	0.0526	---	---	---	---	0.0485	---
Mo	mg/L		0.00676	0.00691	0.00496	0.00463	0.00387	0.00248	---	---	---	---	0.00252	---
Na	mg/L		16.9	3.95	2.90	2.21	2.14	1.58	---	---	---	---	1.29	---
Ni	mg/L	0.50	0.0010	0.0009	0.0007	0.0005	0.0005	0.0003	---	---	---	---	0.0008	---
Pb	mg/L	0.20	0.00004	< 0.00002	0.00003	< 0.00002	< 0.00002	0.00061	---	---	---	---	0.00018	---
Sb	mg/L		0.0005	0.0003	0.0003	0.0003	< 0.0002	0.0002	---	---	---	---	< 0.0002	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L		3.86	0.65	0.52	0.44	0.41	0.32	---	---	---	---	0.96	---
Sn	mg/L		0.00551	0.00179	0.00094	0.00050	0.00030	0.00028	---	---	---	---	0.00075	---
Sr	mg/L		0.0868	0.0139	0.0088	0.0075	0.0081	0.0070	---	---	---	---	0.0063	---
Th	mg/L		0.000092	< 0.000004	< 0.000004	0.000011	< 0.000004	0.000013	---	---	---	---	0.000117	---
Ti	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	0.0015	---
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L		0.00369	0.00386	0.00235	0.00149	0.00143	0.000769	---	---	---	---	0.000837	---
V	mg/L		0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L		0.000390	0.000257	0.000097	0.000131	0.000086	0.000266	---	---	---	---	0.00342	---
Zn	mg/L	0.50	0.001	< 0.001	0.002	0.002	< 0.001	< 0.001	---	---	---	---	0.003	---
Zr	mg/L		0.00265	0.00138	0.00025	0.00036	0.00027	0.00133	---	---	---	---	0.00392	---

*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>

*Reassay LIMS 11099-FEB11

**Reassay LIMS 11100-FEB11



Test Specimen

Sample	Weight (g)
F37 Comb Tls	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		944	933	934	951	931	947	934	947	951
²²⁶ Ra	Bq/L	0.37	---	---	---	< 0.01	---	---	---	---	< 0.01
²²⁸ Ra	Bq/L		---	---	---	0.2	---	---	---	---	< 0.8
²¹⁰ Pb	Bq/L		---	---	---	< 0.1	---	---	---	---	< 0.1
pH	units	6.0-9.5	6.97	7.02	*7.25	7.00	7.02	7.27	7.10	7.23	7.09
Conductivity	µS/cm		20	**26	24	20	23	***20	****22	22	50
Acidity	mg/L as CaCO ₃		<2	<2	<2	<2	<2	<2	<2	<2	<2
Alkalinity	mg/L as CaCO ₃		10	9	9	8	9	8	3	8	8
SO ₄	mg/L		1.4	1.3	1.3	1.3	1.4	1.2	1.1	1.0	1.0
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	---	---	---	0.0004	---	---	---	---	0.0002
B	mg/L		---	---	---	0.0074	---	---	---	---	0.0054
Ba	mg/L		---	---	---	0.00057	---	---	---	---	0.00050
Be	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
Bi	mg/L		---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L		---	---	---	2.43	---	---	---	---	2.24
Cd	mg/L		---	---	---	< 0.000003	---	---	---	---	0.000008
Co	mg/L		---	---	---	0.000018	---	---	---	---	0.000021
Cr	mg/L		---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.30	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Fe	mg/L		---	---	---	0.004	---	---	---	---	0.002
K	mg/L		---	---	---	1.06	---	---	---	---	0.860
Li	mg/L		---	---	---	0.001	---	---	---	---	0.001
Mg	mg/L		---	---	---	0.393	---	---	---	---	0.378
Mn	mg/L		---	---	---	0.0352	---	---	---	---	0.0385
Mo	mg/L		---	---	---	0.00187	---	---	---	---	0.00102
Na	mg/L		---	---	---	1.06	---	---	---	---	0.86
Ni	mg/L	0.50	---	---	---	0.0002	---	---	---	---	0.0002
Pb	mg/L	0.20	---	---	---	< 0.00002	---	---	---	---	< 0.00002
Sb	mg/L		---	---	---	< 0.0002	---	---	---	---	0.0002
Se	mg/L		---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L		---	---	---	0.42	---	---	---	---	0.37
Sn	mg/L		---	---	---	0.00014	---	---	---	---	0.00002
Sr	mg/L		---	---	---	0.0054	---	---	---	---	0.0048
Th	mg/L		---	---	---	< 0.000004	---	---	---	---	< 0.000004
Ti	mg/L		---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L		---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L		---	---	---	0.000558	---	---	---	---	0.000404
V	mg/L		---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L		---	---	---	0.000036	---	---	---	---	0.000044
Zn	mg/L	0.50	---	---	---	< 0.001	---	---	---	---	< 0.001
Zr	mg/L		---	---	---	0.00013	---	---	---	---	0.00018

