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CERTIFICATE OF ANALYSIS FOR

Pegmatite Li Ore

(Bynoe Pegmatite Field, Northern Territory, Australia)

CERTIFIED REFERENCE MATERIAL

OREAS 750

Summary Statistics for Key* Analytes.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Peroxide Fusion ICP						
Li, Lithium (wt.%)	0.230	0.010	0.225	0.235	0.223	0.237
Li_2O, Lithium oxide (wt.%)	0.496	0.022	0.485	0.506	0.480	0.511
4-Acid Digestion						
Li, Lithium (wt.%)	0.232	0.006	0.229	0.235	0.226	0.237
Li_2O, Lithium oxide (wt.%)	0.499	0.012	0.493	0.505	0.486	0.511

*See Table 1 below for the full list of certified values.
SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: intervals may appear asymmetric due to rounding.

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Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Peroxide Fusion ICP											
Al, wt.%	5.50	0.205	5.09	5.91	4.89	6.12	3.72%	7.45%	11.17%	5.23	5.78
As, ppm	13.6	1.35	10.9	16.3	9.6	17.7	9.91%	19.83%	29.74%	13.0	14.3
Ba, ppm	441	19	404	478	385	497	4.24%	8.48%	12.72%	419	463
Be, ppm	41.1	2.98	35.2	47.1	32.2	50.1	7.23%	14.47%	21.70%	39.1	43.2
Bi, ppm	0.97	0.11	0.75	1.19	0.63	1.30	11.52%	23.04%	34.56%	0.92	1.02
Ca, wt.%	0.828	0.054	0.720	0.935	0.667	0.989	6.48%	12.96%	19.44%	0.786	0.869
Ce, ppm	33.7	1.32	31.1	36.3	29.7	37.7	3.92%	7.83%	11.75%	32.0	35.4
Co, ppm	4.23	0.72	2.78	5.68	2.06	6.40	17.12%	34.24%	51.36%	4.02	4.44
Cr, ppm	44.3	19.6	5.1	83.5	0.0	103.2	44.20%	88.41%	132.61%	42.1	46.6
Cs, ppm	22.9	0.92	21.0	24.7	20.1	25.6	4.01%	8.03%	12.04%	21.7	24.0
Dy, ppm	2.54	0.177	2.18	2.89	2.01	3.07	6.96%	13.93%	20.89%	2.41	2.66
Er, ppm	1.25	0.103	1.05	1.46	0.95	1.56	8.22%	16.43%	24.65%	1.19	1.32
Eu, ppm	0.61	0.11	0.38	0.84	0.27	0.95	18.55%	37.10%	55.65%	0.58	0.64
Fe, wt.%	1.73	0.064	1.60	1.86	1.54	1.92	3.71%	7.41%	11.12%	1.64	1.82
Ga, ppm	12.7	1.8	9.0	16.3	7.2	18.2	14.35%	28.71%	43.06%	12.1	13.3
Gd, ppm	3.06	0.234	2.59	3.52	2.35	3.76	7.65%	15.31%	22.96%	2.90	3.21
Ge, ppm	2.80	0.37	2.06	3.54	1.70	3.91	13.17%	26.35%	39.52%	2.66	2.94
Ho, ppm	0.49	0.041	0.41	0.57	0.37	0.61	8.35%	16.71%	25.06%	0.47	0.52
In, ppm	< 0.1	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
K, wt.%	1.70	0.052	1.60	1.80	1.54	1.86	3.08%	6.15%	9.23%	1.61	1.78
La, ppm	16.5	0.82	14.9	18.1	14.1	19.0	4.94%	9.89%	14.83%	15.7	17.3
Li, wt.%	0.230	0.010	0.210	0.250	0.200	0.260	4.35%	8.71%	13.06%	0.219	0.242
Li_2O, wt.%	0.496	0.022	0.452	0.539	0.431	0.561	4.38%	8.75%	13.13%	0.471	0.521
Lu, ppm	0.17	0.02	0.14	0.21	0.12	0.23	10.38%	20.75%	31.13%	0.17	0.18
Mg, wt.%	0.321	0.012	0.296	0.345	0.284	0.357	3.80%	7.60%	11.40%	0.305	0.337
Mn, wt.%	0.040	0.001	0.038	0.042	0.037	0.042	2.31%	4.63%	6.94%	0.038	0.042
Nb, ppm	21.8	2.4	16.9	26.7	14.5	29.1	11.16%	22.31%	33.47%	20.7	22.9
Nd, ppm	15.2	1.05	13.1	17.3	12.1	18.3	6.88%	13.76%	20.63%	14.4	16.0
P, wt.%	0.070	0.006	0.058	0.082	0.052	0.088	8.71%	17.42%	26.13%	0.066	0.073
Pr, ppm	3.97	0.252	3.46	4.47	3.21	4.72	6.35%	12.69%	19.04%	3.77	4.17
Rb, ppm	253	14	226	281	212	294	5.43%	10.86%	16.28%	240	266
S, wt.%	0.076	0.010	0.055	0.097	0.045	0.107	13.63%	27.26%	40.89%	0.072	0.080
Si, wt.%	36.87	1.502	33.86	39.87	32.36	41.37	4.07%	8.15%	12.22%	35.02	38.71
Sm, ppm	3.26	0.243	2.78	3.75	2.53	3.99	7.45%	14.90%	22.35%	3.10	3.43
Sn, ppm	43.3	4.00	35.3	51.3	31.3	55.3	9.25%	18.51%	27.76%	41.1	45.4
Sr, ppm	78	4.6	69	87	64	92	5.95%	11.89%	17.84%	74	82
Ta, ppm	9.91	0.618	8.67	11.14	8.05	11.76	6.24%	12.48%	18.72%	9.41	10.40
Tb, ppm	0.45	0.07	0.31	0.59	0.23	0.66	15.96%	31.91%	47.87%	0.43	0.47
Th, ppm	6.56	0.417	5.73	7.40	5.31	7.82	6.35%	12.71%	19.06%	6.24	6.89
Ti, wt.%	0.160	0.005	0.150	0.170	0.145	0.175	3.09%	6.19%	9.28%	0.152	0.168
Tl, ppm	1.47	0.15	1.17	1.77	1.02	1.93	10.25%	20.50%	30.74%	1.40	1.55

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note 1: intervals may appear asymmetric due to rounding.
Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

