

**PROGRESSIVE ALBITISATION IN THE “MIGMATITE CREEK”
REGION, WEEKEROO INLIER, CURNAMONA**

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by

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APPENDIX A: LOCATION OF SAMPLES AND FIELD DESCRIPTION

Table A: Location and description of samples.

Sample No	X	Y	Z	Lithology
A2213-Mp001	410257	6434953	339	Pegmatite
A2213-B002	410237	6435041		Breccias
A2213-L003	410278	6435037		Psammite
A2213-Ab004	410285	6435038	333	Albitised psammite
A2213-PB005	410272	6435155		Pipe breccias
A2213-Mb006	410268	6435153		Albitised psammopelite
A2213-Uap007	410268	6435153		Psammopelite
A2213-Ps008	410151	6435135		Psammite
A2213-Bi009	410151	6435135		Biotite alteration of psammite
A2213-Ab010	410151	6435135		Albitised psammite
A2213-Am011	410246	6435247	343.3	Amphibolite
A2213-AbA012	410246	6435247	343.3	Albitised amphibolite
A2213-Bi013	409924	6435052	340.3	Biotite alteration of psammopelite
A2213-MAb014	409924	6435052	340.3	Mid-albitised psammopelite
A2213-HAb015	409924	6435052	340.3	Intensive albitisation of psammopelite
A2213-MPL016	409919	6435198		Psammopelite
A2213-Pm017	409919	6435198		Pegmatite
A2213-Ab018	409643	6434929	370.5	Albitised psammopelite (Pelite?)
A2213-Ab020	409884	6434772	356.5	Albitised psammite
A2213-Ab021	410214	6435063	346.6	Albitised psammite
A2213-AbP022	410214	6435063	346.6	Albitised pegmatite
A2213-BAb023	410217	6435004	343.6	Breccia
A2213-Ab024	410033	6434980	368	Altered psammopelite
A2213-AbP025	410033	6434980	368	Albitised pegmatite
A2213-Ab026	410033	6434980	368	Albitised psammite
A2213-Ab027	410356	6435046		Altered psammopelite (Cleavage and Migmatite)
A2213-Ab028	410356	6435046		Albitised psammopelite
A2213-Lcs029	410356	6435046		Low alteration psammite
A2213-LMAb30	410356	6435046		Mid-Altered Psammite
A2213-OP031	410378	6435120	373.9	Pegmatite
A2213-BP032	410378	6435120	373.9	Altered pegmatite
A2213-BB033	410378	6435120	373.9	Altered breccia
A2213-Pb034	410607	6435187	377.8	Fine pegmatite
A2213-Ps035	410607	6435187	377.8	Coarse pegmatite
A2213-Ab036	410797	6435198	351.6	Albitised pelite (psammopelite?)
A2213-Ab037	408922	6434436	398.1	Albitised psammopelite
A2213-Psp038	408922	6434436	398.1	Altered pelite
A2213-BAb039	408924	6434471	394.9	Altered psammopelite
A2213-Ps040	408924	6434471	394.9	Albitised breccia
A2213-AP041	409206	6434425		Albitised pegmatite
A2213-AP042	409342	6434360	394	Altered pegmatite

Notes: X, Y and Z are automatically produced by GPS in the Geocentric Datum of Australia (GDA 94).

APPENDIX B WHOLE – ROCK CHEMISTRY

Table B-1: Whole rock data (XRF) represent the original and the altered rock types.