*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 11273-APR11

***Reassay LIMS 10213-MAY11
****Reassay LIMS 10359-MAY11



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
F37 Comb 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	21.3
CO ₃ NP	t CaCO ₃ /1000 t	10.3

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	838	7.80	<2	28	69	2.7	2.3	2.3	0.75	0.75	2.36	0.01	0.02
1	980	7.68	<2	24	59	3.2	3.1	5.4	1.05	1.80	3.27	0.03	0.05
2	985	7.60	<2	15	44	2.4	2.4	7.8	0.79	2.59	2.46	0.04	0.08
3	930	7.54	<2	12	37	2.1	2.0	9.7	0.65	3.24	2.03	0.05	0.10
4	951	7.35	<2	11	35	2.0	1.9	11.6	0.63	3.87	1.98	0.06	0.12
5	904	7.19	<2	12	32	1.3	1.2	12.8	0.39	4.26	1.22	0.06	0.13
6	953	7.13	<2	8	25	1.3	1.2	14.0	0.41	4.68	1.29	0.07	0.14
7	928	7.30	<2	11	32	2.0	1.9	15.9	0.62	5.30	1.93	0.08	0.16
8	943	7.24	<2	10	31	2.0	1.9	17.8	0.63	5.92	1.96	0.09	0.18
9	945	7.23	<2	10	28	1.7	1.6	19.4	0.54	6.46	1.67	0.09	0.20
10	935	6.95	<2	10	29	1.6	1.5	20.9	0.50	6.96	1.56	0.10	0.21
11	947	7.32	<2	10	23	1.6	1.5	22.4	0.51	7.46	1.58	0.11	0.23
12	944	6.97	<2	10	20	1.4	1.3	23.7	0.44	7.90	1.38	0.12	0.24
13	933	7.02	<2	9	26	1.3	1.2	24.9	0.40	8.31	1.26	0.12	0.25
14	934	7.25	<2	9	24	1.3	1.2	26.1	0.40	8.71	1.26	0.13	0.26
15	951	7.00	<2	8	20	1.3	1.2	27.4	0.41	9.13	1.29	0.13	0.28
16	931	7.02	<2	9	23	1.4	1.3	28.7	0.43	9.56	1.36	0.14	0.29
17	947	7.27	<2	8	20	1.2	1.1	29.8	0.38	9.94	1.18	0.15	0.30
18	934	7.10	<2	3	22	1.1	1.0	30.8	0.34	10.28	1.07	0.15	0.31
19	947	7.23	<2	8	22	1.0	0.9	31.8	0.32	10.60	0.99	0.16	0.32
20	951	7.09	<2	8	50	1.0	1.0	32.7	0.32	10.91	0.99	0.16	0.33

