Appendix A – Analytical Summary Tables

Whole Rock Analysis

Parameter	Unit	Head Samples					
		Master Comp 3	Avalon Head Sample 1	Avalon Head Sample 2	Avalon Head Sample 3	XPS PP Comp 2 Head	XPS PP Comp 3 Head
		F25, 28, 29 + 30	**F33**	**F36**	**F37**	**MPPX**	**MPP Run 2**
LIMS		11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	10356-DEC10	10356-DEC10
SiO_2	%	54.0	54.7	53.6	53.9	54.2	53.8
Al_2O_3	%	10.8	11.3	9.15	10.6	9.42	10.8
Fe_2O_3	%	12.7	11.5	13.3	12.4	13.5	12.6
MgO	%	2.83	2.68	3.34	2.77	3.35	2.79
CaO	%	2.60	2.59	3.08	2.68	2.99	2.58
Na_2O	%	2.94	2.93	2.39	2.88	2.43	2.78
K_2O	%	4.89	5.24	4.44	4.81	4.48	4.86
TiO_2	%	0.05	0.05	0.05	0.04	0.05	0.04
P_2O_5	%	0.11	0.08	0.05	0.12	0.06	0.12
MnO	%	0.19	0.22	0.40	0.19	0.40	0.20
Cr_2O_3	%	< 0.01	< 0.01	< 0.01	< 0.01	0.11	< 0.01
V_2O_5	%	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
LOI	%	1.14	3.42	4.54	3.42	4.25	3.68
Sum	%	92.2	94.7	94.3	93.9	95.2	94.3
Nb_2O_5	%	0.43	0.39	0.46	0.50	0.46	0.44
ZrO_2	%	3.65	3.14	3.73	3.75	3.57	3.58

Whole Rock Analy

		Tailings Samples								
Parameter	**Unit**	**F25 Comb Tls**	**F28 Comb Tls**	**F29 Comb Tls**	**F33 Comb Tls**	**F36 Comb Tls**	**F37 Comb Tls**	**Master Tls**	**XPS PP Comp 1 Tls**	**XPS PP Comp 2 Tls**
								F25, 28, 29 + 30	**MPP Run 1**	**MPP Run 2**
LIMS		11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	11612-NOV10	10329-DEC10
SiO_2	%	59.2	63.6	61.5	60.2	60.2	59.8	60.9	60.2	61.9
Al_2O_3	%	11.6	12.0	11.5	12.7	10.9	12.0	11.5	13.2	12.8
Fe_2O_3	%	11.2	9.66	11.5	11.8	12.8	13.0	12.0	10.7	10.0
MgO	%	2.01	1.47	1.67	1.85	2.23	1.82	1.86	2.43	1.93
CaO	%	0.89	0.91	1.08	0.98	1.15	1.00	1.11	0.85	0.75
Na_2O	%	3.23	3.37	3.23	3.49	2.95	3.38	3.28	3.35	3.71
K_2O	%	5.51	5.53	5.35	5.78	5.10	5.35	5.42	6.05	5.65
TiO_2	%	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.04
P_2O_5	%	0.04	0.04	0.03	0.03	0.01	0.03	0.05	0.04	0.04
MnO	%	0.12	0.11	0.12	0.12	0.16	0.09	0.14	0.09	0.08
Cr_2O_3	%	0.08	0.09	0.10	0.10	0.10	0.10	0.10	< 0.01	< 0.01
V_2O_5	%	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
LOI	%	1.82	1.67	1.81	1.74	1.96	1.61	1.86	1.54	1.50
Sum	%	95.6	98.4	97.9	98.8	97.6	98.2	98.2	98.5	98.4
Nb_2O_5	%	0.14	0.16	0.19	0.15	0.18	0.16	0.20	0.18	0.22
ZrO_2	%	0.95	1.01	1.60	0.92	1.55	0.97	1.38	1.52	1.45

Whole Rock Analy

Parameter	Unit	Concentrate Samples				
		F33 Mozley Conc Comp	F36 Mozley Conc Comp	F37 Mozley Conc Comp	Master Conc	XPS PP Comp 1 Conc
					F25, 28, 29 + 30	MPP Run 1
LIMS		11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10	11294-NOV10
SiO_2	%	30.6	30.1	29.9	25.8	26.5
Al_2O_3	%	4.13	3.14	4.17	2.92	3.59
Fe_2O_3	%	13.8	17.7	13.7	16.6	13.1
MgO	%	3.62	4.31	3.60	3.08	3.64
CaO	%	8.45	8.50	7.39	9.03	12.1
Na_2O	%	0.56	0.80	0.58	0.41	0.58
K_2O	%	1.93	1.46	1.88	1.32	1.49
TiO_2	%	0.14	0.14	0.18	0.11	0.09
P_2O_5	%	0.80	0.44	0.80	0.66	0.61
MnO	%	0.57	0.98	0.47	0.65	0.84
Cr_2O_3	%	< 0.01	< 0.01	0.02	< 0.01	< 0.01
V_2O_5	%	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
LOI	%	9.62	10.8	8.78	10.8	12.4
Sum	%	74.2	78.3	71.5	71.3	74.9
Nb_2O_5	%	1.69	1.54	1.80	1.88	1.53
ZrO_2	%	16.0	13.0	18.0	17.3	13.5

Radionuclide and ICP-OES/MS Elemental Analyses

Parameter	Unit	Master Comp 3	Avalon Head Sample 1	Avalon Head Sample 2	Avalon Head Sample 3	XPS PP Comp 2 Head	XPS PP Comp 3 Head
		Head Samples					
Sample Origin		**F25, 28, 29 + 30**	**F33**	**F36**	**F37**	**XPS MPPX**	**MPP Run 2**
Batch #		T10-01609.0	T10-01609.0	T10-01609.0	T10-01609.0	T10-01853.0	T10-01853.0
^{226}Ra	Bq/g	0.32	0.28	0.30	0.36	0.2	0.4
^{210}Pb	Bq/g	0.20	0.16	0.19	0.19	0.2	0.3
^{228}Ra	Bq/g	0.38	0.31	0.28	0.38	0.3	0.4
LIMS #		11622-NOV10	11622-NOV10	11622-NOV10	11622-NOV10	10359-DEC10	10359-DEC10
Hg	µg/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ag	g/t	23	17	18	25	29	32
Al	µg/g	56000	59000	47000	58000	62000	73000
As	g/t	13	4.8	7.4	4.2	4.4	3.4
B	g/t	15	18	19	14	22	17
Ba	g/t	110	95	89	120	93	110
Be	g/t	11	8.5	19	8.7	19	10
Bi	g/t	1.0	0.92	0.67	0.60	0.33	0.33
Ca	µg/g	18000	17000	21000	19000	22000	19000
Cd	g/t	14	11	12	16	18	20
Co	g/t	0.68	0.63	0.50	0.65	0.26	0.31
Cr	g/t	79	75	86	69	83	82
Cu	g/t	3.6	4.7	7.9	3.8	2.0	1.7
Fe	µg/g	87000	78000	90000	90000	100000	94000
K	µg/g	39000	41000	35000	40000	43000	47000
Li	g/t	52	51	65	52	69	53
Mg	µg/g	17000	16000	20000	18000	22000	19000
Mn	g/t	1300	1500	2700	1400	2800	1300
Mo	g/t	2.5	2.5	2.9	2.0	2.5	2.0
Na	µg/g	20000	19000	16000	20000	18000	22000
Ni	g/t	16	13	12	14	6.0	6.7
P	µg/g	400	340	180	440	190	490
Pb	g/t	17	14	15	18	10	11
Sb	g/t	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se	g/t	7.6	6.0	7.2	7.4	13	12
Sn	g/t	42	36	45	43	46	42
Sr	g/t	32	31	42	34	21	16
Ti	µg/g	260	230	250	290	280	290
Tl	g/t	0.52	0.52	0.47	0.52	0.29	0.32
Th	g/t	110	91	73	110	61	80
U	g/t	22	19	17	23	12	15
V	g/t	< 1	10	6	12	< 1	< 1
Y	g/t	1100	790	1100	920	720	590
Zn	g/t	140	140	160	130	100	64
LIMS		02281-NOV10	03121-SEP10 + 02284-NOV10	03121-SEP10 + 02284-NOV10	03121-SEP10 + 02284-NOV10	02850-DEC10	02850-DEC10
F	%	1.04	1.11	0.89	1.05	0.69	0.91
Cl	g/t	360	540	536	499	159	170
Si	%	27.2	23.8	24.7	22.3	24.2	23.8
Ce	g/t	5700	4300	5200	5100	5700	5600
Dy	g/t	420	380	490	420	437	371
Er	g/t	180	170	250	190	227	176
Eu	g/t	74	64	78	76	71.6	71.4
Ga	%	0.010	0.013	0.013	0.014	0.009	0.010
Gd	g/t	570	480	590	560	501	500
Hf	%	0.06	0.047	0.057	0.056	0.06	0.06
Ho	g/t	72	66	92	73	83.5	69.8
La	g/t	2500	2100	2500	2500	2500	2700
Lu	g/t	21	17	27	21	24.9	19.4
Nb	%	0.24	0.22	0.26	0.28	0.30	0.30
Nd	g/t	2600	2300	2700	2700	3200	3000
Pr	g/t	740	570	680	660	595	584
Sc	g/t	2	< 2	< 2	< 2	< 2	< 2
Sm	g/t	610	490	610	580	504	508
Ta	%	0.03	0.029	0.036	0.035	0.03	0.03
Tb	g/t	86	73	94	83	81.1	77.3
Tm	g/t	24	22	32	25	31.1	23.7
Yb	g/t	150	130	200	150	184	142
Zr	%	2.4	1.9	2.5	2.4	2.68	2.70

All samples from project 12390-001

Radionuclide and ICP-OES

Parameter	Unit	Tailings Samples						
		F25	F28	F29	F30	F33	F36	F37
		Comb Tls	Comb Tls	Comb Tls	Comb Tls	Comb Tls	Comb Tls	Comb Tls
Sample Origin								
Batch #		T10-01609.0	T10-01609.0	T10-01609.0	T10-01852.0	T10-01609.0	T10-01609.0	T10-01609.0
^{226}Ra	Bq/g	0.11	0.13	0.16	0.2	0.15	0.15	0.14
^{210}Pb	Bq/g	0.11	0.10	0.13	< 0.3	0.12	0.12	0.10
^{228}Ra	Bq/g	0.12	0.11	0.16	0.1	0.09	0.10	0.11
LIMS #		11622-NOV10	11622-NOV10	11622-NOV10	10271-DEC10	11622-NOV10	11622-NOV10	11622-NOV10
Hg	µg/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ag	g/t	6.5	7.3	11	19	7.4	9.1	8.9
Al	µg/g	65000	64000	60000	73000	68000	55000	63000
As	g/t	3.1	2.5	4.2	4.5	3.0	4.0	2.8
B	g/t	8	7	9	9	13	12	8
Ba	g/t	73	65	72	70	83	80	85
Be	g/t	3.8	3.8	5.2	4.9	4.5	7.3	4.2
Bi	g/t	0.46	0.37	0.44	0.56	0.55	0.46	0.47
Ca	µg/g	6400	6300	7300	9000	6500	7600	6900
Cd	g/t	3.9	4.6	6.8	12	4.6	5.4	5.4
Co	g/t	5.6	4.9	5.3	4.8	5.6	5.6	5.3
Cr	g/t	640	560	640	490	630	660	600
Cu	g/t	19	14	17	15	21	23	22
Fe	µg/g	81000	68000	80000	82000	82000	87000	89000
K	µg/g	46000	44000	42000	43000	46000	39000	42000
Li	g/t	48	35	40	45	44	49	35
Mg	µg/g	13000	9400	10000	12000	12000	13000	11000
Mn	g/t	860	760	890	920	870	1200	680
Mo	g/t	73	61	72	57	74	74	70
Na	µg/g	23000	24000	21000	22000	24000	20000	24000
Ni	g/t	330	270	320	290	340	340	320
P	µg/g	170	130	180	203	130	110	170
Pb	g/t	8.9	9.2	10	11	9.0	9.4	8.6
Sb	g/t	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se	g/t	1.9	2.6	3.8	5.3	1.8	2.4	2.4
Sn	g/t	23	21	26	26	25	48	25
Sr	g/t	16	16	18	19	20	23	18
Ti	µg/g	190	160	180	204	170	200	180
Tl	g/t	0.59	0.57	0.56	0.56	0.56	0.51	0.50
Th	g/t	31	31	44	66	29	31	34
U	g/t	7.7	8.1	11	11	8.9	9.1	10
V	g/t	10	10	9	15	13	12	15
Y	g/t	310	310	440	590	310	440	330
Zn	g/t	74	55	61	77	75	97	71
LIMS		03108-OCT10	03108-OCT10	03108-OCT10	03108-OCT10	03108-OCT10	03108-OCT10	03108-OCT10
F	%	0.54	0.65	0.49	0.58	0.47	0.52	0.54
Cl	g/t	185	179	151	312	140	151	185
Si	%	26.2	25.2	25.5	22.4	26.1	26.0	25.9
Ce	g/t	1600	2600	1900	2400	1500	1800	1800
Dy	g/t	130	200	200	210	120	190	130
Er	g/t	60	98	100	110	57	98	58
Eu	g/t	21	34	28	34	20	27	24
Ga	%	0.010	0.009	0.009	0.010	0.010	0.009	0.010
Gd	g/t	160	260	240	260	150	210	180
Hf	%	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ho	g/t	23	37	37	40	22	36	23
La	g/t	680	1100	870	1100	660	800	800
Lu	g/t	6.5	11	12	13	5.9	11	5.9
Nb	%	0.09	0.14	0.13	0.14	0.10	0.11	0.09
Nd	g/t	780	1300	970	1200	730	910	880
Pr	g/t	200	330	240	310	190	240	230
Sc	g/t	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Sm	g/t	170	270	220	260	160	200	180
Ta	%	0.01	0.02	0.02	0.01	0.01	0.02	< 0.01
Tb	g/t	24	39	37	40	24	34	27
Tm	g/t	8.0	13	14	15	7.5	13	7.4
Yb	g/t	49	82	89	93	45	82	44
Zr	%	0.74	1.07	1.07	1.20	0.69	1.17	0.73

