



Date Submitted: 09-Jun-10
Invoice No.: A10-2995 (i)
Invoice Date: 08-Jul-10
Your Reference: STURGEN LAKE

Excalibur Resources Ltd.
Excalibur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

68 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-2995 (i)

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



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Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36000	2000	45	4	24.3	0.4	3	0.6	0.30	0.7	0.3	0.030	0.005	0.6	1.50	2.50	1.2	8	5	5	1.0	1.0	0.10	< 0.1	< 0.1
36001	4000	151	29	41.3	5.8	4	1.4	0.40	< 0.5	0.1	0.030	< 0.005	< 0.1	4.50	0.90	92.0	104	13	178	8.2	4.0	0.30	< 0.1	2.0
36002	3000	43	8	21.4	1.5	3	0.5	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.50	0.40	18.0	26	8	36	3.7	1.0	0.20	< 0.1	1.0
36003	2000	91	13	9.6	1.4	4	< 0.1	0.10	< 0.5	< 0.1	0.010	0.008	< 0.1	1.00	0.30	18.0	30	2	18	2.0	1.0	0.10	< 0.1	1.0
36010	5000	103	21	6.5	3.4	4	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	1.70	0.90	46.0	27	9	13	1.2	2.0	0.10	< 0.1	< 0.1
36012	3000	133	21	12.5	2.5	4	< 0.1	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	1.20	0.50	24.0	35	7	25	1.9	1.0	0.10	< 0.1	1.0
36018	3000	107	12	17.7	1.5	5	0.2	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.20	0.40	12.0	23	2	11	0.4	1.0	0.10	< 0.1	1.0
36020	2000	82	19	26.5	2.5	5	0.5	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	2.40	1.30	6.8	17	11	19	1.3	2.0	0.10	< 0.1	1.0
36021	3000	130	18	8.6	1.7	7	0.1	0.10	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.80	0.90	6.5	17	5	6	0.6	< 0.3	0.10	< 0.1	1.0
36022	4000	114	21	20.1	1.5	6	0.3	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	2.45	1.20	12.5	18	8	9	< 0.1	1.0	0.10	< 0.1	< 0.1
36023	2000	41	5	12.3	1.4	5	< 0.1	0.20	< 0.5	< 0.1	0.010	0.006	0.1	0.60	0.40	23.0	24	< 1	8	1.8	3.0	0.10	< 0.1	1.0
36024	2000	113	16	6.1	1.1	6	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.30	19.0	20	< 1	21	2.7	1.0	0.10	< 0.1	< 0.1
36025	2000	70	9	7.1	0.7	5	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.40	0.10	6.5	12	16	25	1.2	1.0	< 0.05	< 0.1	< 0.1
36026	2000	60	8	3.0	1.1	5	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	0.008	0.1	0.40	0.20	14.0	12	< 1	53	1.9	1.0	0.10	< 0.1	1.0
36028	2000	141	24	11.8	0.4	4	< 0.1	< 0.01	< 0.5	< 0.1	0.020	0.005	0.1	0.50	0.60	8.7	15	5	16	1.0	< 0.3	0.10	< 0.1	< 0.1
36029	2000	191	40	2.0	1.4	7	< 0.1	< 0.01	< 0.5	< 0.1	0.020	< 0.005	0.1	0.70	0.60	13.0	23	7	25	1.6	1.0	0.10	< 0.1	1.0
36030	3000	133	21	10.5	1.1	6	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	2.10	0.90	11.0	22	10	14	1.0	1.0	0.10	< 0.1	< 0.1
36031	5000	277	43	10.8	1.7	9	< 0.1	0.30	< 0.5	< 0.1	0.030	0.011	< 0.1	1.30	1.40	22.0	45	19	20	2.0	1.0	0.10	< 0.1	1.0
36032	3000	154	20	27.3	2.0	7	< 0.1	0.20	< 0.5	< 0.1	0.030	< 0.005	< 0.1	1.00	0.90	17.0	39	11	8	1.4	1.0	0.10	< 0.1	< 0.1
36033	3000	87	22	11.8	1.8	7	0.2	0.20	< 0.5	< 0.1	0.020	0.007	< 0.1	1.70	1.90	11.0	16	12	10	0.8	1.0	0.10	< 0.1	< 0.1
36034	3000	93	29	34.3	1.6	7	< 0.1	0.30	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.30	1.40	12.0	22	17	7	< 0.1	1.0	0.10	< 0.1	< 0.1
36036	2000	83	19	58.9	2.0	6	0.1	0.10	< 0.5	< 0.1	0.030	0.016	0.1	5.90	2.80	49.0	21	59	27	1.0	1.0	0.20	< 0.1	< 0.1
36037	2000	82	25	33.2	3.3	6	< 0.1	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	3.10	1.40	14.0	21	12	25	1.5	3.0	0.10	< 0.1	< 0.1
36043	2000	120	19	6.9	2.9	6	< 0.1	0.20	< 0.5	< 0.1	0.010	0.007	0.1	0.90	0.70	10.0	20	5	16	2.7	1.0	0.10	< 0.1	< 0.1
36044	3000	105	20	5.2	1.4	8	< 0.1	0.30	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	1.10	9.8	18	4	22	2.0	< 0.3	0.10	< 0.1	1.0
36045	2000	165	20	9.2	2.4	8	< 0.1	0.60	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.00	0.70	17.0	28	4	34	9.6	1.0	0.10	< 0.1	2.0
36046	2000	113	21	28.4	2.1	6	< 0.1	0.40	< 0.5	< 0.1	0.020	0.008	0.1	2.60	1.40	7.0	19	20	21	1.8	1.0	0.10	< 0.1	< 0.1
36049	4000	133	16	11.8	2.0	3	< 0.1	0.50	< 0.5	< 0.1	< 0.005	0.007	< 0.1	1.50	1.30	21.5	27	7	46	1.8	1.0	0.10	< 0.1	1.0
36050	4000	70	21	33.9	5.2	7	0.4	0.60	< 0.5	< 0.1	0.020	< 0.005	< 0.1	2.60	2.00	13.0	29	17	56	4.6	1.0	0.10	< 0.1	1.0
36051	2000	52	4	24.7	0.9	5	< 0.1	0.20	< 0.5	< 0.1	0.030	0.006	< 0.1	2.10	1.40	8.0	32	23	< 5	1.7	1.0	0.10	< 0.1	< 0.1
36052	3000	75	8	101	8.1	5	1.2	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.40	0.90	18.0	35	14	113	0.6	1.0	0.10	< 0.1	1.0
36053	3000	108	15	15.6	1.0	6	0.1	0.70	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.90	0.60	6.4	13	2	14	1.0	1.0	0.10	< 0.1	1.0
36054	3000	194	26	4.7	1.6	7	< 0.1	0.70	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.80	0.60	9.9	22	2	20	1.1	1.0	< 0.05	< 0.1	< 0.1
36055	3000	141	18	10.4	1.5	6	< 0.1	0.40	< 0.5	< 0.1	< 0.005	0.005	< 0.1	1.30	0.70	7.5	16	5	7	3.3	1.0	< 0.05	< 0.1	< 0.1
36061	3000	125	12	8.2	0.8	5	< 0.1	0.40	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.50	0.20	6.0	7	< 1	< 5	1.7	1.0	0.10	< 0.1	< 0.1
36062	3000	156	27	12.0	1.1	6	0.3	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	1.90	0.90	25.0	14	8	64	8.1	1.0	< 0.05	< 0.1	1.0
36063	2000	80	12	30.7	1.7	4	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	5.30	1.90	12.0	15	13	14	3.8	1.0	0.10	< 0.1	< 0.1
36064	4000	155	27	12.3	1.8	8	< 0.1	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.30	0.90	17.0	33	9	13	1.5	1.0	0.10	< 0.1	< 0.1
36101	2000	134	25	31.3	2.4	5	< 0.1	1.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	2.60	1.70	14.0	29	11	36	3.9	1.0	0.20	< 0.1	1.0
36102	6000	236	58	10.6	5.5	8	< 0.1	0.30	< 0.5	< 0.1	0.030	< 0.005	< 0.1	6.10	2.30	24.0	34	42	50	3.1	1.0	0.10	< 0.1	1.0
36103	4000	115	33	7.2	2.4	5	0.4	0.30	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.20	0.80	11.0	16	7	24	4.5	1.0	0.10	< 0.1	< 0.1

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Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36000	< 0.01	< 0.2	0.333	< 0.5	240	< 3	8.80	1.4	0.5	0.10	0.03	31.2	22.6	8.46	32.0	5.32	0.90	3.88	0.40	1.63	0.30	0.78	0.10	0.60
36001	0.01	0.4	0.482	< 0.5	900	< 3	4.36	10.0	1.6	0.40	0.07	9.12	14.2	2.29	8.60	1.83	0.50	1.28	0.20	0.86	0.20	0.44	0.10	0.50
36002	< 0.01	< 0.2	0.374	< 0.5	530	< 3	2.14	2.2	0.6	0.10	0.03	10.4	15.7	2.23	8.14	1.37	0.30	1.07	0.10	0.41	0.10	0.22	< 0.01	0.20
36003	0.01	< 0.2	0.318	< 0.5	270	< 3	1.24	1.7	0.3	0.10	< 0.02	2.14	3.94	0.54	2.06	0.43	0.20	0.37	< 0.01	0.20	< 0.01	0.13	< 0.01	0.10
36010	0.01	< 0.2	0.238	< 0.5	250	< 3	3.36	3.2	0.4	0.20	0.02	8.10	17.6	2.02	7.70	1.58	0.40	1.20	0.20	0.67	0.10	0.32	< 0.01	0.40
36012	< 0.01	< 0.2	0.321	< 0.5	140	< 3	1.47	4.8	0.2	0.20	< 0.02	2.08	4.28	0.51	2.00	0.48	0.10	0.41	0.10	0.24	< 0.01	0.15	< 0.01	0.10
36018	< 0.01	< 0.2	0.274	< 0.5	210	< 3	1.57	2.0	0.3	0.10	< 0.02	4.14	8.97	1.10	4.39	0.93	0.30	0.62	0.10	0.27	< 0.01	0.14	< 0.01	0.20
36020	0.01	< 0.2	0.197	< 0.5	350	< 3	2.76	5.0	0.7	0.20	0.03	6.55	12.7	1.67	6.61	1.21	0.30	0.92	0.10	0.54	0.10	0.27	< 0.01	0.20
36021	< 0.01	< 0.2	0.274	< 0.5	80	< 3	1.56	3.3	< 0.1	0.20	< 0.02	2.99	6.49	0.73	2.88	0.61	0.20	0.48	0.10	0.34	0.10	0.16	< 0.01	0.10
36022	< 0.01	< 0.2	0.240	< 0.5	90	< 3	1.92	5.1	0.2	0.20	< 0.02	4.64	9.75	1.16	4.27	0.88	0.20	0.66	0.10	0.41	0.10	0.19	< 0.01	0.20
36023	0.01	< 0.2	0.122	< 0.5	180	< 3	0.73	1.5	0.2	0.10	< 0.02	1.19	2.40	0.29	1.22	0.33	0.10	0.24	< 0.01	0.14	< 0.01	0.08	< 0.01	0.10
36024	< 0.01	< 0.2	0.117	< 0.5	60	< 3	1.21	2.1	< 0.1	0.10	< 0.02	1.48	3.12	0.36	1.55	0.34	0.20	0.23	< 0.01	0.17	< 0.01	0.11	< 0.01	0.10
36025	< 0.01	< 0.2	0.097	< 0.5	90	< 3	0.54	1.0	0.1	0.10	< 0.02	0.87	2.23	0.23	0.84	0.23	0.10	0.15	< 0.01	0.10	< 0.01	0.04	< 0.01	0.10
36026	< 0.01	< 0.2	0.077	< 0.5	80	< 3	0.62	0.8	0.1	< 0.01	< 0.02	0.92	2.45	0.23	1.04	0.27	0.10	0.19	< 0.01	0.10	< 0.01	0.06	< 0.01	0.10
36028	< 0.01	< 0.2	0.189	< 0.5	50	< 3	3.26	1.2	< 0.1	0.10	< 0.02	4.65	7.74	1.01	3.93	0.89	0.30	0.76	0.10	0.59	0.10	0.32	< 0.01	0.30
36029	< 0.01	< 0.2	0.155	< 0.5	60	< 3	1.88	1.8	0.1	0.10	< 0.02	2.62	5.16	0.65	2.65	0.67	0.20	0.47	0.10	0.36	0.10	0.18	< 0.01	0.20
36030	< 0.01	< 0.2	0.299	< 0.5	150	< 3	6.00	5.9	0.3	0.30	< 0.02	10.7	21.6	2.60	10.0	2.15	0.60	1.64	0.20	1.19	0.20	0.60	0.10	0.50
36031	< 0.01	< 0.2	0.488	< 0.5	110	< 3	3.11	2.7	0.1	0.10	< 0.02	7.85	14.5	1.66	6.25	1.32	0.40	1.05	0.10	0.61	0.10	0.27	< 0.01	0.30
36032	< 0.01	< 0.2	0.526	< 0.5	120	< 3	2.83	1.8	0.2	0.10	< 0.02	7.54	14.1	1.73	6.46	1.18	0.30	0.88	0.10	0.46	0.10	0.24	< 0.01	0.25
36033	< 0.01	< 0.2	0.360	< 0.5	190	< 3	2.59	2.5	0.3	0.10	< 0.02	7.36	14.4	1.75	6.83	1.34	0.30	0.96	0.10	0.51	0.10	0.26	< 0.01	0.20
36034	< 0.01	< 0.2	0.312	< 0.5	340	< 3	2.29	2.6	0.6	0.10	< 0.02	6.48	13.0	1.50	5.88	1.15	0.30	0.75	0.10	0.44	0.10	0.21	< 0.01	0.20
36036	0.01	< 0.2	0.354	< 0.5	140	< 3	15.1	8.9	0.6	0.30	0.03	34.4	81.8	9.97	39.9	7.94	1.60	5.77	0.70	3.14	0.50	1.43	0.20	1.40
36037	0.01	< 0.2	0.281	< 0.5	400	< 3	3.31	5.5	0.8	0.20	0.03	7.96	15.2	1.91	7.46	1.45	0.40	1.08	0.20	0.65	0.10	0.36	0.10	0.30
36043	0.01	< 0.2	0.276	< 0.5	120	< 3	1.69	1.9	0.2	0.10	< 0.02	2.65	5.91	0.66	2.67	0.56	0.20	0.47	0.10	0.30	0.10	0.17	< 0.01	0.10
36044	< 0.01	< 0.2	0.401	< 0.5	120	< 3	1.42	1.8	0.1	0.10	< 0.02	4.89	8.80	1.02	3.68	0.68	0.20	0.52	0.10	0.24	< 0.01	0.14	< 0.01	0.10
36045	< 0.01	< 0.2	0.461	< 0.5	90	< 3	1.91	5.7	0.1	0.20	< 0.02	3.54	5.59	0.69	2.65	0.62	0.20	0.48	0.10	0.34	0.10	0.19	< 0.01	0.20
36046	0.01	< 0.2	0.291	< 0.5	170	< 3	4.71	5.6	0.3	0.20	< 0.02	11.8	23.5	2.66	10.1	1.93	0.40	1.56	0.20	0.91	0.20	0.47	0.10	0.40
36049	< 0.01	< 0.2	0.323	< 0.5	100	< 3	3.43	2.3	0.1	0.10	< 0.02	8.81	16.4	2.10	7.07	1.31	0.30	1.05	0.10	0.63	0.10	0.33	< 0.01	0.30
36050	0.01	< 0.2	0.365	< 0.5	460	< 3	3.67	4.3	0.8	0.20	0.02	11.4	22.2	2.75	9.96	1.87	0.40	1.38	0.20	0.76	0.10	0.39	< 0.01	0.30
36051	< 0.01	< 0.2	0.319	< 0.5	200	< 3	8.31	3.0	0.6	0.10	< 0.02	24.4	42.6	5.68	21.7	3.70	0.80	3.01	0.30	1.38	0.20	0.71	0.10	0.60
36052	< 0.01	< 0.2	0.366	< 0.5	680	< 3	2.10	1.0	0.9	< 0.01	0.04	6.09	10.9	1.56	5.94	1.11	0.30	0.86	0.10	0.40	0.10	0.20	< 0.01	0.20
36053	< 0.01	< 0.2	0.319	< 0.5	100	< 3	0.93	1.9	0.1	0.10	< 0.02	2.53	4.34	0.52	1.97	0.41	0.10	0.30	< 0.01	0.18	< 0.01	0.07	< 0.01	0.10
36054	0.01	< 0.2	0.453	< 0.5	60	< 3	1.67	2.3	< 0.1	0.10	< 0.02	4.62	6.88	0.80	3.08	0.66	0.20	0.49	0.10	0.26	< 0.01	0.14	< 0.01	0.20
36055	< 0.01	< 0.2	0.238	< 0.5	60	< 3	2.10	4.4	< 0.1	0.20	< 0.02	5.43	7.86	0.90	3.43	0.75	0.20	0.63	0.10	0.41	0.10	0.19	< 0.01	0.20
36061	< 0.01	0.2	0.218	< 0.5	40	< 3	1.42	1.9	< 0.1	0.10	< 0.02	3.90	6.00	0.74	2.75	0.58	0.20	0.38	0.10	0.24	< 0.01	0.14	< 0.01	0.10
36062	< 0.01	< 0.2	0.261	< 0.5	100	< 3	3.10	2.8	0.1	0.10	< 0.02	11.0	22.4	2.62	9.80	1.89	0.50	1.33	0.20	0.64	0.10	0.30	< 0.01	0.20
36063	0.01	< 0.2	0.389	< 0.5	190	< 3	8.11	5.5	0.8	0.20	0.03	26.0	51.7	6.17	23.5	4.17	0.90	2.99	0.30	1.57	0.30	0.78	0.10	0.70
36064	< 0.01	< 0.2	0.386	< 0.5	170	< 3	1.40	2.8	0.1	0.10	< 0.02	4.15	7.55	0.88	3.29	0.59	0.20	0.48	0.10	0.26	< 0.01	0.12	< 0.01	0.10
36101	< 0.01	< 0.2	0.481	< 0.5	200	< 3	3.99	3.9	0.2	0.20	< 0.02	12.0	22.7	2.75	10.4	1.95	0.40	1.34	0.20	0.78	0.10	0.37	0.10	0.40
36102	0.01	< 0.2	0.718	< 0.5	140	< 3	4.64	9.0	0.3	0.40	< 0.02	15.5	29.2	3.59	13.6	2.46	0.50	1.87	0.20	0.96	0.20	0.50	0.10	0.40
36103	< 0.01	< 0.2	0.370	< 0.5	180	< 3	0.81	1.4	0.1	0.10	< 0.02	3.22	6.35	0.72	2.70	0.64	0.20	0.44	< 0.01	0.18	< 0.01	0.09	< 0.01	0.10

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36000	0.10	4.0	1.0	< 10	20.6	54.4	361	0.60	499	< 0.5	< 0.5	< 0.5	< 0.5
36001	0.10	27.0	3.0	< 10	3610	91.8	546	0.60	925	< 0.5	< 0.5	< 0.5	< 0.5
36002	< 0.01	4.7	1.0	< 10	1680	47.4	164	0.50	512	< 0.5	< 0.5	< 0.5	< 0.5
36003	< 0.01	6.7	2.0	< 10	897	71.5	201	1.20	463	< 0.5	< 0.5	< 0.5	< 0.5
36010	< 0.01	7.1	1.0	< 10	867	64.9	59.2	1.60	237	< 0.5	< 0.5	< 0.5	< 0.5
36012	< 0.01	18.0	< 0.1	< 10	806	65.1	93.5	1.90	361	< 0.5	< 0.5	< 0.5	< 0.5
36018	< 0.01	11.0	1.0	< 10	372	176	264	1.70	381	< 0.5	< 0.5	< 0.5	< 0.5
36020	< 0.01	12.0	1.0	< 10	319	63.7	205	0.30	285	< 0.5	< 0.5	< 0.5	< 0.5
36021	< 0.01	2.8	1.0	< 10	218	154	193	1.20	324	< 0.5	< 0.5	< 0.5	< 0.5
36022	< 0.01	2.8	1.0	< 10	329	86.5	254	0.70	233	< 0.5	< 0.5	< 0.5	< 0.5
36023	< 0.01	5.6	1.0	< 10	36.1	20.6	94.0	0.20	142	< 0.5	< 0.5	< 0.5	< 0.5
36024	< 0.01	11.0	2.0	< 10	780	36.7	225	0.30	610	< 0.5	< 0.5	< 0.5	< 0.5
36025	< 0.01	5.4	1.0	< 10	572	34.5	209	0.40	329	< 0.5	< 0.5	< 0.5	< 0.5
36026	< 0.01	8.8	1.0	< 10	484	38.9	131	0.50	152	< 0.5	< 0.5	< 0.5	< 0.5
36028	< 0.01	5.3	2.0	< 10	41.4	40.1	128	1.00	797	< 0.5	< 0.5	< 0.5	< 0.5
36029	< 0.01	13.0	2.0	< 10	39.7	16.2	149	0.90	226	< 0.5	< 0.5	< 0.5	< 0.5
36030	0.10	7.6	1.0	< 10	237	66.3	184	3.10	362	< 0.5	< 0.5	< 0.5	< 0.5
36031	< 0.01	7.7	2.0	< 10	352	82.6	215	2.60	287	< 0.5	< 0.5	< 0.5	< 0.5
36032	< 0.01	5.2	1.0	< 10	123	25.5	126	2.15	296	< 0.5	< 0.5	< 0.5	< 0.5
36033	< 0.01	4.0	1.0	< 10	646	28.4	120	2.70	318	< 0.5	< 0.5	< 0.5	< 0.5
36034	< 0.01	9.3	1.0	< 10	244	25.8	112	2.10	360	< 0.5	< 0.5	< 0.5	< 0.5
36036	0.20	4.8	1.0	< 10	6260	37.6	197	2.00	990	< 0.5	< 0.5	< 0.5	< 0.5
36037	< 0.01	11.0	2.0	< 10	90.5	47.7	145	2.40	587	< 0.5	< 0.5	< 0.5	< 0.5
36043	< 0.01	12.0	1.0	< 10	34.9	44.6	142	1.30	215	< 0.5	< 0.5	< 0.5	< 0.5
36044	< 0.01	6.4	1.0	< 10	294	52.1	113	1.10	240	< 0.5	< 0.5	< 0.5	< 0.5
36045	< 0.01	16.0	2.0	< 10	364	31.2	133	0.80	691	< 0.5	< 0.5	< 0.5	< 0.5
36046	< 0.01	5.9	1.0	< 10	149	46.6	189	0.80	401	< 0.5	< 0.5	< 0.5	< 0.5
36049	< 0.01	10.5	2.0	< 10	372	54.3	182	1.90	333	< 0.5	< 0.5	< 0.5	< 0.5
36050	< 0.01	10.0	1.0	< 10	506	58.6	222	1.00	426	< 0.5	< 0.5	< 0.5	< 0.5
36051	0.10	8.6	2.0	< 10	63.3	30.1	167	0.90	362	< 0.5	< 0.5	< 0.5	< 0.5
36052	< 0.01	32.0	1.0	< 10	1070	57.0	173	0.70	341	< 0.5	< 0.5	< 0.5	< 0.5
36053	< 0.01	5.3	1.0	< 10	73.1	63.7	218	0.70	421	< 0.5	< 0.5	< 0.5	< 0.5
36054	< 0.01	8.2	1.0	< 10	70.0	58.6	248	1.20	558	< 0.5	< 0.5	< 0.5	< 0.5
36055	< 0.01	3.1	1.0	< 10	194	29.2	290	1.00	344	< 0.5	< 0.5	< 0.5	< 0.5
36061	< 0.01	5.5	1.0	< 10	328	43.0	333	0.90	253	< 0.5	< 0.5	< 0.5	< 0.5
36062	< 0.01	9.7	1.0	< 10	1570	31.3	222	0.80	196	< 0.5	< 0.5	< 0.5	< 0.5
36063	0.10	9.4	1.0	< 10	41.2	28.7	260	1.30	681	< 0.5	< 0.5	< 0.5	< 0.5
36064	< 0.01	8.0	1.0	< 10	548	77.1	165	2.60	287	< 0.5	< 0.5	< 0.5	< 0.5
36101	< 0.01	17.0	2.0	< 10	117	64.9	254	1.20	526	< 0.5	< 0.5	< 0.5	< 0.5
36102	0.10	35.0	2.0	< 10	121	121	185	3.00	389	< 0.5	< 0.5	< 0.5	< 0.5
36103	< 0.01	14.0	1.0	< 10	558	70.1	180	1.90	256	< 0.5	< 0.5	< 0.5	< 0.5

Quality Control																								
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
SO-3 Meas				41.7												1.9	4	7	< 5	0.8				
SO-3 Cert				38000												8000	16000	17000	52000	14000				
36022 Orig	3000	116	20	19.8	1.5	6	0.2	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	2.40	1.20	12.0	17	8	9	< 0.1	1.0	0.10	< 0.1	< 0.1
36022 Dup	5000	112	21	20.4	1.5	6	0.3	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	2.50	1.20	13.0	18	9	10	< 0.1	1.0	0.10	< 0.1	< 0.1
36032 Orig	3000	154	20	27.5	2.0	7	< 0.1	0.20	< 0.5	< 0.1	0.030	< 0.005	0.1	1.00	0.90	17.0	39	11	9	1.6	1.0	0.10	< 0.1	< 0.1
36032 Dup	2000	153	20	27.1	2.0	7	2.5	0.20	< 0.5	< 0.1	0.030	< 0.005	< 0.1	1.00	0.90	17.0	39	11	8	1.2	1.0	0.10	< 0.1	< 0.1
36049 Orig	4000	131	16	11.9	2.0	3	< 0.1	0.50	< 0.5	< 0.1	0.010	0.009	0.1	1.50	1.30	21.0	28	8	45	1.3	1.0	0.10	< 0.1	1.0
36049 Dup	4000	134	15	11.7	2.0	2	0.1	0.50	< 0.5	< 0.1	< 0.005	0.006	< 0.1	1.50	1.30	22.0	25	7	47	2.2	1.0	0.10	< 0.1	1.0
Method Blank Method	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
Blank																								

Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
SO-3 Meas					160	< 3																			
SO-3 Cert					2000000	26000																			
36022 Orig	0.01	< 0.2	0.231	< 0.5	100	< 3	1.87	4.4	0.2	0.20	< 0.02	4.66	9.84	1.12	4.30	0.86	0.20	0.65	0.10	0.40	0.10	0.20	< 0.01	0.20	
36022 Dup	< 0.01	< 0.2	0.249	< 0.5	90	< 3	1.97	5.7	0.2	0.20	0.02	4.61	9.66	1.20	4.24	0.89	0.20	0.67	0.10	0.41	0.10	0.19	< 0.01	0.20	
36032 Orig	< 0.01	< 0.2	0.562	< 0.5	120	< 3	2.85	1.8	0.2	0.10	< 0.02	7.72	14.3	1.78	6.63	1.18	0.30	0.89	0.10	0.48	0.10	0.24	< 0.01	0.20	
36032 Dup	< 0.01	< 0.2	0.491	< 0.5	120	< 3	2.81	1.8	0.1	0.10	< 0.02	7.36	13.9	1.68	6.29	1.18	0.30	0.87	0.10	0.44	0.10	0.25	< 0.01	0.30	
36049 Orig	0.01	< 0.2	0.318	< 0.5	110	< 3	3.42	2.3	0.1	0.10	< 0.02	8.67	16.1	2.16	7.10	1.31	0.30	1.04	0.10	0.63	0.10	0.34	< 0.01	0.30	
36049 Dup	< 0.01	< 0.2	0.329	< 0.5	100	< 3	3.44	2.4	0.1	0.10	< 0.02	8.95	16.7	2.04	7.05	1.31	0.30	1.06	0.10	0.62	0.10	0.31	< 0.01	0.30	
Method Blank Method	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Blank																									

Quality Control													
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
SO-3 Meas					538	93.3	1050		91.4				
SO-3 Cert					520000	39000	217000		296000				
36022 Orig	< 0.01	2.6	1.0	< 10	321	86.7	258	0.70	237	< 0.5	< 0.5	< 0.5	< 0.5
36022 Dup	< 0.01	2.9	1.0	< 10	336	86.3	250	0.70	229	< 0.5	< 0.5	< 0.5	< 0.5
36032 Orig	< 0.01	5.3	1.0	< 10	123	25.8	125	2.20	294	< 0.5	< 0.5	< 0.5	< 0.5
36032 Dup	< 0.01	5.1	1.0	< 10	124	25.2	127	2.10	298	< 0.5	< 0.5	< 0.5	< 0.5
36049 Orig	< 0.01	11.0	2.0	< 10	372	54.6	178	2.00	327	< 0.5	< 0.5	< 0.5	< 0.5
36049 Dup	< 0.01	10.0	2.0	< 10	371	54.1	186	1.80	339	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Blank													

Quality Analysis ...



Innovative Technologies

Date Submitted: 17-Jun-10
Invoice No.: A10-3207 (i)
Invoice Date: 08-Jul-10
Your Reference: STURGEN LAKE

Excalibur Resources Ltd.
Excalibur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

87 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-3207 (i)

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

CERTIFIED BY :

Emmanuel Eseme, Ph.D.

Quality Control



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Activation Laboratories Ltd. Report: A10-3207 (i) rev 3

Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36150	4000	75	20	31.9	4.4	3	0.4	0.70	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.70	0.90	69.0	37	8	96	2.0	3.0	0.30	< 0.1	1.0
36151	3000	66	13	18.6	1.9	2	0.4	0.80	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.90	0.50	13.0	27	6	297	0.5	1.0	0.10	< 0.1	1.0
36152	3000	60	8	2.4	0.6	3	0.1	0.30	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.30	0.10	6.7	10	4	55	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
36202	4000	56	20	10.4	1.6	3	< 0.1	0.35	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.05	0.55	19.0	26	2	26	1.2	2.0	0.10	< 0.1	< 0.1
36203	3000	60	10	2.1	1.2	3	< 0.1	0.20	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.40	0.20	9.1	16	< 1	9	3.6	1.0	0.10	< 0.1	< 0.1

Activation Laboratories Ltd. Report: A10-3207 (i) rev 3

Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36150	0.01	< 0.2	0.162	< 0.5	520	< 3	1.68	7.8	1.5	0.40	0.04	5.70	7.43	0.96	3.47	0.67	0.40	0.57	0.10	0.30	0.10	0.20	< 0.01	0.20
36151	0.01	< 0.2	0.134	< 0.5	210	< 3	0.29	3.4	0.5	0.20	< 0.02	2.45	2.88	0.42	1.66	0.28	0.10	0.24	< 0.01	0.04	< 0.01	0.06	< 0.01	0.10
36152	< 0.01	< 0.2	0.165	< 0.5	50	< 3	< 0.05	0.7	0.2	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36202	< 0.01	< 0.2	0.241	< 0.5	420	< 3	0.44	4.1	1.0	0.15	< 0.02	1.61	3.46	0.43	2.10	0.43	0.10	0.29	< 0.01	0.05	< 0.01	0.07	< 0.01	0.10
36203	< 0.01	< 0.2	0.228	< 0.5	110	< 3	< 0.05	1.1	0.4	0.10	< 0.02	< 0.01	< 0.01	< 0.01	0.08	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36065	< 0.01	4.3	1.0	< 10	57.2	42.1	336	0.80	215	< 0.5	< 0.5	< 0.5	< 0.5
36066	< 0.01	3.6	1.0	< 10	2190	51.6	146	0.50	592	< 0.5	< 0.5	< 0.5	< 0.5
36067	< 0.01	4.3	1.0	< 10	870	40.3	228	0.80	270	< 0.5	< 0.5	< 0.5	< 0.5
36068	< 0.01	1.4	1.0	< 10	975	69.3	160	0.60	580	< 0.5	< 0.5	< 0.5	< 0.5
36069	< 0.01	1.8	1.0	< 10	154	40.6	151	0.50	486	< 0.5	< 0.5	< 0.5	< 0.5
36070	< 0.01	2.7	1.0	< 10	174	40.0	165	0.70	487	< 0.5	< 0.5	< 0.5	< 0.5
36071	< 0.01	1.5	1.0	< 10	282	43.7	175	0.30	548	< 0.5	< 0.5	< 0.5	< 0.5
36075	< 0.01	7.5	< 0.1	< 10	1830	74.4	192	0.30	591	< 0.5	< 0.5	< 0.5	< 0.5
36076	< 0.01	2.0	< 0.1	< 10	4950	79.4	167	0.90	702	< 0.5	< 0.5	< 0.5	< 0.5
36077	< 0.01	2.7	1.0	< 10	1660	62.2	123	1.45	621	< 0.5	< 0.5	< 0.5	< 0.5
36078	< 0.01	1.4	1.0	< 10	68.2	44.1	128	0.60	353	< 0.5	< 0.5	< 0.5	< 0.5
36079	< 0.01	4.1	1.0	< 10	712	31.6	114	0.80	604	< 0.5	< 0.5	< 0.5	< 0.5
36080	< 0.01	1.7	1.0	< 10	722	47.4	135	0.60	643	< 0.5	< 0.5	< 0.5	< 0.5
36081	< 0.01	9.2	1.0	< 10	27.9	44.3	170	0.50	381	< 0.5	< 0.5	< 0.5	< 0.5
36082	< 0.01	2.3	1.0	< 10	727	42.8	147	0.50	681	< 0.5	< 0.5	< 0.5	< 0.5
36083	< 0.01	2.9	< 0.1	< 10	897	72.3	200	0.50	559	< 0.5	< 0.5	< 0.5	< 0.5
36084	< 0.01	2.5	1.0	< 10	414	40.8	109	0.80	444	< 0.5	< 0.5	< 0.5	< 0.5
36085	< 0.01	0.9	1.0	< 10	138	20.4	60.3	0.80	310	< 0.5	< 0.5	< 0.5	< 0.5
36086	< 0.01	0.6	1.0	< 10	111	29.4	184	0.70	379	< 0.5	< 0.5	< 0.5	< 0.5
36087	< 0.01	1.9	1.0	< 10	91.0	31.2	78.2	1.10	247	< 0.5	< 0.5	< 0.5	< 0.5
36088	< 0.01	0.8	1.0	< 10	1450	46.8	302	0.80	302	< 0.5	< 0.5	< 0.5	< 0.5
36089	< 0.01	0.7	1.0	< 10	508	50.9	170	0.90	597	< 0.5	< 0.5	< 0.5	< 0.5
36090	< 0.01	1.3	< 0.1	< 10	170	29.9	92.6	0.80	228	< 0.5	< 0.5	< 0.5	< 0.5
36091	< 0.01	2.6	1.0	< 10	170	64.5	213	0.40	488	< 0.5	< 0.5	< 0.5	< 0.5
36092	< 0.01	1.5	1.0	< 10	71.6	35.8	190	0.70	313	< 0.5	< 0.5	< 0.5	< 0.5
36093	< 0.01	2.5	1.0	< 10	169	49.7	140	0.50	405	< 0.5	< 0.5	< 0.5	< 0.5
36094	< 0.01	2.4	< 0.1	< 10	196	41.8	167	0.30	342	< 0.5	< 0.5	< 0.5	< 0.5
36097	< 0.01	5.3	1.0	< 10	1230	58.4	359	0.50	278	< 0.5	< 0.5	< 0.5	< 0.5
36098	< 0.01	6.4	1.0	< 10	1300	65.8	169	0.90	682	< 0.5	< 0.5	< 0.5	< 0.5
36099	< 0.01	2.7	2.0	< 10	314	86.0	329	0.70	409	< 0.5	< 0.5	< 0.5	< 0.5
36100	< 0.01	1.7	1.0	< 10	851	176	198	0.50	559	< 0.5	< 0.5	< 0.5	< 0.5
36104	< 0.01	2.2	1.0	< 10	560	68.6	226	0.60	340	< 0.5	< 0.5	< 0.5	< 0.5
36105	< 0.01	1.7	1.0	< 10	103	63.8	239	0.60	277	< 0.5	< 0.5	< 0.5	< 0.5
36107	< 0.01	5.7	1.0	< 10	545	73.3	152	2.10	401	< 0.5	< 0.5	< 0.5	< 0.5
36109	< 0.01	4.6	1.0	< 10	134	47.4	173	1.50	225	< 0.5	< 0.5	< 0.5	< 0.5
36110	< 0.01	5.0	1.0	< 10	2390	10.3	152	0.30	271	< 0.5	< 0.5	< 0.5	< 0.5
36111	< 0.01	3.9	1.0	< 10	369	70.2	114	3.30	374	< 0.5	< 0.5	< 0.5	< 0.5
36113	0.10	6.6	2.0	< 10	9400	55.2	183	1.50	316	< 0.5	< 0.5	< 0.5	< 0.5
36116	< 0.01	6.4	1.0	< 10	422	91.9	146	5.00	357	< 0.5	< 0.5	< 0.5	< 0.5
36118	0.10	4.0	2.0	< 10	76.5	25.9	104	2.50	197	< 0.5	< 0.5	< 0.5	< 0.5
36119	< 0.01	9.9	1.0	< 10	125	41.5	300	1.20	434	< 0.5	< 0.5	< 0.5	< 0.5
36126	< 0.01	1.3	1.0	< 10	107	31.9	184	0.70	212	< 0.5	< 0.5	< 0.5	< 0.5
36127	< 0.01	13.0	2.0	< 10	466	82.7	217	0.80	433	< 0.5	< 0.5	< 0.5	< 0.5
36128	< 0.01	6.7	1.0	< 10	225	49.8	244	0.60	167	< 0.5	< 0.5	< 0.5	< 0.5
36129	< 0.01	2.6	2.0	< 10	304	62.9	232	0.70	325	< 0.5	< 0.5	< 0.5	< 0.5
36130	< 0.01	4.6	2.0	< 10	253	50.9	157	0.60	199	< 0.5	< 0.5	< 0.5	< 0.5
36131	< 0.01	9.9	1.0	< 10	1860	45.8	78.7	0.70	268	< 0.5	< 0.5	< 0.5	< 0.5
36132	< 0.01	5.1	2.0	< 10	601	37.2	97.4	0.70	546	< 0.5	< 0.5	< 0.5	< 0.5
36133	< 0.01	5.1	2.0	< 10	122	38.5	145	0.20	263	< 0.5	< 0.5	< 0.5	< 0.5
36134	< 0.01	4.3	2.0	< 10	189	34.5	361	0.40	333	< 0.5	< 0.5	< 0.5	< 0.5
36135	< 0.01	4.6	2.0	< 10	1060	103	113	0.80	482	< 0.5	< 0.5	< 0.5	< 0.5
36136	< 0.01	6.4	2.0	< 10	30.9	43.8	120	0.70	370	< 0.5	< 0.5	< 0.5	< 0.5

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36150	< 0.01	14.0	2.0	< 10	4490	53.2	452	0.40	1800	< 0.5	< 0.5	< 0.5	< 0.5
36151	< 0.01	4.2	2.0	< 10	632	57.5	385	0.30	737	< 0.5	< 0.5	< 0.5	< 0.5
36152	< 0.01	6.3	1.0	< 10	316	79.2	166	0.90	361	< 0.5	< 0.5	< 0.5	< 0.5
36202	< 0.01	9.0	2.0	< 10	1050	79.8	149	1.35	402	< 0.5	< 0.5	< 0.5	< 0.5
36203	< 0.01	8.2	1.0	< 10	275	80.3	119	0.20	181	< 0.5	< 0.5	< 0.5	< 0.5

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Quality Control																									
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
TILL-2 Meas		996		76.7	28.0		40.0	1.80		4.8		0.045	0.1	11.0	12.0	31.0	48	227	156	22.0					
TILL-2 Cert		12200.0		77000	26000		14000	800.0		5000		2	70.0	18400.0	5700.0	15000	32000	150000	130000	31000					
SO-3 Meas				40.3												2.1	6	5	< 5	1.6					
SO-3 Cert				38000												8000	16000	17000	52000	14000					
SO-3 Meas				34.5									< 0.1			2.2	5	6	< 5	3.4					
SO-3 Cert				38000									17.0			8000	16000	17000	52000	14000					
36077 Orig	4000	71	15	9.3	0.9	4	< 0.1	0.40	< 0.5	< 0.1	0.030	< 0.005	< 0.1	0.60	0.40	12.0	17	6	< 5	< 0.1	< 0.3	0.20	< 0.1	< 0.1	
36077 Dup	4000	69	14	9.8	0.8	4	< 0.1	0.30	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.50	0.40	12.0	18	5	< 5	< 0.1	< 0.3	0.20	< 0.1	< 0.1	
36086 Orig	1000	127	17	4.2	0.9	6	< 0.1	0.10	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.60	0.60	9.4	22	4	< 5	0.9	< 0.3	< 0.05	< 0.1	< 0.1	
36086 Dup	1000	122	17	4.0	0.8	5	< 0.1	0.10	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.60	0.60	9.6	21	4	< 5	0.9	< 0.3	0.10	< 0.1	< 0.1	
36097 Orig	2000	81	11	2.1	0.4	4	< 0.1	< 0.01	< 0.5	< 0.1	0.020	0.012	< 0.1	0.40	0.20	19.0	14	6	48	1.3	< 0.3	< 0.05	< 0.1	1.0	
36097 Dup	2000	84	11	2.1	0.4	5	< 0.1	< 0.01	< 0.5	< 0.1	0.020	0.010	< 0.1	0.40	0.10	17.0	13	5	39	1.6	< 0.3	< 0.05	< 0.1	1.0	
36202 Orig	4000	57	19	10.9	1.6	3	0.1	0.40	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.00	0.50	18.0	26	2	26	1.3	2.0	0.10	< 0.1	< 0.1	
36202 Dup	4000	55	20	9.8	1.6	3	< 0.1	0.30	< 0.5	< 0.1	0.020	< 0.005	< 0.1	1.10	0.60	20.0	25	2	26	1.1	2.0	0.10	< 0.1	< 0.1	
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	

Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
TILL-2 Meas					2020	< 3	33.8	43.0	7.6	1.70	0.60	27.6	75.5		33.5	8.14	1.90		1.10			3.33	3.70		
TILL-2 Cert					5300000	74000	40000	390000	20000	11000	1900.0	44000	98000		36000	7400.0	1000.0		1200.0			3700.0	3700.0		
SO-3 Meas					240	< 3																			
SO-3 Cert					2000000	26000																			
SO-3 Meas					160	< 3																			
SO-3 Cert					2000000	26000																			
36077 Orig	< 0.01	< 0.2	0.110	< 0.5	100	< 3	1.20	0.9	0.3	0.10	< 0.02	1.43	2.34	0.35	1.53	0.29	0.10	0.18	< 0.01	0.01	< 0.01	0.04	< 0.01	0.10	
36077 Dup	< 0.01	< 0.2	0.115	< 0.5	90	< 3	1.02	0.9	0.3	0.10	< 0.02	1.06	1.67	0.27	1.17	0.17	0.20	0.19	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01	
36086 Orig	< 0.01	< 0.2	0.092	< 0.5	50	< 3	1.96	1.1	0.3	0.10	< 0.02	2.19	3.47	0.47	1.95	0.41	0.20	0.33	< 0.01	0.14	< 0.01	0.11	< 0.01	0.10	
36086 Dup	< 0.01	< 0.2	0.100	< 0.5	60	< 3	1.88	1.1	0.3	0.10	< 0.02	1.99	3.15	0.43	1.90	0.33	0.20	0.33	< 0.01	0.14	< 0.01	0.12	< 0.01	0.20	
36097 Orig	< 0.01	< 0.2	0.085	< 0.5	40	< 3	0.61	0.6	0.3	0.10	< 0.02	< 0.01	< 0.01	< 0.01	0.07	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
36097 Dup	< 0.01	< 0.2	0.068	< 0.5	40	< 3	0.55	0.6	0.2	0.10	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
36202 Orig	< 0.01	< 0.2	0.232	< 0.5	430	< 3	0.41	4.4	1.0	0.20	< 0.02	1.57	3.40	0.42	1.98	0.38	0.10	0.30	< 0.01	0.06	< 0.01	0.08	< 0.01	0.10	
36202 Dup	< 0.01	< 0.2	0.251	< 0.5	400	< 3	0.46	3.8	1.0	0.10	< 0.02	1.65	3.52	0.44	2.22	0.48	0.10	0.27	< 0.01	0.04	< 0.01	0.07	< 0.01	0.10	
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	0.3	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	0.3	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	

Quality Control													
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
TILL-2 Meas	0.50	35.0	5.0	30	6410	229	688	8.60	1320				
TILL-2 Cert	600.0	47000	4000.0	12000	780000	143000	144000	12000	540000				
SO-3 Meas					476	91.0	963		93.3				
SO-3 Cert					520000	39000	217000		296000				
SO-3 Meas					352	87.4	832		81.8				
SO-3 Cert					520000	39000	217000		296000				
36077 Orig	< 0.01	2.9	1.0	< 10	1680	62.7	125	1.50	630	< 0.5	< 0.5	< 0.5	< 0.5
36077 Dup	< 0.01	2.4	1.0	< 10	1640	61.7	121	1.40	611	< 0.5	< 0.5	< 0.5	< 0.5
36086 Orig	< 0.01	0.7	1.0	< 10	111	29.7	185	0.70	380	< 0.5	< 0.5	< 0.5	< 0.5
36086 Dup	< 0.01	0.6	1.0	< 10	111	29.0	182	0.70	377	< 0.5	< 0.5	< 0.5	< 0.5
36097 Orig	< 0.01	5.7	1.0	< 10	1270	59.0	364	0.50	291	< 0.5	< 0.5	< 0.5	< 0.5
36097 Dup	< 0.01	4.9	1.0	< 10	1180	57.8	354	0.50	265	< 0.5	< 0.5	< 0.5	< 0.5
36202 Orig	< 0.01	9.2	2.0	< 10	944	79.0	146	1.30	388	< 0.5	< 0.5	< 0.5	< 0.5
36202 Dup	< 0.01	8.9	2.0	< 10	1160	80.5	151	1.40	415	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Quality Analysis ...



Innovative Technologies

Date Submitted: 21-Jun-10
Invoice No.: A10-3261
Invoice Date: 05-Jul-10
Your Reference:

Excalibur Resources Ltd.
20 Adelaide Street East
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Tim Gallagher

CERTIFICATE OF ANALYSIS

2 Rock- Metallic Screen samples were submitted for analysis.

The following analytical package was requested: Code 1A4 (100mesh) Au-Fire Assay-Metallic Screen-500g

REPORT A10-3261

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Notes:

A representative 500 gram split is sieved at 100 mesh (149 micron) with assays performed on the entire +100 mesh and 2 splits of the -100 mesh fraction. A final assay is calculated based on the weight of each fraction.

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)	Total Au	+ 100 mesh	- 100 mesh	Total Weight
Unit Symbol	g/mt	g/mt	g/mt	g/mt	g	g	g
Detection Limit	0.07	0.07	0.07	0.07			
Analysis Method	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT
LARGE LOW GRADE	0.30	0.91	0.97	0.89	30.50	385.30	415.80
SMALL HIGH GRADE	808	1080	1030	1020	10.80	50.400	61.200

Quality Control			
Analyte Symbol	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)
Unit Symbol	g/mt	g/mt	g/mt
Detection Limit	0.07	0.07	0.07
Analysis Method	FA-MeT	FA-MeT	FA-MeT

Method Blank Method	< 0.07	< 0.07	< 0.07
Blank			



Date Submitted: 30-Jun-10
Invoice No.: A10-3506 (i)
Invoice Date: 29-Jul-10
Your Reference: STURGEN LAKE

Excailbur Resources Ltd.
Excailbur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

20 Rock samples and 66 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-3506 (i)

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-3506 (i)

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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35800	73	0.9	158	0.8	13	4	51	45	1.40	2.70	34.3	290	< 1	< 2	< 0.5	1.13	13	66	4	0.5	9.14	2	< 1	< 5
35801	10	1.0	359	4.9	6	16	121	1300	10.1	3.17	6.9	280	< 1	< 2	< 0.5	0.93	99	73	< 1	0.8	21.6	1	< 1	< 5
35802	59	7.7	289	2.0	1	16	199	19	> 20.0	0.60	3.2	< 50	< 1	3	< 0.5	0.13	241	25	< 1	< 0.2	33.8	< 1	< 1	< 5
35803	16	0.5	307	1.7	2	4	149	66	15.7	2.03	145	< 50	< 1	< 2	< 0.5	0.71	90	37	2	< 0.2	23.6	< 1	< 1	< 5
35804	290	0.6	20	1.9	< 1	9	10	75	0.40	0.84	< 0.5	170	< 1	< 2	< 0.5	1.15	4	20	< 1	0.4	44.6	< 1	< 1	< 5
35805	< 2	0.4	70	1.4	< 1	< 3	52	162	0.35	4.94	< 0.5	< 50	< 1	< 2	< 0.5	5.44	49	53	2	0.8	23.0	< 1	< 1	< 5
35806	< 2	< 0.3	12	< 0.3	< 1	< 3	8	11	0.02	0.63	0.7	60	< 1	< 2	3.2	0.53	5	23	< 1	< 0.2	1.09	< 1	< 1	< 5
35807	8	< 0.3	18	0.6	< 1	10	35	51	0.12	6.60	13.6	400	1	< 2	2.0	2.25	13	75	5	< 0.2	6.40	1	< 1	< 5
35808	14	0.6	51	0.7	< 1	13	40	94	0.30	8.83	7.0	1200	1	< 2	< 0.5	3.59	18	114	8	0.8	12.1	4	< 1	< 5
35809	< 2	0.6	95	0.7	3	23	58	84	2.77	6.70	2.1	1030	1	< 2	< 0.5	1.68	27	95	< 1	0.8	3.85	4	< 1	< 5
35810	< 2	0.4	21	1.0	< 1	3	12	95	0.17	3.76	< 0.5	< 50	1	< 2	< 0.5	4.66	9	28	2	0.6	17.0	2	< 1	< 5
35811	< 2	< 0.3	199	1.0	< 1	< 3	86	90	0.09	6.93	< 0.5	< 50	< 1	< 2	< 0.5	6.10	53	218	4	0.9	13.3	1	< 1	< 5
35812	< 2	< 0.3	13	0.6	< 1	5	46	76	0.01	7.16	< 0.5	280	9	< 2	4.8	5.43	38	49	57	0.4	6.90	< 1	< 1	< 5
35813	5	< 0.3	34	0.5	< 1	4	18	74	0.07	8.47	41.2	430	< 1	< 2	< 0.5	1.58	7	196	< 1	0.7	5.57	2	< 1	< 5
35814	< 2	0.4	9	1.0	< 1	< 3	22	93	0.20	5.80	7.6	260	< 1	< 2	< 0.5	5.21	33	22	2	1.0	13.4	2	< 1	< 5
35815	7	< 0.3	28	0.4	< 1	< 3	66	75	2.53	4.92	7.9	1190	1	< 2	< 0.5	5.45	16	386	5	2.1	8.06	2	< 1	< 5
35816	< 2	0.5	24	1.0	< 1	15	38	61	0.05	7.23	2.3	800	3	< 2	3.1	2.46	12	59	5	1.7	15.6	4	< 1	< 5
35817	2	0.3	8	0.7	1	16	39	91	< 0.01	7.03	< 0.5	1720	3	< 2	2.8	3.56	16	64	2	2.7	7.15	4	< 1	< 5
35818	< 2	< 0.3	5	< 0.3	< 1	< 3	3	4	0.08	0.05	2.6	< 50	< 1	< 2	1.6	0.02	< 1	31	< 1	< 0.2	0.53	< 1	< 1	< 5
35819	< 2	0.3	185	1.0	3	4	77	115	9.84	3.36	310	180	< 1	3	< 0.5	1.07	91	44	2	0.5	12.8	< 1	< 1	< 5
36429																								
36461																								

Activation Laboratories Ltd. Report: A10-3506 (i)

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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35800	0.78	0.51	611	0.25	0.040	38	0.7	7.2	< 3	105	< 0.5	0.17	7.3	< 0.5	63	312	9	10.0	22	< 5	1.1	< 0.01	< 0.5	1.2
35801	0.65	0.49	2260	0.72	0.021	< 15	< 0.1	12.1	< 3	70	< 0.5	0.10	3.4	< 0.5	69	< 1	10	10.2	22	10	1.6	< 0.01	< 0.5	1.1
35802	0.12	0.14	633	0.12	0.007	< 15	0.5	2.0	6	10	< 0.5	0.03	0.6	< 0.5	24	< 1	2	1.4	< 3	< 5	0.2	< 0.01	< 0.5	0.2
35803	0.35	0.39	961	0.35	0.012	< 15	31.9	5.8	< 3	32	< 0.5	0.10	1.1	< 0.5	45	< 1	6	3.4	6	< 5	0.7	< 0.01	< 0.5	0.5
35804	0.21	1.51	2800	0.28	0.012	46	0.1	2.3	< 3	42	< 0.5	0.04	< 0.2	1.3	25	< 1	5	4.9	10	< 5	0.6	< 0.01	< 0.5	0.5
35805	0.23	3.13	7380	0.42	0.023	< 15	0.4	46.3	< 3	66	< 0.5	0.31	1.7	< 0.5	213	< 1	45	8.3	20	< 5	2.6	< 0.01	< 0.5	4.7
35806	0.07	0.29	211	0.11	0.001	< 15	< 0.1	3.2	< 3	12	< 0.5	0.07	< 0.2	< 0.5	31	< 1	1	0.7	< 3	< 5	0.2	< 0.01	< 0.5	< 0.2
35807	1.71	0.75	967	1.72	0.052	54	0.4	13.7	< 3	343	< 0.5	0.29	3.0	< 0.5	101	< 1	10	14.4	31	< 5	2.2	< 0.01	< 0.5	1.1
35808	2.63	0.97	1570	2.26	0.069	96	0.6	31.3	< 3	1000	< 0.5	0.49	4.4	< 0.5	188	< 1	17	13.8	28	< 5	2.2	< 0.01	< 0.5	2.3
35809	2.64	0.81	575	2.50	0.036	49	0.2	10.9	< 3	205	< 0.5	0.23	7.2	2.3	71	< 1	12	23.3	46	11	2.8	< 0.01	< 0.5	1.2
35810	0.42	1.69	5330	0.65	0.027	31	< 0.1	12.7	< 3	31	< 0.5	0.22	2.3	< 0.5	66	13	13	8.5	17	< 5	1.3	< 0.01	< 0.5	2.3
35811	0.42	2.01	3900	1.89	0.024	< 15	< 0.1	45.0	< 3	94	< 0.5	0.37	0.9	< 0.5	266	< 1	25	3.2	11	< 5	2.2	< 0.01	< 0.5	3.2
35812	1.95	1.82	1700	2.21	0.020	603	1.0	27.7	< 3	106	6.3	0.29	1.2	< 0.5	154	< 1	14	4.7	11	< 5	1.6	< 0.01	< 0.5	1.8
35813	1.99	1.21	1830	1.76	0.038	69	0.4	26.8	< 3	169	< 0.5	0.20	2.7	< 0.5	109	< 1	14	8.1	21	< 5	1.4	< 0.01	< 0.5	1.8
35814	0.57	2.46	3620	1.73	0.044	< 15	0.5	38.4	< 3	144	< 0.5	0.54	2.2	1.8	242	< 1	30	7.1	18	< 5	2.2	< 0.01	< 0.5	3.6
35815	1.52	5.18	2500	1.07	0.125	43	< 0.1	24.5	< 3	440	< 0.5	0.36	9.7	2.1	167	< 1	19	51.3	108	34	6.8	< 0.01	< 0.5	1.7
35816	3.09	1.37	942	2.64	0.088	111	< 0.1	9.1	< 3	874	< 0.5	0.29	14.1	< 0.5	84	< 1	15	52.9	102	22	5.4	< 0.01	< 0.5	1.2
35817	3.90	1.38	1410	2.88	0.068	55	0.2	10.8	< 3	1440	2.0	0.29	7.5	2.3	90	< 1	18	44.3	106	36	8.2	< 0.01	< 0.5	1.4
35818	0.02	< 0.01	40	< 0.01	0.001	< 15	2.8	< 0.1	< 3	2	< 0.5	< 0.01	0.5	< 0.5	< 2	< 1	< 1	< 0.5	< 3	< 5	< 0.1	< 0.01	< 0.5	< 0.2
35819	0.26	0.51	317	0.53	0.018	< 15	11.2	9.2	< 3	69	< 0.5	0.14	1.4	< 0.5	75	< 1	9	5.4	12	< 5	1.2	< 0.01	< 0.5	1.1
36429																								
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Activation Laboratories Ltd. Report: A10-3506 (i)

Analyte Symbol	Lu	Mass	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge
Unit Symbol	ppm	g	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.05		1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05
Analysis Method	INAA	INAA	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36379			1000	42	5	37.3	1.1	1	1.2	0.24	< 0.5	0.1	0.016	< 0.005	< 0.1	0.36	0.32	3.0	11	4	26	1.9	1.7	0.20
36380			< 1000	75	7	3.5	0.2	2	0.5	0.21	< 0.5	< 0.1	0.019	< 0.005	< 0.1	0.17	0.32	3.4	5	3	11	1.6	0.3	0.06
36381			1000	97	10	4.2	1.6	2	0.3	0.29	< 0.5	0.2	0.015	< 0.005	< 0.1	0.41	0.34	13.0	17	4	55	1.3	0.4	0.14
36382			3000	71	14	12.3	1.4	2	0.6	0.33	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.69	0.43	9.0	15	5	65	1.4	1.4	0.13
36383			2000	66	8	5.1	0.4	1	0.1	0.28	< 0.5	< 0.1	0.007	< 0.005	< 0.1	0.26	0.36	7.6	13	3	18	1.4	0.4	0.08
36384			3000	78	10	7.7	0.4	1	0.5	0.30	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.32	0.30	20.0	6	5	21	1.4	0.4	0.14
36386			2000	90	6	2.1	< 0.1	1	0.2	0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.10	0.22	2.4	6	2	22	1.4	< 0.3	0.09
36387			2000	77	10	11.7	0.3	1	0.4	0.25	< 0.5	< 0.1	0.015	< 0.005	< 0.1	0.43	0.31	16.0	7	5	16	1.3	0.8	0.08
36388			< 1000	37	11	22.1	0.4	< 1	0.6	0.31	< 0.5	0.1	0.023	< 0.005	< 0.1	0.43	0.43	3.5	5	6	10	1.1	0.4	0.15
36389			< 1000	47	8	6.1	0.3	1	0.4	0.20	< 0.5	< 0.1	0.018	< 0.005	< 0.1	0.27	0.31	5.9	7	2	15	1.6	< 0.3	0.08
36390			2000	44	5	13.1	< 0.1	1	< 0.1	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.33	0.29	10.0	4	4	16	0.9	0.3	0.07
36391			2000	70	8	9.8	< 0.1	1	0.3	0.39	< 0.5	< 0.1	0.022	< 0.005	< 0.1	0.21	0.32	13.0	4	5	7	1.5	0.5	< 0.05
36392			2000	56	8	4.2	1.1	1	0.1	0.41	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.71	0.37	7.3	10	3	30	1.4	< 0.3	0.08
36399			2000	24	3	61.2	1.2	< 1	0.8	0.10	< 0.5	0.2	0.013	< 0.005	< 0.1	0.49	0.49	5.5	8	5	16	1.2	< 0.3	0.14
36400			2000	64	9	3.7	1.7	1	< 0.1	0.28	< 0.5	< 0.1	0.007	< 0.005	< 0.1	0.37	0.31	6.2	13	5	23	1.3	0.3	< 0.05
36409			2000	95	22	27.0	2.3	2	2.6	0.40	< 0.5	0.4	0.036	< 0.005	< 0.1	1.12	0.79	20.0	7	12	31	1.4	0.5	0.15
36413			2000	80	11	3.4	0.8	2	0.3	0.05	< 0.5	< 0.1	0.014	< 0.005	< 0.1	0.31	0.38	8.7	19	5	22	0.7	0.3	0.07
36415			2000	66	9	17.6	1.8	1	0.5	0.04	< 0.5	< 0.1	0.007	< 0.005	< 0.1	0.25	0.31	5.9	14	5	166	2.5	1.6	< 0.05
36424			2000	89	10	3.7	1.0	2	< 0.1	0.11	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.47	0.49	7.2	14	10	55	1.3	< 0.3	0.08
36425			2000	122	13	6.0	1.5	1	0.2	0.10	< 0.5	< 0.1	0.015	< 0.005	< 0.1	0.74	0.50	12.0	22	21	42	1.5	0.4	0.13
36428			2000	22	8	22.0	1.2	< 1	0.9	< 0.01	< 0.5	0.4	0.016	< 0.005	< 0.1	0.62	0.43	3.5	4	4	12	1.3	< 0.3	< 0.05
36451			4000	74	10	5.5	0.2	< 1	< 0.1	0.11	< 0.5	< 0.1	0.012	< 0.005	< 0.1	0.60	0.63	8.2	14	3	44	2.1	< 0.3	0.07
36452			3000	78	11	16.3	1.9	2	2.0	0.31	< 0.5	0.1	0.010	< 0.005	< 0.1	0.72	0.57	10.0	16	6	31	2.5	0.8	0.11
36453			3000	52	8	8.6	0.4	1	0.1	0.33	< 0.5	< 0.1	0.009	< 0.005	< 0.1	0.24	0.24	7.0	16	2	39	1.5	0.5	0.08
36454			4000	142	16	9.5	1.5	1	0.3	0.44	< 0.5	< 0.1	0.022	< 0.005	< 0.1	0.46	0.44	18.0	22	4	86	1.9	0.9	0.08
36455			3000	81	10	11.3	2.6	1	0.6	0.36	< 0.5	0.1	0.005	< 0.005	< 0.1	0.65	0.50	45.0	27	7	551	4.7	1.3	0.17
35800	0.11	30.9																						
35801	0.17	30.0																						
35802	0.06	48.1																						
35803	< 0.05	33.9																						
35804	0.07	40.0																						
35805	0.55	35.8																						
35806	< 0.05	28.8																						
35807	0.08	30.7																						
35808	0.14	31.7																						
35809	0.17	29.5																						
35810	0.19	34.7																						
35811	0.23	33.1																						
35812	0.09	31.2																						
35813	0.17	24.7																						
35814	0.36	31.7																						
35815	0.17	30.0																						
35816	0.11	34.4																						
35817	0.14	30.6																						
35818	< 0.05	29.7																						
35819	0.14	30.0																						
36429			2000	46	6	7.3	< 0.1	< 1	< 0.1	< 0.01	< 0.5	0.1	0.006	< 0.005	< 0.1	0.16	0.31	2.7	5	2	57	2.3	0.4	0.11
36461			2000	43	5	7.8	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	0.012	< 0.005	< 0.1	0.15	0.31	2.3	5	2	33	1.9	0.5	0.05

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Analyte Symbol	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36379	< 0.1	0.2	< 0.01	< 0.2	0.037	< 0.5	340	< 3	1.36	1.8	1.5	0.09	0.04	1.50	3.41	0.52	2.30	0.40	0.14	0.37	0.05	0.31	0.04	0.13
36380	< 0.1	0.3	< 0.01	< 0.2	0.133	< 0.5	40	< 3	0.63	0.9	0.5	0.04	< 0.02	0.95	1.71	0.24	0.88	0.24	0.09	0.17	0.02	0.05	0.02	0.06
36381	< 0.1	0.8	< 0.01	< 0.2	0.189	< 0.5	40	< 3	0.70	1.3	0.6	0.07	< 0.02	1.11	2.28	0.29	1.23	0.26	0.10	0.24	0.03	0.06	0.02	0.08
36382	< 0.1	0.7	< 0.01	< 0.2	0.117	< 0.5	200	< 3	0.87	2.6	0.9	0.10	< 0.02	1.76	3.51	0.40	1.53	0.36	0.14	0.26	0.05	0.12	0.03	0.09
36383	< 0.1	0.8	< 0.01	< 0.2	0.233	< 0.5	30	< 3	0.58	1.2	0.4	0.07	< 0.02	1.04	1.95	0.24	0.96	0.16	0.08	0.21	0.03	0.05	0.02	0.06
36384	< 0.1	0.4	< 0.01	< 0.2	0.200	< 0.5	50	< 3	0.33	1.3	0.5	0.06	< 0.02	0.70	1.30	0.17	0.59	0.10	0.07	0.12	0.02	< 0.01	0.01	0.03
36386	< 0.1	0.8	< 0.01	< 0.2	0.167	< 0.5	20	< 3	0.40	0.5	0.4	0.02	< 0.02	0.80	1.35	0.17	0.56	0.14	0.04	0.10	0.02	< 0.01	0.01	0.05
36387	< 0.1	0.5	< 0.01	< 0.2	0.175	< 0.5	70	< 3	0.77	1.6	0.5	0.08	< 0.02	1.43	3.21	0.34	1.51	0.31	0.08	0.24	0.03	0.04	0.03	0.08
36388	< 0.1	0.4	< 0.01	< 0.2	0.139	< 0.5	80	< 3	3.90	2.4	0.5	0.09	< 0.02	8.74	15.5	2.21	8.72	1.58	0.45	1.30	0.15	0.60	0.12	0.35
36389	< 0.1	0.3	< 0.01	< 0.2	0.157	< 0.5	30	< 3	0.93	1.9	0.4	0.06	< 0.02	2.11	4.10	0.49	1.88	0.38	0.14	0.29	0.04	0.09	0.02	0.08
36390	< 0.1	1.7	< 0.01	< 0.2	0.156	< 0.5	90	< 3	2.26	1.6	0.6	0.08	< 0.02	4.50	9.24	0.87	3.27	0.57	0.24	0.57	0.08	0.24	0.06	0.21
36391	< 0.1	0.7	< 0.01	< 0.2	0.102	< 0.5	40	< 3	1.67	0.8	0.4	0.03	< 0.02	4.21	8.56	0.91	3.58	0.71	0.18	0.56	0.06	0.21	0.05	0.12
36392	< 0.1	1.2	< 0.01	< 0.2	0.164	< 0.5	70	< 3	1.03	2.0	0.5	0.09	< 0.02	2.09	4.25	0.52	2.16	0.43	0.18	0.38	0.05	0.12	0.04	0.10
36399	< 0.1	0.3	< 0.01	< 0.2	0.490	< 0.5	100	< 3	1.76	1.9	0.8	0.08	< 0.02	4.08	7.94	1.21	4.70	0.78	0.20	0.65	0.07	0.17	0.05	0.16
36400	< 0.1	0.2	< 0.01	< 0.2	0.195	< 0.5	70	< 3	0.77	2.0	0.5	0.10	< 0.02	1.32	2.58	0.33	1.36	0.31	0.13	0.24	0.03	0.08	0.04	0.08
36409	< 0.1	0.3	< 0.01	< 0.2	0.149	< 0.5	130	< 3	1.40	4.6	0.8	0.14	< 0.02	2.62	5.65	0.73	3.00	0.60	0.18	0.49	0.05	0.13	0.05	0.15
36413	< 0.1	0.2	< 0.01	< 0.2	0.209	< 0.5	40	< 3	0.57	0.9	0.4	0.04	< 0.02	1.06	1.97	0.26	1.10	0.19	0.08	0.17	0.03	0.02	0.02	0.08
36415	< 0.1	0.7	< 0.01	< 0.2	0.190	< 0.5	180	< 3	0.54	1.8	0.8	0.08	< 0.02	0.74	1.41	0.19	0.70	0.19	0.06	0.16	0.02	0.03	0.02	0.05
36424	< 0.1	0.9	< 0.01	< 0.2	0.185	< 0.5	60	< 3	0.82	1.5	0.4	0.08	< 0.02	1.97	3.99	0.44	1.76	0.37	0.11	0.29	0.04	0.04	0.03	0.09
36425	< 0.1	1.0	< 0.01	< 0.2	0.189	< 0.5	90	< 3	0.84	2.3	0.5	0.11	< 0.02	1.70	3.29	0.42	1.55	0.38	0.12	0.27	0.04	0.07	0.02	0.08
36428	< 0.1	0.1	< 0.01	< 0.2	0.007	< 0.5	70	< 3	0.92	2.0	0.8	0.11	0.03	1.55	3.67	0.57	2.23	0.45	0.10	0.33	0.03	0.11	0.03	0.10
36451	< 0.1	0.4	< 0.01	< 0.2	0.164	< 0.5	50	< 3	3.81	1.8	0.4	0.08	< 0.02	9.00	15.8	2.07	7.81	1.51	0.39	1.25	0.15	0.62	0.12	0.35
36452	< 0.1	0.9	< 0.01	< 0.2	0.238	< 0.5	250	< 3	1.08	1.9	0.6	0.10	< 0.02	2.95	5.93	0.74	2.84	0.54	0.18	0.46	0.05	0.14	0.04	0.12
36453	< 0.1	0.2	< 0.01	< 0.2	0.147	< 0.5	60	< 3	0.40	0.9	0.3	0.06	< 0.02	0.94	1.82	0.21	0.76	0.15	0.10	0.17	0.02	< 0.01	0.02	0.05
36454	< 0.1	1.0	< 0.01	< 0.2	0.197	< 0.5	90	< 3	0.72	1.6	0.7	0.07	< 0.02	1.08	2.34	0.30	1.20	0.30	0.12	0.20	0.03	0.03	0.03	0.08
36455	< 0.1	3.0	< 0.01	< 0.2	0.370	< 0.5	190	< 3	1.07	14.0	0.5	0.09	< 0.02	2.16	4.81	0.55	2.08	0.47	0.16	0.38	0.05	0.12	0.03	0.10
35800																								
35801																								
35802																								
35803																								
35804																								
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35806																								
35807																								
35808																								
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35816																								
35817																								
35818																								
35819																								
36429	< 0.1	0.6	< 0.01	< 0.2	0.141	< 0.5	50	< 3	0.90	0.7	0.3	0.03	< 0.02	2.43	3.82	0.41	1.57	0.27	0.14	0.26	0.04	0.04	0.02	0.09
36461	< 0.1	1.6	< 0.01	< 0.2	0.123	< 0.5	50	< 3	1.18	0.7	0.3	0.03	< 0.02	3.35	5.07	0.57	2.16	0.36	0.13	0.37	0.05	0.06	0.04	0.09

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Analyte Symbol	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36379	0.02	0.13	< 0.01	2.3	0.6	< 10	187	32.9	231	0.39	221	< 0.5	< 0.5	< 0.5	< 0.5
36380	0.01	0.06	< 0.01	4.4	0.6	< 10	266	54.4	176	0.78	323	< 0.5	< 0.5	< 0.5	< 0.5
36381	0.01	0.07	< 0.01	10.0	1.4	< 10	361	49.9	216	1.16	345	< 0.5	< 0.5	< 0.5	< 0.5
36382	0.01	0.09	< 0.01	2.1	1.2	< 10	463	65.8	333	0.90	474	< 0.5	< 0.5	< 0.5	< 0.5
36383	0.01	0.07	< 0.01	11.0	1.4	< 10	645	71.9	271	1.20	238	< 0.5	< 0.5	< 0.5	< 0.5
36384	< 0.01	0.04	< 0.01	2.2	0.7	< 10	2370	38.4	510	0.53	237	< 0.5	< 0.5	< 0.5	< 0.5
36386	< 0.01	0.04	< 0.01	5.4	1.3	< 10	96.3	31.0	112	0.91	146	< 0.5	< 0.5	< 0.5	< 0.5
36387	0.01	0.08	< 0.01	2.8	0.7	< 10	892	69.4	259	0.83	194	< 0.5	< 0.5	< 0.5	< 0.5
36388	0.05	0.32	< 0.01	2.0	1.2	< 10	211	87.5	192	0.79	407	< 0.5	< 0.5	< 0.5	< 0.5
36389	0.01	0.07	< 0.01	7.4	1.1	< 10	1060	52.9	255	0.89	422	< 0.5	< 0.5	< 0.5	< 0.5
36390	0.03	0.20	< 0.01	3.1	1.8	< 10	1080	40.9	302	0.57	751	< 0.5	< 0.5	< 0.5	< 0.5
36391	0.02	0.10	< 0.01	2.0	1.1	< 10	1570	42.0	289	0.56	268	< 0.5	< 0.5	< 0.5	< 0.5
36392	0.01	0.09	< 0.01	10.0	1.2	< 10	174	53.9	96.8	1.12	550	< 0.5	< 0.5	< 0.5	< 0.5
36399	0.01	0.18	< 0.01	3.9	0.4	< 10	502	26.8	157	1.40	261	< 0.5	< 0.5	< 0.5	< 0.5
36400	0.01	0.08	< 0.01	7.0	0.9	< 10	281	49.0	170	1.19	492	< 0.5	< 0.5	< 0.5	< 0.5
36409	0.03	0.18	< 0.01	6.7	0.2	< 10	2070	21.5	151	0.48	303	< 0.5	< 0.5	< 0.5	< 0.5
36413	0.01	0.08	< 0.01	8.9	1.0	< 10	86.9	52.3	101	1.65	192	< 0.5	< 0.5	< 0.5	< 0.5
36415	0.01	0.06	< 0.01	27.0	0.8	< 10	349	65.4	182	0.56	202	< 0.5	< 0.5	< 0.5	< 0.5
36424	0.01	0.05	< 0.01	7.4	1.2	< 10	366	33.7	39.8	2.15	177	< 0.5	< 0.5	< 0.5	< 0.5
36425	0.01	0.10	< 0.01	11.0	0.9	< 10	148	47.1	68.7	1.51	212	< 0.5	< 0.5	< 0.5	< 0.5
36428	0.01	0.11	< 0.01	3.1	< 0.1	< 10	291	11.8	77.7	0.17	154	< 0.5	< 0.5	< 0.5	< 0.5
36451	0.04	0.33	< 0.01	4.3	1.6	< 10	195	26.1	79.5	0.97	114	< 0.5	< 0.5	< 0.5	< 0.5
36452	0.01	0.07	< 0.01	3.6	1.0	< 10	1520	130	465	1.76	404	< 0.5	< 0.5	< 0.5	< 0.5
36453	0.01	0.06	< 0.01	4.9	1.5	< 10	463	75.7	159	1.21	459	< 0.5	< 0.5	< 0.5	< 0.5
36454	0.01	0.09	< 0.01	16.0	1.6	< 10	981	64.2	108	0.99	409	< 0.5	< 0.5	< 0.5	< 0.5
36455	0.01	0.08	< 0.01	8.3	2.1	< 10	3820	61.5	146	0.95	321	< 0.5	< 0.5	< 0.5	< 0.5
35800															
35801															
35802															
35803															
35804															
35805															
35806															
35807															
35808															
35809															
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35813															
35814															
35815															
35816															
35817															
35818															
35819															
36429	0.01	0.07	< 0.01	3.0	1.4	< 10	239	39.2	135	0.40	458	< 0.5	< 0.5	< 0.5	< 0.5
36461	0.01	0.07	< 0.01	4.3	1.6	< 10	224	40.7	137	0.46	464	< 0.5	< 0.5	< 0.5	< 0.5

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Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		31.0		1160	3.3	14	709	47		717		0.22	2.10			1	1380							0.90
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22	1380							0.960
GXR-4 Meas		3.7		6470	0.4	312	45	44		69		1.82	6.33			2	15							1.13
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0							1.01
SDC-1 Meas		< 0.3		29	0.4	3	21	38		97		0.06	7.79			3	< 2							1.15
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60							1.00
SCO-1 Meas		0.3		27	< 0.3	1	27	30		97			6.87			2	< 2							2.11
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370							1.87
GXR-6 Meas		0.4		67	0.6	< 1	93	29		128		0.01	12.3			1	< 2							0.19
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290							0.180
TILL-3 Meas																								
TILL-3 Cert																								
SO-3 Meas																								
SO-3 Cert																								
CDN-CGS-15 Meas	580																							
CDN-CGS-15 Cert	570.00																							
DNC-1a Meas				97				252		53														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		1.0		2350		12		2230		128		1.09												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 110 Meas														168	1840					12	80			2.02
DMMAS 110 Cert														170	1770					11	77			1.79
36389 Orig																								
36389 Dup																								
36424 Orig																								
36424 Dup																								
35812 Orig		< 0.3		13	0.6	< 1	5	48		77		0.01	7.16			9	< 2							5.49
35812 Dup		< 0.3		13	0.7	< 1	4	44		74		0.01	7.15			8	< 2							5.38
36461 Orig																								
36461 Dup																								
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank																								
Method Blank Method Blank	< 2		< 5						< 20		< 50			< 0.5	< 50			< 0.5		< 1	< 2	< 1	< 0.2	< 0.01

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Quality Control																									
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	
GXR-1 Meas				0.05	0.20	936		0.057					299					85						32	
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0						32.0	
GXR-4 Meas				4.25	1.71	160		0.135					225					92						16	
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0						14.0	
SDC-1 Meas				3.01	1.00	942		0.054					180		0.13			40						38	
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102						40.0	
SCO-1 Meas				2.79	1.59	414		0.080					166		0.33			133						23	
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131						26.0	
GXR-6 Meas				2.25	0.60	1160		0.034					41					137						15	
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186						14.0	
TILL-3 Meas																									
TILL-3 Cert																									
SO-3 Meas																									
SO-3 Cert																									
CDN-CGS-15 Meas																									
CDN-CGS-15 Cert																									
DNC-1a Meas													131					141						17	
DNC-1a Cert													144					148						18.0	
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 110 Meas							2.48			2.9	5.8						28.0				16.9	31		2.2	
DMMAS 110 Cert							2.41			2.9	5.5						28.8				16.2	27		1.7	
36389 Orig																									
36389 Dup																									
36424 Orig																									
36424 Dup																									
35812 Orig				1.92	1.83	1710		0.021					106		0.30			162						14	
35812 Dup				1.99	1.82	1700		0.020					105		0.28			146						14	
36461 Orig																									
36461 Dup																									
Method Blank Method Blank				< 0.01	< 0.01	< 1		< 0.001					< 1		< 0.01			< 2			< 1				
Method Blank Method Blank				< 0.01	< 0.01	4		< 0.001					< 1		< 0.01			< 2			< 1				
Method Blank Method Blank																									
Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5			< 1		< 0.5	< 3	< 5	< 0.1

Activation Laboratories Ltd. Report: A10-3506 (i)

Quality Control																										
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn		
Unit Symbol	%	ppm	ppm	ppm	g	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb		
Detection Limit	0.01	0.5	0.2	0.05		1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5		
Analysis Method	INAA	INAA	INAA	INAA	INAA	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS		
GXR-1 Meas																										
GXR-1 Cert																										
GXR-4 Meas																										
GXR-4 Cert																										
SDC-1 Meas																										
SDC-1 Cert																										
SCO-1 Meas																										
SCO-1 Cert																										
GXR-6 Meas																										
GXR-6 Cert																										
TILL-3 Meas							290		98.4	524		63.0	16.6			0.024	0.3	7.62	3.84	86.0	75	123	102			
TILL-3 Cert							4500.0		62000	87000		2000	900.0			6	100	4600.0	2100.0	15000	39000	22000	56000			
SO-3 Meas									40.6											2.4	6	10	7			
SO-3 Cert									38000											8000	16000	17000	52000			
CDN-CGS-15 Meas																										
CDN-CGS-15 Cert																										
DNC-1a Meas																										
DNC-1a Cert																										
OREAS 13b (4-Acid) Meas																										
OREAS 13b (4-Acid) Cert																										
DMMAS 110 Meas																										
DMMAS 110 Cert																										
36389 Orig						< 1000	45	8	6.9	0.3	1	0.4	0.21	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.29	0.33	6.0	7	2	13		
36389 Dup						1000	50	8	5.4	0.3	1	0.3	0.19	< 0.5	< 0.1	0.015	< 0.005	< 0.1	0.25	0.28	5.9	7	2	17		
36424 Orig						3000	89	10	3.1	0.9	2	< 0.1	0.14	< 0.5	< 0.1	0.017	< 0.005	< 0.1	0.47	0.47	7.3	14	10	59		
36424 Dup						2000	88	10	4.3	1.0	2	0.1	0.07	< 0.5	< 0.1	0.009	< 0.005	< 0.1	0.46	0.51	7.0	14	10	51		
35812 Orig																										
35812 Dup																										
36461 Orig						2000	40	5	8.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.17	0.32	2.3	4	2	37		
36461 Dup						1000	45	5	7.5	< 0.1	< 1	0.1	< 0.01	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.13	0.31	2.2	5	2	28		
Method Blank Method Blank																										
Method Blank Method Blank																										
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5		
Method Blank Method Blank																										
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0																					

Activation Laboratories Ltd. Report: A10-3506 (i)

Quality Control																								
Analyte Symbol	Pb	Ga	Ge	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.3	0.05	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
GXR-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
TILL-3 Meas	19.0									780	< 3	22.0	45.0	3.2	1.15		25.5	40.8		30.1	6.26			
TILL-3 Cert	26000									2910000	123000	17000	230000	7000	8000		21000	42000		16000	3300.0			
SO-3 Meas	2.3									260	< 3													
SO-3 Cert	14000									2000000	26000													
CDN-CGS-15 Meas																								
CDN-CGS-15 Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 110 Meas																								
DMMAS 110 Cert																								
36389 Orig	1.7	0.3	0.09	< 0.1	0.3	< 0.01	< 0.2	0.163	< 0.5	30	< 3	1.02	1.1	0.4	0.06	< 0.02	2.45	4.60	0.56	2.09	0.43	0.15	0.30	0.04
36389 Dup	1.5	< 0.3	0.07	< 0.1	0.3	< 0.01	< 0.2	0.151	< 0.5	20	< 3	0.84	2.7	0.4	0.07	< 0.02	1.77	3.60	0.42	1.67	0.33	0.13	0.28	0.03
36424 Orig	1.3	0.4	0.07	< 0.1	0.8	< 0.01	< 0.2	0.173	< 0.5	60	< 3	0.81	1.5	0.4	0.08	< 0.02	1.88	3.85	0.44	1.69	0.36	0.11	0.29	0.04
36424 Dup	1.4	< 0.3	0.08	< 0.1	0.9	< 0.01	< 0.2	0.197	< 0.5	50	< 3	0.83	1.4	0.4	0.07	< 0.02	2.07	4.13	0.45	1.82	0.37	0.12	0.29	0.03
35812 Orig																								
35812 Dup																								
36461 Orig	2.0	0.6	0.06	< 0.1	2.4	< 0.01	< 0.2	0.125	< 0.5	70	< 3	1.22	0.8	0.3	0.04	< 0.02	3.43	5.34	0.58	2.24	0.39	0.14	0.40	0.05
36461 Dup	1.8	0.4	0.05	< 0.1	0.7	< 0.01	< 0.2	0.120	< 0.5	40	< 3	1.15	0.6	0.3	0.02	< 0.02	3.26	4.79	0.56	2.09	0.33	0.13	0.33	0.04
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Method Blank Method Blank																								

Activation Laboratories Ltd. Report: A10-3506 (i)

Quality Control																			
Analyte Symbol	Dy	Ho	Er	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	

GXR-1 Meas																				
GXR-1 Cert																				
GXR-4 Meas																				
GXR-4 Cert																				
SDC-1 Meas																				
SDC-1 Cert																				
SCO-1 Meas																				
SCO-1 Cert																				
GXR-6 Meas																				
GXR-6 Cert																				
TILL-3 Meas			2.10		2.08	0.30	30.0	1.0	20	4830	25.9	364	1.20	258						
TILL-3 Cert			1400.0		1500.0	200.0	21000	2000.0	10000	520000	55000	300000	1700.0	489000						
SO-3 Meas										458	91.7	886		84.6						
SO-3 Cert										520000	39000	217000		296000						
CDN-CGS-15 Meas																				
CDN-CGS-15 Cert																				
DNC-1a Meas																				
DNC-1a Cert																				
OREAS 13b (4-Acid) Meas																				
OREAS 13b (4-Acid) Cert																				
DMMAS 110 Meas																				
DMMAS 110 Cert																				
36389 Orig	0.10	0.03	0.08	0.01	0.08	< 0.01	7.5	1.0	< 10	1080	53.7	271	0.92	449	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
36389 Dup	0.07	0.02	0.07	0.01	0.06	< 0.01	7.3	1.2	< 10	1030	52.1	239	0.86	395	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
36424 Orig	0.06	0.03	0.09	0.01	0.05	< 0.01	7.7	1.1	< 10	336	33.1	39.3	2.12	174	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
36424 Dup	0.03	0.03	0.09	0.01	0.06	< 0.01	7.2	1.2	< 10	397	34.3	40.3	2.19	181	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
35812 Orig																				
35812 Dup																				
36461 Orig	0.05	0.04	0.09	0.02	0.08	< 0.01	5.4	1.8	< 10	219	40.7	135	0.45	473	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
36461 Dup	0.07	0.03	0.08	0.01	0.06	< 0.01	3.3	1.4	< 10	229	40.6	138	0.47	455	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Method Blank Method Blank																				
Method Blank Method Blank																				
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Method Blank Method Blank																				



Date Submitted: 02-Jul-10
Invoice No.: A10-3542 (i)
Invoice Date: 14-Jul-10
Your Reference: STURGEN LAKE

Excalibur Resources Ltd.
Excalibur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

103 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-3542 (i)

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



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Activation Laboratories Ltd. Report: A10-3542 (i)

Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36226	4000	50	12	8.8	1.7	4	0.4	0.40	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.30	1.00	22.0	30	4	19	1.0	1.0	0.10	< 0.1	1.0
36227	3000	29	9	9.1	0.9	3	0.3	0.40	< 0.5	< 0.1	< 0.005	< 0.005	0.1	0.60	0.50	11.0	13	1	< 5	0.1	1.0	< 0.05	< 0.1	< 0.1
36228	5000	42	12	8.0	0.8	3	0.1	0.30	< 0.5	< 0.1	< 0.005	< 0.005	0.1	0.70	0.40	14.0	25	< 1	< 5	0.6	1.0	< 0.05	< 0.1	< 0.1
36229	9000	39	11	10.8	1.6	4	0.6	0.40	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.60	6.4	17	3	28	0.6	1.0	0.10	< 0.1	< 0.1
36230	5000	36	12	22.3	1.8	3	1.2	0.55	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.80	0.80	9.8	21	2	33	0.9	2.0	0.10	< 0.1	< 0.1
36231	5000	38	10	8.6	1.2	3	0.2	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.40	0.40	6.4	20	< 1	< 5	< 0.1	1.0	0.10	< 0.1	< 0.1
36232	5000	56	15	37.9	3.4	4	1.0	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	0.80	10.0	31	6	88	0.9	2.0	0.10	< 0.1	< 0.1
36233	5000	56	13	31.2	1.9	3	0.9	0.60	< 0.5	< 0.1	0.010	< 0.005	< 0.1	2.40	1.50	6.0	20	5	19	1.3	2.0	0.10	< 0.1	< 0.1
36234	3000	38	9	18.7	0.5	2	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.00	0.70	5.7	11	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
36235	3000	38	7	9.9	1.0	4	0.7	0.40	< 0.5	< 0.1	0.020	< 0.005	< 0.1	0.60	0.60	13.0	12	< 1	< 5	0.1	1.0	< 0.05	< 0.1	< 0.1
36251	2000	32	5	5.7	0.4	4	0.3	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.30	0.30	9.2	9	< 1	< 5	0.5	1.0	< 0.05	< 0.1	< 0.1
36252	4000	41	11	18.8	1.2	3	0.5	0.30	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.80	5.8	14	12	< 5	0.4	1.0	0.10	< 0.1	< 0.1
36254	3000	61	11	10.9	0.9	4	0.1	0.40	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.90	0.80	6.7	26	19	< 5	< 0.1	< 0.3	0.10	< 0.1	< 0.1
36255	3000	51	12	23.8	1.5	3	0.3	0.30	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	1.05	17.5	29	20	< 5	< 0.1	1.0	0.10	< 0.1	< 0.1
36257	2000	73	9	9.8	0.4	4	0.4	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.50	0.50	6.1	4	1	< 5	0.4	1.0	< 0.05	< 0.1	< 0.1
36258	3000	50	8	4.3	0.5	3	< 0.1	0.20	< 0.5	< 0.1	0.030	< 0.005	< 0.1	0.20	0.40	8.1	14	< 1	26	1.7	< 0.3	0.10	< 0.1	1.0
36259	4000	99	24	0.6	0.7	4	< 0.1	0.10	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.50	0.60	15.0	23	6	32	1.6	< 0.3	0.10	< 0.1	1.0
36260	4000	71	40	7.2	0.3	3	< 0.1	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.40	0.50	8.4	8	4	< 5	1.1	< 0.3	0.10	< 0.1	1.0
36261	4000	91	23	21.1	1.3	5	0.1	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.50	0.90	15.0	22	9	29	1.6	1.0	0.10	< 0.1	1.0
36262	5000	75	12	67.1	4.9	4	0.7	0.30	< 0.5	0.2	< 0.005	< 0.005	< 0.1	0.70	0.50	11.0	24	4	12	2.1	3.0	0.10	< 0.1	1.0
36263	3000	117	20	9.0	1.1	4	< 0.1	0.30	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.70	0.50	21.0	14	4	< 5	1.8	1.0	< 0.05	< 0.1	1.0
36264	4000	134	27	13.2	0.8	4	0.1	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.60	14.0	30	3	14	0.9	1.0	0.10	< 0.1	1.0
36269	4000	86	35	8.1	1.5	5	< 0.1	0.15	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.05	0.80	20.0	27	22	14	0.1	< 0.3	< 0.05	< 0.1	2.0
36270	3000	99	23	9.4	2.0	5	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.00	0.80	21.0	32	17	5	< 0.1	< 0.3	0.10	< 0.1	2.0
36271	4000	52	11	9.0	1.6	4	0.2	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.70	13.0	15	8	14	0.5	1.0	0.10	< 0.1	< 0.1
36272	4000	58	9	8.2	1.1	3	0.4	0.20	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.50	0.60	6.7	7	4	< 5	0.5	1.0	< 0.05	< 0.1	< 0.1

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Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36226	0.01	< 0.2	0.344	< 0.5	190	< 3	2.59	4.1	0.5	0.20	0.03	5.80	12.2	1.34	5.16	0.96	0.30	0.81	0.10	< 0.01	0.10	0.26	< 0.01	0.20
36227	0.01	< 0.2	0.169	< 0.5	170	< 3	1.19	2.4	0.2	0.10	< 0.02	5.29	7.54	0.82	3.06	0.49	0.20	0.46	0.10	< 0.01	0.10	0.12	< 0.01	0.10
36228	0.01	< 0.2	0.172	< 0.5	220	< 3	0.97	2.6	0.2	0.10	< 0.02	2.17	4.13	0.48	1.95	0.32	0.10	0.31	< 0.01	< 0.01	< 0.01	0.08	< 0.01	0.10
36229	0.02	< 0.2	0.150	< 0.5	210	< 3	0.59	1.6	0.3	0.10	< 0.02	2.08	3.73	0.41	1.70	0.27	0.20	0.26	< 0.01	< 0.01	< 0.01	0.06	< 0.01	< 0.01
36230	< 0.01	< 0.2	0.131	< 0.5	320	< 3	1.18	3.3	0.6	0.10	0.02	4.89	7.43	0.80	2.81	0.51	0.20	0.44	0.10	< 0.01	< 0.01	0.11	< 0.01	0.10
36231	0.01	< 0.2	0.123	< 0.5	120	< 3	0.89	2.7	0.2	0.10	< 0.02	2.29	3.09	0.42	1.53	0.31	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10
36232	0.01	< 0.2	0.130	< 0.5	500	< 3	1.43	2.9	0.8	0.10	0.03	5.32	10.0	1.24	4.85	0.83	0.20	0.65	0.10	< 0.01	< 0.01	0.13	< 0.01	0.10
36233	< 0.01	< 0.2	0.306	< 0.5	370	< 3	3.31	3.5	0.7	0.20	0.02	16.8	33.1	3.97	14.6	2.33	0.60	1.86	0.20	0.18	0.10	0.33	< 0.01	0.30
36234	< 0.01	< 0.2	0.203	< 0.5	100	< 3	2.87	4.2	0.2	0.20	< 0.02	5.57	8.88	1.09	4.14	0.78	0.40	0.73	0.10	< 0.01	0.10	0.29	< 0.01	0.30
36235	< 0.01	< 0.2	0.194	< 0.5	160	< 3	0.79	1.6	0.2	0.10	< 0.02	2.89	4.66	0.56	2.29	0.41	0.10	0.36	< 0.01	< 0.01	< 0.01	0.07	< 0.01	0.10
36251	< 0.01	< 0.2	0.068	< 0.5	90	< 3	0.36	0.8	0.1	< 0.01	< 0.02	0.71	1.75	0.18	0.79	0.13	0.10	0.15	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01
36252	< 0.01	< 0.2	0.187	< 0.5	160	< 3	2.39	2.6	0.3	0.10	< 0.02	3.21	5.49	0.86	3.67	0.71	0.30	0.69	0.10	< 0.01	0.10	0.18	< 0.01	0.20
36254	< 0.01	< 0.2	0.287	< 0.5	40	< 3	3.75	2.4	< 0.1	0.10	< 0.02	10.1	18.8	2.59	10.3	2.07	0.40	1.80	0.20	0.24	0.10	0.34	< 0.01	0.30
36255	< 0.01	< 0.2	0.270	< 0.5	200	< 3	2.55	3.2	0.4	0.15	< 0.02	4.63	9.72	1.25	4.97	0.89	0.30	0.82	0.10	< 0.01	0.10	0.26	< 0.01	0.25
36257	0.01	< 0.2	0.092	< 0.5	220	< 3	1.37	1.7	0.3	0.10	< 0.02	2.52	5.63	0.67	2.75	0.50	0.20	0.46	0.10	< 0.01	0.10	0.12	< 0.01	0.10
36258	< 0.01	< 0.2	0.227	< 0.5	40	< 3	0.62	1.0	< 0.1	< 0.01	< 0.02	0.85	1.85	0.19	0.79	0.15	0.10	0.17	< 0.01	< 0.01	< 0.01	0.05	< 0.01	0.10
36259	< 0.01	< 0.2	0.302	< 0.5	30	< 3	2.61	1.9	< 0.1	0.10	< 0.02	4.33	7.40	0.91	3.55	0.66	0.20	0.63	0.10	< 0.01	0.10	0.22	< 0.01	0.20
36260	< 0.01	< 0.2	0.301	< 0.5	50	< 3	2.99	1.8	< 0.1	0.10	< 0.02	6.18	11.7	1.22	4.89	0.83	0.30	0.80	0.10	< 0.01	0.10	0.28	< 0.01	0.30
36261	0.01	< 0.2	0.267	< 0.5	140	< 3	3.89	6.5	0.3	0.30	< 0.02	6.35	12.6	1.50	5.86	1.25	0.50	1.06	0.10	0.20	0.10	0.37	0.10	0.40
36262	< 0.01	< 0.2	0.143	< 0.5	730	< 3	0.92	2.4	1.3	0.10	0.05	1.44	3.34	0.37	1.46	0.33	0.10	0.25	< 0.01	< 0.01	< 0.01	0.09	< 0.01	0.10
36263	< 0.01	< 0.2	0.214	< 0.5	60	< 3	1.51	3.7	< 0.1	0.10	< 0.02	2.28	4.76	0.51	2.21	0.39	0.20	0.31	0.10	< 0.01	0.10	0.15	< 0.01	0.20
36264	0.01	< 0.2	0.322	< 0.5	190	< 3	1.91	3.1	0.2	0.10	< 0.02	2.29	4.56	0.57	2.24	0.45	0.20	0.39	0.10	< 0.01	< 0.01	0.20	< 0.01	0.20
36269	< 0.01	< 0.2	0.201	< 0.5	70	< 3	2.70	3.0	0.1	0.10	< 0.02	4.57	10.1	1.15	4.39	1.00	0.30	0.83	0.10	< 0.01	0.10	0.28	< 0.01	0.30
36270	< 0.01	< 0.2	0.179	< 0.5	80	< 3	2.49	2.8	0.2	0.10	< 0.02	3.84	8.70	0.97	3.85	0.83	0.30	0.73	0.10	< 0.01	0.10	0.28	< 0.01	0.30
36271	0.01	< 0.2	0.189	< 0.5	130	< 3	1.29	2.1	0.2	0.10	< 0.02	1.86	4.23	0.49	1.98	0.40	0.20	0.35	0.10	< 0.01	< 0.01	0.13	< 0.01	0.20
36272	< 0.01	< 0.2	0.066	< 0.5	150	< 3	1.28	1.8	0.3	0.10	< 0.02	1.26	2.70	0.38	1.65	0.31	0.20	0.34	< 0.01	< 0.01	< 0.01	0.13	< 0.01	0.20

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Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36154	< 0.01	2.7	1.0	< 10	33.9	66.4	158	0.60	130	< 0.5	< 0.5	< 0.5	< 0.5
36155	< 0.01	9.2	2.0	< 10	5510	87.9	127	1.10	557	< 0.5	< 0.5	< 0.5	< 0.5
36157	< 0.01	11.0	1.0	< 10	316	46.4	299	0.50	211	< 0.5	< 0.5	< 0.5	< 0.5
36158	< 0.01	5.4	2.0	< 10	513	36.6	262	0.30	358	< 0.5	< 0.5	< 0.5	< 0.5
36159	< 0.01	7.9	2.0	< 10	1580	89.0	238	1.10	513	< 0.5	< 0.5	< 0.5	< 0.5
36160	< 0.01	6.9	2.0	< 10	510	64.8	192	0.50	474	< 0.5	< 0.5	< 0.5	< 0.5
36161	< 0.01	5.7	2.0	< 10	58.3	42.2	104	0.60	258	< 0.5	< 0.5	< 0.5	< 0.5
36162	< 0.01	7.4	2.0	< 10	1360	56.8	230	0.90	352	< 0.5	< 0.5	< 0.5	< 0.5
36163	< 0.01	21.0	2.0	< 10	348	70.7	243	0.80	295	< 0.5	< 0.5	< 0.5	< 0.5
36164	< 0.01	10.5	1.5	< 10	4390	37.7	228	0.20	550	< 0.5	< 0.5	< 0.5	< 0.5
36165	< 0.01	5.0	1.0	< 10	965	63.0	294	0.30	305	< 0.5	< 0.5	< 0.5	< 0.5
36166	< 0.01	3.5	2.0	< 10	515	58.7	134	0.60	202	< 0.5	< 0.5	< 0.5	< 0.5
36167	< 0.01	7.7	1.0	< 10	212	42.1	214	0.10	749	< 0.5	< 0.5	< 0.5	< 0.5
36168	< 0.01	7.8	1.0	< 10	151	42.0	236	1.00	257	< 0.5	< 0.5	< 0.5	< 0.5
36169	< 0.01	5.7	1.0	< 10	113	39.9	233	0.70	291	< 0.5	< 0.5	< 0.5	< 0.5
36170	< 0.01	6.4	1.0	< 10	1120	80.4	209	0.70	374	< 0.5	< 0.5	< 0.5	< 0.5
36171	< 0.01	11.0	1.0	< 10	98.4	46.8	270	0.90	393	< 0.5	< 0.5	< 0.5	< 0.5
36172	< 0.01	8.1	1.0	< 10	373	16.5	284	0.10	696	< 0.5	< 0.5	< 0.5	< 0.5
36173	< 0.01	5.3	1.0	< 10	145	45.8	312	0.40	387	< 0.5	< 0.5	< 0.5	< 0.5
36174	< 0.01	3.8	2.0	< 10	298	51.4	225	0.60	365	< 0.5	< 0.5	< 0.5	< 0.5
36175	< 0.01	4.7	1.0	< 10	53.6	31.0	230	0.60	263	< 0.5	< 0.5	< 0.5	< 0.5
36176	< 0.01	8.4	2.0	< 10	499	20.1	135	0.70	396	< 0.5	< 0.5	< 0.5	< 0.5
36177	< 0.01	5.7	1.0	< 10	789	92.6	252	0.40	371	< 0.5	< 0.5	< 0.5	< 0.5
36178	< 0.01	1.2	1.0	< 10	434	27.0	87.4	0.60	209	< 0.5	< 0.5	< 0.5	< 0.5
36180	< 0.01	2.5	1.0	< 10	29.1	24.2	145	0.40	53.9	< 0.5	< 0.5	< 0.5	< 0.5
36181	< 0.01	5.3	1.0	< 10	286	20.0	110	0.20	92.0	< 0.5	< 0.5	< 0.5	< 0.5
36182	< 0.01	3.7	1.0	< 10	49.8	18.6	124	0.40	233	< 0.5	< 0.5	< 0.5	< 0.5
36183	< 0.01	2.8	2.0	< 10	955	49.3	170	0.70	830	< 0.5	< 0.5	< 0.5	< 0.5
36184	< 0.01	7.1	1.0	< 10	655	61.8	134	0.85	317	< 0.5	< 0.5	< 0.5	< 0.5
36185	< 0.01	7.1	1.0	< 10	231	56.3	119	0.90	316	< 0.5	< 0.5	< 0.5	< 0.5
36186	< 0.01	4.0	1.0	< 10	86.6	19.6	138	0.60	268	< 0.5	< 0.5	< 0.5	< 0.5
36187	< 0.01	3.5	1.0	< 10	318	53.2	134	0.40	265	< 0.5	< 0.5	< 0.5	< 0.5
36188	< 0.01	4.6	1.0	< 10	261	33.8	162	0.50	257	< 0.5	< 0.5	< 0.5	< 0.5
36192	< 0.01	0.9	< 0.1	< 10	844	22.5	76.7	0.30	224	< 0.5	< 0.5	< 0.5	< 0.5
36194	< 0.01	1.8	< 0.1	< 10	164	18.7	79.7	0.20	233	< 0.5	< 0.5	< 0.5	< 0.5
36195	< 0.01	2.7	1.0	< 10	411	39.3	94.1	0.40	279	< 0.5	< 0.5	< 0.5	< 0.5
36196	< 0.01	3.4	< 0.1	< 10	197	59.7	116	1.10	413	< 0.5	< 0.5	< 0.5	< 0.5
36197	< 0.01	2.9	1.0	< 10	785	42.8	113	0.30	275	< 0.5	< 0.5	< 0.5	< 0.5
36198	< 0.01	2.1	1.0	< 10	123	47.8	76.4	0.30	162	< 0.5	< 0.5	< 0.5	< 0.5
36199	< 0.01	2.9	1.0	< 10	331	49.2	79.9	0.50	384	< 0.5	< 0.5	< 0.5	< 0.5
36200	< 0.01	3.6	1.0	< 10	554	25.4	83.5	0.20	219	< 0.5	< 0.5	< 0.5	< 0.5
36201	< 0.01	2.7	1.0	< 10	111	58.8	139	0.60	185	< 0.5	< 0.5	< 0.5	< 0.5
36204	< 0.01	3.2	1.0	< 10	89.4	15.4	150	0.20	131	< 0.5	< 0.5	< 0.5	< 0.5
36205	< 0.01	2.0	1.0	< 10	548	38.0	127	0.40	151	< 0.5	< 0.5	< 0.5	< 0.5
36206	< 0.01	8.8	1.0	< 10	106	63.6	161	0.40	132	< 0.5	< 0.5	< 0.5	< 0.5
36211	0.10	8.9	< 0.1	< 10	1640	10.1	672	0.40	482	< 0.5	< 0.5	< 0.5	< 0.5
36216	< 0.01	17.0	2.0	< 10	640	56.5	70.9	0.80	601	< 0.5	< 0.5	< 0.5	< 0.5
36218	< 0.01	7.5	2.0	< 10	72.6	122	188	1.70	423	< 0.5	< 0.5	< 0.5	< 0.5
36219	< 0.01	36.0	2.0	< 10	31.1	79.2	303	1.40	160	< 0.5	< 0.5	< 0.5	< 0.5
36220	< 0.01	1.0	1.0	< 10	73.3	91.3	307	0.70	262	< 0.5	< 0.5	< 0.5	< 0.5
36221	< 0.01	7.5	2.0	< 10	626	132	340	0.90	515	< 0.5	< 0.5	< 0.5	< 0.5
36225	< 0.01	10.0	2.0	< 10	462	69.7	165	0.90	768	< 0.5	< 0.5	< 0.5	< 0.5

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Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36226	< 0.01	5.4	2.0	< 10	3790	93.9	173	1.50	351	< 0.5	< 0.5	< 0.5	< 0.5
36227	< 0.01	2.0	2.0	< 10	2620	106	210	0.90	306	< 0.5	< 0.5	< 0.5	< 0.5
36228	< 0.01	11.0	3.0	< 10	430	109	163	0.70	516	< 0.5	< 0.5	< 0.5	< 0.5
36229	< 0.01	14.0	2.0	< 10	455	99.8	405	0.60	725	< 0.5	< 0.5	< 0.5	< 0.5
36230	< 0.01	7.9	1.5	< 10	432	130	391	0.55	779	< 0.5	< 0.5	< 0.5	< 0.5
36231	< 0.01	6.3	2.0	< 10	125	39.9	389	0.70	466	< 0.5	< 0.5	< 0.5	< 0.5
36232	< 0.01	6.0	1.0	< 10	135	107	330	0.60	281	< 0.5	< 0.5	< 0.5	< 0.5
36233	< 0.01	12.0	2.0	< 10	103	78.5	269	1.50	321	< 0.5	< 0.5	< 0.5	< 0.5
36234	< 0.01	2.9	4.0	< 10	39.2	39.7	133	0.60	1170	< 0.5	< 0.5	< 0.5	< 0.5
36235	< 0.01	7.4	2.0	< 10	138	60.3	302	0.90	315	< 0.5	< 0.5	< 0.5	< 0.5
36251	< 0.01	4.2	1.0	< 10	152	49.6	295	0.30	439	< 0.5	< 0.5	< 0.5	< 0.5
36252	< 0.01	3.5	1.0	< 10	315	83.4	245	1.50	851	< 0.5	< 0.5	< 0.5	< 0.5
36254	< 0.01	7.7	2.0	< 10	279	51.4	191	1.60	516	< 0.5	< 0.5	< 0.5	< 0.5
36255	< 0.01	4.0	1.0	< 10	553	91.8	209	2.80	610	< 0.5	< 0.5	< 0.5	< 0.5
36257	< 0.01	1.7	1.0	< 10	302	76.8	388	0.40	179	< 0.5	< 0.5	< 0.5	< 0.5
36258	< 0.01	6.2	2.0	< 10	412	87.5	284	0.70	810	< 0.5	< 0.5	< 0.5	< 0.5
36259	< 0.01	8.3	3.0	< 10	134	45.8	193	0.80	326	< 0.5	< 0.5	< 0.5	< 0.5
36260	< 0.01	4.0	2.0	< 10	136	87.0	150	0.60	312	< 0.5	< 0.5	< 0.5	< 0.5
36261	0.10	7.4	4.0	< 10	145	93.5	531	0.80	1030	< 0.5	< 0.5	< 0.5	< 0.5
36262	< 0.01	7.5	1.0	< 10	157	29.9	153	0.20	236	< 0.5	< 0.5	< 0.5	< 0.5
36263	< 0.01	6.0	2.0	< 10	1170	92.1	667	0.90	568	< 0.5	< 0.5	< 0.5	< 0.5
36264	< 0.01	7.5	2.0	< 10	97.9	70.7	189	1.00	336	< 0.5	< 0.5	< 0.5	< 0.5
36269	< 0.01	10.0	2.0	< 10	89.4	69.2	125	1.55	373	< 0.5	< 0.5	< 0.5	< 0.5
36270	< 0.01	10.0	2.0	< 10	83.5	68.6	129	1.80	354	< 0.5	< 0.5	< 0.5	< 0.5
36271	< 0.01	7.3	1.0	< 10	436	82.5	171	0.80	450	< 0.5	< 0.5	< 0.5	< 0.5
36272	< 0.01	4.9	1.0	< 10	78.5	53.4	191	0.40	427	< 0.5	< 0.5	< 0.5	< 0.5

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Quality Control																									
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
SO-3 Meas				41.7												1.9	4	7	< 5	0.8					
SO-3 Cert				38000												8000	16000	17000	52000	14000					
SO-3 Meas				88.7												82.0	24	171	96	15.0					
SO-3 Cert				38000												8000	16000	17000	52000	14000					
36164 Orig	2000	66	15	34.3	2.0	3	0.6	0.60	< 0.5	0.1	0.010	0.005	0.1	2.90	0.80	25.0	17	5	55	0.9	2.0	0.10	< 0.1	1.0	
36164 Dup	3000	69	16	34.7	2.1	3	0.8	0.60	< 0.5	0.1	< 0.005	0.005	0.1	3.10	0.80	28.0	19	5	69	0.7	2.0	0.10	< 0.1	1.0	
36184 Orig	1000	51	10	7.2	0.9	4	0.2	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.50	0.30	12.0	21	1	11	0.5	1.0	0.10	< 0.1	1.0	
36184 Dup	< 1000	53	10	10.0	1.0	3	0.1	0.50	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.50	0.40	13.0	24	1	23	0.6	1.0	0.10	< 0.1	1.0	
36230 Orig	5000	38	12	23.3	1.9	3	1.2	0.60	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.80	0.80	10.0	21	2	28	0.7	2.0	0.10	< 0.1	< 0.1	
36230 Dup	5000	35	12	21.4	1.8	3	1.2	0.50	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.80	0.80	9.6	20	1	38	1.1	2.0	0.10	< 0.1	< 0.1	
36255 Orig	3000	51	12	23.9	1.5	3	0.3	0.30	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	1.10	18.0	30	17	< 5	< 0.1	1.0	0.10	< 0.1	< 0.1	
36255 Dup	3000	52	12	23.6	1.5	3	0.2	0.30	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	1.00	17.0	28	23	< 5	< 0.1	1.0	0.10	< 0.1	< 0.1	
36269 Orig	4000	83	34	8.1	1.5	5	< 0.1	0.10	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.00	0.80	20.0	27	21	16	0.1	1.0	< 0.05	< 0.1	2.0	
36269 Dup	4000	89	36	8.1	1.5	5	< 0.1	0.20	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.10	0.80	20.0	26	23	12	0.1	< 0.3	< 0.05	< 0.1	2.0	

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Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
SO-3 Meas					160	< 3																			
SO-3 Cert					2000000	26000																			
SO-3 Meas					720	< 3																			
SO-3 Cert					2000000	26000																			
36164 Orig	< 0.01	< 0.2	0.188	< 0.5	420	< 3	0.96	6.1	0.9	0.20	0.03	4.40	8.76	0.89	3.41	0.56	0.20	0.43	0.10	< 0.01	< 0.01	0.12	< 0.01	0.10	
36164 Dup	< 0.01	< 0.2	0.199	< 0.5	430	< 3	1.03	5.3	0.9	0.20	0.03	4.59	8.90	0.92	3.42	0.56	0.20	0.47	0.10	< 0.01	< 0.01	0.12	< 0.01	0.10	
36184 Orig	< 0.01	< 0.2	0.162	< 0.5	100	< 3	0.60	1.5	0.1	0.10	< 0.02	1.10	2.29	0.26	1.05	0.20	0.10	0.16	< 0.01	< 0.01	< 0.01	0.06	< 0.01	0.10	
36184 Dup	< 0.01	< 0.2	0.180	< 0.5	140	< 3	0.63	1.6	0.2	0.10	< 0.02	1.12	2.28	0.27	1.07	0.20	0.10	0.18	< 0.01	< 0.01	< 0.01	0.06	< 0.01	0.10	
36230 Orig	0.01	< 0.2	0.134	< 0.5	340	< 3	1.19	3.3	0.6	0.10	0.02	4.93	7.08	0.80	2.89	0.55	0.20	0.44	0.10	< 0.01	< 0.01	0.11	< 0.01	0.10	
36230 Dup	< 0.01	< 0.2	0.128	< 0.5	300	< 3	1.18	3.4	0.7	0.10	0.02	4.86	7.78	0.79	2.73	0.47	0.20	0.43	0.10	< 0.01	< 0.01	0.12	< 0.01	0.10	
36255 Orig	0.01	< 0.2	0.258	< 0.5	200	< 3	2.60	3.2	0.4	0.20	< 0.02	4.91	10.2	1.32	5.31	0.94	0.30	0.88	0.10	< 0.01	0.10	0.27	0.10	0.20	
36255 Dup	< 0.01	< 0.2	0.282	< 0.5	200	< 3	2.50	3.2	0.4	0.10	0.02	4.35	9.24	1.17	4.64	0.85	0.30	0.76	0.10	< 0.01	0.10	0.26	< 0.01	0.30	
36269 Orig	< 0.01	< 0.2	0.210	< 0.5	60	< 3	2.69	2.9	0.1	0.10	< 0.02	4.36	9.64	1.11	4.18	0.95	0.30	0.78	0.10	< 0.01	0.10	0.28	< 0.01	0.30	
36269 Dup	0.01	< 0.2	0.193	< 0.5	80	< 3	2.72	3.1	0.1	0.10	< 0.02	4.79	10.5	1.19	4.61	1.04	0.30	0.88	0.10	< 0.01	0.10	0.28	< 0.01	0.30	

Quality Control													
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
SO-3 Meas					538	93.3	1050		91.4				
SO-3 Cert					520000	39000	217000		296000				
SO-3 Meas					38900	46.5	443		882				
SO-3 Cert					520000	39000	217000		296000				
36164 Orig	< 0.01	10.0	1.0	< 10	4120	36.3	215	0.20	518	< 0.5	< 0.5	< 0.5	< 0.5
36164 Dup	< 0.01	11.0	2.0	< 10	4660	39.0	240	0.20	581	< 0.5	< 0.5	< 0.5	< 0.5
36184 Orig	< 0.01	6.9	1.0	< 10	618	60.2	126	0.80	295	< 0.5	< 0.5	< 0.5	< 0.5
36184 Dup	< 0.01	7.2	1.0	< 10	692	63.3	141	0.90	338	< 0.5	< 0.5	< 0.5	< 0.5
36230 Orig	< 0.01	7.8	2.0	< 10	452	134	405	0.50	806	< 0.5	< 0.5	< 0.5	< 0.5
36230 Dup	< 0.01	7.9	1.0	< 10	411	126	376	0.60	751	< 0.5	< 0.5	< 0.5	< 0.5
36255 Orig	< 0.01	4.1	1.0	< 10	567	92.5	212	2.80	630	< 0.5	< 0.5	< 0.5	< 0.5
36255 Dup	0.10	3.9	1.0	< 10	538	91.0	206	2.80	589	< 0.5	< 0.5	< 0.5	< 0.5
36269 Orig	< 0.01	10.0	2.0	< 10	89.2	69.9	125	1.50	371	< 0.5	< 0.5	< 0.5	< 0.5
36269 Dup	< 0.01	10.0	2.0	< 10	89.6	68.4	124	1.60	374	< 0.5	< 0.5	< 0.5	< 0.5

Quality Analysis ...



Innovative Technologies

Date Submitted: 02-Jul-10
Invoice No.: A10-3543 (I)
Invoice Date: 15-Jul-10
Your Reference: STURGEN LAKE

Excalibur Resources Ltd.
Excalibur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

119 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-3543 (I)

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



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Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36236	4000	58	11	12.9	2.0	2	0.7	0.36	< 0.5	0.1	0.005	< 0.005	< 0.1	0.50	0.46	20.0	32	16	24	2.2	0.7	0.16	0.1	0.6
36245	3000	70	13	36.2	5.9	2	1.3	0.45	< 0.5	0.2	0.007	< 0.005	0.1	1.04	0.71	16.0	28	22	21	2.2	1.5	0.23	0.1	0.9
36246	3000	53	10	17.3	6.1	2	1.0	0.27	< 0.5	0.2	0.011	0.006	0.1	0.87	0.77	99.0	14	19	139	2.9	1.2	0.15	< 0.1	1.1
36247	2000	56	9	11.7	2.0	2	1.0	0.23	< 0.5	0.1	0.005	< 0.005	< 0.1	0.71	0.53	6.1	12	11	8	1.3	0.7	0.06	0.1	0.2
36248	6000	201	29	17.4	3.7	7	2.0	0.69	< 0.5	0.2	0.039	0.007	0.2	1.36	1.07	27.0	18	25	16	2.0	0.6	0.13	0.1	0.4
36249	4000	76	20	11.0	2.5	4	0.6	0.48	< 0.5	0.1	0.016	< 0.005	< 0.1	0.61	0.56	16.0	20	14	13	1.3	0.5	0.19	0.1	0.4
36250	3000	53	11	40.2	4.1	2	1.0	0.33	< 0.5	0.2	0.021	< 0.005	0.1	0.55	0.42	19.0	28	16	73	1.8	2.5	0.15	< 0.1	0.9
36278	1000	53	7	11.8	0.7	2	0.6	0.41	< 0.5	0.1	0.027	< 0.005	0.1	0.48	0.42	4.6	9	6	8	1.2	0.5	0.10	< 0.1	0.1
36279	3000	67	22	9.7	1.1	3	0.4	0.60	< 0.5	0.1	0.014	< 0.005	0.2	0.51	0.51	9.3	15	7	12	0.9	0.4	0.12	< 0.1	0.2
36280	3000	41	7	14.3	0.9	2	1.2	0.32	< 0.5	0.4	< 0.005	< 0.005	< 0.1	0.63	0.69	4.2	12	9	10	0.8	0.5	< 0.05	0.2	0.3
36281	5000	66	7	11.0	1.3	3	1.2	0.33	< 0.5	0.5	0.045	< 0.005	< 0.1	0.61	0.49	7.8	15	29	27	1.1	0.7	0.13	< 0.1	0.7
36282	3000	76	10	10.2	1.4	5	0.5	0.35	< 0.5	0.1	0.019	< 0.005	< 0.1	1.04	0.61	22.0	18	16	19	0.8	0.5	0.12	0.1	0.4
36283	5000	61	12	17.8	3.0	2	1.7	0.55	< 0.5	0.1	0.010	< 0.005	< 0.1	0.55	0.59	13.0	12	13	27	1.4	0.7	0.09	< 0.1	1.0
36284	3000	55	8	11.5	1.0	3	0.5	0.38	< 0.5	0.1	0.019	< 0.005	< 0.1	0.55	0.37	12.0	21	15	14	0.9	0.6	0.07	0.1	0.3
36286	3000	97	10	4.8	1.1	4	0.4	0.39	< 0.5	0.1	0.026	< 0.005	0.1	0.35	0.40	17.0	15	6	37	0.9	< 0.3	0.06	< 0.1	0.4
36287	3000	74	12	8.9	1.5	3	0.7	0.54	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.74	0.79	10.0	27	12	22	1.6	0.7	0.08	0.1	0.2
36288	2000	37	7	9.3	0.5	2	0.4	0.23	< 0.5	0.1	0.013	< 0.005	< 0.1	0.44	0.39	3.7	21	9	22	1.2	0.5	0.07	0.1	0.7
36289	< 1000	43	6	32.6	0.6	1	1.0	0.15	< 0.5	0.3	0.012	< 0.005	< 0.1	0.94	0.51	1.9	7	5	< 5	0.9	0.9	0.13	0.1	0.1
36295	2000	66	15	4.6	0.9	1	0.3	0.13	< 0.5	0.1	0.021	< 0.005	< 0.1	0.34	0.28	8.9	15	9	22	1.4	0.3	0.06	< 0.1	0.6
36331	2000	109	24	20.2	3.3	3	0.6	0.17	< 0.5	0.2	0.009	< 0.005	< 0.1	1.47	0.76	11.0	33	36	246	1.5	1.5	0.12	0.1	2.3
36332	2000	79	14	5.8	1.4	3	0.4	0.10	< 0.5	0.1	0.011	< 0.005	< 0.1	0.67	0.57	9.9	18	14	33	1.2	0.3	0.07	< 0.1	0.9
36333	2000	95	18	6.5	1.5	4	0.6	0.18	< 0.5	0.1	0.007	< 0.005	< 0.1	0.35	0.36	13.0	23	13	66	0.9	0.4	0.08	< 0.1	1.2
36334	3000	60	12	53.5	3.0	1	1.0	0.25	< 0.5	0.2	0.020	< 0.005	< 0.1	1.52	0.66	6.0	21	13	42	2.1	1.4	0.11	< 0.1	0.8
36368	6000	48	6	7.8	1.4	1	0.3	0.11	< 0.5	< 0.1	0.008	< 0.005	< 0.1	0.54	0.39	4.7	16	4	20	1.0	0.9	0.05	< 0.1	0.1
36369	1000	50	13	42.6	2.2	1	1.2	0.41	< 0.5	0.2	0.016	< 0.005	< 0.1	1.31	0.53	9.8	27	27	76	1.5	0.9	0.22	< 0.1	0.8
36370	< 1000	74	12	36.5	1.6	2	1.3	0.20	< 0.5	0.2	0.007	< 0.005	< 0.1	1.80	0.71	3.3	10	13	16	1.6	1.2	0.17	< 0.1	0.2
36371	< 1000	55	8	9.8	0.1	1	0.3	0.08	< 0.5	< 0.1	0.019	< 0.005	< 0.1	0.20	0.68	4.2	10	7	133	1.5	0.4	0.09	< 0.1	0.4
36372	3000	129	17	4.6	1.3	3	0.2	0.17	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.74	0.68	7.3	15	12	104	1.3	0.4	0.07	< 0.1	1.7
36373	1000	73	11	6.3	0.6	2	0.4	0.20	< 0.5	0.1	0.009	< 0.005	< 0.1	0.56	0.52	5.7	20	8	34	1.0	0.3	0.12	< 0.1	0.5
36342	3000	41	5	9.4	0.2	1	0.1	0.13	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.18	0.34	2.1	5	3	53	2.1	0.5	0.05	< 0.1	0.6
36343	1000	39	5	7.9	< 0.1	1	0.1	0.09	< 0.5	< 0.1	0.008	< 0.005	< 0.1	0.15	0.38	2.3	4	2	28	2.0	0.4	0.09	< 0.1	0.6
36344	2000	43	5	9.0	< 0.1	1	< 0.1	0.08	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.11	0.32	1.9	5	2	21	1.7	0.4	0.08	< 0.1	0.6
36345	4000	42	5	9.0	< 0.1	2	0.1	0.12	< 0.5	< 0.1	0.005	< 0.005	0.1	0.13	0.35	1.9	5	2	33	1.9	0.3	0.11	< 0.1	0.6
36346	2000	44	4	9.3	< 0.1	2	0.1	0.03	< 0.5	< 0.1	0.009	< 0.005	< 0.1	0.13	0.36	2.1	5	2	43	1.9	0.5	0.05	< 0.1	0.6
36347	3000	44	9	8.6	< 0.1	1	0.1	0.07	< 0.5	< 0.1	0.006	< 0.005	< 0.1	0.15	0.37	2.1	5	2	40	1.9	0.5	0.07	< 0.1	0.5

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Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36236	< 0.01	< 0.2	0.224	< 0.5	110	< 3	1.95	1.9	0.5	0.08	< 0.02	3.40	5.52	0.92	3.67	0.70	0.24	0.58	0.07	0.72	0.06	0.18	0.03	0.16
36245	< 0.01	< 0.2	0.297	< 0.5	360	< 3	1.59	4.7	0.9	0.13	0.03	3.18	6.48	0.81	3.45	0.64	0.21	0.59	0.07	0.36	0.06	0.15	0.03	0.18
36246	< 0.01	< 0.2	0.099	< 0.5	250	< 3	1.88	3.1	0.8	0.12	< 0.02	3.15	6.81	0.95	4.04	0.83	0.33	0.63	0.08	0.36	0.07	0.23	0.03	0.17
36247	< 0.01	< 0.2	0.100	< 0.5	120	< 3	1.14	2.4	0.5	0.13	< 0.02	1.75	3.43	0.51	2.12	0.50	0.21	0.40	0.05	0.11	0.05	0.12	0.02	0.13
36248	< 0.01	< 0.2	0.575	< 0.5	120	< 3	3.16	2.7	0.5	0.10	< 0.02	5.48	12.0	1.65	7.09	1.49	0.42	1.10	0.15	0.51	0.11	0.32	0.05	0.33
36249	< 0.01	< 0.2	0.309	< 0.5	80	< 3	1.36	2.0	0.3	0.09	< 0.02	1.75	4.47	0.44	1.75	0.42	0.17	0.42	0.06	0.12	0.05	0.13	0.02	0.15
36250	< 0.01	< 0.2	0.292	< 0.5	440	< 3	1.25	1.6	0.9	0.06	0.03	1.73	3.87	0.48	2.02	0.46	0.15	0.41	0.05	0.10	0.05	0.11	0.02	0.13
36278	< 0.01	< 0.2	0.164	< 0.5	60	< 3	1.94	2.0	0.4	0.08	< 0.02	3.24	5.34	0.76	3.30	0.62	0.21	0.56	0.07	0.23	0.07	0.17	0.03	0.14
36279	< 0.01	< 0.2	0.160	< 0.5	60	< 3	1.13	2.0	0.3	0.09	< 0.02	1.50	3.11	0.38	1.48	0.37	0.17	0.33	0.04	0.08	0.04	0.12	0.02	0.13
36280	< 0.01	< 0.2	0.140	< 0.5	110	< 3	1.26	1.5	0.5	0.06	< 0.02	2.20	4.41	0.60	2.52	0.57	0.16	0.45	0.05	0.05	0.05	0.11	0.01	0.11
36281	< 0.01	< 0.2	0.157	< 0.5	260	< 3	1.16	1.5	0.3	0.05	< 0.02	1.98	4.42	0.53	2.28	0.47	0.16	0.44	0.06	0.13	0.04	0.12	0.02	0.09
36282	< 0.01	< 0.2	0.289	< 0.5	70	< 3	2.18	2.6	0.3	0.11	< 0.02	4.41	12.3	1.02	4.25	0.91	0.25	0.78	0.10	0.34	0.07	0.20	0.03	0.21
36283	< 0.01	< 0.2	0.228	< 0.5	150	< 3	0.89	2.3	0.4	0.06	< 0.02	1.64	3.08	0.38	1.50	0.34	0.16	0.29	0.03	0.02	0.04	0.10	0.02	0.08
36284	< 0.01	< 0.2	0.409	< 0.5	250	< 3	1.78	13.0	0.3	0.33	< 0.02	2.31	4.48	0.62	2.55	0.61	0.22	0.53	0.09	0.16	0.06	0.17	0.02	0.16
36286	< 0.01	< 0.2	0.243	< 0.5	30	< 3	1.08	1.4	0.2	0.05	< 0.02	1.47	2.50	0.36	1.37	0.40	0.15	0.33	0.04	0.08	0.04	0.11	0.02	0.14
36287	< 0.01	< 0.2	0.286	< 0.5	80	< 3	2.14	2.7	0.3	0.10	< 0.02	2.94	5.36	0.74	3.25	0.63	0.21	0.54	0.07	0.25	0.07	0.22	0.03	0.23
36288	< 0.01	< 0.2	0.164	< 0.5	110	< 3	1.22	1.3	0.4	0.05	< 0.02	1.98	4.38	0.58	2.25	0.49	0.20	0.45	0.05	0.06	0.04	0.11	0.02	0.11
36289	< 0.01	< 0.2	0.138	< 0.5	110	< 3	3.01	2.7	0.8	0.08	0.02	3.70	14.2	1.28	5.19	1.10	0.30	0.90	0.11	0.35	0.10	0.24	0.04	0.30
36295	< 0.01	< 0.2	0.293	< 0.5	50	< 3	0.77	1.7	0.3	0.05	< 0.02	0.92	2.28	0.24	0.99	0.23	0.10	0.21	0.04	< 0.01	0.03	0.08	0.01	0.09
36331	< 0.01	< 0.2	0.609	< 0.5	400	< 3	3.45	4.2	1.0	0.15	0.05	5.42	11.9	1.50	6.12	1.13	0.30	1.05	0.13	0.45	0.11	0.31	0.04	0.28
36332	< 0.01	< 0.2	0.327	< 0.5	80	< 3	1.10	1.6	0.3	0.07	< 0.02	2.47	4.34	0.55	2.17	0.45	0.13	0.36	0.05	0.05	0.04	0.12	0.01	0.10
36333	< 0.01	< 0.2	0.291	< 0.5	90	< 3	0.67	1.0	0.3	0.04	< 0.02	1.15	2.24	0.28	1.11	0.29	0.09	0.22	0.03	< 0.01	0.03	0.06	0.01	0.05
36334	< 0.01	< 0.2	0.228	< 0.5	520	< 3	2.21	3.0	1.6	0.15	0.04	5.38	11.9	2.00	5.81	1.18	0.30	0.87	0.11	0.31	0.08	0.24	0.03	0.20
36368	< 0.01	< 0.2	0.131	< 0.5	130	< 3	0.68	1.4	0.4	0.06	< 0.02	1.96	3.54	0.42	1.63	0.33	0.11	0.28	0.03	< 0.01	0.03	0.07	0.01	0.07
36369	< 0.01	< 0.2	0.394	< 0.5	360	< 3	3.65	5.5	1.7	0.18	0.05	7.13	20.3	2.18	9.15	1.77	0.46	1.39	0.14	0.44	0.12	0.36	0.05	0.43
36370	< 0.01	< 0.2	0.275	< 0.5	270	< 3	2.80	5.8	1.3	0.20	0.05	5.75	7.69	1.57	6.22	1.25	0.31	0.96	0.14	0.31	0.09	0.28	0.04	0.27
36371	< 0.01	< 0.2	0.299	< 0.5	60	< 3	4.66	0.8	0.3	0.03	< 0.02	9.55	11.8	1.80	7.14	1.24	0.36	1.13	0.14	0.48	0.10	0.35	0.05	0.27
36372	< 0.01	< 0.2	0.229	< 0.5	50	< 3	2.49	3.8	0.3	0.13	< 0.02	5.14	9.13	1.15	4.40	0.88	0.26	0.76	0.10	0.34	0.09	0.24	0.04	0.22
36373	< 0.01	< 0.2	0.199	< 0.5	50	< 3	1.73	2.6	0.3	0.12	< 0.02	2.73	5.40	0.64	2.59	0.58	0.20	0.49	0.06	0.22	0.06	0.18	0.03	0.16
36342	< 0.01	< 0.2	0.178	< 0.5	40	< 3	1.19	0.7	0.2	0.03	< 0.02	3.20	4.70	0.53	2.00	0.36	0.14	0.37	0.04	0.02	0.03	0.09	0.02	0.07
36343	< 0.01	< 0.2	0.179	< 0.5	30	< 3	1.29	0.7	0.2	0.04	< 0.02	3.63	5.29	0.59	2.35	0.45	0.15	0.37	0.04	0.02	0.03	0.09	0.01	0.07
36344	< 0.01	< 0.2	0.167	< 0.5	30	< 3	1.22	0.6	0.1	0.03	< 0.02	3.37	5.17	0.56	2.11	0.39	0.16	0.38	0.04	< 0.01	0.02	0.08	0.01	0.10
36345	< 0.01	< 0.2	0.164	< 0.5	30	< 3	1.31	0.7	0.1	0.04	< 0.02	3.59	5.14	0.58	2.30	0.36	0.16	0.40	0.04	0.05	0.04	0.09	0.02	0.10
36346	< 0.01	< 0.2	0.146	< 0.5	30	< 3	1.33	0.6	0.2	0.04	< 0.02	3.76	5.46	0.63	2.33	0.46	0.17	0.44	0.05	0.05	0.04	0.10	0.02	0.08
36347	< 0.01	< 0.2	0.179	< 0.5	30	< 3	1.37	0.9	0.2	0.03	< 0.02	3.92	5.81	0.64	2.52	0.48	0.19	0.44	0.05	0.06	0.03	0.12	0.02	0.08

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Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36236	< 0.01	5.3	0.8	< 10	520	63.9	253	0.83	642	< 0.5	< 0.5	< 0.5	< 0.5
36245	< 0.01	9.9	0.4	< 10	90.6	48.7	142	0.93	394	< 0.5	< 0.5	< 0.5	< 0.5
36246	< 0.01	16.0	0.9	< 10	2550	25.7	158	0.22	558	< 0.5	< 0.5	< 0.5	< 0.5
36247	< 0.01	7.4	0.3	< 10	73.3	82.1	142	0.39	796	< 0.5	< 0.5	< 0.5	< 0.5
36248	0.10	12.0	0.6	< 10	640	105	251	3.11	742	< 0.5	< 0.5	< 0.5	< 0.5
36249	< 0.01	7.0	1.1	< 10	552	50.0	117	1.81	459	< 0.5	< 0.5	< 0.5	< 0.5
36250	< 0.01	6.6	0.5	< 10	85.9	42.1	114	1.85	286	< 0.5	< 0.5	< 0.5	< 0.5
36278	< 0.01	2.6	1.1	< 10	59.0	48.9	209	0.76	248	< 0.5	< 0.5	< 0.5	< 0.5
36279	< 0.01	4.3	0.8	< 10	874	70.3	161	0.95	788	< 0.5	< 0.5	< 0.5	< 0.5
36280	< 0.01	3.4	0.4	< 10	52.0	64.1	159	1.15	273	< 0.5	< 0.5	< 0.5	< 0.5
36281	< 0.01	3.3	0.7	< 10	287	111	172	0.82	337	< 0.5	< 0.5	< 0.5	< 0.5
36282	< 0.01	4.1	0.8	< 10	4420	45.3	100	1.38	320	< 0.5	< 0.5	< 0.5	< 0.5
36283	< 0.01	7.1	0.3	< 10	652	67.0	165	0.49	533	< 0.5	< 0.5	< 0.5	< 0.5
36284	< 0.01	8.8	0.8	< 10	228	32.2	146	1.95	467	< 0.5	< 0.5	< 0.5	< 0.5
36286	< 0.01	6.0	1.2	< 10	274	59.3	150	1.76	483	< 0.5	< 0.5	< 0.5	< 0.5
36287	< 0.01	7.9	1.1	< 10	520	85.1	73.6	1.98	332	< 0.5	< 0.5	< 0.5	< 0.5
36288	< 0.01	3.9	1.1	< 10	579	75.8	217	0.97	478	< 0.5	< 0.5	< 0.5	< 0.5
36289	< 0.01	1.8	0.6	< 10	58.2	21.2	123	0.50	303	< 0.5	< 0.5	< 0.5	< 0.5
36295	< 0.01	14.0	0.9	< 10	182	119	134	2.33	307	< 0.5	< 0.5	< 0.5	< 0.5
36331	< 0.01	7.0	1.2	< 10	368	68.3	86.7	2.06	274	< 0.5	< 0.5	< 0.5	< 0.5
36332	< 0.01	7.5	0.8	< 10	107	39.7	65.1	1.10	212	< 0.5	< 0.5	< 0.5	< 0.5
36333	< 0.01	12.0	1.8	< 10	201	90.8	106	2.52	218	< 0.5	< 0.5	< 0.5	< 0.5
36334	< 0.01	8.2	0.4	< 10	215	28.7	98.9	0.75	315	< 0.5	< 0.5	< 0.5	< 0.5
36368	< 0.01	5.1	0.6	< 10	45.4	71.5	95.0	1.00	117	< 0.5	< 0.5	< 0.5	< 0.5
36369	0.10	11.0	1.5	< 10	304	65.2	304	1.05	441	< 0.5	< 0.5	< 0.5	< 0.5
36370	< 0.01	4.3	1.0	< 10	73.6	54.8	177	0.85	315	< 0.5	< 0.5	< 0.5	< 0.5
36371	< 0.01	8.4	2.0	< 10	77.4	34.8	93.9	1.36	376	< 0.5	< 0.5	< 0.5	< 0.5
36372	< 0.01	10.3	1.5	< 10	47.2	18.5	72.4	1.25	201	< 0.5	< 0.5	< 0.5	< 0.5
36373	< 0.01	18.0	1.5	< 10	53.0	50.8	148	1.37	300	< 0.5	< 0.5	< 0.5	< 0.5
36342	< 0.01	3.8	1.9	< 10	183	39.4	151	0.47	482	< 0.5	< 0.5	< 0.5	< 0.5
36343	< 0.01	3.7	2.2	< 10	198	39.7	148	0.43	505	< 0.5	< 0.5	< 0.5	< 0.5
36344	< 0.01	3.6	1.6	< 10	169	38.6	155	0.40	477	< 0.5	< 0.5	< 0.5	< 0.5
36345	< 0.01	3.9	1.5	< 10	176	38.3	151	0.38	505	< 0.5	< 0.5	< 0.5	< 0.5
36346	< 0.01	3.8	1.6	< 10	189	39.9	150	0.42	483	< 0.5	< 0.5	< 0.5	< 0.5
36347	< 0.01	3.8	2.1	< 10	186	41.5	149	0.43	497	< 0.5	< 0.5	< 0.5	< 0.5

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Quality Control																								
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
TILL-3 Meas		290		98.4	524		63.0	16.6				0.024	0.3	7.62	3.84	86.0	75	123	102	19.0				
TILL-3 Cert		4500.0		62000	87000		2000	900.0				6	100	4600.0	2100.0	15000	39000	22000	56000	26000				
SO-3 Meas				40.6												2.4	6	10	7	2.3				
SO-3 Cert				38000												8000	16000	17000	52000	14000				
36280 Orig	3000	40	7	14.0	0.9	1	1.3	0.32	< 0.5	0.6	0.006	< 0.005	< 0.1	0.61	0.67	3.9	10	9	8	0.8	0.5	0.12	0.2	0.3
36280 Dup	3000	43	7	14.6	0.9	2	1.1	0.32	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.65	0.70	4.5	13	9	13	0.7	0.5	< 0.05	0.1	0.3
36295 Orig	1000	64	15	3.9	0.9	1	0.3	0.13	< 0.5	0.1	0.026	< 0.005	< 0.1	0.34	0.27	8.2	14	9	21	1.2	0.3	0.06	< 0.1	0.6
36295 Dup	2000	68	15	5.2	0.9	1	0.3	0.14	< 0.5	0.1	0.016	< 0.005	< 0.1	0.35	0.29	9.6	16	10	23	1.5	0.3	0.07	< 0.1	0.5
36372 Orig	3000	125	16	4.0	1.3	3	0.1	0.16	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.69	0.66	7.1	14	12	98	1.2	0.3	0.05	< 0.1	1.6
36372 Dup	3000	133	17	5.2	1.3	3	0.3	0.19	< 0.5	< 0.1	0.012	< 0.005	< 0.1	0.79	0.70	7.6	15	12	110	1.4	0.4	0.09	< 0.1	1.8
Method Blank Method	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
Blank																								

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Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
TILL-3 Meas					780	< 3	22.0	45.0	3.2	1.15		25.5	40.8		30.1	6.26						2.10	2.08		
TILL-3 Cert					2910000	123000	17000	230000	7000	8000		21000	42000		16000	3300.0						1400.0	1500.0		
SO-3 Meas					260	< 3																			
SO-3 Cert					2000000	26000																			
36280 Orig	< 0.01	< 0.2	0.130	< 0.5	110	< 3	1.21	1.4	0.5	0.07	< 0.02	2.25	4.26	0.58	2.42	0.56	0.16	0.42	0.05	0.07	0.05	0.11	0.02	0.10	
36280 Dup	< 0.01	< 0.2	0.151	< 0.5	110	< 3	1.31	1.6	0.5	0.05	< 0.02	2.16	4.56	0.61	2.62	0.58	0.16	0.48	0.05	0.04	0.04	0.12	0.01	0.12	
36295 Orig	< 0.01	< 0.2	0.261	< 0.5	50	< 3	0.73	2.0	0.3	0.04	< 0.02	0.90	1.95	0.25	1.00	0.22	0.10	0.20	0.03	< 0.01	0.03	0.08	0.01	0.10	
36295 Dup	< 0.01	< 0.2	0.324	< 0.5	60	< 3	0.81	1.4	0.3	0.07	< 0.02	0.94	2.62	0.23	0.98	0.24	0.10	0.22	0.04	< 0.01	0.03	0.08	0.02	0.09	
36372 Orig	< 0.01	< 0.2	0.240	< 0.5	50	< 3	2.52	4.8	0.3	0.16	< 0.02	5.10	8.95	1.17	4.61	0.91	0.26	0.77	0.10	0.37	0.09	0.22	0.04	0.22	
36372 Dup	< 0.01	< 0.2	0.218	< 0.5	50	< 3	2.47	2.7	0.3	0.10	< 0.02	5.18	9.30	1.13	4.20	0.84	0.26	0.75	0.10	0.31	0.08	0.26	0.03	0.21	
Method Blank Method	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Blank																									

Quality Control													
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
TILL-3 Meas	0.30	30.0	1.0	20	4830	25.9	364	1.20	258				
TILL-3 Cert	200.0	21000	2000.0	10000	520000	55000	300000	1700.0	489000				
SO-3 Meas					458	91.7	886		84.6				
SO-3 Cert					520000	39000	217000		296000				
36280 Orig	< 0.01	3.3	0.4	< 10	48.2	62.1	153	1.12	260	< 0.5	< 0.5	< 0.5	< 0.5
36280 Dup	< 0.01	3.5	0.5	< 10	55.9	66.1	164	1.18	286	< 0.5	< 0.5	< 0.5	< 0.5
36295 Orig	< 0.01	13.0	0.8	< 10	170	114	123	2.22	286	< 0.5	< 0.5	< 0.5	< 0.5
36295 Dup	< 0.01	15.0	1.0	< 10	194	124	144	2.44	328	< 0.5	< 0.5	< 0.5	< 0.5
36372 Orig	< 0.01	9.6	1.4	< 10	45.2	18.2	70.7	1.23	193	< 0.5	< 0.5	< 0.5	< 0.5
36372 Dup	< 0.01	11.0	1.7	< 10	49.2	18.7	74.1	1.26	208	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Blank													



Date Submitted: 21-Jul-10
Invoice No.: A10-4206 (i)
Invoice Date: 12-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

9 Rock samples and 352 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-4206 (i)

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL: Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-4206 (i) rev 1

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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35820	< 2	< 0.3	288	2.0	< 1	< 3	47	124	1.59	6.78	< 0.5	< 50	< 1	< 2	4.4	7.45	21	47	< 1	0.7	17.2	2	< 1	< 5	
0026	< 2	< 0.3	36	1.6	< 1	< 3	20	83	0.66	4.70	< 0.5	310	< 1	< 2	< 0.5	2.81	11	20	3	0.3	23.3	1	< 1	< 5	
0027	< 2	< 0.3	41	1.0	< 1	3	14	53	0.35	6.08	< 0.5	< 50	< 1	< 2	< 0.5	2.41	9	27	1	0.3	10.3	2	< 1	< 5	
0028	< 2	< 0.3	28	1.9	< 1	< 3	13	55	0.70	2.46	14.8	< 50	< 1	< 2	< 0.5	2.05	7	21	2	0.4	23.2	1	< 1	< 5	
0029	< 2	< 0.3	98	1.1	< 1	3	51	84	0.22	5.81	< 0.5	< 50	< 1	< 2	< 0.5	5.99	36	50	2	0.6	14.3	1	< 1	< 5	
0030	< 2	< 0.3	35	1.7	< 1	< 3	31	54	0.07	3.86	< 0.5	< 50	< 1	< 2	< 0.5	5.80	26	30	< 1	0.5	27.7	1	< 1	< 5	

Activation Laboratories Ltd.

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
0031	< 2	< 0.3	106	1.4	< 1	< 3	31	64	0.20	3.47	3.1	< 50	< 1	< 2	< 0.5	5.52	34	28	< 1	< 0.2	16.2	1	< 1	< 5
0032	< 2	< 0.3	274	1.8	< 1	< 3	38	131	0.30	3.93	< 0.5	< 50	< 1	< 2	< 0.5	4.19	38	32	< 1	0.4	19.6	1	< 1	< 5
0033	< 2	< 0.3	246	1.2	< 1	< 3	45	89	0.18	5.97	< 0.5	< 50	< 1	< 2	< 0.5	5.83	41	57	< 1	0.6	14.7	2	< 1	< 5

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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35820	0.68	1.90	4630	0.68	0.029	< 15	0.3	16.8	< 3	77	1.1	0.41	0.4	< 0.5	138	< 1	14	6.7	12	< 5	1.6	< 0.01	< 0.5	2.1
0026	0.41	2.59	12400	0.31	0.027	< 15	0.3	9.9	< 3	20	< 0.5	0.20	1.2	1.2	66	3	9	7.5	11	< 5	0.8	< 0.01	< 0.5	1.2
0027	0.60	1.22	2970	1.98	0.031	< 15	< 0.1	9.0	< 3	141	< 0.5	0.24	2.7	1.8	70	< 1	8	7.7	13	< 5	0.8	< 0.01	< 0.5	1.0
0028	0.08	1.09	1160	0.12	0.070	28	0.6	4.1	< 3	7	< 0.5	0.10	1.3	1.7	34	2	7	6.6	12	< 5	0.7	< 0.01	< 0.5	0.9
0029	0.32	2.12	3860	0.60	0.021	< 15	< 0.1	34.5	< 3	16	< 0.5	0.36	1.0	< 0.5	219	< 1	15	5.5	12	8	1.2	< 0.01	0.7	2.1
0030	< 0.01	3.50	11200	0.02	0.018	< 15	< 0.1	26.4	< 3	127	< 0.5	0.25	1.6	< 0.5	163	< 1	12	4.4	8	7	1.1	< 0.01	< 0.5	1.8
0031	0.11	2.97	5210	0.41	0.019	< 15	0.8	29.6	< 3	16	< 0.5	0.29	< 0.2	< 0.5	175	< 1	8	4.9	9	8	1.0	< 0.01	< 0.5	1.9
0032	0.14	2.61	6860	0.59	0.019	< 15	< 0.1	22.7	< 3	30	< 0.5	0.28	1.1	< 0.5	161	< 1	10	2.8	6	< 5	0.7	< 0.01	< 0.5	1.6
0033	0.20	2.73	4400	0.80	0.020	< 15	0.6	39.0	< 3	34	< 0.5	0.36	< 0.2	< 0.5	222	< 1	14	5.3	12	< 5	1.2	< 0.01	< 0.5	2.1

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Analyte Symbol	Ag	Cd	In	Sn	Tl	Bi	Tl	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36635	< 0.1	0.4	< 0.01	< 0.2	0.340	< 0.5	20	< 3	6.58	1.5	< 0.1	0.10	< 0.02	14.2	15.0	2.55	9.75	1.49	0.40	1.70	0.16	0.07	0.20	0.50
36636	< 0.1	0.9	< 0.01	< 0.2	0.370	< 0.5	40	< 3	2.41	2.5	< 0.1	0.10	< 0.02	3.30	5.61	0.77	2.98	0.50	0.20	0.70	0.07	< 0.01	0.10	0.30
36637	< 0.1	0.5	< 0.01	< 0.2	0.240	< 0.5	60	< 3	0.93	1.6	< 0.1	0.10	< 0.02	1.51	2.82	0.36	1.44	0.22	0.10	0.20	0.03	< 0.01	< 0.01	0.10
36639	< 0.1	0.4	< 0.01	< 0.2	0.240	< 0.5	100	< 3	1.43	1.6	< 0.1	0.10	< 0.02	2.75	5.54	0.65	2.37	0.43	0.20	0.40	0.05	< 0.01	< 0.01	0.20
36642	< 0.1	0.7	< 0.01	< 0.2	0.150	< 0.5	120	< 3	0.77	1.6	< 0.1	0.10	< 0.02	0.81	1.91	0.25	0.89	0.12	0.20	0.20	0.01	< 0.01	< 0.01	0.10
36644	< 0.1	1.0	< 0.01	< 0.2	0.160	< 0.5	410	< 3	0.55	2.5	0.6	0.10	< 0.02	0.45	1.85	0.21	0.73	0.07	0.20	0.10	0.01	< 0.01	< 0.01	0.10
36647	< 0.1	0.6	< 0.01	< 0.2	0.130	< 0.5	320	< 3	0.54	2.4	0.2	0.10	< 0.02	0.32	1.00	0.14	0.56	< 0.01	0.10	0.10	< 0.01	< 0.01	< 0.01	0.10
36648	< 0.1	0.2	< 0.01	< 0.2	0.110	< 0.5	90	< 3	15.0	10.3	0.2	0.30	< 0.02	23.5	16.8	7.03	28.3	4.84	1.20	4.90	0.51	1.51	0.40	1.40
36650	< 0.1	0.5	< 0.01	< 0.2	0.240	< 0.5	60	< 3	1.44	2.4	< 0.1	0.10	< 0.02	2.43	3.40	0.58	2.08	0.37	0.20	0.40	0.03	< 0.01	0.10	0.20
36651	< 0.1	0.5	< 0.01	< 0.2	0.350	< 0.5	150	< 3	1.14	3.5	< 0.1	0.10	< 0.02	2.24	4.43	0.59	2.34	0.41	0.20	0.40	0.02	< 0.01	< 0.01	0.10
36652	< 0.1	0.5	< 0.01	< 0.2	0.270	< 0.5	130	< 3	1.06	1.7	16.0	0.10	< 0.02	1.80	3.67	0.44	1.60	0.26	0.10	0.30	0.03	< 0.01	< 0.01	0.10
36656	< 0.1	0.2	< 0.01	< 0.2	0.170	< 0.5	110	< 3	1.22	2.9	< 0.1	0.10	< 0.02	1.88	5.01	0.58	2.36	0.44	0.20	0.60	0.05	< 0.01	< 0.01	0.20
36658	< 0.1	0.6	< 0.01	< 0.2	0.150	< 0.5	50	< 3	1.17	0.8	< 0.1	< 0.01	< 0.02	3.49	5.37	0.55	1.99	0.16	0.20	0.40	0.01	< 0.01	< 0.01	0.10
36659	< 0.1	1.2	< 0.01	< 0.2	0.140	< 0.5	310	< 3	0.90	2.4	< 0.1	0.10	< 0.02	1.24	2.31	0.31	1.08	0.13	0.10	0.20	0.02	< 0.01	< 0.01	0.10
36664	< 0.1	1.2	< 0.01	< 0.2	0.110	< 0.5	690	< 3	0.71	2.2	0.5	0.10	0.10	0.80	2.00	0.24	0.93	0.10	0.10	0.10	0.01	< 0.01	< 0.01	0.10
36665	< 0.1	0.9	< 0.01	< 0.2	0.320	< 0.5	260	< 3	0.37	1.5	0.9	< 0.01	< 0.02	0.06	0.66	0.06	0.39	< 0.01	0.10	0.10	< 0.01	< 0.01	< 0.01	< 0.01
36669	< 0.1	0.3	< 0.01	< 0.2	0.380	< 0.5	< 10	< 3	0.64	0.9	< 0.1	< 0.01	< 0.02	< 0.01	0.14	0.03	0.16	< 0.01	0.10	0.10	< 0.01	< 0.01	< 0.01	0.10
36670	< 0.1	0.7	< 0.01	< 0.2	0.130	< 0.5	30	< 3	0.58	1.5	< 0.1	< 0.01	< 0.02	< 0.01	0.63	0.06	0.27	< 0.01	0.10	< 0.01	< 0.01	< 0.01	< 0.01	0.10
36671	< 0.1	0.1	< 0.01	< 0.2	0.140	< 0.5	360	< 3	0.77	2.6	0.3	0.10	< 0.02	0.65	1.91	0.23	0.97	0.13	0.10	0.20	0.02	< 0.01	< 0.01	0.10
36672	< 0.1	0.8	< 0.01	< 0.2	0.100	< 0.5	200	< 3	0.86	2.3	< 0.1	0.10	< 0.02	0.46	1.37	0.15	0.65	0.05	0.20	0.10	0.01	< 0.01	< 0.01	0.10
36673	< 0.1	0.5	< 0.01	< 0.2	0.190	< 0.5	410	< 3	1.16	3.6	0.3	0.20	< 0.02	1.07	2.65	0.31	1.11	0.18	0.10	0.20	0.03	< 0.01	< 0.01	0.10
36674	< 0.1	0.4	< 0.01	< 0.2	0.230	< 0.5	40	< 3	0.39	1.7	< 0.1	0.10	< 0.02	0.31	1.03	0.09	0.31	0.07	0.10	< 0.01	< 0.01	< 0.01	< 0.01	0.10
36675	< 0.1	0.3	< 0.01	< 0.2	0.200	< 0.5	110	< 3	1.60	2.3	< 0.1	0.10	< 0.02	2.08	5.29	0.59	2.51	0.40	0.20	0.60	0.07	< 0.01	0.10	0.20
36678	< 0.1	0.8	< 0.01	< 0.2	0.310	< 0.5	130	< 3	0.64	1.9	< 0.1	< 0.01	< 0.02	1.00	2.39	0.25	1.03	0.17	0.10	0.20	< 0.01	< 0.01	< 0.01	0.10
36679	< 0.1	< 0.1	< 0.01	< 0.2	0.180	< 0.5	180	< 3	1.94	2.5	0.1	0.10	< 0.02	2.68	5.89	0.83	3.72	0.73	0.20	0.60	0.07	< 0.01	0.10	0.30
36682	< 0.1	1.9	< 0.01	< 0.2	0.280	< 0.5	500	< 3	1.18	2.5	0.2	0.10	< 0.02	0.82	2.54	0.31	1.51	0.21	0.10	0.30	0.01	< 0.01	< 0.01	0.10
36683	< 0.1	0.7	< 0.01	< 0.2	0.170	< 0.5	120	< 3	0.60	2.2	< 0.1	0.10	< 0.02	0.95	2.24	0.26	0.96	0.17	0.10	0.10	< 0.01	< 0.01	< 0.01	0.10
36689	0.1	0.1	< 0.01	< 0.2	0.160	< 0.5	210	< 3	9.13	35.7	0.8	0.80	0.10	11.3	28.5	4.51	18.1	3.86	1.00	3.50	0.39	1.13	0.40	1.20
36690	< 0.1	0.3	< 0.01	< 0.2	0.140	< 0.5	60	< 3	2.86	3.0	< 0.1	0.10	< 0.02	5.12	10.5	1.26	4.97	0.82	0.30	1.00	0.08	< 0.01	0.10	0.30
36691	< 0.1	< 0.1	< 0.01	< 0.2	0.180	< 0.5	90	< 3	1.96	3.6	< 0.1	0.20	< 0.02	3.82	7.76	0.93	3.63	0.56	0.20	0.60	0.06	< 0.01	0.10	0.20
36692	< 0.1	1.8	< 0.01	< 0.2	0.210	< 0.5	720	< 3	0.83	2.5	0.7	0.10	0.10	1.19	2.63	0.29	1.66	0.15	0.10	0.20	0.01	< 0.01	< 0.01	0.10
36694	< 0.1	0.6	< 0.01	< 0.2	0.250	< 0.5	150	< 3	1.01	2.8	0.3	0.10	< 0.02	1.73	4.59	0.57	2.51	0.43	0.20	0.40	0.03	< 0.01	< 0.01	0.10
36695	< 0.1	1.1	< 0.01	< 0.2	0.080	< 0.5	620	< 3	1.27	3.5	0.7	0.20	0.10	1.75	4.24	0.49	2.02	0.38	0.10	0.30	0.03	< 0.01	< 0.01	0.10
36696	< 0.1	0.4	< 0.01	< 0.2	0.160	< 0.5	230	< 3	1.40	2.5	< 0.1	0.10	< 0.02	2.23	4.49	0.61	2.45	0.28	0.20	0.40	0.04	< 0.01	0.10	0.20
36697	< 0.1	0.3	< 0.01	< 0.2	0.140	< 0.5	150	< 3	1.26	2.0	0.2	0.10	< 0.02	2.24	4.02	0.57	2.08	0.38	0.20	0.50	0.05	0.18	0.10	0.10
36698	< 0.1	0.2	< 0.01	< 0.2	0.110	< 0.5	130	< 3	1.02	2.8	0.2	0.10	< 0.02	1.57	3.11	0.39	1.61	0.33	0.10	0.30	0.04	< 0.01	< 0.01	0.10
36699	< 0.1	0.7	< 0.01	< 0.2	0.050	< 0.5	80	< 3	0.35	1.7	< 0.1	0.10	< 0.02	0.56	1.28	0.15	0.57	0.08	0.10	0.10	0.02	< 0.01	< 0.01	0.10
36700	< 0.1	0.6	< 0.01	< 0.2	0.120	< 0.5	480	< 3	1.24	3.2	0.6	0.10	< 0.02	1.02	2.49	0.30	1.13	0.22	0.20	0.30	0.04	< 0.01	< 0.01	0.10
36701	< 0.1	0.8	< 0.01	< 0.2	0.150	< 0.5	100	< 3	1.37	3.8	< 0.1	0.10	< 0.02	1.29	3.22	0.35	1.42	0.33	0.20	0.40	0.06	< 0.01	< 0.01	0.20
36702	< 0.1	1.1	< 0.01	< 0.2	0.200	< 0.5	90	< 3	1.24	1.8	< 0.1	0.10	< 0.02	1.72	3.92	0.46	1.84	0.32	0.20	0.40	0.04	< 0.01	< 0.01	0.10
36703	< 0.1	0.8	< 0.01	< 0.2	0.170	< 0.5	160	< 3	1.33	2.5	0.1	0.10	< 0.02	1.83	4.30	0.53	2.11	0.41	0.20	0.40	0.05	< 0.01	0.10	0.10
36704	< 0.1	0.8	< 0.01	< 0.2	0.200	< 0.5	110	< 3	3.07	6.9	0.3	0.20	0.10	4.30	12.0	1.31	5.24	0.88	0.30	1.00	0.11	< 0.01	0.10	0.30
36705	< 0.1	1.1	< 0.01	< 0.2	0.160	< 0.5	440	< 3	1.35	2.3	0.7	0.10	0.10	2.19	4.67	0.60	2.20	0.34	0.20	0.40	0.04	< 0.01	0.10	0.10
36707	< 0.1	1.2	< 0.01	< 0.2	0.135	< 0.5	80	< 3	0.48	1.4	< 0.1	< 0.01	< 0.02	0.55	1.11	0.13	0.46	0.05	0.10	0.10	< 0.01	< 0.01	< 0.01	0.10
36708	< 0.1	0.8	< 0.01	< 0.2	0.230	< 0.5	120	< 3	0.75	1.6	< 0.1	0.10	< 0.02	0.80	1.88	0.20	0.65	0.13	0.10	0.20	0.02	< 0.01	< 0.01	0.10
36711	< 0.1	0.7	< 0.01	< 0.2	0.160	< 0.5	30	< 3	1.01	0.7	< 0.1	< 0.01	< 0.02	2.65	4.01	0.43	1.48	0.28	0.10	0.30	0.03	< 0.01	< 0.01	0.10
36714	&																							

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Analyte Symbol	Ag	Cd	In	Sn	Tl	Bi	Tl	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36731	< 0.1	0.6	< 0.01	< 0.2	0.165	< 0.5	420	< 3	3.45	4.1	0.9	0.20	0.10	5.69	8.24	1.63	6.32	1.22	0.40	1.25	0.16	< 0.01	0.10	0.40
36732	< 0.1	0.8	< 0.01	1.0	0.040	< 0.5	430	< 3	0.49	2.5	0.6	0.10	0.10	1.48	1.26	0.17	1.15	0.08	0.20	0.10	0.01	< 0.01	< 0.01	0.10
36733	< 0.1	1.7	< 0.01	< 0.2	0.060	< 0.5	290	< 3	1.25	3.0	< 0.1	0.10	< 0.02	0.99	2.40	0.26	1.17	0.21	0.10	0.20	0.04	< 0.01	0.10	0.10
36734	< 0.1	2.0	< 0.01	1.0	0.030	< 0.5	590	< 3	1.87	4.1	0.4	0.20	< 0.02	2.50	5.29	0.64	2.50	0.45	0.30	0.50	0.05	< 0.01	0.10	0.20
36735	< 0.1	0.9	< 0.01	< 0.2	0.120	< 0.5	150	< 3	1.10	2.0	< 0.1	0.10	< 0.02	1.15	2.92	0.32	1.34	0.29	0.10	0.40	0.03	< 0.01	< 0.01	0.10
36736	0.1	0.4	< 0.01	< 0.2	0.110	< 0.5	280	< 3	1.91	3.2	0.2	0.10	< 0.02	3.11	6.57	0.81	2.99	0.63	0.20	0.60	0.08	< 0.01	0.10	0.20
36737	< 0.1	0.7	< 0.01	< 0.2	0.050	< 0.5	110	< 3	0.87	2.0	< 0.1	0.10	< 0.02	1.18	2.68	0.35	1.22	0.26	0.10	0.30	0.04	< 0.01	< 0.01	0.10
36738	< 0.1	0.8	< 0.01	< 0.2	0.100	< 0.5	120	< 3	4.64	6.0	0.3	0.20	< 0.02	6.03	11.3	1.83	7.81	1.48	0.40	1.60	0.18	< 0.01	0.20	0.50
36740	< 0.1	1.2	< 0.01	< 0.2	0.130	< 0.5	120	< 3	0.92	2.1	< 0.1	0.10	< 0.02	1.26	2.71	0.31	1.22	0.17	0.20	0.30	0.04	< 0.01	< 0.01	0.10
36742	< 0.1	0.9	< 0.01	< 0.2	0.085	< 0.5	130	< 3	0.80	1.5	< 0.1	0.10	< 0.02	1.00	2.06	0.21	0.81	0.14	0.10	0.30	0.02	< 0.01	< 0.01	0.10
37003	< 0.1	0.7	< 0.01	< 0.2	0.120	< 0.5	210	< 3	2.17	3.3	< 0.1	0.20	< 0.02	3.03	5.81	0.75	3.20	0.66	0.30	0.70	0.10	< 0.01	0.10	0.20
37006	< 0.1	0.7	< 0.01	< 0.2	0.070	< 0.5	320	< 3	0.71	2.4	0.1	0.10	< 0.02	1.17	2.44	0.29	1.25	0.18	0.10	0.20	0.03	< 0.01	< 0.01	0.10
37008	< 0.1	0.8	< 0.01	< 0.2	0.120	< 0.5	40	< 3	1.41	1.0	< 0.1	0.10	< 0.02	3.77	5.46	0.60	2.27	0.27	0.20	0.40	0.04	< 0.01	< 0.01	0.10
37012	< 0.1	1.6	< 0.01	< 0.2	0.160	< 0.5	100	< 3	3.73	5.4	< 0.1	0.20	< 0.02	5.48	10.7	1.33	5.32	1.03	0.40	1.00	0.12	< 0.01	0.10	0.40
37013	< 0.1	1.0	< 0.01	< 0.2	0.170	< 0.5	530	< 3	1.81	3.3	0.7	0.10	0.10	2.91	6.13	0.78	2.94	0.58	0.30	0.50	0.10	< 0.01	0.10	0.20
37015	0.1	0.3	< 0.01	< 0.2	0.100	< 0.5	130	< 3	5.09	9.4	0.3	0.30	0.10	7.44	12.8	2.32	10.1	1.99	0.50	1.80	0.21	< 0.01	0.20	0.60
37017	< 0.1	0.1	< 0.01	< 0.2	0.090	< 0.5	70	< 3	4.19	4.4	0.1	0.20	< 0.02	5.59	16.6	1.80	7.57	1.41	0.60	1.50	0.15	< 0.01	0.20	0.50
37018	< 0.1	1.4	< 0.01	< 0.2	0.220	< 0.5	50	< 3	0.72	1.6	< 0.1	0.10	< 0.02	0.85	1.76	0.19	0.75	0.10	0.10	0.20	0.02	< 0.01	< 0.01	0.10
37019	< 0.1	0.5	< 0.01	< 0.2	0.110	< 0.5	210	< 3	0.78	1.9	0.1	0.10	< 0.02	1.33	2.87	0.32	1.34	0.26	0.10	0.30	0.03	< 0.01	< 0.01	0.10
37020	< 0.1	0.8	< 0.01	< 0.2	0.150	< 0.5	30	< 3	1.03	0.8	< 0.1	< 0.01	< 0.02	3.28	4.70	0.46	1.80	0.26	0.20	0.30	0.03	< 0.01	< 0.01	0.10
37023	< 0.1	0.4	< 0.01	< 0.2	0.380	< 0.5	30	< 3	2.44	4.0	< 0.1	0.10	< 0.02	5.33	8.00	1.07	4.32	0.77	0.20	0.90	0.10	< 0.01	0.10	0.30
37025	0.2	5.0	< 0.01	1.0	0.770	< 0.5	980	< 3	4.88	7.2	2.1	0.20	0.10	6.00	11.3	1.55	6.13	1.22	0.40	1.40	0.15	< 0.01	0.20	0.50
37026	< 0.1	0.3	< 0.01	< 0.2	0.130	< 0.5	200	< 3	1.54	1.9	0.1	0.10	< 0.02	2.48	5.65	0.65	2.65	0.47	0.20	0.50	0.06	< 0.01	0.10	0.20
37027	< 0.1	0.3	< 0.01	< 0.2	0.050	< 0.5	60	< 3	3.24	5.3	< 0.1	0.20	< 0.02	4.91	7.70	1.42	6.19	1.01	0.30	1.00	0.12	< 0.01	0.10	0.40
37028	< 0.1	0.7	< 0.01	< 0.2	0.060	< 0.5	140	< 3	0.92	1.5	< 0.1	< 0.01	< 0.02	1.27	2.56	0.32	1.12	0.25	0.10	0.30	0.03	< 0.01	< 0.01	0.10
37029	< 0.1	0.4	< 0.01	< 0.2	0.100	< 0.5	390	< 3	1.00	1.9	0.6	0.10	0.10	1.62	3.95	0.48	1.93	0.33	0.20	0.30	0.03	< 0.01	< 0.01	0.10
37030	< 0.1	0.8	< 0.01	< 0.2	0.140	< 0.5	290	< 3	1.05	2.2	0.1	0.10	< 0.02	0.82	1.87	0.31	1.09	0.19	0.10	0.20	0.03	< 0.01	< 0.01	0.10
37031	< 0.1	1.0	< 0.01	< 0.2	0.040	< 0.5	240	< 3	1.14	3.7	0.3	0.10	0.10	2.88	5.32	0.41	1.66	0.26	0.20	0.30	0.05	< 0.01	< 0.01	0.10
37032	< 0.1	0.7	< 0.01	< 0.2	0.060	< 0.5	520	< 3	1.08	2.8	0.9	0.10	0.10	1.11	2.11	0.33	1.37	0.22	0.10	0.30	0.05	0.13	< 0.01	0.10
37033	< 0.1	0.1	< 0.01	< 0.2	0.050	< 0.5	10	< 3	0.64	0.8	< 0.1	< 0.01	< 0.02	0.44	0.91	0.08	0.52	0.17	0.10	0.10	0.02	< 0.01	< 0.01	0.10
37034	< 0.1	0.1	< 0.01	< 0.2	0.120	< 0.5	140	< 3	0.66	1.5	0.1	0.10	< 0.02	0.55	1.18	0.14	0.63	0.11	0.10	0.10	0.03	< 0.01	< 0.01	< 0.01
37035	< 0.1	0.6	< 0.01	< 0.2	0.330	< 0.5	80	< 3	0.71	1.7	< 0.1	0.10	< 0.02	0.80	1.62	0.20	0.80	0.16	0.10	0.20	0.03	< 0.01	< 0.01	0.10
37036	< 0.1	0.5	< 0.01	< 0.2	0.630	< 0.5	100	< 3	5.67	4.0	< 0.1	0.20	< 0.02	7.69	16.3	2.06	8.41	2.04	0.60	1.90	0.25	0.38	0.20	0.60
37039	< 0.1	0.9	< 0.01	< 0.2	0.340	< 0.5	30	< 3	1.70	2.2	< 0.1	0.10	< 0.02	1.33	3.79	0.36	1.74	0.46	0.20	0.50	0.07	< 0.01	0.10	0.20
37040	< 0.1	0.2	< 0.01	< 0.2	0.180	< 0.5	50	< 3	0.64	1.3	< 0.1	< 0.01	< 0.02	0.56	1.50	0.16	0.70	0.14	0.10	0.20	0.03	< 0.01	< 0.01	< 0.01
37041	< 0.1	0.4	< 0.01	< 0.2	0.180	< 0.5	80	< 3	1.95	1.5	< 0.1	0.10	< 0.02	2.46	5.35	0.67	2.87	0.51	0.20	0.60	0.07	< 0.01	0.10	0.20
37042	< 0.1	< 0.1	< 0.01	< 0.2	0.130	< 0.5	60	< 3	1.52	1.9	< 0.1	0.10	< 0.02	1.61	4.06	0.49	2.06	0.38	0.10	0.40	0.05	< 0.01	0.10	0.20
37043	< 0.1	0.4	< 0.01	< 0.2	0.060	< 0.5	150	< 3	0.87	1.9	0.3	0.10	< 0.02	0.98	2.28	0.28	1.46	0.23	0.10	0.25	0.04	< 0.01	< 0.01	0.10
37044	< 0.1	1.6	< 0.01	< 0.2	0.140	< 0.5	690	< 3	3.08	9.2	2.2	0.40	0.10	5.28	13.7	1.66	6.56	1.30	0.30	1.40	0.15	< 0.01	0.10	0.40
37045	0.1	0.1	< 0.01	< 0.2	0.210	< 0.5	330	< 3	7.35	17.9	0.9	0.60	< 0.02	9.70	32.9	4.00	16.9	3.59	0.80	3.30	0.41	0.69	0.30	1.00
37050	< 0.1	0.2	< 0.01	< 0.2	0.190	< 0.5	190	< 3	2.12	2.9	0.1	0.10	< 0.02	2.93	6.53	0.69	2.91	0.54	0.20	0.60	0.07	< 0.01	0.10	0.20
37052	< 0.1	0.5	< 0.01	< 0.2	0.190	< 0.5	380	< 3	0.64	1.3	0.2	0.10	< 0.02	1.14	2.64	0.26	1.00	0.23	0.10	0.20	0.02	< 0.01	< 0.01	0.10
35820																								
0026																								
0027																								
0028																								
0029																								
0030																								
0031																								
0032																								
0033																								

Analyte Symbol	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36433	0.02	0.16	0.02	6.3	1.5	< 10	594	77.3	65.7	1.70	332	< 0.5	< 0.5	< 0.5	< 0.5
36434	0.02	0.09	0.02	17.1	2.2	< 10	260	34.6	94.2	0.70	247	< 0.5	< 0.5	< 0.5	< 0.5
36435	0.01	0.11	0.03	3.4	0.8	< 10	655	64.9	126	0.70	466	< 0.5	< 0.5	< 0.5	< 0.5
36436	0.02	0.10	< 0.01	1.4	1.3	< 10	220	46.0	66.8	0.80	296	< 0.5	< 0.5	< 0.5	< 0.5
36437	0.02	0.13	0.02	6.7	1.6	< 10	77.3	29.2	22.9	1.00	143	< 0.5	< 0.5	< 0.5	< 0.5
36438	0.02	0.13	0.02	5.1	1.1	< 10	163	44.7	36.7	1.10	147	< 0.5	< 0.5	< 0.5	< 0.5
36446	0.02	0.11	0.01	11.9	2.0	< 10	59.6	44.4	44.1	0.80	291	< 0.5	< 0.5	< 0.5	< 0.5
36447	0.01	0.06	0.01	3.5	1.4	< 10	1340	50.5	168	1.10	949	< 0.5	< 0.5	< 0.5	< 0.5
36448	< 0.01	0.02	0.01	4.7	1.8	< 10	1550	105	130	0.70	600	< 0.5	< 0.5	< 0.5	< 0.5
36449	0.02	0.13	0.01	2.8	1.0	< 10	78.3	53.2	124	1.35	285	< 0.5	< 0.5	< 0.5	< 0.5
36450	0.01	0.04	0.01	9.0	1.7	< 10	74.5	47.7	150	0.90	270	< 0.5	< 0.5	< 0.5	< 0.5
36463	0.01	0.04	0.01	4.3	1.9	< 10	377	32.0	73.5	0.50	296	< 0.5	< 0.5	< 0.5	< 0.5
36464	0.01	0.05	< 0.01	5.4	1.0	< 10	239	29.2	67.8	0.40	111	< 0.5	< 0.5	< 0.5	< 0.5
36465	0.01	0.04	0.01	7.1	1.8	< 10	189	36.0	148	0.30	456	< 0.5	< 0.5	< 0.5	< 0.5
36466	0.01	< 0.01	< 0.01	4.3	0.3	< 10	80.1	42.5	57.6	0.80	124	< 0.5	< 0.5	< 0.5	< 0.5
36467	0.01	0.03	0.01	1.6	0.4	< 10	133	15.5	97.6	0.40	130	< 0.5	< 0.5	< 0.5	< 0.5
36477	0.01	0.02	< 0.01	6.0	0.7	< 10	86.5	31.1	67.5	1.40	188	< 0.5	< 0.5	< 0.5	< 0.5
36478	0.02	0.10	0.01	4.3	0.8	< 10	60.8	35.9	106	1.10	175	< 0.5	< 0.5	< 0.5	< 0.5
36483	0.02	0.16	0.01	4.2	1.9	< 10	436	65.5	143	0.50	263	< 0.5	< 0.5	< 0.5	< 0.5
36485	0.03	0.15	0.01	1.4	0.5	< 10	157	21.3	111	0.60	96.0	< 0.5	< 0.5	< 0.5	< 0.5
36494	0.02	0.07	0.01	5.6	1.1	< 10	521	37.4	137	1.20	167	< 0.5	< 0.5	< 0.5	< 0.5
36503	0.02	0.10	0.03	0.8	0.3	< 10	34.3	23.7	124	0.50	90.4	< 0.5	< 0.5	< 0.5	< 0.5
36504	0.02	0.23	0.03	5.9	0.8	< 10	189	55.9	220	0.40	420	< 0.5	< 0.5	< 0.5	< 0.5
36506	0.02	0.10	0.03	7.8	0.8	< 10	348	33.1	115	0.70	266	< 0.5	< 0.5	< 0.5	< 0.5
36507	0.03	0.18	0.03	2.9	0.8	< 10	728	94.9	190	0.70	703	< 0.5	< 0.5	< 0.5	< 0.5
36508	0.02	0.05	0.01	1.3	1.1	< 10	479	87.7	515	0.70	487	< 0.5	< 0.5	< 0.5	< 0.5
36509	0.01	0.02	0.01	4.2	0.5	< 10	526	47.1	179	0.30	375	< 0.5	< 0.5	< 0.5	< 0.5
36510	0.02	0.09	0.01	6.1	1.7	< 10	114	51.1	124	1.10	368	< 0.5	< 0.5	< 0.5	< 0.5
36511	0.03	0.22	0.02	2.0	1.5	< 10	245	46.9	138	0.90	413	< 0.5	< 0.5	< 0.5	< 0.5
36512	0.01	0.04	0.01	4.2	0.6	< 10	415	52.9	185	0.80	239	< 0.5	< 0.5	< 0.5	< 0.5
36513	0.02	0.14	0.03	3.0	0.7	< 10	77.7	55.2	197	1.00	380	< 0.5	< 0.5	< 0.5	< 0.5
36514	0.02	0.08	0.02	1.6	0.6	< 10	382	24.8	109	0.60	245	< 0.5	< 0.5	< 0.5	< 0.5
36515	0.02	0.07	0.01	0.8	0.6	< 10	1150	17.7	242	0.20	446	< 0.5	< 0.5	< 0.5	< 0.5
36516	0.02	0.04	0.01	4.0	1.0	< 10	1160	76.6	616	0.90	1380	< 0.5	< 0.5	< 0.5	< 0.5
36518	0.02	0.08	0.01	0.7	1.3	< 10	127	46.3	112	0.60	313	< 0.5	< 0.5	< 0.5	< 0.5
36526	0.05	0.31	0.05	2.1	1.0	< 10	1230	14.1	118	0.20	320	< 0.5	< 0.5	< 0.5	< 0.5
36527	0.02	0.05	0.01	2.5	0.9	< 10	1250	80.1	205	0.50	496	< 0.5	< 0.5	< 0.5	< 0.5
36528	0.04	0.18	0.03	3.0	1.2	< 10	320	70.6	115	1.30	343	< 0.5	< 0.5	< 0.5	< 0.5
36529	0.01	< 0.01	0.01	1.4	0.5	< 10	2400	4.3	271	0.10	418	< 0.5	< 0.5	< 0.5	< 0.5
36530	0.02	0.08	0.02	8.5	0.4	< 10	472	20.1	200	0.10	281	< 0.5	< 0.5	< 0.5	< 0.5
36531	0.13	1.00	0.13	7.6	1.4	< 10	706	31.5	199	0.20	512	< 0.5	< 0.5	< 0.5	< 0.5
36532	0.03	0.19	0.02	12.5	0.5	< 10	323	23.9	125	0.10	298	< 0.5	< 0.5	< 0.5	< 0.5
36533	0.03	0.04	0.02	8.1	0.3	< 10	98.8	22.8	85.5	0.20	98.7	< 0.5	< 0.5	< 0.5	< 0.5
36534	0.03	0.08	0.02	4.2	0.9	< 10	2590	50.3	107	2.80	689	< 0.5	< 0.5	< 0.5	< 0.5
36536	0.02	0.11	0.02	2.1	0.4	< 10	7750	44.8	158	1.30	423	< 0.5	< 0.5	< 0.5	< 0.5
36538	0.07	0.47	0.06	2.8	0.7	< 10	9010	23.2	61.5	0.80	265	< 0.5	< 0.5	< 0.5	< 0.5
36540	< 0.01	0.04	0.02	4.6	0.3	< 10	567	27.8	235	0.30	319	0.6	< 0.5	< 0.5	< 0.5
36541	0.06	0.44	0.06	0.6	0.3	< 10	10600	41.4	108	0.10	540	< 0.5	< 0.5	< 0.5	< 0.5
36544	0.03	0.25	0.04	3.3	1.0	< 10	211	39.4	203	0.80	775	< 0.5	< 0.5	< 0.5	< 0.5
36545	0.08	0.62	0.07	< 0.5	< 0.1	< 10	9270	38.5	167	0.30	618	< 0.5	< 0.5	< 0.5	< 0.5
36546	0.02	0.33	0.06	1.5	< 0.1	< 10	269	10.7	148	0.10	302	< 0.5	< 0.5	< 0.5	< 0.5
36547	< 0.01	0.16	0.01	5.1	0.5	< 10	283	20.1	123	0.20	203	< 0.5	< 0.5	< 0.5	< 0.5

Activation Laboratories Ltd.