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

¹ Calculated values

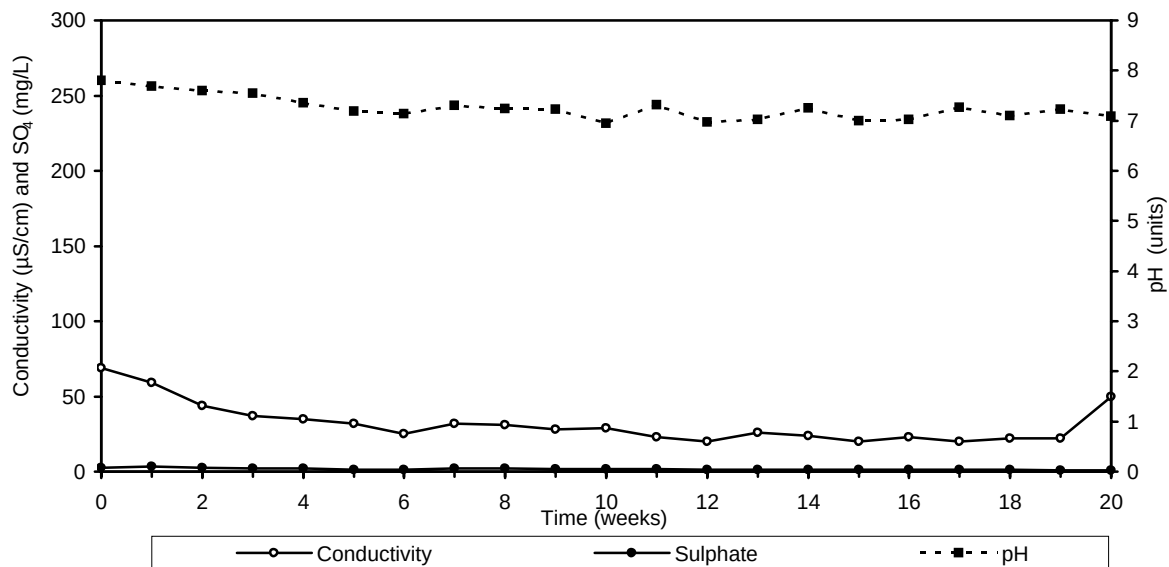
Summary - Weeks 0 to 20

Maximum Value	7.80	2	28	69	3.2	3.1	-	1.05	-	3.3	-	-
Minimum Value	6.95	<2	3	20	1.0	0.9	-	0.32	-	1.0	-	-
Average Value	7.20	2	11	32	1.7	1.6	-	0.52	-	1.62	-	-

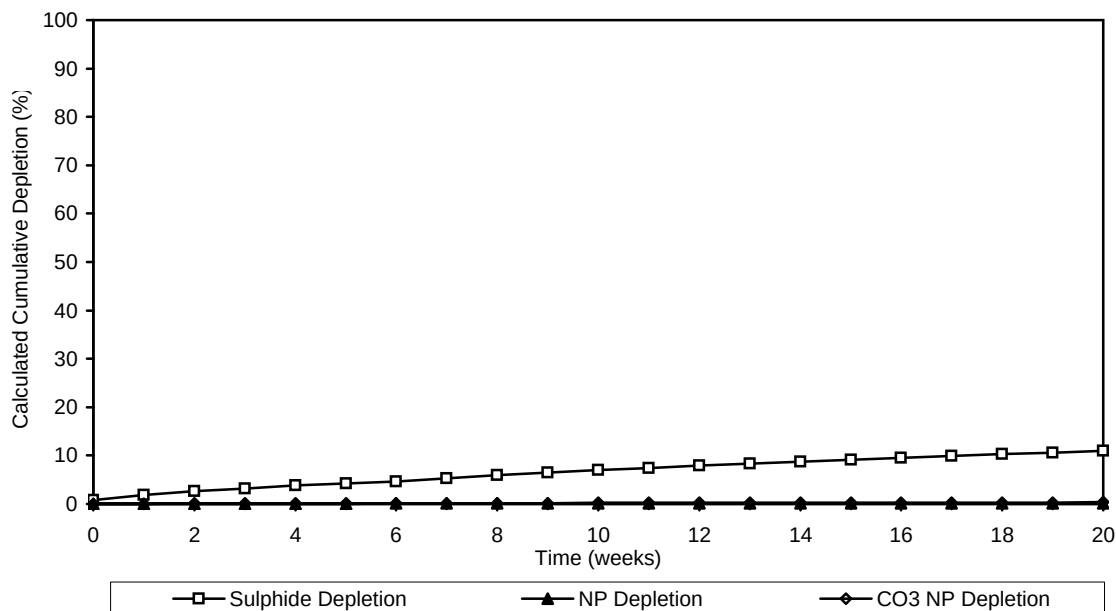
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate F37 Comb TIs



Cumulative Sulphide and NP Depletion F37 Comb TIs



Note: NP depletion calculated based on sulphate assay.