All samples from project 12390-0(

Radionuclide and ICP-OES

Parameter	Unit	Tailings Samples			
		Master Tls	XPS PP Comp 1 Tls	Ro Tail Decant	XPS PP Comp 2 Tls
Sample Origin		**F25, 28, 29 + 30**	**MPP Run 1**	**MPP1 Red Water Solids**	**MPP Run 2**
Batch #		T10-01609.0	T10-01722.0	---	T10-01854.0
^{226}Ra	Bq/g	0.12	0.17	---	0.2
^{210}Pb	Bq/g	0.15	0.13	---	0.2
^{228}Ra	Bq/g	0.13	0.13	---	0.2
LIMS #		11622-NOV10	11615-NOV10	02222-JAN11	10332-DEC10
Hg	µg/g	< 0.1	< 0.1	---	< 0.1
Ag	g/t	9.8	11	< 10	15
Al	µg/g	62000	67000	74300	86000
As	g/t	4.4	49	< 30	1.8
B	g/t	9	16	---	10
Ba	g/t	73	94	211	91
Be	g/t	4.9	4.8	8.0	5.1
Bi	g/t	0.47	0.67	< 20	0.54
Ca	µg/g	7700	5800	12500	5500
Cd	g/t	6.0	6.6	< 2	9.3
Co	g/t	5.5	1.0	< 6	0.60
Cr	g/t	640	51	24	19
Cu	g/t	18	5.4	27.8	3.0
Fe	µg/g	83000	72000	89900	75000
K	µg/g	43000	47000	56200	54000
Li	g/t	44	51	101	39
Mg	µg/g	12000	14000	28500	13000
Mn	g/t	950	670	1430	550
Mo	g/t	73	3.2	< 5	3.9
Na	µg/g	22000	22000	15500	27000
Ni	g/t	330	17	76	8.5
P	µg/g	170	130	494	140
Pb	g/t	9.9	8.1	30	7.0
Sb	g/t	< 0.8	1.7	< 20	< 0.8
Se	g/t	3.2	2.9	< 30	2.6
Sn	g/t	26	29	< 80	27
Sr	g/t	19	20	44.5	9.03
Ti	µg/g	200	200	328	200
Tl	g/t	0.57	0.58	< 30	0.40
Th	g/t	40	39	---	39
U	g/t	9.9	12	< 20	9.7
V	g/t	12	< 1	< 4	< 1
Y	g/t	420	520	1080	280
Zn	g/t	68	77	174	44
LIMS		03108-OCT10	03020-NOV10 + 02814-DEC10		02784-DEC10
F	%	0.55	0.57	---	0.50
Cl	g/t	157	151	---	162
Si	%	26.3	24.8	---	27.0
Ce	g/t	1900	1260	---	1500
Dy	g/t	170	186	---	180
Er	g/t	83	89.5	---	82.3
Eu	g/t	27	24.3	---	25.4
Ga	%	0.010	0.010	---	0.012
Gd	g/t	210	190	---	198
Hf	%	< 0.05	0.03	---	0.02
Ho	g/t	31	35.0	---	32.1
La	g/t	850	547	---	600
Lu	g/t	9.6	10.1	---	9.10
Nb	%	0.10	0.12	---	0.14
Nd	g/t	970	654	---	900
Pr	g/t	250	157	---	173
Sc	g/t	< 2	< 2	---	< 2
Sm	g/t	210	169	---	186
Ta	%	< 0.01	0.01	---	0.02
Tb	g/t	32	33.8	---	33.7
Tm	g/t	11	12.2	---	11.1
Yb	g/t	71	73.2	---	66.7
Zr	%	0.88	1.13	---	1.12

All samples from project 12390-0(

Radionuclide and ICP-OES

Parameter	Unit	Concentrate Samples					
		F25 Mozley Conc	F28 Conc Comp	F29 Conc Comp	F30 Conc Comp	F33 Mozley Conc Comp	F36 Mozley Conc Comp
Sample Origin							
Batch #		---	T10-01852.0	T10-01852.0	T10-01852.0	T10-01609.0	T10-01609.0
^{226}Ra	Bq/g	No Sample	1.2	1.2	1.6	1.4	1.2
^{210}Pb	Bq/g	Available	0.3	0.2	0.3	0.25	0.33
^{228}Ra	Bq/g	---	1.7	1.6	2.1	1.9	1.2
LIMS #		03282-SEP10	10271-DEC10	10271-DEC10	10271-DEC10	11622-NOV10	11622-NOV10
Hg	µg/g	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ag	g/t	< 10	200	180	240	110	78
Al	µg/g	15000	20000	19000	15000	21000	16000
As	g/t	160	81	62	100	27	26
B	g/t	63	40	36	44	43	49
Ba	g/t	270	170	160	210	170	130
Be	g/t	63	38	35	45	38	63
Bi	g/t	< 20	2.7	2.2	5.0	3.9	1.9
Ca	µg/g	61000	60000	71000	59000	56000	56000
Cd	g/t	< 2	120	110	150	64	48
Co	g/t	< 20	3.6	3.4	4.2	3.2	1.9
Cr	g/t	100	140	130	150	110	70
Cu	g/t	< 50	17	12	22	21	13
Fe	µg/g	113000	110000	110000	120000	94000	120000
K	µg/g	9900	13000	13000	9900	17000	13000
Li	g/t	31	54	58	48	70	70
Mg	µg/g	17000	21000	22000	18000	22000	26000
Mn	g/t	3800	4100	4600	4000	3800	6400
Mo	g/t	13	17	16	18	16	18
Na	µg/g	3500	3100	2500	2000	3600	5000
Ni	g/t	91	87	79	89	77	44
P	µg/g	2600	1900	2200	2300	2800	1700
Pb	g/t	< 200	48	52	62	52	54
Sb	g/t	< 60	1.5	1.4	1.9	1.3	1.5
Se	g/t	< 30	32	32	43	25	25
Sn	g/t	< 200	100	97	120	100	110
Sr	g/t	89	67	77	80	86	96
Ti	µg/g	690	600	570	640	710	840
Tl	g/t	< 30	0.25	0.25	0.20	0.30	0.25
Th	g/t	530	45	85	90	210	53
U	g/t	110	70	66	87	84	65
V	g/t	6	2	7	3	< 1	9
Y	g/t	9700	3100	4200	4600	3600	3600
Zn	g/t	270	260	260	290	260	300
LIMS		03282-SEP10 + 03087-OCT10	02474-OCT10 + 03088-OCT10	02474-OCT10 + 03088-OCT10	02474-OCT10 + 03088-OCT10	03108-OCT10	03108-OCT10
F	%	2.15	2.66	3.10	2.74	2.96	1.98
Cl	g/t	288	219	253	202	325	224
Si	%	13.2	12.7	11.5	10.9	11.5	13.8
Ce	g/t	26000	24000	26000	30000	23000	22000
Dy	g/t	2300	2000	1900	2400	1900	1800
Er	g/t	1100	940	910	1100	800	820
Eu	g/t	410	360	370	460	320	300
Ga	%	0.010	< 0.004	< 0.004	< 0.004	0.004	< 0.004
Gd	g/t	2800	2600	2600	3200	2400	2200
Hf	%	0.25	0.26	0.23	0.30	0.24	0.18
Ho	g/t	430	370	360	460	320	320
La	g/t	11000	11000	12000	13000	10000	9300
Lu	g/t	110	99	93	110	85	87
Nb	%	1.38	1.24	1.11	1.43	1.18	1.01
Nd	g/t	13000	12000	13000	15000	12000	11000
Pr	g/t	3300	3100	3300	3700	2900	2700
Sc	g/t	6	5	4	6	4	4
Sm	g/t	3100	2800	2900	3400	2600	2400
Ta	%	0.13	0.12	0.11	0.15	0.11	0.09
Tb	g/t	470	410	410	520	380	360
Tm	g/t	140	120	120	150	110	110
Yb	g/t	860	750	720	880	630	650
Zr	%	13.5	12.0	10.5	14.1	11.5	9.39

All samples from project 12390-0(

Radionuclide and ICP-OES

Parameter	Unit	Concentrate Samples		
		F37 Mozley Conc Comp	Master Conc	XPS PP Comp 1 Conc
Sample Origin			**F25, F28, F29 + F30**	**MPP Run 1**
Batch #		T10-01609.0	T10-01609.0	T10-01609.0
^{226}Ra	Bq/g	1.5	1.4	1.2
^{210}Pb	Bq/g	0.30	0.28	0.28
^{228}Ra	Bq/g	1.8	1.9	1.8
LIMS #		11622-NOV10	11622-NOV10	11622-NOV10
Hg	µg/g	< 0.1	< 0.1	< 0.1
Ag	g/t	130	130	87
Al	µg/g	22000	15000	18000
As	g/t	20	77	16
B	g/t	39	45	38
Ba	g/t	210	190	130
Be	g/t	39	47	40
Bi	g/t	3.1	3.8	5.0
Ca	µg/g	50000	61000	81000
Cd	g/t	80	80	55
Co	g/t	2.9	3.8	7.3
Cr	g/t	77	160	15
Cu	g/t	17	16	45
Fe	µg/g	96000	110000	89000
K	µg/g	17000	12000	13000
Li	g/t	62	59	51
Mg	µg/g	22000	19000	22000
Mn	g/t	3000	4700	5400
Mo	g/t	13	20	4.1
Na	µg/g	4200	2500	3600
Ni	g/t	48	86	100
P	µg/g	2900	2000	2200
Pb	g/t	64	63	55
Sb	g/t	1.3	1.3	1.2
Se	g/t	26	31	24
Sn	g/t	110	120	92
Sr	g/t	85	92	97
Ti	µg/g	990	570	470
Tl	g/t	0.29	0.26	0.24
Th	g/t	210	3.5	2.2
U	g/t	89	87	67
V	g/t	< 1	8	< 1
Y	g/t	3600	4000	3200
Zn	g/t	320	270	230
LIMS		03108-OCT10	02474-OCT10	02281-NOV10
F	%	2.41	2.80	3.21
Cl	g/t	326	207	184
Si	%	11.5	12.0	12.6
Ce	g/t	24000	27000	26000
Dy	g/t	1800	2100	1800
Er	g/t	770	1000	730
Eu	g/t	340	400	330
Ga	%	< 0.004	< 0.004	0.010
Gd	g/t	2500	2800	2600
Hf	%	0.25	0.24	0.20
Ho	g/t	310	400	290
La	g/t	10000	12000	11000
Lu	g/t	90	100	77
Nb	%	1.02	1.28	0.82
Nd	g/t	12000	14000	13000
Pr	g/t	2900	3300	3500
Sc	g/t	5	5	8
Sm	g/t	2700	3100	2900
Ta	%	0.10	0.11	0.12
Tb	g/t	370	460	370
Tm	g/t	110	130	96
Yb	g/t	650	790	570
Zr	%	10.6	12.6	8.4

All samples from project 12390-0(

Modified Acid Base Accounting

Parameter	Unit	Head Samples					
		Master Comp 3	Avalon Head Sample 1	Avalon Head Sample 2	Avalon Head Sample 3	XPS PP Comp 2 Head	XPS PP Comp 3 Head
		F25, 28, 29 + 30	F33	F36	F37	MPPX	MPP Run 2
LIMS		11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	10357-DEC10	10357-DEC10
Paste pH	units	9.12	9.54	9.58	9.57	9.59	9.51
Fizz Rate	---	3	3	3	3	3	3
Sample weight	g	2.04	2.05	1.97	2.00	1.97	1.96
HCl added	mL	40.00	31.20	44.30	39.60	50.50	33.50
HCl	Normality	0.10	0.10	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	21.97	13.81	17.73	21.55	23.86	14.82
Final pH	units	1.61	1.97	1.94	1.60	1.75	1.92
NP	t $CaCO_3$/1000 t	44.2	42.4	67.4	45.1	67.6	47.7
AP	t $CaCO_3$/1000 t	0.31	0.31	0.31	0.31	0.31	0.31
Net NP	t $CaCO_3$/1000 t	43.9	42.1	67.1	44.8	67.3	47.4
NP/AP	ratio	143	137	217	145	218	154
S	%	0.021	0.016	0.023	0.019	< 0.005	< 0.005
SO_4^-S	%	0.02	0.02	0.02	0.02	< 0.01	< 0.01
Sulphide-S	%	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
C	%	0.690	0.655	0.992	0.713	0.930	0.680
CO_3	%	1.97	1.98	3.30	2.26	3.21	2.08
CO_3 NP	t $CaCO_3$/1000 t	32.7	32.9	54.8	37.5	53.3	34.5
CO_3 Net NP	t $CaCO_3$/1000 t	32.4	32.6	54.5	37.2	53.0	34.2
CO_3 NP/AP	ratio	105	106	177	121	172	111
NP Attributed to CO_3	%	74.0	77.5	81.3	83.2	78.8	72.4