Report: A10-4206 (i) rev 1

Analyte Symbol	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36548	< 0.01	0.12	0.02	7.6	< 0.1	< 10	125	42.3	184	0.20	761	< 0.5	< 0.5	< 0.5	< 0.5
36549	< 0.01	0.01	0.01	9.0	0.1	< 10	200	14.3	235	< 0.01	333	< 0.5	< 0.5	< 0.5	< 0.5
36550	0.02	0.21	0.02	2.8	0.7	< 10	205	27.6	185	0.90	646	< 0.5	< 0.5	< 0.5	< 0.5
36551	< 0.01	0.06	< 0.01	3.2	1.5	< 10	45.5	26.5	150	0.55	355	< 0.5	< 0.5	< 0.5	< 0.5
36555	0.01	0.08	0.01	5.4	1.1	< 10	73.2	19.4	86.4	0.30	209	< 0.5	< 0.5	< 0.5	< 0.5
36556	0.08	0.64	0.10	3.6	0.4	< 10	4140	29.6	123	0.20	509	< 0.5	< 0.5	< 0.5	< 0.5
36559	0.10	0.62	0.09	9.8	0.4	< 10	122	28.6	187	0.50	533	< 0.5	< 0.5	< 0.5	< 0.5
36560	0.01	0.04	< 0.01	3.2	< 0.1	< 10	218	79.4	121	0.40	248	< 0.5	< 0.5	< 0.5	< 0.5
36562	0.02	0.11	0.03	15.2	0.1	< 10	176	20.2	182	0.20	517	< 0.5	< 0.5	< 0.5	< 0.5
36563	0.01	0.13	0.01	13.1	< 0.1	< 10	1330	15.1	144	0.10	371	< 0.5	< 0.5	< 0.5	< 0.5
36564	0.01	0.04	0.02	8.3	0.8	< 10	409	50.6	146	0.70	369	0.5	< 0.5	< 0.5	< 0.5
36565	0.01	0.04	0.01	3.0	1.7	< 10	211	39.8	153	0.40	525	< 0.5	< 0.5	< 0.5	< 0.5
36566	0.03	0.25	0.04	1.6	0.6	< 10	553	35.9	230	0.45	224	< 0.5	< 0.5	< 0.5	< 0.5
36567	0.01	0.11	0.01	4.7	< 0.1	< 10	741	35.3	180	0.10	335	0.5	< 0.5	< 0.5	< 0.5
36568	0.01	0.11	0.01	32.9	0.1	< 10	333	39.5	120	0.70	332	< 0.5	< 0.5	< 0.5	< 0.5
36569	< 0.01	0.14	0.01	11.1	< 0.1	< 10	899	17.2	194	0.10	376	< 0.5	< 0.5	< 0.5	< 0.5
36570	< 0.01	0.15	0.01	1.7	< 0.1	< 10	224	13.0	109	0.10	186	0.5	< 0.5	< 0.5	< 0.5
36571	0.04	0.48	0.07	11.1	0.4	< 10	751	54.8	325	0.40	741	0.5	< 0.5	< 0.5	< 0.5
36573	< 0.01	0.10	0.01	10.0	< 0.1	< 10	7430	32.7	232	0.30	788	< 0.5	< 0.5	< 0.5	< 0.5
36574	0.11	0.10	0.01	7.3	0.1	< 10	1540	23.9	180	0.20	504	< 0.5	< 0.5	< 0.5	< 0.5
36575	0.01	0.12	0.02	24.1	0.6	< 10	485	15.2	128	0.20	610	< 0.5	< 0.5	< 0.5	< 0.5
36578	< 0.01	0.02	< 0.01	3.1	< 0.1	< 10	4190	9.2	190	< 0.01	823	< 0.5	< 0.5	< 0.5	< 0.5
36579	< 0.01	0.07	0.01	5.0	0.5	< 10	501	13.9	196	0.10	1120	< 0.5	< 0.5	< 0.5	< 0.5
36580	0.02	0.17	0.01	9.2	0.9	< 10	1520	40.1	235	0.20	855	< 0.5	< 0.5	< 0.5	< 0.5
36581	< 0.01	0.08	< 0.01	1.8	0.3	< 10	3540	11.4	209	0.10	810	< 0.5	< 0.5	< 0.5	< 0.5
36582	0.01	0.14	0.01	5.0	1.1	< 10	694	42.0	183	0.30	689	< 0.5	< 0.5	< 0.5	< 0.5
36583	0.01	0.06	0.01	6.4	0.4	< 10	676	41.1	227	0.20	670	< 0.5	< 0.5	< 0.5	< 0.5
36586	0.04	0.37	0.04	5.4	0.1	< 10	277	41.1	130	0.70	311	< 0.5	< 0.5	< 0.5	< 0.5
36589	< 0.01	0.10	0.01	8.3	0.2	< 10	172	50.4	69.8	1.60	183	< 0.5	< 0.5	< 0.5	< 0.5
36590	0.02	0.24	0.02	13.6	0.2	< 10	175	56.0	126	0.30	286	< 0.5	< 0.5	< 0.5	< 0.5
36591	< 0.01	0.01	< 0.01	3.1	1.6	< 10	204	37.8	154	0.40	493	< 0.5	< 0.5	< 0.5	< 0.5
36594	0.01	0.11	0.01	4.5	1.1	< 10	307	71.5	128	1.50	362	< 0.5	< 0.5	< 0.5	< 0.5
36599	0.01	0.15	0.03	5.1	< 0.1	< 10	22600	29.0	362	0.40	619	< 0.5	< 0.5	< 0.5	< 0.5
36600	< 0.01	0.05	0.01	6.8	0.1	< 10	589	28.4	197	0.10	707	< 0.5	< 0.5	< 0.5	< 0.5
36607	< 0.01	0.15	0.02	15.1	0.2	< 10	52.7	46.7	202	0.50	375	< 0.5	< 0.5	< 0.5	< 0.5
36608	0.03	1.90	0.02	8.1	0.6	< 10	451	71.6	283	0.50	455	< 0.5	< 0.5	< 0.5	< 0.5
36609	0.01	0.14	0.01	19.2	0.9	< 10	204	44.9	161	0.20	419	< 0.5	< 0.5	< 0.5	< 0.5
36611	< 0.01	0.02	0.01	3.7	< 0.1	< 10	57.4	7.8	88.0	0.20	81.3	0.5	< 0.5	< 0.5	< 0.5
36612	0.01	0.11	0.02	5.7	< 0.1	< 10	30.2	33.2	98.2	0.50	117	< 0.5	< 0.5	< 0.5	< 0.5
36613	0.04	0.33	0.03	2.9	0.1	< 10	281	17.1	78.5	0.20	66.2	< 0.5	< 0.5	< 0.5	< 0.5
36614	0.03	0.14	0.03	9.6	0.4	< 10	2100	30.3	143	0.80	579	< 0.5	< 0.5	< 0.5	< 0.5
36615	< 0.01	0.04	0.01	7.2	0.6	< 10	128	28.7	109	0.20	358	< 0.5	< 0.5	< 0.5	< 0.5
36623	0.02	0.09	0.02	13.1	0.2	< 10	307	11.2	135	0.10	292	< 0.5	< 0.5	< 0.5	< 0.5
36624	< 0.01	0.03	< 0.01	2.2	0.7	< 10	210	38.6	135	0.30	457	< 0.5	< 0.5	< 0.5	< 0.5
36625	0.03	0.23	0.04	21.6	0.9	< 10	440	15.9	185	0.30	356	< 0.5	< 0.5	< 0.5	< 0.5
36628	0.01	0.10	0.01	5.1	0.3	< 10	166	39.6	164	0.80	124	< 0.5	< 0.5	< 0.5	< 0.5
36629	0.06	0.42	0.04	4.8	0.7	< 10	4140	89.4	213	1.40	452	< 0.5	< 0.5	< 0.5	< 0.5
36630	0.06	0.34	0.06	5.6	0.3	< 10	6250	96.5	217	1.60	511	< 0.5	< 0.5	< 0.5	< 0.5
36631	0.01	0.05	0.01	5.5	0.3	< 10	5030	25.6	118	0.20	502	< 0.5	< 0.5	< 0.5	< 0.5
36632	< 0.01	0.07	< 0.01	10.1	0.4	< 10	107	16.4	138	0.10	322	< 0.5	< 0.5	< 0.5	< 0.5
36633	< 0.01	0.17	< 0.01	3.8	0.1	< 10	259	16.5	189	< 0.01	328	< 0.5	< 0.5	< 0.5	< 0.5
36634	0.02	0.21	0.05	3.2	< 0.1	< 10	1140	11.0	170	0.50	313	< 0.5	< 0.5	< 0.5	< 0.5

Analyte Symbol	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36635	0.05	0.35	0.07	1.5	0.8	< 10	220	23.5	108	0.90	201	< 0.5	< 0.5	< 0.5	< 0.5
36636	0.02	0.22	0.02	5.4	0.8	< 10	216	38.2	75.2	1.10	316	< 0.5	< 0.5	< 0.5	< 0.5
36637	< 0.01	0.07	< 0.01	2.4	0.6	< 10	258	32.7	90.7	1.00	200	< 0.5	< 0.5	< 0.5	< 0.5
36639	< 0.01	0.10	0.01	3.1	1.0	< 10	363	38.3	139	1.30	345	< 0.5	< 0.5	< 0.5	< 0.5
36642	0.01	0.04	< 0.01	4.1	0.6	< 10	551	36.9	204	1.00	516	0.6	< 0.5	< 0.5	< 0.5
36644	< 0.01	< 0.01	< 0.01	6.0	< 0.1	< 10	7290	20.6	167	0.20	904	< 0.5	< 0.5	< 0.5	< 0.5
36647	< 0.01	0.09	< 0.01	7.3	0.2	< 10	141	106	198	0.35	397	< 0.5	< 0.5	< 0.5	< 0.5
36648	0.19	1.30	0.21	0.8	0.1	< 10	734	24.0	86.6	0.30	472	< 0.5	< 0.5	< 0.5	< 0.5
36650	0.01	0.09	0.02	4.8	0.9	< 10	204	68.1	103	1.50	298	< 0.5	< 0.5	< 0.5	< 0.5
36651	0.01	0.07	0.01	6.4	0.5	< 10	215	55.5	160	1.10	348	< 0.5	< 0.5	< 0.5	< 0.5
36652	< 0.01	0.07	0.01	5.1	1.4	< 10	285	44.2	112	1.00	491	< 0.5	< 0.5	< 0.5	< 0.5
36656	< 0.01	0.10	0.02	1.8	0.1	< 10	544	30.6	117	0.80	498	< 0.5	< 0.5	< 0.5	< 0.5
36658	< 0.01	0.02	0.01	3.0	1.4	< 10	206	39.8	158	0.40	509	< 0.5	< 0.5	< 0.5	< 0.5
36659	< 0.01	0.03	0.01	5.4	0.3	< 10	156	29.0	85.7	0.40	119	< 0.5	< 0.5	< 0.5	< 0.5
36664	< 0.01	0.06	< 0.01	10.5	< 0.1	< 10	105	48.9	96.5	0.20	252	< 0.5	< 0.5	< 0.5	< 0.5
36665	< 0.01	0.04	< 0.01	9.7	< 0.1	< 10	76.7	35.3	96.9	0.50	225	< 0.5	< 0.5	< 0.5	< 0.5
36669	< 0.01	0.02	0.01	< 0.5	< 0.1	< 10	392	24.2	121	0.10	245	< 0.5	< 0.5	< 0.5	< 0.5
36670	< 0.01	0.02	0.01	2.5	< 0.1	< 10	1360	11.3	116	0.10	393	< 0.5	< 0.5	< 0.5	< 0.5
36671	< 0.01	0.06	0.01	9.6	0.8	< 10	350	90.9	195	0.90	353	< 0.5	< 0.5	< 0.5	< 0.5
36672	0.01	0.09	0.01	12.6	0.6	< 10	371	97.8	205	0.90	641	< 0.5	< 0.5	< 0.5	< 0.5
36673	0.01	0.15	< 0.01	5.1	0.1	< 10	856	50.5	115	0.70	236	< 0.5	< 0.5	< 0.5	< 0.5
36674	< 0.01	< 0.01	< 0.01	5.2	0.5	< 10	230	55.6	77.6	1.10	280	< 0.5	< 0.5	< 0.5	< 0.5
36675	0.01	0.13	0.01	4.1	0.4	< 10	196	27.9	119	0.50	483	< 0.5	< 0.5	< 0.5	< 0.5
36678	< 0.01	0.04	< 0.01	20.5	0.7	< 10	434	47.8	98.6	1.80	440	< 0.5	< 0.5	< 0.5	< 0.5
36679	0.02	0.23	0.02	1.8	< 0.1	< 10	573	30.3	147	0.60	410	< 0.5	< 0.5	< 0.5	< 0.5
36682	0.01	0.09	0.01	3.2	0.2	< 10	344	40.7	71.1	0.40	220	< 0.5	< 0.5	< 0.5	< 0.5
36683	< 0.01	< 0.01	< 0.01	4.5	1.0	< 10	486	44.6	203	0.80	262	< 0.5	< 0.5	< 0.5	< 0.5
36689	0.17	1.31	0.22	8.1	0.7	< 10	623	36.4	178	0.30	426	< 0.5	< 0.5	< 0.5	< 0.5
36690	0.03	0.24	0.04	1.4	1.0	< 10	113	26.2	96.8	0.80	302	< 0.5	< 0.5	< 0.5	< 0.5
36691	0.01	0.13	0.02	4.5	0.3	< 10	51.1	37.0	70.5	1.00	202	< 0.5	< 0.5	< 0.5	< 0.5
36692	0.01	0.06	0.01	3.8	0.5	< 10	88.1	58.6	145	0.60	296	< 0.5	< 0.5	< 0.5	< 0.5
36694	< 0.01	0.08	0.01	3.8	0.2	< 10	10100	37.5	120	1.80	390	< 0.5	< 0.5	< 0.5	< 0.5
36695	0.01	0.07	0.01	5.6	0.2	< 10	159	20.4	128	0.20	282	< 0.5	< 0.5	< 0.5	< 0.5
36696	0.02	0.16	0.02	10.3	1.0	< 10	73.9	42.2	214	1.00	535	< 0.5	< 0.5	< 0.5	< 0.5
36697	0.01	0.12	0.01	5.6	0.9	< 10	167	58.0	183	1.20	362	< 0.5	< 0.5	< 0.5	< 0.5
36698	0.02	0.13	0.01	8.7	1.0	< 10	49.1	45.6	149	0.80	230	< 0.5	< 0.5	< 0.5	< 0.5
36699	< 0.01	0.07	< 0.01	2.5	0.5	< 10	1080	29.2	255	0.30	277	< 0.5	< 0.5	< 0.5	< 0.5
36700	0.03	0.11	0.03	7.2	0.4	< 10	165	37.2	121	0.10	366	< 0.5	< 0.5	< 0.5	< 0.5
36701	0.02	0.18	0.02	4.8	0.9	< 10	778	27.6	148	0.30	348	< 0.5	< 0.5	< 0.5	< 0.5
36702	0.01	0.12	0.02	5.1	0.8	< 10	1110	50.8	123	1.50	280	< 0.5	< 0.5	< 0.5	< 0.5
36703	0.01	0.11	0.02	4.3	1.3	< 10	641	29.2	145	1.40	286	< 0.5	< 0.5	< 0.5	< 0.5
36704	0.05	0.32	0.05	2.2	0.5	< 10	1020	28.5	154	0.50	447	< 0.5	< 0.5	< 0.5	< 0.5
36705	0.01	0.16	0.02	12.9	0.4	< 10	134	19.6	91.1	0.20	312	< 0.5	< 0.5	< 0.5	< 0.5
36707	< 0.01	0.06	< 0.01	14.2	1.2	< 10	372	62.7	165	0.75	355	< 0.5	< 0.5	< 0.5	< 0.5
36708	0.02	0.09	0.01	11.7	1.4	< 10	513	39.0	107	1.40	236	< 0.5	< 0.5	< 0.5	< 0.5
36711	0.01	0.05	0.01	2.9	1.5	< 10	209	35.3	142	0.40	431	< 0.5	< 0.5	< 0.5	< 0.5
36714	0.02	0.15	0.01	11.3	0.9	< 10	145	48.0	100	1.20	341	< 0.5	< 0.5	< 0.5	< 0.5
36720	0.01	0.04	< 0.01	15.0	0.6	< 10	197	43.8	54.9	0.70	147	< 0.5	< 0.5	< 0.5	< 0.5
36721	< 0.01	0.07	0.01	6.8	1.4	< 10	113	52.5	69.0	0.90	269	< 0.5	< 0.5	< 0.5	< 0.5
36728	0.09	0.65	0.10	2.6	0.4	< 10	878	10.9	92.0	0.20	487	< 0.5	< 0.5	< 0.5	< 0.5
36729	0.02	0.13	0.02	5.3	1.1	< 10	40.9	48.8	119	1.40	172	< 0.5	< 0.5	< 0.5	< 0.5
36730	0.12	0.87	0.13	1.9	0.6	< 10	267	18.7	148	0.20	452	< 0.5	< 0.5	< 0.5	< 0.5

Analyte Symbol	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36731	0.05	0.38	0.05	4.2	0.5	< 10	544	22.2	203	0.20	310	< 0.5	< 0.5	< 0.5	< 0.5
36732	0.01	0.08	0.01	2.9	0.3	< 10	1560	7.1	299	< 0.01	780	< 0.5	< 0.5	< 0.5	< 0.5
36733	0.01	0.12	0.03	5.0	0.9	< 10	1020	11.7	150	0.10	456	< 0.5	< 0.5	< 0.5	< 0.5
36734	0.02	0.21	0.02	3.9	0.7	< 10	998	4.3	162	< 0.01	916	< 0.5	< 0.5	< 0.5	< 0.5
36735	0.02	0.16	0.02	8.3	1.0	< 10	166	35.7	148	0.90	263	< 0.5	< 0.5	< 0.5	< 0.5
36736	0.03	0.25	0.03	9.0	1.2	< 10	65.7	38.9	213	1.00	250	< 0.5	< 0.5	< 0.5	< 0.5
36737	0.01	0.08	0.01	7.6	0.5	< 10	141	35.5	147	0.50	289	< 0.5	< 0.5	< 0.5	< 0.5
36738	0.07	0.60	0.07	3.3	0.5	< 10	212	28.5	161	0.40	419	< 0.5	< 0.5	< 0.5	< 0.5
36740	0.01	0.11	0.01	21.1	1.6	< 10	118	63.6	125	1.30	308	< 0.5	< 0.5	< 0.5	< 0.5
36742	0.01	0.09	< 0.01	7.0	0.8	< 10	82.2	40.7	92.1	0.60	192	< 0.5	< 0.5	< 0.5	< 0.5
37003	0.03	0.25	0.03	6.1	0.7	< 10	376	26.3	142	0.40	603	< 0.5	< 0.5	< 0.5	< 0.5
37006	0.01	0.09	0.01	4.0	0.7	< 10	902	33.4	205	0.20	280	< 0.5	< 0.5	< 0.5	< 0.5
37008	0.02	0.12	0.02	3.6	1.9	< 10	236	40.9	158	0.40	574	< 0.5	< 0.5	< 0.5	< 0.5
37012	0.04	0.38	0.05	6.7	1.3	< 10	939	50.3	164	0.90	756	< 0.5	< 0.5	< 0.5	< 0.5
37013	0.03	0.20	0.02	10.5	1.0	< 10	134	54.9	94.8	0.80	466	< 0.5	< 0.5	< 0.5	< 0.5
37015	0.09	0.61	0.08	2.0	0.6	< 10	565	28.9	145	0.20	520	< 0.5	< 0.5	< 0.5	< 0.5
37017	0.07	0.51	0.07	0.8	0.6	< 10	313	41.7	182	0.60	1000	< 0.5	< 0.5	< 0.5	< 0.5
37018	< 0.01	0.12	0.01	8.9	0.8	< 10	509	40.9	104	0.90	612	< 0.5	< 0.5	< 0.5	< 0.5
37019	0.02	0.08	0.01	9.0	0.4	< 10	126	42.6	145	0.60	314	< 0.5	< 0.5	< 0.5	< 0.5
37020	< 0.01	0.03	0.01	3.2	1.9	< 10	217	39.7	160	0.40	533	< 0.5	< 0.5	< 0.5	< 0.5
37023	0.03	0.21	0.03	0.8	0.4	< 10	130	34.8	45.5	1.50	92.9	< 0.5	< 0.5	< 0.5	< 0.5
37025	0.07	0.45	0.08	12.2	0.2	< 10	20900	36.5	560	0.30	607	< 0.5	< 0.5	< 0.5	< 0.5
37026	0.02	0.18	0.03	2.2	0.9	< 10	335	30.6	155	0.60	453	< 0.5	< 0.5	< 0.5	< 0.5
37027	0.05	0.38	0.06	3.2	0.5	< 10	235	5.7	111	0.10	347	< 0.5	< 0.5	< 0.5	< 0.5
37028	0.02	0.07	0.01	4.9	1.6	< 10	85.0	41.0	224	0.60	486	< 0.5	< 0.5	< 0.5	< 0.5
37029	0.01	0.10	0.01	4.7	0.6	< 10	58.8	21.5	175	0.40	386	< 0.5	< 0.5	< 0.5	< 0.5
37030	0.01	0.16	0.02	11.0	1.2	< 10	722	86.9	164	0.70	392	< 0.5	< 0.5	< 0.5	< 0.5
37031	0.02	0.15	0.02	10.1	0.6	< 10	1500	11.4	134	0.10	461	< 0.5	< 0.5	< 0.5	< 0.5
37032	0.01	0.11	0.02	3.5	< 0.1	< 10	227	10.8	108	0.10	214	< 0.5	< 0.5	< 0.5	< 0.5
37033	< 0.01	0.03	0.01	0.7	< 0.1	< 10	256	49.2	118	0.30	176	< 0.5	< 0.5	< 0.5	< 0.5
37034	0.02	0.13	< 0.01	6.5	0.2	< 10	98.3	38.7	147	0.30	319	< 0.5	< 0.5	< 0.5	< 0.5
37035	< 0.01	0.10	0.01	6.5	0.6	< 10	1380	54.7	124	2.30	250	< 0.5	< 0.5	< 0.5	< 0.5
37036	0.08	0.49	0.06	3.2	0.2	< 10	587	34.5	89.1	1.70	352	< 0.5	< 0.5	< 0.5	< 0.5
37039	0.03	0.20	0.02	2.5	0.4	< 10	12400	41.2	88.7	0.80	371	< 0.5	< 0.5	< 0.5	< 0.5
37040	0.01	0.09	0.01	2.9	0.3	< 10	222	29.5	167	0.80	407	< 0.5	< 0.5	< 0.5	< 0.5
37041	0.02	0.16	0.02	4.9	0.3	< 10	394	36.2	71.1	0.60	163	< 0.5	< 0.5	< 0.5	< 0.5
37042	0.03	0.15	0.02	0.8	< 0.1	< 10	607	19.1	79.7	0.20	249	< 0.5	< 0.5	< 0.5	< 0.5
37043	0.02	0.16	0.02	5.4	< 0.1	< 10	672	8.1	109	0.15	150	< 0.5	< 0.5	< 0.5	< 0.5
37044	0.06	0.29	0.06	28.8	0.4	< 10	918	14.4	144	0.10	278	< 0.5	< 0.5	< 0.5	< 0.5
37045	0.15	1.05	0.15	11.0	1.0	< 10	1870	50.3	99.5	0.20	393	< 0.5	< 0.5	< 0.5	< 0.5
37050	0.02	0.21	0.03	4.2	0.7	< 10	111	28.0	122	1.10	250	< 0.5	< 0.5	< 0.5	< 0.5
37052	0.01	0.08	0.01	14.7	0.3	< 10	78.4	34.3	87.4	1.10	240	< 0.5	< 0.5	< 0.5	< 0.5
35820															
0026															
0027															
0028															
0029															
0030															
0031															
0032															
0033															

Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		31.9		1170	3.3	14	706	42		701		0.24	2.19			1	1390							0.92
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22	1380							0.960
GXR-4 Meas		3.5		6460	0.5	313	40	48		67		1.79	6.23			2	9							1.12
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0							1.01
SDC-1 Meas		< 0.3		30	0.5	2	20	38		98		0.06	7.75			3	< 2							1.16
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60							1.00
SCO-1 Meas		< 0.3		28	0.5	< 1	28	27		95			6.93			2	< 2							2.14
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370							1.87
GXR-6 Meas		< 0.3		69	0.5	< 1	96	28		125		0.01	12.4			1	< 2							0.19
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290							0.180
TILL-1 Meas																								
TILL-1 Cert																								
SO-3 Meas																								
SO-3 Cert																								
SO-3 Meas																								
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SO-3 Cert																								
DNC-1a Meas				97				252		52														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		0.9		2350		8		2230		124		1.14												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 110 Meas														166	1570					11	80			1.95
DMMAS 110 Cert														170	1770					11	77			1.79
36449 Orig																								
36449 Dup																								
36483 Orig																								
36483 Dup																								
36510 Orig																								
36510 Dup																								
36551 Orig																								
36551 Dup																								
36566 Orig																								
36566 Dup																								
36578 Orig																								
36578 Dup																								
36632 Orig																								
36632 Dup																								
36665 Orig																								
36665 Dup																								
36731 Orig																								
36731 Dup																								
37043 Orig																								
37043 Dup																								
0030 Orig		< 0.3		36	1.6	< 1	< 3	31		53		0.07	3.82			< 1	< 2							5.65
0030 Dup		< 0.3		34	1.8	< 1	< 3	31		54		0.07	3.90			< 1	< 2							5.95
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank																								
Method Blank Method Blank																								

Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method
Blank

< 2	< 5							< 20		< 50			< 0.5	< 50				< 0.5		< 1	< 2	< 1	< 0.2	< 0.01
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Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas				0.04	0.21	846		0.058					286					91						28
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0						32.0
GXR-4 Meas				3.28	1.70	145		0.132					216					97						14
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0						14.0
SDC-1 Meas				2.77	0.98	853		0.051					170		0.10			37						33
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102						40.0
SCO-1 Meas				2.38	1.60	388		0.074					163		0.25			119						20
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131						26.0
GXR-6 Meas				1.90	0.59	1080		0.034					41					114						14
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186						14.0
TILL-1 Meas																								
TILL-1 Cert																								
SO-3 Meas																								
SO-3 Cert																								
SO-3 Meas																								
SO-3 Cert																								
SO-3 Meas																								
SO-3 Cert																								
DNC-1a Meas													130					150						15
DNC-1a Cert													144					148						18.0
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 110 Meas							2.46			2.9	5.9						30.0				16.8	29		1.9
DMMAS 110 Cert							2.41			2.9	5.5						28.8				16.2	27		1.7
36449 Orig																								
36449 Dup																								
36483 Orig																								
36483 Dup																								
36510 Orig																								
36510 Dup																								
36551 Orig																								
36551 Dup																								
36566 Orig																								
36566 Dup																								
36578 Orig																								
36578 Dup																								
36632 Orig																								
36632 Dup																								
36665 Orig																								
36665 Dup																								
36731 Orig																								
36731 Dup																								
37043 Orig																								
37043 Dup																								
0030 Orig				< 0.01	3.45	11000		0.018					126		0.25			161						12
0030 Dup				< 0.01	3.55	11500		0.018					128		0.25			164						12
Method Blank Method Blank				< 0.01	< 0.01	7		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank				< 0.01	< 0.01	1		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank				< 0.01	< 0.01	21		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1
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Quality Control																									
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	
Unit Symbol	%	ppm	ppm	ppm	g	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.5	0.2	0.05		1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	
Analysis Method	INAA	INAA	INAA	INAA	INAA	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	

GXR-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
TILL-1 Meas							450		85.6	18.1		4.5	48.4			0.054	0.3	2.90	3.90	67.7	24	189	97	
TILL-1 Cert							6400.0		99000	18000		2000	7800.0			13	90.0	5600.0	2200.0	18000	24000	47000	98000	
SO-3 Meas									46.3											2.4	6	14	< 5	
SO-3 Cert									38000											8000	16000	17000	52000	
SO-3 Meas									48.0											2.5	7	15	< 5	
SO-3 Cert									38000											8000	16000	17000	52000	
SO-3 Meas									47.5											2.6	7	15	< 5	
SO-3 Cert									38000											8000	16000	17000	52000	
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 110 Meas																								
DMMAS 110 Cert																								
36449 Orig						< 1000	74	9	4.1	1.6	< 1	0.3	0.20	< 0.5	0.1	0.010	< 0.005	< 0.1	0.30	0.50	8.8	17	5	140
36449 Dup						1000	75	9	4.5	1.6	1	0.3	0.19	< 0.5	0.2	0.020	< 0.005	< 0.1	0.40	0.40	8.3	15	4	147
36483 Orig						< 1000	44	4	2.0	0.6	2	0.1	0.17	< 0.5	0.1	0.010	< 0.005	< 0.1	0.30	0.30	10.9	20	3	63
36483 Dup						< 1000	41	4	1.7	0.7	2	0.2	0.16	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.30	0.30	10.1	21	3	62
36510 Orig						2000	87	10	5.1	0.9	3	0.2	0.26	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.60	0.50	10.4	18	5	74
36510 Dup						2000	84	10	6.3	1.1	2	0.2	0.22	< 0.5	0.1	< 0.005	0.018	< 0.1	0.60	0.50	10.8	21	4	75
36551 Orig						4000	77	13	9.6	0.7	4	0.7	0.36	< 0.5	0.2	< 0.005	< 0.005	< 0.1	0.40	0.50	6.6	15	5	33
36551 Dup						4000	78	14	10.8	0.6	4	0.6	0.34	< 0.5	0.2	< 0.005	< 0.005	0.1	0.30	0.40	6.7	14	5	38
36566 Orig						1000	89	16	18.4	2.3	4	1.0	0.29	< 0.5	0.2	0.010	< 0.005	< 0.1	1.30	0.90	10.1	19	21	84
36566 Dup						1000	87	15	17.9	2.1	3	0.9	0.24	< 0.5	0.1	0.010	< 0.005	< 0.1	1.30	0.80	10.0	16	19	78
36578 Orig						7000	42	11	40.0	6.9	2	1.7	0.49	< 0.5	0.3	0.010	< 0.005	< 0.1	0.70	0.40	10.1	14	11	340
36578 Dup						6000	41	10	37.0	7.1	2	1.7	0.50	< 0.5	0.2	0.010	< 0.005	< 0.1	0.70	0.40	9.1	15	12	351
36632 Orig						< 1000	86	16	9.0	4.2	2	0.6	0.38	< 0.5	0.2	< 0.005	< 0.005	< 0.1	0.40	0.50	8.1	16	7	43
36632 Dup						1000	84	16	9.6	4.4	2	0.7	0.44	< 0.5	0.2	< 0.005	< 0.005	< 0.1	0.50	0.50	7.1	15	7	46
36665 Orig						2000	45	8	13.9	2.6	1	0.3	0.08	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.30	0.30	10.1	22	7	80
36665 Dup						2000	51	8	13.5	2.5	< 1	0.3	0.07	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.30	0.30	10.1	23	7	89
36731 Orig						5000	62	29	41.4	4.7	3	2.2	0.61	< 0.5	0.3	< 0.005	< 0.005	0.1	1.50	1.80	5.5	12	29	163
36731 Dup						7000	68	28	43.8	4.2	3	2.2	0.61	< 0.5	0.2	< 0.005	< 0.005	0.2	1.50	1.70	5.6	13	28	160
37043 Orig						2000	28	10	24.4	2.9	2	1.3	0.31	< 0.5	0.3	< 0.005	< 0.005	< 0.1	0.50	0.50	5.5	6	8	18
37043 Dup						2000	28	10	25.3	2.7	2	1.4	0.22	< 0.5	0.3	0.010	< 0.005	< 0.1	0.50	0.50	5.2	6	7	16
0030 Orig																								
0030 Dup																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5

Quality Control																									
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	
Unit Symbol	%	ppm	ppm	ppm	g	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.5	0.2	0.05		1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	
Analysis Method	INAA	INAA	INAA	INAA	INAA	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	
Method Blank Method Blank						< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0																				

Quality Control

Analyte Symbol	Pb	Ga	Ge	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.3	0.05	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
GXR-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
TILL-1 Meas	17.7									710	< 3	18.2	9.7	2.0	0.40	0.10	16.9	34.3		22.6	5.08	1.20		0.71
TILL-1 Cert	22000									5990000	65000	38000	502000	10000	13000	700.0	28000	71000		26000	5900.0	1300.0		1100.0
SO-3 Meas	0.6									140	< 3													
SO-3 Cert	14000									2000000	26000													
SO-3 Meas	0.9									270	< 3													
SO-3 Cert	14000									2000000	26000													
SO-3 Meas	1.3									250	< 3													
SO-3 Cert	14000									2000000	26000													
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 110 Meas																								
DMMAS 110 Cert																								
36449 Orig	1.8	0.9	0.10	< 0.1	< 0.1	< 0.01	< 0.2	0.100	< 0.5	110	< 3	1.00	1.3	< 0.1	0.10	< 0.02	1.20	2.88	0.35	1.60	0.50	0.10	0.20	0.02
36449 Dup	1.3	0.8	0.10	< 0.1	< 0.1	< 0.01	< 0.2	0.130	< 0.5	100	< 3	0.95	1.3	< 0.1	0.10	< 0.02	1.26	2.99	0.36	1.58	0.60	0.10	0.30	0.03
36483 Orig	1.4	1.0	0.10	< 0.1	1.3	< 0.01	< 0.2	0.100	< 0.5	130	< 3	0.69	1.1	< 0.1	0.10	< 0.02	1.27	3.15	0.35	1.51	0.30	0.10	0.20	0.07
36483 Dup	1.4	1.1	0.10	< 0.1	1.4	< 0.01	< 0.2	0.090	< 0.5	130	< 3	0.68	1.1	< 0.1	0.10	< 0.02	1.30	3.17	0.32	1.44	0.25	0.10	0.30	0.07
36510 Orig	2.1	0.9	0.20	< 0.1	1.1	< 0.01	< 0.2	0.200	< 0.5	110	< 3	1.40	2.9	< 0.1	0.10	< 0.02	2.52	3.35	0.39	1.38	0.27	0.10	0.30	0.05
36510 Dup	2.3	0.8	< 0.05	< 0.1	1.0	< 0.01	< 0.2	0.220	< 0.5	100	< 3	1.47	3.0	< 0.1	0.10	< 0.02	2.37	3.98	0.44	1.68	0.35	0.20	0.40	0.05
36551 Orig	< 0.1	< 0.3	0.20	< 0.1	0.2	< 0.01	< 0.2	0.150	< 0.5	80	< 3	0.51	1.3	< 0.1	0.10	< 0.02	0.68	1.44	0.17	0.67	0.01	0.10	0.20	0.01
36551 Dup	< 0.1	< 0.3	0.20	< 0.1	0.3	< 0.01	< 0.2	0.120	< 0.5	80	< 3	0.66	1.2	< 0.1	0.10	< 0.02	0.48	1.19	0.22	0.58	0.04	0.10	0.10	0.01
36566 Orig	2.8	0.9	0.20	< 0.1	0.4	< 0.01	< 0.2	0.200	< 0.5	190	< 3	3.28	3.1	0.2	0.10	< 0.02	5.78	12.9	1.55	6.29	1.08	0.30	1.20	0.13
36566 Dup	1.9	0.7	0.30	< 0.1	0.4	< 0.01	< 0.2	0.170	< 0.5	200	< 3	3.27	4.2	0.1	0.10	< 0.02	5.63	12.5	1.53	5.59	1.12	0.30	1.10	0.12
36578 Orig	5.7	1.4	0.30	< 0.1	1.8	< 0.01	< 0.2	0.100	< 0.5	670	< 3	0.53	2.9	0.7	0.10	< 0.02	0.76	1.57	0.16	1.00	0.08	0.20	0.20	0.01
36578 Dup	5.5	1.4	0.30	< 0.1	1.5	< 0.01	< 0.2	0.060	< 0.5	640	< 3	0.48	2.3	0.6	0.10	0.10	0.73	1.35	0.13	0.96	0.11	0.20	0.20	0.01
36632 Orig	3.6	0.9	0.10	< 0.1	0.3	< 0.01	< 0.2	0.090	< 0.5	170	< 3	0.70	1.8	< 0.1	0.10	< 0.02	0.75	1.78	0.20	0.87	0.01	0.10	0.10	0.02
36632 Dup	3.4	1.1	0.10	< 0.1	0.4	< 0.01	< 0.2	0.070	< 0.5	170	< 3	0.79	2.7	0.1	0.10	< 0.02	0.88	2.04	0.28	0.98	0.11	0.10	0.10	0.02
36665 Orig	2.0	1.7	0.20	< 0.1	0.8	< 0.01	< 0.2	0.330	< 0.5	250	< 3	0.38	1.3	0.9	< 0.01	< 0.02	0.07	0.62	0.07	0.41	< 0.01	0.10	0.10	< 0.01
36665 Dup	2.3	1.8	0.20	< 0.1	1.0	< 0.01	< 0.2	0.310	< 0.5	270	< 3	0.36	1.8	0.9	< 0.01	< 0.02	0.06	0.71	0.06	0.38	< 0.01	0.10	0.10	< 0.01
36731 Orig	3.0	1.5	0.30	< 0.1	0.7	< 0.01	< 0.2	0.170	< 0.5	430	< 3	3.61	4.0	0.9	0.20	0.10	5.80	8.46	1.67	6.51	1.23	0.40	1.30	0.18
36731 Dup	2.8	1.1	0.20	< 0.1	0.6	< 0.01	< 0.2	0.160	< 0.5	420	< 3	3.30	4.3	1.0	0.20	0.10	5.58	8.03	1.58	6.13	1.21	0.40	1.20	0.13
37043 Orig	2.6	0.8	0.20	< 0.1	0.4	< 0.01	< 0.2	0.060	< 0.5	150	< 3	0.82	1.9	0.3	0.10	< 0.02	0.90	2.38	0.28	1.49	0.23	0.10	0.20	0.04
37043 Dup	2.6	0.7	0.10	< 0.1	0.4	< 0.01	< 0.2	0.060	< 0.5	150	< 3	0.91	1.9	0.3	0.10	< 0.02	1.06	2.18	0.27	1.43	0.24	0.10	0.30	0.04
0030 Orig																								
0030 Dup																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Method Blank Method Blank	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Quality Control																									
Analyte Symbol	Pb	Ga	Ge	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.1	0.3	0.05	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
Method Blank Method	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Blank																									
Method Blank Method	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Blank																									
Method Blank Method	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Blank																									
Method Blank Method	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Blank																									

Quality Control																		
Analyte Symbol	Dy	Ho	Er	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS

GXR-1 Meas																		
GXR-1 Cert																		
GXR-4 Meas																		
GXR-4 Cert																		
SDC-1 Meas																		
SDC-1 Cert																		
SCO-1 Meas																		
SCO-1 Cert																		
GXR-6 Meas																		
GXR-6 Cert																		
TILL-1 Meas			2.10		1.99	0.29	4.0	0.3	< 10	36600	43.9	361	0.50	731				
TILL-1 Cert			3600.0		3900.0	600.0	15000	2400.0	13000	1420000	44000	291000	1000.0	702000				
SO-3 Meas										469	89.9	914		75.3				
SO-3 Cert										520000	39000	217000		296000				
SO-3 Meas										542	95.2	948		87.4				
SO-3 Cert										520000	39000	217000		296000				
SO-3 Meas										538	90.6	909		87.9				
SO-3 Cert										520000	39000	217000		296000				
DNC-1a Meas																		
DNC-1a Cert																		
OREAS 13b (4-Acid) Meas																		
OREAS 13b (4-Acid) Cert																		
DMMAS 110 Meas																		
DMMAS 110 Cert																		
36449 Orig	< 0.01	< 0.01	0.10	0.02	0.13	0.01	2.8	1.1	< 10	85.2	52.5	125	1.30	284	< 0.5	< 0.5	< 0.5	< 0.5
36449 Dup	< 0.01	< 0.01	0.10	0.02	0.13	0.01	2.7	0.9	< 10	71.5	53.8	123	1.40	286	< 0.5	< 0.5	< 0.5	< 0.5
36483 Orig	< 0.01	< 0.01	0.20	0.02	0.14	0.01	4.3	2.0	< 10	434	66.0	143	0.50	261	< 0.5	< 0.5	< 0.5	< 0.5
36483 Dup	< 0.01	< 0.01	0.20	0.02	0.18	0.01	4.2	1.8	< 10	438	65.0	142	0.50	264	< 0.5	< 0.5	< 0.5	< 0.5
36510 Orig	< 0.01	< 0.01	0.10	0.03	0.09	0.02	5.8	1.6	< 10	116	49.0	124	1.10	367	< 0.5	< 0.5	< 0.5	< 0.5
36510 Dup	< 0.01	< 0.01	0.10	0.02	0.10	0.01	6.4	1.8	< 10	112	53.2	124	1.10	370	< 0.5	< 0.5	< 0.5	< 0.5
36551 Orig	< 0.01	< 0.01	0.10	< 0.01	0.06	< 0.01	3.3	1.4	< 10	48.3	26.3	146	0.60	334	< 0.5	< 0.5	< 0.5	< 0.5
36551 Dup	< 0.01	< 0.01	0.10	< 0.01	0.07	0.01	3.1	1.5	< 10	42.8	26.6	154	0.50	375	< 0.5	< 0.5	< 0.5	< 0.5
36566 Orig	< 0.01	0.10	0.30	0.03	0.22	0.05	1.7	0.6	< 10	566	36.8	234	0.50	234	< 0.5	< 0.5	< 0.5	< 0.5
36566 Dup	< 0.01	0.10	0.30	0.03	0.28	0.03	1.6	0.5	< 10	539	35.1	226	0.40	214	< 0.5	< 0.5	< 0.5	< 0.5
36578 Orig	< 0.01	< 0.01	0.10	0.01	0.03	0.01	3.2	< 0.1	< 10	4340	9.6	190	0.10	810	< 0.5	< 0.5	< 0.5	< 0.5
36578 Dup	< 0.01	< 0.01	0.10	< 0.01	0.02	< 0.01	3.1	< 0.1	< 10	4030	8.9	189	< 0.01	835	< 0.5	< 0.5	< 0.5	< 0.5
36632 Orig	< 0.01	< 0.01	0.10	< 0.01	0.09	0.01	10.3	0.4	< 10	109	16.6	141	0.10	321	< 0.5	< 0.5	< 0.5	< 0.5
36632 Dup	< 0.01	< 0.01	0.10	< 0.01	0.05	< 0.01	9.9	0.3	< 10	104	16.1	134	0.10	323	< 0.5	< 0.5	< 0.5	< 0.5
36665 Orig	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	9.5	0.2	< 10	77.5	34.8	97.4	0.50	221	< 0.5	< 0.5	< 0.5	< 0.5
36665 Dup	< 0.01	< 0.01	0.10	< 0.01	0.05	< 0.01	9.9	< 0.1	< 10	75.9	35.7	96.4	0.50	229	< 0.5	< 0.5	< 0.5	< 0.5
36731 Orig	< 0.01	0.10	0.40	0.04	0.43	0.06	4.2	0.4	< 10	543	21.8	203	0.20	310	< 0.5	< 0.5	< 0.5	< 0.5
36731 Dup	< 0.01	0.10	0.40	0.05	0.33	0.05	4.2	0.6	< 10	545	22.6	203	0.20	310	< 0.5	< 0.5	< 0.5	< 0.5
37043 Orig	< 0.01	< 0.01	0.10	0.02	0.17	0.02	5.5	< 0.1	< 10	658	7.9	108	0.10	151	< 0.5	< 0.5	< 0.5	< 0.5
37043 Dup	< 0.01	< 0.01	0.10	0.02	0.15	0.02	5.3	< 0.1	< 10	686	8.3	109	0.20	148	< 0.5	< 0.5	< 0.5	< 0.5
0030 Orig																		
0030 Dup																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Quality Control																		
Analyte Symbol	Dy	Ho	Er	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Quality Analysis ...



Innovative Technologies

Date Submitted: 28-Jul-10

Invoice No.: A10-4432 (i)

Invoice Date: 23-Sep-10

Your Reference: STURGEON LAKE

Excalibur Resources Ltd.

Excalibur Resources

Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

97 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-4432 (i)

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



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TM

Activation Laboratories Ltd. Report: A10-4432 (i)

Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36863	3000	171	25	15.4	1.4	2	0.1	0.34	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.60	0.90	11.0	15	14	194	3.1	1.0	< 0.05	< 0.1	< 0.1
36865	2000	151	16	5.3	1.4	2	0.1	0.31	< 0.5	< 0.1	0.010	< 0.005	< 0.1	1.70	0.80	4.2	7	7	52	2.6	< 0.3	< 0.05	< 0.1	< 0.1
36868	5000	108	16	11.1	1.7	2	0.6	0.64	< 0.5	< 0.1	0.010	< 0.005	0.1	1.00	0.70	11.0	14	13	309	5.4	1.0	< 0.05	< 0.1	1.0

Activation Laboratories Ltd. Report: A10-4432 (i)

Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
36863	< 0.01	< 0.2	0.390	< 0.5	120	< 3	3.30	5.0	< 0.1	0.18	< 0.02	9.22	17.3	2.10	7.32	1.40	0.40	1.20	0.10	0.41	0.10	0.30	< 0.01	0.30
36865	< 0.01	< 0.2	0.240	< 0.5	60	< 3	2.00	3.9	< 0.1	0.13	< 0.02	5.54	10.8	1.20	4.52	0.80	0.20	0.70	0.10	0.20	0.10	0.20	< 0.01	0.20
36868	< 0.01	< 0.2	0.220	< 0.5	160	< 3	1.30	4.8	< 0.1	0.14	< 0.02	4.02	7.80	1.00	3.37	0.60	0.20	0.60	0.10	0.09	0.10	0.10	< 0.01	0.10

Activation Laboratories Ltd. Report: A10-4432 (i)

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36749	< 0.01	1.1	0.8	< 10	123	66.0	82.6	1.30	195	< 0.5	< 0.5	< 0.5	< 0.5
36750	< 0.01	4.0	1.0	< 10	146	43.0	126	1.00	154	< 0.5	< 0.5	< 0.5	< 0.5
36751	< 0.01	16.9	1.7	< 10	274	68.0	127	1.50	252	< 0.5	< 0.5	< 0.5	< 0.5
36752	< 0.01	2.3	1.6	< 10	175	35.0	139	0.40	381	< 0.5	< 0.5	< 0.5	< 0.5
36753	< 0.01	5.7	1.2	< 10	1720	75.0	284	1.20	491	< 0.5	< 0.5	< 0.5	< 0.5
36754	< 0.01	3.1	0.8	< 10	1170	50.0	142	0.50	227	< 0.5	< 0.5	< 0.5	< 0.5
36755	< 0.01	4.7	1.4	< 10	2770	35.0	190	0.80	402	< 0.5	< 0.5	< 0.5	< 0.5
36756	< 0.01	1.4	0.7	< 10	375	94.0	337	1.10	620	< 0.5	< 0.5	< 0.5	< 0.5
36757	< 0.01	2.4	1.3	< 10	610	76.0	305	0.80	463	< 0.5	< 0.5	< 0.5	< 0.5
36758	< 0.01	6.6	1.9	< 10	123	53.5	194	0.50	289	< 0.5	< 0.5	< 0.5	< 0.5
36759	< 0.01	1.6	1.3	< 10	475	44.0	179	0.50	237	< 0.5	< 0.5	< 0.5	< 0.5
36761	< 0.01	4.5	0.9	< 10	1860	51.0	240	0.90	467	< 0.5	< 0.5	< 0.5	< 0.5
36762	< 0.01	0.8	2.1	< 10	1400	64.0	409	0.80	451	< 0.5	< 0.5	< 0.5	< 0.5
36763	< 0.01	3.5	1.7	< 10	33.1	32.0	130	1.10	365	< 0.5	< 0.5	< 0.5	< 0.5
36771	< 0.01	0.8	0.4	< 10	33.3	21.0	228	0.60	227	< 0.5	< 0.5	< 0.5	< 0.5
36772	< 0.01	6.3	1.7	< 10	162	63.0	283	1.00	321	< 0.5	< 0.5	< 0.5	< 0.5
36773	< 0.01	2.0	1.0	< 10	161	45.0	239	0.80	166	< 0.5	< 0.5	< 0.5	< 0.5
36774	< 0.01	5.4	1.3	< 10	132	51.0	85.9	1.90	184	< 0.5	< 0.5	< 0.5	< 0.5
36775	< 0.01	3.1	1.5	< 10	206	39.0	157	0.45	452	< 0.5	< 0.5	< 0.5	< 0.5
36776	< 0.01	5.4	1.5	< 10	785	66.0	81.0	0.80	271	< 0.5	< 0.5	< 0.5	< 0.5
36777	< 0.01	10.0	1.1	< 10	1560	58.0	115	1.90	334	< 0.5	< 0.5	< 0.5	< 0.5
36779	< 0.01	16.4	1.8	< 10	1610	92.0	97.9	1.30	271	< 0.5	< 0.5	< 0.5	< 0.5
36780	< 0.01	12.9	1.3	< 10	1180	76.0	137	0.40	337	< 0.5	< 0.5	< 0.5	< 0.5
36781	< 0.01	4.1	2.1	< 10	484	51.0	93.7	1.00	256	< 0.5	< 0.5	< 0.5	< 0.5
36782	< 0.01	10.0	1.7	< 10	110	55.0	84.0	1.30	200	< 0.5	< 0.5	< 0.5	< 0.5
36783	< 0.01	4.6	1.1	< 10	90.2	45.0	94.4	0.80	115	< 0.5	< 0.5	< 0.5	< 0.5
36784	< 0.01	2.8	1.2	< 10	251	35.0	191	1.80	163	< 0.5	< 0.5	< 0.5	< 0.5
36785	< 0.01	1.8	0.4	< 10	179	18.5	129	0.40	198	< 0.5	< 0.5	< 0.5	< 0.5
36788	< 0.01	12.5	0.6	< 10	125	27.0	148	0.60	638	< 0.5	< 0.5	< 0.5	< 0.5
36789	< 0.01	2.0	1.1	< 10	226	48.0	90.0	0.70	271	< 0.5	< 0.5	< 0.5	< 0.5
36790	< 0.01	6.5	0.8	< 10	103	67.0	185	0.60	287	< 0.5	< 0.5	< 0.5	< 0.5
36791	< 0.01	3.8	0.6	< 10	159	54.0	244	0.50	349	< 0.5	< 0.5	< 0.5	< 0.5
36793	< 0.01	3.5	0.9	< 10	773	44.0	192	0.80	214	< 0.5	< 0.5	< 0.5	< 0.5
36794	< 0.01	1.6	1.1	< 10	794	89.0	159	1.10	285	< 0.5	< 0.5	< 0.5	< 0.5
36795	< 0.01	7.4	0.5	< 10	122	60.0	175	0.50	208	< 0.5	< 0.5	< 0.5	< 0.5
36798	< 0.01	2.8	1.1	< 10	173	35.0	140	0.30	397	< 0.5	< 0.5	< 0.5	< 0.5
36806	< 0.01	3.3	2.2	< 10	570	131	212	1.50	331	< 0.5	< 0.5	< 0.5	< 0.5
36807	< 0.01	1.2	0.6	< 10	119	24.0	132	0.80	126	< 0.5	< 0.5	< 0.5	< 0.5
36810	0.10	1.7	2.1	< 10	93.6	37.0	101	1.10	176	< 0.5	< 0.5	< 0.5	< 0.5
36815	< 0.01	4.9	1.5	< 10	201	30.0	81.3	0.50	215	< 0.5	< 0.5	< 0.5	< 0.5
36816	< 0.01	5.0	1.3	< 10	720	96.0	125	2.00	483	< 0.5	< 0.5	< 0.5	< 0.5
36817	< 0.01	6.6	1.2	< 10	241	75.0	101	1.10	433	< 0.5	< 0.5	< 0.5	< 0.5
36818	< 0.01	10.8	0.6	< 10	577	65.0	83.9	1.70	211	< 0.5	< 0.5	< 0.5	< 0.5
36852	< 0.01	3.5	0.5	< 10	160	31.0	208	0.50	188	< 0.5	< 0.5	< 0.5	< 0.5
36855	< 0.01	3.5	0.7	< 10	156	33.0	126	1.40	197	< 0.5	< 0.5	< 0.5	< 0.5
36856	0.10	13.4	0.8	< 10	439	44.0	251	0.60	282	< 0.5	< 0.5	< 0.5	< 0.5
36857	< 0.01	3.3	0.6	< 10	346	39.0	313	0.30	378	< 0.5	< 0.5	< 0.5	< 0.5
36858	< 0.01	4.7	1.0	< 10	2700	57.0	79.5	1.00	205	< 0.5	< 0.5	< 0.5	< 0.5
36859	< 0.01	3.7	1.1	< 10	222	38.0	125	1.30	214	< 0.5	< 0.5	< 0.5	< 0.5
36860	< 0.01	9.0	1.4	< 10	203	73.0	164	0.80	202	< 0.5	< 0.5	< 0.5	< 0.5
36861	< 0.01	1.4	1.0	< 10	163	37.0	132	0.40	415	< 0.5	< 0.5	< 0.5	< 0.5
36862	< 0.01	4.5	1.0	< 10	200	41.0	282	1.90	388	< 0.5	< 0.5	< 0.5	< 0.5

Activation Laboratories Ltd. Report: A10-4432 (i)

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36863	< 0.01	3.8	1.4	< 10	349	31.0	173	1.10	368	< 0.5	< 0.5	< 0.5	< 0.5
36865	< 0.01	2.8	1.2	< 10	63.8	17.0	287	1.40	142	< 0.5	< 0.5	< 0.5	< 0.5
36868	< 0.01	6.6	0.5	< 10	564	47.0	224	0.90	638	< 0.5	< 0.5	< 0.5	< 0.5

Activation Laboratories Ltd. Report: A10-4432 (i)

Quality Control																									
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
TILL-1 Meas		459		54.3	12.4		3.8	44.2				0.040	0.6	1.70	3.90	56.0	15	185	62	18.0					
TILL-1 Cert		6400.0		99000	18000		2000	7800.0				13	90.0	5600.0	2200.0	18000	24000	47000	98000	22000					
SO-3 Meas				35.6												1.5	2	9	< 5	1.6					
SO-3 Cert				38000												8000	16000	17000	52000	14000					
SO-3 Meas				34.6									0.3			1.9	3	9	< 5	1.6					
SO-3 Cert				38000									17.0			8000	16000	17000	52000	14000					
36758 Orig	4000	123	12	5.4	1.1	2	< 0.1	0.05	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.60	0.40	7.0	10	3	194	3.1	1.0	< 0.05	< 0.1	1.0	
36758 Dup	4000	131	12	5.5	1.1	2	< 0.1	0.04	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.70	0.40	7.2	10	3	197	2.7	1.0	< 0.05	< 0.1	1.0	
36775 Orig	4000	61	6	4.7	0.2	< 1	< 0.1	< 0.01	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.10	0.30	2.1	3	3	110	4.6	< 0.3	< 0.05	< 0.1	1.0	
36775 Dup	5000	59	6	5.9	0.3	< 1	< 0.1	< 0.01	< 0.5	< 0.1	0.010	< 0.005	< 0.1	0.20	0.30	2.7	4	4	112	4.5	< 0.3	< 0.05	< 0.1	1.0	
36785 Orig	2000	16	3	27.4	1.5	< 1	0.4	< 0.01	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.50	0.30	5.5	10	3	67	3.0	1.0	< 0.05	< 0.1	< 0.1	
36785 Dup	2000	17	3	26.2	1.5	< 1	0.5	< 0.01	< 0.5	0.1	< 0.005	< 0.005	< 0.1	0.60	0.30	5.1	9	3	61	2.7	1.0	< 0.05	< 0.1	< 0.1	
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	

Activation Laboratories Ltd. Report: A10-4432 (i)

Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
TILL-1 Meas					640	< 3	16.0	7.2	1.0	0.27	< 0.02	14.6	16.2		18.9	4.40	1.00		0.60			1.60		1.50	
TILL-1 Cert					5990000	65000	38000	502000	10000	13000	700.0	28000	71000		26000	5900.0	1300.0		1100.0			3600.0		3900.0	
SO-3 Meas					420	< 3																			
SO-3 Cert					20000000	26000																			
SO-3 Meas					320	< 3																			
SO-3 Cert					20000000	26000																			
36758 Orig	< 0.01	< 0.2	0.230	< 0.5	120	< 3	1.30	3.4	< 0.1	0.09	< 0.02	2.32	4.70	0.60	2.29	0.50	0.20	0.40	0.10	0.12	< 0.01	0.10	< 0.01	0.10	
36758 Dup	< 0.01	< 0.2	0.220	< 0.5	100	< 3	1.40	3.2	< 0.1	0.10	< 0.02	2.33	4.89	0.70	2.16	0.50	0.20	0.40	0.10	0.14	< 0.01	0.10	< 0.01	0.10	
36775 Orig	< 0.01	< 0.2	0.160	< 0.5	40	< 3	1.40	0.5	< 0.1	0.01	< 0.02	3.12	4.57	0.50	1.85	0.30	0.20	0.30	< 0.01	0.06	< 0.01	0.10	< 0.01	0.10	
36775 Dup	< 0.01	< 0.2	0.180	< 0.5	40	< 3	1.50	0.6	< 0.1	< 0.01	< 0.02	3.73	5.66	0.40	1.47	0.30	0.20	0.30	< 0.01	0.06	< 0.01	0.10	< 0.01	0.10	
36785 Orig	< 0.01	< 0.2	0.070	< 0.5	220	< 3	0.90	1.8	1.0	0.03	0.10	1.58	3.92	0.50	2.39	0.40	0.10	0.30	< 0.01	0.04	< 0.01	0.10	< 0.01	0.10	
36785 Dup	< 0.01	< 0.2	0.070	< 0.5	220	< 3	1.00	1.8	1.0	0.03	0.10	1.80	4.30	0.50	2.20	0.40	0.10	0.30	< 0.01	0.04	< 0.01	0.10	< 0.01	0.10	
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		

Quality Control													
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
TILL-1 Meas	0.20	< 0.5	0.5	< 10	25700	36.0	323	0.20	602				
TILL-1 Cert	600.0	15000	2400.0	13000	1420000	44000	291000	1000.0	702000				
SO-3 Meas					333	87.0	893		71.9				
SO-3 Cert					520000	39000	217000		296000				
SO-3 Meas					420	88.0	909		73.8				
SO-3 Cert					520000	39000	217000		296000				
36758 Orig	< 0.01	6.8	2.1	< 10	120	54.0	194	0.50	291	< 0.5	< 0.5	< 0.5	< 0.5
36758 Dup	< 0.01	6.3	1.8	< 10	126	53.0	193	0.50	287	< 0.5	< 0.5	< 0.5	< 0.5
36775 Orig	< 0.01	3.3	1.5	< 10	203	37.0	153	0.40	445	< 0.5	< 0.5	< 0.5	< 0.5
36775 Dup	< 0.01	3.0	1.6	< 10	208	41.0	161	0.50	459	< 0.5	< 0.5	< 0.5	< 0.5
36785 Orig	< 0.01	2.0	0.5	< 10	182	19.0	131	0.40	195	< 0.5	< 0.5	< 0.5	< 0.5
36785 Dup	< 0.01	1.5	0.4	< 10	176	18.0	127	0.40	200	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Method Blank Method Blank	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5



Date Submitted: 23-Aug-10
Invoice No.: A10-5183 (I)
Invoice Date: 23-Sep-10
Your Reference: STURGEON LAKE

Excailbur Resources Ltd.
Excailbur Resources
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

6 Rock samples and 137 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-5183 (I)

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code SGH Soil Gas Hydrocarbons

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



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Activation Laboratories Ltd. Report: A10-5183 (i)

Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA
36912	< 0.01	5.9	2.0	< 10	192	23.0	207	0.10	359	< 0.5	< 0.5	< 0.5	< 0.5											
36914	< 0.01	14.0	1.0	< 10	879	51.1	204	0.50	524	< 0.5	< 0.5	< 0.5	< 0.5											
36915	< 0.01	12.0	1.0	< 10	222	30.6	191	0.40	242	< 0.5	< 0.5	< 0.5	< 0.5											
36916	0.10	13.0	1.0	< 10	102	32.8	314	0.30	375	< 0.5	< 0.5	< 0.5	< 0.5											
36917	< 0.01	8.9	1.0	< 10	320	28.0	180	0.20	246	< 0.5	< 0.5	< 0.5	< 0.5											
36918	< 0.01	14.0	< 0.1	< 10	2330	13.2	112	0.10	148	< 0.5	< 0.5	< 0.5	< 0.5											
36919	< 0.01	10.0	1.0	< 10	241	26.4	208	0.10	208	< 0.5	< 0.5	< 0.5	< 0.5											
36920	< 0.01	6.3	1.0	< 10	878	18.0	126	1.10	218	< 0.5	< 0.5	< 0.5	< 0.5											
36925	0.10	13.0	3.0	< 10	124	114	307	3.80	484	< 0.5	< 0.5	< 0.5	< 0.5											
36931	< 0.01	7.9	1.0	< 10	257	18.4	134	0.20	228	< 0.5	< 0.5	< 0.5	< 0.5											
36932	< 0.01	10.0	1.0	< 10	288	24.5	188	0.30	280	< 0.5	< 0.5	< 0.5	< 0.5											
36934	< 0.01	11.0	< 0.1	< 10	1450	23.4	173	0.30	199	< 0.5	< 0.5	< 0.5	< 0.5											
36935	< 0.01	7.8	1.0	< 10	750	55.5	197	0.40	215	< 0.5	< 0.5	< 0.5	< 0.5											
36936	< 0.01	13.0	1.0	< 10	250	52.0	256	0.40	506	< 0.5	< 0.5	< 0.5	< 0.5											
36937	< 0.01	5.0	1.0	< 10	3220	37.0	152	0.10	296	< 0.5	< 0.5	< 0.5	< 0.5											
36938	< 0.01	4.4	1.0	< 10	436	66.0	318	0.80	251	< 0.5	< 0.5	< 0.5	< 0.5											
36939	< 0.01	7.1	1.0	< 10	1940	88.8	170	0.50	354	< 0.5	< 0.5	< 0.5	< 0.5											
36940	< 0.01	6.5	< 0.1	< 10	6940	36.9	179	0.30	461	< 0.5	< 0.5	< 0.5	< 0.5											
36984	< 0.01	7.2	2.0	< 10	126	42.9	97.8	0.50	369	< 0.5	< 0.5	< 0.5	< 0.5											
36985	< 0.01	6.6	1.0	< 10	334	50.9	103	0.60	345	< 0.5	< 0.5	< 0.5	< 0.5											
36986	< 0.01	6.4	2.0	< 10	286	30.1	87.7	1.20	249	< 0.5	< 0.5	< 0.5	< 0.5											
36987	< 0.01	15.0	2.0	< 10	238	50.9	152	1.10	359	< 0.5	< 0.5	< 0.5	< 0.5											
36988	< 0.01	12.5	1.0	< 10	1280	73.3	171	0.95	369	< 0.5	< 0.5	< 0.5	< 0.5											
36989	< 0.01	16.0	2.0	< 10	1310	38.3	94.5	0.30	316	< 0.5	< 0.5	< 0.5	< 0.5											
36990	0.10	6.7	2.0	< 10	90.7	26.3	209	0.30	389	< 0.5	< 0.5	< 0.5	< 0.5											
36992	< 0.01	12.0	2.0	< 10	62.3	47.6	54.8	1.10	241	< 0.5	< 0.5	< 0.5	< 0.5											
36993	< 0.01	10.0	1.0	< 10	187	17.1	192	0.40	427	< 0.5	< 0.5	< 0.5	< 0.5											
36994	< 0.01	10.0	1.0	< 10	118	41.3	68.2	0.70	165	< 0.5	< 0.5	< 0.5	< 0.5											
36995	< 0.01	23.0	1.0	< 10	200	62.0	320	0.30	308	< 0.5	< 0.5	< 0.5	< 0.5											
36996	< 0.01	9.0	2.0	< 10	151	71.1	301	0.70	415	< 0.5	< 0.5	< 0.5	< 0.5											
36997	< 0.01	30.0	1.0	< 10	461	28.2	131	0.20	275	< 0.5	< 0.5	< 0.5	< 0.5											
36998	< 0.01	31.0	2.0	< 10	285	95.0	307	0.90	632	< 0.5	< 0.5	< 0.5	< 0.5											
36999	< 0.01	19.0	1.0	< 10	659	38.8	53.9	0.60	204	< 0.5	< 0.5	< 0.5	< 0.5											
37054	< 0.01	4.5	1.0	< 10	2300	90.5	557	1.30	559	< 0.5	< 0.5	< 0.5	< 0.5											
37059	< 0.01	8.9	< 0.1	< 10	20800	85.2	238	0.30	432	< 0.5	< 0.5	< 0.5	< 0.5											
37063	< 0.01	4.5	2.0	< 10	1270	32.2	154	0.40	511	< 0.5	< 0.5	< 0.5	< 0.5											
37064	< 0.01	5.3	2.0	< 10	373	35.7	157	0.40	584	< 0.5	< 0.5	< 0.5	< 0.5											
37065	< 0.01	4.5	1.0	< 10	287	32.9	153	0.40	504	< 0.5	< 0.5	< 0.5	< 0.5											
35821														< 2	< 0.3	51	< 0.3	< 1	< 3	41	106	0.08	5.76	6.5
35822														< 2	< 0.3	34	< 0.3	< 1	10	97	99	< 0.01	5.51	7.8
35823														< 2	0.5	362	< 0.3	< 1	< 3	31	102	0.03	8.55	< 0.5
35824														< 2	< 0.3	16	< 0.3	< 1	< 3	54	50	< 0.01	3.83	< 0.5
35825														< 2	< 0.3	41	< 0.3	< 1	< 3	203	64	0.03	5.26	4.0
35826														< 2	< 0.3	107	< 0.3	< 1	< 3	59	49	0.09	7.28	5.2

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Analyte Symbol	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta
Unit Symbol	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5
Analysis Method	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA

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Analyte Symbol	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta
Unit Symbol	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5
Analysis Method	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA

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35821	390	24	< 2	3.5	9.24	39	51	< 1	2.4	8.55	3	< 1	< 5	0.89	4.67	1370	1.69	0.103	< 15	0.3	18.3	< 3	1190	< 0.5
35822	1400	2	< 2	< 0.5	7.56	40	246	< 1	3.5	6.42	4	< 1	< 5	2.50	4.41	1310	1.84	0.259	99	< 0.1	21.8	< 3	1290	< 0.5
35823	460	< 1	< 2	< 0.5	5.44	25	22	< 1	1.3	4.94	4	< 1	< 5	0.38	1.73	1160	3.56	0.086	< 15	< 0.1	22.7	< 3	261	< 0.5
35824	< 50	< 1	< 2	3.2	3.25	25	131	< 1	0.4	4.63	1	< 1	< 5	0.05	2.36	734	0.84	0.012	< 15	0.4	19.6	< 3	57	< 0.5
35825	< 50	< 1	< 2	< 0.5	7.60	54	495	4	0.4	7.03	< 1	< 1	< 5	0.29	6.03	1360	0.63	0.015	45	0.5	31.7	< 3	76	< 0.5
35826	< 50	< 1	< 2	< 0.5	5.65	23	109	10	0.9	6.19	2	< 1	< 5	0.47	3.28	938	1.56	0.053	< 15	0.2	20.4	< 3	153	< 0.5

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Analyte Symbol	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2	0.05	
Analysis Method	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Activation Laboratories Ltd. Report: A10-5183 (i)

Analyte Symbol	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2	0.05	
Analysis Method	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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35821	0.58	4.0	< 0.5	128	< 1	13	63.8	127	63	9.2	< 0.01	< 0.5	1.5	< 0.05	32.3
35822	0.50	7.2	< 0.5	158	< 1	23	97.9	185	72	15.0	< 0.01	1.5	2.2	< 0.05	28.8
35823	0.34	7.3	< 0.5	94	< 1	22	22.8	43	24	4.3	< 0.01	< 0.5	2.6	0.26	27.0
35824	0.19	0.8	< 0.5	129	< 1	9	1.8	5	< 5	0.9	< 0.01	0.7	1.3	0.05	29.6
35825	0.35	< 0.2	< 0.5	193	< 1	9	2.0	5	< 5	1.1	< 0.01	< 0.5	1.7	0.06	30.0
35826	0.39	1.5	< 0.5	144	< 1	15	9.9	23	< 5	2.3	< 0.01	< 0.5	1.9	0.18	28.4

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Quality Control																								
Analyte Symbol	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
GXR-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
TILL-2 Meas		1020		63.3	21.1		32.0	1.32		3.0		0.021	< 0.1	8.77	9.54	24.6	33	172	125	13.0				
TILL-2 Cert		12200.0		77000	26000		14000	800.0		5000		2	70.0	18400.0	5700.0	15000	32000	150000	130000	31000				
SO-3 Meas				50.2												3.0	8	14	< 5	2.2				
SO-3 Cert				38000												8000	16000	17000	52000	14000				
SO-3 Meas				40.2												2.3	5	12	< 5	0.5				
SO-3 Cert				38000												8000	16000	17000	52000	14000				
SO-3 Meas				43.4												2.1	4	5	< 5	0.4				
SO-3 Cert				38000												8000	16000	17000	52000	14000				
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
36834 Orig	2000	80	16	9.5	3.3	3	1.9	0.28	< 0.5	< 0.1	0.006	< 0.005	< 0.1	0.80	0.51	8.9	16	9	169	3.3	1.0	0.10	< 0.1	1.0
36834 Dup	3000	80	16	9.4	3.2	3	1.9	0.29	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.80	0.52	7.9	16	9	154	3.4	1.0	< 0.05	< 0.1	1.0
36845 Orig	4000	95	25	7.4	1.9	5	2.5	0.43	< 0.5	< 0.1	0.014	< 0.005	< 0.1	0.50	0.62	10.1	21	8	80	4.1	1.0	< 0.05	< 0.1	< 0.1
36845 Dup	5000	93	24	7.2	1.9	5	2.5	0.42	< 0.5	< 0.1	0.013	< 0.005	< 0.1	0.60	0.66	10.3	19	7	84	4.2	< 0.3	< 0.05	< 0.1	< 0.1
36874 Orig	5000	177	29	8.1	2.6	9	1.8	0.44	< 0.5	< 0.1	0.026	< 0.005	< 0.1	0.50	0.28	14.6	23	13	86	4.2	< 0.3	< 0.05	< 0.1	1.0
36874 Dup	5000	180	26	8.1	2.5	10	1.6	0.45	< 0.5	< 0.1	0.028	< 0.005	< 0.1	0.50	0.36	14.8	24	14	79	3.8	< 0.3	< 0.05	< 0.1	1.0
36917 Orig	5000	70	19	14.4	3.5	2	1.0	0.31	< 0.5	< 0.1	0.006	< 0.005	< 0.1	1.20	0.41	10.6	16	8	111	2.9	2.0	< 0.05	< 0.1	1.0
36917 Dup	5000	70	18	14.9	3.5	2	1.2	0.28	< 0.5	< 0.1	0.007	< 0.005	< 0.1	1.20	0.43	10.8	18	7	132	2.9	2.0	< 0.05	< 0.1	1.0
36936 Orig	4000	91	20	19.2	3.1	2	1.8	0.59	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	1.00	0.57	13.8	22	11	66	4.4	2.0	< 0.05	< 0.1	< 0.1
36936 Dup	4000	94	21	20.1	3.3	2	2.2	0.57	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	1.10	0.58	14.4	22	9	65	4.7	2.0	< 0.05	< 0.1	< 0.1
36988 Orig	4000	163	33	11.7	3.0	4	44.0	0.69	< 0.5	< 0.1	0.008	< 0.005	< 0.1	0.80	0.37	23.6	24	12	122	5.9	1.0	< 0.05	< 0.1	< 0.1
36988 Dup	5000	161	29	11.4	2.9	5	35.0	0.66	< 0.5	< 0.1	0.007	< 0.005	< 0.1	0.70	0.31	25.9	28	12	165	5.4	1.0	< 0.05	< 0.1	1.0
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	0.1	< 1	0.9	0.07	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.10	< 0.01	0.3	1	5	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
Method Blank Method Blank	2000	< 1	< 1	< 0.1	0.2	< 1	0.5	0.12	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	0.10	0.02	< 0.2	1	7	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
Method Blank Method Blank	< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1
Method Blank Method Blank																								

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Quality Control																									
Analyte Symbol	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
GXR-1 Meas																									
GXR-1 Cert																									
GXR-4 Meas																									
GXR-4 Cert																									
SDC-1 Meas																									
SDC-1 Cert																									
SCO-1 Meas																									
SCO-1 Cert																									
GXR-6 Meas																									
GXR-6 Cert																									
TILL-2 Meas					1320	< 3	30.9	42.6	5.0	1.40	0.30	26.1	65.5		31.0	7.30	1.70		1.09			3.13	3.10		
TILL-2 Cert					5300000	74000	40000	390000	20000	11000	1900.0	44000	98000		36000	7400.0	1000.0		1200.0			3700.0	3700.0		
SO-3 Meas					320	< 3																			
SO-3 Cert					2000000	26000																			
SO-3 Meas					180	< 3																			
SO-3 Cert					2000000	26000																			
SO-3 Meas					170	< 3																			
SO-3 Cert					2000000	26000																			
DNC-1a Meas																									
DNC-1a Cert																									
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas																									
DMMAS 111 Cert																									
36834 Orig	< 0.01	< 0.2	0.150	< 0.5	160	< 3	0.85	1.9	1.0	0.10	< 0.02	1.93	3.55	0.40	1.59	0.30	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36834 Dup	< 0.01	< 0.2	0.150	< 0.5	140	< 3	0.80	2.0	1.0	0.10	< 0.02	1.85	3.37	0.40	1.55	0.30	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36845 Orig	< 0.01	< 0.2	0.370	< 0.5	180	< 3	1.34	1.5	1.0	0.10	< 0.02	2.75	4.96	0.60	2.49	0.40	0.20	0.40	0.10	< 0.01	< 0.01	0.10	< 0.01	0.10	
36845 Dup	< 0.01	< 0.2	0.340	< 0.5	170	< 3	1.01	1.5	< 0.1	< 0.01	< 0.02	2.47	4.33	0.60	2.11	0.40	0.10	0.40	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36874 Orig	< 0.01	< 0.2	0.340	< 0.5	100	< 3	1.03	1.9	< 0.1	0.10	< 0.02	1.70	3.35	0.40	1.61	0.30	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36874 Dup	< 0.01	< 0.2	0.340	< 0.5	90	< 3	0.83	1.8	< 0.1	0.10	< 0.02	1.62	3.15	0.40	1.29	0.20	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36917 Orig	< 0.01	< 0.2	0.070	< 0.5	410	< 3	0.98	3.2	1.0	0.10	0.10	1.78	3.16	0.40	1.37	0.40	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36917 Dup	< 0.01	< 0.2	0.070	< 0.5	400	< 3	0.82	3.2	1.0	0.10	0.10	1.73	2.99	0.40	1.17	0.30	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36936 Orig	< 0.01	< 0.2	0.230	< 0.5	230	< 3	1.20	3.9	1.0	0.20	< 0.02	1.86	3.75	0.50	1.96	0.40	0.20	0.40	< 0.01	< 0.01	< 0.01	0.20	< 0.01	0.10	
36936 Dup	< 0.01	< 0.2	0.240	< 0.5	230	< 3	1.12	4.0	1.0	0.20	< 0.02	1.86	3.32	0.50	1.72	0.40	0.20	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.20	
36988 Orig	< 0.01	< 0.2	0.370	< 0.5	210	< 3	0.62	2.0	< 0.1	0.10	< 0.02	1.63	3.40	0.40	1.62	0.30	0.10	0.20	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
36988 Dup	< 0.01	< 0.2	0.380	< 0.5	210	< 3	0.68	2.1	1.0	0.10	< 0.02	1.68	3.62	0.40	1.77	0.30	0.10	0.30	< 0.01	< 0.01	< 0.01	0.10	< 0.01	0.10	
Method Blank Method Blank																									
Method Blank Method Blank																									
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	0.2	1.0	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	0.1	1.0	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Method Blank Method Blank	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Method Blank Method Blank																									

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Quality Control																								
Analyte Symbol	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os	Pt	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5	0.5	2	0.3	5	1	0.3	1	3	1	20	1	50
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA
GXR-1 Meas																	31.2	1070	3.3	15	700	43		730
GXR-1 Cert																	31.0	1110	3.30	18.0	730	41.0		760
GXR-4 Meas																	3.5	6560	0.5	313	48	41		70
GXR-4 Cert																	4.00	6520	0.860	310	52.0	42.0		73.0
SDC-1 Meas																	< 0.3	26	< 0.3	< 1	22	37		97
SDC-1 Cert																	0.0410	30.0	0.0800	0.250	25.0	38.0		103
SCO-1 Meas																	< 0.3	27	< 0.3	< 1	29	30		98
SCO-1 Cert																	0.134	28.7	0.140	1.37	31.0	27.0		103
GXR-6 Meas																	0.5	70	0.7	1	94	27		134
GXR-6 Cert																	1.30	66.0	1.00	2.40	101	27.0		118
TILL-2 Meas	0.50	19.0	3.5	30	5200	183	599	5.00	1040															
TILL-2 Cert	600.0	47000	4000.0	12000	780000	143000	144000	12000	540000															
SO-3 Meas						682	97.3	958		99.5														
SO-3 Cert						520000	39000	217000		296000														
SO-3 Meas						483	86.2	838		82.8														
SO-3 Cert						520000	39000	217000		296000														
SO-3 Meas						439	88.4	834		77.3														
SO-3 Cert						520000	39000	217000		296000														
DNC-1a Meas																		98				246		54
DNC-1a Cert																		100				247		70.0
OREAS 13b (4-Acid) Meas																	0.9	2190		7		2160		131
OREAS 13b (4-Acid) Cert																	0.86	2327		9.0		2247		133
DMMAS 111 Meas																								
DMMAS 111 Cert																								
36834 Orig	< 0.01	17.0	1.0	< 10	219	53.4	171	0.50	247	< 0.5	< 0.5	< 0.5	< 0.5											
36834 Dup	< 0.01	17.0	1.0	< 10	203	52.4	169	0.50	247	< 0.5	< 0.5	< 0.5	< 0.5											
36845 Orig	< 0.01	5.4	1.0	< 10	321	49.5	152	0.90	288	< 0.5	< 0.5	< 0.5	< 0.5											
36845 Dup	< 0.01	6.1	1.0	< 10	261	50.0	125	0.80	292	< 0.5	< 0.5	< 0.5	< 0.5											
36874 Orig	< 0.01	8.2	1.0	< 10	344	39.7	97.7	1.10	309	< 0.5	< 0.5	< 0.5	< 0.5											
36874 Dup	< 0.01	8.2	1.0	< 10	360	40.6	95.7	1.10	304	< 0.5	< 0.5	< 0.5	< 0.5											
36917 Orig	< 0.01	9.8	1.0	< 10	323	28.3	185	0.20	247	< 0.5	< 0.5	< 0.5	< 0.5											
36917 Dup	< 0.01	8.0	1.0	< 10	317	27.7	176	0.20	245	< 0.5	< 0.5	< 0.5	< 0.5											
36936 Orig	< 0.01	13.0	1.0	< 10	249	51.4	254	0.40	508	< 0.5	< 0.5	< 0.5	< 0.5											
36936 Dup	< 0.01	13.0	1.0	< 10	251	52.5	259	0.40	505	< 0.5	< 0.5	< 0.5	< 0.5											
36988 Orig	< 0.01	13.0	1.0	< 10	1220	70.5	166	1.00	351	< 0.5	< 0.5	< 0.5	< 0.5											
36988 Dup	< 0.01	12.0	1.0	< 10	1350	76.0	177	0.90	387	< 0.5	< 0.5	< 0.5	< 0.5											
Method Blank Method Blank																	< 0.3	< 1	< 0.3	< 1	< 3	< 1		< 1
Method Blank Method Blank																	< 0.3	< 1	< 0.3	< 1	< 3	< 1		< 1
Method Blank Method Blank	< 0.01	1.9	< 0.1	< 10	9.2	0.2	0.9	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5											
Method Blank Method Blank	< 0.01	0.8	< 0.1	< 10	7.5	0.2	0.8	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5											
Method Blank Method Blank	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5											
Method Blank Method Blank																	< 2	< 5				< 20		< 50

