



**BUREAU  
VERITAS**

Bureau Veritas Minerals Pty Ltd  
**MINERAL TESTING & LABORATORY SERVICES**

**ABN: 30 008 127 802**

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Reference: **aa036780.b**  
Date Finished: 05/09/2018  
Order: NC\_018  
Project: Arunta Project  
Date Received: 02/08/2018  
Type of Sample: Soil  
Samples Analysed: **100**

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**FINAL ANALYSIS REPORT**  
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**Analysis of Mineral Samples**

for

**Northern Cobalt Ltd**

67 Goodwood Road WAYVILLE SA 5034

**Attention:** Mr Duncan Chessell

**Authorised By:**

Vaughn Noble  
Senior Chemist

Christopher Abbott  
Senior Chemist

Jenet Hwende  
Technical Quality  
Manager



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Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ag	As	Ba	Be	Bi	Ca	Cd	Co
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	5	5	1	1	1000	10	10
BLANK 1	<5	<5	<5	<1	<1	1000	<10	<10
SA3703	<5	<5	325	2	<1	8300	<10	<10
SA3704	<5	10	195	2	<1	4700	<10	<10
SA3705	<5	10	225	2	<1	5000	<10	<10
SA3706	<5	10	180	2	<1	3500	<10	<10
SA3707	<5	10	160	2	<1	4900	<10	<10
SA3708	<5	<5	155	2	<1	5900	<10	<10
Std Nominal	<5	675	2.94%					730
Determined	<5	725	2.94%	<1	18	3.24%	<10	750
SA3709	<5	15	170	3	<1	5200	<10	20
SA3710	<5	<5	245	3	<1	1.42%	<10	20
SA3711	<5	20	220	3	<1	5400	<10	20
SA3712	<5	<5	210	2	<1	7500	<10	20
SA3713	<5	<5	200	3	<1	1.17%	<10	20
SA3714	<5	5	220	2	<1	5300	<10	<10
SA3715	<5	10	220	2	<1	5000	<10	<10
SA3716	<5	<5	230	2	<1	4600	<10	<10
Std Nominal	50	305		2	21	1.31%	<10	<10
Determined	55	305	3870	3	23	1.25%	10	<10
SA3717	<5	15	210	2	<1	4900	<10	<10
SA3718	<5	<5	365	3	<1	1.43%	<10	20
SA3719	<5	15	160	4	<1	4300	<10	20
SA3720	<5	<5	165	2	<1	4100	<10	<10
SA3721	<5	<5	435	4	5	1.63%	<10	20
SA3722	<5	<5	235	3	<1	1.37%	<10	20
SA3723	<5	<5	270	3	<1	1.07%	<10	20
SA3724	<5	<5	225	3	<1	1.03%	<10	20
SA3725	<5	<5	360	2	<1	4500	<10	<10
SA3725 Rpt	<5	<5	350	2	<1	4400	<10	<10
SA3726	<5	<5	155	2	<1	1.00%	<10	<10
SA3727	<5	<5	230	2	<1	4500	<10	20
SA3728	<5	<5	305	2	<1	6900	<10	<10
SA3729	<5	<5	315	2	<1	5300	<10	20
SA3730	<5	10	290	4	5	8700	<10	20
SA3731	<5	10	220	2	<1	4100	<10	20
SA3732	<5	<5	295	4	<1	6.57%	<10	20
SA3733	<5	<5	420	3	<1	1.10%	<10	20
SA3734	<5	<5	710	4	<1	2.23%	<10	20
SA3735	<5	<5	365	2	<1	8300	<10	20
SA3736	<5	10	290	1	<1	5000	<10	<10
SA3737	<5	15	265	1	<1	4200	<10	<10



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Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ag	As	Ba	Be	Bi	Ca	Cd	Co
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	5	5	1	1	1000	10	10
SA3738	<5	<5	260	1	<1	1.49%	<10	<10
SA3739	<5	<5	275	2	<1	5300	<10	20
Std Nominal	<5	5	430	3	1	5600		10
Determined	<5	<5	390	4	<1	6500	<10	20
SA3740	<5	<5	290	1	<1	1.31%	<10	<10
SA3741	<5	10	330	1	<1	4600	<10	<10
SA3742	<5	<5	330	<1	<1	6500	<10	<10
SA3743	<5	<5	335	1	<1	4700	<10	<10
SA3744	<5	<5	285	1	<1	5000	<10	<10
SA3745	<5	<5	315	1	<1	4600	<10	<10
SA3746	<5	<5	260	1	<1	3400	<10	<10
SA3747	<5	<5	360	2	<1	3500	<10	20
SA3747 Rpt	<5	<5	345	2	<1	3400	<10	20
SA3748	<5	<5	290	2	<1	5600	<10	<10
SA3749	<5	<5	315	1	<1	5300	<10	<10
SA3749 DUP	<5	10	285	1	<1	4800	<10	<10
Std Nominal	<5	10	710	2	5	2.74%	<10	20
Determined	<5	10	710	2	6	2.54%	<10	20
SA3750	<5	<5	290	2	<1	4700	<10	<10
SA3751	<5	<5	210	1	<1	2500	<10	<10
BLANK 2	<5	<5	<5	<1	<1	<1000	<10	<10
SA3752	<5	10	280	<1	<1	4.07%	<10	<10
SA3753	<5	<5	250	1	<1	4.15%	<10	<10
SA3754	<5	<5	265	1	<1	4.31%	<10	<10
SA3755	<5	<5	225	1	<1	4700	<10	<10
SA3755 DUP	<5	<5	230	1	<1	4800	<10	<10
SA3756	<5	<5	245	1	<1	9000	<10	<10
SA3757	<5	15	270	1	<1	4700	<10	<10
SA3758	<5	10	275	1	<1	2.34%	<10	<10
SA3759	<5	<5	210	1	<1	6.13%	<10	<10
SA3760	<5	<5	240	1	<1	6000	<10	<10
SA3761	<5	<5	210	1	<1	6.68%	<10	<10
SA3762	<5	<5	225	1	<1	4.07%	<10	<10
SA3763	<5	10	235	<1	<1	13.4%	<10	<10
SA3764	<5	10	215	1	<1	3500	<10	<10
SA3765	<5	<5	230	1	<1	7800	<10	<10
Std Nominal	<5	675	2.94%					730
Determined	<5	685	2.94%	<1	16	3.24%	<10	660
SA3766	<5	<5	240	1	<1	3.89%	<10	<10
SA3767	<5	<5	230	<1	<1	4.48%	<10	<10
SA3768	<5	<5	230	<1	<1	1.74%	<10	20



Reference: aa036780.b Order Number: NC\_018 Page 3 of 22

Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ag	As	Ba	Be	Bi	Ca	Cd	Co
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	5	5	1	1	1000	10	10
SA3769	<5	<5	235	1	<1	7.06%	<10	<10
SA3770	<5	<5	250	2	<1	1.27%	<10	<10
SA3771	<5	<5	240	2	<1	5400	<10	<10
SA3771 Rpt	<5	<5	235	2	<1	5400	<10	<10
SA3772	<5	<5	220	1	<1	3200	<10	<10
Std Nominal	50	305		2	21	1.31%	<10	<10
Determined	50	275	4050	3	19	1.34%	<10	<10
SA3773	<5	10	205	<1	<1	5.67%	<10	<10
SA3774	<5	<5	260	1	<1	3900	<10	<10
SA3775	<5	<5	270	<1	<1	5400	<10	<10
SA3776	<5	<5	245	1	<1	3400	<10	<10
SA3777	<5	<5	325	1	<1	5100	<10	<10
SA3778	<5	<5	285	1	<1	3700	<10	<10
SA3779	<5	10	320	1	<1	2.15%	<10	<10
SA3780	<5	<5	295	1	<1	7400	<10	<10
SA3781	<5	<5	230	1	<1	7.22%	<10	<10
SA3782	<5	10	260	1	<1	7.56%	<10	<10
SA3783	<5	<5	295	1	<1	5.22%	<10	<10
SA3784	<5	15	290	<1	<1	7.06%	<10	<10
SA3785	<5	<5	270	1	<1	2.50%	<10	<10
SA3786	<5	<5	295	1	<1	8100	<10	<10
SA3786 Rpt	<5	<5	295	1	<1	8000	<10	<10
SA3787	<5	<5	295	<1	<1	1.59%	<10	<10
SA3788	<5	<5	465	<1	<1	18.7%	<10	<10
SA3789	<5	<5	260	<1	<1	6.38%	<10	<10
SA3790	<5	<5	310	1	<1	1.99%	<10	<10
Std Nominal	<5	5	430	3	1	5600		10
Determined	<5	<5	420	3	<1	5200	<10	<10
SA3791	<5	10	295	2	<1	5000	<10	<10
SA3792	<5	10	285	1	<1	6.73%	<10	<10
SA3793	<5	<5	320	<1	<1	4.03%	<10	<10
SA3794	<5	15	295	1	<1	3900	<10	<10
SA3795	<5	<5	310	<1	<1	1.01%	<10	<10
Std Nominal	<5	10	710	2	5	2.74%	<10	20
Determined	<5	10	730	2	5	2.54%	<10	20
SA3796	<5	<5	295	1	<1	5700	<10	<10
SA3797	<5	<5	290	<1	<1	3.34%	<10	<10
SA3798	<5	<5	325	<1	<1	4200	<10	<10
SA3799	<5	<5	315	<1	<1	5600	<10	<10
SA3799 REP	<5	<5	315	1	<1	5800	<10	<10