Rock type	Pegmatite	Breccia	Psammite	Albitised psammite	Pipe breccia	Albitised psammopelite	Psammopelite	Psammite	Altered psammite	Albitised psammite	
Sample	MP001	B002	L003	Ab004	PB005	Mb006	Uap007	Ps008	Bi009	Ab010	
SiO ₂	%	73.24	81.42	85.90	74.99	75.75	77.01	86.45	76.78	61.20	76.73
Al ₂ O ₃	%	15.04	11.02	7.78	15.14	11.48	13.64	6.64	11.48	17.51	12.34
Fe ₂ O ₃ T	%	0.16	0.32	0.55	0.14	3.07	0.98	2.72	2.25	4.53	0.44
MnO	%	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.03	0.05	0.01
MgO	%	0.09	0.16	0.24	0.04	1.59	0.01	0.13	2.02	4.77	0.16
CaO	%	0.21	0.16	0.22	0.14	0.09	0.14	0.05	0.20	0.22	0.13
Na ₂ O	%	4.73	5.99	3.96	8.60	5.26	7.71	3.70	4.83	6.75	6.37
K ₂ O	%	5.85	0.20	0.36	0.14	0.94	0.12	0.07	1.55	3.12	0.50
TiO ₂	%	0.00	0.14	0.31	0.20	0.58	0.15	0.23	0.20	0.31	0.14
P ₂ O ₅	%	0.15	0.02	0.07	0.01	0.04	0.01	0.04	0.02	0.02	0.02
SO ₃	%	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01
LOI	%	0.19	0.16	0.24	0.08	0.61	0.13	0.13	0.43	0.65	0.35
Total	%	99.67	99.58	99.67	99.48	99.46	99.90	100.15	99.79	99.13	97.19
Sc	ppm	0.2	3.7	4.9	3.2	10.0	1.5	1.7	4.0	11.5	1.5
V	ppm	6	9	21	9	33	13	26	21	35	8
Cr	ppm	9	0	37	4	7	3	21	7	2	4
Co	ppm	69	36	49	23	50	26	52	32	20	45
Ni	ppm	3	1	2	0	14	1	2	14	36	2
Zn	ppm	1	7	6	1	28	0	1	19	46	0
Ga	ppm	15.2	19.6	11.7	23.1	25.3	26.9	9.3	17.7	39.9	18.1
Rb	ppm	107.2	7.0	15.9	4.1	38.1	2.9	2.1	44.6	91.6	9.3
Sr	ppm	40.1	20.8	16.3	21.3	7.2	21.6	11.8	14.7	22.5	20.6
Y	ppm	7.4	98.4	129.4	75.7	363.9	115.3	31.1	114.3	110.0	188.3
Zr	ppm	4.5	335.6	224.2	405.0	578.6	405.4	201.7	371.0	621.5	329.4
Nb	ppm	1.8	60.7	19.0	67.3	162.6	97.0	7.4	67.8	83.2	66.8
Ba	ppm	885	40	64	21	118	26	57	131	206	125

Th	ppm	2.0	34.6	13.5	42.7	42.3	48.5	8.3	34.9	47.6	33.8
U	ppm	0.5	3.6	1.9	3.4	87.9	7.4	1.6	11.8	12.0	3.3
Pb	ppm	13.7	5.7	5.2	4.3	6.0	4.6	3.2	4.9	5.8	3.9
La	ppm	0	1	87	0	11	3	82	20	3	0
Ce	ppm	5	16	201	4	46	17	192	58	17	7
Nd	ppm	0	10	105	3	22	16	102	33	6	3
IC3R											
Pr	ppm	0.1	1.45	42	0.3	6	L.N.R.	43	10	2.1	0.4
Nd	ppm	0.47	7	160	2	26.5	L.N.R.	160	42	10	2.2
Sm	ppm	0.17	3.8	28.5	1.55	12.5	L.N.R.	25.5	11.5	4.2	1.6
Eu	ppm	0.07	1	3.1	0.39	2.1	L.N.R.	2.5	1.75	0.84	0.35
Gd	ppm	0.15	6.5	17.5	2.3	16.5	L.N.R.	12.5	11.5	6	2.7
Tb	ppm	0.04	1.75	2	0.72	4	L.N.R.	1.15	2.2	1.45	0.77
Dy	ppm	0.21	11	8.5	4.3	22.5	L.N.R.	4.7	11	9	5
Ho	ppm	0.05	2	1.35	0.82	4.2	L.N.R.	0.81	1.95	1.7	1
Er	ppm	0.15	6.5	4.1	2.7	13.5	L.N.R.	2.6	6	6	3.6
Tm	ppm	<0.05	0.9	0.55	0.4	1.9	L.N.R.	0.35	0.85	0.9	0.5
Yb	ppm	0.45	6	3.7	2.8	13	L.N.R.	2.3	6	7	3.7
Lu	ppm	0.03	0.83	0.53	0.39	1.8	L.N.R.	0.33	0.88	1.05	0.56