Table 1 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Peroxide Fusion ICP continued											
Tm, ppm	0.19	0.015	0.16	0.22	0.15	0.24	7.90%	15.81%	23.71%	0.18	0.20
U, ppm	4.45	0.291	3.87	5.03	3.58	5.32	6.53%	13.06%	19.60%	4.23	4.67
V, ppm	28.1	2.9	22.3	33.9	19.4	36.8	10.31%	20.63%	30.94%	26.7	29.5
W, ppm	5.47	0.80	3.86	7.08	3.06	7.89	14.70%	29.41%	44.11%	5.20	5.75
Y, ppm	13.3	0.66	12.0	14.7	11.4	15.3	4.96%	9.91%	14.87%	12.7	14.0
Yb, ppm	1.19	0.112	0.97	1.41	0.85	1.53	9.44%	18.88%	28.32%	1.13	1.25
Zn, ppm	65	3.2	59	72	56	75	4.91%	9.82%	14.73%	62	69
Borate Fusion XRF											
Al_2O_3, wt.%	10.58	0.065	10.45	10.71	10.39	10.77	0.61%	1.22%	1.83%	10.05	11.11
BaO, ppm	479	56	368	591	312	646	11.61%	23.22%	34.82%	455	503
CaO, wt.%	1.14	0.015	1.11	1.17	1.09	1.18	1.35%	2.71%	4.06%	1.08	1.19
Cr_2O_3, ppm	< 100	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
Fe_2O_3, wt.%	2.45	0.035	2.38	2.52	2.34	2.55	1.44%	2.88%	4.32%	2.33	2.57
K_2O, wt.%	2.08	0.044	1.99	2.17	1.95	2.21	2.13%	4.26%	6.40%	1.98	2.19
MgO, wt.%	0.545	0.011	0.522	0.568	0.511	0.580	2.11%	4.21%	6.32%	0.518	0.572
MnO, wt.%	0.050	0.001	0.048	0.053	0.047	0.054	2.28%	4.56%	6.84%	0.048	0.053
Na_2O, wt.%	2.10	0.029	2.04	2.16	2.02	2.19	1.39%	2.78%	4.17%	2.00	2.21
P_2O_5, wt.%	0.157	0.005	0.147	0.167	0.142	0.173	3.29%	6.58%	9.86%	0.149	0.165
SiO_2, wt.%	79.43	0.420	78.59	80.27	78.17	80.69	0.53%	1.06%	1.59%	75.46	83.41
SO_3, wt.%	0.177	0.014	0.149	0.205	0.135	0.219	7.92%	15.85%	23.77%	0.168	0.185
SrO, ppm	100	3	95	106	92	109	2.76%	5.53%	8.29%	95	106
TiO_2, wt.%	0.264	0.006	0.252	0.276	0.245	0.282	2.31%	4.62%	6.94%	0.251	0.277
Thermogravimetry											
LOI^{1000}, wt.%	0.542	0.094	0.354	0.730	0.260	0.825	17.35%	34.71%	52.06%	0.515	0.569
4-Acid Digestion											
Al, wt.%	5.42	0.162	5.09	5.74	4.93	5.90	2.99%	5.98%	8.96%	5.15	5.69
As, ppm	13.3	0.70	11.9	14.7	11.2	15.4	5.26%	10.52%	15.78%	12.7	14.0
Ba, ppm	432	20	392	471	373	490	4.53%	9.05%	13.58%	410	453
Be, ppm	37.6	1.99	33.6	41.6	31.6	43.6	5.30%	10.61%	15.91%	35.7	39.5
Bi, ppm	1.00	0.069	0.87	1.14	0.80	1.21	6.84%	13.67%	20.51%	0.95	1.05
Ca, wt.%	0.828	0.014	0.800	0.857	0.785	0.871	1.72%	3.45%	5.17%	0.787	0.870
Cd, ppm	0.58	0.056	0.47	0.69	0.41	0.75	9.67%	19.34%	29.01%	0.55	0.61
Ce, ppm	33.2	1.79	29.6	36.8	27.8	38.6	5.39%	10.79%	16.18%	31.5	34.9
Co, ppm	3.99	0.195	3.60	4.38	3.40	4.57	4.90%	9.79%	14.69%	3.79	4.18
Cr, ppm	27.6	4.7	18.2	37.0	13.5	41.7	17.05%	34.10%	51.15%	26.2	29.0
Cs, ppm	22.6	0.65	21.3	23.9	20.7	24.6	2.87%	5.74%	8.61%	21.5	23.7
Cu, ppm	20.4	0.90	18.5	22.2	17.6	23.1	4.44%	8.89%	13.33%	19.3	21.4
Dy, ppm	1.66	0.155	1.35	1.97	1.19	2.13	9.36%	18.72%	28.08%	1.58	1.74
Er, ppm	0.65	0.08	0.49	0.80	0.42	0.87	11.78%	23.55%	35.33%	0.61	0.68
Eu, ppm	0.60	0.051	0.50	0.70	0.45	0.75	8.49%	16.99%	25.48%	0.57	0.63
Fe, wt.%	1.67	0.046	1.58	1.76	1.53	1.81	2.76%	5.52%	8.28%	1.59	1.75

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note 1: intervals may appear asymmetric due to rounding.
Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