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Reference: aa036780.b Order Number: NC\_018 Page 4 of 22

Method	PF101	PF102	PF102	PF101	PF102	PF102	PF102	PF101
Result Name	Cr	Cs	Cu	Fe	Ge	Hf	In	K
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	1	10	100	20	2	0.2	1000
BLANK 1	<10	<1	<10	300	<20	<2	<0.2	<1000
SA3703	60	2	40	4.30%	<20	10	<0.2	1.20%
SA3704	260	2	30	3.49%	<20	12	<0.2	9000
SA3705	60	2	50	4.11%	<20	14	<0.2	1.20%
SA3706	290	2	30	3.74%	<20	18	<0.2	1.00%
SA3707	60	2	40	3.85%	<20	14	<0.2	1.00%
SA3708	380	2	40	3.18%	<20	16	<0.2	1.00%
Std Nominal	30	<1	2.53%			2	0.6	2.50%
Determined	30	<1	2.82%	29.4%	<20	2	0.6	2.40%
SA3709	80	3	50	4.20%	<20	10	<0.2	1.00%
SA3710	300	2	60	3.93%	<20	14	<0.2	1.30%
SA3711	60	4	40	3.98%	<20	10	<0.2	1.20%
SA3712	280	3	50	3.57%	<20	12	<0.2	1.00%
SA3713	50	3	40	3.54%	<20	8	<0.2	9000
SA3714	270	2	40	2.77%	<20	10	<0.2	1.00%
SA3715	50	2	30	2.98%	<20	8	<0.2	9000
SA3716	220	2	40	3.24%	<20	14	<0.2	1.00%
Std Nominal	40	7	1010	2.48%	<20	4	1.8	2.10%
Determined	70	7	900	2.47%	<20	4	1.8	2.10%
SA3717	50	2	30	3.32%	<20	14	<0.2	1.00%
SA3718	860	4	60	4.71%	<20	12	<0.2	1.00%
SA3719	80	4	70	5.27%	<20	10	<0.2	5000
SA3720	60	2	30	3.08%	<20	16	<0.2	8000
SA3721	430	10	50	4.97%	<20	6	<0.2	2.10%
SA3722	60	4	50	3.29%	<20	6	<0.2	1.00%
SA3723	460	3	40	3.71%	<20	10	<0.2	1.20%
SA3724	50	3	40	3.37%	<20	6	<0.2	9000
SA3725	440	2	40	3.31%	<20	8	<0.2	1.20%
SA3725 Rpt	440	2	40	3.18%	<20	8	<0.2	1.10%
SA3726	40	2	30	2.84%	<20	10	<0.2	8000
SA3727	540	3	50	3.22%	<20	6	<0.2	1.00%
SA3728	60	2	40	3.55%	<20	8	<0.2	9000
SA3729	510	2	30	3.67%	<20	12	<0.2	1.30%
SA3730	80	4	50	4.91%	<20	14	<0.2	7000
SA3731	550	3	40	3.65%	<20	14	<0.2	8000
SA3732	70	2	60	5.57%	<20	8	<0.2	3000
SA3733	840	3	70	4.00%	<20	4	<0.2	1.00%
SA3734	80	7	50	4.94%	<20	6	<0.2	1.50%
SA3735	470	3	40	4.73%	<20	14	<0.2	1.50%
SA3736	50	2	30	3.33%	<20	8	<0.2	1.20%
SA3737	410	2	30	3.25%	<20	18	<0.2	1.50%



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Method	PF101	PF102	PF102	PF101	PF102	PF102	PF102	PF101
Result Name	Cr	Cs	Cu	Fe	Ge	Hf	In	K
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	1	10	100	20	2	0.2	1000
SA3738	60	2	40	3.90%	<20	14	<0.2	1.20%
SA3739	860	2	40	4.87%	<20	16	<0.2	1.60%
Std Nominal	100	6	260	4.34%		4		2.90%
Determined	90	6	240	4.33%	<20	4	<0.2	2.90%
SA3740	60	2	40	4.65%	<20	12	<0.2	1.20%
SA3741	490	2	30	3.53%	<20	12	<0.2	1.40%
SA3742	70	1	30	4.57%	<20	8	<0.2	1.30%
SA3743	520	1	30	3.14%	<20	10	<0.2	1.40%
SA3744	50	2	30	3.63%	<20	10	<0.2	1.40%
SA3745	300	2	30	2.57%	<20	10	<0.2	1.20%
SA3746	60	2	50	2.90%	<20	8	<0.2	1.00%
SA3747	310	2	40	5.41%	<20	10	<0.2	1.50%
SA3747 Rpt	340	2	40	5.25%	<20	10	<0.2	1.50%
SA3748	60	2	30	2.96%	<20	12	<0.2	1.20%
SA3749	400	2	30	3.29%	<20	14	<0.2	1.30%
SA3749 DUP	60	2	30	2.99%	<20	12	<0.2	1.20%
Std Nominal	70	5	1.11%	7.33%		<2	0.8	2.90%
Determined	70	5	1.20%	7.34%	<20	2	0.6	2.90%
SA3750	310	2	40	2.81%	<20	10	<0.2	1.30%
SA3751	50	2	30	2.70%	<20	16	<0.2	1.10%
BLANK 2	10	<1	<10	300	<20	<2	<0.2	<1000
SA3752	360	<1	30	2.08%	<20	10	<0.2	7000
SA3753	60	1	30	2.77%	<20	12	<0.2	1.10%
SA3754	320	1	30	3.57%	<20	12	<0.2	1.20%
SA3755	60	2	30	3.15%	<20	16	<0.2	1.30%
SA3755 DUP	290	1	40	3.10%	<20	16	<0.2	1.20%
SA3756	50	1	30	2.96%	<20	10	<0.2	1.20%
SA3757	400	2	30	3.47%	<20	12	<0.2	1.30%
SA3758	50	1	30	3.11%	<20	12	<0.2	1.10%
SA3759	480	1	30	2.67%	<20	16	<0.2	1.10%
SA3760	50	1	30	2.88%	<20	18	<0.2	1.20%
SA3761	380	1	30	2.49%	<20	10	<0.2	7000
SA3762	70	2	30	2.95%	<20	14	<0.2	1.10%
SA3763	200	1	30	1.73%	<20	4	<0.2	7000
SA3764	60	2	20	2.72%	<20	14	<0.2	1.00%
SA3765	410	2	30	2.65%	<20	12	<0.2	1.10%
Std Nominal	30	<1	2.53%			2	0.6	2.50%
Determined	30	<1	2.89%	28.5%	<20	<2	0.4	2.50%
SA3766	40	1	90	2.62%	<20	12	<0.2	1.00%
SA3767	340	1	30	2.73%	<20	10	<0.2	9000
SA3768	80	2	30	5.09%	<20	6	<0.2	1.50%