Net Acid Generation Testing

Parameter	Unit	Head Samples					
		Master Comp 3	Avalon Head Sample 1	Avalon Head Sample 2	Avalon Head Sample 3	XPS PP Comp 2 Head	XPS PP Comp 3 Head
		F25, 28, 29 + 30	F33	F36	F37	MPPX	MPP Run 2
LIMS		11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	10358-DEC10	10358-DEC10
Sample weight	g	1.53	1.48	1.49	1.53	1.47	1.50
Vol H_2O_2	mL	150	150	150	150	150	150
Final pH	units	10.88	10.65	10.63	10.90	10.76	10.84
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	0.00	0.00	0.00	0.00	0.00	0.00
Vol NaOH to pH 7.0	mL	0.00	0.00	0.00	0.00	0.00	0.00
NAG@pH4.5	kg H_2SO_4/t	0	0	0	0	0	0
NAG@pH7.0	kg H_2SO_4/t	0	0	0	0	0	0

Modified Acid Base Accountin

Parameter	Unit	Tailings Samples								
		F25 Comb Tls	F28 Comb Tls	F29 Comb Tls	F33 Comb Tls	F36 Comb Tls	F37 Comb Tls	Master Tls	XPS PP Comp 1 Tls	XPS PP Comp 2 Tls
								F25, 28, 29 + 30	MPP Run 1	MPP Run 2
LIMS		11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	11613-NOV10	10330-DEC10
Paste pH	units	9.40	9.40	8.90	9.37	9.38	9.41	9.30	9.32	8.92
Fizz Rate	---	2	2	2	2	2	2	2	1	2
Sample weight	g	2.00	2.02	2.01	1.98	1.98	1.97	2.04	2.02	2.03
HCl added	mL	20.00	20.00	20.00	20.00	25.40	20.00	20.00	20.00	20.00
HCl	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	12.31	11.92	10.83	11.95	15.20	11.62	10.85	12.62	13.21
Final pH	units	1.58	1.57	1.31	1.74	1.60	1.75	1.86	1.69	1.51
NP	t $CaCO_3$/1000 t	19.2	20.0	22.8	20.3	25.8	21.3	22.4	18.3	16.7
AP	t $CaCO_3$/1000 t	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP	t $CaCO_3$/1000 t	18.9	19.7	22.5	20.0	25.5	21.0	22.1	18.0	16.4
NP/AP	ratio	61.9	64.5	73.5	65.5	83.2	68.7	72.3	59.0	53.9
S	%	0.007	< 0.005	0.006	0.008	0.006	0.006	0.006	0.007	< 0.005
SO_4^-S	%	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulphide-S	%	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
C	%	0.344	0.321	0.377	0.312	0.406	0.316	0.405	0.214	0.196
CO_3	%	0.608	0.599	0.699	0.604	0.903	0.622	0.810	0.515	0.469
CO_3 NP	t $CaCO_3$/1000 t	10.1	9.9	11.6	10.0	15.0	10.3	13.4	8.5	7.8
CO_3 Net NP	t $CaCO_3$/1000 t	9.8	9.6	11.3	9.7	14.7	10.0	13.1	8.2	7.5
CO_3 NP/AP	ratio	32.6	32.1	37.4	32.3	48.4	33.3	43.4	27.6	25.1
NP Attributed to CO_3	%	52.6	49.7	50.9	49.4	58.1	48.5	60.0	46.7	46.6

Net Acid Generation Testing

Parameter	Unit	Tailings Samples								
		F25 Comb Tls	F28 Comb Tls	F29 Comb Tls	F33 Comb Tls	F36 Comb Tls	F37 Comb Tls	Master Tls	XPS PP Comp 1 Tls	XPS PP Comp 2 Tls
								F25, 28, 29 + 30	MPP Run 1	MPP Run 2
LIMS		11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	11614-NOV10	10331-DEC10
Sample weight	g	1.50	1.49	1.52	1.54	1.53	1.51	1.50	1.49	1.55
Vol H_2O_2	mL	150	150	150	150	150	150	150	150	150
Final pH	units	10.39	10.41	10.50	10.39	10.42	10.51	10.40	9.76	10.21
NaOH	Normality	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vol NaOH to pH 7.0	mL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NAG@pH4.5	kg H_2SO_4/t	0	0	0	0	0	0	0	0	0
NAG@pH7.0	kg H_2SO_4/t	0	0	0	0	0	0	0	0	0

Modified Acid Base Accountin

Parameter	Unit	Concentrate Samples				
		F33 Mozley Conc Comp	F36 Mozley Conc Comp	F37 Mozley Conc Comp	Master Conc	XPS PP1 Comp 1 Conc
					F25, 28, 29 + 30	MPP Run 1
LIMS		11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10	11295-NOV10
Paste pH	units	9.10	9.21	9.17	9.29	8.96
Fizz Rate	---	3	3	3	3	3
Sample weight	g	1.97	1.96	1.95	2.05	2.02
HCl added	mL	70.70	108.90	75.50	87.30	124.70
HCl	Normality	0.10	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	27.37	41.60	34.21	30.18	48.60
Final pH	units	1.87	1.62	1.77	1.90	1.74
NP	t $CaCO_3$/1000 t	110	172	106	139	188
AP	t $CaCO_3$/1000 t	2.94	1.89	4.05	3.26	2.62
Net NP	t $CaCO_3$/1000 t	107	170	102	136	186
NP/AP	ratio	37.4	91.0	26.2	42.8	71.9
S	%	0.116	0.078	0.135	0.118	0.098
SO_4^-S	%	0.02	0.02	< 0.01	0.01	0.01
Sulphide-S	%	0.09	0.06	0.13	0.10	0.08
C	%	2.02	2.64	1.93	2.86	3.08
CO_3	%	5.36	8.50	4.81	7.03	9.59
CO_3 NP	t $CaCO_3$/1000 t	89.0	141	79.8	117	159
CO_3 Net NP	t $CaCO_3$/1000 t	86.0	139	75.8	113	157
CO_3 NP/AP	ratio	30.3	74.7	19.7	35.8	60.8
NP Attributed to CO_3	%	80.9	82.0	75.3	84.0	84.7

Net Acid Generation Testing

Parameter	Unit	Concentrate Samples				
		F33 Mozley Conc Comp	F36 Mozley Conc Comp	F37 Mozley Conc Comp	Master Conc	XPS PP Comp 1 Conc
					F25, 28, 29 + 30	MPP Run 1
LIMS		11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10	11296-NOV10
Sample weight	g	1.55	1.52	1.51	1.49	1.53
Vol H_2O_2	mL	150	150	150	150	150
Final pH	units	10.50	10.34	10.84	10.61	9.40
NaOH	Normality	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	0.00	0.00	0.00	0.00	0.00
Vol NaOH to pH 7.0	mL	0.00	0.00	0.00	0.00	0.00
NAG@pH4.5	kg H_2SO_4/t	0	0	0	0	0
NAG@pH7.0	kg H_2SO_4/t	0	0	0	0	0

Shake Flask Extraction 3:1 L:S

			Head Samples					
Parameter	**Unit**	***MMER**	**Master Comp 3**	**Avalon Head Sample 1**	**Avalon Head Sample 2**	**Avalon Head Sample 3**	**XPS PP Comp 2 Head**	**XPS PP Comp 3 Head**
			F25, 28, 29 + 30	**F33**	**F36**	**F37**	**MPPX**	**MPP Run 2**
LIMS			11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	10837-JAN11	10837-JAN11
Sample weight	g		500	348	216	388	250	250
Volume D.I. H_2O	mL		1500	1044	650	1163	750	750
Initial pH	units		9.90	9.82	9.87	9.86	9.97	9.86
Final pH	units		9.56	9.50	9.61	9.54	9.46	9.51
^{226}Ra	Bq/L	0.37	< 0.01	< 0.01	< 0.01	< 0.01	***	***
^{228}Ra	Bq/L		< 0.3	< 0.1	< 0.4	< 0.3	***	***
^{210}Pb	Bq/L		0.3	0.1	< 0.1	0.2	***	***
pH	units	6.0-9.5	9.27	9.21	8.96	9.33	8.50	8.92
Conductivity	uS/cm		237	227	223	228	258	242
F	mg/L		12.0	12.2	10.3	11.8	0.98	11.0
Cl	mg/L		11	11	11	10	12	11
Hg	mg/L		< 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
Al	mg/L		0.11	0.13	0.11	0.11	0.03	0.05
As	mg/L	0.50	0.0010	0.0010	0.0011	0.0010	0.0013	0.0008
B	mg/L		0.110	0.109	0.116	0.103	0.167	0.133
Ba	mg/L		0.404	0.457	0.311	0.345	0.654	0.550
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L		0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca	mg/L		8.09	7.30	7.25	7.99	7.12	6.44
Cd	mg/L		0.000024	0.000032	0.000020	0.000018	0.000113	0.000043
Ce	mg/L		0.00061	0.00076	0.00056	0.00020	0.00048	0.00054
Co	mg/L		0.000036	0.000026	0.000029	0.000023	0.000029	0.000016
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005
Cu	mg/L	0.30	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0013	0.0009
Dy	mg/L		0.000072	0.000094	0.000075	0.000033	0.000058	0.000061
Er	mg/L		0.000032	0.000043	0.000042	0.000019	0.000036	0.000028
Eu	mg/L		0.000125	0.000137	0.000098	0.000094	0.000085	0.000076
Fe	mg/L		0.015	0.018	0.010	0.003	0.012	0.014
Ga	mg/L		0.0105	0.0105	0.00752	0.01086	0.00511	0.00833
Gd	mg/L		0.00009	0.00011	0.00009	< 0.00005	0.00007	0.00008
Hf	mg/L		0.000035	0.000041	0.000064	0.000017	0.000138	0.000069
Ho	mg/L		0.000014	0.000019	0.000016	0.000006	0.000013	0.000011
K	mg/L		27.9	24.4	24.2	28.3	24.0	20.2
La	mg/L		0.00029	0.00034	0.00027	0.00009	0.00024	0.00028
Li	mg/L		0.023	0.024	0.031	0.024	0.038	0.023
Lu	mg/L		0.000005	0.000003	0.000004	0.000001	0.000003	0.000002
Mg	mg/L		3.52	3.00	3.38	3.57	3.31	2.83
Mn	mg/L		0.00243	0.00402	0.00414	0.00168	0.0133	0.00536
Mo	mg/L		0.0246	0.0381	0.0153	0.0251	0.0162	0.0239
Na	mg/L		21.8	25.1	21.8	22.0	22.2	16.8
Nb	mg/L		0.000475	0.000525	0.000503	0.000564	0.000519	0.000536
Nd	mg/L		0.00039	0.00046	0.00038	0.00012	0.00028	0.00032
Ni	mg/L	0.50	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003
Pb	mg/L	0.20	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00047	0.00072
Pr	mg/L		0.00009	0.00011	0.00008	0.00003	0.00007	0.00007
Sb	mg/L		0.0008	0.0008	0.0007	0.0011	0.0007	0.0006
Sc	mg/L		0.00457	0.00384	0.00459	0.00347	0.00067	0.00044
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Si	mg/L		3.36	3.50	4.28	3.46	4.42	2.67
Sm	mg/L		0.00009	0.00011	0.00009	0.00003	0.00007	0.00007
Sn	mg/L		0.00002	< 0.00001	0.00016	0.00015	0.00007	0.00006
Sr	mg/L		0.0438	0.0402	0.0478	0.0423	0.0547	0.0361
Ta	mg/L		0.000082	0.000057	0.000048	0.000226	0.000059	0.000056
Tb	mg/L		0.000007	0.000009	0.000002	< 0.000001	< 0.000001	< 0.000001
Th	mg/L		0.00223	0.000577	0.000365	0.000066	0.000489	0.000300
Ti	mg/L		0.0002	0.0001	0.0001	< 0.0001	0.0002	0.0002
Tl	mg/L		0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Tm	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001
U	mg/L		0.000143	0.000327	0.000169	0.000462	0.000160	0.000165
V	mg/L		0.00009	0.00005	0.00003	0.00051	0.00009	0.00009
Y	mg/L		0.000323	0.000335	0.000440	0.000128	0.000390	0.000315
Yb	mg/L		0.000019	0.000028	0.000028	0.000010	0.000027	0.000016
Zn	mg/L	0.50	0.001	0.002	0.002	0.001	0.006	0.003
Zr	mg/L		0.00119	0.00161	0.00276	0.00061	0.00292	0.00128