Table 1 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion continued											
Ga, ppm	13.0	0.72	11.5	14.4	10.8	15.1	5.55%	11.10%	16.66%	12.3	13.6
Gd, ppm	2.57	0.203	2.16	2.97	1.96	3.18	7.92%	15.84%	23.76%	2.44	2.69
Ge, ppm	0.10	0.03	0.04	0.16	0.01	0.19	30.02%	60.05%	90.07%	0.10	0.11
Hf, ppm	1.34	0.094	1.15	1.53	1.06	1.62	7.05%	14.10%	21.15%	1.27	1.41
Ho, ppm	0.30	0.018	0.26	0.34	0.25	0.35	5.94%	11.87%	17.81%	0.29	0.32
In, ppm	0.026	0.005	0.016	0.036	0.011	0.041	18.98%	37.97%	56.95%	0.025	0.028
K, wt.%	1.69	0.051	1.59	1.79	1.54	1.84	2.99%	5.98%	8.97%	1.61	1.78
La, ppm	15.7	0.62	14.5	17.0	13.9	17.6	3.91%	7.82%	11.73%	14.9	16.5
Li, wt.%	0.232	0.006	0.220	0.243	0.215	0.249	2.46%	4.92%	7.38%	0.220	0.243
Li_2O, wt.%	0.499	0.012	0.474	0.523	0.462	0.536	2.46%	4.92%	7.38%	0.474	0.524
Lu, ppm	0.078	0.019	0.040	0.116	0.022	0.134	24.10%	48.19%	72.29%	0.074	0.082
Mg, wt.%	0.315	0.014	0.287	0.343	0.273	0.357	4.45%	8.90%	13.35%	0.299	0.331
Mn, wt.%	0.038	0.002	0.035	0.042	0.034	0.043	3.97%	7.94%	11.91%	0.037	0.040
Mo, ppm	2.17	0.094	1.99	2.36	1.89	2.46	4.33%	8.65%	12.98%	2.06	2.28
Na, wt.%	1.53	0.052	1.43	1.63	1.37	1.68	3.37%	6.75%	10.12%	1.45	1.61
Nb, ppm	21.3	0.73	19.8	22.8	19.1	23.5	3.42%	6.84%	10.26%	20.2	22.4
Nd, ppm	14.1	1.5	11.1	17.2	9.6	18.7	10.74%	21.47%	32.21%	13.4	14.8
Ni, ppm	11.4	0.45	10.5	12.3	10.1	12.8	3.97%	7.94%	11.91%	10.8	12.0
P, wt.%	0.070	0.002	0.065	0.074	0.062	0.077	3.57%	7.14%	10.71%	0.066	0.073
Pb, ppm	13.8	1.19	11.5	16.2	10.3	17.4	8.58%	17.16%	25.74%	13.1	14.5
Pr, ppm	4.01	0.183	3.65	4.38	3.46	4.56	4.57%	9.13%	13.70%	3.81	4.21
Rb, ppm	254	12	231	278	219	289	4.58%	9.15%	13.73%	242	267
Re, ppm	< 0.002	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
S, wt.%	0.073	0.010	0.053	0.092	0.043	0.102	13.50%	26.99%	40.49%	0.069	0.076
Sb, ppm	0.42	0.026	0.37	0.47	0.34	0.50	6.11%	12.21%	18.32%	0.40	0.44
Sc, ppm	3.72	0.130	3.46	3.98	3.33	4.11	3.50%	7.01%	10.51%	3.53	3.90
Sm, ppm	3.09	0.222	2.64	3.53	2.42	3.75	7.18%	14.36%	21.54%	2.93	3.24
Sn, ppm	25.2	1.45	22.3	28.1	20.9	29.6	5.76%	11.52%	17.28%	24.0	26.5
Sr, ppm	74	2.6	69	79	66	82	3.55%	7.10%	10.66%	70	78
Ta, ppm	9.78	0.753	8.27	11.29	7.52	12.04	7.70%	15.40%	23.11%	9.29	10.27
Tb, ppm	0.35	0.04	0.27	0.42	0.23	0.46	10.87%	21.73%	32.60%	0.33	0.36
Te, ppm	< 0.05	IND	IND	IND	IND	IND	IND	IND	IND	IND	IND
Th, ppm	6.71	0.362	5.99	7.43	5.62	7.80	5.40%	10.80%	16.20%	6.37	7.05
Ti, wt.%	0.158	0.005	0.148	0.168	0.143	0.173	3.22%	6.44%	9.66%	0.150	0.166
Tl, ppm	1.45	0.069	1.31	1.59	1.24	1.66	4.78%	9.55%	14.33%	1.38	1.52
Tm, ppm	0.099	0.004	0.092	0.106	0.088	0.109	3.61%	7.22%	10.83%	0.094	0.104
U, ppm	4.24	0.277	3.69	4.80	3.41	5.07	6.54%	13.08%	19.62%	4.03	4.45
V, ppm	26.4	0.62	25.2	27.7	24.6	28.3	2.34%	4.68%	7.01%	25.1	27.7
W, ppm	5.46	0.413	4.63	6.28	4.22	6.70	7.57%	15.14%	22.72%	5.18	5.73
Y, ppm	7.26	0.444	6.37	8.14	5.93	8.59	6.12%	12.23%	18.35%	6.89	7.62
Yb, ppm	0.57	0.07	0.43	0.71	0.37	0.77	11.87%	23.75%	35.62%	0.54	0.60

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note 1: intervals may appear asymmetric due to rounding.
Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

Table 1 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion continued											
Zn, ppm	65	2.8	59	70	56	73	4.41%	8.83%	13.24%	61	68
Zr, ppm	31.3	2.48	26.3	36.3	23.9	38.7	7.92%	15.84%	23.76%	29.7	32.9

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note 1: intervals may appear asymmetric due to rounding.
Note 2: the number of decimal places quoted does not imply accuracy of the certified value to this level but are given to minimise rounding errors when calculating 2SD and 3SD windows.

INTRODUCTION

OREAS reference materials are intended to provide a low-cost method of evaluating and improving the quality of analysis of geological samples. To the geologist they provide a means of implementing quality control in analytical data sets generated in exploration from the grass roots level through to prospect evaluation, and in grade control at mining operations. To the analyst they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures. OREAS reference materials enable users to successfully achieve process control of these tasks because the observed variance from repeated analysis has its origin almost exclusively in the analytical process rather than the reference material itself.

SOURCE MATERIAL

OREAS 750 has been prepared from a blend of RC drill chip samples (supplied from Core Lithium's Finniss Lithium Project located in the Northern Territory, Australia), barren granodiorite and quartz. The project area contains the Grants lithium pegmatite deposit within the Bynoe Pegmatite Field. Lithium-Caesium-Tantalum (LCT) Type pegmatites in the Finniss area intrude Palaeoproterozoic metasediments of the Burrell Creek Formation. Lithium mineralisation typically occurs as coarse spodumene and accessory amblygonite with muscovite, quartz, albite and k-feldspar gangue. The barren granodiorite was sourced from the mafic, S-Type, Late Devonian Bulla Granodiorite complex located in northern Melbourne, Australia.

PERFORMANCE GATES

Table 1 above shows intervals calculated for two and three standard deviations. As a guide these intervals may be regarded as warning or rejection for multiple 2SD outliers, or rejection for individual 3SD outliers in QC monitoring, although their precise application should be at the discretion of the QC manager concerned (also see 'Intended Use' section below). Westgard Rules extend the basics of single-rule QC monitoring using multi-rules (for more information visit www.westgard.com/mltirule.htm). A second method utilises a 5% window calculated directly from the certified value.

Standard deviation is also shown in relative percent for one, two and three relative standard deviations (1RSD, 2RSD and 3RSD) to facilitate an appreciation of the magnitude of these numbers and a comparison with the 5% window. Caution should be exercised when concentration levels approach lower limits of detection of the analytical methods employed as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow. One approach used at commercial laboratories is to set the acceptance criteria at twice the detection level (DL) ± 10%.

i.e. Certified Value ± 10% ± 2DL (adapted from Govett, 1983).

Table 2. Indicative Values for OREAS 750.

Constituent	Unit	Value	Constituent	Unit	Value	Constituent	Unit	Value
Peroxide Fusion ICP								
Ag	ppm	*< 5*	Mo	ppm	*2.48*	Sb	ppm	*0.40*
B	ppm	*< 50*	Na_2O	wt.%	*1.84*	Sc	ppm	*< 5*
Cd	ppm	*0.60*	Ni	ppm	*17.9*	Se	ppm	*< 20*
Cu	ppm	*20.6*	Pb	ppm	*14.6*	Te	ppm	*0.65*
Hf	ppm	*3.39*	Re	ppm	*< 0.1*	Zr	ppm	*102*
Borate Fusion XRF								
As	ppm	*16.7*	Gd	ppm	*< 100*	Sm	ppm	*< 100*
Bi	ppm	*< 100*	Hf	ppm	*< 100*	Sn	ppm	*51*
Ce	ppm	*< 100*	La	ppm	*< 100*	Ta_2O_5	ppm	*23.2*
Cl	ppm	*50*	Mo	ppm	*< 100*	Th	ppm	*< 50*
Co	ppm	*< 68*	Nb	ppm	*< 100*	U	ppm	*< 50*
Cs	ppm	*< 100*	Nd	ppm	*< 100*	V_2O_5	ppm	*51*
Cu	ppm	*< 40*	Ni	ppm	*56*	W	ppm	*< 10*
Dy_2O_3	ppm	*< 100*	Pb	ppm	*26.7*	Y	ppm	*< 100*
Eu	ppm	*< 100*	Pr	ppm	*< 100*	Zn	ppm	*68*
F	ppm	*333*	Rb	ppm	*200*	Zr	ppm	*85*
Ga	ppm	*< 100*	Sb	ppm	*< 10*			
4-Acid Digestion								
Ag	ppm	*0.117*	Hg	ppm	*0.050*	Se	ppm	*< 1*
Infrared Combustion								
C	wt.%	*0.057*	S	wt.%	*0.068*			

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: the number of significant figures reported is not a reflection of the level of certainty of stated values. They are instead an artefact of ORE's in-house CRM-specific LIMS.