Reference: aa036780.b Order Number: NC\_018 Page 6 of 22

Method	PF101	PF102	PF102	PF101	PF102	PF102	PF102	PF101
Result Name	Cr	Cs	Cu	Fe	Ge	Hf	In	K
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	1	10	100	20	2	0.2	1000
SA3769	270	1	70	2.45%	<20	12	<0.2	1.00%
SA3770	60	2	30	3.29%	<20	10	<0.2	1.20%
SA3771	300	2	30	3.02%	<20	14	<0.2	1.10%
SA3771 Rpt	290	2	30	2.92%	<20	14	<0.2	1.00%
SA3772	40	2	30	2.70%	<20	16	<0.2	1.10%
Std Nominal	40	7	1010	2.48%	<20	4	1.8	2.10%
Determined	50	6	890	2.54%	<20	4	1.6	2.10%
SA3773	250	<1	30	1.89%	<20	12	<0.2	7000
SA3774	50	1	20	2.67%	<20	16	<0.2	1.10%
SA3775	370	1	30	2.78%	<20	10	<0.2	1.10%
SA3776	160	1	20	2.43%	<20	12	<0.2	1.00%
SA3777	140	2	20	2.54%	<20	12	<0.2	1.20%
SA3778	50	2	20	2.68%	<20	10	<0.2	1.20%
SA3779	340	2	30	2.76%	<20	10	<0.2	1.20%
SA3780	50	1	30	2.80%	<20	14	<0.2	1.20%
SA3781	260	1	30	2.48%	<20	10	<0.2	1.10%
SA3782	250	1	30	2.22%	<20	12	<0.2	1.00%
SA3783	50	2	30	2.60%	<20	10	<0.2	1.10%
SA3784	330	1	30	2.65%	<20	12	<0.2	1.00%
SA3785	60	1	20	2.72%	<20	10	<0.2	1.10%
SA3786	210	1	30	2.53%	<20	12	<0.2	1.10%
SA3786 Rpt	220	2	30	2.52%	<20	12	<0.2	1.10%
SA3787	40	1	20	2.74%	<20	8	<0.2	1.20%
SA3788	70	<1	30	1.48%	<20	<2	<0.2	4000
SA3789	40	1	30	2.22%	<20	10	<0.2	1.00%
SA3790	290	1	30	2.42%	<20	10	<0.2	1.20%
Std Nominal	100	6	260	4.34%		4		2.90%
Determined	80	6	240	4.33%	<20	4	<0.2	2.90%
SA3791	110	2	20	2.58%	<20	10	<0.2	1.20%
SA3792	30	1	20	2.06%	<20	12	<0.2	1.10%
SA3793	80	1	20	2.04%	<20	8	<0.2	1.10%
SA3794	40	2	20	2.53%	<20	14	<0.2	1.10%
SA3795	150	1	20	2.39%	<20	12	<0.2	1.20%
Std Nominal	70	5	1.11%	7.33%		<2	0.8	2.90%
Determined	70	4	1.18%	7.34%	<20	2	0.6	2.90%
SA3796	80	1	70	2.44%	<20	10	<0.2	1.30%
SA3797	200	1	30	2.30%	<20	12	<0.2	1.10%
SA3798	40	1	20	2.53%	<20	10	<0.2	1.40%
SA3799	140	2	20	2.76%	<20	10	<0.2	1.40%
SA3799 REP	40	1	30	3.07%	<20	10	<0.2	1.40%

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Reference: aa036780.b Order Number: NC\_018 Page 7 of 22

Method	PF101	PF101	PF101	PF102	PF102	PF102	PF101	PF102
Result Name	Li	Mg	Mn	Mo	Nb	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	100	10	5	5	20	100	10
BLANK 1	<10	<100	20	<5	<5	<20	<100	<10
SA3703	20	8100	760	<5	15	20	200	10
SA3704	<10	4900	550	<5	10	<20	200	10
SA3705	<10	5400	650	<5	15	<20	300	10
SA3706	<10	3100	430	<5	15	40	300	10
SA3707	<10	4000	390	<5	20	20	300	10
SA3708	<10	4100	360	<5	15	40	500	10
Std Nominal				390	5	80	1000	40
Determined	<10	1.04%	4650	415	10	80	800	50
SA3709	10	5000	290	<5	15	60	300	10
SA3710	<10	1.08%	630	<5	20	40	300	10
SA3711	<10	6500	670	<5	15	40	300	20
SA3712	<10	7700	680	<5	15	40	200	20
SA3713	<10	8700	650	<5	15	40	200	10
SA3714	<10	4700	510	<5	10	60	100	<10
SA3715	<10	5700	490	<5	10	<20	200	10
SA3716	<10	6000	550	<5	15	40	200	10
Std Nominal	20	3900	480	<5	15	20	500	330
Determined	<10	3800	500	<5	20	40	400	350
SA3717	<10	5200	490	<5	15	40	200	10
SA3718	<10	7800	440	10	15	80	500	10
SA3719	<10	6900	430	<5	15	80	400	10
SA3720	<10	3200	500	<5	15	40	200	10
SA3721	10	2.08%	970	<5	20	60	300	20
SA3722	<10	1.03%	540	<5	15	40	300	20
SA3723	<10	1.09%	650	<5	15	60	300	20
SA3724	<10	9000	660	<5	15	40	400	10
SA3725	<10	5000	510	<5	10	40	200	10
SA3725 Rpt	<10	5000	490	<5	10	40	200	10
SA3726	<10	4300	470	<5	15	<20	300	10
SA3727	<10	5100	460	<5	15	60	300	10
SA3728	<10	5300	530	<5	15	40	200	10
SA3729	<10	7000	580	<5	15	60	300	10
SA3730	<10	8600	720	<5	15	60	400	20
SA3731	<10	4000	530	<5	15	60	300	10
SA3732	<10	1.49%	1210	<5	20	40	500	<10
SA3733	<10	1.09%	300	<5	15	80	200	20
SA3734	10	1.76%	850	<5	15	60	1300	20
SA3735	10	1.15%	670	<5	15	40	200	20
SA3736	<10	4200	380	<5	10	<20	200	<10
SA3737	10	4300	380	<5	15	40	200	<10





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Method	PF101	PF101	PF101	PF102	PF102	PF102	PF101	PF102
Result Name	Li	Mg	Mn	Mo	Nb	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	100	10	5	5	20	100	10
SA3738	<10	6300	320	<5	15	40	300	10
SA3739	<10	7500	400	10	15	60	300	10
Std Nominal	30	1.57%	700		15	40	700	<10
Determined	<10	1.58%	690	<5	20	60	600	<10
SA3740	<10	7300	350	<5	15	40	300	<10
SA3741	<10	4200	320	<5	10	40	300	10
SA3742	<10	5900	380	<5	10	60	200	<10
SA3743	<10	4000	330	<5	10	40	300	<10
SA3744	<10	4600	390	<5	10	40	200	<10
SA3745	<10	3300	280	<5	10	<20	200	<10
SA3746	<10	3400	350	<5	10	<20	200	<10
SA3747	20	5200	350	<5	15	60	400	10
SA3747 Rpt	<10	5200	350	<5	15	60	400	10
SA3748	20	4200	410	<5	10	<20	200	<10
SA3749	<10	4000	370	<5	10	40	300	10
SA3749 DUP	10	4000	360	<5	10	40	200	10
Std Nominal	20	1.66%	540	500	10	40	1000	30
Determined	20	1.65%	550	520	15	60	800	20
SA3750	<10	4200	310	<5	10	40	200	10
SA3751	80	2800	310	<5	10	40	300	10
BLANK 2	<10	<100	20	<5	<5	<20	<100	<10
SA3752	<10	9600	170	<5	10	<20	400	<10
SA3753	<10	8000	250	<5	10	40	300	<10
SA3754	<10	8600	290	<5	10	40	300	<10
SA3755	<10	4500	360	<5	15	<20	300	<10
SA3755 DUP	10	4500	340	<5	15	40	200	<10
SA3756	<10	5900	290	<5	10	40	300	<10
SA3757	<10	5800	440	<5	10	40	300	10
SA3758	<10	7700	320	<5	10	<20	300	<10
SA3759	<10	7400	290	<5	10	60	300	<10
SA3760	<10	4800	340	<5	15	<20	300	<10
SA3761	<10	6100	240	<5	10	40	300	<10
SA3762	<10	6100	300	<5	10	<20	200	<10
SA3763	<10	2.88%	210	<5	5	<20	400	<10
SA3764	<10	2600	340	<5	10	40	300	<10
SA3765	<10	4300	270	<5	10	40	100	<10
Std Nominal				390	5	80	1000	40
Determined	<10	1.02%	4520	400	5	80	800	50
SA3766	<10	4200	320	<5	10	<20	200	<10
SA3767	<10	1.27%	280	<5	10	40	200	<10
SA3768	<10	9200	340	<5	15	40	200	<10