Notes: 1. The Black mark REE (Rare Earth Element) were analysed by IC3R (See below) in Amdel Limited. The rest was analysed by XRF in the Mawson Laboratory. 2. The oxides analysed are 11 major elements, SiO₂, Al₂O₃, Fe₂O₃, MnO, MgO, CaO, Na₂O, K₂O, TiO₂, P₂O₅, and SO₃. XRF is suited particularly to silicate samples. The iron is analysed as total Fe (combining the ferrous and ferric forms), expressed as Fe₂O₃. 3. 19 trace elements (without Cu) are analysed (detection limits [DL] in ppm in brackets - accuracy +/- 5% at 100 x DL): Sr (1.0), Rb (1.0), Y (1.0), Zr (2.0), Nb (1.5), Pb (2.5), Th (1.5), U (1.5), Ba (3), Sc (2), Ga (2), V (2), Cr (1.5), Ce (5), Nd (3), La (2), Ni (3), Cu (4), Zn (3), Co (2).

Table B-2: Whole-rock data (Amdel methods) represent all lithologies, albitised/altered metasediments, amphibolite, pegmatite and breccias in the Migmatite Creek regions.

Rock type	Amphibolite	Albitised amphibolite	Biotite alteration	Mid-Albitised psammopelite	Intensive albitisation	Psammopelite	Pegmatite	Albitised psammopelite	Albitised psammite	Albitised psammite
Sample	AM011	ABA012	BI013	MAB014	HAB015	MPL016	PM017	AB018	AB020	AB021
SiO ₂	63.1	62.4	58.8	67.4	67.1	60.7	83.2	77.8	79.3	77.7
Al ₂ O ₃	7.67	7.41	15	18.5	18.1	19.7	9.58	11.8	11.7	13.5
Fe ₂ O ₃	22.9	22.3	8.37	0.86	2.94	4.61	0.53	0.22	1.09	0.29
MnO	0.04	0.05	0.08	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01
MgO	1.52	2.28	6.03	0.1	0.1	2.7	0.23	0.14	0.03	0.13
CaO	0.3	0.28	0.58	0.85	0.46	0.3	0.23	0.11	0.09	0.16
Na ₂ O	3.16	2.6	4.38	10.3	10.1	4.19	4.24	5.87	6.32	7.33
K ₂ O	0.45	0.67	1.86	0.26	0.23	5.34	1.52	1.09	0.56	0.59
TiO ₂	0.335	0.28	0.81	0.96	0.665	0.695	0.055	0.17	0.16	0.2
P ₂ O ₅	0.19	0.16	0.35	0.55	0.15	0.16	0.11	0.01	<0.01	0.03
Total %	99.665	98.43	96.26	99.78	99.845	98.435	99.695	97.21	99.25	99.93
LOI	0.64	0.63	2.7	0.47	0.41	2.15	0.6	0.51	0.39	0.44
Sc	<5	<5	14	<5	<5	18	<5	<5	<5	<5
V	70	70	80	50	70	70	<20	<20	30	<20
Cr	40	30	80	50	50	100	<20	<20	<20	<20
Co	52	21.5	31.5	32.5	27	20	100	24.5	19.5	44.5
Ni	6	5	62	<2	<2	35	3	<2	<2	<2
Cu	7.5	2	3	2.5	6	1.5	2.5	3	3.5	9
Zn	50	58	105	<0.5	<0.5	47	11	1.5	<0.5	3
Ga	14.5	16	29.5	24	21.5	32	11	28.5	26	27.5
As	13.5	2.5	<0.5	<0.5	0.5	<0.5	1	<0.5	0.5	<0.5
Se	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Rb	18.5	32.5	110	1.7	1.3	240	31.5	15	9	4
Sr	31.5	15	31.5	16	24	22.5	34.5	17.5	15	9.5
Y	7	8	10.5	4.4	1.65	16.5	19	27	25	12.5