COMMINUTION AND HOMOGENISATION PROCEDURES

The materials constituting OREAS 750 were prepared in the following manner:

- Drying to constant mass at 105°C;
- Multi-stage milling of ore to 100% minus 30 microns;
- Milling of barren granodiorite to 98% minus 75 microns;
- Combining ore, granodiorite and quartz in appropriate proportions to achieve target grades;
- Homogenisation;
- Packaging in 10g units in laminated foil pouches and 500g units in plastic wide-mouth jars.

PHYSICAL PROPERTIES

OREAS 750 was tested at ORE Research & Exploration Pty Ltd's onsite facility for various physical properties. Table 3 presents these findings that should be used for informational purposes only.

Table 3. Physical properties of OREAS 750.

Bulk Density (g/L)	Moisture%	Munsell Notation‡	Munsell Color‡
721.9	0.32	N8	Very Light Gray

‡The Munsell Rock Colour Chart helps geologists and archeologists communicate with colour more effectively by cross-referencing ISCC-NBS colour names with unique Munsell alpha-numeric colour notations for rock colour samples.

ANALYTICAL PROGRAM

Seventeen commercial analytical laboratories participated in the program to characterise the elements reported in Table 1. The following methods were employed:

- Sodium peroxide fusion with full suite elemental package by ICP-OES and/or MS finish (up to 17 laboratories depending on the element);
- Lithium borate fusion whole rock analysis package by X-ray fluorescence (up to 12 laboratories depending on the element);
- Thermogravimetry: Loss on Ignition (LOI) at 1000°C (5 laboratories used a thermogravimetric analyser, 4 laboratories included LOI with their fusion package and 2 laboratories used conventional muffle furnace);
- 4-acid digestion for full suite elemental package by ICP-OES and MS finish (up to 17 laboratories depending on the element).

For the round robin program twelve 200g test units were taken at predetermined intervals during the bagging stage, immediately following homogenisation and are considered representative of the entire prepared batch. The six samples received by each laboratory were obtained by taking two 15g scoop splits from each of three separate 200g test units. This format enabled nested ANOVA treatment of the results to evaluate homogeneity, i.e. to ascertain whether between-unit variance is greater than within-unit variance (see 'Homogeneity Evaluation' section below).

Table 1 provides performance gate intervals for the 118 certified values (including Li in both elemental and oxide form for peroxide fusion and 4-acid digestion). Table 2 shows 56 indicative values, Table 3 provides some indicative physical properties and Table 4 presents the 95% confidence and tolerance limits for all certified values.

Tabulated results of all elements together with uncorrected means, medians, standard deviations, relative standard deviations and per cent deviation of lab means from the corrected mean of means (PDM[3]) are presented in the detailed certification data for this CRM (**OREAS 750-DataPack.1.2.200702_113319.xlsx**).

Results are also presented in scatter plots for Li_2O (wt.%) by peroxide fusion ICP and 4-acid digestion in Figures 1 and 2 respectively, together with ±3SD (magenta) and ±5% (yellow) control lines and certified value (green line). Accepted individual results are coloured blue and individual and dataset outliers are identified in red and violet, respectively.

STATISTICAL ANALYSIS

Standard Deviation intervals (see Table 1) provide an indication of a level of performance that might reasonably be expected from a laboratory being monitored by this CRM in a QA/QC program. They take into account errors attributable to measurement uncertainty and CRM variability. For an effective CRM the contribution of the latter should be negligible in comparison to measurement errors. The Standard Deviation values include all sources of measurement uncertainty: between-lab variance, within-run variance (precision errors) and CRM variability.

In the application of SD's in monitoring performance it is important to note that not all laboratories function at the same level of proficiency and that different methods in use at a particular laboratory have differing levels of precision. Each laboratory has its own inherent SD (for a specific concentration level and analyte-method pair) based on the analytical process and this SD is not directly related to the round robin program (see Intended Use section for more detail).

The SD for each analyte's certified value is calculated from the same filtered data set used to determine the certified value, i.e. after removal of all individual, lab dataset (batch) and 3SD outliers (single iteration). These outliers can only be removed after the absolute homogeneity of the CRM has been independently established, i.e. the outliers must be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. ***The standard deviation is then calculated for each analyte from the pooled accepted analyses generated from the certification program.***

Certified Values, Standard Deviations, Confidence Limits and Tolerance Limits (Table 4) have been determined for each analyte following removal of individual, laboratory dataset (batch) and 3SD outliers (single iteration).

For individual outliers within a laboratory batch the z-score test is used in combination with a second method that determines the per cent deviation of the individual value from the batch median. Outliers in general are selected on the basis of z-scores > 2.5 and with per cent deviations (i) > 3 and (ii) more than three times the average absolute per cent deviation for the batch. In certain instances, statistician's prerogative has been employed in discriminating outliers.

Each laboratory data set mean is tested for outlying status based on z-score discrimination and rejected if > 2.5. After individual and laboratory data set (batch) outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status.

Certified Values are the means of accepted laboratory means after outlier filtering.

95% Confidence Limits are inversely proportional to the number of participating laboratories and inter-laboratory agreement. It is a measure of the reliability of the certified value. A 95% confidence interval indicates a 95% probability that the true value of the analyte under consideration lies between the upper and lower limits. ***95% Confidence Limits should not be used as control limits for laboratory performance.***

Indicative (uncertified) values (Table 2) are present where the number of laboratories reporting a particular analyte is insufficient (< 5) to support certification or where inter-laboratory consensus is poor.

Table 4. 95% Confidence & Tolerance Limits for OREAS 750.