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Method	PF101	PF101	PF101	PF102	PF102	PF102	PF101	PF102
Result Name	Li	Mg	Mn	Mo	Nb	Ni	P	Pb
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	100	10	5	5	20	100	10
SA3769	<10	1.18%	320	<5	10	40	300	<10
SA3770	<10	5400	400	<5	10	40	300	10
SA3771	<10	3600	380	<5	10	40	300	10
SA3771 Rpt	<10	3400	360	<5	10	40	200	10
SA3772	<10	2700	340	<5	10	<20	300	<10
Std Nominal	20	3900	480	<5	15	20	500	330
Determined	<10	3900	510	<5	15	40	400	310
SA3773	<10	8400	230	<5	10	<20	200	<10
SA3774	<10	3800	340	<5	10	40	300	<10
SA3775	<10	4000	380	<5	10	60	300	<10
SA3776	<10	3400	240	<5	15	<20	200	<10
SA3777	20	4000	300	<5	10	<20	300	<10
SA3778	20	3400	320	<5	10	<20	300	10
SA3779	<10	4800	320	<5	10	40	300	<10
SA3780	<10	4500	340	<5	10	40	300	<10
SA3781	<10	1.52%	320	<5	10	40	300	<10
SA3782	<10	7900	290	<5	10	<20	300	<10
SA3783	<10	8600	320	<5	10	<20	200	<10
SA3784	<10	8500	350	<5	10	<20	200	<10
SA3785	10	5900	290	<5	10	<20	200	<10
SA3786	<10	5300	310	<5	10	<20	300	10
SA3786 Rpt	<10	5300	320	<5	10	<20	300	<10
SA3787	20	4900	330	<5	10	<20	200	<10
SA3788	<10	2.99%	130	<5	<5	<20	400	<10
SA3789	<10	5800	260	<5	10	<20	200	<10
SA3790	<10	5700	280	<5	10	<20	200	<10
Std Nominal	30	1.57%	700		15	40	700	<10
Determined	10	1.56%	680	<5	20	40	600	<10
SA3791	<10	4500	310	<5	10	<20	200	<10
SA3792	<10	4500	260	<5	10	<20	200	<10
SA3793	<10	8400	270	<5	5	<20	300	<10
SA3794	<10	3700	300	<5	10	<20	300	<10
SA3795	<10	4300	290	<5	10	<20	200	<10
Std Nominal	20	1.66%	540	500	10	40	1000	30
Determined	20	1.68%	550	475	10	40	800	20
SA3796	<10	3800	300	<5	10	20	200	<10
SA3797	<10	4000	280	<5	10	<20	200	<10
SA3798	10	3300	350	<5	10	<20	300	<10
SA3799	<10	5400	410	<5	10	<20	300	<10
SA3799 REP	<10	5600	450	<5	10	<20	300	<10

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Method	PF102	PF102	PF101	PF102	PF101	PF101	PF102	PF102
Result Name	Rb	Re	S	Sb	Sc	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	100	10	10	100	10	1
BLANK 1	<0.5	<1	400	<10	<10	<100	<10	<1
SA3703	64.0	<1	400	<10	10	35.5%	<10	78
SA3704	60.5	<1	<100	<10	<10	32.6%	<10	69
SA3705	73.5	<1	700	<10	10	35.8%	<10	68
SA3706	65.5	<1	200	<10	10	33.5%	<10	69
SA3707	66.5	<1	600	<10	10	33.2%	<10	71
SA3708	59.0	<1	<100	<10	10	36.8%	<10	74
Std Nominal	67.0		5.58%		<10		10	287
Determined	68.5	<1	5.33%	10	<10	12.0%	20	279
SA3709	76.0	<1	1000	<10	20	28.7%	<10	106
SA3710	79.0	<1	<100	<10	10	32.5%	<10	98
SA3711	75.5	<1	800	<10	10	31.9%	<10	79
SA3712	73.0	<1	<100	<10	10	33.4%	<10	88
SA3713	71.0	<1	900	<10	10	33.8%	<10	104
SA3714	59.0	<1	800	<10	10	34.8%	<10	76
SA3715	65.5	<1	400	<10	10	36.4%	<10	69
SA3716	72.0	<1	<100	<10	<10	35.2%	<10	68
Std Nominal	97.0	<1	1.07%	30	<10	32.4 %	<10	230
Determined	100	<1	1.12%	40	<10	33.6%	<10	231
SA3717	73.0	<1	800	<10	10	34.7%	<10	76
SA3718	87.0	<1	1200	<10	10	28.5%	<10	179
SA3719	56.0	<1	600	<10	20	30.7%	<10	105
SA3720	58.5	<1	<100	<10	10	37.6%	<10	67
SA3721	169	<1	700	<10	10	36.0%	<10	139
SA3722	85.5	<1	300	<10	10	33.5%	<10	121
SA3723	94.5	<1	<100	<10	10	33.0%	<10	101
SA3724	78.5	<1	400	<10	10	33.5%	<10	109
SA3725	66.0	<1	<100	<10	<10	37.7%	<10	68
SA3725 Rpt	67.0	<1	<100	<10	<10	37.3%	<10	69
SA3726	50.0	<1	600	<10	<10	37.6%	<10	63
SA3727	70.0	<1	900	<10	<10	34.5%	<10	78
SA3728	60.0	<1	200	<10	<10	42.4%	<10	76
SA3729	75.5	<1	<100	<10	10	39.4%	<10	72
SA3730	60.0	<1	600	<10	10	35.7%	<10	112
SA3731	62.5	<1	400	<10	10	34.2%	<10	82
SA3732	27.5	<1	300	<10	20	23.4%	<10	167
SA3733	70.0	<1	600	<10	20	34.5%	10	93
SA3734	115	<1	400	<10	10	34.4%	<10	130
SA3735	89.0	<1	<100	<10	20	39.6%	<10	69
SA3736	59.0	<1	200	<10	<10	40.3%	<10	63
SA3737	64.5	<1	100	<10	<10	39.0%	<10	64



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Method	PF102	PF102	PF101	PF102	PF101	PF101	PF102	PF102
Result Name	Rb	Re	S	Sb	Sc	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	100	10	10	100	10	1
SA3738	75.0	<1	300	<10	10	32.8%	<10	85
SA3739	95.5	<1	100	<10	10	32.6%	<10	85
Std Nominal	198		800	<10	10	31.6 %	<10	35
Determined	194	<1	1100	<10	10	31.4%	10	40
SA3740	67.0	<1	300	<10	10	36.6%	<10	73
SA3741	70.0	<1	600	<10	10	38.6%	<10	75
SA3742	67.5	<1	1200	<10	<10	38.2%	<10	64
SA3743	56.5	<1	<100	<10	<10	40.6%	<10	62
SA3744	62.0	<1	200	<10	<10	35.8%	<10	71
SA3745	55.0	<1	<100	<10	<10	34.3%	<10	62
SA3746	58.0	<1	<100	<10	<10	31.4%	<10	65
SA3747	89.0	<1	200	<10	20	31.9%	<10	60
SA3747 Rpt	86.0	<1	200	<10	20	30.8%	<10	59
SA3748	57.5	<1	<100	<10	<10	34.0%	<10	69
SA3749	59.0	<1	300	<10	<10	32.8%	<10	66
SA3749 DUP	59.0	<1	800	<10	<10	31.3%	<10	67
Std Nominal	106	<1	1.31%	<10			10	423
Determined	103	<1	1.31%	<10	10	25.2%	20	409
SA3750	62.5	<1	<100	<10	<10	30.1%	<10	68
SA3751	73.0	<1	200	<10	10	35.9%	<10	77
BLANK 2	<0.5	<1	500	<10	<10	100	<10	<1
SA3752	32.5	<1	600	<10	<10	30.2%	<10	234
SA3753	65.5	<1	900	<10	10	30.1%	<10	116
SA3754	74.5	<1	300	<10	<10	31.0%	<10	119
SA3755	70.5	<1	300	<10	10	37.8%	<10	76
SA3755 DUP	66.0	<1	200	<10	<10	36.9%	<10	75
SA3756	73.0	<1	<100	<10	10	36.3%	<10	87
SA3757	76.5	<1	600	<10	<10	39.8%	<10	88
SA3758	57.0	<1	600	<10	<10	38.8%	<10	131
SA3759	53.5	<1	700	<10	<10	33.2%	<10	136
SA3760	59.5	<1	<100	<10	<10	40.0%	<10	78
SA3761	51.5	<1	<100	<10	<10	30.0%	<10	119
SA3762	64.0	<1	700	<10	<10	30.6%	<10	104
SA3763	42.5	<1	500	<10	<10	18.8%	<10	277
SA3764	65.5	<1	800	<10	<10	36.3%	<10	66
SA3765	64.0	<1	700	<10	<10	35.6%	<10	80
Std Nominal	67.0		5.58%		<10		10	287
Determined	70.0	<1	5.49%	10	<10	12.1%	20	296
SA3766	58.5	<1	200	<10	<10	33.4%	<10	87
SA3767	44.5	<1	1300	<10	<10	30.3%	<10	252
SA3768	135	<1	300	<10	20	32.6%	<10	67