Zr	120	90	190	310	230	150	80	350	310	330
Nb	<0.5	<0.5	6.5	10.5	7.5	20.5	3.5	50	54	54
Mo	0.7	1.5	0.3	0.4	0.4	0.3	1.3	0.4	0.3	0.6
Ag	0.3	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Cd	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
In	<0.05	<0.05	0.1	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05
Sb	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Te	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cs	0.3	0.5	1.5	<0.1	<0.1	3.9	0.2	0.2	<0.1	<0.1
Ba	40	30	110	20	50	500	150	80	140	40
La	36.5	31	40.5	2.5	3	54	30	38	2	1
Ce	74	62	84	4.5	6	88	62	86	3.5	2
Pr	7.5	6.5	9	0.65	0.75	7.5	7	13.5	1.1	0.4
Nd	28.5	25	34	3.1	3.1	26.5	29	60	7.5	2.4
Sm	5.5	5.5	7	1.1	0.75	6	7	14	5	1.75
Eu	0.83	0.8	1	0.2	0.12	1.05	1.1	1.3	1.05	0.36
Gd	3.4	3.6	4.8	1.2	0.55	5	4.9	10	6	2.3
Tb	0.44	0.48	0.65	0.2	0.09	0.84	0.83	1.75	1.55	0.63
Dy	2	2.2	2.9	1.05	0.45	4.5	4.8	10	10	4.3
Ho	0.31	0.33	0.43	0.18	0.08	0.72	0.85	1.6	1.8	0.8
Er	0.9	0.9	1.1	0.6	0.25	2	2.6	4.8	5.5	2.5
Tm	0.1	0.1	0.15	0.1	<0.05	0.25	0.35	0.65	0.8	0.35
Yb	0.75	0.8	0.85	0.75	0.35	1.85	2.5	4.8	5.5	2.5
Lu	0.12	0.11	0.13	0.13	0.05	0.27	0.34	0.67	0.78	0.35
Th	10.5	9	23.5	9	7	23.5	15	37.5	31.5	14.5
U	4.2	2.9	3.6	0.53	0.44	36.5	21	3.1	2.1	2.3
W	500	220	240	360	310	220	1050	310	240	600
Tl	0.1	0.2	0.6	<0.1	<0.1	1.2	0.2	<0.1	<0.1	<0.1
Pb	6	2	3	2.5	3	4	5.5	5.5	5	3.5
Bi	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1

Table B-2 (continued).

Rock type	Albitised pegmatite	Breccia	Altered psammopelite	Albitised pegmatite	Albitised psammite	Altered psammopelite	Albitised psammopelite	Low altered psammite	Mid-Altered psammite	Pegmatite
Sample	ABP022	BAB023	AB024	ABP025	AB026	AB027	AB028	LCS029	LMAB30	OP031
SiO ₂	73.6	79.4	76.1	76.1	77.8	83.5	79.7	80.6	83.2	76.3
Al ₂ O ₃	14.6	10.7	12.2	13.5	11.4	9.29	12.6	7.6	7.67	12.5
Fe ₂ O ₃	0.22	1.66	3.63	0.65	2.16	0.57	0.21	1.81	1.36	0.21
MnO	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MgO	0.14	1.07	0.03	0.06	0.02	0.12	0.03	0.03	0.09	0.08
CaO	0.34	0.19	0.05	0.07	0.05	0.08	0.1	0.06	0.08	0.16
Na ₂ O	7.65	4.91	6.07	5.66	5.13	4.87	7.15	4.25	4.21	4.34
K ₂ O	0.89	0.52	1.35	3.07	2.13	0.32	0.15	0.17	0.2	4.17
TiO ₂	0.07	0.14	0.17	0.09	0.175	0.2	0.145	0.295	0.27	0.115
P ₂ O ₅	0.11	0.16	<0.01	0.09	<0.01	0.02	0.04	0.06	0.04	0.19
LOI	0.64	1.39	0.49	0.65	0.51	0.58	0.4	0.3	0.31	0.53
Total %	97.62	100.16	100.09	99.94	99.375	99.55	100.525	95.175	97.43	98.595
Sc	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
V	<20	<20	<20	<20	<20	<20	<20	40	30	<20
Cr	<20	<20	<20	<20	<20	<20	<20	30	30	<20
Co	58	47.5	54	68	62	64	25.5	74	78	72
Ni	<2	8	<2	<2	<2	<2	<2	<2	<2	<2
Cu	13.5	5.5	2	31.5	11.5	8.5	6	2.5	1.5	8.5
Zn	6	19.5	<0.5	3.5	<0.5	1	<0.5	<0.5	<0.5	3
Ga	18.5	28	26	15.5	24	19	25.5	16.5	16	14.5
As	1	0.5	0.5	1	1	0.5	1	1	0.5	1
Se	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Rb	7	18.5	17	43	27	12	1.7	4.9	6.5	52
Sr	15.5	21.5	8	14	22	45.5	13	19	14	19
Y	10.5	74	37.5	9.5	41	47.5	16	46.5	28.5	10.5
Zr	60	300	300	<20	310	340	270	330	230	30