**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

Shake Flask Extraction 3:1 L:S

			Tailings Samples								
Parameter	**Unit**	***MMER**	**F25 Comb Tls**	**F28 Comb Tls**	**F29 Comb Tls**	**F33 Comb Tls**	**F36 Comb Tls**	**F37 Comb Tls**	**Master Tls F25, 28, 29 + 30**	**XPS PP Comp 1 Tls MPP Run 1**	**XPS PP Comp 2 Tls MPP Run 2**
LIMS			11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	11611-NOV10	10837-JAN11
Sample weight	g		500	500	500	500	500	500	500	300	500
Volume D.I. H_2O	mL		1500	1500	1500	1500	1500	1500	1500	900	1500
Initial pH	units		8.30	8.59	8.62	8.86	8.84	8.92	8.52	9.28	9.08
Final pH	units		8.44	8.66	8.66	8.91	8.84	8.95	8.59	8.81	8.82
^{226}Ra	Bq/L	0.37	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	***
^{228}Ra	Bq/L		< 0.2	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	***
^{210}Pb	Bq/L		0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	***
pH	units	6.0-9.5	7.91	7.87	7.81	7.90	8.02	8.09	7.81	7.95	8.12
Conductivity	uS/cm		104	105	111	150	140	140	112	216	209
F	mg/L		1.29	1.23	1.39	2.40	2.33	2.71	1.40	1.83	4.43
Cl	mg/L		1.4	1.7	1.9	2.6	3.3	3.6	1.8	3.6	5.0
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L		0.00052	0.00010	0.00018	0.00007	0.00011	0.00005	0.00039	< 0.00001	0.00003
Al	mg/L		0.56	0.26	0.28	0.10	0.11	0.10	0.58	0.03	0.05
As	mg/L	0.50	0.0024	0.0027	0.0031	0.0079	0.0081	0.0066	0.0032	0.0199	0.0060
B	mg/L		0.0784	0.0565	0.0614	0.0650	0.0805	0.0695	0.0894	0.103	0.118
Ba	mg/L		0.206	0.0984	0.125	0.110	0.218	0.158	0.183	0.199	0.507
Be	mg/L		0.00009	0.00002	0.00005	0.00002	0.00003	< 0.00002	0.00008	< 0.00002	< 0.00002
Bi	mg/L		0.00006	0.00002	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00003	< 0.00001	< 0.00001
Ca	mg/L		13.1	12.8	13.0	13.1	13.8	14.1	13.3	21.0	14.5
Cd	mg/L		0.000339	0.000081	0.000131	0.000056	0.000078	0.000034	0.000248	0.000043	0.000019
Ce	mg/L		0.0645	0.0123	0.0327	0.00739	0.0112	0.00995	0.0501	0.00062	0.00120
Co	mg/L		0.000103	0.000075	0.000076	0.000076	0.000083	0.000071	0.000084	0.0104	0.000035
Cr	mg/L		0.0036	0.0049	0.0062	0.0023	0.0031	0.0022	0.0048	< 0.0005	< 0.0005
Cu	mg/L	0.30	0.0042	0.0020	0.0029	0.0049	0.0063	0.0056	0.0028	0.0010	0.0008
Dy	mg/L		0.00741	0.00209	0.00387	0.00148	0.00204	0.00173	0.00610	0.000114	0.000144
Er	mg/L		0.00320	0.000909	0.00177	0.000654	0.000917	0.000666	0.00271	0.000054	0.000061
Eu	mg/L		0.000964	0.000235	0.000475	0.000166	0.000266	0.000212	0.000735	0.000027	0.000070
Fe	mg/L		0.304	0.081	0.123	0.041	0.079	0.056	0.198	0.041	0.072
Ga	mg/L		0.00150	0.00118	0.00154	0.00134	0.00104	0.00176	0.00161	0.00111	0.00185
Gd	mg/L		0.00792	0.00183	0.00390	0.00126	0.00184	0.00162	0.00604	0.00011	0.00017
Hf	mg/L		0.00333	0.000671	0.00109	0.000430	0.000735	0.000313	0.00249	0.000109	0.000207
Ho	mg/L		0.00132	0.000386	0.000739	0.000278	0.000380	0.000300	0.00113	0.000020	0.000030
K	mg/L		2.33	3.44	3.47	7.79	8.52	7.96	2.69	8.76	12.8
La	mg/L		0.0291	0.00512	0.01394	0.00328	0.00505	0.00463	0.0218	0.00027	0.00053
Li	mg/L		0.007	0.009	0.006	0.014	0.016	0.011	0.007	0.011	0.010
Lu	mg/L		0.000259	0.000063	0.000124	0.000038	0.000055	0.000035	0.000207	0.000005	0.000007
Mg	mg/L		2.41	2.20	2.10	2.46	2.70	2.50	2.30	3.20	5.31
Mn	mg/L		0.112	0.0725	0.0717	0.0339	0.0479	0.0219	0.0729	0.0145	0.00824
Mo	mg/L		0.0204	0.0220	0.0242	0.0151	0.0158	0.0144	0.0247	0.0366	0.0321
Na	mg/L		6.70	6.75	9.29	9.95	10.3	10.9	9.18	13.4	17.4
Nb	mg/L		0.0280	0.00556	0.0108	0.00426	0.00737	0.00520	0.0219	0.000656	0.001073
Nd	mg/L		0.0306	0.00678	0.0165	0.00403	0.00606	0.00543	0.0245	0.00036	0.00065
Ni	mg/L	0.50	0.0023	0.0012	0.0016	0.0019	0.0020	0.0015	0.0018	0.0059	0.0015
Pb	mg/L	0.20	0.00044	0.00016	0.00017	0.00008	0.00018	0.00013	0.00031	0.00004	0.00006
Pr	mg/L		0.00724	0.00153	0.00383	0.00092	0.00137	0.00125	0.00576	0.00008	0.00016
Sb	mg/L		0.0007	0.0007	0.0008	0.0006	0.0007	0.0007	0.0008	0.0026	0.0031
Sc	mg/L		0.00796	0.00635	0.00610	0.00579	0.00565	0.00522	0.00703	0.00125	0.00045
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Si	mg/L		7.72	6.44	6.17	5.74	5.85	5.58	7.56	4.72	3.35
Sm	mg/L		0.00734	0.00157	0.00369	0.00101	0.00156	0.00131	0.00573	0.00010	0.00017
Sn	mg/L		0.00062	0.00012	0.00016	0.00013	0.00076	0.00031	0.00063	0.00010	0.00025
Sr	mg/L		0.0473	0.0401	0.0404	0.0434	0.0507	0.0405	0.0444	0.0599	0.0801
Ta	mg/L		0.00333	0.000712	0.00119	0.000461	0.000826	0.000529	0.00239	0.000116	0.000195
Tb	mg/L		0.00140	0.000362	0.000704	0.000246	0.000356	0.000301	0.00111	0.000020	0.000030
Th	mg/L		0.00280	0.000702	0.00186	0.000354	0.000577	0.000420	0.002330	0.000832	0.000377
Ti	mg/L		0.0019	0.0005	0.0008	0.0004	0.0005	0.0004	0.0012	0.0004	0.0003
Tl	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Tm	mg/L		0.000365	0.000088	0.000189	0.000053	0.000084	0.000055	0.000302	0.000006	0.000010
U	mg/L		0.00132	0.00119	0.00131	0.00410	0.00429	0.00514	0.00136	0.00535	0.00535
V	mg/L		0.00024	0.00029	0.00022	0.00030	0.00027	0.00025	0.00021	0.00033	0.00014
Y	mg/L		0.0342	0.0121	0.0227	0.0100	0.0127	0.0111	0.0328	0.000546	0.000850
Yb	mg/L		0.00210	0.000529	0.00106	0.000333	0.000489	0.000316	0.00171	0.000036	0.000041
Zn	mg/L	0.50	0.008	0.006	0.006	0.004	0.008	0.010	0.011	0.003	0.010
Zr	mg/L		0.142	0.0284	0.0480	0.0178	0.0311	0.0130	0.108	0.00382	0.00364

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Shake Flask Extraction 3:1 L:S

			Concentrate Samples				
Parameter	**Unit**	***MMER**	**F33 Mozley Conc Comp**	**F36 Mozley Conc Comp**	**F37 Mozley Conc Comp**	**Master Conc F25, 28, 29 + 30**	**XPS PP Comp 1 Conc MPP Run 1**
LIMS			11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10	11297-NOV10
Sample weight	g		500	500	500	500	500
Volume D.I. H_2O	mL		1500	1500	1500	1500	1500
Initial pH	units		8.92	8.68	8.87	9.10	8.90
Final pH	units		8.93	8.75	8.89	9.02	8.80
^{226}Ra	Bq/L	0.37	< 0.01	0.01	< 0.01	< 0.01	< 0.01
^{228}Ra	Bq/L		< 0.1	< 0.1	< 0.1	< 0.1	< 0.3
^{210}Pb	Bq/L		< 0.1	0.1	< 0.1	< 0.1	< 0.1
pH	units	6.0-9.5	7.93	7.61	7.61	7.71	7.78
Conductivity	uS/cm		75	87	78	84	83
F	mg/L		0.97	0.90	0.90	1.31	1.08
Cl	mg/L		1.1	1.1	1.0	1.3	2.0
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L		0.00005	0.00015	0.00001	0.00010	< 0.00001
Al	mg/L		0.07	0.06	0.02	0.06	0.09
As	mg/L	0.50	0.0113	0.0107	0.0093	0.0047	0.0019
B	mg/L		0.0755	0.0996	0.0801	0.0795	0.0653
Ba	mg/L		0.0231	0.0536	0.0308	0.0737	0.105
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L		< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001
Ca	mg/L		7.20	8.18	7.46	10.1	10.4
Cd	mg/L		0.000035	0.000095	0.000015	0.000066	0.000015
Ce	mg/L		0.00586	0.00416	0.00192	0.0170	0.00053
Co	mg/L		0.000066	0.000043	0.000042	0.000056	0.000046
Cr	mg/L		0.0007	0.0006	< 0.0005	0.0012	< 0.0005
Cu	mg/L	0.30	0.0020	0.0008	0.0006	0.0020	0.0006
Dy	mg/L		0.000647	0.000713	0.000214	0.00130	0.000071
Er	mg/L		0.000325	0.000479	0.000113	0.000567	0.000042
Eu	mg/L		0.000082	0.000078	0.000036	0.000233	0.000039
Fe	mg/L		0.083	0.070	0.031	0.104	0.014
Ga	mg/L		0.00163	0.00101	0.00194	0.00146	0.00266
Gd	mg/L		0.00068	0.00053	0.00024	0.00176	0.00008
Hf	mg/L		0.000351	0.000965	0.000093	0.000671	0.000095
Ho	mg/L		0.000122	0.000157	0.000041	0.000231	0.000015
K	mg/L		1.57	4.52	2.75	0.872	1.73
La	mg/L		0.00256	0.00168	0.00083	0.00711	0.00022
Li	mg/L		0.006	0.008	0.006	0.004	0.005
Lu	mg/L		0.000028	0.000053	0.000011	0.000054	0.000004
Mg	mg/L		0.855	1.12	0.929	0.914	1.53
Mn	mg/L		0.0204	0.0359	0.0159	0.0272	0.0332
Mo	mg/L		0.00524	0.00332	0.00349	0.00531	0.00690
Na	mg/L		8.53	7.14	8.13	7.79	4.56
Nb	mg/L		0.00328	0.00288	0.00184	0.00534	0.000428
Nd	mg/L		0.00296	0.00201	0.00100	0.00830	0.00028
Ni	mg/L	0.50	0.0005	0.0004	< 0.0001	< 0.0001	0.0004
Pb	mg/L	0.20	0.00017	0.00005	0.00003	0.00039	0.00002
Pr	mg/L		0.00070	0.00048	0.00024	0.00196	0.00007
Sb	mg/L		0.0011	0.0010	0.0010	0.0009	0.0013
Sc	mg/L		0.00346	0.00318	0.00319	0.00320	0.00243
Se	mg/L		< 0.001	< 0.001	< 0.001	0.001	< 0.001
Si	mg/L		3.50	3.29	3.40	3.31	2.65
Sm	mg/L		0.00067	0.00051	0.00023	0.00183	0.00006
Sn	mg/L		0.00029	0.00023	0.00006	0.00037	0.00008
Sr	mg/L		0.0228	0.0313	0.0237	0.0357	0.0341
Ta	mg/L		0.000341	0.000515	0.000152	0.000638	0.000061
Tb	mg/L		0.000108	0.000098	0.000028	0.000254	0.000006
Th	mg/L		0.000248	0.000169	0.000089	0.000514	0.000039
Ti	mg/L		0.0004	0.0006	0.0003	0.0007	0.0002
Tl	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Tm	mg/L		0.000027	0.000055	0.000003	0.000060	< 0.000001
U	mg/L		0.000180	0.000078	0.000103	0.00105	0.00154
V	mg/L		0.00045	0.00026	0.00028	0.00028	0.00032
Y	mg/L		0.00376	0.00518	0.00148	0.00652	0.000354
Yb	mg/L		0.000220	0.000411	0.000082	0.000409	0.000028
Zn	mg/L	0.50	0.008	0.006	0.005	0.004	0.004
Zr	mg/L		0.0147	0.0430	0.00413	0.0292	0.00313

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ICP-OES/MS Solution Analyses