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Method	PF102	PF102	PF101	PF102	PF101	PF101	PF102	PF102
Result Name	Rb	Re	S	Sb	Sc	Si	Sn	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	100	10	10	100	10	1
SA3769	54.0	<1	<100	<10	<10	32.1%	<10	187
SA3770	70.0	<1	600	<10	<10	37.9%	<10	80
SA3771	64.0	<1	500	<10	<10	38.4%	<10	76
SA3771 Rpt	64.0	<1	500	<10	<10	36.1%	<10	75
SA3772	58.5	<1	<100	<10	<10	36.9%	<10	63
Std Nominal	97.0	<1	1.07%	30	<10	32.4 %	<10	230
Determined	99.5	<1	1.09%	30	<10	33.3%	<10	238
SA3773	41.0	<1	200	<10	<10	30.5%	<10	175
SA3774	57.0	<1	700	<10	<10	37.1%	<10	64
SA3775	53.5	<1	700	<10	<10	38.6%	<10	62
SA3776	50.0	<1	500	<10	<10	37.8%	<10	67
SA3777	60.0	<1	200	<10	<10	38.5%	<10	70
SA3778	62.5	<1	300	<10	<10	40.4%	<10	65
SA3779	62.0	<1	<100	<10	<10	36.9%	<10	81
SA3780	59.0	<1	500	<10	<10	39.1%	<10	69
SA3781	52.5	<1	700	<10	<10	27.8%	<10	181
SA3782	51.5	<1	700	<10	<10	31.1%	<10	104
SA3783	55.5	<1	700	<10	<10	31.9%	<10	84
SA3784	51.0	<1	700	<10	<10	29.4%	<10	95
SA3785	51.0	<1	600	<10	<10	34.2%	<10	74
SA3786	57.0	<1	100	<10	<10	35.9%	<10	73
SA3786 Rpt	57.0	<1	500	<10	<10	35.5%	<10	71
SA3787	53.0	<1	300	<10	<10	34.6%	<10	73
SA3788	33.5	<1	700	<10	<10	13.1%	<10	291
SA3789	48.5	<1	200	<10	<10	30.9%	<10	83
SA3790	55.5	<1	200	<10	<10	34.1%	<10	78
Std Nominal	198		800	<10	10	31.6 %	<10	35
Determined	191	<1	1000	<10	10	32.1%	10	36
SA3791	63.0	<1	300	<10	<10	35.2%	<10	65
SA3792	52.5	<1	200	<10	<10	29.3%	<10	93
SA3793	51.0	<1	200	<10	<10	28.4%	<10	90
SA3794	57.5	<1	100	<10	<10	35.2%	<10	63
SA3795	56.0	<1	<100	<10	<10	33.8%	<10	65
Std Nominal	106	<1	1.31%	<10			10	423
Determined	102	<1	1.31%	<10	10	26.6%	10	420
SA3796	56.0	<1	500	<10	<10	34.3%	<10	67
SA3797	50.5	<1	200	<10	<10	35.2%	<10	71
SA3798	57.0	<1	500	<10	<10	34.8%	<10	64
SA3799	59.0	<1	600	<10	<10	36.2%	<10	69
SA3799 REP	62.5	<1	200	<10	<10	36.1%	<10	73

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Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ta	Th	Ti	Tl	U	V	W	Y
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	0.5	100	2	0.5	50	5	1
BLANK 1	<0.5	<0.5	<100	<2	<0.5	<50	<5	<1
SA3703	1.0	14.0	4900	<2	2.0	<50	5	25
SA3704	1.0	18.5	4600	<2	3.0	<50	<5	22
SA3705	1.0	15.5	5300	<2	2.0	<50	<5	28
SA3706	1.0	20.0	5400	<2	4.0	<50	<5	24
SA3707	1.0	15.0	5700	<2	2.0	100	<5	22
SA3708	1.0	19.5	5200	<2	3.0	<50	<5	22
Std Nominal	0.5	8.0			59.0	100	175	17
Determined	<0.5	8.0	2900	<2	63.5	<50	185	16
SA3709	1.0	20.0	5900	<2	4.0	100	<5	58
SA3710	1.0	13.5	6000	<2	2.0	50	<5	32
SA3711	0.5	17.5	5100	<2	3.0	<50	<5	24
SA3712	1.0	12.5	5300	<2	2.0	<50	<5	29
SA3713	0.5	10.5	4500	<2	2.0	<50	<5	22
SA3714	0.5	11.5	3900	<2	1.5	<50	<5	22
SA3715	1.0	14.0	3900	<2	2.0	<50	<5	20
SA3716	1.0	15.0	4900	<2	2.0	<50	<5	28
Std Nominal	1.0	11.5	1800	<2	4.0	<50	5	11
Determined	1.0	11.5	1900	<2	4.5	<50	<5	11
SA3717	1.0	20.0	4600	<2	3.0	<50	<5	23
SA3718	1.0	17.0	5300	<2	3.0	50	<5	65
SA3719	1.0	17.0	6300	<2	4.0	50	<5	62
SA3720	1.0	19.5	5900	<2	3.0	<50	<5	25
SA3721	1.0	16.5	5800	<2	4.5	<50	<5	50
SA3722	1.0	10.0	4400	<2	2.0	<50	<5	34
SA3723	1.0	14.5	5000	<2	2.0	<50	<5	29
SA3724	1.0	11.5	4400	<2	2.0	<50	<5	26
SA3725	0.5	15.0	4000	<2	2.0	<50	<5	20
SA3725 Rpt	0.5	15.0	3900	<2	2.0	<50	<5	20
SA3726	1.0	14.0	3900	<2	2.0	<50	<5	18
SA3727	0.5	14.5	3500	<2	2.0	<50	<5	24
SA3728	1.0	17.0	4300	<2	2.0	<50	<5	22
SA3729	1.0	17.0	4800	<2	2.0	<50	<5	23
SA3730	1.0	15.0	5900	<2	3.0	<50	10	28
SA3731	1.0	22.5	5200	<2	2.5	<50	<5	39
SA3732	1.5	7.5	9100	<2	2.0	150	<5	24
SA3733	1.0	15.0	4100	<2	2.0	<50	10	57
SA3734	1.0	12.5	5600	<2	2.0	<50	<5	26
SA3735	1.0	18.0	5500	<2	3.0	<50	<5	25
SA3736	<0.5	13.5	3600	<2	2.0	<50	<5	16
SA3737	0.5	20.5	4200	<2	3.0	<50	<5	24



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Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ta	Th	Ti	Tl	U	V	W	Y
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	0.5	100	2	0.5	50	5	1
SA3738	0.5	25.0	4300	<2	3.0	<50	<5	24
SA3739	1.0	28.5	5000	<2	4.0	<50	<5	51
Std Nominal	1.0	16.0	4400	<2	3.5		<5	26
Determined	1.5	17.5	4400	<2	4.0	<50	<5	26
SA3740	0.5	27.0	4400	<2	3.0	<50	<5	22
SA3741	0.5	17.0	4200	<2	2.0	<50	<5	20
SA3742	0.5	22.5	3400	<2	2.0	<50	<5	18
SA3743	<0.5	14.0	3500	<2	2.0	<50	<5	19
SA3744	<0.5	15.0	3500	<2	2.0	<50	<5	19
SA3745	<0.5	11.0	3600	<2	2.0	<50	<5	15
SA3746	<0.5	13.0	3300	<2	2.0	<50	<5	16
SA3747	0.5	27.5	4900	<2	4.0	<50	<5	36
SA3747 Rpt	1.0	26.5	4800	<2	3.0	<50	<5	36
SA3748	0.5	13.0	3900	<2	3.0	<50	<5	18
SA3749	0.5	13.5	4400	<2	2.0	<50	<5	20
SA3749 DUP	0.5	14.0	4300	<2	3.0	<50	<5	20
Std Nominal	0.5	8.5	3600	<2	2.5	150	<5	18
Determined	0.5	7.5	3600	<2	3.0	100	<5	18
SA3750	0.5	12.5	3800	<2	2.0	<50	<5	18
SA3751	0.5	16.5	4100	<2	3.0	<50	<5	26
BLANK 2	<0.5	<0.5	<100	<2	<0.5	<50	<5	<1
SA3752	<0.5	13.0	3800	<2	1.0	<50	<5	13
SA3753	0.5	21.0	3600	<2	2.0	<50	<5	31
SA3754	0.5	20.5	3900	<2	2.0	<50	<5	27
SA3755	0.5	22.5	4600	<2	3.0	<50	<5	27
SA3755 DUP	0.5	25.0	4400	<2	3.0	<50	<5	26
SA3756	0.5	23.5	3600	<2	2.0	<50	<5	21
SA3757	0.5	22.5	3900	<2	2.0	<50	<5	26
SA3758	0.5	15.0	4000	<2	2.0	<50	<5	21
SA3759	0.5	15.0	3800	<2	3.0	<50	<5	22
SA3760	0.5	20.5	4600	<2	3.0	<50	<5	25
SA3761	0.5	14.0	3300	<2	2.0	<50	<5	19
SA3762	0.5	17.5	3900	<2	2.0	<50	<5	24
SA3763	<0.5	6.5	2100	<2	2.0	<50	<5	11
SA3764	0.5	13.0	3900	<2	2.0	<50	<5	22
SA3765	0.5	11.5	3600	<2	2.0	<50	<5	21
Std Nominal	0.5	8.0			59.0	100	175	17
Determined	<0.5	8.0	2900	<2	54.5	<50	165	17
SA3766	0.5	13.0	3600	<2	2.0	<50	<5	21
SA3767	0.5	14.5	3400	<2	2.0	<50	<5	16
SA3768	0.5	21.0	4000	<2	1.0	<50	<5	16