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Quality Control																								
Analyte Symbol	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc
Unit Symbol	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1
Analysis Method	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA
GXR-1 Meas	0.24	2.27			1	1390		0.93									0.05	0.21	905		0.058			
GXR-1 Cert	0.257	3.52			1.22	1380		0.960									0.0500	0.217	852		0.0650			
GXR-4 Meas	1.79	6.85			2	10		1.12									3.50	1.70	149		0.130			
GXR-4 Cert	1.77	7.20			1.90	19.0		1.01									4.01	1.66	155		0.120			
SDC-1 Meas	0.06	7.99			3	< 2		1.14									2.61	0.98	869		0.051			
SDC-1 Cert	0.0650	8.34			3.00	2.60		1.00									2.72	1.02	883		0.0690			
SCO-1 Meas		7.45			2	< 2		2.04									2.44	1.60	393		0.081			
SCO-1 Cert		7.24			1.84	0.370		1.87									2.30	1.64	410		0.0900			
GXR-6 Meas	0.01	13.3			1	< 2		0.17									1.90	0.60	1140		0.037			
GXR-6 Cert	0.0160	17.7			1.40	0.290		0.180									1.87	0.609	1010		0.0350			
TILL-2 Meas																								
TILL-2 Cert																								
SO-3 Meas																								
SO-3 Cert																								
SO-3 Meas																								
SO-3 Cert																								
SO-3 Meas																								
SO-3 Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas	1.10																							
OREAS 13b (4-Acid) Cert	1.20																							
DMMAS 111 Meas			1360	1020					34	53			2.80							1.89				5.7
DMMAS 111 Cert			1450	1140					34	52			2.79							1.87				5.80
36834 Orig																								
36834 Dup																								
36845 Orig																								
36845 Dup																								
36874 Orig																								
36874 Dup																								
36917 Orig																								
36917 Dup																								
36936 Orig																								
36936 Dup																								
36988 Orig																								
36988 Dup																								
Method Blank Method Blank	< 0.01	< 0.01			< 1	< 2		< 0.01									< 0.01	< 0.01	4		< 0.001			
Method Blank Method Blank	< 0.01	< 0.01			< 1	< 2		< 0.01									< 0.01	< 0.01	5		< 0.001			
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank			< 0.5	< 50			< 0.5		< 1	< 2	< 1	< 0.2	< 0.01	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1

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Quality Control																		
Analyte Symbol	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g
Detection Limit	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2	0.05	
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		296					89		28									
GXR-1 Cert		275					80.0		32.0									
GXR-4 Meas		211					91		13									
GXR-4 Cert		221					87.0		14.0									
SDC-1 Meas		168		0.08			31		31									
SDC-1 Cert		183		0.606			102		40.0									
SCO-1 Meas		163		0.31			130		19									
SCO-1 Cert		174		0.380			131		26.0									
GXR-6 Meas		38					165		12									
GXR-6 Cert		35.0					186		14.0									
TILL-2 Meas																		
TILL-2 Cert																		
SO-3 Meas																		
SO-3 Cert																		
SO-3 Meas																		
SO-3 Cert																		
SO-3 Meas																		
SO-3 Cert																		
DNC-1a Meas		128					145		14									
DNC-1a Cert		144					148		18.0									
OREAS 13b (4-Acid) Meas																		
OREAS 13b (4-Acid) Cert																		
DMMAS 111 Meas						14.3				13.6	23		1.8					
DMMAS 111 Cert						14.00				14.00	19.30		1.90					
36834 Orig																		
36834 Dup																		
36845 Orig																		
36845 Dup																		
36874 Orig																		
36874 Dup																		
36917 Orig																		
36917 Dup																		
36936 Orig																		
36936 Dup																		
36988 Orig																		
36988 Dup																		
Method Blank Method Blank		< 1		< 0.01			< 2		< 1									
Method Blank Method Blank		< 1		< 0.01			< 2		< 1									
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1	< 0.01	< 0.5	< 0.2	< 0.05	30.0



Date Submitted: 24-Aug-10
Invoice No.: A10-5266
Invoice Date: 30-Sep-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

48 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-5266

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 4C (1-10) Whole Rock Analysis-XRF

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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+1 888 228 5227 FAX +1 905 648 9613
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Analyte Symbol	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total
Unit Symbol	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01
Analysis Method	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
30000	0.22	1.72	52.61	16.34	10.01	0.291	3.84	10.12	3.05	0.26	1.01	0.07	0.04	0.058	1.49	99.19
30001	0.38	1.95	51.27	13.93	13.68	0.204	4.44	9.07	2.78	0.33	1.39	0.25	0.01	0.057	1.60	99.01
30002	0.28	1.64														
30003	0.25	1.76														
30004	0.14	1.85														
30005	0.15	1.62														
30006	0.18	1.67														
30007	0.25	1.91														
30008	0.21	1.60														
30009	0.16	1.61														
30010	0.23	1.64														
30011	0.23	1.65														
30012	0.25	1.73														
30013	0.23	1.81														
30014	0.49	1.83														
30015	0.07	1.87	48.02	14.41	10.24	0.170	10.21	11.62	1.97	0.38	0.49	0.04	0.08	0.044	1.71	99.38
35827	0.68	1.62														
35828	0.48	1.58														
35829	< 0.05	2.22														
35830	0.10	1.94														
35831	0.07	2.17														
35832	< 0.05	1.81														
35833	0.14	1.77														
35834	0.07	1.78														
35835	< 0.05	2.20														
35836	0.10	2.01														
35837	0.33	1.91														
35838	0.13	1.86														
30016	0.23	1.58														
30017	0.20	1.68														
30018	0.22	1.65														
30019	0.24	1.34														
30020	0.17	1.79														
30021	0.08	1.61														
30022	0.06	1.82														
30023	0.28	1.71														
30024	0.17	1.64														
30025	0.18	1.77														
30026	< 0.05	1.85														
30027	0.18	1.87														
30028	0.17	1.65														
30029	0.10	1.85														
30030	< 0.05	1.59	65.80	15.45	3.72	0.040	1.15	4.26	4.52	2.02	0.70	0.18	< 0.01	0.013	0.98	98.83
35840	0.09	1.48														
35841	0.10	1.68														
35842	< 0.05	1.80														
35843	0.15	1.59														
35844	0.17	1.61														

Activation Laboratories Ltd. Report: A10-5266

Quality Control

Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas	3290	31.9	34	1180	3.1	15	735	46	< 20	734	790	0.25	2.45	430	810	1	1410	< 0.5	0.96	9	12	< 1	< 0.2	23.6
GXR-1 Cert	3300	31.0	31.0	1110	3.30	18.0	730	41.0	41.0	760	760	0.257	3.52	427	750	1.22	1380	0.500	0.960	8.20	12.0	3.00	0.690	23.6
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas		3.5		6270	0.4	310	43	42		74		1.78	7.76			2	9		1.14					
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0		1.01					
CZN-3 Meas			41								> 100000													
CZN-3 Cert			45								509000													
SDC-1 Meas	< 0.3			28	< 0.3	< 1	21	35		101		0.06	9.10			3	5		1.17					
SDC-1 Cert	0.0410			30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60		1.00					
SCO-1 Meas	< 0.3			27	< 0.3	< 1	26	29		100			8.20			2	< 2		2.11					
SCO-1 Cert	0.134			28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370		1.87					
GXR-6 Meas		0.4		58	0.3	2	74	24		108		< 0.01	5.68			1	< 2		0.16					
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290		0.180					
BE-N Meas																								
BE-N Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
MP-1b Meas			47								> 100000			23200										7.49
MP-1b Cert			47.0								166700.00			23000.00										8.19
DNC-1a Meas				98				248		55														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		1.0		2450		8		2150		104		1.15												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 111 Meas	1720													1460	1080					40	53			2.97
DMMAS 111 Cert	1670													1450	1140					34	52			2.79
30005 Orig	< 0.3			153	< 0.3	< 1	< 3	78		119		4.60	5.93			< 1	< 2		5.71					
30005 Dup	< 0.3			158	0.5	< 1	< 3	79		121		4.67	6.29			< 1	< 2		5.82					
35830 Orig	< 0.3			34	< 0.3	< 1	7	32		35		10.4	4.30			< 1	< 2		1.39					
35830 Dup	0.3			32	< 0.3	< 1	7	33		36		11.6	4.29			< 1	< 2		1.40					
30017 Orig	< 2	< 0.3	< 5	77	< 0.3	< 1	< 3	113	< 20	70	180	0.11	6.76	< 0.5	< 50	< 1	< 2	3.7	6.52	59	36	< 1	0.7	7.60
30017 Split	< 2	< 0.3	< 5	74	< 0.3	< 1	< 3	111	< 20	69	130	0.13	6.65	< 0.5	< 50	< 1	< 2	< 0.5	6.40	63	41	< 1	0.6	7.80
30028 Orig	< 0.3			38	0.5	< 1	< 3	48		67		0.19	6.25			< 1	< 2		7.80					
30028 Dup	< 0.3			39	0.3	< 1	5	48		66		0.18	6.35			< 1	< 2		7.90					
Method Blank Method Blank	< 0.3			< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2		< 0.01					
Method Blank Method Blank	< 0.3			< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2		< 0.01					
Method Blank Method Blank	< 0.3			< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2		< 0.01					
Method Blank Method Blank	< 0.3			< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2		< 0.01					
Method Blank Method Blank	< 2	< 0.3	< 5		< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2		< 0.01					
Method Blank Method Blank	< 2	< 0.3	< 5		< 0.3	< 1	< 3	< 1	< 20		< 50			< 0.5	< 50			< 0.5		< 1	< 2	< 1	< 0.2	< 0.01

Activation Laboratories Ltd. Report: A10-5266

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas	< 1	< 1		0.05	0.21	908	0.05	0.060	52	123	2.0	< 3	288	< 0.5		2.3	34.2	85	186	28	8.5	23	10	2.8
GXR-1 Cert	0.960	3.90		0.0500	0.217	852	0.0520	0.0650	14.0	122	1.58	16.6	275	0.175		2.44	34.9	80.0	164	32.0	7.50	17.0	18.0	2.70
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas				3.09	1.71	149		0.134					212					89		14				
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0		14.0				
CZN-3 Meas																								
CZN-3 Cert																								
SDC-1 Meas				3.11	1.00	880		0.056					171		0.10			33		33				
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102		40.0				
SCO-1 Meas				2.65	1.61	416		0.087					164		0.36			135		20				
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131		26.0				
GXR-6 Meas				1.23	0.21	834		0.016					27					178		2				
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186		14.0				
BE-N Meas																								
BE-N Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
MP-1b Meas										52.8									1110					
MP-1b Cert										54.0									1100.000					
DNC-1a Meas													132					147		15				
DNC-1a Cert													144					148		18.0				
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas							1.92				6.2						14.6				15.3	30		2.3
DMMAS 111 Cert							1.87				5.80						14.00				14.00	19.30		1.90
30005 Orig				0.28	1.45	1430		0.025					93		0.43			212		12				
30005 Dup				0.29	1.50	1450		0.025					97		0.44			219		13				
35830 Orig				0.48	0.47	652		0.018					106		0.07			21		4				
35830 Dup				0.50	0.48	669		0.020					109		0.08			24		4				
30017 Orig	1	< 1	< 5	0.41	5.27	1350	1.64	0.023	< 15	< 0.1	32.7	< 3	134	< 0.5	0.36	1.0	< 0.5	200	< 1	12	6.3	13	< 5	1.7
30017 Split	1	< 1	< 5	0.40	5.17	1330	1.76	0.023	< 15	< 0.1	34.6	< 3	132	< 0.5	0.36	0.9	< 0.5	194	< 1	12	6.6	14	< 5	1.9
30028 Orig				0.44	2.85	3260		0.026					97		0.40			210		14				
30028 Dup				0.44	2.89	3340		0.026					97		0.41			217		15				
Method Blank Method Blank				< 0.01	< 0.01	4		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank				< 0.01	< 0.01	2		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank				< 0.01	< 0.01	1		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank				< 0.01	< 0.01	7		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank				< 0.01	< 0.01	2		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1

Activation Laboratories Ltd. Report: A10-5266

Quality Control																		
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	
Unit Symbol	%	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.01	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003
Analysis Method	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
GXR-1 Meas	< 0.01	0.8	2.2	0.29														
GXR-1 Cert	0.00540	0.830	1.90	0.280														
DNC-1 Meas						46.97	18.13	10.07	0.153	10.02	11.36	1.98	0.24	0.48	0.08			
DNC-1 Cert						47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			
MICA-FE Meas						34.38	19.18	25.82	0.345	4.60	0.46	0.31	8.77	2.51	0.40		0.02	0.020
MICA-FE Cert						34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.01	0.024	
GXR-4 Meas																		
GXR-4 Cert																		
CZN-3 Meas																		
CZN-3 Cert																		
SDC-1 Meas																		
SDC-1 Cert																		
SCO-1 Meas																		
SCO-1 Cert																		
GXR-6 Meas																		
GXR-6 Cert																		
BE-N Meas						38.12	9.92		0.198	12.88	14.01	3.14	1.40	2.70	1.02	0.06	0.038	
BE-N Cert						38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0500	0.042	
MICA-Mg Meas						38.18	15.06	9.38	0.242	19.83	0.04	0.19	10.00	1.59	0.02	0.02		
MICA-Mg Cert						38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	1.63	0.01	0.01		
MP-1b Meas	1.38																	
MP-1b Cert	1.610																	
DNC-1a Meas																		
DNC-1a Cert																		
OREAS 13b (4-Acid) Meas																		
OREAS 13b (4-Acid) Cert																		
DMMAS 111 Meas																		
DMMAS 111 Cert																		
30005 Orig																		
30005 Dup																		
35830 Orig																		
35830 Dup																		
30017 Orig	< 0.01	< 0.5	1.7	0.20	1.68													
30017 Split	< 0.01	< 0.5	1.6	0.21	1.63													
30028 Orig																		
30028 Dup																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank																		
Method Blank Method Blank						< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	
Method Blank Method Blank																		
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	1.00													



Date Submitted: 02-Sep-10
Invoice No.: A10-5685-1H
Invoice Date: 05-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

229 Rock samples and 33 Soil samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-5685-1H

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd.

Report: A10-5685-1H

Table with columns: Analyte Symbol, Unit Symbol, Detection Limit, Analysis Method, Au, Ag, Cu, Cd, Mo, Pb, Ni, Zn, S, Al, As, Ba, Be, Bi, Br, Ca, Co, Cr, Cs, Eu, Fe, Hf, Hg, Ir. Rows include sample numbers 30142 through 30192 and their corresponding elemental concentrations and detection limits.

Activation Laboratories Ltd. Report: A10-5685-1H

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
35845	< 2	0.4	36	1.3	< 1	15	36	41	13.0	3.16	10.5	120	< 1	< 2	< 0.5	0.91	2	19	3	< 0.2	23.0	1	< 1	< 5
35846	63	< 0.3	159	1.0	< 1	< 3	19	54	0.92	6.35	< 0.5	630	1	< 2	4.1	2.96	19	29	24	0.7	13.4	3	< 1	< 5
35847	< 2	0.4	47	0.6	< 1	5	30	84	0.68	6.87	12.2	400	< 1	< 2	5.0	2.34	22	44	3	0.5	6.75	3	< 1	< 5
35848	11	< 0.3	92	0.9	< 1	< 3	52	52	0.39	7.06	3.7	< 50	< 1	< 2	4.9	7.02	35	179	1	0.5	14.7	< 1	< 1	< 5
35849	< 2	< 0.3	65	0.5	< 1	< 3	45	106	2.61	7.60	4.0	< 50	1	< 2	20.4	10.2	45	50	< 1	0.4	6.64	2	< 1	< 5

Activation Laboratories Ltd. Report: A10-5685-1H

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
35849	1.77	0.49	454	0.08	0.032	36	< 0.1	18.9	< 3	22	< 0.5	0.32	1.7	< 0.5	141	< 1	12	10.3	20	9	1.6	< 0.01	< 0.5	1.2

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30040	0.23	33.9
30041	0.20	35.1
30042	0.22	33.4
30043	0.35	38.2
30044	0.28	36.1
30045	0.33	34.5
30046	0.30	36.5
30047	0.19	35.4
30048	0.23	33.2
30049	0.25	30.8
30050	0.19	33.0
30051	0.20	34.8
30052	0.20	31.9
30053	0.10	31.6
30054	0.16	34.9
30055	0.19	36.8
30056	0.22	40.4
30057	0.22	35.7
30058	0.18	35.3
30059	0.31	28.5
30060	0.17	41.0
30061	0.20	36.4
30062	0.15	36.7
30063	0.11	35.3
30064	0.15	32.5
30065	0.10	32.6
30066	0.15	36.3
30067	0.19	30.1
30068	0.07	33.9
30069	0.15	26.0
30070	0.09	29.3
30071	0.06	31.3
30072	0.06	31.2
30073	0.09	30.2
30074	0.08	31.3
30075	0.13	31.0
30076	0.14	25.9
30077	0.17	29.1
30078	0.06	27.0
30079	0.21	25.1
30080	0.07	29.2
30081	0.09	27.6
30082	0.13	24.4
30083	0.15	25.7
30084	0.16	25.5
30085	0.10	26.1
30086	0.08	26.4
30087	0.12	23.5
30088	< 0.05	27.2
30089	0.09	26.3
30090	0.14	26.9
30091	< 0.05	27.3

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30092	0.11	28.2
30093	0.18	26.7
30094	0.23	26.6
30095	0.12	26.7
30096	0.18	26.2
30097	0.15	26.2
30098	0.16	30.1
30099	0.07	27.7
30100	0.06	27.7
30101	0.06	27.5
30102	0.18	30.8
30103	0.21	27.2
30104	0.19	28.5
30105	0.16	29.0
30106	0.20	33.5
30107	0.15	32.3
30108	0.10	32.6
30109	0.25	31.4
30110	0.21	27.2
30111	0.28	36.5
30112	0.33	25.5
30113	0.38	33.3
30114	0.43	29.1
30115	0.37	29.7
30116	0.23	28.4
30117	0.14	35.6
30118	0.17	28.0
30119	0.37	31.7
30120	0.13	33.6
30121	0.33	29.9
30122	0.12	33.4
30123	0.23	27.7
30124	0.24	29.7
30125	0.23	37.4
30126	0.30	32.8
30127	0.20	33.0
30128	0.15	35.9
30129	0.05	31.6
30130	0.28	29.7
30131	0.17	30.3
30132	0.17	28.0
30133	0.10	28.3
30134	0.16	30.7
30135	0.07	33.9
30136	0.12	31.2
30137	0.31	33.4
30138	0.27	31.0
30139	0.19	28.2
30140	0.54	26.2
30141	0.30	28.9
30142	0.13	28.8
30143	0.13	29.1

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30144	0.12	30.0
30145	0.21	30.2
30146	0.22	25.8
30147	0.21	28.0
30148	0.23	28.4
30149	0.27	30.8
30150	0.13	28.6
30151	0.51	29.7
30152	0.66	30.3
30153	0.72	31.0
30154	0.44	29.8
30155	0.36	34.5
30156	0.70	35.2
30157	0.57	29.0
30158	0.42	32.3
30159	0.56	22.7
30160	0.36	33.3
30161	0.36	31.7
30162	0.17	31.6
30163	0.13	30.9
30164	0.39	29.8
30165	0.26	33.7
30166	0.17	28.6
30167	0.25	31.7
30168	0.28	29.6
30169	0.61	33.4
30170	0.67	31.0
30171	0.21	30.7
30172	0.14	32.5
30173	0.09	31.1
30174	0.26	31.3
30175	0.11	31.0
30176	0.22	30.0
30177	0.18	30.3
30178	< 0.05	31.3
30179	0.22	25.4
30180	0.16	34.2
30181	0.13	31.3
30182	0.13	31.5
30183	0.13	37.2
30184	0.23	29.4
30185	0.25	30.6
30186	0.10	31.1
30187	0.08	28.4
30188	0.11	30.9
30189	< 0.05	27.8
30190	0.08	1.67
30191	0.11	31.6
30192	0.13	31.6
30193	0.11	31.1
30194	0.14	24.1
30195	0.30	32.2

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30196	0.10	33.3
30197	0.14	31.0
30198	0.15	28.5
30199	0.23	24.1
30200	0.18	28.5
30201	0.14	29.2
30202	0.12	30.0
30203	0.12	32.0
30204	0.12	31.8
30205	0.16	33.0
30206	0.14	30.0
30207	0.11	30.9
30208	0.17	31.7
30209	0.24	27.2
30210	0.17	29.2
30211	0.23	27.5
30212	0.26	27.8
30213	0.20	30.4
30214	0.16	29.8
30215	0.29	30.9
30216	0.24	30.9
30217	0.22	30.9
30218	0.23	28.7
30219	0.32	24.7
30240	0.22	26.9
30241	0.28	26.1
30242	0.17	31.4
30243	0.13	31.7
30244	0.18	30.9
30245	0.25	29.0
30246	0.16	33.0
30247	0.21	32.9
30248	0.23	29.1
30249	0.12	29.1
30250	0.15	30.8
30251	0.10	30.2
30252	0.09	28.4
30253	0.10	27.1
30254	0.10	30.9
30255	< 0.05	31.3
30256	0.07	32.5
30257	< 0.05	33.5
30258	0.06	30.6
30259	0.26	26.0
30260	< 0.05	29.5
30261	0.07	31.5
30262	0.07	29.8
35839	0.38	23.9
35845	0.07	2.11
35846	0.41	29.9
35847	0.17	25.0
35848	0.08	32.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
35849	< 0.05	31.5

Activation Laboratories Ltd. Report: A10-5685-1H

Quality Control																										
Analyte Symbol	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	K	Mg	Mn	P	Sr	Ti	V	Y	Au	Ag	Ni	Zn		
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	%	%	ppm	%	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm		
Detection Limit	0.3	1	0.3	1	3	1	1	0.01	0.01	1	2	0.01	0.01	0.01	1	0.001	1	0.01	2	1	2	5	20	50		
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	INAA	INAA		
30130 Orig																					< 2	< 5	< 20	< 50		
30130 Split	< 0.3	43	0.4	< 1	12	183	84	0.15	7.04	1	< 2	6.50	0.88	4.49	1050	0.150	757	0.52	149	15	< 2	< 5	< 20	< 50		
30136 Orig	0.4	20	0.6	< 1	5	18	49	1.02	5.43	2	< 2	0.91	1.75	1.06	1180	0.048	71	0.12	29	6						
30136 Dup	0.4	19	0.6	< 1	6	17	50	1.05	4.99	2	3	0.89	1.71	1.03	1170	0.047	69	0.11	28	6						
30157 Orig	< 0.3	78	0.4	< 1	< 3	161	56	0.25	5.90	< 1	< 2	7.57	0.66	3.68	2720	0.058	232	0.35	209	23						
30157 Dup	< 0.3	71	0.5	< 1	< 3	168	55	0.26	5.99	< 1	< 2	7.70	0.68	3.74	2730	0.061	233	0.43	243	24						
30160 Orig																					421	< 5	< 20	< 50		
30160 Split	< 0.3	93	0.6	< 1	< 3	34	47	0.74	6.05	< 1	< 2	7.17	0.27	2.33	2100	0.028	105	0.40	284	17	420	< 5	< 20	60		
30171 Orig	< 0.3	15	0.4	< 1	< 3	77	39	0.08	6.25	< 1	< 2	7.72	0.34	3.52	2780	0.049	178	0.41	241	19						
30171 Dup	< 0.3	15	0.5	< 1	< 3	78	41	0.08	6.23	< 1	< 2	7.66	0.34	3.51	2730	0.049	179	0.41	239	19						
30184 Orig	< 0.3	134	0.5	< 1	3	74	151	1.59	5.79	< 1	< 2	6.38	0.32	1.60	3060	0.036	181	0.50	206	18						
30184 Dup	0.3	159	0.6	< 1	5	83	170	1.96	6.86	< 1	< 2	7.14	0.37	1.82	3420	0.039	205	0.49	219	21						
30190 Orig																					16	< 5	< 20	< 50		
30190 Split	0.8	835	1.1	< 1	4	96	85	5.09	4.45	< 1	< 2	4.23	0.22	1.73	948	0.023	137	0.30	209	9	13	< 5	< 20	< 50		
30190 Split	0.8	835	1.1	< 1	4	96	85	5.09	4.45	< 1	< 2	4.23	0.22	1.73	948	0.023	137	0.30	209	9						
30198 Orig	< 0.3	128	0.4	< 1	4	67	124	1.50	4.92	< 1	< 2	5.69	1.22	1.82	3470	0.032	155	0.23	101	13						
30198 Dup	< 0.3	124	0.5	< 1	4	68	122	1.48	4.83	< 1	< 2	5.62	1.20	1.79	3260	0.032	153	0.23	99	13						
30219 Orig	< 0.3	4	< 0.3	< 1	38	2	21	0.01	7.08	3	< 2	0.95	3.11	0.07	215	0.003	75	0.03	3	17	< 2	< 5	< 20	< 50		
30219 Split	< 0.3	4	< 0.3	< 1	38	3	20	0.01	7.13	3	< 2	0.93	3.09	0.07	226	0.003	75	0.03	3	17	< 2	< 5	< 20	< 50		
30219 Orig	< 0.3	4	< 0.3	< 1	38	1	21	0.01	7.03	3	< 2	0.94	3.02	0.07	216	0.003	74	0.03	3	17						
30219 Dup	< 0.3	4	< 0.3	< 1	37	2	21	0.01	7.14	3	< 2	0.95	3.20	0.07	214	0.003	76	0.03	3	17						
30253 Orig	< 0.3	23	0.6	< 1	< 3	10	125	0.31	7.93	< 1	< 2	5.33	0.48	2.12	1470	0.033	223	0.22	107	16						
30253 Dup	< 0.3	23	0.6	< 1	< 3	13	129	0.31	7.90	< 1	< 2	5.34	0.48	2.13	1460	0.033	224	0.20	101	16						
35849 Orig	< 0.3	65	0.5	< 1	< 3	45	106	2.61	7.60	1	< 2	10.2	1.77	0.49	454	0.032	22	0.32	141	12	< 2	< 5	< 20	110		
35849 Split	< 0.3	63	0.5	< 1	< 3	44	105	2.53	7.59	1	< 2	10.3	1.75	0.49	453	0.032	22	0.32	140	11	< 2	< 5	< 20	140		
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	< 1	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	1	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	6	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	5	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	4	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	6	< 0.001	< 1	< 0.01	< 2	< 1						
Method Blank Method Blank																						< 2	< 5	< 20	< 50	
Method Blank Method Blank																							< 2	< 5	< 20	< 50
Method Blank Method Blank	< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1	< 2	< 0.01	< 0.01	< 0.01	9	< 0.001	< 1	< 0.01	< 2	< 1						

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Quality Control																								
Analyte Symbol	As	Ba	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U	W	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	50	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas	426	750	< 0.5	8	13	3	0.9	24.0	< 1	3		0.04	< 15	129	1.5	18	< 0.5	2.0	35.0	164	7.5	19	12	1.7
GXR-1 Cert	427	750	0.500	8.20	12.0	3.00	0.690	23.6	0.960	3.90		0.0520	14.0	122	1.58	16.6	0.175	2.44	34.9	164	7.50	17.0	18.0	2.70
GXR-1 Meas																								
GXR-1 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
CZN-3 Meas																								
CZN-3 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
MP-1b Meas	22100							8.21						53.8						1110				
MP-1b Cert	23000.00							8.19						54.0						1100.000				
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas	1510	1230		36	54			3.01				1.93			6.3				16.4		15.2	16		1.8
DMMAS 111 Cert	1450	1140		34	52			2.79				1.87			5.80				14.00		14.00	19.30		1.90
DMMAS 111 Meas	1610	1140		38	64			3.14				1.88			6.2				20.9		14.3	27		1.9
DMMAS 111 Cert	1450	1140		34	52			2.79				1.87			5.80				14.00		14.00	19.30		1.90
30053 Orig																								
30053 Dup																								
30066 Orig																								
30066 Dup																								
30070 Orig	48.0	330	2.3	19	50	3	1.1	4.01	3	< 1	< 5	2.87	58	0.7	9.3	< 3	< 0.5	5.5	< 0.5	< 1	32.4	66	22	4.0
30070 Split	48.2	440	< 0.5	19	43	2	1.2	4.00	3	< 1	< 5	2.91	56	0.5	9.1	< 3	< 0.5	5.4	< 0.5	< 1	31.4	64	24	4.5
30087 Orig																								
30087 Dup																								
30090 Orig	36.3	430	< 0.5	15	20	2	0.6	2.78	3	< 1	< 5	2.17	56	0.6	6.9	< 3	< 0.5	3.4	1.2	< 1	14.8	30	11	2.0
30090 Split	25.9	390	< 0.5	14	19	2	0.7	2.81	3	< 1	< 5	2.11	58	0.6	6.7	< 3	< 0.5	3.2	1.2	< 1	14.9	30	9	2.3
30100 Orig	141	< 50	< 0.5	9	11	1	0.5	2.73	3	< 1	< 5	2.94	< 15	< 0.1	6.8	< 3	< 0.5	2.2	< 0.5	< 1	11.1	23	9	1.6
30100 Split	143	260	< 0.5	9	12	1	0.7	2.54	2	< 1	< 5	2.90	45	< 0.1	6.3	< 3	< 0.5	2.0	1.0	< 1	11.0	21	7	1.6
30101 Orig																								
30101 Dup																								
30122 Orig																								
30122 Dup																								

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Quality Control																								
Analyte Symbol	As	Ba	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U	W	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	50	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30130 Orig	13.9	480	< 0.5	40	339	12	1.9	6.29	3	< 1	< 5	2.20	52	5.5	22.6	< 3	< 0.5	7.4	< 0.5	< 1	53.6	104	41	7.2
30130 Split	13.2	450	< 0.5	39	348	14	2.0	6.30	4	< 1	< 5	2.13	53	5.0	22.7	< 3	< 0.5	7.7	< 0.5	< 1	53.4	109	39	7.4
30136 Orig																								
30136 Dup																								
30157 Orig																								
30157 Dup																								
30160 Orig	34.2	< 50	< 0.5	39	11	< 1	0.5	7.60	1	< 1	< 5	0.97	< 15	0.5	37.7	< 3	< 0.5	0.9	< 0.5	< 1	3.6	10	6	1.5
30160 Split	34.5	< 50	< 0.5	37	12	< 1	0.6	7.85	1	< 1	< 5	0.92	< 15	0.3	38.8	< 3	< 0.5	1.0	< 0.5	< 1	3.5	10	7	1.8
30171 Orig																								
30171 Dup																								
30184 Orig																								
30184 Dup																								
30190 Orig	6.0	< 50	< 0.5	52	28	< 1	0.4	18.7	1	< 1	< 5	1.32	< 15	3.3	28.4	< 3	< 0.5	0.7	< 0.5	< 1	3.8	8	< 5	1.2
30190 Split	7.1	< 50	< 0.5	52	26	< 1	0.4	18.7	< 1	< 1	< 5	1.31	< 15	3.1	28.2	< 3	< 0.5	1.4	< 0.5	< 1	3.6	9	< 5	1.2
30190 Split																								
30198 Orig																								
30198 Dup																								
30219 Orig	1.1	250	< 0.5	< 1	10	4	0.4	0.76	2	< 1	< 5	2.77	203	0.3	2.2	< 3	2.9	12.5	16.4	< 1	6.3	12	< 5	1.2
30219 Split	1.5	220	< 0.5	< 1	9	4	0.3	0.63	2	< 1	< 5	2.84	205	< 0.1	2.0	< 3	2.9	13.1	14.5	< 1	5.9	13	< 5	1.4
30219 Orig																								
30219 Dup																								
30253 Orig																								
30253 Dup																								
35849 Orig	4.0	< 50	20.4	45	50	< 1	0.4	6.64	2	< 1	< 5	0.08	36	< 0.1	18.9	< 3	< 0.5	1.7	< 0.5	< 1	10.3	20	9	1.6
35849 Split	5.0	< 50	18.5	46	51	< 1	0.6	6.97	2	< 1	< 5	0.09	37	0.2	18.8	< 3	< 0.5	1.9	< 0.5	< 1	10.3	21	9	2.1
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank	< 0.5	< 50	< 0.5	< 1	< 2	< 1	< 0.2	< 0.01	< 1	< 1	< 5	< 0.01	< 15	< 0.1	< 0.1	< 3	< 0.5	< 0.2	< 0.5	< 1	< 0.5	< 3	< 5	< 0.1
Method Blank Method Blank	1.5	< 50	0.6	< 1	< 2	< 1	< 0.2	< 0.01	< 1	< 1	< 5	< 0.01	< 15	< 0.1	0.1	< 3	< 0.5	< 0.2	< 0.5	< 1	< 0.5	< 3	< 5	< 0.1
Method Blank Method Blank																								

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas	< 0.01	< 0.5	1.8	0.43	
GXR-1 Cert	0.00540	0.830	1.90	0.280	
GXR-1 Meas					
GXR-1 Cert					
GXR-4 Meas					
GXR-4 Cert					
GXR-4 Meas					
GXR-4 Cert					
CZN-3 Meas					
CZN-3 Cert					
SDC-1 Meas					
SDC-1 Cert					
SDC-1 Meas					
SDC-1 Cert					
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
GXR-6 Meas					
GXR-6 Cert					
MP-1b Meas	1.61				
MP-1b Cert	1.610				
DNC-1a Meas					
DNC-1a Cert					
DNC-1a Meas					
DNC-1a Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
30053 Orig					
30053 Dup					
30066 Orig					
30066 Dup					
30070 Orig	< 0.01	< 0.5	1.5	0.09	29.3
30070 Split	< 0.01	< 0.5	1.2	0.08	26.0
30087 Orig					
30087 Dup					
30090 Orig	< 0.01	< 0.5	1.0	0.14	26.9
30090 Split	< 0.01	< 0.5	1.1	0.18	25.2
30100 Orig	< 0.01	< 0.5	1.0	0.06	27.7
30100 Split	< 0.01	< 0.5	0.9	< 0.05	28.2
30101 Orig					
30101 Dup					
30122 Orig					
30122 Dup					

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA
30130 Orig	< 0.01	< 0.5	1.7	0.28	29.7
30130 Split	< 0.01	< 0.5	1.4	< 0.05	29.3
30136 Orig					
30136 Dup					
30157 Orig					
30157 Dup					
30160 Orig	< 0.01	0.8	2.3	0.36	33.3
30160 Split	< 0.01	0.6	2.0	0.13	28.9
30171 Orig					
30171 Dup					
30184 Orig					
30184 Dup					
30190 Orig	< 0.01	< 0.5	1.0	0.08	1.67
30190 Split	< 0.01	0.8	1.0	0.10	1.86
30190 Split					
30198 Orig					
30198 Dup					
30219 Orig	< 0.01	< 0.5	2.0	0.32	24.7
30219 Split	< 0.01	< 0.5	1.8	0.26	27.4
30219 Orig					
30219 Dup					
30253 Orig					
30253 Dup					
35849 Orig	< 0.01	< 0.5	1.2	< 0.05	31.5
35849 Split	< 0.01	< 0.5	1.3	< 0.05	28.1
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0
Method Blank Method Blank	0.02	< 0.5	< 0.2	< 0.05	1.00
Method Blank Method Blank					



Date Submitted: 02-Sep-10
Invoice No.: A10-5685-4C-Enzyme
Invoice Date: 05-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

229 Rock samples and 33 Soil samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-5685-4C-Enzy

Code 7-Enhanced Enzyme Leach Enzyme Leach
ICP/MS(ENZYME)
Code 4C (1-10) Whole Rock Analysis-XRF

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd.

Report: A10-5685-4C-Enzyme

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total	Cl	Br	I	V	As	Se	Mo	Sb	Te	W
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36941															2000	104	15	5.0	1.6	2	1.9	0.10	< 0.5	< 0.1
36942															2000	85	18	18.7	2.3	1	< 0.1	0.26	< 0.5	0.2
36943															< 1000	53	13	20.2	2.5	1	1.7	0.23	< 0.5	0.2
36945															2000	45	12	22.0	4.0	2	15.4	0.54	< 0.5	0.2
36946															< 1000	91	23	5.0	1.3	3	0.7	0.17	< 0.5	< 0.1
36947															2000	78	13	20.9	2.2	1	0.2	0.19	< 0.5	< 0.1
36948															3000	60	9	8.0	1.3	< 1	< 0.1	0.11	< 0.5	0.1
36951															5000	135	35	15.5	2.9	3	0.9	0.32	< 0.5	0.2
36953															< 1000	60	11	12.0	2.1	1	< 0.1	0.20	< 0.5	< 0.1
36954															< 1000	86	15	1.2	0.6	2	< 0.1	0.22	< 0.5	< 0.1
36965															< 1000	106	15	10.1	3.0	2	< 0.1	0.32	< 0.5	0.1
36966															< 1000	129	21	21.5	2.4	2	1.6	0.38	< 0.5	0.1
36967															< 1000	104	22	9.8	1.3	2	< 0.1	0.30	< 0.5	0.1
36971															< 1000	41	9	39.4	2.7	< 1	8.6	0.25	< 0.5	0.2
36972															2000	29	6	30.1	4.5	2	20.7	0.44	< 0.5	0.3
36973															< 1000	45	7	7.1	0.1	< 1	< 0.1	0.10	< 0.5	< 0.1
30063	47.00	12.95	19.93	0.582	6.60	8.70	1.34	0.20	0.55	0.07	0.03	0.052	0.99	99.00										
30073	47.39	12.41	11.24	0.142	11.47	10.37	1.03	0.43	0.49	0.09	0.14	0.042	3.27	98.52										
30083	71.70	12.83	4.00	0.060	1.89	1.92	2.86	1.50	0.25	0.07	< 0.01	0.007	1.49	98.58										
30093	69.05	14.24	3.95	0.052	1.79	2.32	2.41	2.29	0.27	0.06	< 0.01	0.009	2.13	98.58										
30114	49.58	16.71	12.01	0.214	5.81	8.22	2.74	0.48	1.35	0.51	0.01	0.034	1.21	98.89										
30154	52.52	11.73	14.20	0.323	2.81	10.32	1.80	0.32	1.16	0.11	< 0.01	0.076	3.55	98.92										

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Analyte Symbol	Re	Au	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.005	0.005	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36941	0.010	< 0.005	0.1	0.91	0.57	8.3	15	8	43	2.2	0.7	< 0.05	< 0.1	0.6	0.01	< 0.2	0.200	< 0.5	90	< 3	0.69	2.7	< 0.1	0.10
36942	0.010	< 0.005	0.1	1.23	0.69	9.8	21	5	37	< 0.1	1.1	0.07	< 0.1	0.7	0.01	< 0.2	0.290	< 0.5	180	< 3	1.24	2.9	< 0.1	0.11
36943	0.010	< 0.005	< 0.1	1.47	0.69	12.5	19	7	49	0.2	2.0	0.12	< 0.1	0.3	0.01	< 0.2	0.240	< 0.5	340	< 3	1.37	4.2	< 0.1	0.13
36945	0.010	< 0.005	0.1	0.83	0.51	7.7	10	7	75	5.2	1.0	0.07	< 0.1	0.4	0.01	< 0.2	0.240	< 0.5	380	< 3	0.43	2.3	< 0.1	0.09
36946	0.010	< 0.005	0.1	1.24	0.78	14.7	23	26	76	< 0.1	< 0.3	0.05	< 0.1	1.1	< 0.01	< 0.2	0.160	< 0.5	30	< 3	0.83	2.7	< 0.1	0.09
36947	0.010	< 0.005	0.1	1.14	0.73	8.8	16	14	57	< 0.1	1.1	0.06	< 0.1	0.6	< 0.01	< 0.2	0.210	< 0.5	200	< 3	1.12	2.7	< 0.1	0.09
36948	< 0.005	< 0.005	< 0.1	0.76	0.41	4.2	9	4	< 5	0.3	1.1	0.05	< 0.1	0.5	< 0.01	< 0.2	0.190	< 0.5	100	< 3	0.43	2.1	< 0.1	0.08
36951	0.010	< 0.005	0.1	1.70	1.39	9.5	11	21	66	2.3	0.7	0.08	< 0.1	0.9	0.01	< 0.2	0.370	< 0.5	140	< 3	3.26	6.4	< 0.1	0.24
36953	0.010	< 0.005	< 0.1	1.01	0.67	5.9	13	5	17	0.6	0.9	0.09	< 0.1	0.4	< 0.01	< 0.2	0.130	< 0.5	140	< 3	1.01	2.5	< 0.1	0.10
36954	0.010	< 0.005	0.1	1.12	0.85	5.4	8	8	18	1.7	< 0.3	< 0.05	< 0.1	0.4	< 0.01	< 0.2	0.260	< 0.5	10	< 3	1.71	2.3	< 0.1	0.08
36965	0.010	< 0.005	< 0.1	1.37	0.87	6.2	10	8	209	5.1	0.6	0.06	< 0.1	0.4	0.01	< 0.2	0.190	< 0.5	150	< 3	1.25	2.9	< 0.1	0.11
36966	< 0.005	< 0.005	0.1	1.00	0.83	8.3	8	6	38	2.9	1.5	< 0.05	< 0.1	0.3	< 0.01	< 0.2	0.110	< 0.5	260	< 3	0.59	3.1	< 0.1	0.10
36967	0.010	< 0.005	< 0.1	1.13	0.70	6.8	9	9	50	5.9	0.9	0.07	< 0.1	0.6	< 0.01	< 0.2	0.200	< 0.5	120	< 3	1.71	4.4	< 0.1	0.15
36971	0.010	< 0.005	< 0.1	1.73	0.86	4.4	12	9	725	4.4	0.8	0.11	< 0.1	0.3	< 0.01	< 0.2	0.170	< 0.5	310	< 3	1.83	2.4	< 0.1	0.08
36972	0.010	< 0.005	0.1	1.92	0.23	3.0	6	3	51	10.3	0.6	0.10	< 0.1	0.6	< 0.01	< 0.2	0.340	< 0.5	390	< 3	< 0.05	0.9	< 0.1	0.03
36973	< 0.005	< 0.005	< 0.1	0.22	0.31	1.4	2	1	38	4.4	< 0.3	< 0.05	< 0.1	0.5	< 0.01	< 0.2	0.130	< 0.5	20	< 3	0.71	0.5	< 0.1	0.02
30063																								
30073																								
30083																								
30093																								
30114																								
30154																								

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Analyte Symbol	Ta	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
36941	< 0.02	2.14	3.23	0.40	1.51	0.30	0.14	0.28	0.04	< 0.01	0.04	0.12	0.01	0.11	0.01	18.0	1.0	< 10	92.5	61.5	126	1.31	395	< 0.5
36942	< 0.02	3.83	7.84	0.93	3.61	0.69	0.21	0.56	0.06	< 0.01	0.06	0.16	0.02	0.14	0.02	12.0	1.0	< 10	336	86.0	173	1.36	419	< 0.5
36943	0.02	5.12	9.51	1.34	4.11	0.62	0.23	0.58	0.07	< 0.01	0.08	0.19	0.03	0.23	0.03	14.0	1.0	< 10	223	79.0	258	0.68	544	< 0.5
36945	< 0.02	1.23	2.78	0.33	1.38	0.27	0.09	0.24	0.03	< 0.01	0.04	0.09	0.01	0.08	0.01	8.4	< 0.1	< 10	2150	56.1	95.4	0.34	235	< 0.5
36946	< 0.02	2.53	4.72	0.52	1.94	0.36	0.13	0.35	0.05	< 0.01	0.05	0.11	0.02	0.12	0.02	9.1	1.0	< 10	492	60.3	103	1.83	313	< 0.5
36947	< 0.02	4.16	8.19	0.93	3.48	0.61	0.14	0.52	0.06	< 0.01	0.05	0.15	0.03	0.13	0.02	7.7	1.0	< 10	57.2	57.6	68.3	1.30	103	< 0.5
36948	< 0.02	1.67	3.23	0.39	1.40	0.29	0.08	0.23	0.04	< 0.01	0.03	0.08	0.02	0.09	0.01	13.0	1.0	< 10	102	59.1	57.5	1.80	91.2	< 0.5
36951	< 0.02	4.37	8.61	1.05	4.09	0.94	0.30	0.87	0.14	0.40	0.15	0.40	0.06	0.38	0.05	4.0	1.0	< 10	377	41.2	60.9	2.57	394	< 0.5
36953	< 0.02	1.95	4.05	0.52	2.02	0.38	0.16	0.37	0.06	< 0.01	0.05	0.15	0.02	0.16	0.02	6.7	1.0	< 10	178	75.4	113	0.42	250	< 0.5
36954	< 0.02	5.85	10.4	1.26	4.51	0.79	0.20	0.68	0.08	< 0.01	0.07	0.22	0.03	0.18	0.02	3.8	1.0	< 10	23.8	36.7	124	0.64	160	< 0.5
36965	< 0.02	4.16	8.19	0.90	3.29	0.63	0.23	0.56	0.08	< 0.01	0.07	0.18	0.03	0.16	0.02	10.0	1.0	< 10	80.9	25.8	67.9	1.00	495	< 0.5
36966	0.02	2.54	4.59	0.47	1.71	0.33	0.11	0.30	0.04	< 0.01	0.04	0.11	0.02	0.29	0.02	2.4	< 0.1	< 10	1220	38.7	173	0.17	150	< 0.5
36967	< 0.02	3.58	6.99	0.87	3.48	0.68	0.24	0.60	0.08	0.04	0.08	0.23	0.03	0.21	0.03	6.7	1.0	< 10	137	24.8	157	0.35	406	< 0.5
36971	0.02	6.96	14.8	1.73	6.60	1.13	0.27	0.94	0.11	0.07	0.09	0.26	0.03	0.21	0.03	13.0	< 0.1	< 10	83.5	37.2	115	0.16	241	< 0.5
36972	< 0.02	0.90	1.73	0.26	0.71	0.14	0.05	0.11	0.02	< 0.01	0.01	0.04	< 0.01	0.03	< 0.01	3.5	< 0.1	< 10	690	115	109	0.86	114	< 0.5
36973	< 0.02	2.78	4.31	0.48	1.79	0.33	0.14	0.29	0.04	< 0.01	0.03	0.09	0.01	0.06	0.01	2.0	1.0	< 10	162	29.2	123	0.29	401	< 0.5
30063																								
30073																								
30083																								
30093																								
30114																								
30154																								

Analyte Symbol	Pd	Os	Pt
Unit Symbol	ppb	ppb	ppb
Detection Limit	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS
36941	< 0.5	< 0.5	< 0.5
36942	< 0.5	< 0.5	< 0.5
36943	< 0.5	< 0.5	< 0.5
36945	< 0.5	< 0.5	< 0.5
36946	< 0.5	< 0.5	< 0.5
36947	< 0.5	< 0.5	< 0.5
36948	< 0.5	< 0.5	< 0.5
36951	< 0.5	< 0.5	< 0.5
36953	< 0.5	< 0.5	< 0.5
36954	< 0.5	< 0.5	< 0.5
36965	< 0.5	< 0.5	< 0.5
36966	< 0.5	< 0.5	< 0.5
36967	< 0.5	< 0.5	< 0.5
36971	< 0.5	< 0.5	< 0.5
36972	< 0.5	< 0.5	< 0.5
36973	< 0.5	< 0.5	< 0.5
30063			
30073			
30083			
30093			
30114			
30154			

Quality Control																									
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	Cl	Br	I	V	As	Se	Mo	Sb	Te	W	Re	Au	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	1000	1	1	0.1	0.1	1	0.1	0.01	0.5	0.1	0.005	0.005	
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
DNC-1 Meas	46.89	18.54	10.03	0.148	10.18	11.26	1.98	0.24	0.51	0.08															
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070															
MICA-FE Meas	34.92	19.51	25.85	0.347	4.67	0.45	0.34	8.77	2.56	0.41	0.01	0.022													
MICA-FE Cert	34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.01	0.024													
TILL-1 Meas														436		62.8	15.5		7.3	40.3				0.040	
TILL-1 Cert														6400.0		99000	18000		2000	7800.0				13	
BE-N Meas	38.54	10.15		0.198	13.11	13.88	3.28	1.40	2.73	1.05	0.05	0.041													
BE-N Cert	38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0500	0.042													
SO-3 Meas																45.2									
SO-3 Cert																38000									
W-2a Meas	52.25	15.39	10.88	0.165	6.36	10.80	2.42	0.63	1.10	0.13	0.01														
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	0.01														
MICA-Mg Meas	38.21	15.26	9.34	0.254	20.18	0.04	0.25	9.95	1.68	0.01	0.01														
MICA-Mg Cert	38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	1.63	0.01	0.01														
36954 Orig													< 1000	86	15	1.1	0.6	2	< 0.1	0.21	< 0.5	< 0.1	0.010	< 0.005	
36954 Dup													< 1000	86	15	1.3	0.6	2	< 0.1	0.23	< 0.5	< 0.1	0.010	< 0.005	
Method Blank Method Blank													< 1000	< 1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.01	< 0.5	< 0.1	< 0.005	< 0.005	
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003													

Quality Control																									
Analyte Symbol	Hg	Th	U	Co	Ni	Cu	Zn	Pb	Ga	Ge	Ag	Cd	In	Sn	Tl	Bi	Ti	Cr	Y	Zr	Nb	Hf	Ta	La	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
Detection Limit	0.1	0.01	0.01	0.2	1	1	5	0.1	0.3	0.05	0.1	0.1	0.01	0.2	0.005	0.5	10	3	0.05	0.1	0.1	0.01	0.02	0.01	
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	
DNC-1 Meas																									
DNC-1 Cert																									
MICA-FE Meas																									
MICA-FE Cert																									
TILL-1 Meas	0.2	2.11	3.70	40.0	14	179	42	18.4									380	< 3	17.1	9.9	1.5	0.29	0.08	17.5	
TILL-1 Cert	90.0	5600.0	2200.0	18000	24000	47000	98000	22000									5990000	65000	38000	502000	10000	13000	700.0	28000	
BE-N Meas																									
BE-N Cert																									
SO-3 Meas				2.7	7	11	< 5	1.1									240	< 3							
SO-3 Cert				8000	16000	17000	52000	14000									2000000	26000							
W-2a Meas																									
W-2a Cert																									
MICA-Mg Meas																									
MICA-Mg Cert																									
36954 Orig	0.1	1.16	0.87	5.4	8	8	18	1.2	< 0.3	< 0.05	< 0.1	0.4	< 0.01	< 0.2	0.260	< 0.5	20	< 3	1.80	2.8	< 0.1	0.08	< 0.02	6.01	
36954 Dup	0.1	1.07	0.83	5.4	8	8	18	2.1	< 0.3	< 0.05	< 0.1	0.4	< 0.01	< 0.2	0.260	< 0.5	10	< 3	1.63	1.9	< 0.1	0.07	< 0.02	5.68	
Method Blank Method	< 0.1	< 0.01	< 0.01	< 0.2	< 1	< 1	< 5	< 0.1	< 0.3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.2	< 0.005	< 0.5	< 10	< 3	< 0.05	< 0.1	< 0.1	< 0.01	< 0.02	< 0.01	
Blank																									
Method Blank Method																									
Blank																									

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Quality Control																								
Analyte Symbol	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Li	Be	Sc	Mn	Rb	Sr	Cs	Ba	Ru	Pd	Os
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.1	10	0.4	0.1	0.1	0.01	0.5	0.5	0.5	0.5
Analysis Method	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS	ENZ-MS
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
TILL-1 Meas	25.3		22.6	4.82	1.13		0.66			1.92		1.77	0.25	1.5	1.0	< 10	18700	31.2	226	0.23	449			
TILL-1 Cert	71000		26000	5900.0	1300.0		1100.0			3600.0		3900.0	600.0	15000	2400.0	13000	1420000	44000	291000	1000.0	702000			
BE-N Meas																								
BE-N Cert																								
SO-3 Meas																	563	90.8	919		94.4			
SO-3 Cert																	520000	39000	217000		296000			
W-2a Meas																								
W-2a Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
36954 Orig	10.4	1.28	4.56	0.80	0.21	0.67	0.08	0.04	0.07	0.22	0.03	0.18	0.03	3.8	1.0	< 10	24.5	37.0	125	0.63	164	< 0.5	< 0.5	< 0.5
36954 Dup	10.3	1.24	4.45	0.78	0.20	0.69	0.08	< 0.01	0.07	0.21	0.03	0.18	0.02	3.7	1.0	< 10	23.1	36.5	123	0.65	157	< 0.5	< 0.5	< 0.5
Method Blank Method	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.5	< 0.1	< 10	< 0.4	< 0.1	< 0.1	< 0.01	< 0.5	< 0.5	< 0.5	< 0.5
Blank																								
Method Blank Method																								
Blank																								

Quality Control

Analyte Symbol	Pt
Unit Symbol	ppb
Detection Limit	0.5
Analysis Method	ENZ-MS

DNC-1 Meas	
DNC-1 Cert	
MICA-FE Meas	
MICA-FE Cert	
TILL-1 Meas	
TILL-1 Cert	
BE-N Meas	
BE-N Cert	
SO-3 Meas	
SO-3 Cert	
W-2a Meas	
W-2a Cert	
MICA-Mg Meas	
MICA-Mg Cert	
36954 Orig	< 0.5
36954 Dup	< 0.5
Method Blank Method	< 0.5
Blank	
Method Blank Method	
Blank	



Date Submitted: 07-Sep-10
Invoice No.: A10-5773-1H2-4C
Invoice Date: 06-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

97 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-5773-1H2-4C

Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
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Activation Laboratories Ltd.

Report: A10-5773-1H2-4C

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Ge	Hg	In	
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.5	0.01	1	2	1	0.01	1	0.1	1	0.2	
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS
30293	7	< 0.3	5	0.5	< 1	< 3	284	59	< 0.01	9.60	< 0.5	< 50	< 1	0.2	5.0	7.12	59	528	7	6.85	< 1	0.8	< 1	< 0.2	
30301	< 2	< 0.3	93	0.5	< 1	< 3	62	74	0.05	11.9	< 0.5	< 50	< 1	< 0.1	< 0.5	5.07	60	34	< 1	4.07	< 1	0.6	< 1	< 0.2	

Activation Laboratories Ltd.

Report: A10-5773-1H2-4C

Analyte Symbol	Re	Ir	K	Li	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V	W	Y	La
Unit Symbol	ppm	ppb	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	5	0.01	0.5	0.01	1	0.01	0.001	15	0.1	0.1	0.1	1	1	0.5	0.1	0.01	0.2	0.1	0.5	2	1	1	0.5
Analysis Method	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	MULT INAA/TD- ICP-MS	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	INAA	TD-MS	INAA	TD-ICP	INAA	TD-ICP	INAA
30293	< 0.001	< 5	0.48	21.4	7.69	1270	0.89	0.016	< 15	< 0.1	30.5	< 0.1	< 1	95	< 0.5	< 0.1	0.28	< 0.2	0.2	< 0.5	170	< 1	9	3.2
30301	0.010	< 5	0.23	10.0	2.67	952	3.76	0.032	< 15	< 0.1	40.1	< 0.1	< 1	126	< 0.5	0.1	0.48	1.9	0.1	< 0.5	246	< 1	15	5.9

Activation Laboratories Ltd.

Report: A10-5773-1H2-4C

Analyte Symbol	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
30293	8	< 5	1.1	0.5	< 0.5	1.0	< 0.05	28.1	46.61	12.71	10.40	0.179	13.56	10.28	1.29	0.60	0.48	0.04	0.07	0.035	2.34	98.59
30301	12	8	1.8	0.6	< 0.5	1.7	0.11	30.1	59.34	15.38	5.73	0.125	4.44	6.67	4.90	0.28	0.82	0.07	< 0.01	0.053	0.84	98.65

Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	0.1	0.5	0.01	1	2	1	0.01	1
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		31.8		1190	3.3	15	701	42		728		0.23	3.55			1	1340		0.91					
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22	1380		0.960					
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas		3.5		6440	0.6	313	42	43		70		1.80	10.5			2	18.8		1.13					
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0		1.01					
SDC-1 Meas		< 0.3		28	0.5	< 1	21	36		99		0.06	11.5			3	0.3		1.12					
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60		1.00					
SCO-1 Meas		< 0.3		27	0.3	< 1	27	29		102			10.6			2	0.3		2.04					
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370		1.87					
GXR-6 Meas		0.3		62	0.5	< 1	79	26		116		0.01	21.6			1	0.1		0.24					
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290		0.180					
BE-N Meas																								
BE-N Cert																								
W-2a Meas																								
W-2a Cert																								
DNC-1a Meas				98				245		58														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		0.8		2360		7		2120		102		1.10												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 111 Meas	1780													1520	970					37	55		3.04	
DMMAS 111 Cert	1670													1450	1140					34	52		2.79	
30293 Orig		< 0.3		5	0.5	< 1	< 3	286		59		< 0.01	9.64			< 1	0.1		7.20					
30293 Dup		< 0.3		5	0.5	< 1	< 3	282		59		< 0.01	9.55			< 1	0.3		7.03					
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 0.1		< 0.01					
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	0.01			< 1			< 0.01					
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1			< 0.01					
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1			< 0.01					
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1			< 0.01					
Method Blank Method Blank	< 2		< 5						< 20		< 50			< 0.5	< 50			< 0.5		< 1	< 2	< 1	< 0.01	< 1
Method Blank Method Blank																								
Method Blank Method Blank																								

Quality Control																									
Analyte Symbol	Ge	Hg	In	Re	Ir	K	Li	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	
Unit Symbol	ppm	ppm	ppm	ppm	ppb	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
Detection Limit	0.1	1	0.2	0.001	5	0.01	0.5	0.01	1	0.01	0.001	15	0.1	0.1	3	3	1	1	0.5	0.1	0.01	0.2	0.1	0.5	
Analysis Method	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	INAA	TD-MS	INAA	
GXR-1 Meas			0.9			0.04	6.9	0.21	885		0.060					16	31	287		11.6				0.5	
GXR-1 Cert			0.770			0.0500	8.20	0.217	852		0.0650					16.6	54.0	275		13.0				0.390	
DNC-1 Meas																									
DNC-1 Cert																									
MICA-FE Meas																									
MICA-FE Cert																									
GXR-4 Meas			0.2			3.66	11.5	1.72	148		0.137				6	8	217			1.1				3.7	
GXR-4 Cert			0.270			4.01	11.1	1.66	155		0.120				5.60	5.60	221			0.970				3.20	
SDC-1 Meas						2.51	34.4	0.99	856		0.054						< 1	167			0.08				
SDC-1 Cert						2.72	34.0	1.02	883		0.0690						3.00	183			0.606				
SCO-1 Meas						2.12	40.1	1.58	389		0.084						2	160			0.32				
SCO-1 Cert						2.30	45.0	1.64	410		0.0900						3.70	174			0.380				
GXR-6 Meas			< 0.2			1.57	38.2	0.66	992		0.034					< 3	1	45		< 0.1				2.3	
GXR-6 Cert			0.260			1.87	32.0	0.609	1010		0.0350					0.940	1.70	35.0		0.0180				2.20	
BE-N Meas																									
BE-N Cert																									
W-2a Meas																									
W-2a Cert																									
DNC-1a Meas							4.2											131							
DNC-1a Cert							5.20											144							
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas										1.92				6.7											15.0
DMMAS 111 Cert										1.87				5.80											14.00
30293 Orig	0.6		< 0.2	< 0.001		0.49	21.3	7.72	1280		0.017					< 3	< 1	94		< 0.1	0.29			0.2	
30293 Dup	0.9		< 0.2	< 0.001		0.48	21.4	7.65	1270		0.016					< 3	< 1	95		0.1	0.27			0.2	
Method Blank Method Blank	< 0.1		< 0.2	< 0.001		< 0.01	< 0.5	< 0.01	3		< 0.001					< 3	< 1	< 1		< 0.1	< 0.01			< 0.1	
Method Blank Method Blank						< 0.01		< 0.01	4		< 0.001							< 1			< 0.01				
Method Blank Method Blank						< 0.01		< 0.01	5		< 0.001							< 1			< 0.01				
Method Blank Method Blank						< 0.01		< 0.01	8		< 0.001							< 1			< 0.01				
Method Blank Method Blank		< 1			< 5					< 0.01		< 15	< 0.1	< 0.1	< 3				< 0.5			< 0.2		< 0.5	
Method Blank Method Blank																									

Quality Control																								
Analyte Symbol	V	W	Y	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	2	1	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003
Analysis Method	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
GXR-1 Meas	91		29																					
GXR-1 Cert	80.0		32.0																					
DNC-1 Meas													46.89	18.54	10.03	0.148	10.18	11.26	1.98	0.24	0.51	0.08		
DNC-1 Cert													47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070		
MICA-FE Meas													34.92	19.51	25.85	0.347	4.67	0.45	0.34	8.77	2.56	0.41	0.01	0.022
MICA-FE Cert													34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.01	0.024
GXR-4 Meas	92		14																					
GXR-4 Cert	87.0		14.0																					
SDC-1 Meas	30		33																					
SDC-1 Cert	102		40.0																					
SCO-1 Meas	129		20																					
SCO-1 Cert	131		26.0																					
GXR-6 Meas	160		11																					
GXR-6 Cert	186		14.0																					
BE-N Meas													38.54	10.15		0.198	13.11	13.88	3.28	1.40	2.73	1.05	0.05	0.041
BE-N Cert													38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0500	0.042
W-2a Meas													52.25	15.39	10.88	0.165	6.36	10.80	2.42	0.63	1.10	0.13	0.01	
W-2a Cert													52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	0.01	
DNC-1a Meas	145		15																					
DNC-1a Cert	148		18.0																					
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas				15.9	27		1.7																	
DMMAS 111 Cert				14.00	19.30		1.90																	
30293 Orig	173		9																					
30293 Dup	167		9																					
Method Blank Method Blank	< 2		< 1																					
Method Blank Method Blank	< 2		< 1																					
Method Blank Method Blank	< 2		< 1																					
Method Blank Method Blank	< 2		< 1																					
Method Blank Method Blank	< 1		< 0.5	< 3	< 5	< 0.1	< 0.2	< 0.5	< 0.2	< 0.05	30.0													
Method Blank Method Blank													< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003



Date Submitted: 07-Sep-10
Invoice No.: A10-5773-1H
Invoice Date: 06-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

97 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-5773-1H

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@aclabs.com ACTLABS GROUP WEBSITE www.aclabs.com

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30220	0.33	29.1
30221	0.34	30.0
30222	0.29	31.5
30223	0.30	32.0
30224	0.46	31.5
30225	0.17	33.0
30226	0.15	32.4
30227	0.19	30.8
30228	0.14	35.5
30229	0.54	31.5
30230	0.55	33.3
30231	0.65	29.8
30232	0.58	30.0
30233	0.90	28.4
30234	0.61	29.2
30235	0.58	26.5
30236	0.33	32.1
30237	0.27	29.5
30238	0.30	26.9
30239	0.27	26.8
30263	0.40	29.6
30264	0.32	29.2
30265	0.43	31.6
30266	0.57	32.2
30267	0.52	33.9
30268	0.40	29.9
30269	0.37	27.7
30270	0.49	32.0
30271	0.67	30.5
30272	0.56	28.1
30273	0.61	31.9
30274	0.59	29.5
30275	0.44	31.1
30276	0.56	30.2
30277	0.37	30.0
30278	0.37	33.0
30279	0.43	33.1
30280	0.45	28.5
30281	0.38	31.3
30282	0.33	29.8
30283	0.38	32.0
30284	0.37	33.2
30285	0.34	31.7
30286	0.34	32.3
30287	0.39	31.4
30288	0.33	31.4
30289	0.53	29.9
30290	0.38	30.0
30291	0.19	39.2
30292	0.34	27.5
30300	0.44	28.3
30302	0.34	33.2

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30303	0.41	29.0
30304	0.37	27.5
30305	0.40	30.5
30306	0.12	31.3
30307	0.19	29.1
30308	0.08	30.8
30309	0.12	29.5
30310	0.10	29.9
30311	0.16	31.7
30312	0.08	29.8
30313	0.12	30.3
30314	0.37	29.3
30315	0.12	35.1
30316	< 0.05	26.7
30317	0.41	29.4
30318	0.38	34.0
30319	0.40	30.7
30320	0.40	30.7
30321	0.41	33.4
30322	0.32	32.3
30323	0.37	34.4
30324	0.35	30.6
30325	0.36	30.4
30340	0.43	28.1
30341	0.44	32.5
30342	0.44	31.1
30343	0.46	30.6
30344	0.50	30.8
30345	0.46	31.2
30346	0.42	32.5
30347	0.45	33.4
30348	0.43	29.6
30349	0.38	30.9
30350	0.36	28.3
30351	0.36	35.6
30352	0.37	29.1
30353	0.19	28.1
30354	0.18	29.7
30355	0.22	31.8
30356	0.17	29.3
30357	0.17	31.7
30358	0.15	29.5
30359	0.19	35.2

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas					
GXR-1 Cert					
GXR-4 Meas					
GXR-4 Cert					
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
DNC-1a Meas					
DNC-1a Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
30232 Orig					
30232 Dup					
30269 Orig					
30269 Dup					
30272 Orig	< 0.01	< 0.5	2.7	0.56	28.1
30272 Split	< 0.01	< 0.5	2.7	0.25	29.6
30290 Orig					
30290 Dup					
30292 Orig	< 0.01	< 0.5	1.8	0.34	27.5
30292 Split	< 0.01	< 0.5	1.7	< 0.05	30.8
30308 Orig	< 0.01	< 0.5	2.1	0.08	30.8
30308 Split	< 0.01	< 0.5	2.1	0.10	29.1
30312 Orig					
30312 Dup					
30347 Orig					
30347 Dup					
30358 Orig	< 0.01	< 0.5	1.9	0.15	29.5
30358 Split	< 0.01	< 0.5	2.1	0.32	31.9
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0

Quality Analysis ...



Innovative Technologies

Date Submitted: 13-Sep-10
Invoice No.: A10-5837
Invoice Date: 13-Oct-10
Your Reference:

Excalibur Resources Ltd.
20 Adelaide Street East
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Chairman Tim Gallagher(Invoices)

CERTIFICATE OF ANALYSIS

4 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-5837

Code 1A3-Ag Au, Ag-Fire Assay Gravimetric
Code 1A4 Au-Fire Assay-Metallic Screen-500g

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Notes:

A representative 500 gram split is sieved at 150 mesh (105 micron) with assays performed on the entire +150 mesh and 2 splits of the -150 mesh fraction. A final assay is calculated based on the weight of each fraction.

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Au + 100 mesh	Au - 100 mesh (A)	Au - 100 mesh (B)	Total Au	+ 100 mesh	- 100 mesh	Total Weight
Unit Symbol	g/tonne	g/tonne	g/mt	g/mt	g/mt	g/mt	g	g	g
Detection Limit	0.03	3	0.07	0.07	0.07	0.07			
Analysis Method	FA-GRA	FA-GRA	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT	FA-MeT
REDDISH-LRG			0.54	1.82	1.72	1.71	23.94	482.30	506.24
GREY-LRG			3.87	4.30	4.22	4.24	26.84	487.00	513.84
REDDISH-SMALL	0.99	226							
GREY-SMALL	9.65	63							

Quality Control			
Analyte Symbol	Au	Ag	Total Au
Unit Symbol	g/tonne	g/tonne	g/mt
Detection Limit	0.03	3	0.07
Analysis Method	FA-GRA	FA-GRA	FA-MeT

OXN62 Meas			7.75
OXN62 Cert			7.71
GREY-SMALL Orig	9.17	62	
GREY-SMALL Dup	10.1	64	
Method Blank Method Blank	< 0.03	< 3	
Method Blank Method Blank			< 0.07



Date Submitted: 13-Sep-10
Invoice No.: A10-6108
Invoice Date: 19-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

5 Pulp samples and 101 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-6108

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-6108

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30440	5	1.0	31	< 0.3	2	5	4	142	0.54	6.32	< 0.5	500	2	< 2	< 0.5	1.87	3	9	3	2.3	3.15	11	< 1	< 5
30441	23	0.6	50	< 0.3	< 1	< 3	14	96	0.57	6.13	< 0.5	300	1	< 2	1.9	3.02	12	16	3	2.1	4.20	8	< 1	< 5
30442	2	< 0.3	47	< 0.3	< 1	5	45	58	0.08	6.15	< 0.5	430	< 1	< 2	< 0.5	6.28	16	45	2	1.0	3.75	4	< 1	< 5
30443	< 2	< 0.3	57	< 0.3	< 1	< 3	64	53	0.03	7.22	< 0.5	< 50	< 1	< 2	< 0.5	6.05	22	63	3	0.8	4.24	3	< 1	< 5

Activation Laboratories Ltd. Report: A10-6108

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30442	2.07	0.81	1030	2.10	0.038	48	< 0.1	15.0	< 3	105	< 0.5	0.26	2.7	< 0.5	74	< 1	16	17.7	42	18	4.2	< 0.01	0.7	2.5
30443	0.90	1.40	912	3.01	0.041	< 15	< 0.1	18.8	< 3	116	< 0.5	0.29	1.5	< 0.5	102	< 1	15	14.3	32	8	3.5	< 0.01	< 0.5	2.1

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30031	0.33	28.3
30032	0.34	33.5
30033	0.33	32.3
30034	0.27	33.1
30035	0.28	35.7
30036	0.22	32.1
30037	0.24	30.9
30038	0.30	30.3
30039	0.41	30.1
30294	0.36	35.2
30295	0.30	34.7
30296	0.26	31.1
30297	0.27	32.7
30298	0.34	35.0
30299	0.23	34.9
30326	0.22	33.6
30327	0.20	32.3
30328	0.33	29.3
30329	0.36	28.9
30330	0.37	36.3
30331	0.42	33.1
30332	0.44	35.0
30360	0.30	36.3
30361	0.26	33.9
30362	0.31	32.8
30363	0.28	29.0
30364	0.22	36.2
30365	0.24	33.9
30366	0.20	33.5
30367	0.32	34.5
30368	0.30	36.7
30369	0.30	33.9
30370	0.26	30.0
30371	0.25	32.5
30372	0.27	35.6
30373	0.23	35.5
30374	0.26	32.3
30375	0.27	34.2
30376	0.24	33.9
30377	0.16	31.6
30378	0.19	32.0
30379	0.32	33.3
30380	0.29	33.5
30381	0.19	32.4
30382	0.26	34.2
30383	0.33	33.6
30384	0.31	32.3
30385	0.31	32.8
30386	0.37	33.3
30387	0.28	34.1
30388	0.24	32.7
30389	0.27	33.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30390	0.25	31.6
30391	0.29	34.1
30392	0.26	29.8
30393	0.46	32.9
30394	0.38	31.2
30395	0.31	33.1
30396	0.34	29.5
30397	0.44	29.3
30398	0.41	28.2
30399	0.49	32.6
30400	0.41	31.9
30401	0.51	33.2
30402	0.54	32.5
30403	0.42	31.7
30404	0.34	29.6
30405	0.63	28.6
30406	0.56	30.6
30407	0.52	30.5
30408	0.56	30.5
30409	0.50	33.8
30410	0.57	31.9
30411	0.61	30.3
30412	0.56	31.7
30413	0.53	30.7
30414	0.52	32.2
30415	0.51	32.5
30416	0.30	35.1
30417	0.23	30.6
30418	0.59	31.4
30419	0.36	34.3
30420	0.44	28.4
30421	1.01	29.0
30422	0.98	30.8
30423	1.05	32.4
30424	1.05	28.7
30425	1.06	28.3
30426	0.67	31.5
30427	0.69	28.1
30428	0.84	30.3
30429	0.73	30.1
30430	0.61	29.5
30431	0.31	30.9
30432	0.09	29.9
30433	0.44	33.9
30434	0.53	32.8
30435	0.39	30.4
30436	0.23	31.6
30437	0.28	30.5
30438	0.85	34.1
30439	0.43	33.5
30440	0.70	30.6
30441	0.59	29.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30442	0.21	32.6
30443	0.13	29.0

Activation Laboratories Ltd. Report: A10-6108

Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		30.0		1130	3.6	16	672	40		698		0.23	2.16			1	1310		0.86					
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22	1380		0.960					
GXR-4 Meas		3.3		6340	0.6	300	42	50		78		1.74	6.79			2	13		1.05					
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0		1.01					
SDC-1 Meas		< 0.3		27	< 0.3	< 1	22	35		94		0.05	7.61			3	< 2		1.05					
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60		1.00					
SCO-1 Meas		< 0.3		27	< 0.3	< 1	27	27		93			6.86			2	< 2		1.91					
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370		1.87					
GXR-6 Meas		0.4		59	< 0.3	3	76	23		110		0.01	13.3			1	< 2		0.24					
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290		0.180					
DNC-1a Meas				102				228		52														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		0.9		2230		8		1970		100		1.07												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 111 Meas	1720													1410	1170					35	53			2.85
DMMAS 111 Cert	1670													1450	1140					34	52			2.79
30297 Orig		< 0.3		85	0.4	< 1	< 3	85		67		0.05	7.02			< 1	< 2		7.49					
30297 Dup		< 0.3		84	0.3	< 1	< 3	82		64		0.04	6.82			< 1	< 2		7.26					
30364 Orig		< 0.3		82	0.4	< 1	< 3	145		57		0.19	6.32			< 1	< 2		9.17					
30364 Dup		< 0.3		83	< 0.3	< 1	< 3	142		60		0.19	6.36			< 1	< 2		9.23					
30367 Orig	< 2	< 0.3	< 5	82	< 0.3	< 1	4	82	< 20	56	< 50	0.08	4.62	< 0.5	< 50	< 1	< 2	3.5	6.66	42	250	< 1	0.5	5.98
30367 Split	< 2	< 0.3	< 5	88	0.4	< 1	< 3	80	< 20	55	< 50	0.09	7.23	< 0.5	< 50	< 1	< 2	3.3	6.67	41	238	< 1	0.6	6.07
30385 Orig		< 0.3		59	0.4	< 1	6	143		63		0.05	5.12			< 1	< 2		8.76					
30385 Dup		< 0.3		57	< 0.3	< 1	< 3	132		61		0.05	4.34			< 1	< 2		8.14					
30387 Orig	< 2	< 0.3	< 5	92	< 0.3	< 1	8	138	< 20	106	< 50	0.51	6.58	< 0.5	240	< 1	< 2	1.7	7.53	49	537	< 1	0.6	7.58
30387 Split	< 2	< 0.3	< 5	86	0.3	< 1	6	135	< 20	123	< 50	0.70	6.35	< 0.5	280	< 1	< 2	2.3	7.00	47	531	< 1	0.7	7.73
30397 Orig	< 2	0.3	< 5	62	< 0.3	< 1	< 3	35	< 20	88	120	0.22	6.42	< 0.5	240	< 1	< 2	< 0.5	5.15	22	65	< 1	1.2	5.58
30397 Split	< 2	0.4	< 5	65	< 0.3	< 1	< 3	35	< 20	88	140	0.25	7.45	< 0.5	290	< 1	< 2	< 0.5	5.27	22	63	< 1	1.1	5.57
30399 Orig		24.1		5420	158	12	> 5000	57		> 10000		7.24	5.28			< 1	4		3.77					
30399 Dup		25.0		5620	164	13	> 5000	59		> 10000		7.44	5.55			< 1	4		3.94					
30420 Orig		0.5		49	0.4	< 1	3	38		103		0.22	6.49			< 1	< 2		3.64					
30420 Dup		0.6		47	0.3	< 1	< 3	42		98		0.22	6.31			< 1	< 2		3.63					
30427 Orig	< 2	0.7	< 5	25	0.5	< 1	< 3	7	< 20	130	140	0.61	5.87	< 0.5	300	1	< 2	2.4	1.66	4	11	3	1.6	5.15
30427 Split	< 2	0.8	< 5	24	0.3	< 1	4	7	< 20	130	120	0.64	5.74	< 0.5	280	1	< 2	2.8	1.65	4	10	2	1.6	5.20
30434 Orig		0.7		65	0.6	< 1	3	13		216		1.33	5.48			1	< 2		1.70					
30434 Dup		0.7		58	0.4	< 1	4	11		200		1.28	2.82			1	< 2		1.41					
30443 Orig	< 2	< 0.3	< 5	57	< 0.3	< 1	< 3	64	< 20	53	< 50	0.03	7.22	< 0.5	< 50	< 1	< 2	< 0.5	6.05	22	63	3	0.8	4.24
30443 Split	43	< 0.3	< 5	61	< 0.3	< 1	< 3	68	< 20	58	< 50	0.03	7.83	< 0.5	< 50	< 1	< 2	< 0.5	6.43	22	60	2	0.9	4.22
Method Blank Method Blank	< 2		< 5						< 20		< 50			< 0.5	< 50		< 0.5		< 1	< 2	< 1	< 0.2	< 0.01	

Activation Laboratories Ltd. Report: A10-6108

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas				0.05	0.20	835		0.055					270					84						27
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0						32.0
GXR-4 Meas				2.90	1.63	143		0.124					202					87						13
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0						14.0
SDC-1 Meas				2.88	0.95	833		0.051					162		0.07			27						31
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102						40.0
SCO-1 Meas				2.80	1.50	367		0.075					151		0.27			117						19
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131						26.0
GXR-6 Meas				2.00	0.55	913		0.028					42					153						10
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186						14.0
DNC-1a Meas													127					138						15
DNC-1a Cert													144					148						18.0
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas							1.79				6.1						13.8				14.7	26		1.6
DMMAS 111 Cert							1.87			5.80							14.00				14.00	19.30		1.90
30297 Orig				0.21	3.27	1650		0.020					104		0.34			201						12
30297 Dup				0.20	3.15	1600		0.018					99		0.29			177						12
30364 Orig				0.13	3.93	2060		0.018					77		0.32			188						11
30364 Dup				0.13	3.93	2080		0.018					77		0.32			190						11
30367 Orig	1	< 1	< 5	0.17	3.49	1150	2.12	0.019	< 15	< 0.1	33.4	< 3	121	< 0.5	0.32	< 0.2	< 0.5	193	< 1	8	3.9	7	< 5	1.5
30367 Split	1	< 1	< 5	0.24	3.96	1150	2.16	0.019	< 15	< 0.1	32.2	< 3	133	< 0.5	0.34	< 0.2	< 0.5	192	< 1	11	3.3	10	< 5	1.6
30385 Orig				0.22	4.17	1960		0.020					108		0.34			199						11
30385 Dup				0.20	3.62	1870		0.019					101		0.33			188						9
30387 Orig	1	< 1	< 5	0.26	3.68	2220	1.03	0.021	< 15	< 0.1	35.6	< 3	91	< 0.5	0.34	< 0.2	< 0.5	198	< 1	11	4.9	9	< 5	1.6
30387 Split	1	< 1	< 5	0.39	3.63	2210	1.08	0.020	< 15	< 0.1	35.0	< 3	94	< 0.5	0.33	< 0.2	< 0.5	192	< 1	11	4.2	10	< 5	1.7
30397 Orig	3	< 1	< 5	1.05	1.27	1200	2.09	0.043	< 15	< 0.1	18.5	< 3	137	3.2	0.26	2.5	< 0.5	104	< 1	14	13.7	33	12	2.7
30397 Split	4	< 1	< 5	1.11	1.33	1200	2.18	0.047	< 15	< 0.1	18.4	< 3	142	2.1	0.34	2.6	< 0.5	119	< 1	16	13.8	31	12	2.9
30399 Orig				0.79	2.22	837		0.049					116		0.43			156						16
30399 Dup				0.82	2.30	847		0.051					121		0.44			163						16
30420 Orig				1.42	1.60	862		0.025					106		0.23			56						20
30420 Dup				1.42	1.61	871		0.025					107		0.23			56						21
30427 Orig	11	< 1	< 5	1.67	1.23	1470	1.10	0.009	82	< 0.1	6.2	< 3	80	1.5	0.14	6.7	2.6	< 2	< 1	25	36.4	79	31	9.0
30427 Split	10	< 1	< 5	2.02	1.23	1440	1.09	0.009	76	< 0.1	6.3	< 3	83	1.7	0.13	7.0	2.7	< 2	< 1	25	37.7	81	32	8.8
30434 Orig				2.17	1.57	1230		0.008					81		0.13			8						27
30434 Dup				1.18	1.25	1150		0.007					60		0.11			7						12
30443 Orig	3	< 1	< 5	0.90	1.40	912	3.01	0.041	< 15	< 0.1	18.8	< 3	116	< 0.5	0.29	1.5	< 0.5	102	< 1	15	14.3	32	8	3.5
30443 Split	3	< 1	< 5	0.97	1.48	938	3.01	0.043	< 15	< 0.1	18.9	< 3	120	2.0	0.17	2.4	< 0.5	56	< 1	17	14.3	35	9	3.6
Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas					
GXR-1 Cert					
GXR-4 Meas					
GXR-4 Cert					
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
DNC-1a Meas					
DNC-1a Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
30297 Orig					
30297 Dup					
30364 Orig					
30364 Dup					
30367 Orig	< 0.01	< 0.5	1.4	0.32	34.5
30367 Split	< 0.01	< 0.5	1.3	0.34	31.3
30385 Orig					
30385 Dup					
30387 Orig	< 0.01	< 0.5	1.5	0.28	34.1
30387 Split	< 0.01	< 0.5	1.5	0.26	34.1
30397 Orig	< 0.01	0.8	2.0	0.44	29.3
30397 Split	< 0.01	0.8	1.9	0.50	30.1
30399 Orig					
30399 Dup					
30420 Orig					
30420 Dup					
30427 Orig	< 0.01	1.1	5.0	0.69	28.1
30427 Split	< 0.01	1.0	5.0	0.72	30.4
30434 Orig					
30434 Dup					
30443 Orig	< 0.01	< 0.5	2.1	0.13	29.0
30443 Split	< 0.01	< 0.5	2.0	0.09	30.6
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0



Date Submitted: 13-Sep-10
Invoice No.: A10-6109
Invoice Date: 20-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

5 Pulp samples and 105 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-6109

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@aclabs.com ACTLABS GROUP WEBSITE www.aclabs.com

Activation Laboratories Ltd. Report: A10-6109

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30646	3	< 0.3	41	< 0.3	< 1	4	52	85	< 0.01	6.78	1.3	440	< 1	< 2	< 0.5	6.84	27	97	< 1	1.0	5.23	2	< 1	< 5
30647	< 2	< 0.3	62	< 0.3	< 1	7	40	86	0.02	6.66	< 0.5	360	< 1	< 2	< 0.5	6.93	27	70	< 1	1.3	6.21	3	< 1	< 5
30648	< 2	< 0.3	46	< 0.3	< 1	5	17	89	0.01	6.60	< 0.5	300	< 1	< 2	< 0.5	6.70	31	34	2	1.4	6.88	3	< 1	< 5
30649	< 2	0.4	54	< 0.3	< 1	7	15	97	< 0.01	6.71	< 0.5	< 50	< 1	< 2	< 0.5	6.95	30	27	< 1	1.2	6.21	2	< 1	< 5
30650	< 2	< 0.3	70	< 0.3	< 1	7	27	83	0.12	6.01	< 0.5	390	< 1	< 2	< 0.5	6.57	36	55	1	1.1	9.92	2	< 1	< 5
30651	< 2	< 0.3	64	< 0.3	< 1	6	26	83	0.09	6.00	< 0.5	300	< 1	< 2	< 0.5	6.61	39	50	< 1	1.1	9.98	3	< 1	< 5
30652	< 2	< 0.3	70	< 0.3	< 1	8	29	89	0.05	6.42	< 0.5	360	< 1	< 2	< 0.5	5.84	32	52	3	1.3	6.96	3	< 1	< 5
30653	< 2	0.3	46	< 0.3	< 1	5	32	89	0.01	6.81	2.1	290	< 1	< 2	< 0.5	4.28	32	61	3	1.2	7.02	3	< 1	< 5

Activation Laboratories Ltd. Report: A10-6109

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30648	0.65	2.30	1200	2.38	0.091	< 15	< 0.1	31.7	< 3	220	< 0.5	0.19	2.5	2.1	65	< 1	25	18.6	41	19	3.8	< 0.01	< 0.5	2.5
30649	0.68	2.19	1090	2.08	0.089	42	0.3	29.3	< 3	196	< 0.5	0.27	2.2	< 0.5	116	< 1	24	17.2	37	12	3.7	< 0.01	0.7	2.5
30650	0.72	2.01	2120	1.08	0.106	< 15	< 0.1	27.6	< 3	134	1.1	0.19	2.4	< 0.5	94	< 1	25	16.1	31	20	3.4	< 0.01	0.5	2.5
30651	0.79	1.99	1960	1.19	0.111	< 15	< 0.1	28.4	< 3	145	< 0.5	0.17	2.3	1.2	77	< 1	26	17.2	37	21	3.6	< 0.01	0.5	2.6
30652	1.05	1.78	1300	1.84	0.097	37	< 0.1	26.1	< 3	158	1.4	0.15	2.8	< 0.5	68	< 1	30	20.0	45	20	4.1	< 0.01	0.6	2.9
30653	0.99	2.95	1170	2.54	0.062	< 15	< 0.1	25.2	< 3	289	< 0.5	0.35	2.9	< 0.5	108	< 1	26	18.7	46	15	3.5	< 0.01	< 0.5	2.5

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30444	0.46	26.3
30445	0.33	31.5
30446	0.28	31.2
30447	0.37	30.5
30448	0.16	31.4
30449	0.10	32.1
30450	0.15	36.0
30451	0.19	31.0
30452	0.24	32.7
30453	0.15	33.1
30454	0.15	29.2
30455	0.32	31.0
30456	0.39	29.4
30457	0.27	33.1
30458	0.23	31.4
30459	0.35	32.5
30460	0.37	30.2
30461	0.24	29.9
30462	0.28	32.1
30463	0.34	32.7
30464	0.29	29.9
30465	0.45	30.3
30466	0.37	29.8
30467	0.67	28.6
30468	0.46	30.4
30469	0.30	31.2
30470	0.37	28.1
30471	0.25	31.7
30472	0.11	28.8
30473	0.15	32.8
30474	0.11	30.7
30475	0.14	29.8
30476	0.14	28.9
30477	0.16	29.0
30478	0.52	29.5
30479	0.36	32.1
30480	0.10	30.8
30481	0.12	28.6
30482	0.11	31.5
30483	0.25	29.0
30484	0.14	30.1
30485	0.19	31.2
30486	0.26	32.9
30487	0.22	34.8
30488	0.22	31.7
30489	0.13	28.4
30490	0.14	31.5
30491	0.15	32.4
30492	0.24	30.9
30493	0.35	33.0
30494	0.08	32.2
30495	0.13	31.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30496	0.10	32.0
30497	0.17	30.0
30498	0.15	30.9
30499	0.41	32.8
30600	0.17	30.3
30601	0.15	33.6
30602	0.06	32.3
30603	0.19	29.3
30604	0.08	28.4
30605	0.09	30.0
30606	0.33	29.6
30607	0.14	32.7
30608	0.17	32.0
30609	0.19	30.1
30610	< 0.05	29.2
30611	0.31	30.1
30612	0.13	33.3
30613	0.10	31.3
30614	0.13	29.5
30615	0.24	31.6
30616	0.20	32.3
30617	0.11	30.4
30618	0.44	28.9
30619	0.34	35.6
30620	0.08	29.3
30621	0.30	31.3
30622	0.11	30.5
30623	0.15	28.9
30624	0.11	29.8
30625	0.12	28.7
30626	0.10	27.9
30627	0.11	29.3
30628	0.15	30.8
30629	0.12	31.5
30630	0.11	31.9
30631	0.18	30.0
30632	0.11	31.9
30633	0.21	32.5
30634	0.30	32.6
30635	0.43	32.6
30636	0.33	30.8
30637	0.21	28.3
30638	0.22	30.4
30639	0.41	35.7
30640	0.19	30.4
30641	0.22	29.7
30642	0.27	35.0
30643	0.42	32.3
30644	0.41	30.8
30645	0.44	32.7
30646	0.41	32.5
30647	0.47	32.6

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30648	0.46	32.2
30649	0.40	31.5
30650	0.48	33.8
30651	0.47	32.9
30652	0.31	31.3
30653	0.45	31.3

Activation Laboratories Ltd. Report: A10-6109

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas				0.04	0.21	913		0.061					297					89						39
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0						32.0
GXR-4 Meas				2.83	1.69	152		0.131					209					89						19
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0						14.0
SDC-1 Meas				1.36	0.97	863		0.055					168		0.22			54						43
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102						40.0
SCO-1 Meas				1.11	1.54	386		0.083					153		0.35			131						26
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131						26.0
GXR-6 Meas				1.57	0.65	994		0.032					48					116						17
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186						14.0
DNC-1a Meas													126					138						20
DNC-1a Cert													144					148						18.0
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas							1.85				5.9						15.1				14.4	23		1.7
DMMAS 111 Cert							1.87			5.80							14.00				14.00	19.30		1.90
30456 Orig				0.88	2.94	993		0.036					94		0.17			139						35
30456 Dup				0.85	2.93	989		0.037					93		0.18			140						35
30470 Orig				1.74	1.48	830		0.036					142		0.29			73						26
30470 Dup				1.74	1.47	821		0.034					142		0.29			72						26
30473 Orig	2	< 1	< 5	0.75	2.37	590	2.42	0.051	< 15	< 0.1	20.0	< 3	129	< 0.5	0.39	1.9	< 0.5	132	< 1	10	15.4	32	13	2.5
30473 Split	3	< 1	< 5	0.94	2.83	602	2.68	0.052	< 15	< 0.1	20.9	< 3	159	< 0.5	0.25	1.9	< 0.5	83	< 1	20	16.2	37	12	2.7
30491 Orig				0.52	2.44	1170		0.050					172		0.36			142						27
30491 Dup				0.45	2.14	1120		0.048					152		0.53			209						18
30493 Orig	4	< 1	< 5	1.35	1.96	1120	1.44	0.065	70	< 0.1	20.3	< 3	100	< 0.5	0.19	3.2	< 0.5	62	< 1	24	19.3	41	13	3.6
30493 Split	5	< 1	< 5	1.29	1.88	1100	1.28	0.059	60	< 0.1	19.6	< 3	97	< 0.5	0.14	3.1	< 0.5	45	< 1	23	18.6	42	14	3.4
30603 Orig	5	< 1	< 5	0.66	2.54	947	2.74	0.076	< 15	< 0.1	21.2	< 3	240	< 0.5	0.37	2.6	1.5	114	< 1	24	20.1	42	15	3.4
30603 Split	5	< 1	< 5	0.68	2.47	920	2.75	0.075	< 15	< 0.1	20.9	< 3	239	< 0.5	0.42	3.0	1.5	121	< 1	24	19.7	44	12	3.4
30605 Orig				1.02	2.18	875		0.066					146		0.12			48						22
30605 Dup				1.06	2.22	891		0.067					148		0.22			74						23
30626 Orig				1.90	1.59	754		0.048					122		0.13			38						19
30626 Dup				1.88	1.57	747		0.048					122		0.15			44						18
30633 Orig	4	< 1	< 5	1.22	2.00	1470	1.37	0.046	< 15	< 0.1	16.4	< 3	160	< 0.5	0.17	3.4	< 0.5	62	< 1	22	19.9	42	12	3.0
30633 Split	5	< 1	< 5	1.06	1.95	1430	1.31	0.044	< 15	< 0.1	16.2	< 3	154	< 0.5	0.26	3.4	< 0.5	87	< 1	21	18.6	39	10	3.0
30640 Orig				1.25	3.85	1170		0.102					302		0.51			164						29
30640 Dup				1.05	3.42	1140		0.096					278		0.51			163						20
30653 Orig	3	< 1	< 5	0.99	2.95	1170	2.54	0.062	< 15	< 0.1	25.2	< 3	289	< 0.5	0.35	2.9	< 0.5	108	< 1	26	18.7	46	15	3.5
30653 Split	3	< 1	< 5	1.02	2.99	1200	2.36	0.063	< 15	< 0.1	24.7	< 3	294	< 0.5	0.20	2.5	< 0.5	71	< 1	26	19.2	52	13	3.4
Method Blank Method Blank				< 0.01	< 0.01	4		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank				< 0.01	< 0.01	14		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank				< 0.01	< 0.01	1		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank				< 0.01	< 0.01	4		< 0.001					< 1		< 0.01			< 2						< 1
Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas					
GXR-1 Cert					
GXR-4 Meas					
GXR-4 Cert					
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
DNC-1a Meas					
DNC-1a Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
30456 Orig					
30456 Dup					
30470 Orig					
30470 Dup					
30473 Orig	< 0.01	1.3	1.8	0.15	32.8
30473 Split	< 0.01	1.4	2.0	0.17	28.5
30491 Orig					
30491 Dup					
30493 Orig	< 0.01	0.7	2.7	0.35	33.0
30493 Split	< 0.01	0.8	2.5	0.40	29.0
30603 Orig	< 0.01	< 0.5	2.2	0.19	29.3
30603 Split	< 0.01	< 0.5	2.1	0.17	31.1
30605 Orig					
30605 Dup					
30626 Orig					
30626 Dup					
30633 Orig	< 0.01	< 0.5	2.2	0.21	32.5
30633 Split	< 0.01	< 0.5	2.2	0.18	29.3
30640 Orig					
30640 Dup					
30653 Orig	< 0.01	< 0.5	2.5	0.45	31.3
30653 Split	< 0.01	< 0.5	2.5	0.34	28.9
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank					
Method Blank Method Blank	< 0.01	< 0.5	< 0.2	< 0.05	30.0



Date Submitted: 16-Sep-10
Invoice No.: A10-6118-1H2 4C
Invoice Date: 20-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

7 Pulp samples and 166 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-6118-1H2 4C

Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd.