			Water Samples							
Parameter	**Unit**	***MMER**	**Thor Lake Water # 4**		**Thor Lake Water # 7**		**XPS Tap Water 14-JAN-11**		**Ortech Tap Water**	
LIMS			11346-NOV10+10168-DEC10		11346-NOV10+10168-DEC10		10262-JAN11+10289-JAN11		10289-JAN11	
^{226}Ra	Bq/L	0.37	< 0.01	---	< 0.01	---	***	---	***	---
^{228}Ra	Bq/L		< 0.2	---	< 0.2	---	***	---	---	---
^{210}Pb	Bq/L		< 0.1	---	< 0.1	---	***	---	---	---
Temp on Receipt	°C		19.0	19.0	19.0	19.0	18.0	---	18.0	---
pH	units	6.0-9.5	8.19	---	8.26	---	7.62	---	7.96	---
Alkalinity	mg/L as $CaCO_3$		144	---	142	---	51	---	89	---
EMF	mV		303	---	281	---	686	---	576	---
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	< 2	---
Conductivity	µS/cm		277	---	280	---	311	---	308	---
TDS	mg/L		186	---	180	---	200	---	186	---
TSS	mg/L	15.00	< 2	---	2	---	< 2	---	< 2	---
Cl	mg/L		3.8	---	3.8	---	48	---	29	---
SO_4	mg/L		0.4	---	0.4	---	20	---	27	---
F	mg/L		1.01	---	1.02	---	0.06	---	0.34	---
NO_2	as N mg/L		< 0.06	---	< 0.06	---	< 0.06	---	< 0.06	---
NO_3	as N mg/L		< 0.05	---	< 0.05	---	0.27	---	0.49	---
NO_2+NO_3	as N mg/L		< 0.06	---	< 0.06	---	0.27	---	0.49	---
Tot.Reactive P	mg/L		< 0.03	---	< 0.03	---	0.15	---	< 0.03	---
TOC	mg/L		12.2	---	13.0	---	2.3	---	1.6	---
NH_3+NH_4	as N mg/L		< 0.1	---	< 0.1	---	< 0.1	---	< 0.1	---
Thiosalts	as S_2O_3 mg/L		< 10	---	< 10	---	< 10	---	CNBD	---
S_2O_3	mg/L		---	---	---	---	---	---	< 2	---
Metals			**Total**	**Diss**	**Total**	**Diss**	**Total**	**Diss**	**Total**	**Diss**
Hg	mg/L		< 0.0001	< 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	< 0.00001
Al	mg/L		0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04	0.04
As	mg/L	0.50	0.0009	0.0008	0.0008	0.0009	0.0015	0.0017	0.0007	0.0008
Ba	mg/L		0.0674	0.0621	0.0650	0.0629	0.0074	0.0074	0.0224	0.0218
Be	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
B	mg/L		0.0231	0.0223	0.0229	0.0230	0.0088	0.0084	0.0250	0.0248
Bi	mg/L		0.00002	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca	mg/L		32.1	30.5	31.3	30.2	25.6	30.2	35.4	35.4
Cd	mg/L		< 0.000003	0.000086	< 0.000003	< 0.000003	< 0.000003	0.000017	< 0.000003	< 0.000003
Co	mg/L		0.000071	0.000067	0.000061	0.000065	0.000041	0.000034	0.000053	0.000042
Cr	mg/L		< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0007	0.0006	< 0.0005	< 0.0005
Cu	mg/L	0.30	< 0.0005	0.0006	< 0.0005	< 0.0005	0.0342	0.0335	0.0025	0.0030
Fe	mg/L		0.019	< 0.002	0.013	0.008	0.008	0.002	0.006	0.003
K	mg/L		1.87	1.81	1.82	1.76	1.37	1.62	1.82	1.83
Li	mg/L		0.004	0.005	0.005	0.005	0.001	0.001	0.002	0.002
Mg	mg/L		17.5	16.4	17.1	16.3	5.57	6.60	9.37	9.43
Mn	mg/L		0.0116	0.00037	0.00613	0.0004	0.00024	0.00013	0.00118	0.00040
Mo	mg/L		0.00204	0.00179	0.00206	0.00192	0.00090	0.00121	0.00139	0.00131
Na	mg/L		5.94	5.55	5.83	5.49	20.3	23.5	16.1	16.2
Ni	mg/L	0.50	0.0006	0.0007	0.0006	0.0008	0.0009	0.0011	0.0008	0.0008
Pb	mg/L	0.20	0.00006	0.00007	0.00007	0.00008	0.00016	0.00005	0.00095	0.00085
Sb	mg/L		0.0003	< 0.0002	0.0002	< 0.0002	< 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	< 0.001
Si	mg/L		3.12	2.95	3.03	2.92	7.15	8.40	0.47	0.49
Sn	mg/L		0.00012	0.00009	0.00012	0.00017	0.00039	0.00035	0.00133	0.00129
Sr	mg/L		0.0602	0.0568	0.0583	0.0564	0.0401	0.0474	0.184	0.186
Th	mg/L		0.000115	0.000022	0.000079	0.000023	0.000026	0.000006	0.000027	0.000004
Ti	mg/L		0.0002	< 0.0001	< 0.0001	< 0.0001	0.0003	0.0003	0.0004	0.0003
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
U	mg/L		0.000402	0.000338	0.000373	0.000350	0.000322	0.000345	0.000310	0.000289
V	mg/L		0.00008	0.00042	0.00009	0.00013	0.00080	0.00080	0.00024	0.00026
Y	mg/L		0.000007	0.000007	0.000007	0.000015	0.000006	0.000007	0.000017	0.000012
Zn	mg/L	0.50	< 0.002	< 0.002	< 0.002	< 0.002	0.204	0.241	0.007	0.006
Ce	mg/L		< 0.00007	< 0.00007	< 0.00007	0.00008	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Dy	mg/L		< 0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003	< 0.000003	0.000003	< 0.000003
Er	mg/L		0.000001	< 0.000001	0.000001	0.000001	0.000001	0.000001	0.000002	0.000001
Eu	mg/L		0.000006	0.000005	0.000006	0.000006	0.000001	0.000001	0.000002	0.000001
Ga	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00002	0.00010	0.00006
Gd	mg/L		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Hf	mg/L		0.000401	0.000069	0.000200	0.000073	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Ho	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000001	< 0.000001
La	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Lu	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Nb	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000002	< 0.000001	< 0.000001	< 0.000001
Nd	mg/L		< 0.00003	< 0.00003	< 0.00003	0.00004	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Pr	mg/L		< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sc	mg/L		0.00061	0.00029	0.00050	0.00034	0.00086	0.00083	0.00008	< 0.00005
Sm	mg/L		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ta	mg/L		0.000012	< 0.000001	< 0.000001	< 0.000001	0.000001	0.000001	< 0.000001	< 0.000001
Tb	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Tm	mg/L		< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Yb	mg/L		< 0.000002	< 0.000002	< 0.000002	< 0.000002	< 0.000002	< 0.000002	0.000002	< 0.000002
Zr	mg/L		0.00013	0.00005	0.00008	0.00004	< 0.00001	0.00007	0.00001	< 0.00001

**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

CNBD-could not be determined

ICP-OES/MS Solution Analyses

Parameter	Unit	*MMER	Simulated Hydromet Tails Filtrate CH-WT1 PLS +Wash	Hydromet Tails After Ra Removal RAR-1 Filtrate
LIMS			10242-DEC10+10361-DEC10	10242-DEC10+10361-DEC10
^{226}Ra	Bq/L	0.37	0.10	< 0.01
^{228}Ra	Bq/L		< 0.2	< 0.4
^{210}Pb	Bq/L		< 0.1	0.1
Temp on Receipt	°C		13.0	13.0
pH	units	6.0-9.5	7.73	7.46
Alkalinity	mg/L as $CaCO_3$		118	82
EMF	mV		214	---
Acidity	mg/L as $CaCO_3$		< 2	< 2
Conductivity	µS/cm		13400	13300
TDS	mg/L		16800	---
TSS	mg/L	15.00	---	---
Cl	mg/L		55	---
SO_4	mg/L		11000	12000
F	mg/L		1.82	---
NO_2	as N mg/L		< 0.6	---
NO_3	as N mg/L		< 0.5	---
NO_2+NO_3	as N mg/L		< 0.6	---
Tot.Reactive P	mg/L		0.07	---
TOC	mg/L		53.9	---
NH_3+NH_4	as N mg/L		91.7	---
Thiosalts	as S_2O_3 mg/L		< 10	---
S_2O_3	mg/L		---	---
Metals			**Diss**	**Diss**
Hg	mg/L		< 0.0001	< 0.0001
Ag	mg/L		0.00012	0.00007
Al	mg/L		< 0.01	< 0.01
As	mg/L	0.50	0.0022	0.0024
Ba	mg/L		0.0772	0.0328
Be	mg/L		0.00002	0.00002
B	mg/L		0.0971	0.104
Bi	mg/L		0.00008	0.00011
Ca	mg/L		393	387
Cd	mg/L		0.000232	0.000321
Co	mg/L		0.00402	0.00666
Cr	mg/L		0.0188	0.0043
Cu	mg/L	0.30	0.0226	0.0470
Fe	mg/L		0.150	0.138
K	mg/L		86.8	87.8
Li	mg/L		2.18	2.22
Mg	mg/L		1530	1550
Mn	mg/L		6.15	6.33
Mo	mg/L		0.00902	0.0113
Na	mg/L		1580	1470
Ni	mg/L	0.50	0.0701	0.0726
Pb	mg/L	0.20	0.00052	0.00075
Sb	mg/L		0.0002	0.0003
Se	mg/L		0.005	0.008
Si	mg/L		2.47	2.55
Sn	mg/L		0.00013	0.00019
Sr	mg/L		11.2	11.0
Th	mg/L		0.002945	0.000690
Ti	mg/L		0.0051	0.0047
Tl	mg/L		0.0002	0.0003
U	mg/L		0.0239	0.0167
V	mg/L		0.00063	0.00083
Y	mg/L		0.009046	0.0344
Zn	mg/L	0.50	< 0.002	0.030
Ce	mg/L		0.00529	0.791
Dy	mg/L		0.000800	0.00800
Er	mg/L		0.000400	0.00150
Eu	mg/L		0.000100	0.00270
Ga	mg/L		0.00049	0.00085
Gd	mg/L		0.00090	0.0313
Hf	mg/L		0.000638	0.000139
Ho	mg/L		0.000200	0.00100
La	mg/L		0.0120	0.566
Lu	mg/L		< 0.000001	0.000100
Nb	mg/L		0.00465	0.000411
Nd	mg/L		0.00370	0.219
Pr	mg/L		0.00090	0.06850
Sc	mg/L		0.00120	0.00120
Sm	mg/L		0.00070	0.0256
Ta	mg/L		0.000088	0.000030
Tb	mg/L		0.000100	0.00280
Tm	mg/L		0.000100	0.000100
Yb	mg/L		0.000300	0.000600
Zr	mg/L		0.0351	0.00395