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Method	PF102	PF102	PF101	PF102	PF102	PF101	PF102	PF102
Result Name	Ta	Th	Ti	Tl	U	V	W	Y
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	0.5	100	2	0.5	50	5	1
SA3769	0.5	14.0	3800	<2	2.0	<50	<5	20
SA3770	0.5	13.0	3900	<2	2.0	<50	<5	22
SA3771	0.5	16.0	4600	<2	3.0	<50	<5	25
SA3771 Rpt	0.5	16.0	4400	<2	3.0	<50	<5	25
SA3772	0.5	13.5	4100	<2	3.0	<50	<5	22
Std Nominal	1.0	11.5	1800	<2	4.0	<50	5	11
Determined	1.0	10.5	1800	<2	4.0	<50	<5	12
SA3773	<0.5	13.5	3300	<2	2.0	<50	<5	15
SA3774	0.5	18.0	4200	<2	3.0	<50	<5	22
SA3775	<0.5	15.0	3700	<2	2.0	<50	<5	18
SA3776	0.5	18.5	4200	<2	2.0	<50	<5	19
SA3777	0.5	13.0	3900	<2	2.0	<50	<5	20
SA3778	0.5	11.0	3800	<2	3.0	<50	<5	19
SA3779	0.5	13.0	3800	<2	2.0	<50	<5	21
SA3780	0.5	13.5	4200	<2	2.0	<50	<5	21
SA3781	0.5	11.5	3400	<2	2.0	<50	<5	18
SA3782	0.5	12.5	3300	<2	2.0	<50	<5	18
SA3783	0.5	13.0	3700	<2	2.0	<50	<5	17
SA3784	0.5	13.0	3600	<2	2.0	<50	<5	18
SA3785	0.5	11.0	3800	<2	2.0	<50	<5	17
SA3786	0.5	13.0	3900	<2	2.0	<50	<5	19
SA3786 Rpt	0.5	12.5	3800	<2	2.0	<50	<5	19
SA3787	<0.5	11.0	3400	<2	1.0	<50	<5	15
SA3788	<0.5	5.0	1500	<2	1.0	<50	<5	5
SA3789	0.5	10.5	3300	<2	2.0	<50	<5	18
SA3790	0.5	10.5	3400	<2	2.0	<50	<5	16
Std Nominal	1.0	16.0	4400	<2	3.5		<5	26
Determined	1.0	16.5	4400	<2	4.0	<50	<5	26
SA3791	0.5	13.0	3800	<2	2.0	<50	<5	19
SA3792	0.5	12.5	3300	<2	2.0	<50	<5	17
SA3793	<0.5	10.0	3200	<2	2.0	<50	<5	15
SA3794	0.5	13.0	4000	<2	3.0	<50	<5	21
SA3795	0.5	12.5	3800	<2	3.0	<50	<5	20
Std Nominal	0.5	8.5	3600	<2	2.5	150	<5	18
Determined	0.5	8.0	3700	<2	2.0	100	<5	17
SA3796	<0.5	11.5	3800	<2	2.0	<50	<5	18
SA3797	0.5	12.5	3700	<2	2.0	<50	<5	18
SA3798	<0.5	11.0	4100	<2	2.0	<50	<5	17
SA3799	0.5	12.5	4200	<2	2.0	<50	<5	17
SA3799 REP	0.5	12.5	4200	<2	2.0	<50	<5	18

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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Zn	Zr	La	Ce	Pr	Nd	Sm	Eu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	10	0.5	0.5	0.2	0.5	0.5	0.2
BLANK 1	<10	<10	<0.5	<0.5	<0.2	<0.5	<0.5	<0.2
SA3703	50	570	37.5	72.0	8.6	31.5	6.0	1.0
SA3704	50	520	38.5	76.0	9.4	32.0	6.5	1.0
SA3705	30	640	42.5	82.0	9.6	36.0	7.0	1.0
SA3706	50	870	39.5	81.0	10.0	35.0	6.5	1.2
SA3707	70	550	36.5	66.5	8.0	40.5	7.5	1.0
SA3708	60	720	39.0	77.5	9.4	34.5	6.5	1.2
Std Nominal	60	100	286	201	12.8	32.5	4.5	2.0
Determined	70	110	278	201	13.0	32.0	4.5	2.8
SA3709	90	480	70.0	112	15.2	54.0	10.5	2.2
SA3710	70	540	41.5	83.0	10.0	38.0	7.5	1.2
SA3711	60	530	36.0	73.5	8.8	32.0	6.0	1.2
SA3712	60	480	36.0	74.0	8.6	32.5	6.5	1.2
SA3713	70	340	24.5	50.5	6.4	23.5	4.5	1.0
SA3714	60	400	31.5	65.0	7.4	27.5	5.0	0.8
SA3715	50	410	29.0	59.0	7.2	24.5	5.0	1.0
SA3716	60	550	39.5	78.0	9.2	34.0	6.5	1.0
Std Nominal	1330	160	31.0	63.0	7.6	27.0	5.0	1.2
Determined	1330	180	32.5	66.0	7.6	28.0	5.0	1.0
SA3717	60	600	41.0	81.5	10.0	34.5	6.0	1.0
SA3718	110	530	58.5	109	14.6	54.0	11.0	2.6
SA3719	120	470	65.0	126	17.2	64.5	14.0	3.0
SA3720	60	710	40.5	82.0	10.0	35.0	6.5	1.0
SA3721	160	300	29.0	65.5	9.2	35.5	8.0	2.2
SA3722	110	320	23.0	45.5	6.4	25.0	6.0	1.4
SA3723	80	450	30.5	62.0	8.0	28.5	6.0	1.2
SA3724	80	330	26.0	54.5	7.0	25.5	5.0	1.0
SA3725	50	370	32.5	66.5	8.2	28.5	5.5	1.0
SA3725 Rpt	50	360	34.5	68.0	8.4	29.0	5.5	1.0
SA3726	50	480	28.5	60.0	7.0	24.0	4.5	0.8
SA3727	60	340	36.0	71.5	9.0	32.0	6.0	1.2
SA3728	60	450	34.5	67.0	8.2	29.0	5.0	1.2
SA3729	60	580	35.0	71.5	8.6	30.0	6.0	1.0
SA3730	100	610	37.0	75.5	9.6	37.0	7.0	1.4
SA3731	60	700	47.0	95.5	10.8	42.0	8.0	1.4
SA3732	70	360	21.0	52.0	7.0	27.0	6.0	1.6
SA3733	170	240	44.5	96.0	13.8	54.0	11.0	2.8
SA3734	110	260	27.0	59.0	6.8	28.0	6.0	1.2
SA3735	60	600	37.0	76.5	9.4	32.0	6.5	1.2
SA3736	50	420	31.0	63.5	7.6	26.5	5.0	0.8
SA3737	50	750	47.0	95.0	11.6	41.0	7.0	1.2