Report: A10-6118-1H2 4C

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Ge	Hg	In
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.5	0.01	1	2	1	0.01	1	0.1	1	0.2
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS
30766	< 2	< 0.3	10	0.6	2	< 3	393	82	< 0.01	5.45	< 0.5	710	1	0.1	< 0.5	6.47	49	1090	3	5.56	3	0.1	< 1	< 0.2

Activation Laboratories Ltd.

Report: A10-6118-1H2 4C

Analyte Symbol	Re	Ir	K	Li	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V	W	Y	La
Unit Symbol	ppm	ppb	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	5	0.01	0.5	0.01	1	0.01	0.001	15	0.1	0.1	0.1	1	1	0.5	0.1	0.01	0.2	0.1	0.5	2	1	1	0.5
Analysis Method	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	MULT INAA/TD- ICP-MS	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	INAA	TD-MS	INAA	TD-ICP	INAA	TD-ICP	INAA
30766	< 0.001	< 5	2.63	35.6	7.89	1270	1.00	0.222	84	0.3	16.2	< 0.1	< 1	611	< 0.5	0.3	0.39	4.3	0.5	< 0.5	111	< 1	13	46.5

Activation Laboratories Ltd.

Report: A10-6118-1H2 4C

Analyte Symbol	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
30766	97	39	7.9	2.1	< 0.5	0.9	0.21	33.0	48.57	11.35	8.73	0.169	13.56	8.93	1.37	2.89	0.65	0.45	0.18	0.022	2.25	99.12

Quality Control																								
Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01
Analysis Method	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP
GXR-1 Meas		31.3	1100	3.8	15	712	41	723	0.23	1.91				1	1420	0.89				0.8		0.05	6.4	0.20
GXR-1 Cert		31.0	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22	1380	0.960					0.770		0.0500	8.20	0.217
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas		3.5	6580	0.7	323	45	42	72	1.85	6.80			2	19.3	1.15					0.2		4.11	11.7	1.76
GXR-4 Cert		4.00	6520	0.860	310	52.0	42.0	73.0	1.77	7.20			1.90	19.0	1.01					0.270		4.01	11.1	1.66
SDC-1 Meas		< 0.3	27	0.4	< 1	20	36	97	0.06	7.51			3	0.2	1.11							1.87	34.1	1.01
SDC-1 Cert		0.0410	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00	2.60	1.00							2.72	34.0	1.02
SCO-1 Meas		< 0.3	27	0.4	< 1	25	28	98		6.98			2	0.4	2.02							2.51	40.6	1.58
SCO-1 Cert		0.134	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84	0.370	1.87							2.30	45.0	1.64
GXR-6 Meas		< 0.3	59	0.6	< 1	84	26	118	< 0.01	13.1			1	0.2	0.24					< 0.2		1.93	39.7	0.61
GXR-6 Cert		1.30	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40	0.290	0.180					0.260		1.87	32.0	0.609
BE-N Meas																								
BE-N Cert																								
W-2a Meas																								
W-2a Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
DNC-1a Meas			98				243	54															4.7	
DNC-1a Cert			100				247	70.0															5.20	
OREAS 13b (4-Acid) Meas		0.7	2230		9		2130	107	1.12															
OREAS 13b (4-Acid) Cert		0.86	2327		9.0		2247	133	1.20															
DMMAS 111 Meas	1690										1520	1200				34	54	2.95						
DMMAS 111 Cert	1670										1450	1140				34	52	2.79						
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1	< 0.1	< 0.01				< 0.1	< 0.2	< 0.001	< 0.01	< 0.5	< 0.01
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01

Quality Control																									
Analyte Symbol	Mn	Na	P	Sc	Se	Sn	Sr	Te	Ti	Tl	U	V	Y	La	Ce	Sm	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	
Unit Symbol	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	
Detection Limit	1	0.01	0.001	0.1	3	1	1	0.1	0.01	0.1	0.5	2	1	0.5	3	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	
Analysis Method	TD-ICP	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	INAA	TD-ICP	TD-ICP	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
GXR-1 Meas	843		0.066		16	27	287			0.4		84	28												
GXR-1 Cert	852		0.0650		16.6	54.0	275			0.390		80.0	32.0												
DNC-1 Meas																	46.94	18.10	10.02	0.151	9.97	11.48	1.99	0.24	
DNC-1 Cert																	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	
MICA-FE Meas																	34.64	19.55	25.69	0.347	4.60	0.48	0.29	8.84	
MICA-FE Cert																	34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	
GXR-4 Meas	155		0.157		7	7	223	1.0		3.5		93	15												
GXR-4 Cert	155		0.120		5.60	5.60	221	0.970		3.20		87.0	14.0												
SDC-1 Meas	886		0.064			< 1	175		0.26			61	33												
SDC-1 Cert	883		0.0690				3.00	183	0.606			102	40.0												
SCO-1 Meas	396		0.096			3	170		0.37			134	20												
SCO-1 Cert	410		0.0900				3.70	174	0.380			131	26.0												
GXR-6 Meas	967		0.034		< 3	< 1	45	< 0.1		2.1		110	12												
GXR-6 Cert	1010		0.0350		0.940	1.70	35.0	0.0180		2.20		186	14.0												
BE-N Meas																	38.24	9.99		0.198	13.13	14.08	3.56	1.41	
BE-N Cert																	38.2	10.1		0.200	13.1	13.9	3.18	1.39	
W-2a Meas																	52.25	15.39	10.88	0.165	6.36	10.80	2.42	0.63	
W-2a Cert																	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	
MICA-Mg Meas																	38.21	15.26	9.34	0.254	20.18	0.04	0.25	9.95	
MICA-Mg Cert																	38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	
DNC-1a Meas								132					137	15											
DNC-1a Cert								144					148	18.0											
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas		1.96		6.1							13.4			14.0	20	1.8									
DMMAS 111 Cert		1.87		5.80							14.00			14.00	19.30	1.90									
Method Blank Method Blank	5		< 0.001		< 3	< 1	< 1	< 0.1	< 0.01	< 0.1		< 2	< 1												
Method Blank Method Blank	4		< 0.001				< 1		< 0.01			< 2	< 1												
Method Blank Method Blank	3		< 0.001				< 1		< 0.01			< 2	< 1												
Method Blank Method Blank	9		< 0.001				< 1		< 0.01			< 2	< 1												
Method Blank Method Blank	13		< 0.001				< 1		< 0.01			< 2	< 1												
Method Blank Method Blank																	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	

Quality Control				
Analyte Symbol	TiO2	P2O5	Cr2O3	V2O5
Unit Symbol	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.003
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

GXR-1 Meas				
GXR-1 Cert				
DNC-1 Meas	0.48	0.09		
DNC-1 Cert	0.480	0.070		
MICA-FE Meas	2.52	0.40	0.02	0.022
MICA-FE Cert	2.50	0.450	0.01	0.024
GXR-4 Meas				
GXR-4 Cert				
SDC-1 Meas				
SDC-1 Cert				
SCO-1 Meas				
SCO-1 Cert				
GXR-6 Meas				
GXR-6 Cert				
BE-N Meas	2.70	1.02	0.06	0.041
BE-N Cert	2.61	1.05	0.0500	0.042
W-2a Meas	1.10	0.13	0.01	
W-2a Cert	1.06	0.130	0.01	
MICA-Mg Meas	1.68	0.01	0.01	
MICA-Mg Cert	1.63	0.01	0.01	
DNC-1a Meas				
DNC-1a Cert				
OREAS 13b (4-Acid) Meas				
OREAS 13b (4-Acid) Cert				
DMMAS 111 Meas				
DMMAS 111 Cert				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.003



Date Submitted: 16-Sep-10
Invoice No.: A10-6118-1H
Invoice Date: 20-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

7 Pulp samples and 166 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-6118-1H

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-6118-1H

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30808	< 2	< 0.3	27	< 0.3	< 1	4	10	58	0.04	7.30	4.3	260	< 1	< 2	< 0.5	4.09	9	8	2	1.0	2.48	4	< 1	< 5
30809	< 2	< 0.3	20	< 0.3	< 1	3	11	51	0.02	7.88	6.2	270	1	< 2	< 0.5	2.76	13	14	< 1	1.1	2.30	4	< 1	< 5
30810	7	< 0.3	22	< 0.3	1	< 3	11	50	0.01	7.64	6.4	400	< 1	< 2	< 0.5	2.88	12	16	2	1.3	2.17	4	< 1	< 5
30811	10	< 0.3	29	< 0.3	< 1	< 3	9	53	0.02	7.60	4.8	290	< 1	< 2	< 0.5	3.03	8	15	< 1	1.3	2.30	4	< 1	< 5
30812	< 2	< 0.3	29	< 0.3	< 1	< 3	8	52	0.03	7.06	5.6	< 50	< 1	< 2	1.5	5.09	9	16	< 1	1.0	2.49	3	< 1	< 5
30813	< 2	< 0.3	22	0.3	< 1	< 3	9	51	0.01	7.30	6.6	460	< 1	< 2	< 0.5	3.84	10	17	< 1	1.1	2.20	3	< 1	< 5
30814	< 2	0.3	22	0.8	< 1	3	8	70	0.03	3.65	3.5	250	< 1	< 2	< 0.5	6.17	10	11	< 1	1.1	8.79	3	< 1	< 5
30815	< 2	< 0.3	22	< 0.3	2	< 3	8	47	< 0.01	7.13	3.7	280	< 1	< 2	< 0.5	3.86	9	14	< 1	1.3	2.13	4	< 1	< 5
30816	< 2	< 0.3	26	0.4	< 1	< 3	8	51	< 0.01	7.04	4.6	< 50	< 1	< 2	< 0.5	3.90	9	13	< 1	1.3	2.99	3	< 1	< 5
30817	< 2	< 0.3	17	0.9	1	< 3	10	64	< 0.01	6.41	2.6	280	< 1	< 2	< 0.5	5.10	12	15	< 1	1.0	9.74	3	< 1	< 5
30818	< 2	< 0.3	32	3.4	< 1	33	9	64	0.47	6.55	4.5	< 50	< 1	< 2	< 0.5	5.23	13	19	< 1	1.0	8.86	3	< 1	< 5
30819	54	26.6	5850	162	14	> 5000	56	28600	7.84	5.29	77.0	1240	< 1	18	< 0.5	4.10	59	131	< 1	0.7	10.8	1	8	< 5
30820	< 2	< 0.3	23	0.8	1	3	9	61	0.01	7.04	3.7	410	1	< 2	1.2	4.79	10	18	2	1.2	6.66	5	< 1	< 5
30821	< 2	0.4	20	0.5	1	< 3	9	65	0.02	7.17	3.7	310	< 1	< 2	0.9	4.14	12	17	< 1	1.1	4.92	5	< 1	< 5
30822	< 2	< 0.3	25	< 0.3	1	< 3	8	57	0.04	3.72	3.6	230	< 1	< 2	< 0.5	2.69	8	11	< 1	1.0	2.36	5	< 1	< 5
30823	< 2	< 0.3	30	< 0.3	1	< 3	9	52	0.04	6.29	< 0.5	340	< 1	< 2	< 0.5	3.45	10	13	2	1.0	2.32	4	< 1	< 5
30824	< 2	0.3	35	< 0.3	2	< 3	9	64	0.03	7.77	4.4	< 50	< 1	< 2	2.0	2.96	11	14	< 1	1.2	2.16	5	< 1	< 5
30825	< 2	0.3	21	< 0.3	< 1	< 3	9	55	0.02	7.69	3.0	250	1	< 2	< 0.5	2.99	10	12	2	1.1	2.12	5	< 1	< 5
30826	< 2	< 0.3	17	< 0.3	< 1	< 3	8	55	0.02	7.34	< 0.5	290	1	< 2	< 0.5	2.86	9	14	2	1.1	1.86	5	< 1	< 5

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30811	1.41	0.48	460	2.83	0.062	< 15	1.6	9.0	< 3	170	< 0.5	0.15	4.1	2.8	37	< 1	14	20.0	43	21	3.0	< 0.01	< 0.5	1.6
30812	1.49	0.73	683	2.43	0.061	< 15	1.6	9.1	< 3	167	< 0.5	0.25	4.3	< 0.5	53	< 1	18	19.2	46	11	3.0	< 0.01	< 0.5	1.9
30813	1.71	0.57	545	2.37	0.061	73	1.6	9.7	< 3	162	< 0.5	0.13	3.7	< 0.5	27	< 1	15	20.4	45	21	3.4	< 0.01	< 0.5	1.8
30814	0.91	1.49	3370	1.25	0.055	49	1.7	10.8	< 3	99	< 0.5	0.28	3.6	< 0.5	60	< 1	13	19.2	43	14	3.0	< 0.01	< 0.5	2.1
30815	1.51	0.51	745	1.92	0.068	54	1.7	8.1	< 3	173	< 0.5	0.34	4.5	2.0	58	< 1	17	20.9	46	16	3.2	< 0.01	< 0.5	1.7
30816	1.39	0.61	1000	1.84	0.064	94	1.5	8.7	< 3	164	< 0.5	0.28	3.8	1.1	51	< 1	15	19.9	45	14	3.2	< 0.01	< 0.5	1.6
30817	1.10	1.37	4300	1.02	0.058	< 15	1.7	11.1	< 3	100	< 0.5	0.28	3.4	< 0.5	60	< 1	17	18.8	42	14	2.9	< 0.01	0.8	2.0
30818	0.99	1.22	3370	1.12	0.060	< 15	1.8	11.0	< 3	115	< 0.5	0.31	4.3	< 0.5	62	< 1	18	18.7	43	14	2.9	< 0.01	< 0.5	1.9
30819	0.80	2.40	931	1.36	0.064	< 15	38.9	23.1	25	135	< 0.5	0.46	< 0.2	< 0.5	171	21	17	6.6	15	< 5	2.1	< 0.01	< 0.5	2.2
30820	1.25	0.91	2300	1.37	0.059	44	1.1	10.1	< 3	163	< 0.5	0.32	4.5	1.2	60	< 1	17	21.1	45	12	3.9	< 0.01	< 0.5	2.2
30821	1.28	0.79	1450	2.06	0.059	69	1.2	10.2	< 3	149	< 0.5	0.24	4.5	< 0.5	43	< 1	16	20.8	42	15	3.9	< 0.01	< 0.5	1.9
30822	0.82	0.46	668	2.77	0.060	< 15	1.0	9.5	< 3	123	< 0.5	0.34	4.4	1.5	63	< 1	6	19.8	40	< 5	3.8	< 0.01	< 0.5	1.7
30823	1.24	0.56	606	2.52	0.064	< 15	0.8	8.9	< 3	148	< 0.5	0.34	4.3	< 0.5	63	< 1	13	19.3	40	15	3.9	< 0.01	< 0.5	1.9
30824	1.28	0.52	397	3.03	0.072	< 15	1.0	9.1	< 3	145	< 0.5	0.36	4.9	< 0.5	64	< 1	16	21.1	44	15	4.2	< 0.01	< 0.5	1.7
30825	1.32	0.54	409	3.06	0.068	45	1.0	8.9	< 3	165	< 0.5	0.33	4.9	1.5	61	2	15	20.5	39	18	3.9	< 0.01	< 0.5	1.6
30826	1.54	0.54	372	3.11	0.066	< 15	1.0	8.7	< 3	166	< 0.5	0.23	4.9	< 0.5	50	< 1	15	21.9	43	15	4.2	< 0.01	0.8	1.8

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30654	0.36	31.4
30655	0.49	31.0
30656	0.37	37.2
30657	0.30	36.6
30658	0.42	34.6
30659	0.35	30.8
30660	0.30	37.6
30661	0.31	32.0
30662	0.35	36.3
30663	0.35	34.2
30664	0.35	34.9
30665	0.38	36.7
30666	0.36	34.3
30667	0.37	36.0
30668	0.36	34.9
30669	0.29	36.0
30670	0.27	32.5
30671	0.15	38.1
30672	0.05	34.8
30673	0.06	35.4
30674	0.35	37.3
30675	0.12	35.3
30676	0.40	34.0
30677	0.34	35.5
30678	0.30	37.9
30679	0.43	32.7
30680	0.36	35.4
30681	0.36	37.5
30682	0.05	36.0
30683	0.36	39.9
30684	0.30	36.3
30685	0.46	33.8
30686	0.56	31.2
30687	0.44	34.9
30688	0.38	34.0
30689	0.29	33.4
30690	0.40	35.0
30691	0.35	31.7
30692	0.40	32.1
30693	0.13	32.5
30694	0.38	31.3
30695	0.38	32.9
30696	0.42	31.8
30697	0.37	32.8
30698	0.41	31.2
30699	0.10	34.0
30700	0.40	32.3
30701	0.37	35.8
30702	0.37	30.6
30703	0.37	32.6
30704	0.40	28.1
30705	0.38	32.7

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30706	0.44	32.4
30707	0.15	33.3
30708	0.41	31.1
30709	0.42	31.5
30710	0.36	36.6
30711	0.38	34.7
30712	0.34	38.6
30713	0.31	30.9
30714	0.39	33.6
30715	0.07	34.3
30716	0.41	32.8
30717	0.14	35.5
30718	0.12	37.0
30719	0.45	31.4
30720	0.14	36.9
30721	0.35	36.4
30722	0.35	34.8
30723	0.16	29.9
30724	0.12	33.0
30725	0.11	37.3
30726	0.16	33.8
30727	0.14	33.4
30728	0.14	33.0
30729	0.09	34.8
30730	0.46	31.6
30731	0.36	37.8
30732	0.37	34.5
30733	0.17	39.2
30734	0.13	32.7
30735	< 0.05	34.2
30736	0.12	30.7
30737	0.11	36.1
30738	0.36	33.9
30739	0.44	31.5
30740	0.40	35.6
30741	0.09	32.6
30742	0.28	33.1
30743	0.38	29.9
30744	0.29	33.1
30745	0.38	32.4
30746	0.30	32.3
30747	0.31	31.0
30748	0.35	32.8
30749	0.32	33.3
30750	0.35	30.8
30751	0.35	34.6
30752	0.35	34.8
30753	0.33	33.5
30754	0.41	32.0
30755	0.41	32.1
30756	0.33	35.0
30757	0.35	32.0

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30758	0.35	34.4
30759	0.38	31.0
30760	0.33	35.2
30761	0.40	31.0
30762	0.29	31.9
30763	0.37	31.4
30764	0.29	32.2
30765	0.38	30.0
30767	0.30	32.0
30768	0.40	29.2
30769	0.35	33.5
30770	0.37	33.1
30771	0.31	32.4
30772	0.31	33.8
30773	0.33	36.3
30774	0.36	32.5
30775	0.34	33.9
30776	0.40	31.8
30777	0.36	37.0
30778	0.29	32.9
30779	0.37	30.5
30780	0.34	30.9
30781	0.38	30.6
30782	0.32	30.7
30783	0.39	36.1
30784	0.32	35.1
30785	0.37	34.1
30786	0.37	34.7
30787	0.30	31.8
30788	0.37	32.0
30789	0.34	31.7
30790	0.31	31.8
30791	0.31	34.4
30792	0.38	32.8
30793	0.29	33.5
30794	0.31	30.6
30795	0.25	33.9
30796	0.36	30.3
30797	0.27	34.9
30798	0.33	31.0
30799	0.33	33.3
30800	0.29	33.6
30801	0.30	34.4
30802	0.31	31.4
30803	0.28	26.5
30804	0.23	32.5
30805	0.30	33.7
30806	0.25	30.0
30807	0.32	30.5
30808	0.29	31.5
30809	0.28	29.5
30810	0.34	27.9

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30811	0.31	33.0
30812	0.32	31.0
30813	0.30	29.8
30814	0.40	33.5
30815	0.31	32.2
30816	0.29	30.8
30817	0.37	36.5
30818	0.39	35.0
30819	0.41	30.4
30820	0.22	31.4
30821	0.22	32.7
30822	0.17	33.9
30823	0.15	32.9
30824	0.18	33.8
30825	0.16	33.8
30826	0.27	29.3

Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01				< 1	< 2		< 0.01				
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01				< 1	< 2		< 0.01				
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01				< 1	< 2		< 0.01				

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
Method Blank Method				< 0.01	< 0.01	3		< 0.001					< 1		< 0.01			< 2		< 1				
Blank																								
Method Blank Method				< 0.01	< 0.01	9		< 0.001					< 1		< 0.01			< 2		< 1				
Blank																								
Method Blank Method				< 0.01	< 0.01	13		< 0.001					< 1		< 0.01			< 2		< 1				
Blank																								

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas					
GXR-1 Cert					
GXR-4 Meas					
GXR-4 Cert					
SDC-1 Meas					
SDC-1 Cert					
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
DNC-1a Meas					
DNC-1a Cert					
OREAS 13b (4-Acid) Meas					
OREAS 13b (4-Acid) Cert					
DMMAS 111 Meas					
DMMAS 111 Cert					
30665 Orig					
30665 Dup					
30679 Orig					
30679 Dup					
30683 Orig	< 0.01	< 0.5	1.6	0.36	39.9
30683 Split	< 0.01	< 0.5	1.8	0.44	34.3
30700 Orig					
30700 Dup					
30703 Orig	< 0.01	< 0.5	2.3	0.37	32.6
30703 Split	< 0.01	< 0.5	2.0	0.40	33.3
30713 Orig	< 0.01	< 0.5	2.2	0.31	30.9
30713 Split	< 0.01	< 0.5	2.2	0.26	37.7
30714 Orig					
30714 Dup					
30735 Orig					
30735 Dup					
30743 Orig	< 0.01	0.7	1.9	0.38	29.9
30743 Split	< 0.01	0.6	1.7	0.31	32.7
30749 Orig					
30749 Dup					
30771 Orig					
30771 Dup					
30773 Orig	< 0.01	< 0.5	1.6	0.33	36.3
30773 Split	< 0.01	< 0.5	2.0	0.26	35.1
30785 Orig					
30785 Dup					
30798 Orig					
30798 Dup					
30803 Orig	< 0.01	< 0.5	1.6	0.28	26.5
30803 Split	< 0.01	< 0.5	1.8	0.37	26.7
30812 Orig					
30812 Dup					
30826 Orig	< 0.01	0.8	1.8	0.27	29.3
30826 Split	< 0.01	0.6	1.8	0.38	27.8
Method Blank Method Blank					
Method Blank Method Blank					

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

Method Blank Method
Blank

Method Blank Method
Blank

Method Blank Method
Blank



Date Submitted: 22-Sep-10
Invoice No.: A10-6178
Invoice Date: 21-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Ahmad Mumin

CERTIFICATE OF ANALYSIS

244 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-6178

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Eseme".

Emmanuel Eseme, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
30333	0.19	24.7																						
30334	0.16	28.1																						
30335	0.14	27.9																						
30336	0.13	27.3																						
30337	0.13	27.1																						
30338	0.23	27.9																						
30339	0.35	30.9																						
30500	0.13	29.9																						
30501	0.15	28.1																						
30502	0.21	28.9																						
30503	0.20	32.9	< 0.1	0.2	< 0.2	0.004	13.8	< 0.1	< 1	0.2	< 0.1	53.03	15.22	9.69	0.281	3.56	9.39	3.17	0.91	0.81	0.07	< 0.01	0.052	2.97
30504	0.11	27.4																						
30505	0.09	30.6																						
30506	0.17	30.5																						
30507	0.17	29.5																						
30508	0.13	30.8																						
30509	0.13	36.8	< 0.1	0.4	< 0.2	0.002	10.0	< 0.1	< 1	0.1	< 0.1	52.27	14.62	12.23	0.320	5.13	9.56	2.55	0.22	0.76	0.08	< 0.01	0.058	1.21
30510	0.12	29.9																						
30511	0.14	29.8																						
30512	0.17	30.4																						
30513	0.10	29.3																						
30514	0.15	30.7																						
30515	0.23	30.2																						
30516	0.11	30.5																						
30517	0.12	29.4																						
30518	0.18	30.8																						
30519	0.18	30.0																						
30520	0.40	30.6																						
30521	0.16	29.7																						
30522	0.20	32.0	0.1	0.2	< 0.2	0.003	27.8	< 0.1	3	0.1	0.2	66.87	13.30	7.76	0.199	1.54	2.47	2.79	2.55	0.44	0.12	< 0.01	0.012	0.62
30523	0.19	30.6																						
30524	0.22	30.6																						
30525	0.17	28.8																						
30526	0.17	29.0																						
30527	0.21	29.0																						
30528	0.13	30.6																						
30529	0.08	31.7																						
30530	0.15	28.8																						
30531	0.17	30.2																						
30532	0.14	29.9																						
30533	0.08	30.3																						
30534	0.08	29.3																						
30535	0.18	28.6																						
30536	0.09	26.5																						
30537	< 0.05	26.4																						
30538	0.40	29.4																						
30539	0.10	30.1																						
30540	0.14	28.5																						
30541	0.11	30.0																						
30542	0.10	28.9																						
30543	0.11	29.4																						

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

30544	0.09	26.7
30545	0.09	28.4
30546	0.13	29.9
30547	0.13	29.2
30548	0.14	29.1
30549	0.11	29.7
30550	0.18	29.5
30551	0.20	30.1
30552	0.22	28.3
30553	0.21	30.2
30554	0.29	28.4
30555	0.24	28.6
30556	0.18	30.0
30557	0.26	29.2
30558	0.32	28.9
30559	0.38	29.2
30560	0.31	27.8
30561	0.31	30.0
30562	0.73	30.4
30563	0.81	28.9
30564	0.61	28.4
30565	0.66	30.9
30566	0.73	29.9
30567	0.71	30.4
30568	0.79	28.2
30569	0.63	29.9
30570	0.65	29.5
30571	0.66	31.0
30572	0.70	28.4
30573	0.37	28.3
30574	0.59	28.2
30575	0.63	23.0
30576	0.59	29.1
30577	0.57	30.9
30578	0.73	27.7
30579	0.60	30.2
30580	0.28	30.2
30581	0.69	26.5
30582	0.61	29.5
30583	0.58	30.4
30584	0.69	30.0
30585	0.35	29.7
30586	0.74	30.4
30587	0.59	29.7
30588	0.34	26.7
30589	0.68	29.7
30590	0.62	29.4
30591	0.56	29.6
30592	0.75	26.7
30593	0.64	29.0
30594	0.73	26.5

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

30595	0.65	25.4
30596	0.25	29.9
30597	0.31	29.0
30598	0.48	28.0
30599	0.43	29.0
30827	0.32	27.9
30828	0.34	28.4
30829	0.36	29.1
30830	0.34	30.0
30831	0.39	30.8
30832	0.40	28.9
30833	0.09	30.8
30834	0.44	29.5
30835	0.41	29.1
30836	0.35	23.3
30837	0.37	30.7
30838	0.08	30.1
30839	0.36	24.9
30840	0.31	31.6
30841	0.39	29.1
30842	0.35	29.8
30843	0.08	28.9
30844	0.33	26.2
30845	0.37	30.8
30846	0.30	27.1
30847	0.38	30.8
30848	< 0.05	30.7
30849	0.14	30.8
30850	0.07	27.6
30851	< 0.05	30.2
30852	0.16	29.1
30853	0.32	30.1
30854	0.32	30.3
30855	0.07	29.7
30856	0.12	28.7
30857	0.39	27.3
30858	0.08	30.0
30859	0.36	28.0
30860	0.35	30.2
30861	0.32	30.0
30862	0.34	27.5
30863	0.10	30.9
30864	0.44	29.6
30865	0.08	29.7
30866	0.16	30.5
30867	0.13	30.8
30868	0.08	29.7
30869	0.07	30.4
30870	< 0.05	30.6
30871	< 0.05	30.0
30872	0.35	26.4

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

30873	0.17	27.4																							
30874	0.30	28.8																							
30875	0.20	27.2																							
30876	0.23	28.0																							
30877	0.31	28.2																							
30878	0.35	25.7																							
30879	0.35	29.2																							
30880	0.29	28.2																							
30881	0.24	27.9																							
30882	0.30	29.1																							
30883	0.28	25.9																							
30884	0.32	25.7																							
30885	0.32	27.2																							
30886	0.31	28.7																							
30887	0.28	25.8																							
30888	0.31	25.4																							
30889	0.32	26.5																							
30890	0.33	30.4																							
30891	0.34	26.9																							
30892	0.32	26.7																							
30893	0.40	30.3																							
30894	0.33	30.4																							
30895	0.34	27.3																							
30896	0.37	24.3																							
30897	0.37	28.9																							
30898	0.36	26.4																							
30899	0.42	29.8																							
30900	0.42	26.6																							
30901	0.38	30.2																							
30902	0.41	27.3																							
30903	0.37	30.6																							
30904	0.40	30.4																							
30905	0.37	28.3																							
30906	0.36	29.8																							
30907	0.34	30.0																							
30908	0.12	37.1	< 0.1	0.4	< 0.2	0.001	10.4	< 0.1	< 1	0.1	< 0.1	52.87	15.09	10.64	0.221	4.16	10.12	2.65	0.13	0.81	0.07	0.01	0.055	1.98	
30909	0.36	30.1																							
30910	0.36	28.8																							
30911	0.33	28.4																							
30912	0.38	30.9																							
30913	0.37	25.8																							
30914	0.40	29.1																							
30915	0.32	28.2																							
30916	0.34	30.9																							
30917	0.39	28.3																							
30918	0.27	29.9																							
30919	0.37	28.3																							
30920	0.31	28.0																							
30921	0.39	27.3																							
30922	0.34	30.2																							
30923	0.12	26.0																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
30924	0.34	28.5																						
30925	0.18	28.4																						
30926	0.37	26.4																						
30927	0.41	28.5																						
30928	0.35	29.0																						
30929	0.38	26.4																						
30930	0.42	29.7																						
30931	0.16	28.9																						
30932	0.16	28.0																						
30933	0.42	26.4																						
30934	0.36	29.3																						
30935	0.35	28.5																						
30936	0.37	29.2																						
30937	0.17	26.9																						
30938	0.37	28.5																						
30939	0.40	25.3																						
30940	0.34	28.6																						
30941	0.32	27.9																						
30942	0.29	28.6																						
30943	0.37	29.0																						
30944	0.13	29.4																						
30945	0.07	29.5																						
30946	0.14	26.8																						
30947	0.11	29.1																						
30948	< 0.05	30.6																						
30949	< 0.05	30.6																						
30950	< 0.05	28.2																						
30951	< 0.05	29.0																						
30952	0.06	30.3																						
31000	0.23	29.3																						
31001	0.18	29.8																						
31002	0.19	27.3																						
31003	0.06	27.5																						
31004	< 0.05	31.5	< 0.1	0.3	< 0.2	0.003	64.7	< 0.1	1	0.5	0.4	55.79	13.48	6.46	0.088	3.75	6.99	3.75	2.77	0.82	0.50	0.02	0.019	4.10
31005	0.11	29.6																						
31006	0.28	35.0	0.3	0.1	< 0.2	0.003	24.7	< 0.1	< 1	0.4	0.3	59.13	18.59	5.33	0.102	1.54	5.18	4.98	1.61	0.34	0.36	< 0.01	0.010	1.35
31007	0.07	30.8																						
31008	0.09	30.1																						
31009	0.16	35.6	< 0.1	0.5	< 0.2	< 0.001	17.8	< 0.1	< 1	0.1	0.1	49.68	14.06	12.61	0.258	5.54	10.53	2.22	0.93	0.74	0.07	< 0.01	0.050	2.50
31010	0.39	29.5																						

Analyte Symbol	Total
Unit Symbol	%
Detection Limit	0.01
Analysis Method	FUS-XRF

30333
 30334
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 30339
 30500
 30501
 30502
 30503 99.14
 30504
 30505
 30506
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 30509 99.00
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 30516
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 30522 98.67
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Analyte Symbol	Total
Unit Symbol	%
Detection Limit	0.01
Analysis Method	FUS-XRF

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Analyte Symbol	Total
Unit Symbol	%
Detection Limit	0.01
Analysis Method	FUS-XRF

30597
30598
30599
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Analyte Symbol	Total
Unit Symbol	%
Detection Limit	0.01
Analysis Method	FUS-XRF

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 30908 98.80
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Analyte Symbol	Total
Unit Symbol	%
Detection Limit	0.01
Analysis Method	FUS-XRF

30928	
30929	
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30946	
30947	
30948	
30949	
30950	
30951	
30952	
31000	
31001	
31002	
31003	
31004	98.54
31005	
31006	98.52
31007	
31008	
31009	99.18
31010	

Quality Control																									
Analyte Symbol	Au	Ag	Ni	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U	
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	2	5	20	50	0.5	50	2	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5	
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	
GXR-1 Meas																								1390	
GXR-1 Cert																								1380	
GXR-1 Meas																									
GXR-1 Cert																									
DNC-1 Meas																									
DNC-1 Cert																									
MICA-FE Meas																									
MICA-FE Cert																									
GXR-4 Meas																									7
GXR-4 Cert																									19.0
GXR-4 Meas																									
GXR-4 Cert																									
AN-G Meas																									
AN-G Cert																									
SDC-1 Meas																									< 2
SDC-1 Cert																									2.60
SDC-1 Meas																									
SDC-1 Cert																									
SCO-1 Meas																									< 2
SCO-1 Cert																									0.370
SCO-1 Meas																									
SCO-1 Cert																									
GXR-6 Meas																									3
GXR-6 Cert																									0.290
GXR-6 Meas																									
GXR-6 Cert																									
BE-N Meas																									
BE-N Cert																									
OREAS 13P Meas																									
OREAS 13P Cert																									
DMMAS-105 Meas	255				1640	740		49	91		1.3	6.36					2.82		10.1	16.5			8.1	65.0	
DMMAS-105 Cert	276				1693	742		48	97		1.1	6.17					2.81		10.6	15.7			7.8	66	
DMMAS-105 Meas	254				1730	670		48	93		1.2	6.32					2.93		10.7	16.4			8.1	64.9	
DMMAS-105 Cert	276				1693	742		48	97		1.1	6.17					2.81		10.6	15.7			7.8	66	
DMMAS-105 Meas	274				1700	660		48	98		1.4	6.31					2.96		10.7	16.4			7.9	64.0	
DMMAS-105 Cert	276				1693	742		48	97		1.1	6.17					2.81		10.6	15.7			7.8	66	
DMMAS-105 Meas	272				1680	860		51	95		1.4	6.49					3.08		10.7	15.5			7.9	64.2	
DMMAS-105 Cert	276				1693	742		48	97		1.1	6.17					2.81		10.6	15.7			7.8	66	
DMMAS-105 Meas	263				1670	860		52	94		1.2	6.36					2.96		10.1	16.7			7.5	64.4	
DMMAS-105 Cert	276				1693	742		48	97		1.1	6.17					2.81		10.6	15.7			7.8	66	
DNC-1a Meas																									
DNC-1a Cert																									
DNC-1a Meas																									
DNC-1a Cert																									
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
30506 Orig																									< 2
30506 Dup																									< 2
30521 Orig																									< 2
30521 Dup																									< 2
30522 Orig	< 2	< 5	< 20	< 50	< 0.5	1470		< 0.5	23	32	3	1.2	4.89	5	< 1	< 5	1.97	< 15	< 0.1	8.3	< 3	< 0.5	2.7	< 0.5	
30522 Split	< 2	< 5	< 20	< 50	< 0.5	1360		< 0.5	23	33	3	0.9	5.04	3	< 1	< 5	1.87	< 15	< 0.1	8.2	< 3	< 0.5	2.5	< 0.5	
30542 Orig	< 2	< 5	< 20	< 50	< 0.5	860	< 2	4.1	37	319	< 1	0.8	9.77	< 1	< 1	< 5	1.62	< 15	< 0.1	39.0	< 3	< 0.5	< 0.2	< 0.5	
30542 Split	< 2	< 5	< 20	< 50	< 0.5	790	< 2	4.6	40	330	< 1	0.9	9.69	< 1	< 1	< 5	1.60	< 15	< 0.1	38.2	< 3	< 0.5	< 0.2	< 0.5	
30543 Orig																									< 2
30543 Dup																									< 2

Quality Control																								
Analyte Symbol	Au	Ag	Ni	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	20	50	0.5	50	2	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
30552 Orig	< 2	< 5	< 20	< 50	< 0.5	550	< 2	< 0.5	57	53	5	1.3	12.7	< 1	< 1	< 5	1.80	< 15	< 0.1	33.5	< 3	< 0.5	1.0	< 0.5
30552 Split	< 2	< 5	< 20	< 50	< 0.5	550	< 2	< 0.5	57	52	4	1.4	12.4	< 1	< 1	< 5	1.80	< 15	0.1	32.6	< 3	< 0.5	0.9	< 0.5
30557 Orig							2																	
30557 Dup							< 2																	
30578 Orig							< 2																	
30578 Dup							< 2																	
30582 Orig	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	45	62	3	0.9	15.4	2	< 1	< 5	1.52	< 15	< 0.1	36.7	< 3	< 0.5	< 0.2	< 0.5
30582 Split	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	46	57	3	1.2	16.0	2	< 1	< 5	1.49	< 15	< 0.1	38.2	< 3	< 0.5	< 0.2	< 0.5
30592 Orig	< 2	< 5	< 20	80	3.0	< 50	< 2	< 0.5	67	70	< 1	1.3	22.3	< 1	< 1	< 5	0.92	< 15	< 0.1	34.3	< 3	< 0.5	< 0.2	< 0.5
30592 Split	< 2	< 5	< 20	100	2.7	< 50	< 2	< 0.5	65	65	< 1	1.5	21.5	< 1	< 1	< 5	0.89	< 15	< 0.1	32.8	< 3	< 0.5	< 0.2	< 0.5
30592 Orig							< 2																	
30592 Dup							3																	
30840 Orig	< 2	< 5	< 20	< 50	< 0.5	500	< 2	< 0.5	45	57	< 1	0.9	9.28	< 1	< 1	< 5	1.56	< 15	< 0.1	34.5	< 3	< 0.5	1.8	< 0.5
30840 Split	< 2	< 5	< 20	< 50	< 0.5	440	< 2	< 0.5	49	56	< 1	1.0	10.1	2	< 1	< 5	1.57	< 15	< 0.1	35.8	< 3	< 0.5	1.2	< 0.5
30840 Orig							< 2																	
30840 Dup							< 2																	
30866 Orig							< 2																	
30866 Dup							< 2																	
30869 Orig	< 2	< 5	< 20	< 50	2.2	440	< 2	< 0.5	40	56	2	0.5	7.97	< 1	< 1	< 5	1.98	< 15	0.6	33.2	< 3	< 0.5	1.4	< 0.5
30869 Split	< 2	< 5	< 20	< 50	3.3	420	< 2	< 0.5	43	66	< 1	0.5	8.27	2	< 1	< 5	1.93	< 15	0.6	34.4	< 3	< 0.5	1.6	< 0.5
30880 Orig							< 2																	
30880 Dup							< 2																	
30899 Orig	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	12	16	1	0.9	6.86	4	< 1	< 5	1.29	< 15	< 0.1	12.5	< 3	< 0.5	4.3	< 0.5
30899 Split	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	13	16	< 1	1.1	7.10	5	< 1	< 5	1.34	< 15	< 0.1	12.8	< 3	< 0.5	4.5	< 0.5
30901 Orig							< 2																	
30901 Dup							< 2																	
30916 Orig							< 2																	
30916 Dup							< 2																	
30920 Orig	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	48	54	< 1	0.7	7.90	2	< 1	< 5	1.71	< 15	< 0.1	35.5	< 3	< 0.5	1.4	< 0.5
30920 Split	< 2	< 5	< 20	< 50	< 0.5	< 50	< 2	< 0.5	50	55	< 1	0.6	7.81	2	< 1	< 5	1.75	< 15	< 0.1	35.1	< 3	< 0.5	1.4	< 0.5
30929 Orig	< 2	< 5	< 20	< 50	< 0.5	640	< 2	< 0.5	49	60	< 1	0.7	7.32	< 1	< 1	< 5	1.82	< 15	0.5	35.2	< 3	< 0.5	1.2	< 0.5
30929 Split	< 2	< 5	< 20	< 50	< 0.5	630	< 2	< 0.5	51	58	< 1	0.8	7.21	< 1	< 1	< 5	1.82	< 15	0.3	34.8	< 3	< 0.5	1.5	< 0.5
30937 Orig							< 2																	
30937 Dup							< 2																	
30951 Orig							< 2																	
30951 Dup							< 2																	
31006 Orig	< 2	< 5	< 20	< 50	< 0.5	880		< 0.5	9	< 2	4	2.5	3.45	7	< 1	< 5	3.61	< 15	< 0.1	5.2	< 3	< 0.5	13.5	4.5
31006 Split	< 2	< 5	< 20	< 50	< 0.5	820		< 0.5	9	< 2	3	2.2	3.50	5	< 1	< 5	3.29	< 15	< 0.1	5.4	< 3	< 0.5	13.3	5.2
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank							< 2																	
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Quality Control																																	
Analyte Symbol	W	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	Ge	In									
Unit Symbol	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm									
Detection Limit	1	0.5	3	5	0.1	0.01	0.5	0.2	0.05		0.3	1	0.3	1	3	1	1	0.01	0.01	1	0.1	0.01	0.1	0.2									
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS									
GXR-1 Meas											30.8	1100	3.3	14	696	42	695	0.19	2.70	1	1570	0.94		0.8									
GXR-1 Cert											31.0	1110	3.30	18.0	730	41.0	760	0.257	3.52	1.22	1380	0.960		0.770									
GXR-1 Meas											32.3	1190	3.5	17	753	44	753	0.25	1.84	1	1540	0.95		0.8									
GXR-1 Cert											31.0	1110	3.30	18.0	730	41.0	760	0.257	3.52	1.22	1380	0.960		0.770									
DNC-1 Meas																																	
DNC-1 Cert																																	
MICA-FE Meas																																	
MICA-FE Cert																																	
GXR-4 Meas											3.9	6530	0.4	314	46	45	74	1.85	5.23	2	19.1	1.14		0.2									
GXR-4 Cert											4.00	6520	0.860	310	52.0	42.0	73.0	1.77	7.20	1.90	19.0	1.01		0.270									
GXR-4 Meas											3.4	6110	0.4	313	40	49	84	1.71	2.79	2	19.0	0.96		< 0.2									
GXR-4 Cert											4.00	6520	0.860	310	52.0	42.0	73.0	1.77	7.20	1.90	19.0	1.01		0.270									
AN-G Meas																																	
AN-G Cert																																	
SDC-1 Meas											< 0.3	27	< 0.3	1	20	38	103	0.06	6.16	3	0.8	1.16											
SDC-1 Cert											0.0410	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34	3.00	2.60	1.00											
SDC-1 Meas											0.3	28	0.3	< 1	23	35	97	0.06	6.14	3	0.8	1.09											
SDC-1 Cert											0.0410	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34	3.00	2.60	1.00											
SCO-1 Meas											0.4	28	0.4	< 1	25	31	104		5.68	2	0.5	2.14											
SCO-1 Cert											0.134	28.7	0.140	1.37	31.0	27.0	103		7.24	1.84	0.370	1.87											
SCO-1 Meas											0.4	28	< 0.3	< 1	27	29	95		5.73	2	0.5	1.98											
SCO-1 Cert											0.134	28.7	0.140	1.37	31.0	27.0	103		7.24	1.84	0.370	1.87											
GXR-6 Meas											0.5	68	0.5	< 1	98	29	138	0.01	9.67	1	0.3	0.20		< 0.2									
GXR-6 Cert											1.30	66.0	1.00	2.40	101	27.0	118	0.0160	17.7	1.40	0.290	0.180		0.260									
GXR-6 Meas											0.5	60	0.4	4	84	24	117	< 0.01	10.1	1	0.3	0.24		< 0.2									
GXR-6 Cert											1.30	66.0	1.00	2.40	101	27.0	118	0.0160	17.7	1.40	0.290	0.180		0.260									
BE-N Meas																																	
BE-N Cert																																	
OREAS 13P Meas												2600				2270																	
OREAS 13P Cert												2500				2260																	
DMMAS-105 Meas		35.9	59	15	3.9			3.4	0.54																								
DMMAS-105 Cert		37.5	60	10	3.9			3.0	0.45																								
DMMAS-105 Meas		35.7	57	12	4.0			2.9	0.45																								
DMMAS-105 Cert		37.5	60	10	3.9			3.0	0.45																								
DMMAS-105 Meas		36.7	59	11	3.7			2.9	0.47																								
DMMAS-105 Cert		37.5	60	10	3.9			3.0	0.45																								
DMMAS-105 Meas		37.0	65	13	3.6			3.3	0.47																								
DMMAS-105 Cert		37.5	60	10	3.9			3.0	0.45																								
DMMAS-105 Meas		36.4	64	10	3.8			2.7	0.50																								
DMMAS-105 Cert		37.5	60	10	3.9			3.0	0.45																								
DNC-1a Meas												98				271	57																
DNC-1a Cert												100				247	70.0																
DNC-1a Meas												94				236	52																
DNC-1a Cert												100				247	70.0																
OREAS 13b (4-Acid) Meas											1.1	2270		7		2080	109	1.09															
OREAS 13b (4-Acid) Cert											0.86	2327		9.0		2247	133	1.20															
30506 Orig											< 0.3	62	0.8	< 1	< 3	57	91	0.13	5.61	< 1		8.38											
30506 Dup											< 0.3	68	1.2	< 1	< 3	61	96	0.13	5.32	< 1		8.86											
30521 Orig											0.4	36	1.6	< 1	4	21	192	0.19	5.30	< 1		3.11											
30521 Dup											0.3	34	< 0.3	< 1	< 3	21	180	0.21	5.18	< 1		3.08											
30522 Orig											< 1	19.2	37	< 5	2.6	< 0.5	1.5	0.20	32.0	0.5	39	0.4	1	< 3	33	159	0.20	5.76	< 1	0.1	1.94	0.2	< 0.2
30522 Split		< 1	18.8	31	< 5	2.4	< 0.5	1.3	0.18	28.7	0.4	38	0.3	< 1	< 3	35	162	0.21	5.34	< 1	< 0.1	1.92	0.1	< 0.2									
30542 Orig		< 1	4.3	9	12	1.4	< 0.01	< 0.5	1.8	0.10	28.9	0.3	55	0.7	< 1	< 3	66	65	0.32	5.46	< 1		8.92										
30542 Split		< 1	4.5	10	13	1.6	< 0.01	< 0.5	2.0	0.12	29.3	0.5	56	0.5	< 1	< 3	67	67	0.34	6.09	< 1		8.90										
30543 Orig											< 0.3	36	0.7	< 1	< 3	65	57	0.20	5.32	< 1		8.24											
30543 Dup											< 0.3	34	0.8	< 1	< 3	62	57	0.20	2.83	< 1		7.40											

Quality Control				
Analyte Symbol	Cr2O3	V2O5	LOI	Total
Unit Symbol	%	%	%	%
Detection Limit	0.01	0.003		0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

GXR-1 Meas				
GXR-1 Cert				
GXR-1 Meas				
GXR-1 Cert				
DNC-1 Meas				
DNC-1 Cert				
MICA-FE Meas	0.02	0.020		
MICA-FE Cert	0.01	0.024		
GXR-4 Meas				
GXR-4 Cert				
GXR-4 Meas				
GXR-4 Cert				
AN-G Meas	0.01			
AN-G Cert	0.01			
SDC-1 Meas				
SDC-1 Cert				
SDC-1 Meas				
SDC-1 Cert				
SCO-1 Meas				
SCO-1 Cert				
SCO-1 Meas				
SCO-1 Cert				
GXR-6 Meas				
GXR-6 Cert				
GXR-6 Meas				
GXR-6 Cert				
BE-N Meas	0.06	0.038		
BE-N Cert	0.0500	0.042		
OREAS 13P Meas				
OREAS 13P Cert				
DMMAS-105 Meas				
DMMAS-105 Cert				
DMMAS-105 Meas				
DMMAS-105 Cert				
DMMAS-105 Meas				
DMMAS-105 Cert				
DMMAS-105 Meas				
DMMAS-105 Cert				
DMMAS-105 Meas				
DMMAS-105 Cert				
DNC-1a Meas				
DNC-1a Cert				
DNC-1a Meas				
DNC-1a Cert				
OREAS 13b (4-Acid) Meas				
OREAS 13b (4-Acid) Cert				
30506 Orig				
30506 Dup				
30521 Orig				
30521 Dup				
30522 Orig	< 0.01	0.012	0.62	98.67
30522 Split	< 0.01	0.012	0.60	98.71
30542 Orig				
30542 Split				
30543 Orig				
30543 Dup				

Quality Control				
Analyte Symbol	Cr2O3	V2O5	LOI	Total
Unit Symbol	%	%	%	%
Detection Limit	0.01	0.003		0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

30552 Orig				
30552 Split				
30557 Orig				
30557 Dup				
30578 Orig				
30578 Dup				
30582 Orig				
30582 Split				
30592 Orig				
30592 Split				
30592 Orig				
30592 Dup				
30840 Orig				
30840 Split				
30840 Orig				
30840 Dup				
30866 Orig				
30866 Dup				
30869 Orig				
30869 Split				
30880 Orig				
30880 Dup				
30899 Orig				
30899 Split				
30901 Orig				
30901 Dup				
30916 Orig				
30916 Dup				
30920 Orig				
30920 Split				
30929 Orig				
30929 Split				
30937 Orig				
30937 Dup				
30951 Orig				
30951 Dup				
31006 Orig	< 0.01	0.010	1.35	98.52
31006 Split	< 0.01	0.008	1.27	98.63
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method				
Blank				
Method Blank Method	< 0.01	< 0.003		
Blank				



Date Submitted: 28-Sep-10
Invoice No.: A10-6448-1H2 4C
Invoice Date: 29-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Tim Gallagher

CERTIFICATE OF ANALYSIS

11 Pulp samples and 278 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-6448-1H2 4C

Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (11+) Whole Rock Analysis-XRF

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd.

Report: A10-6448-1H2 4C

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Ge	Hg	In
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.5	0.01	1	2	1	0.01	1	0.1	1	0.2
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS
31138	< 2	0.4	55	0.5	< 1	< 3	200	188	0.15	5.62	6.9	< 50	< 1	0.1	< 0.5	6.98	48	1090	3	6.42	3	< 0.1	< 1	< 0.2
31149	< 2	0.3	34	0.4	< 1	7	51	74	< 0.01	5.83	< 0.5	340	1	0.1	< 0.5	5.86	35	351	3	5.29	4	0.3	< 1	< 0.2
31166	< 2	< 0.3	18	0.4	< 1	< 3	295	95	0.03	6.30	4.0	460	< 1	< 0.1	< 0.5	6.56	55	390	4	8.26	3	0.5	< 1	< 0.2
31237	< 2	0.4	48	0.5	< 1	5	62	62	0.04	6.52	< 0.5	910	2	< 0.1	< 0.5	6.02	33	429	5	5.26	4	< 0.1	< 1	< 0.2
31238	< 2	0.3	105	0.4	< 1	7	48	57	0.23	8.14	< 0.5	850	2	< 0.1	< 0.5	5.70	33	195	8	5.46	3	0.3	< 1	< 0.2
31240	< 2	0.3	72	0.6	< 1	7	45	65	0.16	6.86	3.0	1180	2	< 0.1	< 0.5	5.69	31	312	7	5.55	4	< 0.1	< 1	< 0.2
31295	< 2	< 0.3	64	0.6	< 1	< 3	63	71	0.02	7.37	2.9	< 50	< 1	< 0.1	< 0.5	6.13	52	59	< 1	8.20	3	0.3	< 1	< 0.2
31296	4	0.4	63	0.8	< 1	< 3	42	47	0.47	6.30	2.7	< 50	< 1	0.1	< 0.5	3.58	31	44	< 1	11.6	3	0.3	< 1	< 0.2
31297	< 2	0.3	50	0.7	< 1	< 3	60	55	0.02	7.02	< 0.5	< 50	< 1	< 0.1	< 0.5	6.12	48	72	< 1	7.86	3	0.5	< 1	< 0.2
31298	< 2	< 0.3	189	0.7	< 1	< 3	67	73	0.16	5.66	2.1	< 50	< 1	< 0.1	< 0.5	7.23	61	53	< 1	8.49	< 1	0.1	< 1	< 0.2
31299	< 2	< 0.3	104	0.7	< 1	< 3	68	74	0.11	6.94	< 0.5	< 50	< 1	< 0.1	< 0.5	7.47	56	55	< 1	8.20	1	0.4	< 1	< 0.2

Activation Laboratories Ltd.

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Analyte Symbol	Re	Ir	K	Li	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V	W	Y	La
Unit Symbol	ppm	ppb	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	5	0.01	0.5	0.01	1	0.01	0.001	15	0.1	0.1	0.1	1	1	0.5	0.1	0.01	0.2	0.1	0.5	2	1	1	0.5
Analysis Method	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	MULT INAA/TD- ICP-MS	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	INAA	TD-MS	INAA	TD-ICP	INAA	TD-ICP	INAA
31138	< 0.001	< 5	2.05	13.2	6.39	1470	0.30	0.098	57	0.8	27.3	< 0.1	2	219	< 0.5	0.2	0.37	3.8	0.4	< 0.5	175	5	13	24.7
31149	< 0.001	< 5	1.71	25.7	4.11	1080	1.91	0.115	94	0.5	23.4	< 0.1	1	577	< 0.5	0.3	0.33	4.4	0.2	2.3	130	< 1	11	27.3
31166	< 0.001	< 5	1.92	36.7	5.45	1330	1.04	0.110	61	0.9	22.1	< 0.1	< 1	398	< 0.5	0.2	0.31	7.5	0.4	< 0.5	137	< 1	16	53.3
31237	< 0.001	< 5	1.88	31.2	4.80	1000	2.33	0.117	< 15	< 0.1	23.4	< 0.1	< 1	650	< 0.5	0.3	0.34	3.8	0.5	< 0.5	131	< 1	13	26.0
31238	< 0.001	< 5	1.92	35.7	4.10	885	3.34	0.083	70	0.5	18.2	< 0.1	< 1	773	< 0.5	0.2	0.44	< 0.2	0.5	2.2	146	< 1	14	16.9
31240	< 0.001	< 5	2.19	29.1	4.15	978	2.57	0.133	< 15	< 0.1	23.4	< 0.1	1	648	< 0.5	0.3	0.37	4.7	0.5	3.9	146	< 1	14	29.9
31295	< 0.001	< 5	0.26	18.2	4.81	1570	1.91	0.029	< 15	< 0.1	36.4	< 0.1	< 1	243	< 0.5	0.1	0.45	1.2	< 0.1	< 0.5	244	< 1	16	6.8
31296	< 0.001	< 5	0.13	19.5	5.64	1480	1.13	0.042	< 15	< 0.1	20.8	< 0.1	< 1	133	< 0.5	0.4	0.38	2.2	< 0.1	< 0.5	150	< 1	17	13.0
31297	< 0.001	< 5	0.15	19.1	4.88	1070	1.60	0.027	< 15	< 0.1	36.4	< 0.1	< 1	252	< 0.5	< 0.1	0.45	1.7	< 0.1	< 0.5	243	< 1	16	7.4
31298	< 0.001	< 5	0.11	12.7	2.54	1330	1.68	0.026	< 15	< 0.1	39.0	< 0.1	< 1	163	< 0.5	< 0.1	0.39	1.8	< 0.1	< 0.5	232	< 1	13	7.0
31299	< 0.001	< 5	0.14	13.9	2.75	1330	1.70	0.026	< 15	< 0.1	39.0	< 0.1	< 1	172	< 0.5	0.1	0.27	2.0	< 0.1	< 0.5	172	< 1	16	7.0

Activation Laboratories Ltd.

Report: A10-6448-1H2 4C

Analyte Symbol	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
31138	59	18	4.4	1.4	< 0.5	1.3	0.08	36.4	52.05	11.19	9.78	0.204	10.66	9.65	0.39	1.85	0.62	0.23	0.16	0.034	2.11	98.92
31149	61	16	4.4	1.4	< 0.5	1.6	0.09	35.3	53.43	13.15	7.81	0.149	7.30	8.32	2.52	1.97	0.56	0.29	0.05	0.028	3.21	98.78
31166	109	38	6.5	2.0	< 0.5	1.7	0.09	37.5	48.80	13.08	12.23	0.190	9.34	9.32	1.32	1.74	0.76	0.28	0.05	0.040	1.87	99.01
31237	61	22	4.4	1.3	< 0.5	1.2	< 0.05	33.0	53.53	12.74	7.73	0.134	7.86	8.15	3.19	1.61	0.55	0.27	0.06	0.027	2.99	98.83
31238	42	14	3.9	1.4	< 0.5	1.4	0.09	36.2	50.15	16.00	7.70	0.119	6.65	7.65	4.45	1.63	0.74	0.20	0.03	0.030	3.26	98.61
31240	61	18	4.8	1.7	< 0.5	1.4	0.09	34.3	53.50	13.57	7.95	0.130	6.74	7.56	3.36	1.85	0.61	0.30	0.04	0.029	3.14	98.78
31295	18	< 5	1.8	0.6	< 0.5	2.1	0.23	34.9	51.19	14.48	12.28	0.211	7.93	8.43	2.58	0.23	0.75	0.07	< 0.01	0.050	0.95	99.17
31296	30	10	2.5	0.8	< 0.5	2.2	0.39	34.1	50.22	12.40	17.63	0.196	9.14	4.78	1.52	0.11	0.61	0.10	0.01	0.029	2.24	98.99
31297	20	10	1.8	< 0.2	< 0.5	2.3	0.18	34.0	52.29	13.99	11.95	0.143	7.92	8.27	2.08	0.13	0.73	0.06	0.01	0.045	1.48	99.09
31298	14	< 5	1.8	0.9	< 0.5	2.3	0.16	33.8	52.47	13.75	11.98	0.185	4.57	10.30	2.16	0.12	0.67	0.07	0.01	0.049	2.67	99.01
31299	13	< 5	1.8	0.6	< 0.5	2.6	0.23	33.8	52.92	13.90	11.84	0.182	4.56	10.27	2.22	0.13	0.70	0.07	0.01	0.049	2.38	99.24

Quality Control

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01
Analysis Method	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP
GXR-1 Meas		32.1	1160	2.8	16	721	43	705	0.24	2.01			1	1610	0.94				0.8		0.06	8.4	0.21	
GXR-1 Cert		31.0	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22	1380	0.960				0.770		0.0500	8.20	0.217	
DNC-1 Meas																								
DNC-1 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas														18.9						< 0.2			8.2	
GXR-4 Cert														19.0					0.270				11.1	
SDC-1 Meas		< 0.3	31	< 0.3	< 1	23	37	96	0.06	7.85			3	0.3	1.17							3.59	34.4	1.04
SDC-1 Cert		0.0410	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00	2.60	1.00							2.72	34.0	1.02
SCO-1 Meas		< 0.3	29	0.4	< 1	27	29	93		6.79			2	0.4	2.21							3.06	45.5	1.68
SCO-1 Cert		0.134	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84	0.370	1.87							2.30	45.0	1.64
GXR-6 Meas		0.4	73	< 0.3	1	97	28	127	0.02	12.2			1	0.2	0.18					< 0.2		2.60	32.7	0.63
GXR-6 Cert		1.30	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40	0.290	0.180				0.260		1.87	32.0	0.609	
BE-N Meas																								
BE-N Cert																								
W-2a Meas																								
W-2a Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
DNC-1a Meas			103				250	60															5.5	
DNC-1a Cert			100				247	70.0															5.20	
OREAS 13b (4-Acid) Meas		0.9	2280		8		2100	100	1.12															
OREAS 13b (4-Acid) Cert		0.86	2327		9.0		2247	133	1.20															
DMMAS 111 Meas	1760										1460	1170				34	59	2.70						
DMMAS 111 Cert	1670										1450	1140				34	52	2.79						
31299 Orig		< 0.3	102	0.7	< 1	< 3	67	73	0.11	6.83			< 1	< 0.1	7.39			0.5	< 0.2	< 0.001	0.14	13.8	2.72	
31299 Dup		< 0.3	106	0.7	< 1	< 3	69	76	0.11	7.04			< 1	< 0.1	7.56			0.4	< 0.2	< 0.001	0.14	14.0	2.78	
Method Blank Method Blank														< 0.1					< 0.1	< 0.2	< 0.001		< 0.5	
Method Blank Method Blank		< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01
Method Blank Method Blank																								

Quality Control																									
Analyte Symbol	Mn	Na	P	Sc	Se	Sn	Sr	Te	Ti	Tl	U	V	Y	La	Ce	Sm	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	
Unit Symbol	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	
Detection Limit	1	0.01	0.001	0.1	3	1	1	0.1	0.01	0.1	0.5	2	1	0.5	3	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	
Analysis Method	TD-ICP	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	INAA	TD-ICP	TD-ICP	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
GXR-1 Meas	881		0.060		17	28	302	11.3		0.4		92	28												
GXR-1 Cert	852		0.0650		16.6	54.0	275	13.0		0.390		80.0	32.0												
DNC-1 Meas																	46.98	18.19	10.03	0.148	9.96	11.45	1.85	0.24	
DNC-1 Cert																	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	
MICA-FE Meas																	34.53	19.29	25.59	0.347	4.51	0.48	0.33	8.80	
MICA-FE Cert																	34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	
GXR-4 Meas					5	6		1.0		2.9															
GXR-4 Cert					5.60	5.60		0.970		3.20															
SDC-1 Meas	877		0.057			< 1	194		0.13			38	33												
SDC-1 Cert	883		0.0690			3.00	183		0.606			102	40.0												
SCO-1 Meas	398		0.086			2	178		0.34			135	20												
SCO-1 Cert	410		0.0900			3.70	174		0.380			131	26.0												
GXR-6 Meas	1150		0.040		< 3	1	39	< 0.1		2.3		205	13												
GXR-6 Cert	1010		0.0350		0.940	1.70	35.0	0.0180		2.20		186	14.0												
BE-N Meas																	38.39	10.07		0.200	13.08	13.92	3.25	1.41	
BE-N Cert																	38.2	10.1		0.200	13.1	13.9	3.18	1.39	
W-2a Meas																	52.25	15.39	10.88	0.165	6.36	10.80	2.42	0.63	
W-2a Cert																	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	
MICA-Mg Meas																	38.13	15.11	9.39	0.254	20.27	0.05	0.25	10.05	
MICA-Mg Cert																	38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	
DNC-1a Meas							143					149	15												
DNC-1a Cert							144					148	18.0												
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas		1.80		5.8							13.5			14.6	23	1.8									
DMMAS 111 Cert		1.87		5.80							14.00			14.00	19.30	1.90									
31299 Orig	1310		0.026		< 3	< 1	169	0.1	0.31	< 0.1		189	16												
31299 Dup	1350		0.026		< 3	< 1	175	0.1	0.24	< 0.1		156	16												
Method Blank Method Blank					< 3	< 1		< 0.1		< 0.1															
Method Blank Method Blank	12		< 0.001				< 1		< 0.01			< 2	< 1												
Method Blank Method Blank																	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	

Quality Control

Analyte Symbol	TiO2	P2O5	Cr2O3	V2O5
Unit Symbol	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.003
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

GXR-1 Meas				
GXR-1 Cert				
DNC-1 Meas	0.48	0.09		
DNC-1 Cert	0.480	0.070		
MICA-FE Meas	2.53	0.40	0.02	0.022
MICA-FE Cert	2.50	0.450	0.01	0.024
GXR-4 Meas				
GXR-4 Cert				
SDC-1 Meas				
SDC-1 Cert				
SCO-1 Meas				
SCO-1 Cert				
GXR-6 Meas				
GXR-6 Cert				
BE-N Meas	2.69	1.03	0.06	0.040
BE-N Cert	2.61	1.05	0.0500	0.042
W-2a Meas	1.10	0.13	0.01	
W-2a Cert	1.06	0.130	0.01	
MICA-Mg Meas	1.61	0.02	0.02	
MICA-Mg Cert	1.63	0.01	0.01	
DNC-1a Meas				
DNC-1a Cert				
OREAS 13b (4-Acid) Meas				
OREAS 13b (4-Acid) Cert				
DMMAS 111 Meas				
DMMAS 111 Cert				
31299 Orig				
31299 Dup				
Method Blank Method Blank				
Method Blank Method Blank				
Method Blank Method Blank	< 0.01	< 0.01	< 0.01	< 0.003



Date Submitted: 28-Sep-10
Invoice No.: A10-6448-1H
Invoice Date: 29-Oct-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Tim Gallagher

CERTIFICATE OF ANALYSIS

11 Pulp samples and 278 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT A10-6448-1H

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-6448-1H

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31319	49	28.1	5720	184	13	> 5000	62	28000	7.38	4.30	77.7	1260	< 1	16	< 0.5	4.04	61	134	2	0.9	10.7	< 1	5	< 5
31320	< 2	0.5	75	1.2	< 1	< 3	50	175	0.12	5.99	< 0.5	400	< 1	< 2	< 0.5	6.09	29	35	1	0.8	9.72	3	< 1	< 5
31321	< 2	0.5	60	0.9	< 1	< 3	50	120	0.10	6.36	< 0.5	440	< 1	< 2	< 0.5	6.02	30	39	1	0.8	9.58	3	< 1	< 5
31322	< 2	0.6	51	0.3	< 1	< 3	57	112	0.11	6.21	< 0.5	450	< 1	< 2	< 0.5	5.90	32	58	1	0.9	9.50	3	< 1	< 5
31323	< 2	0.3	1	1.1	< 1	< 3	253	83	< 0.01	5.91	< 0.5	< 50	< 1	< 2	< 0.5	7.55	40	399	1	1.2	6.39	2	< 1	< 5
31324	< 2	0.3	41	0.7	< 1	< 3	50	90	0.08	6.07	< 0.5	230	< 1	< 2	< 0.5	5.13	27	68	< 1	0.7	7.12	2	< 1	< 5
31325	< 2	0.4	40	0.6	< 1	< 3	41	94	0.05	4.88	< 0.5	< 50	< 1	< 2	< 0.5	4.55	27	39	2	0.8	7.37	3	< 1	< 5
31326	< 2	0.3	35	0.5	< 1	5	44	97	0.04	6.51	< 0.5	< 50	< 1	< 2	< 0.5	5.00	25	35	< 1	0.6	6.78	3	< 1	< 5
31327	< 2	0.4	41	0.8	< 1	6	43	89	0.02	6.46	< 0.5	< 50	< 1	< 2	< 0.5	5.29	24	40	< 1	0.8	6.15	3	< 1	< 5
31328	< 2	0.4	39	0.9	< 1	< 3	44	95	0.03	6.39	< 0.5	300	< 1	< 2	< 0.5	5.37	27	37	< 1	0.8	7.20	3	< 1	< 5
31329	< 2	0.4	34	0.6	< 1	< 3	44	88	0.03	5.81	< 0.5	330	< 1	< 2	< 0.5	5.86	24	33	1	1.1	6.77	3	< 1	< 5
31330	< 2	0.4	33	1.0	< 1	9	43	93	0.04	6.09	< 0.5	< 50	< 1	< 2	< 0.5	5.68	27	31	1	0.8	7.00	3	< 1	< 5
31331	< 2	0.5	30	0.6	< 1	4	43	94	0.02	6.00	< 0.5	450	< 1	< 2	< 0.5	4.80	25	34	< 1	0.8	6.86	3	< 1	< 5
31332	< 2	0.4	37	0.7	< 1	3	42	94	0.03	5.95	2.6	< 50	< 1	< 2	< 0.5	5.23	25	37	2	0.9	6.94	3	< 1	< 5
31333	< 2	0.4	23	1.7	< 1	5	40	83	0.01	5.82	< 0.5	320	< 1	< 2	< 0.5	5.77	25	37	2	1.1	6.61	3	< 1	< 5
31334	< 2	0.4	31	0.8	< 1	4	39	74	0.03	4.79	< 0.5	340	< 1	< 2	< 0.5	5.78	20	35	2	0.9	6.49	2	< 1	< 5
31335	< 2	0.4	30	0.9	< 1	6	41	84	0.02	5.32	< 0.5	< 50	< 1	< 2	< 0.5	5.34	22	36	< 1	0.9	7.00	3	< 1	< 5
31336	< 2	< 0.3	94	1.2	< 1	< 3	93	78	0.08	5.96	< 0.5	530	< 1	< 2	< 0.5	7.33	63	56	< 1	0.7	5.64	< 1	< 1	< 5
31337	< 2	< 0.3	83	0.6	< 1	< 3	88	77	0.09	6.05	< 0.5	420	< 1	< 2	< 0.5	7.14	61	49	2	0.8	6.21	2	< 1	< 5
31338	< 2	< 0.3	145	0.7	< 1	< 3	93	103	0.22	6.33	< 0.5	600	< 1	< 2	< 0.5	6.20	66	52	< 1	0.6	6.50	2	< 1	< 5
31339	53	28.2	5690	173	14	> 5000	65	28500	7.49	4.15	79.3	1200	< 1	13	< 0.5	4.10	61	133	< 1	0.9	10.6	1	6	< 5
31340	< 2	< 0.3	104	0.7	< 1	8	71	122	0.13	5.40	< 0.5	330	< 1	< 2	< 0.5	7.77	56	42	2	0.9	6.33	1	< 1	< 5
31341	< 2	< 0.3	84	1.1	< 1	6	88	131	0.07	5.81	< 0.5	< 50	< 1	< 2	< 0.5	6.73	60	48	3	0.5	5.53	1	< 1	< 5

Activation Laboratories Ltd. Report: A10-6448-1H

Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31324	0.37	2.08	1830	2.29	0.059	< 15	< 0.1	20.6	< 3	271	< 0.5	0.32	2.4	< 0.5	107	< 1	16	17.5	29	16	3.0	< 0.01	< 0.5	2.1
31325	0.54	1.95	1720	2.39	0.059	< 15	< 0.1	20.7	< 3	149	< 0.5	0.39	2.0	< 0.5	125	< 1	14	16.4	32	8	2.9	< 0.01	< 0.5	2.3
31326	0.69	2.03	1600	2.50	0.060	< 15	< 0.1	20.3	< 3	203	< 0.5	0.25	3.0	< 0.5	81	< 1	19	16.7	32	9	2.9	< 0.01	0.8	2.0
31327	0.42	1.89	1570	2.68	0.066	< 15	< 0.1	18.8	< 3	224	< 0.5	0.33	2.5	< 0.5	96	< 1	18	18.6	34	9	3.2	< 0.01	< 0.5	2.1
31328	0.58	2.05	1880	2.62	0.063	< 15	< 0.1	18.3	< 3	212	< 0.5	0.34	3.0	< 0.5	109	< 1	18	16.9	32	13	3.0	< 0.01	< 0.5	2.3
31329	0.41	2.06	2090	2.75	0.064	< 15	< 0.1	17.6	< 3	194	< 0.5	0.40	2.6	1.6	121	< 1	18	17.3	32	13	2.8	< 0.01	< 0.5	2.1
31330	0.41	1.94	1940	2.54	0.061	< 15	< 0.1	18.5	< 3	206	< 0.5	0.36	2.9	< 0.5	116	< 1	18	16.7	34	16	3.0	< 0.01	< 0.5	2.3
31331	0.54	2.06	1710	2.74	0.059	< 15	< 0.1	18.7	< 3	226	< 0.5	0.33	3.0	< 0.5	119	< 1	18	17.1	34	14	2.9	< 0.01	< 0.5	2.4
31332	0.52	1.94	1830	2.70	0.057	47	< 0.1	18.0	< 3	198	< 0.5	0.27	2.5	< 0.5	95	< 1	17	17.1	34	11	2.9	< 0.01	< 0.5	2.0
31333	0.63	2.13	1770	2.43	0.057	< 15	< 0.1	18.0	< 3	199	< 0.5	0.20	3.2	< 0.5	62	< 1	16	17.0	34	8	3.0	< 0.01	< 0.5	2.2
31334	0.92	1.85	1910	1.90	0.059	52	< 0.1	16.6	< 3	152	< 0.5	0.38	2.5	< 0.5	118	< 1	13	15.9	33	13	2.7	< 0.01	< 0.5	2.1
31335	0.55	2.05	2030	2.47	0.065	< 15	< 0.1	16.6	< 3	199	1.4	0.42	3.1	< 0.5	126	< 1	13	17.1	30	14	3.0	< 0.01	< 0.5	2.2
31336	0.86	2.24	1410	1.88	0.027	53	< 0.1	38.1	< 3	132	< 0.5	0.13	1.6	< 0.5	104	< 1	15	6.5	15	12	1.7	< 0.01	< 0.5	2.0
31337	0.74	2.39	1360	1.78	0.028	< 15	0.4	38.4	< 3	109	< 0.5	0.35	1.1	0.5	188	< 1	15	6.7	12	< 5	1.7	< 0.01	< 0.5	2.4
31338	1.36	2.39	1320	1.64	0.029	< 15	< 0.1	42.6	< 3	111	< 0.5	0.23	1.7	< 0.5	171	< 1	16	6.5	16	10	1.8	< 0.01	< 0.5	2.3
31339	0.66	2.38	928	1.44	0.055	< 15	39.1	21.8	23	133	< 0.5	0.44	< 0.2	< 0.5	171	24	17	6.7	17	< 5	2.0	< 0.01	< 0.5	2.3
31340	0.77	2.05	1450	1.11	0.026	33	0.2	35.6	< 3	128	< 0.5	0.28	< 0.2	< 0.5	172	< 1	14	6.0	14	< 5	1.7	< 0.01	1.1	2.0
31341	0.97	1.96	1400	1.50	0.027	< 15	0.3	39.2	< 3	120	< 0.5	0.12	1.3	< 0.5	88	< 1	15	6.4	12	11	1.8	< 0.01	0.6	2.2

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
30953	0.08	30.2
30954	0.10	29.7
30955	0.33	30.9
30956	< 0.05	30.2
30957	0.28	30.0
30958	0.25	30.4
30959	0.32	25.5
30960	0.30	29.4
30961	0.38	28.9
30962	0.36	30.6
30963	0.39	27.6
30964	0.31	30.4
30965	0.33	30.1
30966	0.31	29.6
30967	0.30	30.1
30968	0.33	29.1
30969	< 0.05	30.2
30970	< 0.05	28.2
30971	0.35	29.9
30972	0.33	30.6
30973	0.35	28.9
30974	0.33	28.6
30975	0.13	25.7
30976	0.30	30.2
30977	0.34	29.5
30978	0.06	29.8
30979	0.43	28.3
30980	< 0.05	29.2
30981	0.10	30.1
30982	0.29	30.5
30983	0.34	31.0
30984	< 0.05	29.6
30985	0.35	30.1
30986	< 0.05	30.8
30987	0.33	28.6
30988	0.07	30.8
30989	0.06	29.0
30990	0.09	27.7
30991	0.09	27.7
30992	< 0.05	30.4
30993	0.35	29.2
30994	0.06	29.1
30995	< 0.05	29.9
30996	0.36	29.1
30997	0.35	29.1
30998	0.30	30.1
30999	0.32	30.8
31100	< 0.05	30.8
31101	< 0.05	30.8
31102	0.33	29.7
31103	0.10	31.0
31104	0.08	29.9

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
31105	0.06	30.2
31106	< 0.05	29.5
31107	< 0.05	29.7
31108	0.33	30.8
31109	< 0.05	30.1
31110	0.08	30.8
31111	0.39	29.4
31112	0.37	30.1
31113	0.33	30.8
31114	0.12	29.6
31115	0.28	29.1
31116	0.37	30.8
31117	0.38	31.0
31118	0.35	29.8
31119	0.38	23.9
31120	0.07	29.3
31121	< 0.05	28.8
31122	0.10	28.3
31123	0.10	30.2
31124	0.26	28.3
31125	0.22	27.3
31126	0.07	31.0
31127	0.08	27.5
31128	0.10	27.8
31129	0.17	30.4
31130	< 0.05	29.3
31131	0.08	30.4
31132	0.09	30.9
31133	0.32	26.6
31134	0.21	26.6
31135	0.17	28.8
31136	0.24	29.0
31137	< 0.05	29.7
31139	0.40	26.2
31140	0.41	26.4
31141	0.25	26.2
31142	0.59	28.5
31143	0.82	27.7
31144	0.75	30.0
31145	0.59	29.5
31146	0.89	28.0
31147	0.84	27.7
31148	0.80	26.1
31150	0.82	29.7
31151	0.83	29.7
31152	0.85	26.9
31153	0.85	28.9
31154	0.92	29.4
31155	0.94	26.3
31156	0.86	27.5
31157	0.86	29.0
31158	0.79	30.7

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
31159	0.31	27.1
31160	0.59	30.3
31161	0.84	27.3
31162	0.63	26.4
31163	1.02	27.4
31164	0.68	27.7
31165	0.64	25.6
31167	0.34	28.7
31168	0.60	30.1
31169	0.81	25.9
31170	0.72	29.0
31171	0.61	30.4
31172	0.79	25.1
31173	0.56	28.4
31174	0.69	27.3
31175	0.37	25.9
31176	0.73	27.9
31177	0.80	25.5
31178	0.84	28.8
31179	0.75	29.4
31180	0.17	30.5
31181	0.66	27.7
31182	0.13	28.7
31183	0.19	30.2
31184	0.05	28.5
31185	0.17	29.2
31186	< 0.05	28.2
31187	0.07	29.6
31188	< 0.05	28.9
31189	< 0.05	30.2
31190	0.29	28.0
31191	0.08	28.7
31192	0.05	29.6
31193	0.11	29.4
31194	0.19	30.5
31195	0.06	29.5
31196	< 0.05	28.5
31197	0.05	28.7
31198	0.15	29.7
31199	0.17	29.6
31200	0.06	30.2
31201	< 0.05	28.5
31202	0.12	29.1
31203	0.60	24.4
31204	0.57	26.4
31205	0.49	29.6
31206	0.18	26.1
31207	0.14	28.0
31208	0.31	26.2
31209	0.10	26.3
31210	0.08	27.6
31211	0.71	24.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
31212	0.65	27.5
31213	0.67	25.0
31214	1.76	27.5
31215	0.63	25.1
31216	0.65	27.3
31217	0.68	23.7
31218	0.61	26.6
31219	0.34	27.8
31220	0.98	26.5
31221	0.86	25.2
31222	0.59	30.9
31223	0.77	24.1
31224	0.75	26.0
31225	0.90	25.3
31226	< 0.05	24.1
31227	0.82	25.5
31228	0.07	26.0
31229	0.84	24.9
31230	0.40	23.4
31231	0.60	25.8
31232	0.53	24.8
31233	0.82	24.9
31234	0.56	29.1
31235	0.55	26.8
31236	0.47	26.6
31239	0.34	26.3
31241	0.95	25.4
31242	0.90	26.1
31243	0.85	27.6
31244	0.88	25.7
31245	0.75	27.2
31246	0.88	27.1
31247	1.06	22.2
31248	1.01	27.5
31249	0.66	28.3
31250	0.85	28.0
31251	0.99	24.8
31252	0.86	24.3
31253	0.80	28.1
31254	1.02	28.4
31255	0.77	28.2
31256	0.98	25.7
31257	1.15	24.9
31258	1.03	25.0
31259	0.41	27.4
31260	0.73	28.2
31261	0.87	27.6
31262	0.96	29.0
31263	0.39	27.7
31264	< 0.05	28.9
31265	0.58	26.8
31266	0.93	28.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
31267	0.99	28.4
31268	0.94	25.8
31269	0.50	27.0
31270	0.85	23.6
31271	0.92	26.5
31272	1.05	25.9
31273	1.00	29.1
31274	0.15	25.2
31275	0.83	26.9
31276	0.98	29.6
31277	1.01	26.4
31278	0.95	29.7
31279	0.32	28.8
31280	0.76	26.2
31281	0.73	27.0
31282	0.68	27.0
31283	0.69	27.1
31284	0.70	26.4
31285	0.61	29.1
31286	0.57	26.2
31287	0.82	25.6
31288	0.61	28.7
31289	0.62	29.6
31290	0.67	31.0
31291	0.76	29.1
31292	0.76	27.5
31293	0.55	30.9
31294	0.13	26.8
31300	0.16	30.3
31301	0.25	27.5
31302	0.22	28.9
31303	0.16	28.6
31304	0.24	28.2
31305	0.20	29.2
31306	0.41	28.4
31307	0.36	28.3
31308	0.45	28.0
31309	0.40	29.5
31310	0.37	30.4
31311	0.41	27.9
31312	0.51	30.4
31313	0.55	31.0
31314	0.47	30.0
31315	0.55	29.0
31316	0.41	29.9
31317	0.20	29.6
31318	0.18	30.9
31319	0.39	30.5
31320	0.22	29.1
31321	0.23	29.8
31322	0.22	31.0
31323	0.06	28.4

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
31324	0.21	28.0
31325	0.23	27.6
31326	0.15	29.5
31327	0.20	26.8
31328	0.22	30.0
31329	0.45	30.9
31330	0.41	28.0
31331	0.39	30.4
31332	0.37	30.2
31333	0.38	27.9
31334	0.38	30.1
31335	0.43	26.9
31336	0.37	30.8
31337	0.38	30.3
31338	0.47	30.6
31339	0.33	29.3
31340	0.38	29.8
31341	0.45	26.9

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Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
31251 Dup		0.9		14	< 0.3	1	< 3	1		120		0.11	4.29			2	< 2							0.79
31286 Orig		0.7		25	0.4	< 1	5	19		95		0.10	5.22			1	< 2							2.49
31286 Dup		0.7		22	0.5	< 1	< 3	19		87		0.09	5.21			2	< 2							2.49
31292 Split		0.8		27	0.9	1	8	9		125		0.91	4.33			1	< 2							2.30
31312 Orig		0.4		72	1.7	< 1	< 3	41		140		0.29	5.42			< 1	< 2							5.95
31312 Dup		0.5		77	0.8	< 1	< 3	42		142		0.29	4.86			< 1	< 2							6.04
31338 Orig		< 0.3		148	0.4	< 1	4	94		104		0.22	6.49			< 1	< 2							6.33
31338 Dup		< 0.3		142	0.9	< 1	< 3	92		101		0.21	6.18			< 1	< 2							6.06
Method Blank Method Blank	< 2		< 5						< 20		< 50			< 0.5	< 50			< 0.5		< 1	< 2	< 1	< 0.2	< 0.01
Method Blank Method Blank		< 0.3		2	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		2		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01			< 1	< 2							< 0.01
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		3		< 0.01	< 0.01			< 1	< 2							< 0.01

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Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas				0.05	0.34	800		0.052					277					78			25			
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0			32.0			
GXR-1 Meas				0.05	0.33	816		0.054					274					78			26			
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0			32.0			
GXR-4 Meas				3.09	1.72	155		0.137					224					92			14			
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0			14.0			
GXR-4 Meas				3.96	1.68	155		0.137					226					90			14			
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0			14.0			
SDC-1 Meas				2.74	1.01	917		0.056					171		0.09			38			34			
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102			40.0			
SDC-1 Meas				2.21	1.00	906		0.055					173		0.16			49			33			
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102			40.0			
SCO-1 Meas				2.26	1.58	404		0.085					167		0.33			134			20			
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131			26.0			
SCO-1 Meas				2.31	1.62	408		0.088					173		0.34			137			21			
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131			26.0			
GXR-6 Meas				1.82	0.59	1090		0.035					38					101			14			
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186			14.0			
GXR-6 Meas				1.79	0.59	1060		0.035					37					118			14			
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186			14.0			
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 13P Meas																								
OREAS 13P Cert																								
DMMAS-105 Meas							3.06			10.4	15.8				8.0	64.3					36.5	63	15	3.7
DMMAS-105 Cert							2.81			10.6	15.7				7.8	66					37.5	60	10	3.9
DMMAS-105 Meas							2.80			10.2	15.3				7.6	68.0					35.2	64	13	3.6
DMMAS-105 Cert							2.81			10.6	15.7				7.8	66					37.5	60	10	3.9
DNC-1a Meas													132					140			16			
DNC-1a Cert													144					148			18.0			
DNC-1a Meas													132					139			16			
DNC-1a Cert													144					148			18.0			
DMMAS 111 Meas							1.77				5.8						15.7				14.2	26		1.7
DMMAS 111 Cert							1.87				5.80						14.00				14.00	19.30		1.90
DMMAS 111 Meas							1.90				6.1						14.9				14.5	22		1.8
DMMAS 111 Cert							1.87				5.80						14.00				14.00	19.30		1.90
30965 Orig				0.32	3.15	2520		0.013					118		0.23			172			13			
30965 Dup				0.33	3.16	2550		0.013					120		0.23			174			14			
30979 Orig				0.62	2.30	903		0.052					125		0.44			163			17			
30979 Dup				0.62	2.31	910		0.050					124		0.44			160			17			
31100 Orig				0.79	2.50	2350		0.025					103		0.33			189			13			
31100 Dup				0.79	2.50	2410		0.026					105		0.38			200			13			
31114 Orig				0.64	2.40	2340		0.024					133		0.39			202			14			
31114 Dup				0.63	2.36	2310		0.024					132		0.38			198			14			
31135 Orig				1.66	1.17	945		0.030					150		0.23			70			11			
31135 Dup				1.69	1.19	971		0.032					151		0.23			72			11			
31151 Orig				1.23	0.63	1260		0.011					185		0.13			9			41			
31151 Dup				1.14	0.58	1270		0.012					158		0.12			8			32			
31173 Orig				0.96	0.59	668		0.007					131		0.10			5			26			
31173 Dup				0.99	0.61	659		0.007					135		0.10			5			26			
31199 Orig				0.94	2.55	2260		0.020					171		0.30			158			18			
31199 Dup				0.93	2.50	2180		0.019					167		0.25			151			18			
31213 Orig				1.17	1.35	1350		0.019					162		0.18			27			27			
31213 Dup				1.14	1.32	1290		0.019					154		0.18			27			26			
31234 Orig				1.30	1.33	5270		0.021					134		0.17			32			22			
31234 Dup				1.34	1.35	5300		0.021					142		0.18			32			22			
31251 Orig				2.30	0.48	374		0.007					105		0.13			< 2			32			

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Quality Control																									
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	
31251 Dup				2.17	0.47	372		0.007					101		0.13			< 2			32				
31286 Orig				2.41	1.05	1250		0.035					146		0.31			60			38				
31286 Dup				2.41	1.04	1240		0.035					147		0.29			56			37				
31292 Split				1.53	1.30	1090		0.017					99		0.19			22			36				
31312 Orig				0.41	2.44	3980		0.051					211		0.35			126			21				
31312 Dup				0.41	2.43	4100		0.051					221		0.35			128			19				
31338 Orig				1.40	2.45	1350		0.029					113		0.18			157			17				
31338 Dup				1.31	2.32	1300		0.029					109		0.29			186			16				
Method Blank Method Blank	< 1	< 1	< 5				< 0.01		< 15	< 0.1	< 0.1	< 3		< 0.5		< 0.2	< 0.5		< 1		< 0.5	< 3	< 5	< 0.1	
Method Blank Method Blank				< 0.01	< 0.01	2	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	35	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	12	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	< 1	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	3	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	28	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	3	< 0.001						< 1		< 0.01			< 2		< 1					
Method Blank Method Blank				< 0.01	< 0.01	17	< 0.001						< 1		< 0.01			< 2		< 1					

Quality Control

Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas
 GXR-1 Cert
 GXR-1 Meas
 GXR-1 Cert
 GXR-4 Meas
 GXR-4 Cert
 GXR-4 Meas
 GXR-4 Cert
 SDC-1 Meas
 SDC-1 Cert
 SDC-1 Meas
 SDC-1 Cert
 SCO-1 Meas
 SCO-1 Cert
 SCO-1 Meas
 SCO-1 Cert
 GXR-6 Meas
 GXR-6 Cert
 GXR-6 Meas
 GXR-6 Cert
 OREAS 13P Meas
 OREAS 13P Cert
 OREAS 13P Meas
 OREAS 13P Cert
 DMMAS-105 Meas 3.1 0.50
 DMMAS-105 Cert 3.0 0.45
 DMMAS-105 Meas 3.0 0.47
 DMMAS-105 Cert 3.0 0.45
 DNC-1a Meas
 DNC-1a Cert
 DNC-1a Meas
 DNC-1a Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 30965 Orig
 30965 Dup
 30979 Orig
 30979 Dup
 31100 Orig
 31100 Dup
 31114 Orig
 31114 Dup
 31135 Orig
 31135 Dup
 31151 Orig
 31151 Dup
 31173 Orig
 31173 Dup
 31199 Orig
 31199 Dup
 31213 Orig
 31213 Dup
 31234 Orig
 31234 Dup
 31251 Orig

Quality Control					
Analyte Symbol	Sn	Tb	Yb	Lu	Mass
Unit Symbol	%	ppm	ppm	ppm	g
Detection Limit	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA

31251 Dup
31286 Orig
31286 Dup
31292 Split
31312 Orig
31312 Dup
31338 Orig
31338 Dup
Method Blank Method Blank < 0.01 < 0.5 < 0.2 < 0.05 30.0
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Date Submitted: 06-Oct-10
Invoice No.: A10-6786 (i)
Invoice Date: 22-Dec-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Tim Gallagher

CERTIFICATE OF ANALYSIS

6 Pulp samples and 113 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A10-6786 (i)**

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4LITHO (1-10) Major Elements Fusion ICP(WRA)/Trace
Elements Fusion ICP/MS(WRA4B2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT. We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Emmanuel Esemé , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd.