Constituent	Certified Value	95% Confidence Limits		95% Tolerance Limits	
		Low	High	Low	High
Peroxide Fusion ICP					
Al, Aluminium (wt.%)	5.50	5.39	5.61	5.39	5.61
As, Arsenic (ppm)	13.6	12.6	14.6	IND	IND
Ba, Barium (ppm)	441	431	451	425	457
Be, Beryllium (ppm)	41.1	39.8	42.5	38.5	43.8
Bi, Bismuth (ppm)	0.97	0.90	1.04	IND	IND
Ca, Calcium (wt.%)	0.828	0.803	0.853	0.774	0.881
Ce, Cerium (ppm)	33.7	33.1	34.3	31.6	35.8
Co, Cobalt (ppm)	4.23	3.51	4.95	3.50	4.96
Cr, Chromium (ppm)	44.3	23.1	65.6	IND	IND
Cs, Caesium (ppm)	22.9	22.3	23.4	21.8	23.9
Dy, Dysprosium (ppm)	2.54	2.45	2.63	2.32	2.75
Er, Erbium (ppm)	1.25	1.18	1.33	1.04	1.47
Eu, Europium (ppm)	0.61	0.52	0.70	0.52	0.69
Fe, Iron (wt.%)	1.73	1.70	1.76	1.69	1.77
Ga, Gallium (ppm)	12.7	11.5	13.9	IND	IND
Gd, Gadolinium (ppm)	3.06	2.93	3.18	2.64	3.47
Ge, Germanium (ppm)	2.80	2.57	3.03	IND	IND
Ho, Holmium (ppm)	0.49	0.48	0.50	0.39	0.59
In, Indium (ppm)	< 0.1	IND	IND	IND	IND
K, Potassium (wt.%)	1.70	1.69	1.71	1.63	1.77
La, Lanthanum (ppm)	16.5	16.3	16.7	15.4	17.6
Li, Lithium (wt.%)	0.230	0.225	0.235	0.223	0.237
Li_2O, Lithium oxide (wt.%)	0.496	0.485	0.506	0.480	0.511
Lu, Lutetium (ppm)	0.17	0.16	0.19	IND	IND
Mg, Magnesium (wt.%)	0.321	0.315	0.327	0.308	0.333
Mn, Manganese (wt.%)	0.040	0.039	0.040	0.038	0.041
Nb, Niobium (ppm)	21.8	20.2	23.4	19.5	24.1
Nd, Neodymium (ppm)	15.2	14.2	16.2	13.2	17.3
P, Phosphorus (wt.%)	0.070	0.065	0.074	IND	IND
Pr, Praseodymium (ppm)	3.97	3.74	4.19	3.47	4.46
Rb, Rubidium (ppm)	253	245	262	246	260
S, Sulphur (wt.%)	0.076	0.069	0.083	IND	IND
Si, Silicon (wt.%)	36.87	35.82	37.91	35.82	37.92
Sm, Samarium (ppm)	3.26	3.09	3.44	2.86	3.67
Sn, Tin (ppm)	43.3	40.4	46.1	37.5	49.0

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: intervals may appear asymmetric due to rounding.

Table 4. continued.

Constituent	Certified Value	95% Confidence Limits		95% Tolerance Limits	
		Low	High	Low	High
Peroxide Fusion ICP continued					
Sr, Strontium (ppm)	78	75	81	75	81
Ta, Tantalum (ppm)	9.91	9.40	10.41	9.24	10.57
Tb, Terbium (ppm)	0.45	0.39	0.50	0.35	0.54
Th, Thorium (ppm)	6.56	6.30	6.83	6.05	7.08
Ti, Titanium (wt.%)	0.160	0.158	0.162	0.151	0.169
Tl, Thallium (ppm)	1.47	1.38	1.56	IND	IND
Tm, Thulium (ppm)	0.19	0.18	0.20	IND	IND
U, Uranium (ppm)	4.45	4.26	4.64	3.96	4.94
V, Vanadium (ppm)	28.1	26.0	30.2	26.2	29.9
W, Tungsten (ppm)	5.47	4.93	6.02	IND	IND
Y, Yttrium (ppm)	13.3	13.1	13.6	12.3	14.4
Yb, Ytterbium (ppm)	1.19	1.12	1.26	IND	IND
Zn, Zinc (ppm)	65	63	68	60	71
Borate Fusion XRF					
Al_2O_3, Aluminium(III) oxide (wt.%)	10.58	10.55	10.62	10.49	10.68
BaO, Barium oxide (ppm)	479	435	524	IND	IND
CaO, Calcium oxide (wt.%)	1.14	1.13	1.15	1.12	1.15
Cr_2O_3, Chromium(III) oxide (ppm)	< 100	IND	IND	IND	IND
Fe_2O_3, Iron(III) oxide (wt.%)	2.45	2.43	2.46	2.42	2.47
K_2O, Potassium oxide (wt.%)	2.08	2.05	2.11	2.06	2.10
MgO, Magnesium oxide (wt.%)	0.545	0.538	0.552	0.535	0.555
MnO, Manganese oxide (wt.%)	0.050	0.050	0.051	IND	IND
Na_2O, Sodium oxide (wt.%)	2.10	2.08	2.12	2.08	2.13
P_2O_5, Phosphorus(V) oxide (wt.%)	0.157	0.154	0.160	0.146	0.168
SiO_2, Silicon dioxide (wt.%)	79.43	79.21	79.65	78.94	79.93
SO_3, Sulphur trioxide (wt.%)	0.177	0.164	0.189	IND	IND
SrO, Strontium oxide (ppm)	100	99	102	IND	IND
TiO_2, Titanium dioxide (wt.%)	0.264	0.261	0.266	0.258	0.270
Thermogravimetry					
LOI^{1000}, Loss on ignition @1000°C (wt.%)	0.542	0.472	0.612	0.482	0.603
4-Acid Digestion					
Al, Aluminium (wt.%)	5.42	5.34	5.50	5.29	5.54
As, Arsenic (ppm)	13.3	13.0	13.7	12.6	14.1
Ba, Barium (ppm)	432	421	442	421	442
Be, Beryllium (ppm)	37.6	36.7	38.5	36.3	38.9
Bi, Bismuth (ppm)	1.00	0.98	1.02	0.91	1.09
Ca, Calcium (wt.%)	0.828	0.823	0.834	0.808	0.849
Cd, Cadmium (ppm)	0.58	0.55	0.61	0.53	0.63

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: intervals may appear asymmetric due to rounding.

Table 4. continued.