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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Zn	Zr	La	Ce	Pr	Nd	Sm	Eu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	10	0.5	0.5	0.2	0.5	0.5	0.2
SA3738	50	630	67.5	133	17.0	58.0	10.0	1.6
SA3739	50	720	105	207	27.6	97.0	17.0	3.8
Std Nominal	70	210	44.0	89.0	10.2	37.0	7.0	1.2
Determined	60	210	44.5	89.5	10.8	37.5	7.0	1.4
SA3740	50	590	61.5	127	15.4	54.0	9.0	1.4
SA3741	60	560	39.5	76.5	9.6	34.0	6.0	1.0
SA3742	20	380	52.0	98.0	11.2	41.0	8.0	1.0
SA3743	50	460	34.0	66.5	8.2	29.5	5.5	0.8
SA3744	60	450	40.5	78.0	10.0	34.5	6.5	1.0
SA3745	50	470	27.5	52.5	6.0	22.5	4.0	0.8
SA3746	60	420	31.5	63.0	7.4	28.0	5.0	0.8
SA3747	70	430	96.5	189	24.8	87.0	14.5	2.4
SA3747 Rpt	60	410	91.0	180	23.2	80.5	13.5	2.4
SA3748	40	510	29.5	58.0	7.2	26.5	5.0	1.0
SA3749	50	620	31.5	60.5	8.0	28.5	5.0	1.0
SA3749 DUP	50	590	31.5	62.0	8.0	29.0	6.0	1.0
Std Nominal	110	60	19.5	38.5	4.6	17.5	3.5	1.0
Determined	100	130	19.0	36.5	4.2	17.0	3.0	1.0
SA3750	20	510	29.5	56.5	6.6	25.5	4.5	0.8
SA3751	40	770	40.5	80.5	9.8	35.0	7.0	1.0
BLANK 2	<10	<10	<0.5	<0.5	<0.2	<0.5	<0.5	<0.2
SA3752	50	520	35.0	66.0	7.4	25.5	4.5	0.6
SA3753	50	590	77.0	142	18.4	62.5	11.5	1.8
SA3754	50	640	61.0	120	14.6	51.5	10.0	1.2
SA3755	20	680	60.0	118	14.0	48.5	9.5	1.2
SA3755 DUP	20	680	63.0	122	13.6	52.5	9.0	1.2
SA3756	50	550	61.0	123	14.6	49.5	7.5	1.2
SA3757	50	590	62.5	126	15.0	50.5	9.0	1.2
SA3758	30	600	46.0	80.5	9.8	33.5	6.5	0.8
SA3759	50	740	41.0	78.5	9.6	34.0	6.5	1.0
SA3760	40	920	50.0	101	11.8	42.0	7.5	1.0
SA3761	50	570	37.5	74.5	9.4	33.0	6.5	1.0
SA3762	40	710	44.5	89.0	10.8	39.5	7.0	1.0
SA3763	40	230	15.5	32.0	3.8	13.5	2.5	0.4
SA3764	30	670	33.0	63.5	8.0	27.5	5.0	0.8
SA3765	50	580	30.0	60.0	7.4	26.0	5.0	0.8
Std Nominal	60	100	286	201	12.8	32.5	4.5	2.0
Determined	80	90	285	204	12.8	32.5	4.5	2.0
SA3766	40	630	34.0	67.0	8.0	27.5	5.5	0.8
SA3767	40	500	38.0	76.0	8.8	32.5	6.5	0.8
SA3768	50	360	46.5	91.0	11.0	39.5	7.0	0.8



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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Zn	Zr	La	Ce	Pr	Nd	Sm	Eu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	10	10	0.5	0.5	0.2	0.5	0.5	0.2
SA3769	110	650	32.0	65.0	7.6	27.0	5.5	0.8
SA3770	50	520	34.0	67.0	8.2	30.0	5.5	1.0
SA3771	20	740	37.0	71.5	8.6	33.0	6.5	1.0
SA3771 Rpt	20	710	37.5	70.0	8.6	32.5	6.5	1.0
SA3772	30	760	33.0	65.0	8.2	29.0	5.5	0.8
Std Nominal	1330	160	31.0	63.0	7.6	27.0	5.0	1.2
Determined	1330	170	33.0	65.0	7.6	27.0	6.0	0.8
SA3773	30	580	32.0	65.0	8.0	27.5	4.5	0.6
SA3774	30	790	42.5	83.0	10.2	35.5	7.0	0.8
SA3775	40	510	35.5	72.5	8.6	31.0	5.0	0.6
SA3776	40	640	44.0	87.0	10.4	35.5	6.5	0.8
SA3777	30	640	31.5	62.5	7.6	26.5	5.5	0.8
SA3778	50	560	27.5	53.5	6.8	24.5	4.5	0.8
SA3779	40	570	31.5	63.5	7.6	26.5	5.0	0.8
SA3780	30	720	33.5	68.0	8.2	29.0	5.5	0.8
SA3781	50	480	28.0	57.0	6.8	25.0	5.0	0.6
SA3782	30	620	28.5	57.5	6.8	25.0	4.5	0.6
SA3783	50	570	29.0	59.5	7.2	25.5	5.0	0.8
SA3784	30	590	32.0	63.5	7.2	27.5	4.5	0.8
SA3785	30	510	25.0	52.0	5.8	22.0	4.5	0.8
SA3786	30	660	30.5	62.5	7.6	27.0	5.5	0.8
SA3786 Rpt	40	630	29.0	58.0	7.2	25.5	5.0	0.8
SA3787	50	430	26.0	53.0	6.2	25.0	4.0	0.6
SA3788	40	100	10.0	21.0	2.4	9.0	1.5	0.2
SA3789	80	500	26.0	53.0	6.6	24.5	4.0	0.6
SA3790	70	510	24.5	50.5	6.2	20.5	4.0	0.8
Std Nominal	70	210	44.0	89.0	10.2	37.0	7.0	1.2
Determined	80	210	44.5	90.0	10.6	39.0	7.0	1.2
SA3791	50	550	30.0	61.0	7.4	26.0	4.5	0.8
SA3792	40	600	28.5	57.0	6.8	23.5	4.5	0.8
SA3793	50	470	23.0	46.5	5.4	20.0	4.0	0.6
SA3794	50	650	31.5	62.0	7.6	27.5	5.5	0.8
SA3795	70	590	29.5	58.0	7.2	25.5	5.0	0.8
Std Nominal	110	60	19.5	38.5	4.6	17.5	3.5	1.0
Determined	120	120	18.0	36.0	4.4	16.5	3.5	0.8
SA3796	30	540	27.0	54.0	6.4	24.5	4.0	0.8
SA3797	40	580	29.5	58.0	6.8	25.5	5.0	0.8
SA3798	20	530	26.0	50.0	6.0	22.5	4.0	0.6
SA3799	30	480	28.5	56.5	7.2	26.0	5.0	0.8
SA3799 REP	30	480	28.5	56.0	7.2	26.0	5.0	0.8

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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.2	0.5	0.2	0.5	0.2	0.5	0.2
BLANK 1	<2	<0.2	0.0	<0.2	<0.5	<0.2	<0.5	<0.2
SA3703	4	0.8	4.5	1.0	2.5	0.4	2.5	0.4
SA3704	6	0.8	4.5	1.0	3.0	0.4	3.0	0.4
SA3705	6	0.8	5.5	1.0	3.5	0.4	3.0	0.4
SA3706	6	0.8	4.5	1.0	3.0	0.4	3.0	0.4
SA3707	6	0.6	4.0	0.8	2.5	0.4	2.5	0.4
SA3708	6	0.8	4.5	0.8	2.5	0.4	3.0	0.4
Std Nominal	4	0.6	3.0	0.6	2.0		2.0	0.2
Determined	4	0.6	3.0	0.6	2.0	0.2	2.5	0.4
SA3709	10	1.4	9.0	1.6	5.0	0.8	5.0	0.6
SA3710	6	1.0	6.0	1.2	4.0	0.6	3.5	0.6
SA3711	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3712	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3713	4	0.8	4.5	0.8	2.5	0.4	2.5	0.4
SA3714	4	0.6	3.5	0.8	2.5	0.4	2.5	0.4
SA3715	4	0.6	4.0	0.8	2.5	0.4	2.5	0.4
SA3716	6	0.8	4.5	1.0	3.0	0.4	3.0	0.4
Std Nominal	4	0.6	2.5	0.4	1.0	<0.2	0.5	<0.2
Determined	4	0.6	2.5	0.4	1.0	<0.2	1.0	<0.2
SA3717	6	0.8	4.5	1.0	3.0	0.4	3.0	0.4
SA3718	12	1.8	12.5	2.4	7.5	1.0	7.0	1.0
SA3719	14	2.2	13.0	2.6	7.5	1.0	7.5	1.0
SA3720	6	0.8	5.0	1.0	3.0	0.4	3.5	0.4
SA3721	10	1.6	10.5	2.0	6.0	1.0	6.0	0.8
SA3722	6	1.0	7.0	1.2	4.0	0.6	3.5	0.4
SA3723	6	0.8	5.5	1.0	3.5	0.4	3.5	0.4
SA3724	6	0.8	5.0	1.0	3.0	0.4	3.5	0.4
SA3725	4	0.6	4.0	0.8	2.5	0.4	2.5	0.4
SA3725 Rpt	4	0.6	4.0	0.8	2.5	0.4	2.5	0.4
SA3726	4	0.6	3.5	0.6	2.0	0.4	2.0	0.2
SA3727	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3728	6	0.8	4.5	0.8	3.0	0.4	2.5	0.4
SA3729	6	0.6	4.0	0.8	3.0	0.4	3.0	0.4
SA3730	6	1.0	5.5	1.0	3.5	0.4	3.5	0.4
SA3731	8	1.0	7.0	1.4	4.0	0.6	4.0	0.6
SA3732	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3733	12	1.8	11.5	2.2	7.0	0.8	6.0	0.8
SA3734	6	0.8	5.0	1.0	2.5	0.4	2.0	0.4
SA3735	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3736	4	0.6	3.5	0.6	2.0	0.4	2.0	0.2
SA3737	6	0.8	5.5	1.0	3.0	0.4	3.0	0.4