**Department of Justice Canada. 2002.* Metal Mining E

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

ICP-OES/MS Solution Analyses

			Pilot Plant Tailings Decant Solutions							
			MPP Run 1				MPP Run 2			
Parameter	Unit	*MMER	Nov 24/10 XPS PP Comp 1 Tls Decant Day 5		Jan 18/11 XPS PP Comp 1 Tls Decant Day 60		Dec 20/10 XPS PP Comp 2 Tls Decant Day 5		Feb 14/11 XPS PP Comp 2 Tls Decant Day 61	
LIMS			10297-NOV10+10168-DEC10		10262-JAN11+10289-JAN11		10361-DEC10			
^{226}Ra	Bq/L	0.37	< 0.01	---	***	---	< 0.01	---	***	***
^{228}Ra	Bq/L		0.3	---	***	---	< 0.4	---	***	***
^{210}Pb	Bq/L		< 0.1	---	***	---	0.1	---	***	***
Temp on Rec	°C		20.0	---	18.0	---	15.0	---	***	***
pH	units	6.0-9.5	8.20	---	8.16	---	8.41	---	***	***
Alkalinity	mg/L as $CaCO_3$		119	---	126	---	148	---	***	***
EMF	mV		284	---	207	---	178	---	***	***
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	***	***
Conductivity	µS/cm		617	---	662	---	603	---	***	***
TDS	mg/L		400	---	406	---	354	---	***	***
TSS	mg/L	15.00	14	---	< 2	---	2	---	***	***
Cl	mg/L		44	---	44	---	63	---	***	***
SO_4	mg/L		100	---	110	---	29	---	***	***
F	mg/L		4.43	---	4.46	---	9.53	---	***	***
NO_2	as N mg/L		< 0.06	---	< 0.06	---	< 0.06	---	***	***
NO_3	as N mg/L		< 0.05	---	< 0.05	---	< 0.05	---	***	***
NO_2+NO_3	as N mg/L		< 0.06	---	< 0.06	---	< 0.06	---	***	***
Tot.Reactive P	mg/L		0.10	---	0.20	---	0.05	---	***	***
TOC	mg/L		12.2	---	7.2	---	17.1	---	***	***
NH_3+NH_4	as N mg/L		< 0.1	---	< 0.1	---	< 0.1	---	***	***
Thiosalts	as S_2O_3 mg/L		< 10	---	< 10	---	< 10	---	***	***
Metals			**Total**	**Diss**	**Total**	**Diss**	**Total**	**Diss**	**Total**	**Diss**
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	***	***
Ag	mg/L		0.00003	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	***	***
Al	mg/L		0.62	0.06	0.05	0.02	1.05	0.05	***	***
As	mg/L	0.50	0.0022	0.0025	0.0019	0.0019	0.0047	0.0048	***	***
Ba	mg/L		0.0131	0.0113	0.0114	0.0110	0.0131	0.0111	***	***
Be	mg/L		0.00006	< 0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	***	***
B	mg/L		0.128	0.126	0.131	0.124	0.179	0.171	***	***
Bi	mg/L		0.00013	0.00007	< 0.00001	0.00001	0.00003	< 0.00001	***	***
Ca	mg/L		43.7	40.0	41.2	40.9	21.8	22.1	***	***
Cd	mg/L		0.000067	0.000067	< 0.000003	0.000013	0.000077	0.000043	***	***
Co	mg/L		0.000198	0.000176	0.000111	0.000053	0.000155	0.000118	***	***
Cr	mg/L		0.0011	0.0015	0.0005	< 0.0005	0.0016	0.0013	***	***
Cu	mg/L	0.30	0.0023	0.0024	0.0012	0.0027	0.0007	0.0027	***	***
Fe	mg/L		0.570	0.025	0.025	< 0.002	0.706	0.020	***	***
K	mg/L		28.8	27.0	26.4	26.4	37.0	36.8	***	***
Li	mg/L		0.031	0.030	0.027	0.027	0.028	0.027	***	***
Mg	mg/L		9.14	8.15	8.56	8.43	12.3	12.3	***	***
Mn	mg/L		0.0788	0.0488	0.00808	0.00140	0.0317	0.0240	***	***
Mo	mg/L		0.0471	0.0440	0.0444	0.0421	0.0786	0.0767	***	***
Na	mg/L		70.4	66.0	66.5	66.5	74.5	74.8	***	***
Ni	mg/L	0.50	0.0070	0.0066	0.0048	0.0046	0.0068	0.0065	***	***
Pb	mg/L	0.20	0.00060	0.00033	0.00051	0.00011	0.00026	0.00011	***	***
Sb	mg/L		0.0033	0.0035	0.0037	0.0038	0.0048	0.0048	***	***
Se	mg/L		< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	***	***
Si	mg/L		8.10	6.24	6.31	6.23	8.19	4.70	***	***
Sn	mg/L		0.00123	0.00077	0.00885	0.00085	0.00142	0.00136	***	***
Sr	mg/L		0.237	0.125	0.130	0.129	0.112	0.114	***	***
Th	mg/L		0.000694	0.000082	0.000385	0.000084	0.00140	0.000193	***	***
Ti	mg/L		0.0032	0.0018	0.0009	0.0008	0.0027	0.0008	***	***
Tl	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	***	***
U	mg/L		0.00880	0.00836	0.00865	0.00863	0.00784	0.00742	***	***
V	mg/L		0.00058	0.00068	0.00011	0.00011	< 0.00003	< 0.00003	***	***
Y	mg/L		0.00877	0.000376	0.000174	0.000091	0.00436	0.000464	***	***
Zn	mg/L	0.50	0.007	0.004	0.003	< 0.002	0.002	0.003	***	***
Ce	mg/L		0.139	0.00149	0.00023	0.00013	0.0193	0.00112	***	***
Dy	mg/L		0.00252	0.000085	0.000028	0.000011	0.00125	0.000082	***	***
Er	mg/L		0.000581	0.000028	0.000015	0.000008	0.000490	0.000042	***	***
Eu	mg/L		0.00109	0.000021	0.000005	0.000002	0.000257	0.000022	***	***
Ga	mg/L		0.00286	0.00186	0.00179	0.00173	0.00354	0.00228	***	***
Gd	mg/L		0.00937	0.00016	< 0.00005	< 0.00005	0.00211	0.00015	***	***
Hf	mg/L		0.000267	0.000053	0.000015	< 0.000005	0.000171	0.000038	***	***
Ho	mg/L		0.000312	0.000012	0.000006	0.000003	0.000206	0.000018	***	***
La	mg/L		0.0688	0.00074	0.00012	0.00007	0.00818	0.00044	***	***
Lu	mg/L		0.000033	0.000001	0.000001	0.000001	0.000030	0.000003	***	***
Nb	mg/L		0.00257	0.000209	0.000110	0.000025	0.00395	0.000405	***	***
Nd	mg/L		0.0616	0.00083	0.00015	0.00008	0.0102	0.00092	***	***
Pr	mg/L		0.0173	0.00022	0.00003	0.00002	0.00242	0.00018	***	***
Sc	mg/L		0.00339	0.00223	0.00082	0.00073	0.00277	0.00164	***	***
Sm	mg/L		0.0110	0.00017	0.00003	0.00002	0.00211	0.00015	***	***
Ta	mg/L		0.000230	0.000029	0.000016	0.000003	0.000514	0.000041	***	***
Tb	mg/L		0.000819	0.000015	0.000006	0.000001	0.000279	0.000013	***	***
Tm	mg/L		0.000046	< 0.000001	0.000002	< 0.000001	0.000045	< 0.000001	***	***
Yb	mg/L		0.000324	0.000014	0.000008	0.000006	0.000229	0.000028	***	***
Zr	mg/L		0.00329	0.00072	0.00075	0.00009	0.00648	0.00089	***	***

**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

Specific Gravity Determinations

Sample Identifier	Specific Gravity
Master Comp 3	2.92
Avalon Head Sample 1	2.89
Avalon Head Sample 2	2.96
Avalon Head Sample 3	2.93
XPS PP Comp 2 Head	2.97
XPS PP Comp 3 Head	2.91
F25 Comb Tail	2.81
F28 Comb Tail	2.76
F29Comb Tail	2.82
F33 Comb Tail	2.82
F36 Comb Tail	2.86
F37 Comb Tail	2.86
Master Tail Blend	2.83
XPS PP Comp 1 Tls	2.84
XPS PP Comp 2 Tls	2.82
F33 Mozley Conc Comp	3.54
F36 Mozley Conc Comp	3.49
F37 Mozley Conc Comp	3.53
Master Conc Blend	3.67
XPS PP Comp 1 Conc	3.47

Appendix B – Analytical Certificates of Analysis

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

Environmental Met
Attn : Barb Bowman

Project : CALR-11806-007

Friday, November 12, 2010

Date Rec. : 05 November 2010
LR Report: **CA11294-NOV10**
Reference: Whole Rock Analysis 11806-007-01

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %	Nb2O5 %	ZrO2 %
3: Analysis Approval Date		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4: Analysis Approval Time		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5: Master Comp 3	Date:N/A	54.0	10.8	12.7	2.83	2.60	2.94	4.89	0.05	0.11	0.19	< 0.01	< 0.01	1.14	92.2	0.43	3.65
6: F25 Comb Tls	Date:N/A	59.2	11.6	11.2	2.01	0.89	3.23	5.51	0.03	0.04	0.12	0.08	< 0.01	1.82	95.6	0.14	0.95
7: F28 Comb Tls	Date:N/A	63.6	12.0	9.66	1.47	0.91	3.37	5.53	0.03	0.04	0.11	0.09	< 0.01	1.67	98.4	0.16	1.01
8: F29 Comb Tls	Date:N/A	61.5	11.5	11.5	1.67	1.08	3.23	5.35	0.03	0.03	0.12	0.10	< 0.01	1.81	97.9	0.19	1.60
9: Master Conc	Date:N/A	25.8	2.92	16.6	3.08	9.03	0.41	1.32	0.11	0.66	0.65	< 0.01	< 0.01	10.8	71.3	1.88	17.3
10: Master Tls	Date:N/A	60.9	11.5	12.0	1.86	1.11	3.28	5.42	0.03	0.05	0.14	0.10	< 0.01	1.86	98.2	0.20	1.38
11: Avalon Head Sample 1	Date:N/A	54.7	11.3	11.5	2.68	2.59	2.93	5.24	0.05	0.08	0.22	< 0.01	< 0.01	3.42	94.7	0.39	3.14
12: F33 Mozley Conc Comp	Date:N/A	30.6	4.13	13.8	3.62	8.45	0.56	1.93	0.14	0.80	0.57	< 0.01	< 0.01	9.62	74.2	1.69	16.0
13: F33 Comb Tls	Date:N/A	60.2	12.7	11.8	1.85	0.98	3.49	5.78	0.02	0.03	0.12	0.10	< 0.01	1.74	98.8	0.15	0.92
14: Avalon Head Sample 2	Date:N/A	53.6	9.15	13.3	3.34	3.08	2.39	4.44	0.05	0.05	0.40	< 0.01	< 0.01	4.54	94.3	0.46	3.73
15: F36 Mozley Conc Comp	Date:N/A	30.1	3.14	17.7	4.31	8.50	0.80	1.46	0.14	0.44	0.98	< 0.01	< 0.01	10.8	78.3	1.54	13.0
16: F36 Comb Tls	Date:N/A	60.2	10.9	12.8	2.23	1.15	2.95	5.10	0.03	0.01	0.16	0.10	0.01	1.96	97.6	0.18	1.55
17: Avalon Head Sample 3	Date:N/A	53.9	10.6	12.4	2.77	2.68	2.88	4.81	0.04	0.12	0.19	< 0.01	0.01	3.42	93.9	0.50	3.75
18: F37 Mozley Conc Comp	Date:N/A	29.9	4.17	13.7	3.60	7.39	0.58	1.88	0.18	0.80	0.47	0.02	< 0.01	8.78	71.5	1.80	18.0
19: F37 Comb Tls	Date:N/A	59.8	12.0	13.0	1.82	1.00	3.38	5.35	0.03	0.03	0.09	0.10	< 0.01	1.61	98.2	0.16	0.97
20: XPS PP Comp 1 Conc	Date:N/A	26.5	3.59	13.1	3.64	12.1	0.58	1.49	0.09	0.61	0.84	< 0.01	< 0.01	12.4	74.9	1.53	13.5

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

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

Revised sample identification Nov. 12/10

Dianne Griffin
Project Specialist

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

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

Project : CALR-11806-007

Monday, December 20, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 November 2010
LR Report: **CA11612-NOV10**
Reference: Whole Rock Analysis

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	**5: XPS PP Comp 1Tls**
Sample Date & Time	Date:N/A
Nb2O5 [%]	0.18
ZrO2 [%]	1.52
SiO2 [%]	60.2
Al2O3 [%]	13.2
Fe2O3 [%]	10.7
MgO [%]	2.43
CaO [%]	0.85
Na2O [%]	3.35
K2O [%]	6.05
TiO2 [%]	0.03
P2O5 [%]	0.04
MnO [%]	0.09
Cr2O3 [%]	< 0.01
V2O5 [%]	< 0.01
LOI [%]	1.54
Sum [%]	98.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-11806-007

Monday, January 10, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 December 2010
LR Report: **CA10329-DEC10**
Reference: Whole Rock Analysis

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: XPS PP Comp 2 Tls
SiO2 [%]	61.9
Al2O3 [%]	12.8
Fe2O3 [%]	10.0
MgO [%]	1.93
CaO [%]	0.75
Na2O [%]	3.71
K2O [%]	5.65
TiO2 [%]	0.04
P2O5 [%]	0.04
MnO [%]	0.08
Cr2O3 [%]	< 0.01
V2O5 [%]	< 0.01
LOI [%]	1.50
ZrO2 [%]	1.45
Nb2O5 [%]	0.22
Sum [%]	98.4

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Project : CALR-11806-007

Monday, January 10, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 December 2010
LR Report: **CA10356-DEC10**
Reference: CofC:11806-007-12

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	5: XPS PP Comp 2 Head	6: XPS PP Comp 3 Head
SiO2 [%]	54.2	53.8
Al2O3 [%]	9.42	10.8
Fe2O3 [%]	13.5	12.6
MgO [%]	3.35	2.79
CaO [%]	2.99	2.58
Na2O [%]	2.43	2.78
K2O [%]	4.48	4.86
TiO2 [%]	0.05	0.04
P2O5 [%]	0.06	0.12
MnO [%]	0.40	0.20
Cr2O3 [%]	0.11	< 0.01
V2O5 [%]	< 0.01	< 0.01
LOI [%]	4.25	3.68
ZrO2 [%]	3.57	3.58
Nb2O5 [%]	0.46	0.44
Sum [%]	95.2	94.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Environmental Met
Attn : Barb Bowman

Project : CALR-11806-007

Monday, December 13, 2010

Date Rec. : 22 November 2010
LR Report: **CA11622-NOV10**
Reference: 11806-007-06