Constituent	Certified Value	95% Confidence Limits		95% Tolerance Limits	
		Low	High	Low	High
4-Acid Digestion continued					
Ce, Cerium (ppm)	33.2	32.3	34.1	31.8	34.6
Co, Cobalt (ppm)	3.99	3.89	4.09	3.81	4.16
Cr, Chromium (ppm)	27.6	25.4	29.8	26.0	29.3
Cs, Caesium (ppm)	22.6	22.3	22.9	22.0	23.3
Cu, Copper (ppm)	20.4	20.0	20.7	19.4	21.3
Dy, Dysprosium (ppm)	1.66	1.54	1.78	IND	IND
Er, Erbium (ppm)	0.65	0.58	0.71	IND	IND
Eu, Europium (ppm)	0.60	0.57	0.63	0.57	0.63
Fe, Iron (wt.%)	1.67	1.65	1.69	1.63	1.71
Ga, Gallium (ppm)	13.0	12.5	13.4	12.5	13.5
Gd, Gadolinium (ppm)	2.57	2.41	2.72	2.37	2.76
Ge, Germanium (ppm)	0.10	0.08	0.12	IND	IND
Hf, Hafnium (ppm)	1.34	1.29	1.39	1.28	1.40
Ho, Holmium (ppm)	0.30	0.29	0.31	IND	IND
In, Indium (ppm)	0.026	0.024	0.028	0.020	0.032
K, Potassium (wt.%)	1.69	1.67	1.71	1.64	1.74
La, Lanthanum (ppm)	15.7	15.4	16.0	15.0	16.4
Li, Lithium (wt.%)	0.232	0.229	0.235	0.226	0.237
Li_2O, Lithium oxide (wt.%)	0.499	0.493	0.505	0.486	0.511
Lu, Lutetium (ppm)	0.078	0.059	0.097	IND	IND
Mg, Magnesium (wt.%)	0.315	0.308	0.322	0.308	0.322
Mn, Manganese (wt.%)	0.038	0.038	0.039	0.038	0.039
Mo, Molybdenum (ppm)	2.17	2.14	2.21	2.07	2.28
Na, Sodium (wt.%)	1.53	1.50	1.55	1.49	1.56
Nb, Niobium (ppm)	21.3	21.0	21.6	20.5	22.1
Nd, Neodymium (ppm)	14.1	12.9	15.4	13.3	15.0
Ni, Nickel (ppm)	11.4	11.2	11.7	10.9	11.9
P, Phosphorus (wt.%)	0.070	0.068	0.071	0.067	0.072
Pb, Lead (ppm)	13.8	13.0	14.6	12.8	14.9
Pr, Praseodymium (ppm)	4.01	3.89	4.13	3.76	4.27
Rb, Rubidium (ppm)	254	249	260	247	262
Re, Rhenium (ppm)	< 0.002	IND	IND	IND	IND
S, Sulphur (wt.%)	0.073	0.067	0.078	0.069	0.076
Sb, Antimony (ppm)	0.42	0.41	0.43	0.38	0.46
Sc, Scandium (ppm)	3.72	3.66	3.78	3.59	3.85
Sm, Samarium (ppm)	3.09	2.93	3.25	2.88	3.29
Sn, Tin (ppm)	25.2	24.5	26.0	24.1	26.4
Sr, Strontium (ppm)	74	72	75	72	76

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: intervals may appear asymmetric due to rounding.

Table 4. continued.

Constituent	Certified Value	95% Confidence Limits		95% Tolerance Limits	
		Low	High	Low	High
4-Acid Digestion continued					
Ta, Tantalum (ppm)	9.78	9.28	10.28	9.55	10.01
Tb, Terbium (ppm)	0.35	0.32	0.38	0.32	0.37
Te, Tellurium (ppm)	< 0.05	IND	IND	IND	IND
Th, Thorium (ppm)	6.71	6.55	6.87	6.35	7.07
Ti, Titanium (wt.%)	0.158	0.156	0.160	0.154	0.162
Tl, Thallium (ppm)	1.45	1.41	1.49	1.41	1.49
Tm, Thulium (ppm)	0.099	0.096	0.101	IND	IND
U, Uranium (ppm)	4.24	4.14	4.35	4.01	4.48
V, Vanadium (ppm)	26.4	26.1	26.7	25.4	27.4
W, Tungsten (ppm)	5.46	5.30	5.61	5.04	5.88
Y, Yttrium (ppm)	7.26	6.99	7.52	7.04	7.47
Yb, Ytterbium (ppm)	0.57	0.52	0.62	IND	IND
Zn, Zinc (ppm)	65	63	66	62	67
Zr, Zirconium (ppm)	31.3	29.9	32.7	30.4	32.1

SI unit equivalents: ppm, parts per million ≡ mg/kg ≡ µg/g ≡ 0.0001 wt.% ≡ 1000 ppb, parts per billion.
Note: intervals may appear asymmetric due to rounding.

Homogeneity Evaluation

The tolerance limits (ISO 16269:2014) in Table 4 were determined using an analysis of precision errors method and are considered a conservative estimate of true homogeneity. The meaning of tolerance limits may be illustrated for lithium oxide (Li_2O) by peroxide fusion ICP, where 99% of the time (1-α=0.99) at least 95% of subsamples (ρ=0.95) will have concentrations lying between 0.480 and 0.511 wt.%. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (ISO Guide 35). ***Please note that tolerance limits pertain to the homogeneity of the CRM only and should not be used as control limits for laboratory performance***.

The homogeneity of OREAS 750 has also been evaluated in an ANOVA study for all certified analytes present in concentrations that are at least 20 times the lower limit of detection. No significant *p*-values were found indicating that no evidence exists that between-unit variance is greater than within-unit variance.

It is important to note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes whether or not the analytes are distributed in a similar manner throughout the packaging run of OREAS 750 and whether the variance between two subsamples from the same unit is statistically distinguishable to the variance from two subsamples taken from any two separate units. A reference material therefore, can possess poor absolute homogeneity yet still pass a relative homogeneity test if the within-unit heterogeneity is large and similar across all units.

Based on the statistical analysis of the results of the inter-laboratory certification program it can be concluded that OREAS 750 is sufficiently homogenous and is fit-for-purpose as a certified reference material (see 'Intended Use' below).

PARTICIPATING LABORATORIES

1. Actlabs, Ancaster, Ontario, Canada
2. AGAT Laboratories, Mississauga, Ontario, Canada
3. ALS, Brisbane, QLD, Australia
4. ALS, Loughrea, Galway, Ireland
5. ALS, Perth, WA, Australia
6. ALS, Vancouver, BC, Canada
7. American Assay Laboratories, Sparks, Nevada, USA
8. ARGETEST Mineral Processing, Ankara, Central Anatolia, Turkey
9. Inspectorate (BV), Lima, Peru
10. Intertek Genalysis, Perth, WA, Australia
11. Intertek Testing Services, Townsville, QLD, Australia
12. MinAnalytical Services, Perth, WA, Australia
13. MSALABS, Vancouver, BC, Canada
14. Nagrom, Perth, WA, Australia
15. Reminex Centre de Recherche, Marrakesh, Marrakesh-Safi, Morocco
16. SGS Australia Mineral Services, Perth, WA, Australia
17. SGS Canada Inc., Vancouver, BC, Canada

Please note: To preserve anonymity, the above numbered alphabetical list of participating laboratories <u>does not</u> correspond with the Lab ID numbering on the scatter plots below.