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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.2	0.5	0.2	0.5	0.2	0.5	0.2
SA3738	8	1.0	5.5	1.0	3.0	0.4	2.5	0.4
SA3739	16	2.2	11.5	2.0	6.0	0.8	6.0	0.8
Std Nominal	6	0.8	5.0	1.0	3.0	0.4	2.5	0.4
Determined	6	0.8	5.0	1.0	3.0	0.4	3.0	0.4
SA3740	8	1.0	5.0	0.8	2.5	0.4	2.5	0.4
SA3741	6	0.6	4.0	0.8	2.5	0.4	2.5	0.4
SA3742	6	0.8	4.0	0.6	2.0	0.2	2.0	0.2
SA3743	4	0.6	4.0	0.6	2.0	0.4	2.5	0.4
SA3744	6	0.8	4.0	0.8	2.5	0.4	2.5	0.4
SA3745	4	0.6	3.0	0.6	2.0	0.2	2.0	0.2
SA3746	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
SA3747	12	1.4	8.5	1.6	5.0	0.6	5.0	0.6
SA3747 Rpt	10	1.4	8.0	1.6	5.0	0.6	5.0	0.6
SA3748	4	0.6	3.5	0.6	2.5	0.4	2.5	0.4
SA3749	4	0.6	4.0	0.8	2.5	0.4	3.0	0.4
SA3749 DUP	4	0.6	4.0	0.8	2.5	0.4	2.5	0.4
Std Nominal	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
Determined	4	0.4	3.0	0.6	1.5	0.2	2.0	0.2
SA3750	4	0.6	3.5	0.8	2.5	0.4	2.5	0.4
SA3751	4	0.6	4.0	0.8	3.0	0.4	3.0	0.4
BLANK 2	<2	<0.2	0.0	<0.2	<0.5	<0.2	<0.5	<0.2
SA3752	4	0.4	2.0	0.4	1.0	<0.2	1.5	0.2
SA3753	8	1.0	6.0	1.0	3.0	0.4	3.0	0.4
SA3754	6	0.8	4.5	0.8	2.5	0.4	2.5	0.4
SA3755	6	0.8	5.0	0.8	2.5	0.4	2.5	0.4
SA3755 DUP	6	0.8	5.0	0.8	2.5	0.4	2.5	0.4
SA3756	6	0.8	3.5	0.6	2.0	0.2	2.0	0.2
SA3757	6	0.8	4.5	0.8	2.5	0.4	2.5	0.4
SA3758	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
SA3759	4	0.6	4.0	0.6	2.0	0.4	2.0	0.4
SA3760	6	0.8	4.5	0.8	2.5	0.4	2.5	0.4
SA3761	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
SA3762	4	0.8	4.0	0.8	2.5	0.4	3.0	0.4
SA3763	2	0.4	2.0	0.4	1.0	<0.2	1.0	<0.2
SA3764	4	0.6	3.5	0.8	2.5	0.4	2.5	0.4
SA3765	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
Std Nominal	4	0.6	3.0	0.6	2.0		2.0	0.2
Determined	4	0.4	2.5	0.6	1.5	0.2	2.0	0.4
SA3766	4	0.6	3.0	0.6	2.0	0.4	2.0	0.4
SA3767	4	0.4	2.5	0.4	2.0	0.2	2.0	0.2
SA3768	4	0.6	3.0	0.6	1.5	0.2	2.0	0.2



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Method	PF102	PF102	PF102	PF102	PF102	PF102	PF102	PF102
Result Name	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.2	0.5	0.2	0.5	0.2	0.5	0.2
SA3769	4	0.6	3.5	0.6	2.0	0.2	2.5	0.4
SA3770	4	0.6	4.0	0.6	2.5	0.4	2.5	0.4
SA3771	4	0.6	4.5	0.8	2.5	0.4	2.5	0.4
SA3771 Rpt	4	0.6	4.5	0.8	2.5	0.4	2.5	0.4
SA3772	4	0.6	4.0	0.8	2.0	0.4	2.5	0.4
Std Nominal	4	0.6	2.5	0.4	1.0	<0.2	0.5	<0.2
Determined	4	0.4	2.5	0.2	0.5	<0.2	0.5	<0.2
SA3773	4	0.4	2.5	0.4	1.5	0.2	1.5	0.2
SA3774	4	0.6	3.5	0.8	2.5	0.4	2.5	0.4
SA3775	4	0.4	3.0	0.6	2.0	0.2	2.0	0.2
SA3776	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
SA3777	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
SA3778	4	0.6	3.0	0.6	2.0	0.2	2.0	0.4
SA3779	4	0.6	3.5	0.6	2.0	0.4	2.0	0.4
SA3780	4	0.6	3.5	0.6	2.5	0.4	2.5	0.4
SA3781	4	0.6	3.0	0.6	2.0	0.2	2.0	0.2
SA3782	4	0.4	3.0	0.6	2.0	0.2	2.0	0.2
SA3783	4	0.6	3.0	0.6	2.0	0.2	2.0	0.2
SA3784	4	0.6	3.5	0.8	2.0	0.4	2.0	0.4
SA3785	4	0.4	3.0	0.6	2.0	0.2	1.5	0.2
SA3786	4	0.6	3.0	0.6	2.0	0.2	2.0	0.4
SA3786 Rpt	4	0.4	3.0	0.6	2.0	0.2	2.0	0.2
SA3787	4	0.4	2.5	0.6	1.5	0.2	1.5	0.2
SA3788	<2	<0.2	1.0	<0.2	0.5	<0.2	0.5	<0.2
SA3789	4	0.4	3.0	0.6	2.0	0.4	2.0	0.2
SA3790	4	0.6	2.5	0.6	1.5	0.2	2.0	0.2
Std Nominal	6	0.8	5.0	1.0	3.0	0.4	2.5	0.4
Determined	6	0.8	4.5	0.8	3.0	0.4	2.5	0.4
SA3791	4	0.6	3.5	0.6	2.0	0.2	2.5	0.2
SA3792	4	0.4	3.0	0.6	2.0	0.2	2.0	0.2
SA3793	2	0.4	2.5	0.6	1.5	0.2	1.5	0.2
SA3794	4	0.6	3.5	0.6	2.0	0.2	2.5	0.4
SA3795	4	0.6	3.5	0.6	2.0	0.2	2.5	0.2
Std Nominal	4	0.6	3.5	0.6	2.0	0.2	2.0	0.2
Determined	2	0.4	2.5	0.4	1.5	0.2	1.5	0.2
SA3796	4	0.6	3.5	0.6	2.0	0.4	2.5	0.4
SA3797	4	0.4	3.0	0.6	2.0	0.4	2.5	0.2
SA3798	4	0.6	3.5	0.6	2.0	0.4	2.0	0.4
SA3799	4	0.4	3.0	0.6	2.0	0.4	2.0	0.4
SA3799 REP	4	0.4	3.0	0.6	2.0	0.4	2.0	0.4

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\*\*\*\*\*  
These results pertain to the samples as received at this laboratory.  
Where standards are reported, the nominal value for the element is reported above the result found.

"%" Implies this result reported in %

#### Sample Storage

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The excess material (Residue) will be held after 30 days

The pulp samples (Pulp) will be held after 60 days as per instructions.

#### Sample Preparation

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Samples are dried and then the whole pulverised.

#### Digest and Analysis:

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The samples have been fused with Sodium Peroxide and subsequently the melt has been dissolved in dilute Hydrochloric acid for analysis. Because of the high furnace temperatures, volatile elements are lost. This procedure is particularly efficient for determination of Major element composition (including Silica) in the samples or for the determination of refractory mineral species.

Ba,Ca,Cr,Fe,K,Li,Mg,Mn,P,S,Sc,Si,Ti,V

have been determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry.

Ag,As,Be,Bi,Cd,Ce,Co,Cs,Cu,Dy,Er,Eu,Gd,Ge,Hf,Ho,In,La,Lu,Mo,Nb,Nd,Ni,Pb,Pr,Rb,Re,Sb,Sm,Sn,Sr,Ta,Tb,Th,Tl,Tm,U,W,Y,Yb,Zn,Zr

have been determined by Inductively Coupled Plasma (ICP) Mass Spectrometry.