Report: A10-6786 (i) rev 3

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31414	30	0.9	273	7.7	4	33	92	1930	3.88	3.79	< 0.5	520	< 1	< 2	< 0.5	3.17	56	35	2	0.8	8.41	2	< 1	< 5
31415	28	0.8	200	6.0	4	30	93	1720	3.50	4.18	3.2	740	< 1	< 2	< 0.5	2.03	55	137	2	0.8	8.10	3	< 1	< 5
31416	35	0.8	270	4.5	3	26	76	1640	4.20	3.37	< 0.5	560	< 1	< 2	2.5	3.46	57	59	< 1	1.3	8.74	3	< 1	< 5
31417	11	0.7	126	1.4	2	15	30	595	1.84	3.77	3.7	580	< 1	< 2	< 0.5	2.70	20	19	< 1	1.2	4.51	5	< 1	< 5
31418	< 2	0.6	105	0.8	< 1	21	35	149	2.02	5.49	2.4	490	< 1	< 2	2.6	3.66	23	21	< 1	1.4	5.19	4	< 1	< 5
31419	51	30.1	6640	174	17	> 5000	64	28600	8.33	4.04	80.5	1300	< 1	12	< 0.5	4.28	61	128	< 1	0.9	11.0	< 1	8	< 5
31420	18	0.6	191	0.8	1	27	83	286	2.84	5.39	35.5	430	< 1	< 2	< 0.5	4.91	59	39	< 1	0.8	7.53	2	< 1	< 5
31421	18	0.7	267	1.1	4	20	107	396	3.42	3.67	4.1	550	< 1	< 2	< 0.5	5.57	72	24	2	0.9	12.7	2	< 1	< 5
31422	16	0.8	243	3.7	14	18	84	860	3.54	3.44	5.8	1430	< 1	< 2	< 0.5	3.31	51	29	< 1	0.8	9.98	3	< 1	< 5
31423	24	0.9	270	4.5	15	16	88	1180	3.22	3.59	< 0.5	1330	< 1	< 2	< 0.5	3.23	53	30	< 1	0.8	9.60	3	< 1	< 5
31424	< 2	0.3	91	0.8	< 1	7	48	99	0.99	5.11	< 0.5	1330	< 1	< 2	< 0.5	6.48	43	37	< 1	0.8	7.05	2	< 1	< 5
31425	< 2	< 0.3	76	0.3	1	5	78	61	0.07	4.34	23.9	460	< 1	< 2	< 0.5	9.82	41	84	2	0.5	5.27	< 1	< 1	< 5
31426	< 2	< 0.3	42	< 0.3	< 1	< 3	79	55	0.02	7.37	4.6	< 50	< 1	< 2	< 0.5	7.57	53	116	2	0.4	6.75	< 1	< 1	< 5
31427	< 2	< 0.3	97	0.7	< 1	6	84	53	0.09	5.55	< 0.5	< 50	< 1	< 2	< 0.5	7.80	47	83	< 1	0.4	6.49	< 1	< 1	< 5
31428	< 2	< 0.3	48	< 0.3	< 1	4	83	57	0.01	5.16	< 0.5	290	< 1	< 2	< 0.5	10.8	49	98	< 1	0.5	6.31	< 1	< 1	< 5
31429	< 2	< 0.3	24	1.1	< 1	< 3	92	65	0.04	5.85	< 0.5	640	< 1	< 2	< 0.5	10.8	55	107	2	0.7	7.44	2	< 1	< 5

Activation Laboratories Ltd.

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31416	2.05	0.99	928	0.88	0.034	74	1.2	16.0	< 3	101	< 0.5	0.28	4.0	< 0.5	88	< 1	10	18.3	36	17	3.0	< 0.01	< 0.5	2.0
31417	2.48	0.77	946	1.25	0.037	91	1.1	11.0	< 3	104	< 0.5	0.26	5.0	< 0.5	47	< 1	14	27.9	58	26	4.6	< 0.01	0.7	4.0
31418	1.91	1.12	1180	1.58	0.055	76	1.2	15.0	< 3	119	< 0.5	0.42	4.9	< 0.5	99	< 1	19	23.8	44	20	4.0	< 0.01	< 0.5	3.1
31419	0.81	2.58	898	1.38	0.059	< 15	39.7	22.8	22	154	< 0.5	0.52	< 0.2	< 0.5	174	26	18	6.8	14	< 5	2.1	< 0.01	< 0.5	2.0
31420	2.07	1.51	1670	1.77	0.041	34	1.6	27.5	< 3	156	< 0.5	0.52	1.9	< 0.5	205	< 1	13	11.6	26	9	2.4	< 0.01	< 0.5	2.0
31421	2.13	2.44	2540	0.59	0.034	86	2.0	16.0	< 3	115	< 0.5	0.27	1.7	< 0.5	93	< 1	13	12.7	25	< 5	2.3	< 0.01	< 0.5	2.0
31422	1.31	1.48	1230	0.77	0.025	38	1.9	10.3	< 3	54	< 0.5	0.20	3.1	1.6	63	< 1	11	13.6	26	10	2.1	< 0.01	< 0.5	1.4
31423	1.38	1.58	1210	0.73	0.028	47	2.2	10.8	< 3	55	< 0.5	0.23	3.3	< 0.5	68	< 1	11	14.7	31	< 5	2.4	< 0.01	< 0.5	1.4
31424	1.30	2.94	1650	1.29	0.032	42	0.5	42.9	< 3	152	< 0.5	0.48	1.1	< 0.5	231	< 1	15	7.4	15	< 5	1.9	< 0.01	< 0.5	2.2
31425	0.88	4.09	1300	0.95	0.019	< 15	< 0.1	25.7	< 3	148	< 0.5	0.31	0.9	< 0.5	163	< 1	9	3.9	10	< 5	1.1	< 0.01	< 0.5	1.0
31426	0.37	4.45	1200	1.81	0.018	< 15	< 0.1	34.0		144	< 0.5	0.31	< 0.2	2.3	181	< 1	10	4.5	10	< 5	1.4		< 0.5	1.4
31427	0.28	4.51	1180	1.97	0.031	< 15	< 0.1	30.8	< 3	177	< 0.5	0.37	1.8	< 0.5	171	< 1	13	5.6	13	9	1.6	< 0.01	< 0.5	2.0
31428	0.65	4.22	1370	1.48	0.018	< 15	< 0.1	31.0	< 3	161	< 0.5	0.28	0.8	< 0.5	156	< 1	11	4.8	10	< 5	1.1	< 0.01	< 0.5	1.5
31429	0.73	5.16	1440	0.82	0.024	29	< 0.1	34.8	< 3	126	< 0.5	0.33	1.0	< 0.5	172	< 1	11	5.8	16	< 5	1.5	< 0.01	< 0.5	1.5

Activation Laboratories Ltd.

Report: A10-6786 (i) rev 3

Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
31011	0.48	29.0																							
31012	0.28	30.4																							
31013	0.39	31.0																							
31014	0.41	30.6																							
31015	0.44	30.7																							
31016	0.44	29.9																							
31017	0.17	28.4																							
31018	0.44	28.6																							
31019	0.40	30.1																							
31020	0.29	27.4																							
31021	0.44	28.1																							
31022	0.42	27.8																							
31023	0.24	29.8																							
31024	0.36	29.3																							
31025	0.32	29.1																							
31026	0.32	27.0																							
31027	0.35	26.0																							
31028	0.28	29.5																							
31029	0.25	30.2																							
31030	0.34	28.6																							
31031	0.42	26.1																							
31032	0.35	28.0																							
31033	0.33	27.4																							
31034	0.46	30.0																							
31035	0.56	30.1																							
31036	0.28	30.0																							
31037	0.23	29.1																							
31038	0.40	30.4																							
31039	0.37	27.4																							
31040	0.30	30.5																							
31041	0.27	29.8																							
31042	0.21	30.9																							
31043	0.40	29.1																							
31044	0.30	31.0																							
31045	0.29	29.1																							
31046	0.29	29.2																							
31047	0.28	30.0	0.8	1.0	< 0.2	0.008	13.2	< 0.1	2	0.8	0.6	40.98	7.11	33.33	0.243	1.82	5.09	0.39	1.51	0.31	0.05	< 0.01	0.013	9.23	
31048	0.31	30.3																							
31049	0.26	28.2																							
31050	0.32	28.0																							
31051	0.29	30.0	< 0.1	0.8	< 0.2	< 0.001	12.5	< 0.1	< 1	0.2	< 0.1	45.48	13.50	12.71	0.221	12.30	9.56	1.30	0.16	0.58	0.06	0.01	0.033	3.93	
31053	0.08	30.6																							
31054	0.17	30.4																							
31055	0.35	29.0																							
31056	0.44	30.4																							
31057	0.31	30.5																							
31058	0.40	30.5																							
31059	0.35	27.2																							
31060	0.30	30.7																							
31061	0.25	30.9	< 0.1	0.7	< 0.2	< 0.001	14.0	< 0.1	< 1	0.2	< 0.1	49.38	13.98	9.86	0.180	7.78	13.03	1.67	0.43	0.54	0.05	0.01	0.038	2.97	
31062	0.58	30.6																							

Activation Laboratories Ltd.

Report: A10-6786 (i) rev 3

Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
31063	0.51	29.3																							
31064	0.44	30.3																							
31065	0.40	29.7																							
31066	0.40	30.2																							
31067	0.48	30.3																							
31068	0.47	30.4																							
31069	0.30	28.0																							
31070	0.31	29.6																							
31071	< 0.05	30.9																							
31072	0.25	29.0	< 0.1	0.8	< 0.2	0.004	16.9	< 0.1	< 1	0.1	0.1	56.07	16.45	7.56	0.184	4.52	8.23	2.74	0.94	0.86	0.09	0.01	0.053	1.84	
31073	0.50	29.9																							
31074	0.48	30.0																							
31075	0.43	28.2																							
31076	0.41	29.0																							
31077	0.41	27.8																							
31078	0.50	28.0																							
31079	0.36	30.6																							
31080	0.18	30.6																							
31081	0.37	29.0																							
31082	0.25	29.7	< 0.1	0.3	< 0.2	< 0.001	19.7	< 0.1	1	0.3	0.2	64.08	14.34	7.20	0.127	1.27	3.98	3.99	1.31	0.69	0.13	< 0.01	0.023	2.30	
31083	0.51	27.9																							
31084	0.28	29.7																							
31085	0.45	29.4																							
31086	0.34	28.9																							
31087	0.35	29.7																							
31088																									
31089	0.29	28.6	< 0.1	0.3	< 0.2	< 0.001	12.1	< 0.1	< 1	0.2	< 0.1	56.22	16.98	6.99	0.173	3.77	8.67	3.96	0.27	0.90	0.09	0.01	0.052	2.01	
31090	0.25	28.4																							
31091	0.36	28.7																							
31092	0.40	28.0	< 0.1	0.3	< 0.2	< 0.001	20.1	< 0.1	3	0.5	1.2	54.56	15.54	8.64	0.205	3.73	7.76	1.72	1.82	0.80	0.07	0.01	0.061	4.47	
31093	0.41	28.6																							
31094	0.37	30.8																							
31095	0.33	30.2																							
31096	0.35	26.9																							
31097	0.40	27.3																							
31098	0.64	28.2																							
31099	0.40	26.9																							
31400	0.70	28.2																							
31401	0.37	25.7																							
31402	0.21	29.5																							
31403	0.27	27.8																							
31404	0.28	27.3																							
31405	0.21	27.0																							
31406	0.26	26.6																							
31407	0.35	27.3																							
31408	0.40	28.8																							
31409	0.43	28.3																							
31410	0.55	29.4																							
31411	0.71	30.5																							
31412	0.27	29.6																							
31413	0.54	30.6																							

Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31414	0.12	27.8																							
31415	0.31	27.4																							
31416	0.38	26.6																							
31417	0.71	26.6																							
31418	0.54	29.8																							
31419	0.39	29.1																							
31420	0.36	30.4																							
31421	0.33	29.6																							
31422	0.32	25.7																							
31423	0.35	28.8																							
31424	0.21	31.1																							
31425	< 0.05	29.7																							
31426	0.17	29.8	< 0.1	0.4	< 0.2	< 0.001	16.9	< 0.1	< 1	0.2	< 0.1	49.62	15.23	9.89	0.171	8.02	11.36	2.55	0.43	0.55	0.05	0.02	0.037	2.54	
31427	0.35	30.9																							
31428	0.28	30.2																							
31429	0.30	28.5																							

Activation Laboratories Ltd.

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-6786 (i) rev 3

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31082	99.44																							
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31088		55.26	15.38	7.59	0.202	3.68	10.49	2.67	0.13	0.799	0.09	2.94	99.25	46	< 1	295	50	58	70	90	100	16	1	< 5
31089	100.1																							
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31092	99.38																							
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Activation Laboratories Ltd. Report: A10-6786 (i) rev 3

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-6786 (i) rev 3

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-6786 (i) rev 3

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31088	2	184	17	61	4	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	195	13.3	26.3	2.99	12.0	2.7	0.84	2.8	0.5	2.9	0.6	1.7	0.26
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Activation Laboratories Ltd. Report: A10-6786 (i) rev 3

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31088	1.7	0.29	1.8	0.2	< 1	< 0.1	< 5	< 0.4	1.9	0.5
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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Quality Control																								
Analyte Symbol	Ag	Ni	Zn	Bi	Br	Cs	Eu	Hf	Hg	Ir	Rb	Sb	Se	Ta	Th	W	Nd	Sn	Tb	Yb	Lu	Mass	Au	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	ppb	ppm
Detection Limit	5	20	50	2	0.5	1	0.2	1	1	5	15	0.1	3	0.5	0.2	1	5	0.01	0.5	0.2	0.05		2	0.3
Analysis Method	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP
GXR-1 Meas				1390																				31.4
GXR-1 Cert				1380																				31.0
GXR-1 Meas				1380																				31.0
GXR-1 Cert				1380																				31.0
GXR-1 Meas																								31.6
GXR-1 Cert																								31.0
GXR-1 Meas																								31.6
GXR-1 Cert																								31.0
WVG-1 Meas																								
WVG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas				9																				3.8
GXR-4 Cert				19.0																				4.00
GXR-4 Meas				17																				3.6
GXR-4 Cert				19.0																				4.00
GXR-4 Meas																								3.5
GXR-4 Cert																								4.00
GXR-4 Meas																								3.5
GXR-4 Cert																								4.00
AN-G Meas																								
AN-G Cert																								
SDC-1 Meas				< 2																				< 0.3
SDC-1 Cert				2.60																				0.0410
SDC-1 Meas				< 2																				< 0.3
SDC-1 Cert				2.60																				0.0410
SDC-1 Meas																								< 0.3
SDC-1 Cert																								0.0410
SDC-1 Meas																								< 0.3
SDC-1 Cert																								0.0410
SCO-1 Meas				< 2																				0.4
SCO-1 Cert				0.370																				0.134
SCO-1 Meas				< 2																				0.5
SCO-1 Cert				0.370																				0.134
SCO-1 Meas																								0.4
SCO-1 Cert																								0.134
SCO-1 Meas																								0.4
SCO-1 Cert																								0.134
GXR-6 Meas				< 2																				0.4
GXR-6 Cert				0.290																				1.30
GXR-6 Meas				< 2																				0.3
GXR-6 Cert				0.290																				1.30
GXR-6 Meas																								< 0.3
GXR-6 Cert																								1.30
GXR-6 Meas																								< 0.3
GXR-6 Cert																								1.30
FK-N Meas																								
FK-N Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								

Quality Control																								
Analyte Symbol	Ag	Ni	Zn	Bi	Br	Cs	Eu	Hf	Hg	Ir	Rb	Sb	Se	Ta	Th	W	Nd	Sn	Tb	Yb	Lu	Mass	Au	Ag
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	ppb	ppm
Detection Limit	5	20	50	2	0.5	1	0.2	1	1	5	15	0.1	3	0.5	0.2	1	5	0.01	0.5	0.2	0.05		2	0.3
Analysis Method	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP

- NIST 1633b Cert
- IF-G Meas
- IF-G Cert
- BE-N Meas
- BE-N Cert
- UB-N Meas
- UB-N Cert
- W-2a Meas
- W-2a Cert
- OREAS 13P Meas
- OREAS 13P Cert
- OREAS 13P Meas
- OREAS 13P Cert
- OREAS 14P Meas
- OREAS 14P Cert
- MW-1 Meas
- MW-1 Cert
- DTS-2b Meas
- DTS-2b Cert
- SY-4 Meas
- SY-4 Cert
- CTA-AC-1 Meas
- CTA-AC-1 Cert
- Oreas 72a (4 Acid Digest) Meas
- Oreas 72a (4 Acid Digest) Cert
- BIR-1a Meas
- BIR-1a Cert
- NCS DC86312 Meas
- NCS DC86312 Cert
- MICA-Mg Meas
- MICA-Mg Cert
- SCH-1 Meas
- SCH-1 Cert
- NCS DC70014 Meas
- NCS DC70014 Cert
- NCS DC70009 (GBW07241) Meas
- NCS DC70009 (GBW07241) Cert
- OREAS 100a (Fusion) Meas
- OREAS 100a (Fusion) Cert
- OREAS 101a (Fusion) Meas
- OREAS 101a (Fusion) Cert
- JR-1 Meas
- JR-1 Cert
- AMIS 0129 Meas
- AMIS 0129 Cert
- DNC-1a Meas
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Quality Control																									
Analyte Symbol	Ag	Ni	Zn	Bi	Br	Cs	Eu	Hf	Hg	Ir	Rb	Sb	Se	Ta	Th	W	Nd	Sn	Tb	Yb	Lu	Mass	Au	Ag	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	ppb	ppm	
Detection Limit	5	20	50	2	0.5	1	0.2	1	1	5	15	0.1	3	0.5	0.2	1	5	0.01	0.5	0.2	0.05		2	0.3	
Analysis Method	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	
Method Blank Method				< 2																				< 0.3	
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Method Blank Method				< 2																					< 0.3
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Method Blank Method				< 2																					< 0.3
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Quality Control																								
Analyte Symbol	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg	Mn	Na
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	ppm	%
Detection Limit	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01	1	0.01
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA
GXR-1 Meas	1110	3.3	14	697	41	697	0.23	4.20			1	1420	1.02					0.7	0.06	6.8	0.35	861		
GXR-1 Cert	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22	1380	0.960				0.770	0.0500	8.20	0.217	852			
GXR-1 Meas	1090	3.3	15	667	42	671	0.24	3.46			1		0.94						0.06		0.35	785		
GXR-1 Cert	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22		0.960						0.0500		0.217	852		
GXR-1 Meas	1180	2.7	16	722	40	718	0.24	2.18			1		0.90						0.04		0.22	901		
GXR-1 Cert	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22		0.960						0.0500		0.217	852		
GXR-1 Meas	1180	2.7	16	722	40	718	0.24	2.18			1		0.90						0.04		0.22	901		
GXR-1 Cert	1110	3.30	18.0	730	41.0	760	0.257	3.52			1.22		0.960						0.0500		0.217	852		
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas	6520	0.4	313	42	42	73	1.79	4.70			2	18.2	1.16					< 0.2	4.24	10.9	1.68	148		
GXR-4 Cert	6520	0.860	310	52.0	42.0	73.0	1.77	7.20			1.90	19.0	1.01					0.270	4.01	11.1	1.66	155		
GXR-4 Meas	6540	0.6	314	54	46	70	1.76	4.25			2		1.05						2.06		1.63	142		
GXR-4 Cert	6520	0.860	310	52.0	42.0	73.0	1.77	7.20			1.90		1.01						4.01		1.66	155		
GXR-4 Meas	6420	0.5	315	56	45	82	1.81	6.93			2		1.08						2.66		1.72	153		
GXR-4 Cert	6520	0.860	310	52.0	42.0	73.0	1.77	7.20			1.90		1.01						4.01		1.66	155		
GXR-4 Meas	6420	0.5	315	56	45	82	1.81	6.93			2		1.08						2.66		1.72	153		
GXR-4 Cert	6520	0.860	310	52.0	42.0	73.0	1.77	7.20			1.90		1.01						4.01		1.66	155		
AN-G Meas																								
AN-G Cert																								
SDC-1 Meas	30	< 0.3	1	20	38	102	0.07	5.81			3	0.2	1.22						2.26	31.6	1.02	922		
SDC-1 Cert	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00	2.60	1.00						2.72	34.0	1.02	883		
SDC-1 Meas	28	< 0.3	3	20	37	95	0.06	2.89			3		0.74						2.14		0.86	795		
SDC-1 Cert	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00		1.00						2.72		1.02	883		
SDC-1 Meas	29	< 0.3	< 1	22	36	98	0.05	7.37			3		1.05						1.74		0.99	854		
SDC-1 Cert	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00		1.00						2.72		1.02	883		
SDC-1 Meas	29	< 0.3	< 1	22	36	98	0.05	7.37			3		1.05						1.74		0.99	854		
SDC-1 Cert	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34			3.00		1.00						2.72		1.02	883		
SCO-1 Meas	28	< 0.3	< 1	27	31	104		5.09			2	0.3	2.18						1.93	42.4	1.62	403		
SCO-1 Cert	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84	0.370	1.87						2.30	45.0	1.64	410		
SCO-1 Meas	30	< 0.3	< 1	28	32	102		5.00			2		2.11						1.86		1.67	392		
SCO-1 Cert	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84		1.87						2.30		1.64	410		
SCO-1 Meas	28	< 0.3	< 1	28	28	96		6.92			2		1.97						1.90		1.61	390		
SCO-1 Cert	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84		1.87						2.30		1.64	410		
SCO-1 Meas	28	< 0.3	< 1	28	28	96		6.92			2		1.97						1.90		1.61	390		
SCO-1 Cert	28.7	0.140	1.37	31.0	27.0	103		7.24			1.84		1.87						2.30		1.64	410		
GXR-6 Meas	69	0.3	< 1	91	28	135	0.01	10.6			1	0.1	0.25					< 0.2	1.98	38.8	0.67	1090		
GXR-6 Cert	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40	0.290	0.180					0.260	1.87	32.0	0.609	1010		
GXR-6 Meas	75	0.4	< 1	97	31	136	0.02	8.85			1		0.19						2.22		0.63	1090		
GXR-6 Cert	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40		0.180						1.87		0.609	1010		
GXR-6 Meas	62	< 0.3	4	82	26	114	< 0.01	11.9			1		0.24						1.53		0.55	929		
GXR-6 Cert	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40		0.180						1.87		0.609	1010		
GXR-6 Meas	62	< 0.3	4	82	26	114	< 0.01	11.9			1		0.24						1.53		0.55	929		
GXR-6 Cert	66.0	1.00	2.40	101	27.0	118	0.0160	17.7			1.40		0.180						1.87		0.609	1010		
FK-N Meas																								
FK-N Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								

Quality Control																								
Analyte Symbol	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg	Mn	Na
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	ppm	%
Detection Limit	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01	1	0.01
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA

NIST 1633b Cert																								
IF-G Meas																								
IF-G Cert																								
BE-N Meas																								
BE-N Cert																								
UB-N Meas																								
UB-N Cert																								
W-2a Meas																								
W-2a Cert																								
OREAS 13P Meas	2740					2300																		
OREAS 13P Cert	2500					2260																		
OREAS 13P Meas	2830					2260																		
OREAS 13P Cert	2500					2260																		
OREAS 14P Meas	9640					> 10000																		
OREAS 14P Cert	9970					21000																		
MW-1 Meas																								
MW-1 Cert																								
DTS-2b Meas																								
DTS-2b Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
Oreas 72a (4 Acid Digest) Meas	321					6690		1.68																
Oreas 72a (4 Acid Digest) Cert	316					6930.000		1.74																
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
MICA-Mg Meas																								
MICA-Mg Cert																								
SCH-1 Meas																								
SCH-1 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
AMIS 0129 Meas																								
AMIS 0129 Cert																								
DNC-1a Meas	92					249		54															4.1	
DNC-1a Cert	100					247		70.0															5.20	
DNC-1a Meas	109					279		57																
DNC-1a Cert	100					247		70.0																
DNC-1a Meas	96					226		54																
DNC-1a Cert	100					247		70.0																

Quality Control																								
Analyte Symbol	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg	Mn	Na
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	ppm	%
Detection Limit	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01	1	0.01
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA
DNC-1a Meas	96				226	54																		
DNC-1a Cert	100				247	70.0																		
OREAS 13b (4-Acid) Meas	2380		7		2000	105	1.12																	
OREAS 13b (4-Acid) Cert	2327		9.0		2247	133	1.20																	
OREAS 13b (4-Acid) Meas	2380		7		2000	105	1.12																	
OREAS 13b (4-Acid) Cert	2327		9.0		2247	133	1.20																	
DMMAS 111 Meas									1560	1190				32	46	3.04								1.88
DMMAS 111 Cert									1450	1140				34	52	2.79								1.87
DMMAS 111 Meas									1570	1280				36	54	3.07								1.98
DMMAS 111 Cert									1450	1140				34	52	2.79								1.87
DMMAS 111 Meas									1480	1280				35	53	2.79								1.88
DMMAS 111 Cert									1450	1140				34	52	2.79								1.87
DMMAS 111 Meas									1580	1280				37	58	2.81								1.89
DMMAS 111 Cert									1450	1140				34	52	2.79								1.87
DMMAS 111 Meas									1440	1200				35	58	3.14								1.84
DMMAS 111 Cert									1450	1140				34	52	2.79								1.87
31023 Orig	297	5.3	3	34	67	1920	2.53	3.63			< 1		2.72							1.08		0.66	808	
31023 Dup	296	4.5	3	34	66	1950	2.49	3.67			< 1		2.67							1.09		0.66	816	
31037 Orig	580	1.7	< 1	41	282	353	7.46	1.89			< 1		2.29							1.10		0.61	1190	
31037 Dup	581	1.4	< 1	39	281	341	7.81	1.89			< 1		2.28							1.10		0.61	1190	
31040 Orig	259	0.9	3	7	153	85	10.7	4.83	4.0	620	< 1		2.61	94	40	16.0				2.90		1.11	975	0.32
31040 Split	253	1.4	4	8	151	83	10.1	4.60	3.0	700	< 1		2.58	95	36	16.1				2.83		1.08	984	0.32
31060 Orig	117	0.5	< 1	6	69	62	0.18	5.05	< 0.5	460	< 1		7.69	53	86	6.54				0.46		4.25	1180	1.47
31060 Split	120	0.6	< 1	< 3	70	59	0.18	5.45	< 0.5	530	< 1		7.99	55	91	7.02				0.49		4.44	1220	1.51
31062 Orig	40	1.3	< 1	5	33	97	2.46	4.70			< 1		6.97							0.99		2.19	3880	
31062 Dup	38	0.4	< 1	7	30	93	2.43	2.35			< 1		6.42							0.84		1.89	3760	
31070 Orig	32	0.5	< 1	< 3	55	71	0.74	4.33	< 0.5	400	< 1		7.44	38	48	4.98				1.29		1.47	1850	1.19
31070 Split	34	< 0.3	< 1	< 3	58	72	0.81	4.73	< 0.5	470	< 1		7.72	39	43	5.01				1.36		1.55	1890	1.14
31077 Orig	86	0.6	< 1	7	53	72	3.72	4.87			< 1		5.81							1.07		1.86	2610	
31077 Dup	88	1.5	< 1	8	56	74	3.73	4.91			< 1		5.86							1.09		1.86	2600	
31400 Orig	104	0.6	2	21	20	137	1.31	4.89	3.0	340	< 1		3.63	18	8	3.01				1.38		0.84	640	1.34
31400 Split	91	< 0.3	1	11	20	103	1.22	4.62	3.2	390	< 1		3.57	18	8	3.02				1.21		0.82	651	1.39
31402 Orig	145	0.8	< 1	11	552	303	1.94	2.95			< 1		8.74							3.82		5.79	3380	
31402 Dup	155	0.9	< 1	9	556	302	2.07	3.11			< 1		8.81							3.93		6.09	3460	
31410 Orig	138	0.9	2	8	91	109	3.67	6.34	5.8	1200	< 1		6.08	44	120	7.89				4.07		2.92	1820	0.34
31410 Split	129	< 0.3	1	7	88	104	2.74	5.65	6.2	1160	< 1		5.93	42	118	7.83				3.92		2.81	1800	0.36
31416 Orig	274	4.8	3	27	76	1660	4.07	4.41			< 1		3.59							2.00		1.08	946	
31416 Dup	266	4.1	4	26	76	1620	4.32	2.32			< 1		3.33							2.09		0.90	909	
Method Blank Method Blank																								
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1	< 0.1	< 0.01				< 0.1	< 0.2	< 0.001	< 0.01	< 0.5	< 0.01	5	
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	34	
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	2	
Method Blank Method Blank	< 1	< 0.3	< 1	4	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	10	
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	6	
Method Blank Method Blank																								
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	11	
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01							< 0.01		< 0.01	14	

Quality Control																								
Analyte Symbol	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Ca	Co	Cr	Fe	Ge	In	Re	K	Li	Mg	Mn	Na
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	ppm	%
Detection Limit	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	0.1	0.01	1	2	0.01	0.1	0.2	0.001	0.01	0.5	0.01	1	0.01
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-MS	TD-ICP	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			23
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			23
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			3
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			7
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			19
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			22
Method Blank Method Blank	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01			< 1		< 0.01						< 0.01		< 0.01			2

Quality Control																								
Analyte Symbol	P	Sc	Se	Sn	Sr	Te	Ti	Tl	U	V	Y	La	Ce	Sm	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.1	3	1	1	0.1	0.01	0.1	0.5	2	1	0.5	3	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-ICP	INAA	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	INAA	TD-ICP	TD-ICP	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
NIST 1633b Cert																								
IF-G Meas															41.03	0.15	56.16	0.037	1.89	1.56	0.03	0.01	0.01	0.07
IF-G Cert															41.2	0.150	55.8	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630
BE-N Meas															38.39	10.01		0.204	13.21	13.98	3.18	1.38	2.70	1.07
BE-N Cert															38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05
UB-N Meas															39.70	2.89	8.40	0.129	35.30	1.24	0.16	0.02	0.10	0.01
UB-N Cert															39.4	2.90	8.34	0.120	35.2	1.20	0.100	0.0200	0.110	0.0400
W-2a Meas																								
W-2a Cert																								
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
MW-1 Meas															4.61	0.35	94.92		0.02	0.07				
MW-1 Cert															4.60	0.30	94.5		0.032	0.053				
DTS-2b Meas															39.09	0.44			49.14	0.13				
DTS-2b Cert															39.4	0.450			49.4	0.120				
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
Oreas 72a (4 Acid Digest) Meas																								
Oreas 72a (4 Acid Digest) Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
MICA-Mg Meas															38.23	15.27	9.44	0.251	20.33	0.03	0.21	9.99	1.63	0.01
MICA-Mg Cert															38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	1.63	0.01
SCH-1 Meas															8.19	0.96	87.16	1.015	0.03		0.03	0.03	0.05	0.13
SCH-1 Cert															8.09	0.962	86.84	1.003	0.033		0.026	0.031	0.052	0.124
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
AMIS 0129 Meas															9.59	2.75		0.341	2.04	0.81			22.84	
AMIS 0129 Cert															9.57	2.75		0.36	2.07	0.80			22.94	
DNC-1a Meas					119					140	10													
DNC-1a Cert					144					148	18.0													
DNC-1a Meas					151					147	16													
DNC-1a Cert					144					148	18.0													
DNC-1a Meas					128					138	15													
DNC-1a Cert					144					148	18.0													

Quality Control																								
Analyte Symbol	P	Sc	Se	Sn	Sr	Te	Ti	Tl	U	V	Y	La	Ce	Sm	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.1	3	1	1	0.1	0.01	0.1	0.5	2	1	0.5	3	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-ICP	INAA	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	INAA	TD-ICP	TD-ICP	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													
Method Blank Method Blank	< 0.001				< 1		< 0.01			< 2	< 1													

Analyte Symbol	Cr2O3	V2O5	LOI	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003		0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

- DNC-1a Meas
- DNC-1a Cert
- OREAS 13b (4-Acid) Meas
- OREAS 13b (4-Acid) Cert
- OREAS 13b (4-Acid) Meas
- OREAS 13b (4-Acid) Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- 31023 Orig
- 31023 Dup
- 31037 Orig
- 31037 Dup
- 31040 Orig
- 31040 Split
- 31060 Orig
- 31060 Split
- 31062 Orig
- 31062 Dup
- 31070 Orig
- 31070 Split
- 31077 Orig
- 31077 Dup
- 31400 Orig
- 31400 Split
- 31402 Orig
- 31402 Dup
- 31410 Orig
- 31410 Split
- 31416 Orig
- 31416 Dup
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Quality Control

Analyte Symbol	Cr2O3	V2O5	LOI	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003		0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
GXR-1 Meas																									
GXR-1 Cert																									
GXR-1 Meas																									
GXR-1 Cert																									
GXR-1 Meas																									
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GXR-1 Cert																									
WMG-1 Meas	9					5	< 2	1.3			3.3	0.5						2.4	0.73		0.4	2.4	0.5		
WMG-1 Cert	7.00					6.00	1.40	2.70			1.80	0.480						2.30	0.820		0.300	2.80	0.500		
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			169	21	41						1.6		123	4.0			4.8		0.58						
DNC-1 Cert			144.0	18.0	38						0.96		118	3.6			5.20		0.59						
GBW 07113 Meas			38	46	387								487												
GBW 07113 Cert			43.0	43.0	403								506												
MICA-FE Meas																									
MICA-FE Cert																									
GXR-4 Meas																									
GXR-4 Cert																									
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FK-N Meas																									
FK-N Cert																									
LKSD-3 Meas	23	72					2	1.9		3	0.6	2.3		50.5	96.7		42.3	7.7	1.35		0.8	4.7			
LKSD-3 Cert	27.0	78.0					2.00	2.70		3.00	1.30	2.30		52.0	90.0		44.0	8.00	1.50		1.00	4.90			
NIST 1633b Meas						1050								714											

Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

DNC-1a Meas																									
DNC-1a Cert																									
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
OREAS 13b (4-Acid) Meas																									
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Method Blank Method Blank	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Quality Control

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

GXR-1 Meas											
GXR-1 Cert											
GXR-1 Meas											
GXR-1 Cert											
GXR-1 Meas											
GXR-1 Cert											
GXR-1 Meas											
GXR-1 Cert											
WMG-1 Meas	0.20	1.3	0.19	1.4	0.4	< 1		20		1.2	0.7
WMG-1 Cert	0.200	1.30	0.210	1.30	0.500	1.30		15.0		1.10	0.650
NIST 694 Meas											
NIST 694 Cert											
DNC-1 Meas		1.9									
DNC-1 Cert		2.0									
GBW 07113 Meas											
GBW 07113 Cert											
MICA-FE Meas											
MICA-FE Cert											
GXR-4 Meas											
GXR-4 Cert											
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GXR-6 Cert											
FK-N Meas											
FK-N Cert											
LKSD-3 Meas		2.6	0.39	3.9	0.8					10.0	4.4
LKSD-3 Cert		2.70	0.400	4.80	0.700					11.4	4.60
NIST 1633b Meas											

Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

NIST 1633b Cert											
IF-G Meas											
IF-G Cert											
BE-N Meas											
BE-N Cert											
UB-N Meas											
UB-N Cert											
W-2a Meas	0.32	2.0	0.33	2.3	0.5	< 1	< 0.1	9	< 0.4	2.1	0.5
W-2a Cert	0.380	2.10	0.330	2.60	0.500	0.300	0.200	9.30	0.0300	2.40	0.530
OREAS 13P Meas											
OREAS 13P Cert											
OREAS 13P Meas											
OREAS 13P Cert											
OREAS 14P Meas											
OREAS 14P Cert											
MW-1 Meas											
MW-1 Cert											
DTS-2b Meas											
DTS-2b Cert											
SY-4 Meas											
SY-4 Cert											
CTA-AC-1 Meas		10.5	1.07	1.4	2.8					22.9	4.2
CTA-AC-1 Cert		11.4	1.08	1.13	2.65					21.8	4.4
Oreas 72a (4 Acid Digest) Meas											
Oreas 72a (4 Acid Digest) Cert											
BIR-1a Meas		1.6	0.24	0.6				< 5			
BIR-1a Cert		1.7	0.3	0.60				3			
NCS DC86312 Meas	14.4	87.5	12.0							25.6	
NCS DC86312 Cert	15.1	87.79	11.96							23.6	
MICA-Mg Meas											
MICA-Mg Cert											
SCH-1 Meas											
SCH-1 Cert											
NCS DC70014 Meas	0.53	3.3	0.49					> 10000	80.3		
NCS DC70014 Cert	0.57	3.3	0.50					27200.00	80.3		
NCS DC70009 (GBW07241) Meas	2.31	15.9	2.24			2200	2.1			28.6	
NCS DC70009 (GBW07241) Cert	2.2	14.9	2.4			2200.00	1.8			28.3	
OREAS 100a (Fusion) Meas	2.38	15.3	2.15							51.8	142
OREAS 100a (Fusion) Cert	2.31	14.9	2.26							51.6	135
OREAS 101a (Fusion) Meas	2.93	18.2	2.53							35.5	420
OREAS 101a (Fusion) Cert	2.90	17.5	2.66							36.6	422
JR-1 Meas	0.67	4.6	0.67	4.4	1.8		1.2	20	0.5	25.8	9.0
JR-1 Cert	0.67	4.55	0.71	4.51	1.86		1.56	19.3	0.56	26.7	8.88
AMIS 0129 Meas											
AMIS 0129 Cert											
DNC-1a Meas											
DNC-1a Cert											
DNC-1a Meas											
DNC-1a Cert											
DNC-1a Meas											
DNC-1a Cert											

Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

DNC-1a Meas											
DNC-1a Cert											
OREAS 13b (4-Acid) Meas											
OREAS 13b (4-Acid) Cert											
OREAS 13b (4-Acid) Meas											
OREAS 13b (4-Acid) Cert											
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Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Date Submitted: 19-Oct-10
Invoice No.: A10-7296
Invoice Date: 14-Dec-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide St. E.
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Tim Gallagher

CERTIFICATE OF ANALYSIS

15 Pulp samples and 350 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A10-7296**

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4LTHO (1-10) Major Elements Fusion ICP(WRA)/Trace
Elements Fusion ICP/MS(WRA4B2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT. We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Emmanuel Esemé , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31799	< 2	0.5	92	0.9	< 1	7	47	77	0.76	5.05	< 0.5	240	< 1	< 2	< 0.5	7.48	52	60	2	0.5	16.4	2	< 1	< 5
31800	< 2	0.4	43	1.0	< 1	4	43	76	0.38	4.57	< 0.5	200	< 1	< 2	< 0.5	7.64	55	53	2	0.6	16.2	< 1	< 1	< 5
31801	< 2	0.5	52	0.4	< 1	8	43	74	0.27	4.75	< 0.5	< 50	< 1	< 2	< 0.5	7.57	46	66	2	0.5	15.8	1	< 1	< 5
31802	< 2	0.3	45	1.1	< 1	8	49	62	0.10	5.28	6.3	< 50	< 1	< 2	< 0.5	7.45	56	63	2	0.6	10.9	2	< 1	< 5
31803	< 2	0.4	18	0.8	< 1	4	47	68	0.09	4.78	2.7	300	< 1	< 2	< 0.5	7.26	49	54	< 1	0.5	13.4	1	< 1	< 5
31804	< 2	0.3	29	1.4	< 1	5	53	67	0.06	5.01	4.7	< 50	< 1	< 2	< 0.5	6.60	55	60	2	0.6	11.2	1	< 1	< 5
31805	17	0.4	53	1.4	< 1	5	76	69	0.13	5.26	1.4	290	< 1	< 2	< 0.5	6.20	49	230	4	1.0	11.4	2	< 1	< 5
31806	< 2	0.5	191	0.9	< 1	5	42	79	0.70	3.87	2.8	< 50	< 1	< 2	< 0.5	7.86	42	44	< 1	0.5	19.8	1	< 1	< 5

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
31806	0.22	3.10	6650	0.74	0.021	< 15	0.8	33.4	< 3	67	< 0.5	0.33	< 0.2	< 0.5	202	< 1	16	6.4	14	< 5	1.7	< 0.01	0.6	2.4

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
31342	< 0.05	30.7																							
31343	0.06	28.4																							
31344	0.09	29.6																							
31345	0.13	28.9																							
31346	0.06	30.2																							
31347	0.14	29.1																							
31348	0.14	28.7																							
31349	0.12	30.5																							
31350	0.18	30.7																							
31351	0.16	27.9																							
31352	0.18	28.2																							
31353	0.19	27.0																							
31354	0.07	27.7																							
31355	0.08	29.8																							
31356	0.17	29.3																							
31357	0.12	30.6																							
31358	0.16	29.2																							
31359	0.34	30.1																							
31360	0.19	29.8																							
31361	0.33	29.0																							
31362	0.23	27.7																							
31363	0.34	31.0																							
31364	0.20	29.5																							
31365	0.15	28.2																							
31366	< 0.05	28.3	0.2	0.4	< 0.2	< 0.001	26.0	< 0.1	1	0.2	0.9	53.37	12.54	7.83	0.130	7.79	8.69	2.55	2.05	0.56	0.29	0.06	0.027	3.17	
31367	0.18	28.0																							
31368	0.15	28.8																							
31369	0.16	30.2																							
31370	0.09	30.9																							
31371																									
31372	0.28	30.3																							
31373	0.26	30.6																							
31374	0.17	30.0																							
31375	0.17	30.0																							
31376	0.16	30.0																							
31377	0.19	30.0																							
31378	0.17	29.1																							
31379	0.32	27.0																							
31380	0.14	30.0																							
31381	0.49	29.1																							
31382	0.51	30.8																							
31383	0.48	29.6																							
31384	0.47	30.9																							
31385	0.51	28.5	< 0.1	0.4	< 0.2	< 0.001	25.5	< 0.1	< 1	< 0.1	< 0.1	56.92	12.29	16.94	0.247	2.42	4.97	2.57	0.73	1.34	0.18	0.01	0.019	0.01	
31386	0.52	30.8																							
31387	0.41	30.1																							
31388	0.39	29.4																							
31389	0.41	29.4																							
31390	0.37	30.7																							
31391	0.33	29.2																							
31392	0.40	27.7																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31393	0.40	31.0																							
31394	0.34	28.8																							
31395	0.35	30.9																							
31396	0.37	31.0																							
31397	0.34	30.1																							
31398	0.37	27.9																							
31399	0.31	30.2																							
31500	0.43	28.5																							
31501	0.42	30.8																							
31502	0.39	30.2																							
31503	0.35	28.8																							
31504	0.31	30.9																							
31505	0.26	30.9																							
31506	0.29	27.5																							
31507	0.30	28.5																							
31508	0.27	28.2																							
31509	0.28	28.4																							
31510	0.07	28.3																							
31511	0.15	30.5																							
31512	0.14	30.5																							
31513	0.13	30.4																							
31514	0.18	29.3																							
31515	0.27	29.0																							
31516	0.41	28.9																							
31517	0.17	26.8																							
31518	0.65	26.9																							
31519	0.40	29.5																							
31520	0.63	29.4																							
31521	0.75	28.7																							
31522	1.00	27.5																							
31523	0.84	30.7																							
31524	0.77	29.6																							
31525	0.89	29.0																							
31526	0.78	26.6																							
31527	0.86	28.2																							
31528	0.54	29.5																							
31529	0.61	28.3																							
31530	0.68	29.0																							
31531	0.70	30.5																							
31532	0.84	27.5																							
31533	0.94	28.7																							
31534	0.67	28.3																							
31535	0.80	26.7																							
31536	0.88	28.2																							
31537	0.61	30.1																							
31538	0.37	28.6																							
31539	0.36	31.8																							
31540	0.47	30.5																							
31541	0.43	30.4																							
31542	0.53	30.1																							
31543	0.53	30.3																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31544	0.96	28.8
31545	0.98	29.9
31546	0.79	27.3
31547	0.17	27.4
31548	0.71	28.5
31549	0.58	27.2
31550	0.63	28.0
31551	0.59	29.2
31552	0.99	29.2
31553	0.98	29.9
31554	0.86	29.1
31555	0.86	28.8
31556	1.11	30.0
31557	1.07	27.8
31558	0.83	30.2
31559	0.40	29.7
31560	1.07	28.0
31561	0.72	30.2
31562	0.81	28.2
31563	0.38	28.7
31564	0.41	29.4
31565	0.43	28.6
31566	0.39	28.1
31567	0.44	28.0
31568	0.54	29.6
31569	0.58	28.9
31570	0.79	28.4
31571	0.93	29.8
31572	0.91	28.0
31573	0.90	30.8
31574	0.60	29.2
31575	0.74	29.1
31576	0.74	30.0
31577	0.80	27.2
31578	0.88	30.1
31579	0.37	30.5
31580	0.79	29.2
31581	0.48	29.1
31582	0.91	27.5
31583	0.69	30.3
31584	0.76	27.1
31585	0.38	29.8
31586	0.52	30.5
31587	1.29	29.4
31588	1.06	30.7
31589	0.63	30.0
31590	0.47	30.7
31591	0.64	28.9
31592	0.86	29.2
31593	0.85	27.4
31594	0.79	27.0

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31595	0.34	27.4
31596	0.48	30.4
31597	0.80	30.2
31598	0.38	24.6
31599	0.35	29.9
31600	0.57	29.7
31601	0.72	29.9
31602	0.64	29.7
31603	0.15	27.9
31604	0.17	27.8
31605	0.16	29.8
31606	0.29	30.3
31607	0.09	26.9
31608	0.16	29.6
31609	0.23	29.6
31610	0.23	28.6
31611	0.39	30.5
31612	0.08	29.7
31613	0.88	29.3
31614	0.76	29.8
31615	0.70	30.2
31616	1.16	30.1
31617	1.08	29.0
31618	0.93	27.8
31619	0.38	29.1
31620	0.43	27.2
31621	0.45	29.5
31622	0.42	27.9
31623	0.74	29.4
31624	0.63	30.4
31625	0.82	27.5
31626	0.78	30.0
31627	0.56	28.6
31628	0.85	27.7
31629	0.72	30.9
31630	0.59	30.2
31631	0.85	29.0
31632	1.22	28.2
31633	< 0.05	27.8
31634	0.77	28.9
31635	0.81	27.2
31636	0.64	28.8
31637	0.68	29.7
31638	0.70	27.3
31639	0.31	30.5
31640	0.68	30.7
31641	1.09	28.4
31642	0.68	29.3
31643	0.60	25.3
31644	0.72	30.7
31645	0.90	29.0

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31646	0.29	27.4
31647	0.49	27.4
31648	0.37	28.8
31649	0.29	28.3
31650	0.33	28.9
31651	0.12	29.5
31652	0.44	27.6
31653	0.58	27.7
31654	0.58	28.5
31655	0.56	28.8
31656	0.44	29.7
31657	0.47	27.4
31658	0.22	27.7
31659	0.32	28.1
31660	0.50	27.0
31661	0.39	28.8
31662	0.32	30.1
31663	0.22	28.9
31664	0.13	27.5
31665	0.29	26.9
31666	0.37	29.3
31667	0.35	28.5
31668	0.34	30.8
31669	0.37	30.5
31670	0.35	29.7
31671	0.30	29.2
31672	0.36	30.1
31673	0.32	30.7
31674	0.28	28.7
31675	0.36	28.3
31676	0.32	29.2
31677	0.30	29.3
31678	0.28	27.2
31679	0.37	27.7
31680	0.35	27.4
31681	0.37	30.6
31682	0.35	30.1
31683	0.35	28.4
31684	0.36	29.2
31685	0.40	28.0
31686	0.37	29.5
31687	0.36	26.6
31688	0.19	28.0
31689	0.37	28.0
31690	0.38	30.0
31691	0.38	30.4
31692	0.35	29.1
31693	0.34	29.7
31694	0.38	28.4
31695	0.42	28.5
31696	0.17	27.5

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

31799	0.15	28.5
31800	0.17	30.9
31801	0.17	27.7
31802	0.15	30.6
31803	0.20	29.5
31804	0.12	30.3
31805	0.15	29.7
31806	0.22	27.8

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31342																									
31343																									
31344																									
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31364																									
31365																									
31366	99.05																								
31367																									
31368																									
31369																									
31370																									
31371		53.44	13.11	14.84	0.210	4.61	6.66	3.86	1.12	1.129	0.11	0.48	99.57	36	< 1	311	< 20	50	20	80	110	19	2	< 5	
31372																									
31373																									
31374																									
31375																									
31376																									
31377																									
31378																									
31379																									
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31384																									
31385	98.65																								
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31392																									
31393																									

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-7296 rev 1

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-7296 rev 1

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05
Analysis Method	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31371	2.5	0.40	2.3	0.3	< 1	0.1	< 5	< 0.4	2.1	0.5
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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31806

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Quality Control

Analyte Symbol	Au	Ag	Ni	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	20	50	0.5	50	2	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

GXR-1 Meas	1390
GXR-1 Cert	1380
GXR-1 Meas	1390
GXR-1 Cert	1380
WMG-1 Meas	
WMG-1 Cert	
NIST 694 Meas	
NIST 694 Cert	
DNC-1 Meas	
DNC-1 Cert	
GBW 07113 Meas	
GBW 07113 Cert	
MICA-FE Meas	
MICA-FE Cert	
GXR-4 Meas	9
GXR-4 Cert	19.0
GXR-4 Meas	13
GXR-4 Cert	19.0
SDC-1 Meas	< 2
SDC-1 Cert	2.60
SDC-1 Meas	< 2
SDC-1 Cert	2.60
SCO-1 Meas	< 2
SCO-1 Cert	0.370
SCO-1 Meas	< 2
SCO-1 Cert	0.370
GXR-6 Meas	< 2
GXR-6 Cert	0.290
GXR-6 Meas	< 2
GXR-6 Cert	0.290
LKSD-3 Meas	
LKSD-3 Cert	
NIST 1633b Meas	
NIST 1633b Cert	
TDB-1 Meas	
TDB-1 Cert	
BE-N Meas	
BE-N Cert	
W-2a Meas	
W-2a Cert	
OREAS 13P Meas	
OREAS 13P Cert	
OREAS 13P Meas	
OREAS 13P Cert	
OREAS 14P Meas	
OREAS 14P Cert	
OREAS 14P Meas	
OREAS 14P Cert	
SY-4 Meas	
SY-4 Cert	
CTA-AC-1 Meas	
CTA-AC-1 Cert	
Oreas 72a (4 Acid Digest) Meas	
Oreas 72a (4 Acid Digest) Cert	
Oreas 72a (4 Acid Digest) Meas	

Analyte Symbol	Au	Ag	Ni	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	20	50	0.5	50	2	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

Oreas 72a (4 Acid Digest) Cert																									
BIR-1a Meas																									
BIR-1a Cert																									
NCS DC86312 Meas																									
NCS DC86312 Cert																									
MICA-Mg Meas																									
MICA-Mg Cert																									
NCS DC70014 Meas																									
NCS DC70014 Cert																									
NCS DC70009 (GBW07241) Meas																									
NCS DC70009 (GBW07241) Cert																									
OREAS 100a (Fusion) Meas																									
OREAS 100a (Fusion) Cert																									
OREAS 101a (Fusion) Meas																									
OREAS 101a (Fusion) Cert																									
OREAS 101b (Fusion) Meas																									
OREAS 101b (Fusion) Cert																									
JR-1 Meas																									
JR-1 Cert																									
DNC-1a Meas																									
DNC-1a Cert																									
DNC-1a Meas																									
DNC-1a Cert																									
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas	1720				1470	1200			37	59			2.97				1.87			6.0				15.0	
DMMAS 111 Cert	1670				1450	1140			34	52			2.79				1.87			5.80				14.00	
DMMAS 111 Meas	1610				1450	1290			39	53			2.98				1.86			6.0				14.1	
DMMAS 111 Cert	1670				1450	1140			34	52			2.79				1.87			5.80				14.00	
31354 Orig																									
31354 Dup																									
31369 Orig																									
31369 Dup																									
31371 Orig																									
31371 Split																									
31391 Orig	< 2	< 5	< 20	160	< 0.5	490		< 0.5	45	< 2	5	1.1	11.2	2	< 1	< 5	2.11	< 15	< 0.1	35.3	< 3	< 0.5	2.3	< 0.5	
31391 Split	< 2	< 5	< 20	200	< 0.5	390		< 2	< 0.5	47	< 2	3	1.0	11.3	3	< 1	< 5	2.26	< 15	0.4	35.3	< 3	< 0.5	2.7	< 0.5
31392 Orig																									
31392 Dup																									
31501 Orig	< 2	< 5	< 20	250	< 0.5	< 50		< 0.5	46	< 2	2	1.2	11.0	3	< 1	< 5	2.12	< 15	0.4	33.9	< 3	1.5	2.0	< 0.5	
31501 Split	< 2	< 5	< 20	180	< 0.5	< 50		< 2	< 0.5	48	< 2	3	1.3	11.7	3	< 1	< 5	2.34	< 15	0.3	35.3	< 3	< 0.5	2.8	< 0.5
31506 Orig																									
31506 Dup																									
31527 Orig																									
31527 Dup																									
31531 Orig	< 2	< 5	< 20	140	3.3	400		< 0.5	25	37	4	1.0	15.2	4	< 1	< 5	0.64	< 15	0.5	14.6	< 3	< 0.5	4.2	< 0.5	
31531 Split	< 2	< 5	< 20	190	3.8	310		< 2	< 0.5	26	32	2	0.7	14.8	4	< 1	< 5	0.65	< 15	0.4	15.5	< 3	< 0.5	3.0	< 0.5
31541 Orig	< 2	< 5	< 20	190	2.2	410		< 0.5	49	46	2	0.8	8.26	2	< 1	< 5	1.83	39	0.3	39.2	< 3	< 0.5	1.6	< 0.5	
31541 Split	< 2	< 5	< 20	200	2.1	340		< 2	< 0.5	49	42	2	0.6	8.28	1	< 1	< 5	1.86	49	< 0.1	40.4	< 3	< 0.5	1.3	< 0.5

Quality Control	Au	Ag	Ni	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U
Analyte Symbol																								
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	20	50	0.5	50	2	0.5	1	2	1	0.2	0.01	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA

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Quality Control																								
Analyte Symbol	W	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	Ge	In
Unit Symbol	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm
Detection Limit	1	0.5	3	5	0.1	0.01	0.5	0.2	0.05		0.3	1	0.3	1	3	1	1	0.01	0.01	1	0.1	0.01	0.1	0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	2	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	2	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		
Method Blank Method Blank											< 0.3	< 1	< 0.3	< 1	< 3	< 1	< 1	< 0.01	< 0.01	< 1		< 0.01		

Activation Laboratories Ltd.

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Quality Control

Analyte Symbol	Re	K	Li	Mg	Mn	P	Se	Sn	Sr	Te	Ti	Tl	V	Y	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.5	0.01	1	0.001	3	1	1	0.1	0.01	0.1	2	1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

Oreas 72a (4 Acid Digest) Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
MICA-Mg Meas															38.13	15.11	9.39	0.254	20.27	0.05	0.25	10.05	1.61	0.02
MICA-Mg Cert															38.30	15.20	9.46	0.26	20.40	0.08	0.12	10.00	1.63	0.01
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
OREAS 101b (Fusion) Meas																								
OREAS 101b (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
DNC-1a Meas			4.9						132				142	16										
DNC-1a Cert			5.20						144				148	18.0										
DNC-1a Meas			4.9						142				153	17										
DNC-1a Cert			5.20						144				148	18.0										
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
31354 Orig		1.81		2.14	603	0.060			276		0.28		80	11										
31354 Dup		1.81		2.15	615	0.059			281		0.29		82	11										
31369 Orig		1.20		3.87	1280	0.025			128		0.26		191	16										
31369 Dup		1.02		3.30	1110	0.024			113		0.26		162	14										
31371 Orig																								
31371 Split																								
31391 Orig																								
31391 Split		1.28		1.84	1810	0.049			124		0.52		234	30										
31392 Orig		1.01		1.90	1710	0.055			115		0.47		228	30										
31392 Dup		0.91		1.67	1650	0.057			108		0.86		330	17										
31501 Orig																								
31501 Split		0.98		2.53	1770	0.062			151		0.74		250	32										
31506 Orig		1.79		2.69	1310	0.030			77		0.20		173	17										
31506 Dup		1.88		2.71	1300	0.028			76		0.20		203	18										
31527 Orig		2.10		1.46	2660	0.023			165		0.18		22	34										
31527 Dup		2.10		1.47	2710	0.023			166		0.18		22	34										
31531 Orig																								
31531 Split		1.95		2.67	5490	0.014			101		0.19		75	30										
31541 Orig																								
31541 Split		1.87		2.86	2360	0.030			163		0.40		217	17										

Quality Control																								
Analyte Symbol	Re	K	Li	Mg	Mn	P	Se	Sn	Sr	Te	Ti	Tl	V	Y	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.5	0.01	1	0.001	3	1	1	0.1	0.01	0.1	2	1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
Method Blank Method Blank		< 0.01		< 0.01	2	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank																								
Method Blank Method Blank		< 0.01		< 0.01	2	< 0.001			< 1		< 0.01		2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	10	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01		< 0.001			< 1		< 0.01		2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	7	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01		< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01		< 0.001			< 1		< 0.01		2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	3	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01		< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01		< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	2	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	6	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank		< 0.01		< 0.01	7	< 0.001			< 1		< 0.01		< 2	< 1										
Method Blank Method Blank															< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Quality Control																								
Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Oreas 72a (4 Acid Digest) Cert																								
BIR-1a Meas			47.89	15.24	11.22	0.172	9.61	13.26	1.81	0.02	0.953	0.03			44	< 1	342	380	54	170	140	80	16	
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16	
NCS DC86312 Meas																								
NCS DC86312 Cert																								
MICA-Mg Meas	0.02																							
MICA-Mg Cert	0.01																							
NCS DC70014 Meas																			24	60	2600	7400	24	
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2	
NCS DC70009 (GBW07241) Meas																		30	3	< 20	950	150	17	11
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2
OREAS 100a (Fusion) Meas																			17		170			
OREAS 100a (Fusion) Cert																			18.1		169			
OREAS 101a (Fusion) Meas																			49		460			
OREAS 101a (Fusion) Cert																			48.8		434			
OREAS 101b (Fusion) Meas																			47	< 20	440			
OREAS 101b (Fusion) Cert																			47	9	416			
JR-1 Meas																		< 20	< 1	< 20	< 10	40	18	3
JR-1 Cert																		2.83	0.83	1.67	2.68	30.6	16.1	1.88
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
31354 Orig																								
31354 Dup																								
31369 Orig																								
31369 Dup																								
31371 Orig			53.44	13.11	14.84	0.210	4.61	6.66	3.86	1.12	1.129	0.11	0.48	99.57	36	< 1	311	< 20	50	20	80	110	19	2
31371 Split			53.51	12.95	14.65	0.213	4.63	6.70	3.88	1.12	1.120	0.11	0.48	99.38	37	< 1	315	< 20	49	20	80	110	19	2
31391 Orig																								
31391 Split																								
31392 Orig																								
31392 Dup																								
31501 Orig																								
31501 Split																								
31506 Orig																								
31506 Dup																								
31527 Orig																								
31527 Dup																								
31531 Orig																								
31531 Split																								
31541 Orig																								
31541 Split																								

Quality Control																									
Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

31541 Orig
 31541 Dup
 31561 Orig
 31561 Split
 31562 Orig
 31562 Dup
 31588 Orig
 31588 Dup
 31591 Orig
 31591 Split
 31602 Orig
 31602 Dup
 31621 Orig
 31621 Split
 31623 Orig
 31623 Dup
 31637 Orig
 31637 Dup
 31641 Orig
 31641 Split
 31651 Orig
 31651 Split
 31658 Orig
 31658 Dup
 31672 Orig
 31672 Dup
 31681 Orig
 31681 Split
 31691 Orig
 31691 Split
 31693 Orig
 31693 Dup
 31711 Orig
 31711 Split
 31719 Orig
 31719 Dup
 31735 Orig
 31735 Dup
 31741 Orig
 31741 Split
 31756 Orig
 31756 Dup
 31771 Orig
 31771 Split
 31771 Orig
 31771 Dup
 31791 Orig
 31791 Split
 31792 Orig
 31792 Dup
 31801 Orig
 31801 Split
 31806 Orig
 31806 Dup

Method Blank Method
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 Method Blank Method
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Activation Laboratories Ltd. Report: A10-7296 rev 1

Quality Control																									
Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
Method Blank Method Blank																									
Method Blank Method Blank																		< 20	< 1	< 20	< 10	< 30	< 1	< 1	
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Method Blank Method Blank																									
Method Blank Method Blank																									
Method Blank Method Blank																									
Method Blank Method Blank	< 0.01	< 0.003																							

Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31541 Orig
 31541 Dup
 31561 Orig
 31561 Split
 31562 Orig
 31562 Dup
 31588 Orig
 31588 Dup
 31591 Orig
 31591 Split
 31602 Orig
 31602 Dup
 31621 Orig
 31621 Split
 31623 Orig
 31623 Dup
 31637 Orig
 31637 Dup
 31641 Orig
 31641 Split
 31651 Orig
 31651 Split
 31658 Orig
 31658 Dup
 31672 Orig
 31672 Dup
 31681 Orig
 31681 Split
 31691 Orig
 31691 Split
 31693 Orig
 31693 Dup
 31711 Orig
 31711 Split
 31719 Orig
 31719 Dup
 31735 Orig
 31735 Dup
 31741 Orig
 31741 Split
 31756 Orig
 31756 Dup
 31771 Orig
 31771 Split
 31771 Orig
 31771 Dup
 31791 Orig
 31791 Split
 31792 Orig
 31792 Dup
 31801 Orig
 31801 Split
 31806 Orig
 31806 Dup

Method Blank Method
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 Method Blank Method
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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Method Blank Method Blank																								
Method Blank Method Blank	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank Method Blank																								
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Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

GXR-1 Meas											
GXR-1 Cert											
GXR-1 Meas											
GXR-1 Cert											
WMG-1 Meas	0.21	1.3	0.20	1.4		3		19		1.3	0.7
WMG-1 Cert	0.200	1.30	0.210	1.30		1.30		15.0		1.10	0.650
NIST 694 Meas											
NIST 694 Cert											
DNC-1 Meas		2.0									
DNC-1 Cert		2.0									
GBW 07113 Meas											
GBW 07113 Cert											
MICA-FE Meas											
MICA-FE Cert											
GXR-4 Meas											
GXR-4 Cert											
GXR-4 Meas											
GXR-4 Cert											
SDC-1 Meas											
SDC-1 Cert											
SDC-1 Meas											
SDC-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
GXR-6 Meas											
GXR-6 Cert											
GXR-6 Meas											
GXR-6 Cert											
LKSD-3 Meas		2.8	0.41		0.7	< 1				10.5	4.3
LKSD-3 Cert		2.70	0.400		0.700	2.00				11.4	4.60
NIST 1633b Meas											
NIST 1633b Cert											
TDB-1 Meas		3.3								2.9	
TDB-1 Cert		3.4								2.7	
BE-N Meas											
BE-N Cert											
W-2a Meas	0.35	2.0	0.32	2.6	0.5	< 1	0.1	9	< 0.4	2.2	0.5
W-2a Cert	0.380	2.10	0.330	2.60	0.500	0.300	0.200	9.30	0.0300	2.40	0.530
OREAS 13P Meas											
OREAS 13P Cert											
OREAS 13P Meas											
OREAS 13P Cert											
OREAS 14P Meas											
OREAS 14P Cert											
OREAS 14P Meas											
OREAS 14P Cert											
SY-4 Meas											
SY-4 Cert											
CTA-AC-1 Meas		11.0	1.12		2.9					23.5	4.3
CTA-AC-1 Cert		11.4	1.08		2.65					21.8	4.4
Oreas 72a (4 Acid Digest) Meas											
Oreas 72a (4 Acid Digest) Cert											
Oreas 72a (4 Acid Digest) Meas											

Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

Oreas 72a (4 Acid Digest) Cert											
BIR-1a Meas		1.7	0.25	0.6				< 5			
BIR-1a Cert		1.7	0.3	0.60				3			
NCS DC86312 Meas	14.4	87.5	12.1							25.3	
NCS DC86312 Cert	15.1	87.79	11.96							23.6	
MICA-Mg Meas											
MICA-Mg Cert											
NCS DC70014 Meas	0.53	3.4	0.50					> 10000	80.3		
NCS DC70014 Cert	0.57	3.3	0.50					27200.00	80.3		
NCS DC70009 (GBW07241) Meas	2.28	15.6	2.22			2200	2.1			29.9	
NCS DC70009 (GBW07241) Cert	2.2	14.9	2.4			2200.00	1.8			28.3	
OREAS 100a (Fusion) Meas	2.31	14.9	2.07							49.6	132
OREAS 100a (Fusion) Cert	2.31	14.9	2.26							51.6	135
OREAS 101a (Fusion) Meas	2.99	18.5	2.54							36.0	423
OREAS 101a (Fusion) Cert	2.90	17.5	2.66							36.6	422
OREAS 101b (Fusion) Meas	2.86	17.9	2.47							36.5	396
OREAS 101b (Fusion) Cert	2.66	17.6	2.58							37.1	396
JR-1 Meas	0.72	4.8	0.71	4.5	1.9	2	1.3	21	0.6	27.1	9.2
JR-1 Cert	0.67	4.55	0.71	4.51	1.86	1.59	1.56	19.3	0.56	26.7	8.88
DNC-1a Meas											
DNC-1a Cert											
DNC-1a Meas											
DNC-1a Cert											
OREAS 13b (4-Acid) Meas											
OREAS 13b (4-Acid) Cert											
DMMAS 111 Meas											
DMMAS 111 Cert											
DMMAS 111 Meas											
DMMAS 111 Cert											
31354 Orig											
31354 Dup											
31369 Orig											
31369 Dup											
31371 Orig	0.37	2.5	0.40	2.3	0.3	< 1	0.1	< 5	< 0.4	2.1	0.5
31371 Split	0.37	2.5	0.40	2.4	0.3	1	0.1	< 5	< 0.4	2.1	0.5
31391 Orig											
31391 Split											
31392 Orig											
31392 Dup											
31501 Orig											
31501 Split											
31506 Orig											
31506 Dup											
31527 Orig											
31527 Dup											
31531 Orig											
31531 Split											
31541 Orig											
31541 Split											

Quality Control

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

- 31541 Orig
- 31541 Dup
- 31561 Orig
- 31561 Split
- 31562 Orig
- 31562 Dup
- 31588 Orig
- 31588 Dup
- 31591 Orig
- 31591 Split
- 31602 Orig
- 31602 Dup
- 31621 Orig
- 31621 Split
- 31623 Orig
- 31623 Dup
- 31637 Orig
- 31637 Dup
- 31641 Orig
- 31641 Split
- 31651 Orig
- 31651 Split
- 31658 Orig
- 31658 Dup
- 31672 Orig
- 31672 Dup
- 31681 Orig
- 31681 Split
- 31691 Orig
- 31691 Split
- 31693 Orig
- 31693 Dup
- 31711 Orig
- 31711 Split
- 31719 Orig
- 31719 Dup
- 31735 Orig
- 31735 Dup
- 31741 Orig
- 31741 Split
- 31756 Orig
- 31756 Dup
- 31771 Orig
- 31771 Split
- 31771 Orig
- 31771 Dup
- 31791 Orig
- 31791 Split
- 31792 Orig
- 31792 Dup
- 31801 Orig
- 31801 Split
- 31806 Orig
- 31806 Dup

Method Blank Method
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Method Blank Method
Blank

Quality Control

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

Method Blank Method
Blank

Method Blank Method
Blank < 0.05 < 0.1 < 0.04 < 0.2 < 0.1 < 1 < 0.1 < 5 < 0.4 < 0.1 < 0.1

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Date Submitted: 02-Nov-10
Invoice No.: A10-7826
Invoice Date: 22-Dec-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide Street East
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Chairman Tim Gallagher(Invoices)

CERTIFICATE OF ANALYSIS

243 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-7826

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (11+) Whole Rock Analysis-XRF
Code 4LTHORES (1-10) Major Elements Fusion ICP(WRA)/Trace
Elements Fusion ICP/MS(WRA4B2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT. We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Emmanuel Esemé , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-7826

Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
31824	0.20	37.8																							
31825	0.18	36.2																							
31826	0.12	31.3																							
31827	0.23	33.2																							
31828	0.15	36.8																							
31829	0.24	35.6																							
31830	0.20	33.3																							
31831	0.18	34.5																							
31832	0.20	31.6																							
31833	0.25	28.3																							
31834	0.19	30.8																							
31835	0.21	35.8																							
31836	0.24	32.1																							
31837	0.25	34.2																							
31838	0.25	36.7																							
31839	0.37	28.9																							
31840	0.15	42.0																							
31841	0.27	36.9																							
31842	0.15	42.0																							
31843	0.23	39.0																							
31844	0.18	40.7																							
31845	0.18	30.0																							
31846	0.19	31.5																							
31847	0.09	32.2																							
31848	0.20	31.0																							
31849	0.13	30.5																							
31850	0.21	27.5																							
31851	0.17	28.4																							
31852	0.24	29.9																							
31853	0.07	29.6																							
31854	0.09	33.2																							
31855	0.11	29.4	0.2	0.2	< 0.2	0.002	23.9	< 0.1	< 1	0.6	0.4	65.69	17.34	2.98	0.042	1.20	4.54	3.80	1.75	0.34	0.10	0.01	0.007	1.12	
31856	0.14	30.7	0.1	0.3	< 0.2	0.001	23.2	< 0.1	< 1	0.3	0.3	65.65	16.00	4.10	0.062	1.61	4.16	3.83	1.64	0.43	0.08	0.01	0.012	1.09	
31857	0.13	29.8																							
31858	0.14	31.3																							
31859	0.39	31.8																							
31860	0.27	30.3																							
31861	0.16	30.1																							
31862	0.19	29.5																							
31863	0.09	30.1																							
31864	0.10	31.9																							
31865	0.09	31.8																							
31866	0.12	28.5																							
31867	0.12	28.5																							
31868	0.10	31.2																							
31869	0.10	31.9																							
31870	0.11	31.6																							
31871	0.11	28.6																							
31872	0.26	27.7																							
31873	0.24	27.5																							
31874	0.14	31.9																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI		
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%		
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003			
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF		
31977	0.17	33.6																								
31978	0.18	34.1																								
31979	0.40	29.8																								
31980	0.17	31.6																								
31981	0.27	37.4																								
31982	0.16	31.9																								
31983	0.17	32.6																								
31984	0.24	31.5																								
31985	0.30	30.6																								
31986	0.15	30.1																								
31987	0.30	28.6																								
31988	0.21	32.1																								
31989	0.33	32.5																								
31990	0.13	31.5																								
31991	0.33	29.6																								
31992	0.26	32.5																								
31993	0.36	30.9																								
31994	0.20	32.7																								
31995	0.32	32.0																								
31996	0.29	31.2																								
31997	0.36	32.0																								
31998	0.12	32.2																								
31999	0.40	33.8																								
32000	0.33	33.4																								
32001	0.32	30.4																								
32002	0.23	30.8																								
32003	< 0.05	30.6																								
32004	0.22	31.6																								
32005	0.19	29.3																								
32006	0.25	31.5																								
32007	0.29	32.3	0.1	0.6	< 0.2	0.001	70.3	< 0.1	< 1	0.8	0.7	51.36	14.14	8.30	0.137	6.63	7.97	3.26	3.79	0.81	0.56	0.05	0.029	1.60		
32008	< 0.05	31.7																								
32009	0.25	28.3																								
32010	0.21	33.6																								
32011	0.27	29.8																								
32012	0.13	28.1																								
32013	0.25	30.2																								
32014	0.25	33.0																								
32015	0.29	29.3																								

Activation Laboratories Ltd. Report: A10-7826

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31430																								
31431																								
31432	99.36																							
31433																								
31434																								
31435																								
31436																								
31437																								
31438	98.83																							
31439																								
31440																								
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31442																								
31443																								
31444																								
31445	98.74																							
31446	98.70																							
31447																								
31448																								
31449		50.53	12.04	8.48	0.149	10.84	9.46	1.22	3.78	0.887	1.20	2.10	100.7	17	2	120	510	41	330	30	120	17	1.9	< 5
31450																								
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31454																								
31455																								
31456																								
31457	98.92																							
31458																								
31459																								
31460																								
31461	99.69																							
31462	98.87																							
31463	98.85																							
31807																								
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Activation Laboratories Ltd. Report: A10-7826

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-7826

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31886	99.29																							
31887	98.79																							
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31893	98.78																							
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31908																								
31909																								
31910																								
31911	99.16																							
31912		77.85	16.72	1.53	0.012	0.15	0.33	0.34	1.08	0.242	0.10	1.76	100.1	3	< 1	29	20	4	< 20	10	< 30	20	4.1	151
31913																								
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31917																								
31918																								
31919																								
31920	99.03																							
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Activation Laboratories Ltd. Report: A10-7826

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
31929	99.95																							
31930																								
31931																								
31932																								
31933		47.81	3.32	45.01	0.104	2.14	1.78	0.10	0.90	0.207	0.26	-1.02	100.6	7	2	47	30	7	< 20	20	40	4	12.2	278
31934																								
31935																								
31936	98.84																							
31937																								
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31962	98.71																							
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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31449	108	1146	27.4	326	13.5	< 2	0.8	< 0.1	2	< 0.2	4.4	2856	106	248	31.0	127	22.1	4.95	14.4	1.59	6.77	1.04	2.50	0.303
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31912	54	115	2.2	90	1.8	< 2	< 0.5	< 0.1	< 1	2.0	12.4	113	5.92	11.8	1.36	5.47	1.06	0.260	0.76	0.11	0.48	0.09	0.22	0.033
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31929																								
31930																								
31931																								
31932																								
31933	57	78	7.2	24	1.5	< 2	< 0.5	< 0.1	< 1	19.5	12.9	38	4.93	9.73	1.15	4.80	1.02	0.391	1.13	0.18	1.13	0.25	0.71	0.109
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31430										
31431										
31432										
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31449	1.70	0.228	7.6	0.61	1.5	0.52	10	0.3	11.9	2.43
31450										
31451										
31452										
31453										
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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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31908										
31909										
31910										
31911										
31912	0.20	0.028	2.3	0.11	5.0	0.58	< 5	< 0.1	1.37	0.71
31913										
31914										
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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