PREPARER AND SUPPLIER

Certified reference material OREAS 750 was prepared, certified and supplied by:

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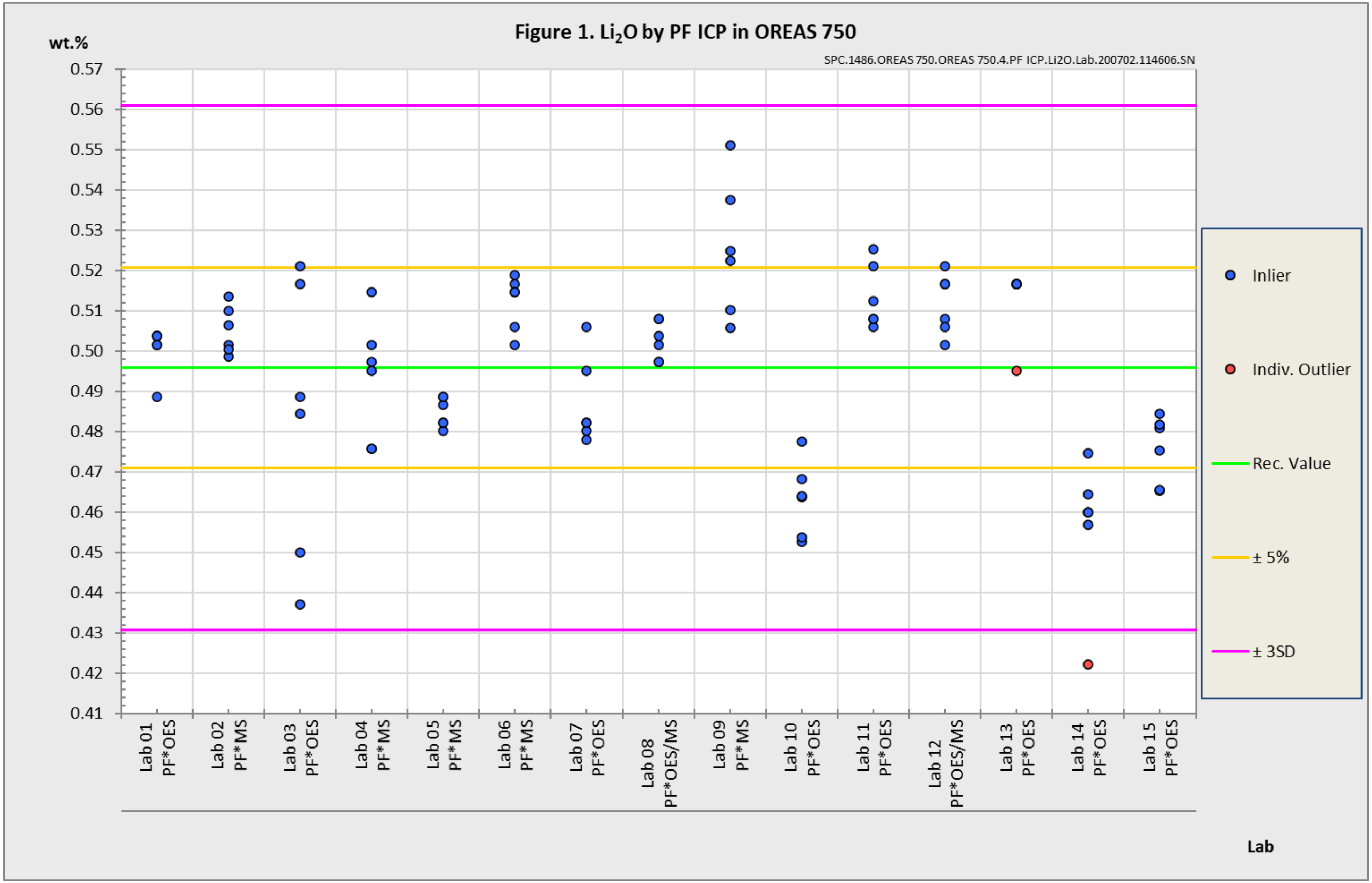
Figure 1. Li2O by PF ICP in OREAS 750
SPC.1486.OREAS 750.OREAS 750.4.PF ICP.Li2O.Lab.200702.114606.SN
wt.%
0.57
0.56
0.55
0.54
0.53
0.52
0.51
0.50
0.49
0.48
0.47
0.46
0.45
0.44
0.43
0.42
0.41
Lab 01 PF*OES
Lab 02 PF*MS
Lab 03 PF*OES
Lab 04 PF*MS
Lab 05 PF*MS
Lab 06 PF*MS
Lab 07 PF*OES
Lab 08 PF*OES/MS
Lab 09 PF*MS
Lab 10 PF*OES
Lab 11 PF*OES
Lab 12 PF*OES/MS
Lab 13 PF*OES
Lab 14 PF*OES
Lab 15 PF*OES
Inlier
Indiv. Outlier
Rec. Value
± 5%
± 3SD
Lab

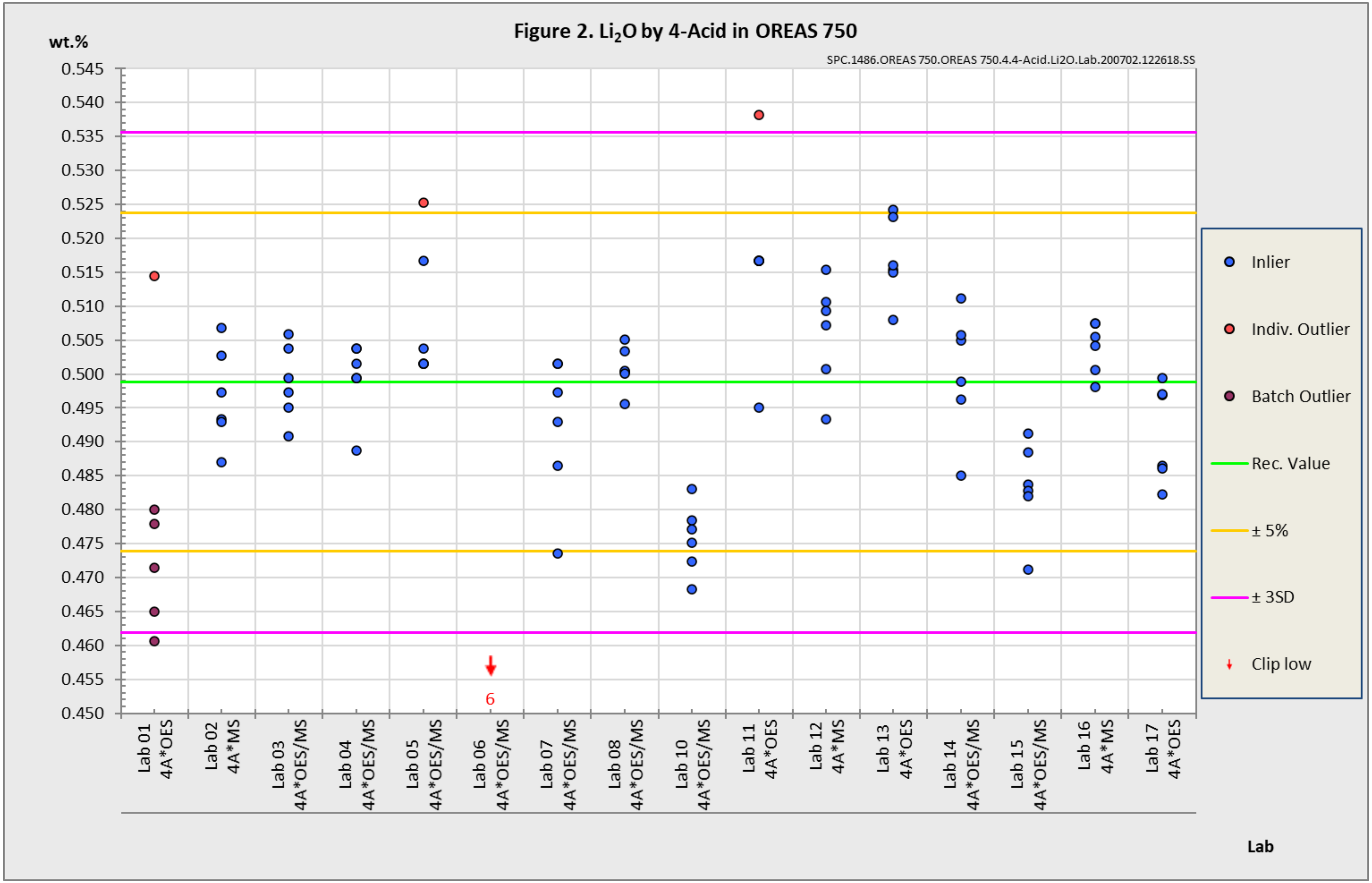
Figure 2. Li_2O by 4-Acid in OREAS 750
wt.%
SPC.1486.OREAS 750.OREAS 750.4.4-Acid.Li2O.Lab.200702.122618.SS
0.545
0.540
0.535
0.530
0.525
0.520
0.515
0.510
0.505
0.500
0.495
0.490
0.485
0.480
0.475
0.470
0.465
0.460
0.455
0.450
6
Lab 01 4A*OES
Lab 02 4A*MS
Lab 03 4A*OES/MS
Lab 04 4A*OES/MS
Lab 05 4A*OES/MS
Lab 06 4A*OES/MS
Lab 07 4A*OES/MS
Lab 08 4A*OES/MS
Lab 10 4A*OES/MS
Lab 11 4A*OES
Lab 12 4A*MS
Lab 13 4A*OES
Lab 14 4A*OES/MS
Lab 15 4A*OES/MS
Lab 16 4A*MS
Lab 17 4A*OES
Lab
Inlier
Indiv. Outlier
Batch Outlier
Rec. Value
± 5%
± 3SD
Clip low