Nb	17.5	56	33	5.5	54	48.5	60	7.5	9.5	7.5
Mo	0.8	0.7	0.8	1.1	0.9	0.8	0.9	0.9	1	1
Ag	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cd	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
In	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sb	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Te	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cs	<0.1	0.5	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.3
Ba	120	50	50	420	80	1250	30	60	70	360
La	5	72	4.5	2	4.5	45	7	155	86	3
Ce	10	170	7	2.5	13	84	16	220	180	6
Pr	1.35	19	2.2	0.5	2.1	10.5	2.2	36	19.5	0.75
Nd	6	80	11	2.2	11	41	9	140	76	3.4
Sm	2.6	19.5	5	0.92	5	9.5	2.8	24.5	13	1.3
Eu	0.52	3.2	1.2	0.29	1.15	1.75	0.55	3.2	1.6	0.34
Gd	2.3	18.5	6.5	1.3	6.5	8.5	2.9	15	7.5	1.5
Tb	0.54	4	1.65	0.31	1.75	2.1	0.89	2	1.1	0.36
Dy	3.4	24	10.5	2	12.5	14	6.5	10.5	6	2.3
Ho	0.62	4.3	1.95	0.38	2.3	2.7	1.25	1.8	1.1	0.42
Er	1.95	12.5	6.5	1.15	7.5	8.5	4.1	5	3.2	1.35
Tm	0.25	1.6	0.95	0.15	1.15	1.15	0.6	0.65	0.4	0.2
Yb	1.9	10.5	6.5	0.85	8.5	8	4.1	3.9	2.7	1.3
Lu	0.27	1.4	0.97	0.12	1.2	1.05	0.59	0.54	0.38	0.18
Th	8	41	17	1.45	33	28.5	20.5	13	11.5	3.4
U	1.05	7.5	1.45	0.23	6.5	3.2	2.3	2.4	2	6
W	750	550	410	850	650	850	370	900	950	900
Tl	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.3
Pb	2	7.5	2.5	2.5	3.5	8.5	2	2.5	2.5	16.5
Bi	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table B-2 (continued).