31929										
31930										
31931										
31932										
31933	0.71	0.104	0.6	0.10	104	1.93	< 5	< 0.1	0.73	0.22
31934										
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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas		32.0		1210	3.3	15	746	50		741		0.26	2.96			1	1380		1.01					
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22	1380		0.960					
GXR-1 Meas																								
GXR-1 Cert																	1380							
GXR-1 Meas																	1380							
GXR-1 Cert																	1380							
GXR-1 Meas		31.5		1180	3.3	16	689	37		702		0.22	2.21			< 1			0.89					
GXR-1 Cert		31.0		1110	3.30	18.0	730	41.0		760		0.257	3.52			1.22			0.960					
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
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DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas		3.4		6420	< 0.3	312	43	44		70		1.78	6.02			2	16		1.16					
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90	19.0		1.01					
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																	24							
GXR-4 Cert																	19.0							
GXR-4 Meas		3.7		6450	0.6	311	54	50		94		1.79	6.49			2			1.09					
GXR-4 Cert		4.00		6520	0.860	310	52.0	42.0		73.0		1.77	7.20			1.90			1.01					
SDC-1 Meas		< 0.3		27	< 0.3	< 1	19	42		94		0.05	6.84			3	< 2		1.12					
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60		1.00					
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas		< 0.3		32	< 0.3	2	22	39		101		0.07	8.26			3	< 2		1.17					
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00	2.60		1.00					
SDC-1 Meas		< 0.3		28	< 0.3	< 1	21	37		97		0.05	8.53			3			1.14					
SDC-1 Cert		0.0410		30.0	0.0800	0.250	25.0	38.0		103		0.0650	8.34			3.00			1.00					
SCO-1 Meas		< 0.3		26	< 0.3	< 1	25	28		92			5.75			2	< 2		1.99					
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84	0.370		1.87					
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas		0.8		30	< 0.3	< 1	27	33		101			7.59			2			2.18					
SCO-1 Cert		0.134		28.7	0.140	1.37	31.0	27.0		103			7.24			1.84			1.87					
GXR-6 Meas		0.3		65	< 0.3	< 1	92	30		128		0.01	11.9			1	< 2		0.21					
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7			1.40	0.290		0.180					
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas		0.7		71	0.6	6	90	25		129		0.02	12.6			1			0.21					

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Quality Control																								
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA
GXR-6 Cert		1.30		66.0	1.00	2.40	101	27.0		118		0.0160	17.7				1.40		0.180					
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
IF-G Meas																								
IF-G Cert																								
TDB-1 Meas																								
TDB-1 Cert																								
BE-N Meas																								
BE-N Cert																								
W-2a Meas																								
W-2a Cert																								
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W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
BIR-1a Meas																								
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BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC86316 Meas																								
NCS DC86316 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
OREAS 101b (Fusion) Meas																								
OREAS 101b (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
DNC-1a Meas				86				246		51														
DNC-1a Cert				100				247		70.0														
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas				105				243		54														
DNC-1a Cert				100				247		70.0														
OREAS 13b (4-Acid) Meas		1.4		2540		13		2070		108		1.14												
OREAS 13b (4-Acid) Cert		0.86		2327		9.0		2247		133		1.20												
DMMAS 111 Meas	1700																							
															1430	1280				34	52			2.73

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Quality Control																									
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	
DMMAS 111 Cert	1670													1450	1140					34	52			2.79	
DMMAS 111 Meas	1660													1410	1260					37	59			2.89	
DMMAS 111 Cert	1670													1450	1140					34	52			2.79	
DMMAS 111 Meas	1640													1410	1190					36	55			2.90	
DMMAS 111 Cert	1670													1450	1140					34	52			2.79	
DMMAS 111 Meas	1700													1450	1120					34	53			2.95	
DMMAS 111 Cert	1670													1450	1140					34	52			2.79	
DMMAS 111 Meas	1760													1450	1050					37	54			2.97	
DMMAS 111 Cert	1670													1450	1140					34	52			2.79	
31444 Orig		< 0.3		18	0.4	< 1	9	56		109		0.41	7.96				1	< 2		4.14					
31444 Dup		0.4		19	0.3	< 1	10	55		107		0.41	7.93				1	< 2		4.11					
31460 Orig	< 2		< 5						< 20		170			< 0.5	970			6.6		17	65	5	1.4	4.16	
31460 Split	< 2	0.7	< 5	97	< 0.3	< 1	9	41	< 20	61	150	0.15	7.04	< 0.5	900		1	< 2	6.0	2.07	19	58	7	1.4	4.16
31463 Orig		0.4		50	< 0.3	25	< 3	153		76		0.01	7.83				< 1			8.33					
31463 Dup		< 0.3		45	< 0.3	26	< 3	140		77		0.02	6.82				< 1			7.49					
31808 Orig		< 0.3		124	< 0.3	< 1	< 3	59		43		0.06	8.38				< 1	< 2		7.57					
31808 Dup		< 0.3		123	< 0.3	< 1	< 3	58		43		0.06	8.31				< 1	< 2		7.59					
31822 Orig	4		< 5						< 20		110			< 0.5	< 50			< 0.5		45	250	2	1.2	7.86	
31822 Split	6	< 0.3	< 5	32	< 0.3	< 1	< 3	119	< 20	46	150	0.15	4.25	< 0.5	< 50		< 1	< 2	3.3	5.64	43	241	2	1.1	7.65
31829 Orig		< 0.3		76	< 0.3	< 1	< 3	35		31		0.05	8.00				< 1	< 2		5.60					
31829 Dup		< 0.3		72	< 0.3	< 1	< 3	33		31		0.05	7.86				< 1	< 2		5.42					
31832 Orig	< 2		< 5						< 20		150			3.0	550			7.9		33	82	3	0.8	6.81	
31832 Split	< 2	0.4	< 5	153	< 0.3	< 1	6	57	< 20	77	150	0.55	6.84	5.1	500	< 1	< 2	5.7	3.49	29	85	4	0.8	6.42	
31843 Orig		< 0.3		22	0.4	< 1	3	40		44		1.05	5.80				< 1	3		5.95					
31843 Dup		< 0.3		23	0.5	< 1	6	39		45		1.06	5.86				< 1	< 2		6.05					
31862 Orig	< 2		< 5						< 20		< 50			2.5	570			4.4		17	114	3	1.0	3.65	
31862 Split	< 2	0.3	< 5	36	< 0.3	< 1	11	53	< 20	56	< 50	0.17	5.85	3.4	480	< 1	< 2	1.9	2.65	17	103	3	1.0	3.43	
31866 Orig		< 0.3		40	< 0.3	< 1	11	44		59		0.12	8.44				< 1	< 2		2.64					
31866 Dup		< 0.3		39	< 0.3	< 1	9	43		61		0.12	8.44				< 1	< 2		2.65					
31880 Orig		0.4		54	< 0.3	2	16	66		73		0.32	8.38				1	< 2		2.53					
31880 Dup		< 0.3		52	< 0.3	< 1	13	64		73		0.31	8.16				1	< 2		2.44					
31892 Orig	19		< 5						< 20		< 50			< 0.5	590			< 0.5		21	23	4	0.7	4.13	
31892 Split	13	0.3	< 5	47	0.4	< 1	< 3	32	< 20	62	< 50	0.14	7.56	< 0.5	440	< 1	< 2	< 0.5	4.11	18	29	4	0.5	4.13	
31904 Orig		< 0.3		50	< 0.3	< 1	< 3	42		116		0.09	7.93				< 1	< 2		4.28					
31904 Dup		< 0.3		51	0.6	< 1	< 3	43		118		0.10	8.08				< 1	< 2		4.42					
31921 Orig		0.5		48	0.3	2	27	63		94		0.28	9.69				2	< 2		2.47					
31921 Dup		0.4		45	0.3	< 1	25	63		81		0.28	9.69				2	< 2		2.45					
31922 Orig	< 2		< 5						< 20		130			19.8	880			< 0.5		26	166	12	1.3	5.11	
31922 Split	< 2	< 0.3	< 5	39	< 0.3	< 1	17	76	< 20	85	140	0.21	7.12	20.7	800	2	2	< 0.5	2.38	22	168	11	1.3	4.99	
31937 Orig		0.5		39	0.9	< 1	10	48		52		0.73	5.16				2	< 2		1.30					
31937 Dup		0.4		51	1.0	< 1	7	50		50		0.70	5.34				2	< 2		1.32					
31951 Orig		< 0.3		68	< 0.3	4	< 3	121		72		0.32	8.89				< 1	< 2		9.33					
31951 Dup		< 0.3		68	< 0.3	5	< 3	123		71		0.34	9.27				< 1	< 2		9.41					
31952 Orig	< 2		< 5						< 20		120			6.4	< 50			8.2		57	260	5	0.7	4.35	
31952 Split	< 2	< 0.3	< 5	59	< 0.3	< 1	< 3	126	< 20	69	< 50	0.54	5.79	6.8	< 50	< 1	3	8.4	11.2	52	268	6	0.6	4.22	
31962 Orig		< 0.3		58	< 0.3	< 1	7	69		70		0.17	7.69				2			9.14					
31962 Dup		< 0.3		61	< 0.3	< 1	9	70		68		0.11	7.79				2			9.03					
31973 Orig		0.6		69	< 0.3	< 1	6	131		81		0.62	7.84				< 1	< 2		8.64					
31973 Dup		0.3		65	0.3	< 1	6	127		77		0.59	7.20				< 1	< 2		8.28					
31982 Orig	19		< 5						< 20		< 50			< 0.5	380			5.6		21	81	12	1.1	7.24	
31982 Split	20	< 0.3	< 5	38	< 0.3	< 1	< 3	36	< 20	45	140	0.59	5.75	< 0.5	320	< 1	< 2	4.6	8.41	20	82	12	1.0	7.12	
31987 Orig		0.5		63	< 0.3	< 1	7	71		94		0.42	7.68				< 1	< 2		4.25					
31987 Dup		0.6		66	< 0.3	< 1	5	70		98		0.45	8.02				< 1	< 2		4.43					
32009 Orig		1.3		75	< 0.3	1	10	96		80		0.36	7.47				1	< 2		5.31					
32009 Dup		1.3		71	< 0.3	< 1	12	96		83		0.34	7.49				1	< 2		5.32					
32012 Orig	< 2		< 5						< 20		230			< 0.5	960			11.9		29	159	< 1	1.2	8.88	
32012 Split	< 2	0.7	< 5	147	< 0.3	1	9	79	< 20	82	200	2.56	3.65	< 0.5	890	1	< 2	12.6	4.08	29	158	3	1.0	8.67	

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Quality Control																									
Analyte Symbol	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	
Detection Limit	2	0.3	5	1	0.3	1	3	1	20	1	50	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	
Analysis Method	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	
32015 Orig	< 2		< 5						< 20		180			7.2	1440			< 0.5		32	294	7	3.3	5.62	
32015 Split	< 2	1.1	< 5	29	< 0.3	1	10	100	< 20	75	< 50	0.02	6.18	8.0	1300	2	< 2	< 0.5	5.45	30	301	7	3.1	5.53	
Method Blank Method Blank																									
Method Blank Method Blank																								< 2	
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	
Method Blank Method Blank																									< 2
Method Blank Method Blank		< 0.3		1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	
Method Blank Method Blank																									< 2
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	
Method Blank Method Blank																									< 2
Method Blank Method Blank		< 0.3		1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	
Method Blank Method Blank																									< 2
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	
Method Blank Method Blank																									< 2
Method Blank Method Blank		< 0.3		< 1	< 0.3	< 1	< 3	< 1		< 1		< 0.01	< 0.01											< 0.01	

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Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas				0.05	0.27	929		0.059					304					95			29			
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0			32.0			
GXR-1 Meas																								
GXR-1 Cert																								
GXR-1 Meas																								
GXR-1 Cert																								
GXR-1 Meas				0.05	0.22	857		0.055					277					83			21			
GXR-1 Cert				0.0500	0.217	852		0.0650					275					80.0			32.0			
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas				4.01	1.77	152		0.134					216					94			14			
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0			14.0			
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas				2.98	1.64	152		0.132					211					88			16			
GXR-4 Cert				4.01	1.66	155		0.120					221					87.0			14.0			
SDC-1 Meas				2.59	1.00	833		0.050					161		0.10			35			31			
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102			40.0			
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas				2.66	1.00	844		0.056					178		0.10			34			39			
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102			40.0			
SDC-1 Meas				2.70	0.99	835		0.051					166		0.12			43			32			
SDC-1 Cert				2.72	1.02	883		0.0690					183		0.606			102			40.0			
SCO-1 Meas				2.08	1.53	367		0.077					144		0.31			125			18			
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131			26.0			
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas				2.27	1.66	400		0.090					167		0.37			134			23			
SCO-1 Cert				2.30	1.64	410		0.0900					174		0.380			131			26.0			
GXR-6 Meas				1.84	0.63	1040		0.034					39					103			13			
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186			14.0			
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas				1.76	0.57	1090		0.036					43					189			11			

Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
GXR-6 Cert				1.87	0.609	1010		0.0350					35.0					186		14.0				
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
IF-G Meas																								
IF-G Cert																								
TDB-1 Meas																								
TDB-1 Cert																								
BE-N Meas																								
BE-N Cert																								
W-2a Meas																								
W-2a Cert																								
W-2a Meas																								
W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC86316 Meas																								
NCS DC86316 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
OREAS 101b (Fusion) Meas																								
OREAS 101b (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
DNC-1a Meas													124					147			18			
DNC-1a Cert												144						148			18.0			
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas													137					145			18			
DNC-1a Cert												144						148			18.0			
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas							1.82										6.2				16.4			1.8
																					14.5	22		

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Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
DMMAS 111 Cert							1.87				5.80					14.00					14.00	19.30		1.90
DMMAS 111 Meas							1.84				5.9					16.1					14.1	19		1.9
DMMAS 111 Cert							1.87				5.80					14.00					14.00	19.30		1.90
DMMAS 111 Meas							1.83				5.9					14.3					14.1	23		1.8
DMMAS 111 Cert							1.87				5.80					14.00					14.00	19.30		1.90
DMMAS 111 Meas							1.89				6.0					15.4					14.0	24		2.0
DMMAS 111 Cert							1.87				5.80					14.00					14.00	19.30		1.90
DMMAS 111 Meas							1.91				5.7					14.6					14.6	20		1.7
DMMAS 111 Cert							1.87				5.80					14.00					14.00	19.30		1.90
31444 Orig				1.08	1.32	5160		0.083					304		0.38			118			16			
31444 Dup				1.08	1.31	5050		0.081					304		0.38			118			16			
31460 Orig	5	< 1	< 5				3.72		111	< 0.1	13.6	< 3		2.6		12.6	4.7		< 1		50.9	86	36	5.6
31460 Split	5	< 1	< 5	1.59	2.12	434	3.58	0.096	< 15	< 0.1	13.3	< 3	405	< 0.5	0.35	13.2	5.5	103	< 1	16	48.5	75	26	4.7
31463 Orig				0.63	5.72	1250		0.018					98		0.33			204			14			
31463 Dup				0.57	5.12	1150		0.017					84		0.31			186			12			
31808 Orig				0.18	4.13	1280		0.018					87		0.33			283			12			
31808 Dup				0.18	4.13	1270		0.018					85		0.32			284			12			
31822 Orig	2	< 1	< 5				0.88		< 15	< 0.1	36.1	< 3		< 0.5		1.6	< 0.5		< 1		24.2	45	15	4.1
31822 Split	2	< 1	< 5	0.38	3.56	1190	0.89	0.074	< 15	< 0.1	34.2	< 3	88	< 0.5	0.42	2.1	< 0.5	259	< 1	15	22.8	38	18	3.4
31829 Orig				0.23	3.05	1270		0.029					78		0.51			347			20			
31829 Dup				0.23	3.00	1240		0.026					76		0.38			314			20			
31832 Orig	2	< 1	< 5				1.97		64	0.4	27.4	< 3		< 0.5		5.3	2.6		< 1		23.5	39	12	3.0
31832 Split	2	< 1	< 5	1.05	2.04	1390	1.89	0.051	77	0.4	25.2	< 3	172	< 0.5	0.40	5.1	2.3	177	< 1	15	21.1	34	9	2.7
31843 Orig				0.18	3.11	9460		0.031					80		0.48			223			20			
31843 Dup				0.18	3.14	9680		0.032					82		0.51			223			20			
31862 Orig	2	< 1	< 5				2.08		< 15	0.5	11.6	< 3		< 0.5		6.6	2.7		< 1		28.0	57	17	3.6
31862 Split	2	< 1	< 5	1.30	1.39	630	1.88	0.045	< 15	0.4	11.1	< 3	330	< 0.5	0.26	5.5	3.0	90	< 1	11	26.6	46	15	3.2
31866 Orig				1.57	1.55	656		0.030					264		0.23			86			12			
31866 Dup				1.58	1.56	657		0.030					266		0.21			84			12			
31880 Orig				1.99	1.84	729		0.058					385		0.37			114			15			
31880 Dup				1.92	1.78	711		0.055					374		0.34			105			14			
31892 Orig	1	< 1	< 5				3.75		< 15	< 0.1	10.4	< 3		< 0.5		3.3	< 0.5		6		16.7	32	12	2.3
31892 Split	2	< 1	< 5	1.28	1.37	674	3.20	0.044	< 15	0.4	10.0	< 3	395	< 0.5	0.28	2.4	< 0.5	84	8	8	15.3	25	11	1.6
31904 Orig				2.14	2.58	1020		0.053					162		0.10			63			25			
31904 Dup				2.24	2.67	1030		0.055					165		0.17			76			26			
31921 Orig				2.24	1.61	655		0.069					478		0.40			113			13			
31921 Dup				2.21	1.59	666		0.067					474		0.33			97			13			
31922 Orig	4	< 1	< 5				1.18		60	1.5	17.2	< 3		< 0.5		10.6	3.7		< 1		36.4	66	30	4.6
31922 Split	3	< 1	< 5	2.18	1.82	733	1.12	0.066	48	1.4	16.8	< 3	275	< 0.5	0.32	9.0	< 0.5	106	< 1	13	34.0	56	33	4.3
31937 Orig				1.49	1.52	1010		0.058					180		0.26			96			12			
31937 Dup				1.55	1.54	1060		0.058					184		0.28			100			12			
31951 Orig				0.44	0.70	1040		0.032					273		0.18			112			11			
31951 Dup				0.45	0.71	1050		0.034					272		0.25			130			11			
31952 Orig	2	< 1	< 5				1.84		< 15	0.7	29.9	< 3		< 0.5		0.6	< 0.5		< 1		9.9	24	12	2.2
31952 Split	2	< 1	< 5	0.33	0.97	1550	1.74	0.029	< 15	0.7	29.7	< 3	234	< 0.5	0.36	0.8	< 0.5	149	5	8	10.1	20	10	2.0
31962 Orig				2.95	2.43	694		0.124					1960		0.17			74			28			
31962 Dup				3.26	2.44	678		0.125					1990		0.15			72			28			
31973 Orig				0.45	2.78	1260		0.082					492		0.43			164			14			
31973 Dup				0.42	2.65	1240		0.079					474		0.42			159			13			
31982 Orig	2	< 1	< 5				1.08		49	0.5	14.9	< 3		< 0.5		1.9	< 0.5		< 1		18.9	31	8	2.2
31982 Split	2	< 1	< 5	0.95	0.96	1980	1.09	0.052	65	< 0.1	15.2	< 3	390	< 0.5	0.26	1.5	< 0.5	100	< 1	7	18.7	26	11	2.2
31987 Orig				1.18	2.35	1340		0.041					291		0.33			109			16			
31987 Dup				1.22	2.45	1400		0.044					303		0.36			118			17			
32009 Orig				3.07	3.44	958		0.222					1390		0.42			139			23			
32009 Dup				3.04	3.45	948		0.222					1370		0.43			138			23			
32012 Orig	2	< 1	< 5				2.70		111	< 0.1	19.7	< 3		< 0.5		7.1	< 0.5		< 1		40.2	62	18	3.6
32012 Split	2	< 1	< 5	1.22	1.07	1160	2.62	0.062	124	0.5	19.4	< 3	568	< 0.5	0.33	6.2	< 0.5	125	< 1	8	38.2	58	15	3.6

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Quality Control																								
Analyte Symbol	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm
Unit Symbol	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1
Analysis Method	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA
32015 Orig	4	< 1	< 5				2.45		111	0.6	17.0	< 3		< 0.5		11.0	< 0.5		< 1		78.8	124	51	9.5
32015 Split	5	< 1	< 5	2.14	3.43	879	2.39	0.217	97	< 0.1	17.0	< 3	1190	< 0.5	0.44	10.7	< 0.5	139	< 1	19	76.6	124	52	9.5
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	12		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	3		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	4		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	3		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	11		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank				< 0.01	< 0.01	9		< 0.001					< 1		< 0.01			< 2		< 1				
Method Blank Method Blank																								
Method Blank Method Blank																								

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Quality Control																								
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃ (T)	MnO	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	P ₂ O ₅
Unit Symbol	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.01	0.5	0.2	0.05		0.1	0.1	0.2	0.001	0.5	3	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
GXR-1 Meas																								
GXR-1 Cert																								
GXR-1 Meas						1680		0.7		7.3	16	32	13.5	0.3										
GXR-1 Cert						1380		0.770		8.20	16.6	54.0	13.0	0.390										
GXR-1 Meas																								
GXR-1 Cert																								
GXR-1 Meas																								
GXR-1 Cert																								
WGMG-1 Meas																								
WGMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas															46.89	18.54	10.03	0.148	10.18	11.26	1.98	0.24	0.51	0.08
DNC-1 Cert															47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas															35.19	19.30	25.98	0.353	4.60	0.51	0.32	8.90	2.54	0.41
MICA-FE Cert															34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas						19.1		0.2		9.8	6	6	1.1	3.1										
GXR-4 Cert						19.0		0.270		11.1	5.60	5.60	0.970	3.20										
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas						0.3				36.6		< 1												
SDC-1 Cert						2.60				34.0		3.00												
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas						0.4				45.2		3												
SCO-1 Cert						0.370				45.0		3.70												
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas						0.2		< 0.2		36.4	< 3	1	0.2	2.2										
GXR-6 Cert						0.290		0.260		32.0	0.940	1.70	0.0180	2.20										
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								

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Quality Control																								
Analyte Symbol	Sn	Tb	Yb	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.01	0.5	0.2	0.05		0.1	0.1	0.2	0.001	0.5	3	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

GXR-6 Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
IF-G Meas															41.26	0.24	56.00	0.046	1.96	1.65	0.16	0.02	0.01	0.09
IF-G Cert															41.2	0.150	55.8	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630
TDB-1 Meas																								
TDB-1 Cert																								
BE-N Meas															38.91	10.08		0.203	13.04	13.88	3.24	1.43	2.60	1.04
BE-N Cert															38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05
W-2a Meas																								
W-2a Cert																								
W-2a Meas																								
W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC86316 Meas																								
NCS DC86316 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
OREAS 101b (Fusion) Meas																								
OREAS 101b (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								

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Quality Control	Sn	Tb	Yb	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Analyte Symbol	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Unit Symbol	%	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.01	0.5	0.2	0.05		0.1	0.1	0.2	0.001	0.5	3	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

DMMAS 111 Cert
DMMAS 111 Meas
DMMAS 111 Cert
DMMAS 111 Meas
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DMMAS 111 Meas
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DMMAS 111 Meas
DMMAS 111 Cert
31444 Orig
31444 Dup
31460 Orig
31460 Split
31463 Orig
31463 Dup
31808 Orig
31808 Dup
31822 Orig
31822 Split
31829 Orig
31829 Dup
31832 Orig
31832 Split
31843 Orig
31843 Dup
31862 Orig
31862 Split
31866 Orig
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31880 Orig
31880 Dup
31892 Orig
31892 Split
31904 Orig
31904 Dup
31921 Orig
31921 Dup
31922 Orig
31922 Split
31937 Orig
31937 Dup
31951 Orig
31951 Dup
31952 Orig
31952 Split
31962 Orig
31962 Dup
31973 Orig
31973 Dup
31982 Orig
31982 Split
31987 Orig
31987 Dup
32009 Orig
32009 Dup
32012 Orig
32012 Split

< 0.01	< 0.5	2.2	0.24	30.6																				
< 0.01	< 0.5	1.9	0.29	26.4																				
						2.3	0.9	< 0.2	0.001	19.7	< 3	< 1	0.1	0.2										
						2.1	0.8	< 0.2	0.003	17.9	< 3	< 1	0.1	0.2										
< 0.01	< 0.5	2.0	0.18	34.5																				
< 0.01	< 0.5	2.0	0.19	33.2																				
< 0.01	< 0.5	1.9	0.20	31.6																				
< 0.01	< 0.5	1.8	0.21	30.1																				
< 0.01	< 0.5	0.9	0.19	29.5																				
< 0.01	< 0.5	1.1	0.24	30.3																				
< 0.01	< 0.5	1.2	0.18	29.3																				
< 0.01	< 0.5	1.1	0.20	27.7																				
< 0.01	< 0.5	1.9	0.32	31.2																				
< 0.01	< 0.5	1.8	0.24	27.2																				
< 0.01	< 0.5	1.4	0.21	35.2																				
< 0.01	< 0.5	1.1	0.22	32.5																				
						0.2	0.4	< 0.2	0.002	19.6	< 3	< 1	0.8	0.4										
						0.2	0.6	< 0.2	0.002	20.9	< 3	< 1	0.9	0.5										
< 0.01	< 0.5	1.1	0.16	31.9																				
< 0.01	< 0.5	0.9	0.15	33.3																				
< 0.01	0.7	1.6	0.13	28.1																				
< 0.01	< 0.5	1.7	0.15	27.9																				

Quality Control

Table with 25 columns (Analyte Symbol, Unit Symbol, Detection Limit, Analysis Method) and 25 rows listing various elements (Cr2O3, V2O5, SiO2, Al2O3, Fe2O3(T), MnO, MgO, CaO, Na2O, K2O, TiO2, P2O5, Sc, Be, V, Cr, Co, Ni, Cu, Zn, Ga, Ge, As, Rb) and their respective units and detection limits.

Main data table with 25 columns for elements and multiple rows for various sample types (GXR-1, WMG-1, NIST 694, DNC-1, GBW 07113, MICA-FE, GXR-4, SDC-1, SCO-1, GXR-6) including measurement and certification results.

Quality Control

Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	5	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
GXR-6 Cert																								
LKSD-3 Meas																90	33	50	40	110			28	79
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0	78.0
NIST 1633b Meas			48.43	28.10	11.00	0.019	0.77	2.08	0.26	2.31	1.283	0.55	41		301									
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530	41.0		296									
NIST 1633b Meas			48.49	28.24	11.23	0.020	0.79	2.14	0.26	2.29	1.302	0.54	41		308									
NIST 1633b Cert			49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530	41.0		296									
IF-G Meas																								
IF-G Cert																								
TDB-1 Meas																280		90	320	160				22
TDB-1 Cert																251		92	323	155				23
BE-N Meas	0.06	0.042																						
BE-N Cert	0.0500	0.042																						
W-2a Meas			52.82	15.55	10.69	0.166	6.33	10.78	2.20	0.62	1.097	0.13	36	< 1	278	80	44	60	110	90	18	1.8	< 5	20
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0
W-2a Meas			52.09	15.29	10.60	0.166	6.29	10.82	2.19	0.61	1.067	0.14	35	< 1	279									
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262									
SY-4 Meas			50.12	20.82	6.43	0.108	0.52	7.95	7.00	1.70	0.297	0.13	< 1	3	< 5									
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	1.1	2.6	8.0									
CTA-AC-1 Meas																	< 1		50	< 30				
CTA-AC-1 Cert																	2.72		54.0	38.0				
BIR-1a Meas			47.55	15.31	11.10	0.171	9.48	13.25	1.77	0.02	0.969	0.04	43	< 1	338	360	48	150	110	60	14		< 5	
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021	44	0.58	310	370	52	170	125	70	16		0.44	
BIR-1a Meas			47.56	15.67	11.22	0.173	9.58	13.22	1.80	0.02	0.967	0.02	43	< 1	338									
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021	44	0.58	310									
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																	27	70	2640	7400	25			
NCS DC70014 Cert																	26.2	70.9	2600.00	7400.00	25.2			
NCS DC86316 Meas			69.82	13.80	0.41	0.021	0.07	0.68	4.12	3.79	0.676	0.06												
NCS DC86316 Cert			70.73	14.57	0.38	0.021	0.079	0.63	4.20	3.90	0.64	0.040												
NCS DC70009 (GBW07241) Meas																30	4	< 20	870	100	16	11.0	70	501
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00
OREAS 100a (Fusion) Meas																	19		170					
OREAS 100a (Fusion) Cert																	18.1		169					
OREAS 101a (Fusion) Meas																	52		420					
OREAS 101a (Fusion) Cert																	48.8		434					
OREAS 101b (Fusion) Meas																	49	< 20	390					
OREAS 101b (Fusion) Cert																	47	9	416					
JR-1 Meas																< 20	1	< 20	< 10	30	16	2.7	15	245
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								

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Quality Control																									
Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	5	1	
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

DMMAS 111 Cert
 DMMAS 111 Meas
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 31444 Orig
 31444 Dup
 31460 Orig
 31460 Split
 31463 Orig
 31463 Dup
 31808 Orig
 31808 Dup
 31822 Orig
 31822 Split
 31829 Orig
 31829 Dup
 31832 Orig
 31832 Split
 31843 Orig
 31843 Dup
 31862 Orig
 31862 Split
 31866 Orig
 31866 Dup
 31880 Orig
 31880 Dup
 31892 Orig
 31892 Split
 31904 Orig
 31904 Dup
 31921 Orig
 31921 Dup
 31922 Orig
 31922 Split
 31937 Orig
 31937 Dup
 31951 Orig
 31951 Dup
 31952 Orig
 31952 Split
 31962 Orig
 31962 Dup
 31973 Orig
 31973 Dup
 31982 Orig
 31982 Split
 31987 Orig
 31987 Dup
 32009 Orig
 32009 Dup
 32012 Orig
 32012 Split

Quality Control																								
Analyte Symbol	Cr2O3	V2O5	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	5	1
Analysis Method	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

32015 Orig

32015 Split

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< 20 < 1 < 20 < 10 < 30 < 1 < 0.5 < 5 < 1

< 0.01 < 0.003

Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	
Analysis Method	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
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 DMMAS 111 Meas
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 DMMAS 111 Meas
 DMMAS 111 Cert
 31444 Orig
 31444 Dup
 31460 Orig
 31460 Split
 31463 Orig
 31463 Dup
 31808 Orig
 31808 Dup
 31822 Orig
 31822 Split
 31829 Orig
 31829 Dup
 31832 Orig
 31832 Split
 31843 Orig
 31843 Dup
 31862 Orig
 31862 Split
 31866 Orig
 31866 Dup
 31880 Orig
 31880 Dup
 31892 Orig
 31892 Split
 31904 Orig
 31904 Dup
 31921 Orig
 31921 Dup
 31922 Orig
 31922 Split
 31937 Orig
 31937 Dup
 31951 Orig
 31951 Dup
 31952 Orig
 31952 Split
 31962 Orig
 31962 Dup
 31973 Orig
 31973 Dup
 31982 Orig
 31982 Split
 31987 Orig
 31987 Dup
 32009 Orig
 32009 Dup
 32012 Orig
 32012 Split

Quality Control																									
Analyte Symbol	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005	0.01	
Analysis Method	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

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Quality Control										
Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01	
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	

GXR-1 Meas
 GXR-1 Cert
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 GXR-1 Meas
 GXR-1 Cert
 GXR-1 Meas
 GXR-1 Cert
 WMG-1 Meas 0.194 1.4 1.7 16 0.72
 WMG-1 Cert 0.210 1.30 1.30 15.0 0.650
 NIST 694 Meas
 NIST 694 Cert
 NIST 694 Meas
 NIST 694 Cert
 DNC-1 Meas
 DNC-1 Cert
 DNC-1 Meas
 DNC-1 Cert
 GBW 07113 Meas
 GBW 07113 Cert
 GBW 07113 Meas
 GBW 07113 Cert
 MICA-FE Meas
 MICA-FE Cert
 GXR-4 Meas
 GXR-4 Cert
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 SDC-1 Meas
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Quality Control									
Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
GXR-6 Cert									
LKSD-3 Meas	0.406	4.7	0.72	1.0				10.7	4.34
LKSD-3 Cert	0.400	4.80	0.700	2.00				11.4	4.60
NIST 1633b Meas									
NIST 1633b Cert									
NIST 1633b Meas									
NIST 1633b Cert									
IF-G Meas									
IF-G Cert									
TDB-1 Meas								2.88	
TDB-1 Cert								2.7	
BE-N Meas									
BE-N Cert									
W-2a Meas	0.300	2.5	0.51		0.10	8	< 0.1	2.39	0.51
W-2a Cert	0.330	2.60	0.500		0.200	9.30	0.0300	2.40	0.530
W-2a Meas									
W-2a Cert									
SY-4 Meas									
SY-4 Cert									
CTA-AC-1 Meas	1.00		2.69					22.0	3.76
CTA-AC-1 Cert	1.08		2.65					21.8	4.4
BIR-1a Meas	0.207	0.6				< 5			
BIR-1a Cert	0.3	0.60				3			
BIR-1a Meas									
BIR-1a Cert									
NCS DC86312 Meas	12.1							25.7	
NCS DC86312 Cert	11.96							23.6	
NCS DC70014 Meas	0.510					> 10000	80.3		
NCS DC70014 Cert	0.50					27200.00	80.3		
NCS DC86316 Meas									
NCS DC86316 Cert									
NCS DC70009 (GBW07241) Meas	2.31			2200				27.1	
NCS DC70009 (GBW07241) Cert	2.4			2200.00				28.3	
OREAS 100a (Fusion) Meas	2.15							52.3	135
OREAS 100a (Fusion) Cert	2.26							51.6	135
OREAS 101a (Fusion) Meas	2.51							36.2	422
OREAS 101a (Fusion) Cert	2.66							36.6	422
OREAS 101b (Fusion) Meas	2.44							36.0	391
OREAS 101b (Fusion) Cert	2.58							37.1	396
JR-1 Meas	0.648	4.6	1.80		1.56	17	0.5	25.3	8.25
JR-1 Cert	0.71	4.51	1.86		1.56	19.3	0.56	26.7	8.88
DNC-1a Meas									
DNC-1a Cert									
DNC-1a Meas									
DNC-1a Cert									
DNC-1a Meas									
DNC-1a Cert									
OREAS 13b (4-Acid) Meas									
OREAS 13b (4-Acid) Cert									
DMMAS 111 Meas									

Quality Control

Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

- DMMAS 111 Cert
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- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- 31444 Orig
- 31444 Dup
- 31460 Orig
- 31460 Split
- 31463 Orig
- 31463 Dup
- 31808 Orig
- 31808 Dup
- 31822 Orig
- 31822 Split
- 31829 Orig
- 31829 Dup
- 31832 Orig
- 31832 Split
- 31843 Orig
- 31843 Dup
- 31862 Orig
- 31862 Split
- 31866 Orig
- 31866 Dup
- 31880 Orig
- 31880 Dup
- 31892 Orig
- 31892 Split
- 31904 Orig
- 31904 Dup
- 31921 Orig
- 31921 Dup
- 31922 Orig
- 31922 Split
- 31937 Orig
- 31937 Dup
- 31951 Orig
- 31951 Dup
- 31952 Orig
- 31952 Split
- 31962 Orig
- 31962 Dup
- 31973 Orig
- 31973 Dup
- 31982 Orig
- 31982 Split
- 31987 Orig
- 31987 Dup
- 32009 Orig
- 32009 Dup
- 32012 Orig
- 32012 Split

Quality Control									
Analyte Symbol	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Date Submitted: 09-Nov-10
Invoice No.: A10-8177
Invoice Date: 23-Dec-10
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide Street East
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Chairman Tim Gallagher(Invoices)

CERTIFICATE OF ANALYSIS

16 Pulp samples and 403 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A10-8177**

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4LITTHORES (1-10) Major Elements Fusion ICP(WRA)/Trace
Elements Fusion ICP/MS(WRA4B2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT. We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Emmanuel Esemé, Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32016	9	< 0.3	43	0.7	2	14	119	97	0.06	6.76	4.1	1380	1	< 2	< 0.5	6.57	36	337	6	2.8	6.21	2	< 1	< 5
32017	< 2	< 0.3	71	0.8	1	17	103	110	0.28	7.64	< 0.5	1140	1	< 2	3.6	5.48	39	299	5	2.2	7.64	3	< 1	< 5
32018	12	< 0.3	70	0.6	2	14	56	100	0.70	8.03	< 0.5	660	1	< 2	< 0.5	4.09	26	154	9	1.7	6.95	3	< 1	< 5
32019	53	26.2	6410	185	14	> 5000	59	27900	8.28	5.83	69.1	1270	< 1	16	< 0.5	4.27	59	136	< 1	0.9	10.4	< 1	5	< 5
32020	< 2	0.3	67	0.9	1	30	49	96	0.50	8.73	2.5	720	1	< 2	< 0.5	4.70	29	121	6	1.4	5.85	2	< 1	< 5
32021	16	< 0.3	65	0.7	1	19	50	115	0.64	8.65	< 0.5	990	1	< 2	< 0.5	4.25	26	128	5	1.6	6.72	3	< 1	< 5
32022	< 2	< 0.3	57	0.9	< 1	16	68	112	0.48	8.13	< 0.5	1010	1	< 2	5.1	3.55	31	176	5	1.4	6.73	3	< 1	< 5
32023	< 2	< 0.3	80	0.8	2	14	51	94	1.44	6.83	4.0	740	1	< 2	3.1	7.63	30	110	< 1	1.6	7.60	2	< 1	< 5
32024	< 2	< 0.3	56	0.6	1	14	124	96	0.51	6.91	< 0.5	780	1	< 2	4.7	4.30	40	290	9	1.1	6.61	3	< 1	< 5
32025	18	0.4	66	0.4	1	27	87	91	0.55	8.04	2.9	760	1	< 2	< 0.5	2.50	26	168	10	1.7	5.34	3	< 1	< 5
32026	< 2	< 0.3	52	0.5	1	23	80	90	0.52	7.96	6.7	910	2	< 2	< 0.5	2.64	28	167	6	1.8	4.50	2	< 1	< 5
32027	< 2	0.3	53	0.7	2	21	85	101	0.64	8.34	2.9	720	2	< 2	< 0.5	2.72	31	177	8	1.3	5.65	3	< 1	< 5
32028	7	0.3	92	0.8	< 1	12	90	109	1.17	7.52	< 0.5	670	1	< 2	< 0.5	6.48	51	161	6	1.4	8.59	2	< 1	< 5
32029	< 2	0.3	79	0.7	1	12	71	96	0.81	7.75	3.3	490	1	< 2	3.0	5.20	36	152	7	1.0	7.77	2	< 1	< 5
32030	7	< 0.3	77	0.7	1	11	75	97	0.50	8.27	4.0	450	1	< 2	< 0.5	4.19	35	221	7	0.8	7.23	2	< 1	< 5
32031	< 2	< 0.3	89	0.7	< 1	13	87	103	0.47	8.49	1.0	660	1	< 2	< 0.5	4.65	39	279	6	0.9	8.13	2	< 1	< 5
32032	< 2	< 0.3	58	0.7	1	15	76	89	0.38	8.30	2.6	490	1	< 2	4.4	3.84	32	227	12	1.0	7.12	3	< 1	< 5
32033	< 2	0.3	86	0.8	3	13	55	89	0.65	7.84	< 0.5	430	1	< 2	< 0.5	3.08	31	98	13	0.9	7.03	2	< 1	< 5
32034	< 2	< 0.3	69	0.5	2	13	68	98	0.45	6.80	4.3	740	1	< 2	< 0.5	3.44	30	182	7	0.9	6.22	2	< 1	< 5
32035	< 2	< 0.3	49	0.6	1	11	82	93	0.32	7.68	< 0.5	660	1	< 2	4.6	4.19	33	213	5	0.6	7.00	2	< 1	< 5
32036	< 2	< 0.3	24	< 0.3	< 1	12	31	62	0.15	7.78	2.1	700	1	< 2	< 0.5	3.09	18	69	3	0.6	3.14	2	< 1	< 5
32037	< 2	< 0.3	65	0.6	2	9	72	97	0.44	8.33	3.1	450	< 1	< 2	3.5	3.69	33	217	7	1.0	6.32	2	< 1	< 5
32038	< 2	< 0.3	77	0.5	1	14	72	91	0.43	8.58	2.2	680	1	< 2	3.4	3.81	26	183	8	1.2	5.85	3	< 1	< 5
32039	< 2	< 0.3	69	1.2	1	15	72	93	0.67	6.66	< 0.5	420	< 1	< 2	3.8	3.91	31	193	4	0.9	11.9	2	< 1	< 5
32040	59	26.4	6530	188	15	> 5000	66	28700	8.44	5.93	70.0	1070	< 1	20	< 0.5	4.31	60	133	< 1	0.8	10.3	< 1	7	< 5
32041	< 2	0.4	138	1.2	3	23	73	91	1.30	7.32	3.0	510	1	< 2	5.8	3.82	29	136	3	1.1	9.60	2	< 1	< 5
32042	< 2	< 0.3	41	1.0	2	15	83	95	0.45	6.54	2.8	540	1	< 2	< 0.5	4.37	30	283	3	1.1	10.3	2	< 1	< 5
32043	< 2	< 0.3	59	1.9	1	19	63	94	0.59	5.96	5.1	540	1	< 2	< 0.5	3.68	22	152	3	1.1	14.2	2	< 1	< 5
32044	< 2	< 0.3	44	1.0	2	18	41	71	0.33	5.35	4.2	530	1	< 2	< 0.5	4.35	19	81	6	1.2	10.5	2	< 1	< 5
32045	< 2	< 0.3	29	0.9	< 1	17	64	87	0.23	6.19	3.3	800	2	< 2	< 0.5	4.06	23	171	5	1.7	12.0	3	< 1	< 5
32046	< 2	< 0.3	59	0.8	< 1	17	57	86	0.50	7.03	2.4	640	2	< 2	< 0.5	4.11	22	171	6	1.2	9.55	2	< 1	< 5
32047	< 2	< 0.3	48	0.9	2	19	56	99	0.45	7.31	3.4	640	1	< 2	1.6	3.71	23	116	6	1.2	9.43	3	< 1	< 5
32048	8	< 0.3	54	1.1	1	17	62	97	0.52	6.35	3.2	420	1	< 2	3.8	3.60	23	106	4	1.2	11.8	2	< 1	< 5
32049	< 2	0.3	55	1.1	1	18	58	104	0.54	6.72	< 0.5	770	1	< 2	4.0	3.74	24	142	4	1.5	13.5	4	< 1	< 5
32050	< 2	< 0.3	60	0.7	< 1	16	94	97	0.35	8.18	1.8	710	1	< 2	5.8	3.45	25	153	4	2.2	5.94	6	< 1	< 5
32051	< 2	< 0.3	43	0.4	2	17	62	91	0.46	7.38	4.0	840	1	< 2	< 0.5	2.99	21	76	5	2.0	5.85	5	< 1	< 5
32052	8	< 0.3	23	2.4	1	22	21	42	0.31	3.61	2.8	510	1	< 2	< 0.5	2.98	11	34	4	0.8	19.9	2	< 1	< 5
32053	9	< 0.3	16	2.0	< 1	28	22	35	0.23	2.18	3.5	350	1	< 2	< 0.5	1.40	8	47	4	0.7	28.3	1	< 1	< 5
32054	< 2	0.4	30	2.3	< 1	35	13	17	0.27	0.95	5.1	320	2	< 2	< 0.5	0.91	5	24	4	0.5	35.6	< 1	< 1	< 5
32055	< 2	< 0.3	< 1	2.1	< 1	33	13	13	< 0.01	1.40	9.3	600	2	< 2	< 0.5	0.66	4	25	2	0.5	31.9	< 1	< 1	< 5
32056	< 2	< 0.3	< 1	1.9	< 1	28	14	16	< 0.01	2.45	13.0	990	2	< 2	< 0.5	1.48	5	34	4	0.6	25.8	1	< 1	< 5
32057	< 2	< 0.3	< 1	2.1	< 1	34	11	13	< 0.01	1.11	13.0	630	1	< 2	< 0.5	0.95	4	25	1	< 0.2	35.0	< 1	< 1	< 5
32058	< 2	0.3	< 1	2.0	< 1	34	14	17	< 0.01	1.14	14.2	900	1	< 2	< 0.5	1.17	5	28	< 1	< 0.2	34.0	< 1	< 1	< 5
32059	56	24.1	5920	176	13	> 5000	59	28000	7.76	5.51	73.2	1090	< 1	16	< 0.5	4.08	59	130	< 1	0.7	10.3	< 1	6	< 5
32060	< 2	< 0.3	9	2.1	< 1	43	12	19	0.02	1.27	11.0	600	1	< 2	< 0.5	0.86	4	23	1	0.4	32.5	< 1	< 1	< 5
32061	< 2	< 0.3	< 1	2.1	< 1	34	10	17	< 0.01	0.89	15.0	560	1	< 2	< 0.5	0.68	4	24	< 1	0.4	36.6	< 1	< 1	< 5
32062	< 2	< 0.3	< 1	2.2	< 1	34	9	18	0.01	0.70	15.0	310	1	< 2	< 0.5	0.70	4	20	3	< 0.2	36.4	< 1	< 1	< 5
32063	< 2	< 0.3	< 1	2.2	< 1	31	11	14	0.01	0.87	5.9	< 50	1	< 2	< 0.5	0.64	4	25	3	0.4	32.9	< 1	< 1	< 5
32064	< 2	< 0.3	41	1.8	< 1	25	21	37	0.42	2.13	8.8	< 50	2	< 2	< 0.5	1.04	10	33	8	0.6	26.6	1	< 1	< 5
32065	< 2	< 0.3	36	2.1	1	21	56	57	0.18	4.20	2.0	450	< 1	< 2	< 0.5	2.14	24	114	5	0.6	22.1	< 1	< 1	< 5
32066	< 2	< 0.3	36	2.3	1	17	55	62	0.26	5.39	3.0	580	< 1	< 2	< 0.5	2.15	20	125	5	0.8	15.4	4	< 1	< 5

Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32067	< 2	< 0.3	23	1.6	< 1	23	32	44	0.28	4.08	2.1	560	1	< 2	< 0.5	1.86	14	68	5	< 0.2	20.0	3	< 1	< 5
32068	< 2	0.3	27	1.2	< 1	18	37	76	0.35	6.57	2.9	690	1	< 2	< 0.5	2.10	19	73	8	1.3	12.9	4	< 1	< 5
32069	< 2	0.3	121	0.9	1	16	54	72	1.01	7.01	4.5	630	1	< 2	2.3	3.85	25	118	6	2.0	11.8	5	< 1	< 5
32070	< 2	< 0.3	39	0.9	1	13	36	87	0.51	7.38	< 0.5	430	1	< 2	< 0.5	2.25	21	54	9	1.8	9.96	5	< 1	< 5
32071	< 2	< 0.3	38	0.7	14	18	54	73	0.48	7.42	2.1	590	1	< 2	< 0.5	2.32	19	88	6	1.3	7.65	4	< 1	< 5
32072	< 2	< 0.3	10	0.5	2	19	22	55	0.13	8.99	< 0.5	650	3	< 2	< 0.5	2.85	11	58	9	2.1	7.21	5	< 1	< 5
32073	< 2	< 0.3	21	0.6	1	17	27	63	0.24	6.92	2.4	780	2	< 2	2.0	2.26	14	60	9	1.4	7.54	5	< 1	< 5
32074	< 2	0.3	31	0.3	1	11	35	50	0.43	5.08	1.5	460	1	< 2	< 0.5	1.99	18	67	7	0.9	16.3	1	< 1	< 5
32075	< 2	< 0.3	32	1.3	1	24	42	53	0.39	5.37	< 0.5	1040	2	< 2	< 0.5	2.53	17	87	4	1.5	16.1	3	< 1	< 5
32076	< 2	< 0.3	44	1.1	1	20	57	73	0.38	6.72	3.3	1090	2	< 2	< 0.5	3.21	23	138	3	1.5	11.5	4	< 1	< 5
32077	< 2	< 0.3	56	1.8	2	25	51	65	0.21	3.75	2.3	1040	1	< 2	< 0.5	3.63	20	91	< 1	1.8	23.0	3	< 1	< 5
32078	< 2	< 0.3	38	1.8	2	27	37	56	0.27	3.21	2.9	1500	1	< 2	< 0.5	3.79	15	60	1	2.3	24.6	< 1	< 1	< 5
32079	55	24.4	6010	178	14	> 5000	60	29600	7.91	5.53	77.5	1380	< 1	17	< 0.5	4.14	59	138	< 1	0.7	10.9	< 1	6	< 5
32080	< 2	< 0.3	41	2.2	1	45	15	59	0.30	1.48	< 0.5	740	< 1	< 2	< 0.5	1.91	8	33	< 1	1.4	37.0	< 1	< 1	< 5
32081	< 2	< 0.3	< 1	2.1	< 1	39	12	69	0.02	2.38	1.9	980	< 1	< 2	< 0.5	1.82	8	29	< 1	1.8	34.9	1	< 1	< 5
32082	< 2	< 0.3	9	2.1	1	36	23	51	0.07	2.00	2.9	480	< 1	< 2	< 0.5	1.73	9	49	< 1	1.0	33.5	1	< 1	< 5
32083	< 2	< 0.3	1	1.9	2	35	15	37	0.04	1.90	< 0.5	610	1	< 2	< 0.5	1.25	5	34	3	0.4	28.7	< 1	< 1	< 5
32084	< 2	< 0.3	3	1.2	< 1	27	18	30	0.01	0.85	2.5	720	< 1	< 2	< 0.5	1.00	9	41	3	< 0.2	28.1	< 1	< 1	< 5
32085	< 2	0.4	39	1.2	< 1	23	50	59	0.12	5.53	3.9	900	2	< 2	< 0.5	2.26	19	82	5	0.9	13.2	3	< 1	< 5
32086	< 2	< 0.3	28	1.1	2	27	31	52	0.17	5.86	6.9	830	2	< 2	< 0.5	3.07	13	48	6	1.3	11.3	3	< 1	< 5
32087	< 2	< 0.3	20	0.6	1	28	28	43	0.14	6.30	2.6	900	2	< 2	< 0.5	1.71	13	50	5	< 0.2	7.80	3	< 1	< 5
32088	< 2	< 0.3	36	1.5	< 1	20	64	66	0.24	5.19	< 0.5	860	1	< 2	< 0.5	1.84	25	113	4	0.8	17.5	3	< 1	< 5
32089	< 2	< 0.3	54	1.5	< 1	20	52	58	0.36	4.84	< 0.5	770	1	< 2	3.4	2.04	18	76	5	0.9	16.0	2	< 1	< 5
32090	< 2	< 0.3	25	2.4	< 1	27	35	42	0.13	3.36	< 0.5	460	< 1	< 2	< 0.5	1.57	14	67	3	0.6	21.9	2	< 1	< 5
32091	< 2	< 0.3	36	1.7	< 1	24	45	62	0.14	4.31	< 0.5	610	1	< 2	< 0.5	1.79	20	92	5	0.9	19.0	3	< 1	< 5
32092	< 2	1.2	23	< 0.3	< 1	12	64	56	0.05	7.24	< 0.5	1180	2	< 2	2.6	3.93	21	169	4	2.6	5.92	4	< 1	< 5
32093	< 2	0.4	27	1.6	< 1	23	51	62	0.15	5.07	2.9	990	2	< 2	< 0.5	1.97	21	94	5	1.3	15.8	4	< 1	< 5
32094	< 2	< 0.3	35	2.5	1	27	58	65	0.29	3.98	2.1	700	< 1	< 2	< 0.5	1.65	23	113	4	0.7	22.2	2	< 1	< 5
32095	< 2	< 0.3	49	2.4	< 1	24	58	61	0.30	4.50	< 0.5	440	< 1	< 2	< 0.5	2.79	23	95	2	0.6	21.6	2	< 1	< 5
32096	< 2	< 0.3	55	1.2	< 1	13	98	95	0.38	6.97	2.2	630	< 1	< 2	< 0.5	4.18	43	185	4	1.2	13.0	2	< 1	< 5
32097	< 2	< 0.3	41	0.5	1	11	89	77	0.27	6.56	2.8	930	2	< 2	< 0.5	5.10	29	158	6	1.6	6.44	2	< 1	< 5
32098	< 2	0.4	28	0.3	2	16	90	80	0.19	6.76	2.1	1020	2	< 2	< 0.5	4.77	24	163	7	2.0	4.84	5	< 1	< 5
32099	< 2	0.4	28	0.5	8	15	89	80	0.20	7.39	< 0.5	930	2	< 2	< 0.5	4.88	24	177	7	2.1	5.03	6	< 1	< 5
32100	13	0.4	42	0.4	3	18	80	80	0.46	7.71	< 0.5	790	4	< 2	2.2	4.50	25	140	8	1.8	5.14	6	< 1	< 5
32101	< 2	0.3	32	0.4	2	19	85	82	0.21	8.02	< 0.5	860	4	< 2	< 0.5	4.77	23	133	7	2.0	4.66	6	< 1	< 5
32102	< 2	0.6	27	0.3	2	24	73	80	0.23	8.00	3.1	790	4	< 2	< 0.5	4.35	21	111	7	2.0	4.48	6	< 1	< 5
32103	< 2	0.4	29	0.5	2	19	81	91	0.21	7.85	3.0	720	4	< 2	< 0.5	4.68	24	159	7	2.0	5.05	6	< 1	< 5
32104	< 2	0.4	36	0.5	2	16	85	86	0.35	7.52	< 0.5	920	4	< 2	< 0.5	4.81	24	145	12	2.2	5.01	5	< 1	< 5
32105	< 2	0.5	45	0.5	2	18	82	92	0.45	7.45	3.4	1020	3	< 2	< 0.5	4.54	30	165	13	3.4	5.59	6	< 1	< 5
32106	< 2	0.4	44	0.4	2	16	89	99	0.33	7.58	1.7	950	3	< 2	< 0.5	4.64	29	166	10	2.3	5.42	6	< 1	< 5
32107	< 2	0.4	26	0.3	2	14	79	91	0.24	6.71	< 0.5	1050	3	< 2	< 0.5	4.66	23	150	13	2.3	5.27	5	< 1	< 5
32108	< 2	< 0.3	15	0.4	2	12	78	91	0.15	7.20	< 0.5	790	3	< 2	< 0.5	4.43	24	172	23	2.1	5.19	3	< 1	< 5
32109	< 2	0.4	26	0.4	10	18	82	87	0.15	7.73	< 0.5	1050	3	< 2	< 0.5	4.67	22	131	9	2.3	4.66	4	< 1	< 5
32110	< 2	0.3	33	0.5	3	18	75	92	0.31	8.19	< 0.5	1330	2	< 2	< 0.5	4.33	22	126	9	2.3	4.63	5	< 1	< 5
32111	< 2	0.4	40	0.4	2	17	77	89	0.34	7.93	3.1	1240	3	< 2	< 0.5	4.32	23	133	10	2.7	4.57	5	< 1	< 5
32112	4	0.3	46	0.5	8	15	78	91	0.47	7.80	1.7	1240	3	< 2	3.2	4.65	24	135	10	2.6	4.74	4	< 1	< 5
32113	< 2	0.3	23	< 0.3	10	19	71	81	0.19	7.91	< 0.5	1430	3	< 2	< 0.5	3.98	21	115	8	2.2	4.14	5	< 1	< 5
32114	< 2	< 0.3	58	0.5	5	14	105	102	0.35	7.47	< 0.5	1050	2	< 2	< 0.5	5.24	29	122	13	2.6	5.99	3	< 1	< 5
32115	< 2	0.8	73	0.5	9	9	130	104	0.22	7.01	< 0.5	1280	2	< 2	< 0.5	5.67	37	111	11	3.9	7.98	4	< 1	< 5
32116	8	0.3	37	0.7	6	14	104	98	0.23	6.57	3.3	1050	2	< 2	4.4	5.32	29	185	8	2.5	6.31	4	< 1	< 5
32117	< 2	< 0.3	29	0.7	3	16	96	90	0.15	7.09	5.2	1140	2	< 2	< 0.5	5.10	28	197	8	2.3	5.44	4	< 1	< 5

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32118	< 2	0.3	46	0.3	8	15	90	89	0.11	6.54	4.1	1400	2	< 2	< 0.5	5.00	27	177	9	2.2	5.37	3	< 1	< 5
32119	58	24.2	5860	177	13	> 5000	61	29800	7.81	5.49	77.2	1100	< 1	19	< 0.5	4.12	63	143	< 1	0.8	10.8	< 1	8	< 5
32120	< 2	0.3	36	0.5	10	20	72	91	0.24	7.64	3.5	1400	3	< 2	< 0.5	4.48	24	131	10	2.2	4.97	3	< 1	< 5
32121	< 2	< 0.3	33	0.4	4	15	52	67	0.29	7.63	2.6	1100	3	< 2	< 0.5	3.48	17	82	7	1.7	3.50	4	< 1	< 5
32122	< 2	0.4	18	0.5	4	22	57	74	0.17	7.91	2.9	1400	4	< 2	< 0.5	4.05	17	96	13	2.3	4.08	5	< 1	< 5
32123	< 2	1.0	5	< 0.3	3	25	18	57	0.07	8.93	< 0.5	1180	4		< 0.5	2.46	9	29	6	2.9	2.54	9	< 1	< 5
32124	< 2	0.3	27	0.5	2	24	77	100	0.12	7.67	< 0.5	1600	4	< 2	< 0.5	4.61	25	119	12	2.3	5.07	5	< 1	< 5
32125	< 2	< 0.3	23	0.4	3	20	84	97	0.10	7.32	2.3	1700	4	< 2	< 0.5	5.17	23	133	10	3.0	5.11	4	< 1	< 5
32126	< 2	< 0.3	36	0.4	5	28	86	104	0.17	7.76	2.0	1200	6	< 2	< 0.5	5.29	24	144	11	2.3	5.09	4	< 1	< 5
32127	< 2	< 0.3	30	0.4	5	21	84	97	0.11	7.82	4.6	1100	6	< 2	< 0.5	5.21	26	155	11	2.2	5.43	3	< 1	< 5
32128	< 2	0.5	19	0.4	3	22	44	74	0.10	7.94	3.6	1500	3	< 2	< 0.5	3.29	15	85	8	2.1	3.81	5	< 1	< 5
32129	< 2	1.0	25	< 0.3	2	39	66	101	0.07	7.98	< 0.5	1190	6	< 2	< 0.5	4.60	20	96	11	3.3	5.03	< 1	< 1	< 5
32130	< 2	0.4	22	0.4	4	22	46	80	0.08	7.18	3.5	990	4	< 2	< 0.5	3.24	17	72	8	2.3	3.28	4	< 1	< 5
32131	< 2	0.3	26	< 0.3	2	18	53	84	0.12	8.16	1.2	1160	3	< 2	< 0.5	4.06	18	89	7	2.0	3.91	4	< 1	< 5
32132	< 2	< 0.3	32	0.4	1	26	90	90	0.13	7.93	3.6	1680	5	< 2	< 0.5	5.25	27	170	11	2.6	5.39	4	< 1	< 5
32133	< 2	< 0.3	37	0.6	3	24	91	90	0.16	7.76	3.6	1160	5	< 2	< 0.5	5.20	26	149	8	2.2	5.23	4	< 1	< 5
32134	< 2	< 0.3	42	0.5	2	24	81	94	0.15	7.67	3.4	1260	5	< 2	2.9	4.97	25	149	7	2.2	5.33	4	< 1	< 5
32135	< 2	0.4	38	< 0.3	4	24	81	86	0.17	7.89	< 0.5	1020	4	< 2	< 0.5	4.54	22	119	5	2.8	4.56	5	< 1	< 5
32136	< 2	< 0.3	41	0.4	9	26	62	89	0.21	6.92	3.9	980	3	< 2	< 0.5	4.52	20	85	4	2.6	4.06	3	< 1	< 5
32137	< 2	0.8	46	0.3	2	28	43	95	0.13	8.15	4.4	800	5	< 2	2.7	3.85	17	68	4	2.1	4.07	8	< 1	< 5
32138	< 2	1.5	31	0.4	3	23	44	111	0.12	7.73	3.9	620	6	< 2	< 0.5	4.02	25	84	12	2.1	5.38	13	< 1	< 5
32139	56	24.8	6090	178	14	> 5000	62	29700	7.95	5.60	67.6	1160	< 1	17	< 0.5	4.10	58	126	< 1	0.7	10.3	< 1	8	< 5
32140	5	1.0	38	0.5	4	42	35	82	0.08	5.92	6.0	950	6	< 2	< 0.5	2.79	12	77	3	2.5	3.20	9	< 1	< 5
32141	< 2	0.5	13	< 0.3	2	27	23	85	0.12	8.22	2.8	680	6	< 2	< 0.5	2.74	13	40	3	2.1	3.72	9	< 1	< 5
32142	8	0.9	11	< 0.3	2	18	18	68	0.24	8.14	< 0.5	850	7	< 2	< 0.5	2.45	8	30	4	2.0	2.81	10	< 1	< 5
32143	< 2	2.6	23	< 0.3	7	30	18	80	0.49	8.77	3.3	890	7		< 0.5	2.34	10	35	3	3.0	3.02	11	< 1	< 5
32144	< 2	0.8	11	< 0.3	1	40	16	91	0.12	8.72	5.3	1100	5	< 2	< 0.5	2.52	9	28	4	2.2	2.92	9	< 1	< 5
32145	6	1.1	6	< 0.3	2	40	17	94	0.01	8.78	7.6	720	5	< 2	< 0.5	2.77	9	27	3	2.4	2.90	10	< 1	< 5
32146	< 2	1.2	2	< 0.3	3	36	19	92	< 0.01	8.65	6.6	850	5	< 2	< 0.5	2.77	10	29	3	2.7	3.03	10	< 1	< 5
32147	< 2	1.0	19	< 0.3	3	39	17	87	0.01	8.40	4.0	1100	4	< 2	< 0.5	2.70	9	27	5	2.3	2.81	9	< 1	< 5
32148	< 2	0.9	10	0.4	3	26	22	79	0.03	7.61	5.9	1000	4	< 2	< 0.5	2.71	9	46	3	1.8	2.80	8	< 1	< 5
32149	< 2	1.1	9	< 0.3	3	37	19	92	0.02	8.37	6.7	950	4	< 2	< 0.5	2.69	10	41	3	2.0	2.82	9	< 1	< 5
32150	< 2	1.7	21	< 0.3	2	42	21	96	0.03	7.92	4.5	680	4	< 2	< 0.5	2.69	12	50	5	2.3	3.18	14	< 1	< 5
32151	< 2	1.0	20	< 0.3	2	42	18	87	0.07	8.31	6.8	880	4	< 2	< 0.5	2.65	9	33	3	2.4	2.92	10	< 1	< 5
32152	8	1.0	15	< 0.3	2	31	19	76	0.08	8.21	4.6	910	3	< 2	< 0.5	2.61	10	34	4	2.2	2.79	9	< 1	< 5
32153	< 2	0.7	22	< 0.3	2	24	28	70	0.14	7.44	4.3	1260	2	< 2	< 0.5	3.14	17	56	4	1.8	3.16	5	< 1	< 5
32154	< 2	0.5	33	< 0.3	2	26	21	68	0.10	7.94	7.6	900	3	< 2	< 0.5	2.71	11	46	4	1.7	2.97	5	< 1	< 5
32155	< 2	1.6	5	< 0.3	3	35	17	82	< 0.01	6.14	4.4	1040	5	< 2	< 0.5	2.60	13	35	4	2.3	3.05	14	< 1	< 5
32156	< 2	1.2	3	< 0.3	5	40	19	88	0.01	8.68	8.6	1050	5	< 2	< 0.5	2.80	13	37	5	2.3	2.93	9	< 1	< 5
32157	< 2	0.5	11	< 0.3	4	25	24	77	0.13	8.64	< 0.5	1050	3	< 2	< 0.5	3.04	13	49	< 1	1.8	2.95	6	< 1	< 5
32158	< 2	< 0.3	16	< 0.3	2	37	18	86	0.09	8.79	9.7	1470	5	< 2	< 0.5	2.97	13	41	3	2.6	3.10	8	< 1	< 5
32159	61	26.0	6320	185	14	> 5000	62	28800	8.26	5.80	75.9	1160	< 1	18	< 0.5	4.27	60	130	< 1	0.6	10.3	< 1	8	< 5
32160	2	1.2	9	< 0.3	4	44	19	113	< 0.01	9.42	10.6	960	6	< 2	< 0.5	3.02	12	36	3	2.9	3.07	12	< 1	< 5
32161	< 2	1.1	15	0.4	3	37	18	89	< 0.01	8.21	10.9	1160	6	< 2	< 0.5	2.75	11	50	6	2.6	3.27	12	< 1	< 5
32162	< 2	0.6	14	1.2	3	33	32	92	0.15	6.11	6.3	830	3	< 2	< 0.5	2.52	15	57	4	2.0	14.6	5	< 1	< 5
32163	< 2	0.9	4	< 0.3	5	17	15	58	0.02	8.96	4.1	1030	5		5.0	1.87	5	42	4	2.2	2.46	4	< 1	< 5
32164	< 2	0.5	28	0.4	3	21	30	78	0.14	7.52	< 0.5	1000	2	< 2	3.9	2.46	14	82	7	2.2	4.46	6	< 1	< 5
32165	< 2	< 0.3	33	0.8	1	17	61	86	0.21	7.95	< 0.5	860	1	< 2	< 0.5	1.77	24	147	6	1.5	7.64	3	< 1	< 5
32166	< 2	< 0.3	27	0.4	< 1	15	47	72	0.15	6.90	< 0.5	680	1	< 2	2.9	2.47	21	122	10	1.5	6.21	3	< 1	< 5
32167	< 2	< 0.3	37	0.6	1	15	87	76	0.22	7.24	< 0.5	870	1	< 2	2.4	2.50	24	192	10	1.4	7.37	3	< 1	< 5
32168	< 2	< 0.3	56	0.9	2	32	71	115	0.28	7.76	4.0	370	1	< 2	< 0.5	1.56	26	158	6	1.2	7.57	3	< 1	< 5

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32169	<2	<0.3	18	<0.3	1	21	12	50	0.10	8.44	<0.5	1080	4	<2	4.8	1.88	8	25	5	2.2	2.91	5	<1	<5
32170	<2	0.5	26	<0.3	2	22	12	60	0.20	8.57	<0.5	960	2	<2	3.7	1.99	8	33	6	2.1	3.12	5	<1	<5
32171	<2	<0.3	39	1.1	1	19	69	68	0.30	6.92	1.5	590	1	<2	2.1	1.31	21	127	10	1.0	11.9	2	<1	<5
32172	<2	<0.3	54	1.1	1	23	69	80	0.28	7.44	2.3	540	1	<2	<0.5	1.38	25	153	9	1.1	10.1	3	<1	<5
32173	<2	<0.3	53	0.6	2	19	78	84	0.23	8.45	5.5	710	1	<2	3.2	1.26	26	144	6	1.3	7.44	3	<1	<5
32174	<2	<0.3	46	1.1	3	21	72	80	0.25	7.36	5.6	550	1	<2	<0.5	1.26	27	157	9	1.3	11.3	3	<1	<5
32175	9	0.3	66	0.7	<1	21	68	79	0.32	7.95	<0.5	400	1	<2	<0.5	1.42	28	126	5	1.3	8.68	3	<1	<5
32176	<2	<0.3	38	0.9	1	19	62	69	0.21	6.73	<0.5	640	1	<2	2.4	1.56	20	111	9	0.9	10.0	3	<1	<5
32177	<2	0.3	46	0.8	3	16	76	66	0.22	6.73	2.0	760	1	<2	4.2	1.44	23	130	5	1.2	7.09	3	<1	<5
32178	<2	<0.3	28	0.9	<1	16	60	64	0.17	7.28	<0.5	580	1	<2	4.6	1.69	18	130	4	1.0	7.50	2	<1	<5
32179	64	24.1	5960	174	14	>5000	58	27500	7.80	5.47	69.2	1280	<1	18	<0.5	4.04	58	134	<1	0.7	10.4	<1	7	<5
32180	<2	<0.3	50	0.7	1	17	55	65	0.28	7.02	<0.5	720	1	<2	2.5	1.59	16	104	7	1.1	8.00	3	<1	<5
32181	<2	<0.3	39	0.7	2	19	46	58	0.18	6.74	<0.5	660	2	<2	2.8	2.25	15	81	6	1.0	7.50	2	<1	<5
32182	<2	<0.3	30	1.2	1	19	49	53	0.22	5.68	<0.5	530	1	<2	<0.5	1.25	13	83	4	0.8	12.2	3	<1	<5
32183	<2	<0.3	41	0.9	2	23	56	65	0.24	7.00	<0.5	770	1	<2	<0.5	1.17	17	103	8	0.8	8.67	2	<1	<5
32184	<2	<0.3	38	0.9	1	18	57	64	0.19	6.96	<0.5	460	1	<2	<0.5	1.44	17	97	7	0.9	9.86	3	<1	<5
32185	<2	<0.3	38	0.9	2	18	71	73	0.16	8.00	<0.5	770	1	<2	1.7	1.00	21	140	5	1.1	7.21	3	<1	<5
32186	<2	0.3	34	0.8	2	18	69	73	0.18	7.20	<0.5	730	1	<2	<0.5	1.14	20	128	5	1.1	6.52	3	<1	<5
32187	<2	<0.3	47	0.9	2	16	67	66	0.27	7.47	3.0	730	1	<2	2.6	1.61	25	167	9	1.0	9.40	2	<1	<5
32188	6	<0.3	68	0.7	1	15	70	79	0.29	8.14	3.7	620	1	<2	<0.5	2.41	31	124	6	0.9	8.58	3	<1	<5
32189	<2	<0.3	62	0.8	1	17	77	84	0.23	8.14	<0.5	740	<1	<2	<0.5	2.06	27	133	6	0.9	7.41	3	<1	<5
32190	<2	0.3	69	0.7	2	18	55	67	0.27	7.37	4.1	710	2	<2	3.4	2.15	21	88	7	1.1	8.38	3	<1	<5
32191	16	0.3	55	1.2	1	22	52	58	0.29	6.70	1.5	480	1	<2	2.6	1.41	17	102	6	0.9	12.5	2	<1	<5
32192	<2	<0.3	80	0.7	2	17	65	73	0.36	7.63	2.4	590	1	<2	3.0	2.69	23	83	5	0.9	7.41	3	<1	<5
32193	<2	<0.3	5	<0.3	<1	24	33	58	0.02	8.28	1.9	1240	2	<2	<0.5	2.20	9	51	4	1.3	2.70	4	<1	<5
32194	<2	<0.3	62	0.5	<1	16	97	83	0.45	7.97	<0.5	760	1	<2	<0.5	4.07	29	121	8	1.6	5.67	3	<1	<5
32195	<2	0.3	40	0.4	19	20	78	68	0.39	7.38	1.9	870	2	<2	<0.5	1.85	20	157	9	1.5	5.34	4	<1	<5
32196	<2	<0.3	48	0.9	2	16	64	64	0.31	7.37	<0.5	610	2	<2	<0.5	1.35	22	123	8	0.9	10.6	3	<1	<5
32197	<2	<0.3	50	0.5	<1	17	78	65	0.21	8.01	<0.5	690	1	<2	6.7	2.03	19	152	5	1.0	5.35	3	<1	<5
32198	<2	<0.3	24	<0.3	<1	17	20	70	0.21	8.35	2.7	1520	2	<2	5.0	1.89	9	33	5	1.0	2.72	3	<1	<5
32199	<2	<0.3	41	0.8	3	21	93	72	0.23	7.45	2.7	730	2	<2	2.5	1.95	24	172	10	1.4	8.41	3	<1	<5
32300	<2	<0.3	46	1.1	2	20	72	68	0.27	7.35	<0.5	590	1	<2	<0.5	1.60	21	128	10	1.1	9.88	2	<1	<5
32301	<2	<0.3	50	1.0	2	21	72	72	0.25	7.96	3.0	480	1	<2	<0.5	1.21	23	142	10	1.0	8.96	3	<1	<5
32302	<2	0.6	7	<0.3	1	31	34	86	0.03	8.94	5.9	1430	4	<2	4.8	3.37	13	54	6	2.7	3.46	7	<1	<5
32303	<2	0.7	11	0.4	1	34	38	99	0.04	9.83	5.9	1240	5	<2	2.9	3.60	16	66	7	2.6	3.60	7	<1	<5
32304	<2	<0.3	43	0.4	<1	21	67	84	0.23	8.01	5.3	630	1	<2	<0.5	1.16	21	119	6	0.9	4.68	3	<1	<5
32305	<2	<0.3	45	1.1	2	22	56	60	0.26	5.53	<0.5	490	1	<2	2.5	1.85	17	111	5	0.9	12.1	2	<1	<5
32306	<2	<0.3	47	0.7	4	21	67	74	0.33	7.31	<0.5	790	2	<2	3.6	1.00	21	127	11	1.0	8.86	3	<1	<5
32307	7	<0.3	40	0.8	1	21	76	73	0.21	7.98	2.8	950	1	<2	<0.5	0.95	27	158	8	1.3	8.35	3	<1	<5
32308	<2	<0.3	33	0.7	<1	19	67	66	0.14	7.44	<0.5	710	1	<2	2.2	1.54	20	123	9	1.0	8.73	3	<1	<5
32309	<2	<0.3	32	0.8	<1	20	61	70	0.19	7.75	1.9	770	1	<2	<0.5	1.37	20	120	8	0.9	8.36	3	<1	<5
32310	<2	<0.3	40	0.9	<1	19	59	74	0.24	7.87	<0.5	770	1	<2	<0.5	1.21	18	111	9	0.9	7.76	3	<1	<5
32311	<2	<0.3	47	1.0	2	19	62	70	0.24	7.14	<0.5	490	1	<2	<0.5	1.83	24	120	7	0.7	10.5	3	<1	<5
32312	<2	<0.3	84	0.7	1	22	69	84	0.35	8.16	<0.5	590	1	<2	<0.5	1.50	23	113	6	0.9	6.90	3	<1	<5
32313	<2	0.3	57	1.2	1	42	71	86	0.22	7.79	<0.5	710	1	<2	2.0	1.07	24	129	9	1.1	9.98	3	<1	<5
32314	<2	<0.3	49	0.7	1	49	94	83	0.24	7.41	<0.5	570	1	<2	<0.5	2.07	24	159	12	1.1	8.57	2	<1	<5
32315	<2	<0.3	47	0.8	<1	19	69	72	0.21	7.43	<0.5	670	1	<2	2.3	0.97	21	138	8	1.0	7.17	3	<1	<5
32316	<2	<0.3	34	0.8	<1	17	55	64	0.15	7.24	<0.5	560	2	<2	<0.5	1.46	17	104	8	0.9	9.09	3	<1	<5
32317	<2	0.3	25	1.9	1	25	44	42	0.13	4.98	2.2	550	1	<2	<0.5	1.46	13	80	6	0.9	19.0	2	<1	<5
32318	<2	0.4	30	1.6	<1	20	45	46	0.12	5.41	<0.5	710	1	<2	4.7	1.45	16	104	4	1.0	16.5	2	<1	<5
32319	58	25.4	6430	182	14	>5000	63	29400	8.13	5.81	77.0	1230	<1	20	<0.5	4.18	60	129	<1	0.8	10.7	<1	6	<5

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32320	< 2	< 0.3	30	1.0	2	20	55	59	0.13	6.78	4.5	750	1	< 2	3.3	1.37	18	105	6	0.9	11.9	3	< 1	< 5
32321	< 2	< 0.3	37	0.9	< 1	18	78	67	0.17	7.26	6.0	800	1	< 2	5.1	2.06	20	164	5	1.0	9.35	3	< 1	< 5
32322	< 2	< 0.3	30	1.1	< 1	20	54	54	0.13	6.13	2.5	740	1	< 2	5.2	1.43	17	99	6	0.9	12.4	2	< 1	< 5
32323	< 2	< 0.3	32	0.5	< 1	19	53	68	0.10	7.69	3.0	710	2	< 2	3.1	1.90	16	80	3	1.0	6.23	3	< 1	< 5
32324	< 2	0.6	37	< 0.3	< 1	11	55	63	0.23	7.10	4.7	670	1	< 2	6.2	1.97	19	120	4	1.2	7.10	3	< 1	< 5
32325	< 2	0.5	30	0.4	< 1	16	47	55	0.15	6.64	< 0.5	760	1	< 2	< 0.5	1.27	18	134	7	0.9	10.6	3	< 1	< 5
32326	< 2	0.4	37	0.5	< 1	16	53	62	0.18	7.26	3.7	620	< 1	< 2	< 0.5	1.20	17	104	6	0.9	7.77	3	< 1	< 5
32327	< 2	0.5	32	0.4	< 1	17	44	49	0.16	5.59	3.4	530	1	< 2	3.6	1.24	13	100	5	0.7	14.1	2	< 1	< 5
32328	< 2	0.6	35	< 0.3	< 1	15	57	55	0.19	6.61	< 0.5	700	1	< 2	2.0	1.01	21	119	7	0.9	11.2	3	< 1	< 5
32329	< 2	0.4	32	< 0.3	< 1	11	48	59	0.17	6.92	< 0.5	940	1	< 2	< 0.5	1.62	19	121	5	1.1	10.7	3	< 1	< 5
32330	< 2	0.6	29	< 0.3	< 1	12	44	55	0.14	6.37	2.9	930	2	< 2	3.9	2.06	15	68	5	1.2	11.0	2	< 1	< 5
32331	< 2	0.8	26	< 0.3	2	14	46	62	0.14	7.75	3.0	720	2	< 2	< 0.5	2.12	18	99	5	1.3	6.82	3	< 1	< 5
32332	< 2	0.8	34	< 0.3	2	18	44	53	0.20	7.23	3.3	610	1	< 2	4.6	2.02	18	79	4	1.1	7.24	3	< 1	< 5
32333	< 2	0.9	36	< 0.3	4	18	47	61	0.19	7.39	2.6	1000	2	< 2	5.5	1.68	18	98	6	1.6	6.81	4	< 1	< 5
32334	< 2	1.1	27	< 0.3	2	18	80	65	0.09	5.82	3.8	910	3	< 2	6.1	3.36	22	116	2	1.7	5.19	5	< 1	< 5
32335	7	1.2	40	< 0.3	2	11	59	55	0.16	7.54	< 0.5	1080	3	< 2	5.6	3.40	22	125	4	1.9	5.28	4	< 1	< 5
32336	8	< 0.3	35	< 0.3	1	11	50	40	0.17	4.89	< 0.5	1080	1	< 2	2.3	2.21	17	91	4	0.9	15.5	2	< 1	< 5
32337	< 2	0.8	22	< 0.3	< 1	17	34	48	0.18	5.14	3.1	1160	2	< 2	4.3	1.84	12	52	3	1.1	15.9	2	< 1	< 5
32338	< 2	0.4	6	0.5	2	16	11	19	0.04	1.69	5.0	320	1	< 2	< 0.5	1.06	3	24	2	< 0.2	24.7	< 1	< 1	< 5
32339	48	23.4	5390	177	13	> 5000	58	29500	6.85	5.50	74.2	1160	< 1	7	< 0.5	3.72	58	124	< 1	0.7	10.6	< 1	6	< 5
32340	< 2	0.4	17	0.4	3	14	16	31	0.15	2.53	3.6	630	1	< 2	4.1	1.13	7	40	2	0.4	24.2	< 1	< 1	< 5
32341	< 2	0.5	9	< 0.3	< 1	17	28	41	0.72	2.16	4.9	660	1	3	2.7	2.30	18	52	3	0.5	27.0	< 1	< 1	< 5
32342	< 2	0.5	20	0.5	< 1	16	22	34	0.17	2.92	2.6	640	1	< 2	< 0.5	0.97	9	38	< 1	0.5	24.4	< 1	< 1	< 5
32343	< 2	0.3	17	0.5	< 1	13	38	32	0.19	3.25	3.3	880	2	5	2.8	1.76	11	95	2	0.9	23.0	2	< 1	< 5
32344	< 2	< 0.3	16	< 0.3	1	14	15	29	0.20	1.84	2.5	550	1	< 2	< 0.5	1.07	6	31	2	0.4	28.1	< 1	< 1	< 5
32345	< 2	0.3	22	0.8	< 1	9	29	34	0.19	2.68	2.6	970	1	< 2	1.5	1.67	11	58	2	0.4	23.8	< 1	< 1	< 5
32346	< 2	0.7	5	< 0.3	< 1	12	5	17	0.21	7.23	1.9	1410	2	< 2	11.4	1.10	4	10	< 1	1.4	1.60	5	< 1	< 5
32347	< 2	< 0.3	17	< 0.3	< 1	18	35	41	0.17	4.33	5.2	1320	3	< 2	3.6	2.06	10	57	3	1.5	17.7	4	< 1	< 5
32348	3	0.4	11	< 0.3	2	8	9	33	0.20	1.14	3.8	200	1	< 2	< 0.5	0.74	4	15	< 1	0.4	29.5	< 1	< 1	< 5
32349	< 2	0.4	3	0.7	< 1	14	10	56	0.02	1.11	2.4	400	2	< 2	1.4	0.56	4	20	4	0.4	34.9	< 1	< 1	< 5
32350	< 2	< 0.3	3	< 0.3	< 1	13	6	12	0.08	0.65	3.6	220	1	< 2	1.8	0.80	3	15	2	< 0.2	33.0	< 1	< 1	< 5
32351	< 2	< 0.3	3	0.4	< 1	12	7	9	0.05	0.58	3.8	< 50	1	< 2	< 0.5	0.72	2	18	2	0.3	31.6	< 1	< 1	< 5
32352	5	0.4	4	< 0.3	< 1	13	15	28	0.06	1.81	4.2	630	1	< 2	< 0.5	1.39	7	44	3	0.4	26.1	< 1	< 1	< 5
32353	< 2	0.4	21	0.3	< 1	8	60	55	0.30	5.26	4.6	770	< 1	< 2	< 0.5	3.43	26	67	4	0.9	19.1	2	< 1	< 5
32354	< 2	0.4	21	0.3	< 1	13	38	32	0.38	2.62	4.1	1710	< 1	< 2	< 0.5	1.46	16	80	2	0.6	26.7	< 1	< 1	< 5
32355	< 2	0.5	60	0.7	3	11	22	30	0.64	1.85	5.8	1140	1	< 2	< 0.5	1.07	11	59	2	0.5	28.4	< 1	< 1	< 5
32356	< 2	0.5	13	< 0.3	< 1	13	19	39	0.17	2.18	3.9	710	1	< 2	2.6	1.46	11	53	< 1	0.7	29.1	< 1	< 1	< 5
32357	< 2	0.3	9	< 0.3	< 1	13	14	25	0.07	2.00	3.7	570	1	< 2	3.7	1.26	7	24	< 1	0.7	27.5	< 1	< 1	< 5
32358	< 2	< 0.3	10	< 0.3	2	17	11	21	0.09	1.12	3.0	330	1	6	< 0.5	1.23	5	26	< 1	0.5	31.3	< 1	< 1	< 5
32359	53	23.8	5350	184	13	> 5000	62	28400	7.06	5.64	73.3	1130	< 1	10	< 0.5	3.81	59	128	< 1	0.8	10.3	< 1	6	< 5
32360	< 2	0.3	40	< 0.3	1	12	19	27	0.28	1.78	2.7	660	1	< 2	1.2	1.22	7	57	1	0.5	31.2	< 1	< 1	< 5
32361	< 2	0.3	9	0.4	< 1	18	17	23	0.09	1.65	< 0.5	530	1	< 2	1.1	1.20	7	38	2	0.4	31.6	< 1	< 1	< 5
32362	< 2	< 0.3	12	0.5	< 1	14	21	25	0.11	1.98	3.0	860	1	< 2	< 0.5	0.95	8	46	5	0.6	31.0	< 1	< 1	< 5
32363	7	0.5	14	0.7	< 1	9	20	27	0.11	2.04	3.4	670	1	< 2	1.2	1.02	10	48	3	0.5	28.0	< 1	< 1	< 5
32364	< 2	0.4	9	< 0.3	< 1	11	13	25	0.11	2.40	4.7	870	2	< 2	< 0.5	1.46	7	33	3	0.7	27.6	< 1	< 1	< 5
32365	< 2	< 0.3	9	0.5	< 1	14	16	21	0.06	1.78	2.4	1130	1	< 2	< 0.5	1.06	8	40	4	0.4	31.6	< 1	< 1	< 5
32366	< 2	0.3	7	< 0.3	< 1	11	50	32	0.06	2.54	2.7	930	1	< 2	< 0.5	1.58	10	108	3	0.5	26.3	1	< 1	< 5
32367	< 2	< 0.3	17	0.5	< 1	10	28	36	0.14	3.26	3.3	790	1	< 2	2.8	2.18	12	70	2	0.8	24.4	< 1	< 1	< 5
32368	5	0.5	11	0.3	< 1	12	25	41	0.09	3.41	3.0	960	2	< 2	3.0	2.41	11	61	2	0.7	20.6	2	< 1	< 5
32369	< 2	0.8	15	0.8	< 1	9	26	53	0.10	7.69	< 0.5	890	2	< 2	7.4	2.86	10	55	3	1.2	2.96	4	< 1	< 5
32370	< 2	1.0	28	0.3	< 1	7	37	49	0.12	8.01	< 0.5	1030	2	< 2	4.7	3.58	20	66	< 1	1.8	4.92	4	< 1	< 5