METROLOGICAL TRACEABILITY

The analytical samples were selected in a manner to represent the entire batch of prepared CRM. This 'representivity' was maintained in each submitted laboratory sample batch and ensures the user that the data is traceable from sample selection through to the analytical results that underlie the consensus values. Each analytical data set has been validated by its assayer through the inclusion of internal reference materials and QC checks during analysis.

The laboratories were chosen on the basis of their competence (from past performance in inter-laboratory programs undertaken by ORE Pty Ltd) for a particular analytical method, analyte or analyte suite, and sample matrix. Most of these laboratories have and maintain ISO 17025 accreditation. The certified values presented in this report are calculated from the means of accepted data following robust statistical treatment as detailed in this report.

Guide ISO/TR 16476:2016, section 5.3.1 describes metrological traceability in reference materials as it pertains to the transformation of the measurand. In this section it states, *"Although the determination of the property value itself can be made traceable to appropriate units through, for example, calibration of the measurement equipment used, steps like the transformation of the sample from one physical (chemical) state to another cannot. Such transformations may only be compared with a reference (when available), or among themselves. For some transformations, reference methods have been defined and may be used in certification projects to evaluate the uncertainty associated with such a transformation. In other cases,* ***only a comparison among different laboratories using the same method is possible. In this case, certification takes place on the basis of agreement among independent measurement results*** *(see ISO Guide 35:2006, Clause 10)."*

COMMUTABILITY

The measurements of the results that underlie the certified values contained in this report were undertaken by methods involving pre-treatment (digestion/fusion) of the sample. This served to reduce the sample to a simple and well understood form permitting calibration using simple solutions of the CRM. Due to these methods being well understood and highly effective, commutability is not an issue for this CRM. All OREAS CRMs are sourced from natural ore minerals meaning they will display similar behaviour as routine 'field' samples in the relevant measurement process. Care should be taken to ensure 'matrix matching' as close as practically achievable. The matrix and mineralisation style of the CRM is described in the 'Source Material' section and users should select appropriate CRMs matching these attributes to their field samples.

INTENDED USE

OREAS 750 is intended to cover all activities needed to produce a measurement result. This includes extraction, possible separation steps and the actual measurement process (the signal producing step). OREAS 750 may be used to calibrate the entire procedure by producing a pure substance CRM transformed into a calibration solution.

OREAS 750 is intended for the following uses:

- For the monitoring of laboratory performance in the analysis of analytes reported in Table 1 in geological samples;

- For the verification of analytical methods for analytes reported in Table 1;
- For the calibration of instruments used in the determination of the concentration of analytes reported in Table 1.

QC monitoring using multiples of the Standard Deviation (SD)
In the application of SD's in monitoring performance it is important to note that not all laboratories function at the same level of proficiency and that different methods in use at a particular laboratory have differing levels of precision. Each laboratory has its own inherent SD (for a specific concentration level and analyte-method pair) based on the analytical process and this SD is not directly related to the round robin program.

The majority of data generated in the round robin program was produced by a selection of world class laboratories. The SD's thus generated are more constrained than those that would be produced across a randomly selected group of laboratories. To produce more generally achievable SD's the 'pooled' SD's provided in this report include inter-laboratory bias. This 'one size fits all' approach may require revision at the discretion of the QC manager concerned following careful scrutiny of QC control charts

STABILITY AND STORAGE INSTRUCTIONS

OREAS 750 was sourced from Li-rich pegmatite ore and is low in reactive sulphides. In its unopened state and under normal conditions of storage it has a shelf life beyond ten years. Its stability will be monitored at regular intervals and purchasers notified if any changes are observed.

INSTRUCTIONS FOR CORRECT USE

The certified values for lithium borate fusion XRF and for LOI are on a 'dry sample' basis whilst all other certified values (by peroxide fusion, 4-acid digestion and infrared combustion furnace) are reported on a 'sample as received' basis.

HANDLING INSTRUCTIONS

Fine powders pose a risk to eyes and lungs and therefore standard precautions such as the use of safety glasses and dust masks are advised.

DOCUMENT HISTORY

Revision No.	Date	Changes applied
2	29th July, 2020	Removed an erroneous reference to Au in the Statistical Analysis section.
1	2nd July, 2020	Conducted statistical re-evaluation of revised results due to one of the participating laboratory's original data containing transition errors for two of their six samples. This resulted in a very slight change to the summary statistics when compared to the first publication.
0	27th May, 2020	First publication.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

QMS CERTIFICATION

ORE Pty Ltd is ISO 9001:2015 certified by Lloyd's Register Quality Assurance Ltd for its quality management system including development, manufacturing, certification and supply of CRMs.

CERTIFYING OFFICER

29th July, 2020

Craig Hamlyn (B.Sc. Hons - Geology), Technical Manager - ORE P/L

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