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CERTIFICATE OF ANALYSIS

Final Report - Reissue

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comp 3	6: Comb TlsF28	7: Comb TlsF29	8: Comb Tls	9: Master Conc	10: Master Tls	11: Avalon Head Sample 1	12: F33 Mozley Conc Comp
Sample Date & Time			Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA
Mercury [µg/g]	01-Dec-10	11:59	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver [g/t]	07-Dec-10	15:32	23	6.5	7.3	11	130	9.8	17	110
Aluminum [µg/g]	07-Dec-10	15:42	56000	65000	64000	60000	15000	62000	59000	21000
Arsenic [g/t]	07-Dec-10	15:32	13	3.1	2.5	4.2	77	4.4	4.8	27
Boron [g/t]	07-Dec-10	15:32	15	8	7	9	45	9	18	43
Barium [g/t]	07-Dec-10	15:32	110	73	65	72	190	73	95	170
Beryllium [g/t]	07-Dec-10	15:32	11	3.8	3.8	5.2	47	4.9	8.5	38
Bismuth [g/t]	07-Dec-10	15:32	1.0	0.46	0.37	0.44	3.8	0.47	0.92	3.9
Calcium [µg/g]	07-Dec-10	15:42	18000	6400	6300	7300	61000	7700	17000	56000
Cadmium [g/t]	07-Dec-10	15:32	14	3.9	4.6	6.8	80	6.0	11	64
Cobalt [g/t]	07-Dec-10	15:32	0.68	5.6	4.9	5.3	3.8	5.5	0.63	3.2
Chromium [g/t]	07-Dec-10	15:32	79	640	560	640	160	640	75	110
Copper [g/t]	07-Dec-10	15:32	3.6	19	14	17	16	18	4.7	21
Iron [µg/g]	07-Dec-10	15:42	87000	81000	68000	80000	110000	83000	78000	94000
Potassium [µg/g]	07-Dec-10	15:42	39000	46000	44000	42000	12000	43000	41000	17000
Lithium [g/t]	07-Dec-10	15:32	52	48	35	40	59	44	51	70
Magnesium [µg/g]	07-Dec-10	15:42	17000	13000	9400	10000	19000	12000	16000	22000
Manganese [g/t]	07-Dec-10	15:32	1300	860	760	890	4700	950	1500	3800

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Project : CALR-11806-007

LR Report : **CA11622-NOV10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Tls Comp 3	6: F28 Comb Tls	7: F29 Comb Tls	8: Comb Tls	9: Master Conc	10: Master Tls	11: Avalon Head Sample 1	12: F33 Mozley Conc Comp
Molybdenum [g/t]	07-Dec-10	15:32	2.5	73	61	72	20	73	2.5	16
Sodium [µg/g]	07-Dec-10	15:42	20000	23000	24000	21000	2500	22000	19000	3600
Nickel [g/t]	07-Dec-10	15:32	16	330	270	320	86	330	13	77
Total Phosphorus [ug/g]	10-Dec-10	07:08	400	170	130	180	2000	170	340	2800
Lead [g/t]	07-Dec-10	15:32	17	8.9	9.2	10	63	9.9	14	52
Antimony [g/t]	07-Dec-10	15:32	< 0.8	< 0.8	< 0.8	< 0.8	1.3	< 0.8	< 0.8	1.3
Selenium [g/t]	07-Dec-10	15:32	7.6	1.9	2.6	3.8	31	3.2	6.0	25
Tin [g/t]	07-Dec-10	15:32	42	23	21	26	120	26	36	100
Strontium [g/t]	07-Dec-10	15:32	32	16	16	18	92	19	31	86
Titanium [µg/g]	07-Dec-10	15:42	260	190	160	180	570	200	230	710
Thallium [g/t]	07-Dec-10	15:33	0.52	0.59	0.57	0.56	0.26	0.57	0.52	0.30
Thorium [g/t]	07-Dec-10	15:33	110	31	31	44	3.5	40	91	210
Uranium [g/t]	07-Dec-10	15:33	22	7.7	8.1	11	87	9.9	19	84
Vanadium [g/t]	07-Dec-10	15:33	< 1	10	10	9	8	12	10	< 1
Yttrium [g/t]	07-Dec-10	15:33	1100	310	310	440	4000	420	790	3600
Zinc [g/t]	07-Dec-10	15:33	140	74	55	61	270	68	140	260

Phosphorus added to report Dec. 10/10

Dianne Griffin
Project Specialist

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Environmental Met
Attn : Barb Bowman

Project : CALR-11806-007

Monday, December 13, 2010

Date Rec. : 22 November 2010
LR Report: **CA11622-NOV10**
Reference: 11806-007-06

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CERTIFICATE OF ANALYSIS

Final Report - Reissue

Analysis	3: Analysis Approval Date	4: AnalysisF33 Comb Tls Approval Time	13:	14: Avalon Head Sample 2	15: F36 MozleyF36 Comb Tls Conc Comp	16:	17: Avalon Head Sample 3	18: F37 MozleyF37 Comb Tls Conc Comp	19:	20: XPS PP Comp 1 Conc
Sample Date & Time			Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA	Date:NA
Mercury [µg/g]	01-Dec-10	11:59	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver [g/t]	07-Dec-10	15:32	7.4	18	78	9.1	25	130	8.9	87
Aluminum [µg/g]	07-Dec-10	15:42	68000	47000	16000	55000	58000	22000	63000	18000
Arsenic [g/t]	07-Dec-10	15:32	3.0	7.4	26	4.0	4.2	20	2.8	16
Boron [g/t]	07-Dec-10	15:32	13	19	49	12	14	39	8	38
Barium [g/t]	07-Dec-10	15:32	83	89	130	80	120	210	85	130
Beryllium [g/t]	07-Dec-10	15:32	4.5	19	63	7.3	8.7	39	4.2	40
Bismuth [g/t]	07-Dec-10	15:32	0.55	0.67	1.9	0.46	0.60	3.1	0.47	5.0
Calcium [µg/g]	07-Dec-10	15:42	6500	21000	56000	7600	19000	50000	6900	81000
Cadmium [g/t]	07-Dec-10	15:32	4.6	12	48	5.4	16	80	5.4	55
Cobalt [g/t]	07-Dec-10	15:32	5.6	0.50	1.9	5.6	0.65	2.9	5.3	7.3
Chromium [g/t]	07-Dec-10	15:32	630	86	70	660	69	77	600	15
Copper [g/t]	07-Dec-10	15:32	21	7.9	13	23	3.8	17	22	45
Iron [µg/g]	07-Dec-10	15:42	82000	90000	120000	87000	90000	96000	89000	89000
Potassium [µg/g]	07-Dec-10	15:42	46000	35000	13000	39000	40000	17000	42000	13000
Lithium [g/t]	07-Dec-10	15:32	44	65	70	49	52	62	35	51
Magnesium [µg/g]	07-Dec-10	15:42	12000	20000	26000	13000	18000	22000	11000	22000
Manganese [g/t]	07-Dec-10	15:32	870	2700	6400	1200	1400	3000	680	5400

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Project : CALR-11806-007
LR Report : **CA11622-NOV10**

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
Molybdenum [g/t]	07-Dec-10	15:32	74	2.9	18	74	2.0	13	70	4.1
Sodium [µg/g]	07-Dec-10	15:42	24000	16000	5000	20000	20000	4200	24000	3600
Nickel [g/t]	07-Dec-10	15:32	340	12	44	340	14	48	320	100
Total Phosphorus [ug/g]	10-Dec-10	07:08	130	180	1700	110	440	2900	170	2200
Lead [g/t]	07-Dec-10	15:32	9.0	15	54	9.4	18	64	8.6	55
Antimony [g/t]	07-Dec-10	15:32	< 0.8	< 0.8	1.5	< 0.8	< 0.8	1.3	< 0.8	1.2
Selenium [g/t]	07-Dec-10	15:32	1.8	7.2	25	2.4	7.4	26	2.4	24
Tin [g/t]	07-Dec-10	15:32	25	45	110	48	43	110	25	92
Strontium [g/t]	07-Dec-10	15:32	20	42	96	23	34	85	18	97
Titanium [µg/g]	07-Dec-10	15:42	170	250	840	200	290	990	180	470
Thallium [g/t]	07-Dec-10	15:33	0.56	0.47	0.25	0.51	0.52	0.29	0.50	0.24
Thorium [g/t]	07-Dec-10	15:33	29	73	53	31	110	210	34	2.2
Uranium [g/t]	07-Dec-10	15:33	8.9	17	65	9.1	23	89	10	67
Vanadium [g/t]	07-Dec-10	15:33	13	6	9	12	12	< 1	15	< 1
Yttrium [g/t]	07-Dec-10	15:33	310	1100	3600	440	920	3600	330	3200
Zinc [g/t]	07-Dec-10	15:33	75	160	300	97	130	320	71	230

Phosphorus added to report Dec. 10/10

Dianne Griffin
Project Specialist

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Project : CALR-11806-007

Monday, December 13, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 November 2010
LR Report: **CA11615-NOV10**
Reference: 11806-007-04

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CERTIFICATE OF ANALYSIS

Final Report - Reissue

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1Tls
Sample Date & Time			
Mercury [µg/g]	01-Dec-10	11:59	< 0.1
Silver [µg/g]	07-Dec-10	15:30	11
Aluminum [µg/g]	07-Dec-10	15:41	67000
Arsenic [µg/g]	07-Dec-10	15:30	49
Boron [g/t]	07-Dec-10	15:30	16
Barium [µg/g]	07-Dec-10	15:30	94
Beryllium [µg/g]	07-Dec-10	15:30	4.8
Bismuth [µg/g]	07-Dec-10	15:30	0.67
Calcium [µg/g]	07-Dec-10	15:41	5800
Cadmium [µg/g]	07-Dec-10	15:30	6.6
Cobalt [µg/g]	07-Dec-10	15:30	1.0
Chromium [µg/g]	07-Dec-10	15:30	51
Copper [g/t]	07-Dec-10	15:30	5.4
Iron [µg/g]	07-Dec-10	15:41	72000
Potassium [µg/g]	07-Dec-10	15:41	47000
Lithium [µg/g]	07-Dec-10	15:30	51
Magnesium [µg/g]	07-Dec-10	15:41	14000
Manganese [µg/g]	07-Dec-10	15:30	670
Molybdenum [µg/g]	07-Dec-10	15:30	3.2
Sodium [µg/g]	07-Dec-10	15:41	22000
Nickel [µg/g]	07-Dec-10	15:31	17
Total Phosphorus [ug/g]	10-Dec-10	07:08	130
Lead [µg/g]	07-Dec-10	15:31	8.1
Antimony [µg/g]	07-Dec-10	15:31	1.7
Selenium [µg/g]	07-Dec-10	15:31	2.9
Tin [µg/g]	07-Dec-10	15:31	29
Strontium [µg/g]	07-Dec-10	15:31	20
Titanium [µg/g]	07-Dec-10	15:41	200

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Project : CALR-11806-007

LR Report : **CA11615-NOV10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1Tls
Thallium [µg/g]	07-Dec-10	15:31	0.58
Thorium [g/t]	07-Dec-10	15:31	39
Uranium [µg/g]	07-Dec-10	15:31	12
Vanadium [µg/g]	07-Dec-10	15:31	< 1
Yttrium [µg/g]	07-Dec-10	15:31	520
Zinc [g/t]	07-Dec-10	15:31	77

Phosphorus added to report Dec. 10/10

Dianne Griffin
Project Specialist

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Project : CALR-11806-007

Tuesday, December 21, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 December 2010
LR Report: **CA10271-DEC10**
Reference: 11806-007-10

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: F28 Conc Blend	6: F29 Conc Blend	7: F30 Conc Blend	8: F30 Comb Tls
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Mercury [µg/g]	14-Dec-10	15:25	< 0.1	< 0.1	< 0.1	< 0.1
Silver [g/t]	17-Dec-10	10:51	200	180	240	19
Aluminum [µg/g]	20-Dec-10	13:46	20000	19000	15000	73000
Arsenic [g/t]	17-Dec-10	10:51	81	62	100	4.5
Boron [g/t]	17-Dec-10	10:51	40	36	44	9
Barium [g/t]	17-Dec-10	10:51	170	160	210	70
Beryllium [g/t]	17-Dec-10	10:51	38	35	45	4.9
Bismuth [g/t]	17-Dec-10	10:51	2.7	2.2	5.0	0.56
Calcium [µg/g]	20-Dec-10	13:46	60000	71000	59000	9000
Cadmium [g/t]	17-Dec-10	10:51	120	110	150	12
Cobalt [g/t]	17-Dec-10	10:51	3.6	3.4	4.2	4.8
Chromium [g/t]	17-Dec-10	10:51	140	130	150	490
Copper [g/t]	17-Dec-10	10:51	17	12	22	15
Iron [µg/g]	20-Dec-10	13:46	110000	110000	120000	82000
Potassium [µg/g]	20-Dec-10	13:46	13000	13000	9900	43000
Lithium [g/t]	17-Dec-10	10:51	54	58	48	45
Magnesium [µg/g]	20-Dec-10	13:46	21000	22000	18000	12000
Manganese [g/t]	17-Dec-10	10:51	4100	4600	4000	920
Molybdenum [g/t]	17-Dec-10	10:51	17	16	18	57
Sodium [µg/g]	20-Dec-10	13:46	3100	2500	2000	22000
Nickel [g/t]	17-Dec-10	10:52	87	79	89	290
Total Phosphorus [ug/g]	20-Dec-10	13:46	1900	2200	2300	203
Lead [g/t]	17-Dec-10	10:52	48	52	62	11
Antimony [g/t]	17-Dec-10	10:52	1.5	1.4	1.9	< 0.8
Selenium [g/t]	17-Dec-10	10:52	32	32	43	5.3
Tin [g/t]	17-Dec-10	10:52	100	97	120	26
Strontium [g/t]	17-Dec-10	10:52	67	77	80	19
Titanium [µg/g]	20-Dec-10	13:46	600	570	640	204
Thallium [g/t]	17-Dec-10	10:52	0.25	0.25	0.20	0.56
Thorium [g/t]	17-Dec-10	10:52	45	85	90	66
Uranium [g/t]	17-Dec-10	10:52	70	66	87	11
Vanadium [g/t]	17-Dec-10	10:52	2	7	3	15