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32371	< 2	0.5	24	0.6	< 1	11	34	37	0.11	5.38	< 0.5	520	2	< 2	2.2	2.73	13	64	3	0.9	12.9	2	< 1	< 5
32372	8	< 0.3	3	< 0.3	3	13	9	24	0.01	2.28	2.9	340	1	< 2	2.1	0.93	5	25	3	0.4	24.0	< 1	< 1	< 5
32373	< 2	0.3	6	< 0.3	< 1	13	12	27	0.01	2.30	3.5	400	1	< 2	2.9	1.09	8	27	4	0.6	27.2	< 1	< 1	< 5
32374	< 2	0.5	23	< 0.3	< 1	11	29	43	0.23	4.18	1.9	620	2	< 2	2.7	1.80	13	66	5	0.9	20.4	2	< 1	< 5
32375	< 2	0.3	19	< 0.3	1	19	29	62	0.14	6.16	2.6	1010	3	< 2	< 0.5	2.65	16	77	7	1.8	12.4	5	< 1	< 5
32376	< 2	0.4	22	0.5	3	13	11	21	0.12	1.32	5.1	< 50	1	2	2.1	1.20	6	34	3	0.3	28.3	< 1	< 1	< 5
32377	< 2	< 0.3	6	0.6	< 1	20	14	23	< 0.01	1.26	< 0.5	250	< 1	< 2	< 0.5	0.87	7	37	5	0.3	34.6	< 1	< 1	< 5
32378	< 2	0.4	8	< 0.3	< 1	10	79	80	< 0.01	6.82	2.3	1920	2	< 2	4.1	3.54	16	106	5	4.2	3.85	7	< 1	< 5
32379	59	24.2	5480	182	13	> 5000	62	29200	7.16	5.67	74.8	1070	< 1	8	< 0.5	3.78	57	130	< 1	0.8	10.5	< 1	5	< 5
32380	< 2	< 0.3	8	< 0.3	< 1	19	25	38	0.01	2.75	2.7	680	1	< 2	< 0.5	1.64	9	43	2	1.2	24.0	3	< 1	< 5
32381	< 2	0.3	< 1	< 0.3	< 1	11	59	34	< 0.01	2.93	6.2	670	2	< 2	2.3	2.35	15	180	6	1.7	23.5	2	< 1	< 5
32382	< 2	0.4	9	0.5	< 1	11	59	42	< 0.01	3.06	9.4	970	2	< 2	< 0.5	2.69	17	159	6	1.6	21.0	2	< 1	< 5
32383	< 2	0.4	4	0.8	< 1	21	20	46	0.01	2.38	3.7	610	1	< 2	3.4	1.24	10	55	2	0.5	26.9	1	< 1	< 5
32384	< 2	0.5	6	< 0.3	2	14	11	25	0.04	1.55	2.8	320	1	< 2	2.3	0.78	7	31	2	0.5	31.2	< 1	< 1	< 5
32385	< 2	0.3	9	0.6	2	15	11	30	0.05	1.92	2.4	370	1	< 2	2.5	1.17	6	25	2	0.5	29.5	< 1	< 1	< 5
32386	< 2	0.6	43	< 0.3	< 1	8	81	65	0.22	5.18	5.1	980	1	< 2	6.2	3.54	31	231	5	1.7	16.5	3	< 1	< 5
32387	< 2	1.0	38	< 0.3	2	11	38	63	0.24	6.67	< 0.5	760	2	< 2	7.6	2.92	18	104	5	1.6	8.34	5	< 1	< 5
32388	< 2	1.2	26	< 0.3	< 1	15	58	68	0.13	8.19	2.0	1300	2	< 2	15.5	3.22	18	82	< 1	2.3	3.65	5	< 1	< 5
32389	< 2	1.1	36	< 0.3	< 1	13	42	71	0.17	8.07	2.4	1120	3	< 2	17.7	3.32	18	75	< 1	2.3	3.95	6	< 1	< 5
32390	< 2	1.1	18	< 0.3	3	8	28	52	0.21	7.65	< 0.5	910	3	< 2	22.2	3.71	15	66	3	1.6	3.09	4	< 1	< 5
32391	< 2	1.2	27	< 0.3	< 1	12	35	78	0.14	8.34	< 0.5	830	3	< 2	11.4	3.33	15	75	< 1	2.1	3.72	6	< 1	< 5
32392	< 2	1.4	29	< 0.3	< 1	16	34	76	0.19	8.17	2.5	1120	3	< 2	14.0	3.37	19	80	< 1	2.1	4.05	6	< 1	< 5
32393	< 2	0.8	47	< 0.3	< 1	18	37	61	0.30	5.36	< 0.5	710	2	< 2	6.5	2.67	18	92	4	1.1	12.7	4	< 1	< 5
32394	7	1.5	14	< 0.3	5	14	18	54	0.08	6.15	< 0.5	760	2	< 2	3.3	1.91	11	48	4	1.7	2.99	6	< 1	< 5
32395	< 2	1.4	11	< 0.3	3	20	19	65	0.09	8.63	< 0.5	940	4	< 2	< 0.5	2.68	10	42	3	2.4	2.86	6	< 1	< 5
32396	< 2	0.7	15	0.5	< 1	23	21	62	0.10	7.72	< 0.5	1120	3	< 2	< 0.5	2.65	10	57	4	2.0	2.99	7	< 1	< 5
32397	< 2	0.7	13	< 0.3	4	23	20	61	0.04	8.30	2.7	890	4	< 2	< 0.5	2.39	10	42	3	2.0	3.02	7	< 1	< 5
32398	< 2	1.3	10	< 0.3	5	17	14	59	0.06	8.42	< 0.5	800	4	< 2	8.6	2.44	10	35	3	1.9	2.86	7	< 1	< 5
32399	< 2	0.9	15	< 0.3	2	13	16	80	0.04	8.45	2.0	1160	4	< 2	9.0	2.16	9	43	3	2.0	3.21	8	< 1	< 5
32400	8	1.5	13	< 0.3	4	20	16	61	0.06	7.61	1.9	860	4	< 2	6.6	2.32	9	34	< 1	2.0	3.07	8	< 1	< 5
32401	< 2	1.6	20	< 0.3	3	24	17	65	0.17	7.66	< 0.5	800	4	< 2	6.9	2.24	11	41	2	1.9	3.12	7	< 1	< 5
32402	< 2	1.4	16	< 0.3	3	16	18	59	0.15	7.71	3.2	850	5	< 2	14.4	2.24	11	44	< 1	1.8	3.08	7	< 1	< 5
32403	< 2	1.6	17	< 0.3	6	18	16	50	0.18	7.58	< 0.5	890	4	< 2	8.3	2.23	11	45	2	1.7	2.87	7	< 1	< 5
32404	< 2	1.6	20	< 0.3	3	21	16	54	0.16	7.68	2.3	1030	4	< 2	< 0.5	2.26	12	43	5	1.7	2.90	7	< 1	< 5
32405	< 2	1.3	15	< 0.3	3	15	21	55	0.14	5.93	1.9	860	4	< 2	5.4	2.17	8	34	5	1.6	2.72	6	< 1	< 5
32406																								
32407	< 2	0.7	11	< 0.3	4	14	14	49	0.05	8.15	1.5	770	4	< 2	14.1	2.12	8	28	< 1	1.8	2.32	5	< 1	< 5
32408	< 2	0.9	8	< 0.3	2	13	15	52	0.06	7.81	< 0.5	1160	4	< 2	18.2	2.41	12	30	3	2.2	3.13	6	< 1	< 5
32409	< 2	0.8	17	< 0.3	2	18	15	55	0.06	8.24	< 0.5	990	4	< 2	9.3	2.36	9	41	3	2.0	2.94	6	< 1	< 5
32410	7	1.2	12	< 0.3	5	22	16	57	0.05	8.29	2.3	880	4	< 2	4.7	2.32	11	27	3	1.7	2.92	7	< 1	< 5
32411	< 2	1.7	13	< 0.3	3	15	16	61	0.09	7.53	< 0.5	1020	3	< 2	8.2	2.22	10	42	< 1	2.0	3.10	9	< 1	< 5
32412	< 2	1.5	28	< 0.3	2	16	52	67	0.09	7.58	< 0.5	1180	2	< 2	4.1	2.47	12	81	< 1	2.0	3.34	7	< 1	< 5
32413	< 2	1.1	75	0.4	< 1	16	32	69	0.12	7.83	2.1	1180	2	< 2	< 0.5	4.31	20	92	5	2.4	4.55	4	< 1	< 5
32414	< 2	0.9	27	< 0.3	< 1	14	35	74	0.11	7.69	2.5	1180	2	< 2	< 0.5	5.21	25	117	9	2.1	4.68	3	< 1	< 5
32415	< 2	1.1	31	< 0.3	< 1	14	21	55	0.10	7.96	< 0.5	1180	3	< 2	6.1	2.75	13	44	3	2.2	3.18	5	< 1	< 5
32416	< 2	1.4	12	< 0.3	2	12	18	52	0.05	6.37	< 0.5	800	3	< 2	9.7	2.01	12	41	2	2.0	3.30	7	< 1	< 5
32417	5	1.5	8	< 0.3	1	17	21	63	0.04	8.17	2.1	750	4	< 2	5.8	2.45	12	47	2	1.7	3.26	7	< 1	< 5
32418	9	0.8	20	< 0.3	2	24	21	69	0.08	8.54	3.7	650	4	< 2	< 0.5	2.28	10	43	2	1.7	3.48	7	< 1	< 5
32419	62	24.5	5660	183	12	> 5000	57	28700	7.10	5.61	72.1	1180	< 1	12	< 0.5	3.84	58	132	< 1	0.9	10.7	< 1	7	< 5
32420	< 2	1.5	51	0.8	2	9	135	111	0.18	6.40	< 0.5	790	3	< 2	< 0.5	4.98	32	520	7	2.5	6.64	6	< 1	< 5
32421	< 2	1.4	37	< 0.3	< 1	12	75	85	0.11	7.94	< 0.5	1070	3	< 2	8.6	4.17	22	133	2	2.4	4.78	6	< 1	< 5

Activation Laboratories Ltd.**Report: A10-8177**

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32422	5	0.5	16	0.4	< 1	11	49	86	0.05	7.31	2.4	1050	3	< 2	4.1	3.86	16	97	2	2.3	4.75	7	< 1	< 5
32423	< 2	0.4	6	< 0.3	1	18	24	78	0.03	7.71	2.0	890	5	< 2	< 0.5	2.61	12	61	4	1.8	3.97	9	< 1	< 5
32424	< 2	1.5	14	< 0.3	5	17	21	60	0.07	6.24	3.3	740	4	< 2	5.5	2.12	10	43	3	1.6	2.93	7	< 1	< 5
32425	< 2	1.0	10	< 0.3	6	19	22	61	0.04	8.47	1.5	780	4	< 2	6.9	2.26	10	41	2	1.5	2.80	7	< 1	< 5
32426	< 2	0.7	19	< 0.3	5	26	20	60	0.08	8.40	3.8	670	5	< 2	5.0	2.31	10	40	2	1.7	2.85	7	< 1	< 5
32427	< 2	1.0	4	< 0.3	1	17	12	80	0.07	9.80	7.2	1050	5	< 2	6.9	2.74	13	9	8	2.3	3.76	5	< 1	< 5
32428	< 2	1.0	8	< 0.3	< 1	13	12	73	0.07	8.94	4.6	890	4	< 2	7.6	3.04	12	10	8	2.2	3.58	4	< 1	< 5
32429	< 2	0.7	26	< 0.3	4	22	17	67	0.05	9.04	4.3	920	4	< 2	8.7	2.25	10	28	3	1.7	3.09	6	< 1	< 5
32430	< 2	1.5	44	< 0.3	4	26	17	56	0.20	8.41	< 0.5	810	4	< 2	24.8	2.16	11	42	3	1.5	2.93	6	< 1	< 5
32431	< 2	0.6	24	< 0.3	5	22	19	53	0.05	8.59	< 0.5	770	5	< 2	29.0	2.10	9	35	< 1	1.6	2.76	8	< 1	< 5
32432	< 2	0.9	19	0.3	6	21	21	56	0.07	8.90	< 0.5	870	5	< 2	14.8	2.46	10	36	3	1.9	2.93	8	< 1	< 5
32433	< 2	0.5	12	< 0.3	4	24	18	52	0.06	8.43	2.6	900	4	< 2	8.1	2.14	10	37	2	1.6	2.94	8	< 1	< 5
32434	< 2	0.5	13	< 0.3	3	16	16	72	0.11	8.48	< 0.5	940	4	< 2	10.4	2.65	10	34	< 1	2.0	3.04	8	< 1	< 5
32435	6	1.5	19	< 0.3	3	15	17	50	0.15	6.17	< 0.5	860	4	< 2	4.9	2.19	10	35	< 1	2.0	3.15	8	< 1	< 5
32436	< 2	1.0	58	< 0.3	< 1	13	30	87	0.41	7.73	2.9	1000	3	< 2	3.1	4.23	24	58	4	3.0	4.96	6	< 1	< 5
32437	< 2	0.8	17	< 0.3	< 1	17	23	58	0.11	8.82	1.6	1210	2	< 2	6.2	2.67	12	48	3	2.0	3.64	8	< 1	< 5
32438	< 2	0.3	59	0.3	< 1	14	79	111	0.45	7.44	4.6	630	< 1	< 2	8.5	3.11	36	237	4	1.2	10.5	2	< 1	< 5
32439	51	24.9	5610	181	14	> 5000	68	29600	7.09	5.65	68.4	1130	< 1	17	< 0.5	3.82	56	129	< 1	0.8	10.9	< 1	6	< 5
32440	< 2	0.5	73	0.4	< 1	9	102	113	0.47	8.20	< 0.5	580	< 1	< 2	5.2	3.18	44	240	6	1.1	9.09	2	< 1	< 5
32441	3	0.4	67	< 0.3	< 1	9	85	100	0.40	8.45	< 0.5	530	1	< 2	6.3	3.28	36	246	4	1.0	8.87	2	< 1	< 5
32442	7	< 0.3	66	< 0.3	< 1	6	95	102	0.36	8.20	1.8	610	< 1	< 2	6.6	3.36	40	256	3	0.9	8.47	2	< 1	< 5
32443	< 2	< 0.3	71	0.4	< 1	9	102	100	0.35	8.37	2.4	610	< 1	< 2	6.3	3.09	44	261	3	0.8	8.94	2	< 1	< 5
32444	< 2	0.4	80	< 0.3	< 1	< 3	104	104	0.43	8.22	< 0.5	640	< 1	< 2	6.8	3.53	47	338	4	1.0	9.69	3	< 1	< 5
32445	< 2	0.8	57	< 0.3	< 1	7	71	85	0.29	7.06	< 0.5	950	1	< 2	5.9	2.82	35	210	6	1.6	7.43	3	< 1	< 5
32446	< 2	0.5	124	< 0.3	< 1	9	88	101	0.51	7.40	< 0.5	840	< 1	< 2	< 0.5	2.66	41	237	6	1.2	10.7	2	< 1	< 5
32447	< 2	0.3	58	0.4	< 1	4	84	83	0.33	6.40	< 0.5	770	< 1	< 2	< 0.5	2.14	37	155	5	1.0	15.5	2	< 1	< 5
32448	< 2	0.4	65	< 0.3	< 1	11	69	78	0.40	6.20	< 0.5	480	< 1	< 2	2.3	2.35	35	148	5	0.9	16.0	< 1	< 1	< 5
32449	< 2	0.5	24	0.4	< 1	11	55	60	0.14	4.38	< 0.5	560	1	< 2	< 0.5	1.10	25	101	6	0.8	28.3	< 1	< 1	< 5
32450	< 2	< 0.3	44	0.5	< 1	6	59	58	0.25	4.08	2.6	630	1	< 2	< 0.5	2.42	26	110	6	0.6	17.7	< 1	< 1	< 5
32451	< 2	< 0.3	47	0.4	< 1	7	48	48	0.24	3.55	3.3	340	1	< 2	< 0.5	2.31	22	91	7	0.7	21.2	< 1	< 1	< 5
32452	< 2	0.4	14	0.3	3	12	14	21	0.14	1.51	7.8	< 50	1	< 2	< 0.5	2.09	6	30	2	0.3	27.2	< 1	< 1	< 5
32453	< 2	< 0.3	15	< 0.3	< 1	11	18	33	0.11	2.44	6.0	520	1	3	1.4	1.81	10	46	3	0.6	25.4	< 1	< 1	< 5
32454	< 2	0.7	21	< 0.3	< 1	6	35	50	0.12	4.94	< 0.5	730	2	< 2	8.0	2.81	20	94	3	1.7	18.2	3	< 1	< 5
32455	< 2	0.5	40	0.5	< 1	11	47	57	0.14	5.05	< 0.5	370	1	< 2	< 0.5	2.39	18	120	2	0.9	18.8	2	< 1	< 5
32456	< 2	0.4	38	0.6	< 1	13	48	54	0.14	3.91	2.0	320	< 1	< 2	1.7	2.24	16	138	2	0.8	24.4	1	< 1	< 5
32457	< 2	0.3	< 1	0.6	< 1	14	8	18	0.06	1.14	4.6	140	< 1	< 2	< 0.5	1.56	3	19	< 1	0.5	28.6	< 1	< 1	< 5
32458	4	0.3	23	0.4	< 1	13	26	43	0.15	3.61	2.8	400	1	< 2	1.4	2.31	11	40	2	1.3	22.7	1	< 1	< 5
32459	55	24.6	5840	191	15	> 5000	67	28400	7.32	5.93	67.2	1220	< 1	15	< 0.5	3.93	57	130	< 1	0.7	10.6	< 1	5	< 5
32460	< 2	0.3	89	0.5	< 1	4	94	108	0.38	7.55	< 0.5	600	< 1	< 2	< 0.5	3.72	37	264	3	1.2	12.4	2	< 1	< 5
32461	4	0.4	106	0.4	< 1	< 3	107	110	0.54	8.29	1.6	520	< 1	< 2	< 0.5	3.84	35	300	2	1.2	8.82	2	< 1	< 5
32462	< 2	0.5	109	< 0.3	< 1	< 3	110	106	0.50	8.01	< 0.5	480	< 1	< 2	< 0.5	4.15	39	300	4	1.0	9.84	2	< 1	< 5
32463	< 2	0.4	94	0.4	< 1	< 3	99	106	0.55	7.48	1.1	450	< 1	< 2	1.6	3.86	38	288	4	1.3	9.00	2	< 1	< 5
32464	< 2	0.5	53	< 0.3	< 1	< 3	165	98	0.23	7.96	< 0.5	470	< 1	< 2	< 0.5	4.92	33	300	3	2.0	6.96	2	< 1	< 5
32465	< 2	0.5	98	0.3	< 1	4	103	116	0.47	8.10	2.6	460	< 1	< 2	2.1	4.14	43	330	2	1.3	10.1	3	< 1	< 5
32466	< 2	< 0.3	82	0.3	< 1	3	106	115	0.37	8.42	1.3	370	< 1	< 2	< 0.5	3.74	38	254	3	1.3	9.88	3	< 1	< 5
32467	< 2	< 0.3	73	< 0.3	2	7	95	100	0.39	8.44	< 0.5	480	< 1	< 2	< 0.5	3.59	45	252	5	1.4	9.72	3	< 1	< 5
32468	< 2	0.4	98	< 0.3	< 1	< 3	106	114	0.49	8.41	< 0.5	320	< 1	< 2	2.7	4.00	38	286	5	1.4	9.81	3	< 1	< 5
32469	< 2	0.4	43	0.4	< 1	4	55	63	0.22	4.37	< 0.5	190	< 1	< 2	< 0.5	2.23	19	111	2	0.8	22.4	1	< 1	< 5
32470	< 2	0.4	45	< 0.3	< 1	7	53	53	0.16	4.18	< 0.5	310	1	< 2	2.1	2.49	20	104	2	0.8	21.8	1	< 1	< 5
32471	< 2	0.4	50	0.6	< 1	9	65	66	0.20	4.88	< 0.5	310	1	< 2	< 0.5	2.55	25	124	3	0.9	21.9	1	< 1	< 5
32472	< 2	0.5	16	< 0.3	2	16	25	45	0.08	6.20	< 0.5	590	1	< 2	2.1	1.78	8	48	2	0.7	10.7	3	< 1	< 5

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Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1	5
Analysis Method	INAA	MULT INAA / TD- ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD- ICP	MULT INAA / TD- ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32624	5	1.2	20	< 0.3	< 1	10	50	60	0.06	7.71	3.1	1730	2	< 2	< 0.5	3.54	20	150	< 1	3.3	4.43	6	< 1	< 5
32625	< 2	1.2	58	0.3	2	22	27	86	0.03	8.63	2.0	1730	4	< 2	< 0.5	3.62	17	49	3	4.7	4.47	10	< 1	< 5
32626	< 2	0.8	23	< 0.3	4	22	26	75	0.07	8.54	2.0	1270	4	< 2	< 0.5	3.07	17	70	5	3.8	4.00	10	< 1	< 5
32627	< 2	1.4	29	< 0.3	2	19	29	74	0.11	8.51	< 0.5	1500	3	< 2	< 0.5	2.88	15	61	5	3.7	3.62	9	< 1	< 5
32628	3	1.4	26	< 0.3	1	20	27	66	0.10	8.87	< 0.5	1080	3	< 2	< 0.5	2.72	13	74	5	2.9	3.30	9	< 1	< 5
32629	< 2	1.5	23	< 0.3	1	24	25	78	0.15	9.08	< 0.5	1380	3	< 2	< 0.5	3.39	16	47	7	2.9	3.69	7	< 1	< 5
32630	< 2	1.1	16	< 0.3	< 1	15	31	63	0.05	8.32	3.9	1840	2	< 2	< 0.5	2.79	13	77	6	3.5	3.44	6	< 1	< 5
32631	< 2	1.2	42	< 0.3	1	16	84	73	0.07	8.38	5.1	1380	3	< 2	< 0.5	3.35	23	161	5	2.6	4.13	8	< 1	< 5
32632	< 2	1.1	7	< 0.3	4	17	19	60	0.01	7.58	< 0.5	1070	3	< 2	< 0.5	2.15	10	74	5	2.6	2.70	9	< 1	< 5
32633	5	1.4	42	< 0.3	1	20	32	71	0.10	8.30	6.2	1560	3	< 2	< 0.5	3.21	16	78	5	3.7	3.59	6	< 1	< 5
32634	< 2	1.3	16	< 0.3	2	21	23	65	0.06	7.58	3.1	1200	3	< 2	< 0.5	2.66	13	79	4	3.0	3.38	8	< 1	< 5

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Analyte Symbol	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb	Yb
Unit Symbol	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5	0.2
Analysis Method	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
32632	3.95	0.86	525	4.34	0.097	115	0.5	5.2	< 3	696	< 0.5	0.23	14.9	5.6	52	< 1	10	78.2	173	51	9.7	< 0.01	< 0.5	1.4
32633	3.77	1.56	705	4.13	0.150	156	< 0.1	8.2	< 3	1150	< 0.5	0.30	16.8	4.2	74	< 1	14	96.0	216	64	12.0	< 0.01	< 0.5	1.4
32634	3.34	1.10	641	4.27	0.114	112	< 0.1	6.4	< 3	927	< 0.5	0.29	16.8	7.4	66	< 1	11	99.6	216	54	10.6	< 0.01	< 0.5	1.2

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	

32016	0.25	29.9
32017	0.28	32.2
32018	0.32	28.3
32019	0.32	33.9
32020	0.25	28.6
32021	0.26	32.8
32022	0.31	28.8
32023	0.30	33.9
32024	0.28	29.8
32025	0.39	29.0
32026	0.32	31.1
32027	0.33	29.4
32028	0.36	33.4
32029	0.31	31.3
32030	0.30	30.5
32031	0.32	31.7
32032	0.26	32.4
32033	0.31	31.5
32034	0.32	33.4
32035	0.24	30.8
32036	0.10	31.2
32037	0.26	32.0
32038	0.30	34.1
32039	0.28	32.2
32040	0.35	33.3
32041	0.28	32.9
32042	0.25	31.9
32043	0.21	36.5
32044	0.21	34.2
32045	0.25	31.8
32046	0.22	34.0
32047	0.21	31.7
32048	0.13	34.3
32049	0.26	32.7
32050	0.19	28.1
32051	0.11	29.6
32052	< 0.05	37.0
32053	0.13	37.3
32054	0.09	41.1
32055	0.11	37.7
32056	0.17	38.7
32057	0.14	44.9
32058	0.18	41.5
32059	0.45	36.9
32060	< 0.05	39.5
32061	< 0.05	44.3
32062	0.11	39.8
32063	0.13	43.8
32064	0.17	37.7
32065	0.25	36.3
32066	0.13	34.6

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
32067	0.17	35.8																							
32068	0.30	33.0																							
32069	0.28	30.1																							
32070	0.36	31.5																							
32071	0.29	30.4																							
32072	0.39	34.1																							
32073	0.15	33.1																							
32074	0.19	36.6	0.1	0.3	< 0.2	0.014	24.1	< 0.1	< 1	< 0.1	0.6	53.41	10.56	23.67	0.102	2.22	2.87	2.20	2.02	0.46	0.14	0.02	0.015	1.29	
32075	0.11	37.5																							
32076	0.14	34.6																							
32077	0.09	39.4																							
32078	< 0.05	39.1																							
32079	0.40	32.8																							
32080	0.13	47.9																							
32081	0.28	45.8																							
32082	0.10	44.4																							
32083	< 0.05	39.6																							
32084	0.14	42.8																							
32085	0.09	37.0																							
32086	0.09	33.3																							
32087	0.12	28.7																							
32088	0.07	33.9																							
32089	0.09	36.8																							
32090	0.12	34.9																							
32091	0.05	36.5																							
32092	0.20	34.7	< 0.1	0.2	< 0.2	< 0.001	33.2	< 0.1	< 1	0.4	0.6	55.18	14.17	9.00	0.115	4.88	5.73	3.64	3.49	0.54	0.32	0.05	0.022	1.49	
32093	0.20	38.3																							
32094	0.13	38.5																							
32095	0.08	40.4																							
32096	0.16	33.0																							
32097	0.15	32.3																							
32098	0.12	32.0																							
32099	0.14	30.9																							
32100	< 0.05	33.7																							
32101	0.07	33.4																							
32102	0.10	33.5																							
32103	0.15	30.9																							
32104	0.14	34.3																							
32105	0.16	33.9																							
32106	< 0.05	33.1																							
32107	0.14	33.5																							
32108	0.12	31.5																							
32109	0.06	33.2																							
32110	0.09	32.3																							
32111	0.16	31.2																							
32112	0.17	32.5																							
32113	0.09	31.4																							
32114	< 0.05	31.2																							
32115	0.28	35.3	0.3	0.5	< 0.2	< 0.001	59.1	< 0.1	< 1	0.2	1.1	48.98	12.22	12.52	0.200	6.19	8.93	2.93	3.27	1.06	0.41	0.05	0.041	1.86	
32116	0.09	32.5																							
32117	0.07	31.3																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
32118	< 0.05	35.0																						
32119	0.35	30.9																						
32120	0.09	32.5																						
32121	0.05	29.1																						
32122	0.09	31.0																						
32123	0.24	30.8	0.2	0.3	< 0.2	0.003	16.0	< 0.1	< 1	< 0.1	0.8	60.36	15.82	5.02	0.079	1.41	3.17	5.49	5.10	0.45	0.24	0.01	0.012	1.46
32124	< 0.05	32.6																						
32125	0.12	31.0																						
32126	0.20	36.4																						
32127	0.12	37.2																						
32128	0.15	33.3																						
32129	0.26	35.6																						
32130	0.08	32.9																						
32131	< 0.05	36.1																						
32132	0.06	32.4																						
32133	< 0.05	35.0																						
32134	0.14	34.3																						
32135	0.06	35.6																						
32136	0.13	30.9																						
32137	0.17	32.7																						
32138	0.15	32.6																						
32139	0.41	39.3																						
32140	0.19	31.9																						
32141	0.18	29.5																						
32142	0.14	34.0																						
32143	0.21	30.6	0.3	0.4	< 0.2	< 0.001	16.3	< 0.1	1	0.4	1.1	59.81	16.39	4.66	0.095	1.43	3.09	5.41	5.75	0.48	0.21	0.03	0.017	1.38
32144	0.21	31.9																						
32145	0.18	31.9																						
32146	0.33	29.4																						
32147	0.18	34.7																						
32148	0.11	32.6																						
32149	0.19	33.6																						
32150	0.23	32.2																						
32151	0.19	32.3																						
32152	0.21	35.5																						
32153	0.16	31.7																						
32154	0.18	30.1																						
32155	0.22	33.3																						
32156	0.21	32.5																						
32157	0.24	36.3																						
32158	0.18	29.4																						
32159	0.35	37.6																						
32160	0.26	33.3																						
32161	0.22	34.3																						
32162	0.34	36.0																						
32163	0.21	31.5	0.2	0.6	< 0.2	< 0.001	7.7	< 0.1	1	0.5	0.7	63.01	16.07	3.75	0.092	1.00	2.43	5.15	5.69	0.34	0.20	0.03	0.010	0.81
32164	0.38	34.4																						
32165	0.25	34.3																						
32166	0.06	35.0																						
32167	0.23	34.5																						
32168	0.23	33.6																						

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

32169	0.23	32.5
32170	0.23	37.1
32171	0.22	39.3
32172	0.27	36.2
32173	0.21	36.5
32174	0.27	36.4
32175	0.25	35.0
32176	0.22	34.6
32177	0.26	36.0
32178	0.14	35.4
32179	0.40	41.8
32180	0.11	33.6
32181	0.22	35.7
32182	0.20	38.0
32183	0.25	35.2
32184	0.26	35.2
32185	0.27	36.6
32186	0.21	33.3
32187	0.24	34.4
32188	0.36	33.8
32189	0.28	32.8
32190	0.25	33.4
32191	0.27	34.9
32192	0.24	36.5
32193	0.19	33.3
32194	< 0.05	35.2
32195	0.28	34.6
32196	0.27	38.3
32197	0.15	34.5
32198	0.16	36.2
32199	0.14	33.9
32300	0.28	34.0
32301	0.29	37.1
32302	0.29	32.1
32303	0.27	35.2
32304	0.22	36.0
32305	0.24	38.2
32306	0.27	32.9
32307	0.36	31.4
32308	0.23	34.1
32309	0.14	35.6
32310	0.18	36.8
32311	0.30	38.2
32312	0.21	37.9
32313	0.27	36.3
32314	0.28	33.8
32315	0.22	35.4
32316	0.26	33.6
32317	0.12	40.1
32318	0.22	35.3
32319	0.45	39.6

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	
32371	0.14	34.9																							
32372	0.10	37.3																							
32373	0.11	40.9																							
32374	0.12	35.5																							
32375	0.20	32.6																							
32376	0.12	43.0																							
32377	0.11	40.9																							
32378	0.20	31.3																							
32379	0.34	33.2																							
32380	< 0.05	38.3																							
32381	0.17	40.8																							
32382	0.16	38.1																							
32383	0.16	40.4																							
32384	0.16	40.6																							
32385	0.12	45.7																							
32386	0.26	35.1																							
32387	0.20	30.7																							
32388	0.19	30.9																							
32389	0.19	31.8																							
32390	0.18	30.9																							
32391	0.20	34.7																							
32392	0.23	34.7																							
32393	0.20	32.1																							
32394	0.15	29.2																							
32395	0.20	31.8	0.2	0.5	< 0.2	< 0.001	12.6	< 0.1	< 1	< 0.1	0.6	60.80	16.10	4.38	0.087	1.72	3.49	5.18	4.72	0.46	0.25	0.01	0.009	1.51	
32396	0.25	34.7																							
32397	0.19	31.6																							
32398	0.17	35.8																							
32399	0.24	32.1																							
32400	0.21	32.3																							
32401	0.21	31.6																							
32402	0.19	31.5																							
32403	0.23	32.5																							
32404	0.16	30.9																							
32405	0.15	36.9																							
32406																									
32407	0.17	35.5																							
32408	0.24	31.1																							
32409	0.23	30.8																							
32410	0.21	35.0																							
32411	0.21	31.9																							
32412	0.16	34.9																							
32413	0.24	36.1																							
32414	0.20	35.4																							
32415	0.20	34.9																							
32416	0.24	35.1																							
32417	0.24	34.8																							
32418	0.25	31.9																							
32419	0.35	32.6																							
32420	0.25	40.4																							
32421	0.18	35.0																							

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

32422	0.26	34.5																						
32423	0.32	30.7																						
32424	0.15	33.1																						
32425	0.20	30.5																						
32426	0.20	33.3																						
32427	0.16	34.8																						
32428	0.18	34.2																						
32429	0.15	34.3																						
32430	0.23	32.3																						
32431	0.18	34.9																						
32432	0.22	33.4																						
32433	0.18	30.9																						
32434	0.19	30.8																						
32435	0.24	34.5																						
32436	0.32	34.4																						
32437	0.23	31.6																						
32438	0.34	34.6																						
32439	0.34	40.2																						
32440	0.28	37.8																						
32441	0.29	37.3																						
32442	0.31	39.0																						
32443	0.35	36.0																						
32444	0.45	37.0																						
32445	0.24	34.9																						
32446	0.35	35.3																						
32447	0.36	35.8																						
32448	0.42	37.0																						
32449	0.15	39.9																						
32450	0.25	39.2																						
32451	0.19	37.6																						
32452	0.10	44.2																						
32453	< 0.05	41.0																						
32454	0.27	37.0																						
32455	0.18	40.8																						
32456	0.18	41.6																						
32457	0.12	43.5																						
32458	0.19	39.3																						
32459	0.37	38.5																						
32460	0.34	36.8																						
32461	0.22	37.3																						
32462	0.34	38.0																						
32463	0.29	37.5																						
32464	0.25	38.4																						
32465	0.31	36.1																						
32466	0.15	36.2																						
32467	0.32	40.3																						
32468	0.29	36.3																						
32469	0.23	44.0																						
32470	0.22	41.4																						
32471	0.21	39.6																						
32472	0.07	33.3																						

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
32473	0.17	41.6																						
32474	0.16	42.2																						
32475	0.21	36.3																						
32476	0.27	37.4																						
32477	0.27	38.0																						
32478	0.40	32.7																						
32479	0.38	36.5																						
32480	0.31	37.8																						
32481	0.35	32.3																						
32482	0.29	33.7																						
32483	0.28	30.6																						
32484	0.20	35.5	0.1	0.6	< 0.2	< 0.001	28.0	< 0.1	< 1	0.4	0.8	58.31	16.11	5.15	0.109	3.03	4.48	4.72	4.78	0.55	0.34	0.02	0.013	1.01
32485	0.30	36.7																						
32486	0.26	37.5																						
32487	0.29	35.7																						
32488	0.13	40.9																						
32489	0.15	35.0																						
32490	0.21	36.8																						
32491	0.24	34.5																						
32492	0.36	41.0																						
32493	0.35	30.9																						
32494	0.30	33.9																						
32495	0.31	30.4																						
32496	0.18	36.4																						
32497	0.22	36.5																						
32498	0.27	33.4																						
32499	0.22	35.0																						
32600	0.17	35.5																						
32601	0.22	32.7																						
32602	0.22	33.7																						
32603	0.12	32.3																						
32604	< 0.05	34.9																						
32605	0.21	36.7																						
32606	0.22	38.5																						
32607	0.26	33.1																						
32608	0.26	36.4																						
32609	0.19	34.1																						
32610	0.32	35.8																						
32611	0.33	33.6																						
32612	0.39	34.3																						
32613	0.39	34.8																						
32614	0.24	34.2																						
32615	0.17	31.9																						
32616	0.24	30.7																						
32617	0.20	32.2																						
32618	0.07	30.5																						
32619	0.12	31.2																						
32620	0.22	30.3																						
32621	0.07	34.2																						
32622	0.12	30.2																						
32623	0.08	34.5																						

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Analyte Symbol	Lu	Mass	Bi	Ge	In	Re	Li	Se	Sn	Te	Tl	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	
Unit Symbol	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.05		0.1	0.1	0.2	0.001	0.5	0.1	1	0.1	0.1	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	
Analysis Method	INAA	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	MULT INAA/TD- ICP-MS	TD-MS	TD-MS	TD-MS	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

32624	< 0.05	31.2
32625	0.14	32.5
32626	0.26	31.4
32627	0.16	32.3
32628	0.26	33.8
32629	0.13	32.3
32630	< 0.05	31.4
32631	0.08	32.9
32632	0.28	31.1
32633	0.12	31.4
32634	0.30	28.6

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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32115	98.66																							
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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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32395	98.72																							
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32397																								
32398																								
32399																								
32400																								
32401																								
32402																								
32403																								
32404																								
32405																								
32406		60.62	16.18	4.61	0.084	1.62	3.28	5.28	4.94	0.442	0.26	1.12	98.45	6	5	60	20	9	< 20	10	60	20	1.1	< 5
32407																								
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32411																								
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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	0.5	5
Analysis Method	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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32406	123	853	17.4	431	18.1	2	1.5	< 0.1	1	< 0.2	2.2	972	89.8	176	17.3	60.9	9.81	2.20	6.45	0.78	3.46	0.59	1.62	0.215
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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.005
Analysis Method	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Analyte Symbol	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

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Activation Laboratories Ltd. Report: A10-8177

Quality Control	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	K	Mg	Mn	P	Sr	Ti	V	Y	Sn	Au	Ag	Ni
Analyte Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	%	%	ppm	%	ppm	%	ppm	ppm	%	ppb	ppm	ppm
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	%	%	ppm	%	ppm	%	ppm	ppm	%	ppb	ppm	ppm
Detection Limit	0.3	1	0.3	1	3	1	1	0.01	0.01	1	2	0.01	0.01	0.01	1	0.001	1	0.01	2	1	0.01	2	5	20
Detection Limit	0.3	1	0.3	1	3	1	1	0.01	0.01	1	2	0.01	0.01	0.01	1	0.001	1	0.01	2	1	0.01	2	5	20
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	INAA	INAA
GXR-1 Meas																								
GXR-1 Cert											1390													
GXR-1 Meas	31.5	1200	3.3	18	723	44	739	0.24	2.38	1														
GXR-1 Cert	31.0	1110	3.30	18.0	730	41.0	760	0.257	3.52	1.22														
WMG-1 Meas																								
WMG-1 Cert																								
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
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GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas	3.4	6430	0.6	312	49	48	75	1.78	6.83	2														
GXR-4 Cert	4.00	6520	0.860	310	52.0	42.0	73.0	1.77	7.20	1.90														
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas	< 0.3	28	< 0.3	4	22	36	98	0.06	8.80	3														
SDC-1 Cert	0.0410	30.0	0.0800	0.250	25.0	38.0	103	0.0650	8.34	3.00														
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas	0.5	27	< 0.3	1	25	27	94		7.49	2														
SCO-1 Cert	0.134	28.7	0.140	1.37	31.0	27.0	103		7.24	1.84														
SCO-1 Meas	< 0.3	26	0.5	2	28	29	101		7.08	2														
SCO-1 Cert	0.134	28.7	0.140	1.37	31.0	27.0	103		7.24	1.84														
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas	0.7	67	0.5	5	93	27	132	0.01	13.6	1														
GXR-6 Cert	1.30	66.0	1.00	2.40	101	27.0	118	0.0160	17.7	1.40														
LKSD-3 Meas																								
LKSD-3 Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
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IF-G Meas																								
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SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								

Quality Control																								
Analyte Symbol	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	K	Mg	Mn	P	Sr	Ti	V	Y	Sn	Au	Ag	Ni
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	%	%	ppm	%	ppm	%	ppm	ppm	%	ppb	ppm	ppm
Detection Limit	0.3	1	0.3	1	3	1	1	0.01	0.01	1	2	0.01	0.01	0.01	1	0.001	1	0.01	2	1	0.01	2	5	20
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	INAA	INAA

CTA-AC-1 Cert																								
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OREAS 101b (Fusion) Meas																								
OREAS 101b (Fusion) Cert																								
JR-1 Meas																								
JR-1 Cert																								
JR-1 Meas																								
JR-1 Cert																								
OREAS 13b (4-Acid) Meas	1.3	2320		8		2060	106	1.10																
OREAS 13b (4-Acid) Cert	0.86	2327		9.0		2247	133	1.20																
DMMAS 111 Meas																								1620
DMMAS 111 Cert																								1670
DMMAS 111 Meas																								1610
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DMMAS 111 Meas																								1790

Quality Control																									
Analyte Symbol	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	Be	Bi	Ca	K	Mg	Mn	P	Sr	Ti	V	Y	Sn	Au	Ag	Ni	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	%	%	ppm	%	ppm	%	ppm	ppm	%	ppb	ppm	ppm	
Detection Limit	0.3	1	0.3	1	3	1	1	0.01	0.01	1	2	0.01	0.01	0.01	1	0.001	1	0.01	2	1	0.01	2	5	20	
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	INAA	INAA	
DMMAS 111 Cert																								1670	
DMMAS 111 Meas																									1790
DMMAS 111 Cert																									1670
DMMAS 111 Meas																									1630
DMMAS 111 Cert																									1670
DMMAS 111 Meas																									1850
DMMAS 111 Cert																									1670
32028 Orig	0.3	93	0.8	< 1	13	91	109	1.17	7.49	1	< 2	6.50	1.41	1.81	2320	0.081	408	0.43	135	19					
32028 Dup	< 0.3	92	0.7	< 1	11	90	109	1.16	7.55	1	< 2	6.45	1.42	1.82	2310	0.081	408	0.48	156	19					
32042 Orig	< 0.3	42	1.0	2	14	84	97	0.46	6.63	1	< 2	4.42	1.64	3.32	1260	0.096	535	0.42	152	12					
32042 Dup	< 0.3	41	1.1	2	16	83	93	0.45	6.45	1	< 2	4.31	1.60	3.23	1200	0.092	517	0.41	147	12					
32063 Orig	< 0.3	< 1	2.2	< 1	32	9	13	0.01	0.87	1	< 2	0.64	0.84	0.78	408	0.077	55	0.04	21	5					
32063 Dup	< 0.3	< 1	2.1	< 1	29	12	14	0.01	0.88	1	< 2	0.65	0.84	0.78	408	0.078	54	0.04	21	5					
32078 Orig	< 0.3	38	1.8	3	28	37	56	0.26	3.25	1	< 2	3.80	2.39	1.59	1190	0.197	721	0.25	96	14					
32078 Dup	< 0.3	37	1.8	2	26	36	57	0.27	3.18	1	< 2	3.77	2.33	1.56	1180	0.196	708	0.24	95	14					
32100 Orig	0.6	42	0.4	2	17	80	81	0.48	7.77	3	< 2	4.51	3.06	2.69	920	0.156	832	0.44	124	16					
32100 Dup	< 0.3	41	0.3	3	19	80	79	0.45	7.66	4	< 2	4.48	2.57	2.66	906	0.133	818	0.44	127	16					
32114 Orig	< 0.3	59	0.5	6	14	106	103	0.36	7.59	2	< 2	5.30	3.01	3.20	1150	0.165	1550	0.52	134	18					
32114 Dup	< 0.3	57	0.6	4	14	105	100	0.34	7.36	2	< 2	5.19	2.91	3.12	1130	0.156	1430	0.45	123	17					
32137 Orig	0.7	47	0.3	3	30	45	97	0.13	8.36	5	< 2	3.94	3.32	1.82	884	0.166	879	0.36	94	20					
32137 Dup	0.9	45	0.3	2	26	41	93	0.13	7.94	5	< 2	3.76	3.42	1.71	852	0.165	826	0.37	93	19					
32152 Orig	1.2	15	< 0.3	2	29	19	75	0.09	8.01	3	< 2	2.55	2.71	0.92	705	0.099	821	0.29	66	18					
32152 Dup	0.9	15	< 0.3	2	33	20	77	0.08	8.41	3	< 2	2.67	2.35	0.93	703	0.091	830	0.27	63	19					
32166 Orig	< 0.3	27	0.4	< 1	15	48	74	0.16	7.63	1	< 2	2.55	2.51	1.67	704	0.103	436	0.39	103	11					
32166 Dup	< 0.3	26	0.4	1	15	47	70	0.14	6.16	1	< 2	2.39	2.33	1.50	688	0.095	411	0.42	109	7					
32180 Orig	< 0.3	52	0.8	1	18	53	66	0.28	7.12	1	< 2	1.60	2.50	1.41	734	0.057	280	0.30	103	9					
32180 Dup	< 0.3	48	0.7	1	16	56	63	0.28	6.91	1	< 2	1.59	2.41	1.37	710	0.057	268	0.29	100	9					
32301 Orig	< 0.3	51	0.9	2	23	72	72	0.25	7.99	1	< 2	1.21	2.90	1.71	701	0.062	309	0.37	135	12					
32301 Dup	< 0.3	48	1.0	1	19	72	72	0.25	7.94	1	< 2	1.21	2.87	1.72	687	0.062	314	0.38	136	12					
32315 Orig	< 0.3	48	0.8	< 1	20	71	72	0.22	8.10	1	< 2	1.04	2.67	1.66	709	0.053	258	0.30	114	11					
32315 Dup	0.3	45	0.9	< 1	18	68	72	0.21	6.77	1	< 2	0.89	2.26	1.56	687	0.052	231	0.35	123	9					
32336 Orig	< 0.3	35	< 0.3	1	11	51	39	0.17	4.87	1	< 2	2.21	1.99	1.65	805	0.079	400	0.24	82	9					
32336 Dup	0.3	35	< 0.3	2	12	50	41	0.17	4.92	1	< 2	2.22	1.99	1.65	801	0.081	404	0.25	82	9					
32350 Orig	< 0.3	3	0.4	1	13	6	12	0.08	0.66	1	< 2	0.80	0.85	0.83	605	0.043	53	0.03	16	4					
32350 Dup	0.3	3	< 0.3	< 1	12	6	11	0.09	0.65	1	< 2	0.79	0.25	0.82	600	0.042	54	0.03	15	4					
32372 Orig	0.3	4	< 0.3	3	10	10	24	0.02	2.30	1	5	0.94	1.07	0.73	688	0.063	139	0.07	24	4					
32372 Dup	< 0.3	2	< 0.3	2	17	8	25	0.01	2.26	1	< 2	0.92	1.06	0.72	674	0.062	134	0.07	24	4					
32386 Orig	0.6	43	< 0.3	< 1	8	80	63	0.22	5.14	1	< 2	3.51	1.79	2.69	1210	0.135	388	0.36	114	14					
32386 Dup	0.6	44	0.4	< 1	8	81	67	0.22	5.23	1	< 2	3.57	1.80	2.73	1230	0.138	390	0.36	116	14					
32400 Orig	1.5	13	< 0.3	3	18	16	60	0.06	7.64	4	< 2	2.28	2.92	0.89	586	0.096	654	0.23	52	14					
32400 Dup	1.4	14	< 0.3	5	22	16	63	0.06	7.58	4	< 2	2.35	3.04	0.90	605	0.100	635	0.24	56	14					
32415 Orig	1.1	31	< 0.3	< 1	14	21	55	0.10	7.96	3	< 2	2.75	3.09	1.20	636	0.100	782	0.27	66	16	< 0.01	< 2	< 5	< 20	
32415 Split	1.5	34	< 0.3	2	15	21	59	0.11	8.12	3	< 2	2.94	4.44	1.23	693	0.106	839	0.29	73	15	< 0.01	< 2	< 5	< 20	
32415 Orig	1.3	30	< 0.3	2	9	21	55	0.10	8.03	3	< 2	2.81	4.09	1.22	655	0.103	795	0.28	68	16					
32415 Dup	1.0	32	< 0.3	< 1	19	21	55	0.10	7.89	3	< 2	2.69	2.08	1.18	616	0.097	768	0.26	64	16					
32436 Orig	1.1	57	< 0.3	< 1	14	30	86	0.37	7.59	3	< 2	4.19	2.60	2.51	1010	0.169	1000	0.31	124	19					
32436 Dup	0.8	59	< 0.3	< 1	13	29	88	0.44	7.87	3	< 2	4.28	3.24	2.57	1020	0.186	1010	0.35	128	20					
32445 Orig	0.8	57	< 0.3	< 1	7	71	85	0.29	7.06	1	< 2	2.82	1.79	2.01	985	0.072	490	0.55	175	8	< 0.01	< 2	< 5	< 20	
32445 Split	0.7	61	< 0.3	< 1	8	75	93	0.33	8.71	1	< 2	3.03	1.94	2.23	1030	0.072	545	0.32	111	12	< 0.01	< 2	< 5	< 20	
32450 Orig	< 0.3	43	0.6	< 1	8	57	56	0.25	4.03	1	< 2	2.40	1.13	1.75	1110	0.046	130	0.34	129	7					
32450 Dup	< 0.3	45	0.5	< 1	4	60	59	0.25	4.13	1	< 2	2.44	1.15	1.77	1150	0.049	135	0.38	137	7					
32465 Orig	0.5	98	0.3	< 1	4	103	116	0.47	8.10	< 1	< 2	4.14	0.77	2.92	1840	0.055	293	0.59	220	13	< 0.01	< 2	< 5	< 20	
32465 Split	0.4	103	0.3	< 1	< 3	107	120	0.47	8.81	< 1	< 2	4.35	0.83	3.10	1930	0.061	308	0.68	240	14	< 0.01	< 2	< 5	< 20	
32471 Orig	0.4	50	0.5	< 1	10	65	66	0.20	4.90	1	< 2	2.56	0.66	2.18	1350	0.074	172	0.42	152	8					
32471 Dup	0.3	50	0.7	< 1	8	66	67	0.20	4.86	1	< 2	2.53	0.65	2.15	1340	0.072	170	0.42	157	8					
32486 Orig	1.3	2	< 0.3	< 1	16	48	69	< 0.01	8.14	4	< 2	2.80	2.81	1.53	697	0.112	863	0.31	65	18					
32486 Dup	1.7	2	< 0.3	2	14	50	72	< 0.01	8.15	4	< 2	2.86	3.74	1.57	709	0.125	862	0.31	66	17					

Quality Control																								
Analyte Symbol	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Fe	Hf	Ge	Hg	In	Re	Ir	Li	Na	Rb	Sb	Sc	Se	Se	Sn	Ta
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	0.5	50	0.1	0.5	1	2	1	0.01	1	0.1	1	0.2	0.001	5	0.5	0.01	15	0.1	0.1	3	3	1	0.5
Analysis Method	INAA	INAA	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	INAA
GXR-1 Meas				1480									0.7			6.3						16	23	
GXR-1 Cert				1380									0.770			8.20						16.6	54.0	
GXR-1 Meas																								
GXR-1 Cert																								
WMG-1 Meas																								
WMG-1 Cert																								
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WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
DNC-1 Meas																	4.6							
DNC-1 Cert																5.20								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas																								
MICA-FE Cert																								
GXR-4 Meas				19.1									< 0.2			11.6						6	6	
GXR-4 Cert				19.0									0.270			11.1						5.60	5.60	
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas				0.3												36.3								< 1
SDC-1 Cert				2.60												34.0								3.00
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas				0.4												45.1								3
SCO-1 Cert				0.370												45.0								3.70
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
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GXR-6 Meas																								
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W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								

Quality Control

Analyte Symbol	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Fe	Hf	Ge	Hg	In	Re	Ir	Li	Na	Rb	Sb	Sc	Se	Se	Sn	Ta
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	0.5	50	0.1	0.5	1	2	1	0.01	1	0.1	1	0.2	0.001	5	0.5	0.01	15	0.1	0.1	3	3	1	0.5
Analysis Method	INAA	INAA	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	INAA

CTA-AC-1 Cert
 CTA-AC-1 Meas
 CTA-AC-1 Cert
 BIR-1a Meas
 BIR-1a Cert
 BIR-1a Meas
 BIR-1a Cert
 NCS DC86312 Meas
 NCS DC86312 Cert
 NCS DC86312 Meas
 NCS DC86312 Cert
 NCS DC70014 Meas
 NCS DC70014 Cert
 NCS DC70014 Meas
 NCS DC70014 Cert
 NCS DC70009
 (GBW07241) Meas
 NCS DC70009
 (GBW07241) Cert
 NCS DC70009
 (GBW07241) Meas
 NCS DC70009
 (GBW07241) Cert
 OREAS 100a (Fusion)
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 OREAS 100a (Fusion)
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 OREAS 100a (Fusion)
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 OREAS 101a (Fusion)
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 OREAS 101a (Fusion)
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 OREAS 101a (Fusion)
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 OREAS 101b (Fusion)
 Meas
 OREAS 101b (Fusion)
 Cert
 JR-1 Meas
 JR-1 Cert
 JR-1 Meas
 JR-1 Cert
 OREAS 13b (4-Acid)
 Meas
 OREAS 13b (4-Acid)
 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
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 DMMAS 111 Meas
 DMMAS 111 Cert

	1470	1200		36	56		2.92										1.92						5.9
	1450	1140		34	52		2.79										1.87						5.80
	1360	1260		34	59		2.92										1.82						5.9
	1450	1140		34	52		2.79										1.87						5.80
	1380	1220		35	59		2.84										1.79						6.1
	1450	1140		34	52		2.79										1.87						5.80
	1400	1220		35	59		2.89										1.83						5.8
	1450	1140		34	52		2.79										1.87						5.80
	1560	1200		37	56		2.95										1.98						5.9
	1450	1140		34	52		2.79										1.87						5.80
	1450	1180		33	58		2.91										1.84						5.9

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Quality Control																								
Analyte Symbol	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Fe	Hf	Ge	Hg	In	Re	Ir	Li	Na	Rb	Sb	Sc	Se	Se	Sn	Ta
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	0.5	50	0.1	0.5	1	2	1	0.01	1	0.1	1	0.2	0.001	5	0.5	0.01	15	0.1	0.1	3	3	1	0.5
Analysis Method	INAA	INAA	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	INAA
DMMAS 111 Cert		1450	1140			34	52		2.79								1.87			5.80				
DMMAS 111 Meas		1400	1260			35	47		2.85								1.85			6.0				
DMMAS 111 Cert		1450	1140			34	52		2.79								1.87			5.80				
DMMAS 111 Meas		1390	1150			34	54		2.89								1.81			6.0				
DMMAS 111 Cert		1450	1140			34	52		2.79								1.87			5.80				
DMMAS 111 Meas		1500	1110			35	58		2.88								1.84			5.9				
DMMAS 111 Cert		1450	1140			34	52		2.79								1.87			5.80				
32028 Orig																								
32028 Dup																								
32042 Orig																								
32042 Dup																								
32063 Orig																								
32063 Dup																								
32078 Orig																								
32078 Dup																								
32100 Orig																								
32100 Dup																								
32114 Orig																								
32114 Dup																								
32137 Orig																								
32137 Dup																								
32152 Orig																								
32152 Dup																								
32166 Orig																								
32166 Dup																								
32180 Orig																								
32180 Dup																								
32301 Orig																								
32301 Dup																								
32315 Orig																								
32315 Dup																								
32336 Orig																								
32336 Dup																								
32350 Orig																								
32350 Dup																								
32372 Orig																								
32372 Dup																								
32386 Orig																								
32386 Dup																								
32400 Orig																								
32400 Dup																								
32415 Orig	< 50	< 0.5	1180		6.1	13	44	3	3.18	5		< 1					3.62	141	< 0.1	7.6	< 3			2.0
32415 Split	< 50	< 0.5	1080		< 0.5	13	43	1	3.09	6		< 1					3.65	147	0.2	7.6	< 3			< 0.5
32415 Orig																								
32415 Dup																								
32436 Orig																								
32436 Dup																								
32445 Orig	< 50	< 0.5	950		5.9	35	210	6	7.43	3		< 1					3.02	86	0.3	23.9	< 3			< 0.5
32445 Split	< 50	< 0.5	810		5.3	33	228	5	7.29	3		< 1					2.74	85	0.2	23.2	< 3			< 0.5
32450 Orig																								
32450 Dup																								
32465 Orig	< 50	2.6	460		2.1	43	330	2	10.1	3		< 1					2.23	< 15	< 0.1	34.4	< 3			< 0.5
32465 Split	< 50	< 0.5	420		< 0.5	49	346	< 1	9.94	2		< 1					2.21	36	< 0.1	35.1	< 3			< 0.5
32471 Orig																								
32471 Dup																								
32486 Orig																								
32486 Dup																								

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Quality Control

Analyte Symbol	Zn	As	Ba	Bi	Br	Co	Cr	Cs	Fe	Hf	Ge	Hg	In	Re	Ir	Li	Na	Rb	Sb	Sc	Se	Se	Sn	Ta
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	50	0.5	50	0.1	0.5	1	2	1	0.01	1	0.1	1	0.2	0.001	5	0.5	0.01	15	0.1	0.1	3	3	1	0.5
Analysis Method	INAA	INAA	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-MS	INAA

32607 Orig
 32607 Dup
 32621 Orig
 32621 Dup
 32634 Orig
 32634 Dup

Method Blank Method Blank				< 0.1								< 0.1		< 0.2	< 0.001								< 3	< 1	
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Method Blank Method Blank	< 50	< 0.5	< 50		< 0.5	< 1	< 2	< 1	< 0.01	< 1		< 1			< 5		< 0.01	< 15	< 0.1	< 0.1	< 3			< 0.5	
Method Blank Method Blank	< 50	< 0.5	< 50		< 0.5	< 1	< 2	< 1	< 0.01	< 1		< 1			< 5		< 0.01	< 15	< 0.1	< 0.1	< 3			< 0.5	

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Quality Control																								
Analyte Symbol	Te	Th	Tl	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.1	0.2	0.1	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
GXR-1 Meas			0.4																					
GXR-1 Cert			0.390																					
GXR-1 Meas																								
GXR-1 Cert																								
WMG-1 Meas																								
WMG-1 Cert																								
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas															46.89	18.54	10.03	0.148	10.18	11.26	1.98	0.24	0.51	0.08
DNC-1 Cert															47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070
DNC-1 Meas																								
DNC-1 Cert																								
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas																								
GBW 07113 Cert																								
MICA-FE Meas															35.19	19.30	25.98	0.353	4.60	0.51	0.32	8.90	2.54	0.41
MICA-FE Cert															34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450
GXR-4 Meas	0.8		3.2																					
GXR-4 Cert	0.970		3.20																					
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
IF-G Meas															41.26	0.24	56.00	0.046	1.96	1.65	0.16	0.02	0.01	0.09
IF-G Cert															41.2	0.150	55.8	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630
TDB-1 Meas																								
TDB-1 Cert																								
BE-N Meas															38.91	10.08		0.203	13.04	13.88	3.24	1.43	2.60	1.04
BE-N Cert															38.2	10.1		0.200	13.1	13.9	3.18	1.39	2.61	1.05
W-2a Meas																								
W-2a Cert																								
W-2a Meas																								
W-2a Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								

Quality Control																								
Analyte Symbol	Te	Th	Tl	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.1	0.2	0.1	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

CTA-AC-1 Cert
 CTA-AC-1 Meas
 CTA-AC-1 Cert
 BIR-1a Meas
 BIR-1a Cert
 BIR-1a Meas
 BIR-1a Cert
 NCS DC86312 Meas
 NCS DC86312 Cert
 NCS DC86312 Meas
 NCS DC86312 Cert
 NCS DC70014 Meas
 NCS DC70014 Cert
 NCS DC70014 Meas
 NCS DC70014 Cert
 NCS DC70009
 (GBW07241) Meas
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 NCS DC70009
 (GBW07241) Cert
 OREAS 100a (Fusion)
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 OREAS 101b (Fusion)
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 OREAS 101b (Fusion)
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 JR-1 Meas
 JR-1 Cert
 JR-1 Meas
 JR-1 Cert
 OREAS 13b (4-Acid)
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 OREAS 13b (4-Acid)
 Cert
 DMMAS 111 Meas
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	14.8	15.0	20	1.8
	14.00	14.00	19.30	1.90
	15.1	14.8	19	1.6
	14.00	14.00	19.30	1.90
	13.2	14.2	22	1.7
	14.00	14.00	19.30	1.90
	15.1	15.4	27	1.9
	14.00	14.00	19.30	1.90
	16.5	14.6	20	2.0
	14.00	14.00	19.30	1.90
	15.2	14.0	21	2.0

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Quality Control																								
Analyte Symbol	Te	Th	Tl	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.1	0.2	0.1	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF
DMMAS 111 Cert				14.00		14.00	19.30		1.90															
DMMAS 111 Meas				15.6		14.7	24		1.7															
DMMAS 111 Cert				14.00		14.00	19.30		1.90															
DMMAS 111 Meas				16.1		15.2	22		1.7															
DMMAS 111 Cert				14.00		14.00	19.30		1.90															
DMMAS 111 Meas				15.6		15.0	23		1.8															
DMMAS 111 Cert				14.00		14.00	19.30		1.90															
32028 Orig																								
32028 Dup																								
32042 Orig																								
32042 Dup																								
32063 Orig																								
32063 Dup																								
32078 Orig																								
32078 Dup																								
32100 Orig																								
32100 Dup																								
32114 Orig																								
32114 Dup																								
32137 Orig																								
32137 Dup																								
32152 Orig																								
32152 Dup																								
32166 Orig																								
32166 Dup																								
32180 Orig																								
32180 Dup																								
32301 Orig																								
32301 Dup																								
32315 Orig																								
32315 Dup																								
32336 Orig																								
32336 Dup																								
32350 Orig																								
32350 Dup																								
32372 Orig																								
32372 Dup																								
32386 Orig																								
32386 Dup																								
32400 Orig																								
32400 Dup																								
32415 Orig		17.8		6.2	< 1	79.8	149	40	8.7	2.2	< 0.5	1.3	0.20	34.9										
32415 Split		18.3		6.7	< 1	80.0	167	37	10.6	2.6	< 0.5	1.4	0.25	31.8										
32415 Orig																								
32415 Dup																								
32436 Orig																								
32436 Dup																								
32445 Orig		6.9		< 0.5	< 1	39.2	66	24	3.7	1.6	< 0.5	1.4	0.24	34.9										
32445 Split		6.8		1.7	< 1	37.7	76	20	4.3	1.7	< 0.5	1.5	0.24	31.2										
32450 Orig																								
32450 Dup																								
32465 Orig		1.3		< 0.5	< 1	12.8	28	10	3.1	1.3	< 0.5	2.0	0.31	36.1										
32465 Split		1.1		< 0.5	< 1	13.0	31	12	2.9	1.2	< 0.5	2.1	0.27	35.5										
32471 Orig																								
32471 Dup																								
32486 Orig																								
32486 Dup																								

Quality Control

Analyte Symbol	Te	Th	Tl	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.1	0.2	0.1	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01
Analysis Method	TD-MS	INAA	TD-MS	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF

32607 Orig

32607 Dup

32621 Orig

32621 Dup

32634 Orig

32634 Dup

Method Blank Method Blank < 0.1 < 0.1

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Quality Control																								
Analyte Symbol	Cr2O3	V2O5	LOI	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003		0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
GXR-1 Meas																								
GXR-1 Cert																								
GXR-1 Meas																								
GXR-1 Cert																								
WMG-1 Meas																		730	192	2440	5540	170	10	
WMG-1 Cert																		770	200	2700	5900	110	10.3	
WMG-1 Meas																		740	202	2470	5470		10	
WMG-1 Cert																		770	200	2700	5900		10.3	
NIST 694 Meas					11.43	1.90	0.76	0.012	0.36	43.52	0.88	0.56	0.120	30.19			1682							
NIST 694 Cert					11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2			1740							
DNC-1 Meas					46.90	18.23	9.78	0.143	10.14	11.08	1.87	0.23	0.486	0.07	31		154	280	56	260	90	80		
DNC-1 Cert					47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070	31		148.0	270.0	57.0	247	100.0	70.0		
DNC-1 Meas																		270	58	250	100			
DNC-1 Cert																		270.0	57.0	247	100.0			
DNC-1 Meas																								
DNC-1 Cert																								
GBW 07113 Meas					72.65	12.88	3.29	0.145	0.24	0.76	2.43	5.41	0.287	0.05	5	4	< 5							
GBW 07113 Cert					72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500	5.00	4.00	5.00							
MICA-FE Meas		0.02	0.023																					
MICA-FE Cert		0.01	0.024																					
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
LKSD-3 Meas																		90	33	50	40	110		
LKSD-3 Cert																		87.0	30.0	47.0	35.0	152		
LKSD-3 Meas																		80	31	50	40	120		
LKSD-3 Cert																		87.0	30.0	47.0	35.0	152		
NIST 1633b Meas					48.53	28.44	11.05	0.018	0.78	2.11	0.25	2.30	1.309	0.53	40		302							
NIST 1633b Cert					49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32	0.530	41.0		296							
IF-G Meas																								
IF-G Cert																								
TDB-1 Meas																		280		90	320	160		
TDB-1 Cert																		251		92	323	155		
BE-N Meas		0.06	0.042																					
BE-N Cert		0.0500	0.042																					
W-2a Meas					54.08	15.44	10.97	0.179	6.56	11.13	2.21	0.62	1.097	0.14	36	< 1	280	80	44	60	110	90	18	1.8
W-2a Cert					52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00
W-2a Meas																		80	43	70	110	90	18	1.8
W-2a Cert																		92.0	43.0	70.0	110	80.0	17.0	1.00
SY-4 Meas					49.79	20.69	6.33	0.104	0.52	7.94	6.99	1.69	0.298	0.13	1	3	7							
SY-4 Cert					49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	1.1	2.6	8.0							
CTA-AC-1 Meas																				< 1		50		< 30

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Quality Control																									
Analyte Symbol	Cr2O3	V2O5	LOI	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	0.01	0.003		0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5	
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
CTA-AC-1 Cert																			2.72		54.0	38.0			
CTA-AC-1 Meas																			< 1		60	< 30			
CTA-AC-1 Cert																			2.72		54.0	38.0			
BIR-1a Meas					48.02	15.36	11.18	0.167	9.71	13.18	1.80	0.02	0.975	0.02	43	< 1	337	360	48	150	110	60	14		
BIR-1a Cert					47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021	44	0.58	310	370	52	170	125	70	16		
BIR-1a Meas																		380	53	160	130	80	16		
BIR-1a Cert																		370	52	170	125	70	16		
NCS DC86312 Meas																									
NCS DC86312 Cert																									
NCS DC86312 Meas																									
NCS DC86312 Cert																									
NCS DC70014 Meas																			27	70	2640	7400	25		
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2		
NCS DC70014 Meas																			25	70	2600	7400	25		
NCS DC70014 Cert																			26.2	70.9	2600.00	7400.00	25.2		
NCS DC70009 (GBW07241) Meas																		30	4	< 20	870	100	16	11.0	
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2	
NCS DC70009 (GBW07241) Meas																		20	3	< 20	960	110	17	11.1	
NCS DC70009 (GBW07241) Cert																		30	3.7	2.8	960.000	100.000	16.5	11.2	
OREAS 100a (Fusion) Meas																			19		170				
OREAS 100a (Fusion) Cert																			18.1		169				
OREAS 100a (Fusion) Meas																			17		170				
OREAS 100a (Fusion) Cert																			18.1		169				
OREAS 101a (Fusion) Meas																			52		420				
OREAS 101a (Fusion) Cert																			48.8		434				
OREAS 101a (Fusion) Meas																			48		430				
OREAS 101a (Fusion) Cert																			48.8		434				
OREAS 101b (Fusion) Meas																			49	< 20	390				
OREAS 101b (Fusion) Cert																			47	9	416				
JR-1 Meas																			< 20	1	< 20	< 10	30	16	2.7
JR-1 Cert																			2.83	0.83	1.67	2.68	30.6	16.1	1.88
JR-1 Meas																			< 20	1	< 20	< 10		17	2.5
JR-1 Cert																			2.83	0.83	1.67	2.68		16.1	1.88
OREAS 13b (4-Acid) Meas																									
OREAS 13b (4-Acid) Cert																									
DMMAS 111 Meas																									
DMMAS 111 Cert																									
DMMAS 111 Meas																									
DMMAS 111 Cert																									
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DMMAS 111 Cert																									
DMMAS 111 Meas																									
DMMAS 111 Cert																									

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Quality Control																								
Analyte Symbol	Cr2O3	V2O5	LOI	Total	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.003		0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	0.5
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 32028 Orig
 32028 Dup
 32042 Orig
 32042 Dup
 32063 Orig
 32063 Dup
 32078 Orig
 32078 Dup
 32100 Orig
 32100 Dup
 32114 Orig
 32114 Dup
 32137 Orig
 32137 Dup
 32152 Orig
 32152 Dup
 32166 Orig
 32166 Dup
 32180 Orig
 32180 Dup
 32301 Orig
 32301 Dup
 32315 Orig
 32315 Dup
 32336 Orig
 32336 Dup
 32350 Orig
 32350 Dup
 32372 Orig
 32372 Dup
 32386 Orig
 32386 Dup
 32400 Orig
 32400 Dup
 32415 Orig
 32415 Split
 32415 Orig
 32415 Dup
 32436 Orig
 32436 Dup
 32445 Orig
 32445 Split
 32450 Orig
 32450 Dup
 32465 Orig
 32465 Split
 32471 Orig
 32471 Dup
 32486 Orig
 32486 Dup

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Quality Control																									
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Detection Limit	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01	
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	
GXR-1 Meas																									
GXR-1 Cert																									
GXR-1 Meas																									
GXR-1 Cert																									
WMG-1 Meas	8			12.3	55	4.9	< 2	1.4		2	2.1	0.4						2.32	0.711		0.41	2.38	0.49		
WMG-1 Cert	7.00			12.0	43.0	6.00	1.40	2.70		2.20	1.80	0.480						2.30	0.820		0.300	2.80	0.500		
WMG-1 Meas	7			13.9		5.2	< 2	1.3			1.9	0.5						2.42	0.721		0.41	2.45	0.51		
WMG-1 Cert	7.00			12.0		6.00	1.40	2.70			1.80	0.480						2.30	0.820		0.300	2.80	0.500		
NIST 694 Meas																									
NIST 694 Cert																									
DNC-1 Meas			136	14.5	35						1.6		104	3.81			4.95		0.555						
DNC-1 Cert			144.0	18.0	38						0.96		118	3.6			5.20		0.59						
DNC-1 Meas				16.5	37						1.4						5.25		0.586						
DNC-1 Cert				18.0	38						0.96						5.20		0.59						
DNC-1 Meas																									
DNC-1 Cert																									
GBW 07113 Meas			57										495												
GBW 07113 Cert			43.0										506												
MICA-FE Meas																									
MICA-FE Cert																									
GXR-4 Meas																									
GXR-4 Cert																									
GXR-4 Meas																									
GXR-4 Cert																									
SDC-1 Meas																									
SDC-1 Cert																									
SDC-1 Meas																									
SDC-1 Cert																									
SCO-1 Meas																									
SCO-1 Cert																									
SCO-1 Meas																									
SCO-1 Cert																									
SCO-1 Meas																									
SCO-1 Cert																									
GXR-6 Meas																									
GXR-6 Cert																									
GXR-6 Meas																									
GXR-6 Cert																									
LKSD-3 Meas	28	79		26.6	182		< 2	2.1		3	1.0	2.5		52.0	90.3		45.1	8.16	1.47		0.99	4.92			
LKSD-3 Cert	27.0	78.0		30.0	178		2.00	2.70		3.00	1.30	2.30		52.0	90.0		44.0	8.00	1.50		1.00	4.90			
LKSD-3 Meas	26	76		28.4	178		< 2	2.0		3	1.5	2.4		54.9			44.0	7.97	1.45		0.90	5.05			
LKSD-3 Cert	27.0	78.0		30.0	178		2.00	2.70		3.00	1.30	2.30		52.0			44.0	8.00	1.50		1.00	4.90			
NIST 1633b Meas			1014										692												
NIST 1633b Cert			1040										709												
IF-G Meas																									
IF-G Cert																									
TDB-1 Meas		22		31.8	179									16.3	39.8		23.3		1.94						
TDB-1 Cert		23		36	156									17	41		23		2.1						
BE-N Meas																									
BE-N Cert																									
W-2a Meas	< 5	20	221	19.5	101	7.2	< 2	< 0.5			0.8	0.9	175	10.6	23.2		12.6	3.30	1.09		0.64	3.85	0.80	2.43	
W-2a Cert	1.20	21.0	190	24.0	94.0	7.90	0.600	0.0460			0.790	0.990	182	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	
W-2a Meas	< 5	20		20.9	102	7.3	< 2	< 0.5			0.7	0.9		12.0	25.9		12.5	3.25	1.05		0.62	3.79	0.79	2.14	
W-2a Cert	1.20	21.0		24.0	94.0	7.90	0.600	0.0460			0.790	0.990		10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	
SY-4 Meas			1193										346												
SY-4 Cert			1191										340												
CTA-AC-1 Meas				265										> 2000	> 3000		1070	156	42.6	123	14.0				

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Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
CTA-AC-1 Cert				272										2176	3326		1087	162	46.7	124	13.9			
CTA-AC-1 Meas				305										> 2000	> 3000		1140	168	45.8	132	15.5			
CTA-AC-1 Cert				272										2176	3326		1087	162	46.7	124	13.9			
BIR-1a Meas	< 5		102	12.3	18	0.6					1.2		7	0.65	2.09		2.25	0.99	0.453	1.74				
BIR-1a Cert	0.44		110	16	18	0.6					0.58		6	0.63	1.9		2.5	1.1	0.55	2.0				
BIR-1a Meas	< 5			14.9	21	0.6					1.2						2.53	1.13	0.510					
BIR-1a Cert	0.44			16	18	0.6					0.58						2.5	1.1	0.55					
NCS DC86312 Meas				985										> 2000	185		1610			227	34.6	184	35.7	96.5
NCS DC86312 Cert				976.00										2360.000	190.000		1600.000			225.0	34.6	183.00	35.70	96.2
NCS DC86312 Meas				969										> 2000	199		1560			222	34.1	183	35.7	96.4
NCS DC86312 Cert				976.00										2360.000	190.000		1600.000			225.0	34.6	183.00	35.70	96.2
NCS DC70014 Meas				28.9			> 100	16.8			180			42.8	86.8	10.4	37.4	7.76	1.64	7.03	1.18	6.76	1.22	3.30
NCS DC70014 Cert				32.1			270.000	16.7			180.000			45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5
NCS DC70014 Meas				30.8			> 100	16.8			180			47.6	93.0	9.77	36.5	7.61	1.60	6.82	1.19	6.27	1.25	3.38
NCS DC70014 Cert				32.1			270.000	16.7			180.000			45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5
NCS DC70009 (GBW07241) Meas	70	501		122				1.5	1.3	> 1000	4.3	43.6		22.2	58.1	7.14	30.5	11.9	0.110	13.5	3.11	19.4	4.42	12.0
NCS DC70009 (GBW07241) Cert	69.9	500.00		128				1.8	1.3	1701.000	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4
NCS DC70009 (GBW07241) Meas	71	504		135				1.8	1.3	> 1000	4.1	43.3		26.7	67.5	8.02	32.1	12.3	0.121	13.6	3.25	20.7	4.24	12.4
NCS DC70009 (GBW07241) Cert	69.9	500.00		128				1.8	1.3	1701.000	3.1	41		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4
OREAS 100a (Fusion) Meas				130				22						261	466	44.8	152	24.5	3.72	21.6	3.75	22.8	4.89	14.4
OREAS 100a (Fusion) Cert				142				24.1						260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9
OREAS 100a (Fusion) Meas				134				22						288	507	46.5	149	24.0	3.61	20.1	3.65	22.7	4.88	14.2
OREAS 100a (Fusion) Cert				142				24.1						260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9
OREAS 101a (Fusion) Meas				166				20						819	1370	124	397	50.9	8.06		5.59	31.6	6.47	18.7
OREAS 101a (Fusion) Cert				183				21.9						816	1396	134	403	48.8	8.06		5.92	33.3	6.46	19.5
OREAS 101a (Fusion) Meas				174				20						827	1360	128	383	48.9	7.73		5.38	31.3	6.46	18.7
OREAS 101a (Fusion) Cert				183				21.9						816	1396	134	403	48.8	8.06		5.92	33.3	6.46	19.5
OREAS 101b (Fusion) Meas				158				18						776	1330	128	369	47.7	7.63		5.31	30.3	6.24	18.1
OREAS 101b (Fusion) Cert				178				20.9						789	1331	127	378	48	7.77		5.37	32.1	6.34	18.7
JR-1 Meas	15	245		35.4	95	14.4	3	< 0.5	< 0.1	3	2.1	20.6		19.0	46.5	5.44	22.6	6.07	0.273	5.22	1.04	5.86	1.31	3.74
JR-1 Cert	16.3	257		45.1	99.9	15.2	3.25	0.031	0.028	2.86	1.19	20.8		19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69	1.11	3.61
JR-1 Meas	15	246		99	15.0	3	< 0.5	< 0.1	3	1.8	20.9			21.7	51.7	5.89	22.7	5.75	0.288	5.27	1.07	6.08		3.85
JR-1 Cert	16.3	257		99.9	15.2	3.25	0.031	0.028	2.86	1.19	20.8			19.7	47.2	5.58	23.3	6.03	0.30	5.06	1.01	5.69		3.61
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
DMMAS 111 Meas																								
DMMAS 111 Cert																								
DMMAS 111 Meas																								
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DMMAS 111 Cert																								

Quality Control																								
Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	1	2	0.5	1	0.2	2	0.5	0.1	1	0.2	0.1	3	0.05	0.05	0.01	0.05	0.01	0.005	0.01	0.01	0.01	0.01	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

DMMAS 111 Cert
 DMMAS 111 Meas
 DMMAS 111 Cert
 DMMAS 111 Meas
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 DMMAS 111 Cert
 32028 Orig
 32028 Dup
 32042 Orig
 32042 Dup
 32063 Orig
 32063 Dup
 32078 Orig
 32078 Dup
 32100 Orig
 32100 Dup
 32114 Orig
 32114 Dup
 32137 Orig
 32137 Dup
 32152 Orig
 32152 Dup
 32166 Orig
 32166 Dup
 32180 Orig
 32180 Dup
 32301 Orig
 32301 Dup
 32315 Orig
 32315 Dup
 32336 Orig
 32336 Dup
 32350 Orig
 32350 Dup
 32372 Orig
 32372 Dup
 32386 Orig
 32386 Dup
 32400 Orig
 32400 Dup
 32415 Orig
 32415 Split
 32415 Orig
 32415 Dup
 32436 Orig
 32436 Dup
 32445 Orig
 32445 Split
 32450 Orig
 32450 Dup
 32465 Orig
 32465 Split
 32471 Orig
 32471 Dup
 32486 Orig
 32486 Dup

Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

GXR-1 Meas											
GXR-1 Cert											
GXR-1 Meas											
GXR-1 Cert											
WMG-1 Meas	0.199	1.29	0.194	1.4	0.41	1.7		16		1.41	0.73
WMG-1 Cert	0.200	1.30	0.210	1.30	0.500	1.30		15.0		1.10	0.650
WMG-1 Meas	0.206	1.33	0.204	1.4		3.0					
WMG-1 Cert	0.200	1.30	0.210	1.30		1.30					
NIST 694 Meas											
NIST 694 Cert											
DNC-1 Meas		1.80									
DNC-1 Cert		2.0									
DNC-1 Meas		1.99									
DNC-1 Cert		2.0									
DNC-1 Meas											
DNC-1 Cert											
GBW 07113 Meas											
GBW 07113 Cert											
MICA-FE Meas											
MICA-FE Cert											
GXR-4 Meas											
GXR-4 Cert											
GXR-4 Meas											
GXR-4 Cert											
SDC-1 Meas											
SDC-1 Cert											
SDC-1 Meas											
SDC-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
SCO-1 Meas											
SCO-1 Cert											
GXR-6 Meas											
GXR-6 Cert											
GXR-6 Meas											
GXR-6 Cert											
LKSD-3 Meas		2.78	0.406	4.7	0.72	1.0				10.7	4.34
LKSD-3 Cert		2.70	0.400	4.80	0.700	2.00				11.4	4.60
LKSD-3 Meas		2.85	0.418	4.3	0.70	1.0				11.0	4.77
LKSD-3 Cert		2.70	0.400	4.80	0.700	2.00				11.4	4.60
NIST 1633b Meas											
NIST 1633b Cert											
IF-G Meas											
IF-G Cert											
TDB-1 Meas		3.23								2.88	
TDB-1 Cert		3.4								2.7	
BE-N Meas											
BE-N Cert											
W-2a Meas	0.333	2.13	0.300	2.5	0.51	1.5	0.10	8	< 0.1	2.39	0.51
W-2a Cert	0.380	2.10	0.330	2.60	0.500	0.300	0.200	9.30	0.0300	2.40	0.530
W-2a Meas	0.327	2.06	0.294	2.4	0.50		0.09	9	< 0.1	2.52	0.57
W-2a Cert	0.380	2.10	0.330	2.60	0.500		0.200	9.30	0.0300	2.40	0.530
SY-4 Meas											
SY-4 Cert											
CTA-AC-1 Meas		9.94	1.00	1.7	2.69					22.0	3.76

Quality Control											
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
CTA-AC-1 Cert		11.4	1.08	1.13	2.65					21.8	4.4
CTA-AC-1 Meas		11.3	1.16		2.70					23.8	4.35
CTA-AC-1 Cert		11.4	1.08		2.65					21.8	4.4
BIR-1a Meas		1.42	0.207	0.6				< 5			
BIR-1a Cert		1.7	0.3	0.60				3			
BIR-1a Meas		1.67	0.250	0.6				< 5			
BIR-1a Cert		1.7	0.3	0.60				3			
NCS DC86312 Meas	14.4	87.8	12.1							25.7	
NCS DC86312 Cert	15.1	87.79	11.96							23.6	
NCS DC86312 Meas	14.4	87.5	12.1							25.7	
NCS DC86312 Cert	15.1	87.79	11.96							23.6	
NCS DC70014 Meas	0.518	3.24	0.510					> 10000	80.3		
NCS DC70014 Cert	0.57	3.3	0.50					27200.00	80.3		
NCS DC70014 Meas	0.527	3.27	0.475					> 10000	80.3		
NCS DC70014 Cert	0.57	3.3	0.50					27200.00	80.3		
NCS DC70009 (GBW07241) Meas	2.17	14.8	2.31			2200	2.70			27.1	
NCS DC70009 (GBW07241) Cert	2.2	14.9	2.4			2200.00	1.8			28.3	
NCS DC70009 (GBW07241) Meas	2.28	15.8	2.20			2200				28.4	
NCS DC70009 (GBW07241) Cert	2.2	14.9	2.4			2200.00				28.3	
OREAS 100a (Fusion) Meas	2.36	15.2	2.15							52.3	135
OREAS 100a (Fusion) Cert	2.31	14.9	2.26							51.6	135
OREAS 100a (Fusion) Meas	2.35	15.1	2.11							50.9	141
OREAS 100a (Fusion) Cert	2.31	14.9	2.26							51.6	135
OREAS 101a (Fusion) Meas	2.92	18.3	2.51							36.2	422
OREAS 101a (Fusion) Cert	2.90	17.5	2.66							36.6	422
OREAS 101a (Fusion) Meas	2.88	18.0	2.48							35.4	420
OREAS 101a (Fusion) Cert	2.90	17.5	2.66							36.6	422
OREAS 101b (Fusion) Meas	2.82	17.7	2.44							36.0	391
OREAS 101b (Fusion) Cert	2.66	17.6	2.58							37.1	396
JR-1 Meas	0.647	4.40	0.648	4.6	1.80		1.56	17	0.5	25.3	8.25
JR-1 Cert	0.67	4.55	0.71	4.51	1.86		1.56	19.3	0.56	26.7	8.88
JR-1 Meas	0.689	4.56	0.680	4.3	1.83		1.57	20	0.6	26.1	9.21
JR-1 Cert	0.67	4.55	0.71	4.51	1.86		1.56	19.3	0.56	26.7	8.88
OREAS 13b (4-Acid) Meas											
OREAS 13b (4-Acid) Cert											
DMMAS 111 Meas											
DMMAS 111 Cert											
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Quality Control

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- DMMAS 111 Meas
- DMMAS 111 Cert
- 32028 Orig
- 32028 Dup
- 32042 Orig
- 32042 Dup
- 32063 Orig
- 32063 Dup
- 32078 Orig
- 32078 Dup
- 32100 Orig
- 32100 Dup
- 32114 Orig
- 32114 Dup
- 32137 Orig
- 32137 Dup
- 32152 Orig
- 32152 Dup
- 32166 Orig
- 32166 Dup
- 32180 Orig
- 32180 Dup
- 32301 Orig
- 32301 Dup
- 32315 Orig
- 32315 Dup
- 32336 Orig
- 32336 Dup
- 32350 Orig
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- 32372 Orig
- 32372 Dup
- 32386 Orig
- 32386 Dup
- 32400 Orig
- 32400 Dup
- 32415 Orig
- 32415 Split
- 32415 Orig
- 32415 Dup
- 32436 Orig
- 32436 Dup
- 32445 Orig
- 32445 Split
- 32450 Orig
- 32450 Dup
- 32465 Orig
- 32465 Split
- 32471 Orig
- 32471 Dup
- 32486 Orig
- 32486 Dup

Quality Control

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.005	0.01	0.002	0.1	0.01	0.5	0.05	5	0.1	0.05	0.01
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS

32607 Orig

32607 Dup

32621 Orig

32621 Dup

32634 Orig

32634 Dup

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Date Submitted: 16-Nov-10
Invoice No.: A10-8460 (i)
Invoice Date: 25-Jan-11
Your Reference: STURGEON LAKE

Excalibur Resources Ltd.
20 Adelaide Street East
Suite 400
Toronto ON M5C 2T6
Canada

ATTN: Chairman Tim Gallagher(Invoices)

CERTIFICATE OF ANALYSIS

20 Pulp samples and 386 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT A10-8460 (i)

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)
Code 1H2 INAA(INAAGEO)/Total Digestion ICP(TOTAL)/Total
Digestion ICP/MS
Code 4C (11+) Whole Rock Analysis-XRF
Code 4LTHORES (11+) Major Elements Fusion ICP(WRA)/Trace
Elements Fusion ICP/MS(WRA4B2)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT. We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.

Quality Control



ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1 905 648 9611 or
+1 888 228 5227 FAX +1 905 648 9613
E-MAIL Ancaster@acllabs.com ACTLABS GROUP WEBSITE www.acllabs.com

Analyte Symbol	Pd	Pt	Au
Unit Symbol	ppb	ppb	ppb
Detection Limit	1	1	2
Analysis Method	FA-MS	FA-MS	FA-MS

32222 < 1 < 1 62

Quality Control			
Analyte Symbol	Pd	Pt	Au
Unit Symbol	ppb	ppb	ppb
Detection Limit	1	1	2
Analysis Method	FA-MS	FA-MS	FA-MS

32222 Orig	< 1	< 1	78
32222 Dup	< 1	< 1	46
Method Blank Method Blank	< 1	< 1	< 2