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

Project : CALR-11806-007

LR Report : **CA10271-DEC10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: F28 Conc Blend	6: F29 Conc Blend	7: F30 Conc Blend	8: F30 Comb Tls
Yttrium [g/t]	17-Dec-10	10:52	3100	4200	4600	590
Zinc [g/t]	17-Dec-10	10:52	260	260	290	77

Dianne Griffin
Project Specialist

OnLine LIMS

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

Project : CALR-11806-007

Thursday, December 23, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 December 2010
LR Report: **CA10332-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			
Mercury [µg/g]	21-Dec-10	14:41	< 0.1
Silver [g/t]	22-Dec-10	10:27	15
Aluminum [µg/g]	22-Dec-10	10:51	86000
Arsenic [g/t]	22-Dec-10	10:27	1.8
Boron [g/t]	22-Dec-10	10:27	10
Barium [g/t]	22-Dec-10	10:27	91
Beryllium [g/t]	22-Dec-10	10:27	5.1
Bismuth [g/t]	22-Dec-10	10:27	0.54
Calcium [µg/g]	22-Dec-10	10:51	5500
Cadmium [g/t]	22-Dec-10	10:27	9.3
Cobalt [g/t]	22-Dec-10	10:27	0.60
Chromium [g/t]	22-Dec-10	10:27	19
Copper [g/t]	22-Dec-10	10:27	3.0
Iron [µg/g]	22-Dec-10	10:52	75000
Potassium [µg/g]	22-Dec-10	10:52	54000
Lithium [g/t]	22-Dec-10	10:27	39
Magnesium [µg/g]	22-Dec-10	10:52	13000
Manganese [g/t]	22-Dec-10	10:27	550
Molybdenum [g/t]	22-Dec-10	10:27	3.9
Sodium [µg/g]	22-Dec-10	10:52	27000
Nickel [g/t]	22-Dec-10	10:27	8.5
Total Phosphorus [ug/g]	22-Dec-10	10:52	140
Lead [g/t]	22-Dec-10	10:27	7.0
Antimony [g/t]	22-Dec-10	10:27	< 0.8
Selenium [g/t]	22-Dec-10	10:27	2.6
Tin [g/t]	22-Dec-10	10:27	27
Strontium [g/t]	22-Dec-10	10:27	9.03
Titanium [µg/g]	22-Dec-10	10:52	200
Thallium [g/t]	22-Dec-10	10:27	0.40

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Project : CALR-11806-007

LR Report : **CA10332-DEC10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls
Thorium [g/t]	22-Dec-10	10:27	39
Uranium [g/t]	22-Dec-10	10:27	9.7
Vanadium [g/t]	22-Dec-10	10:27	< 1
Yttrium [g/t]	22-Dec-10	10:27	280
Zinc [g/t]	22-Dec-10	10:27	44

Dianne Griffin
Project Specialist

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Project : CALR-11806-007

Wednesday, January 05, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 December 2010
LR Report: **CA10359-DEC10**
Reference: 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				
Mercury [µg/g]	24-Dec-10	10:41	< 0.1	< 0.1
Silver [µg/g]	22-Dec-10	10:27	29	32
Aluminum [µg/g]	22-Dec-10	10:53	62000	73000
Arsenic [µg/g]	22-Dec-10	10:27	4.4	3.4
Boron [g/t]	05-Jan-11	08:58	22	17
Barium [µg/g]	22-Dec-10	10:27	93	110
Beryllium [µg/g]	22-Dec-10	10:27	19	10
Bismuth [µg/g]	22-Dec-10	10:27	0.33	0.33
Calcium [µg/g]	22-Dec-10	10:53	22000	19000
Cadmium [µg/g]	22-Dec-10	10:27	18	20
Cobalt [µg/g]	22-Dec-10	10:27	0.26	0.31
Chromium [µg/g]	22-Dec-10	10:27	83	82
Copper [g/t]	22-Dec-10	10:28	2.0	1.7
Iron [µg/g]	22-Dec-10	10:53	100000	94000
Potassium [µg/g]	22-Dec-10	10:53	43000	47000
Lithium [µg/g]	22-Dec-10	10:28	69	53
Magnesium [µg/g]	22-Dec-10	10:53	22000	19000
Manganese [µg/g]	22-Dec-10	10:28	2800	1300
Molybdenum [µg/g]	22-Dec-10	10:28	2.5	2.0
Sodium [µg/g]	22-Dec-10	10:53	18000	22000
Nickel [µg/g]	22-Dec-10	10:28	6.0	6.7
Total Phosphorus [ug/g]	22-Dec-10	10:53	190	490
Lead [µg/g]	22-Dec-10	10:28	10	11
Antimony [µg/g]	22-Dec-10	10:28	< 0.8	< 0.8
Selenium [µg/g]	22-Dec-10	10:28	13	12
Tin [µg/g]	22-Dec-10	10:28	46	42
Strontium [µg/g]	22-Dec-10	10:28	21	16
Titanium [µg/g]	22-Dec-10	10:53	280	290

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Project : CALR-11806-007

LR Report : **CA10359-DEC10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Head	6: XPS PP Comp 3 Head
Thallium [µg/g]	22-Dec-10	10:28	0.29	0.32
Thorium [g/t]	04-Jan-11	15:05	61	80
Uranium [µg/g]	22-Dec-10	10:28	12	15
Vanadium [µg/g]	22-Dec-10	10:28	< 1	< 1
Yttrium [µg/g]	22-Dec-10	10:28	720	590
Zinc [g/t]	22-Dec-10	10:28	100	64

Dianne Griffin
Project Specialist

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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

OnLine LIMS

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LR Internal Dept 14
Attn : Kevin Bradley

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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	---

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LR Report : **CA03282-SEP10**

Tom Watt
Project Coordinator

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LR Internal Dept 14
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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

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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

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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
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LR Internal Dept 14
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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

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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

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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	---

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LR Report : **CA03108-OCT10**

Tom Watt
Project Coordinator

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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

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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

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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

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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

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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

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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

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LR Internal Dept 14
Attn : Kevin Bradley

---, ---

Phone: ---
Fax:---

February 11, 2011

Date Rec. : 07 January 2011
LR Report : **CA02222-JAN11**
Project : CALR-11806-005
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	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

OnLine LIMS

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ANALYSIS REPORT

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

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

Batch: 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

Client Ref.Nov 11616
P.O: 55876

attn: Brian Graham

1 solid sample Received: 26-Nov-2010

Results of Analysis

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

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ANALYSIS REPORT

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

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

Batch: 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

Results of Analysis

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

Results of Analysis

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

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

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ANALYSIS REPORT

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

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

Batch: 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

Results of Analysis

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

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ANALYSIS REPORT

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

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

Batch: 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

Results of Analysis

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

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ANALYSIS REPORT

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

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

Batch: 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

attn: Dianne Griffin

Client Ref.Dec 10360
P.O: 55876

2 solid samples

Received: 21-Dec-2010

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

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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FEB 2 2011

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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 Comp 3	6: Comb TlsF28	7: Comb TlsF29	8: Comb Tls	9: Master Conc	10: Master Tls	11: Avalon Head 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

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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 : **CA11297-NOV10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Tls Comp 3	6: F28 Comb Tls	7: F29 Comb Tls	8:	9: Master Conc	10: Master Tls	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
Lathanum [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

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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 : **CA11297-NOV10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: MasterF25 Comb Tls Comp 3	6: F28 Comb Tls	7: F29 Comb Tls	8:	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
Thullium [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

OnLine LIMS

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SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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	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	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
InitialpH [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

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

Project : CALR-11806-007

LR Report : **CA11297-NOV10**

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
Lathanum [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

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

Project : CALR-11806-007

121

LR Report : **CA11297-NOV10**

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
Thullium [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

OnLine LIMS

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ANALYSIS REPORT

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

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

Batch: 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

Results of Analysis

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

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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

Results of Analysis

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

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FAX: (905) 826-4151

Batch: T10-01737.0

Date: 20-Jan-2011

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:

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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

Monday, January 17, 2011

Environmental Met
Attn : Barb Bowman

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 Tls
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
Lathanum [mg/L]	08-Dec-10	14:24	0.00027

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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 Tls
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
Thullium [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

OnLine LIMS

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ANALYSIS REPORT

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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

Results of Analysis

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

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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 Tls	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
Lathanum [mg/L]	26-Jan-11	14:34	0.00053	0.00024	0.00028

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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 : **CA10837-JAN11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 2 Tls	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
Thullium [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

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Env ICP-MS Metals

130

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 CaCO3]	26-Nov-10	14:53	119	---
EMF [mV]	25-Nov-10	15:41	284	---
Acidity [mg/L as CaCO3]	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 S2O3 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

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

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
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
Lathanum [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

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

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

OnLine LIMS

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ANALYSIS REPORT

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

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

Batch: 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

Results of Analysis

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 1 Tls Decant Day 5	Ra-228	0.3	Bq/l	04-Jan-2011	GAMMA
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 1 Tls Decant Day 5	Pb-210 <	0.1	Bq/l	10-Jan-2011	GFPC
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 1 Tls Decant Day 5	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

Donald D. Burgess, PhD
Senior Scientist, Division Supervisor

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JAN 25 2011

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

Env ICP-MS Metals

134

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

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

Project : CALR-11806-007

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
Lathanum [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
Thullium [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

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Env ICP-MS Metals

136

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 Tls Decant Day 5	8: Dec 20/10 XPS PP Comp 2 Tls 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 CaCO3]	22-Dec-10	15:49	148	---
EMF [mV]	22-Dec-10	14:39	178	---
Acidity [mg/L as CaCO3]	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 S2O3 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

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

Project : CALR-11806-007

LR Report : **CA10361-DEC10**

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
Lathanum [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

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

Project : CALR-11806-007

LR Report : **CA10361-DEC10**

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
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
Project Specialist

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ANALYSIS REPORT

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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

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

Donald D. Burgess PhD
Senior Scientist, Division Supervisor

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Env ICP-MS Metals

140

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 CaCO3]	14-Dec-10	20:53	118	82
EMF [mV]	14-Dec-10	20:40	214	---
Acidity [mg/L as CaCO3]	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 S2O3 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

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P.O. Box 4300 - 185 Concession St.
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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
Lathanum [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
Thullium [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

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Project : CALR-11806-007

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

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 1Tls Decant Day 60	6: XPS Tap Water 14-JAN-11	7: Jan 18/11 XPS PP Comp 1Tls Decant Day 60 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 CaCO3]	20-Jan-11	22:17	126	51	---	---
EMF [mV]	19-Jan-11	10:51	207	686	---	---
Acidity [mg/L as CaCO3]	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 S2O3 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

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Project : CALR-11806-007

LR Report : **CA10262-JAN11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Jan 18/11 XPS PP Comp 1Tls Decant Day 60	6: XPS Tap Water 14-JAN-11	7: Jan 18/11 XPS PP Comp 1Tls 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
Lathanum [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
Thullium [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

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Env ICP-MS Metals

144

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 CaCO3]	21-Jan-11	20:45	89	---
EMF [mV]	21-Jan-11	10:21	576	---
Acidity [mg/L as CaCO3]	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

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

Project : CALR-11806-007

LR Report : **CA10289-JAN11**

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
Lathanum [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

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Project : CALR-11806-007

LR Report : **CA10289-JAN11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	7: Ortech Tap Water	8: Ortech Tap Water Dissolved
Thullium [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
Project Specialist

OnLine LIMS

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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 Tls Comp 3	6: F28 Comb Tls	7: F29 Comb Tls	8:	9: Master Conc	10: Master Tls	11: Avalon Head Sample 1	12: F33 MozleyF33 Comb Tls Conc Comp	13:
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

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

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

*NP (Neutralization Potential)

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

*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

OnLine LIMS

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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

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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

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Modified ABA (Price 1997)

Project : CALR-11806-007

LR Report : **CA11295-NOV10**

*NP (Neutralization Potential)

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

*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

OnLine LIMS

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Modified ABA (Price 1997)

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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

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: XPS PP Comp 1Tls
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

OnLine LIMS

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

Project : CALR-11806-007

LR Report : **CA11613-NOV10**

*NP (Neutralization Potential)

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

*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

OnLine LIMS

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Modified ABA (Price 1997)

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Project : CALR-11806-007

Wednesday, January 05, 2011

Environmental Met
Attn : Barb Bowman

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

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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

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

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

Project : CALR-11806-007

LR Report : **CA10330-DEC10**

*NP (Neutralization Potential)

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

*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

OnLine LIMS

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Modified ABA (Price 1997)

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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

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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

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Project : CALR-11806-007

LR Report : **CA10357-DEC10**

*NP (Neutralization Potential)

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

*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

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NAG Test

157

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

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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

OnLine LIMS

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NAG Test

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Project : CALR-11806-007

Friday, December 03, 2010

Environmental Met
Attn : Barb Bowman

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 1Tls
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

OnLine LIMS

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NAG Test

159

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 Tls
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

OnLine LIMS

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Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

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

NAG Test

160

Project : CALR-11806-007

Monday, January 10, 2011

Environmental Met
Attn : Barb Bowman

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

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