Rock type	Altered pegmatite	Altered breccia	Fine pegmatite	Coarse pegmatite	Albitised pelite	Albitised psammopelite	Altered pelite	Altered psammopelite	Albitised breccia	Albitised pegmatite	Altered pegmatite
Sample	BP032	BB033	PB034	PS035	AB036	AB037	PSP038	BAB039	PS040	AP041	AP042
SiO ₂	82	74.7	72.4	78.7	79.6	77.9	61.6	80.7	84.6	66.2	76.5
Al ₂ O ₃	9.67	13.4	14.1	8.72	11.9	13.5	17.3	8.99	7.44	18.7	12.7
Fe ₂ O ₃	1.23	1.82	0.5	3.55	0.58	0.19	7.08	2.52	2.13	0.11	1.72
MnO	<0.01	0.03	<0.01	0.02	<0.01	<0.01	0.16	0.02	0.03	<0.01	<0.01
MgO	0.34	1.69	0.15	1.11	0.07	0.03	2.58	0.6	0.68	0.01	0.32
CaO	0.08	0.13	0.14	0.08	0.06	0.12	0.25	0.07	0.06	0.3	0.11
Na ₂ O	3.98	5.96	4.48	1.77	6.71	7.49	2.45	3.79	3.13	7.98	6.94
K ₂ O	1.65	1.57	4.92	3.82	0.29	0.24	5.33	1	0.64	4.01	0.18
TiO ₂	0.155	0.18	0.06	0.54	0.09	0.1	0.57	0.14	0.11	0.235	0.16
P ₂ O ₅	0.03	0.02	0.17	0.1	<0.01	0.01	0.17	0.04	0.02	0.06	0.02
LOI	0.67	0.93	0.87	0.93	0.4	0.53	2.6	0.7	0.9	0.61	0.62
Total %	99.805	100.43	97.79	99.34	99.7	100.11	100.09	98.57	99.74	98.215	99.27
Sc	<5	<5	<5	16	<5	<5	12	<5	<5	<5	<5
V	<20	<20	<20	40	<20	<20	90	<20	<20	<20	<20
Cr	<20	<20	<20	80	<20	<20	80	<20	<20	<20	<20
Co	60	56	86	100	76	70	32.5	60	86	60	58
Ni	2	20	<2	21	<2	<2	31	4	6	<2	2
Cu	11.5	3.5	3.5	4	1	18	115	14.5	50	3.5	1.5
Zn	11.5	54	8	34	<0.5	4.5	155	31.5	43.5	23.5	5.5
Ga	21	27.5	18	20	30	28.5	35	23	19.5	28	36.5
As	1	1	1	1	0.5	<0.5	1	<0.5	0.5	0.5	0.5
Se	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Rb	34	72	100	155	2.6	3.1	220	49	35.5	45	1.3
Sr	16.5	19	40.5	23	12.5	13	28.5	10.5	9.5	14.5	13.5
Y	38	41.5	7	10	26	22	22	25	32.5	8	31

Zr	300	450	<20	390	180	260	120	240	270	550	300
Nb	20.5	86	9.5	16	80	110	31.5	42	2	47.5	52
Mo	1.4	0.7	1	1.5	0.9	0.8	1	0.7	2.3	0.7	1.3
Ag	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Cd	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.3	<0.1
In	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2	<0.05	<0.05	<0.05	<0.05
Sb	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Te	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cs	0.2	1.4	0.7	3.3	<0.1	<0.1	1.9	0.3	<0.1	0.3	<0.1
Ba	150	240	550	330	20	50	1000	100	50	280	<20
La	42.5	30	5.5	30.5	1	5.5	86	3	9	1	7
Ce	94	44.5	10	70	1.5	6	155	7	26.5	1.5	20
Pr	12.5	7	1.2	7.5	0.45	1.75	17	1.5	3.1	0.35	3.1
Nd	54	28.5	4.7	28.5	2.3	7.5	62	9.5	16	1.8	17
Sm	14	8.5	1.5	7	1.5	3.3	11.5	6	8	0.99	7
Eu	1.75	1.5	0.51	0.79	0.52	0.62	1.55	1.1	1.55	0.44	1.45
Gd	10	8	1.25	4.7	2.3	3.8	6.5	6	7.5	1.4	7.5
Tb	1.9	2	0.29	0.71	0.77	1.05	0.96	1.45	1.75	0.35	1.5
Dy	11.5	14	1.85	3.2	6.5	7	5	9	11	2.3	9.5
Ho	2	2.6	0.32	0.42	1.4	1.4	0.81	1.55	1.95	0.45	1.75
Er	6.5	8.5	1	1.1	5.5	4.7	2.3	4.9	6	1.55	5.5
Tm	0.85	1.25	0.15	0.15	0.9	0.7	0.3	0.7	0.85	0.25	0.8
Yb	6.5	9	1.1	1	7.5	5	2	4.9	6	1.95	5.5
Lu	0.89	1.3	0.15	0.16	1.1	0.71	0.29	0.74	0.84	0.35	0.81
Th	31.5	47	5.5	26.5	14	22	23.5	34.5	33.5	18	25
U	5.5	5.5	2.6	8	2.4	1.3	3.1	2.9	4.7	0.64	1.65
W	550	490	1000	900	850	750	340	650	550	550	600
Tl	0.2	0.4	0.4	0.7	<0.1	<0.1	1.3	0.3	0.2	0.3	<0.1
Pb	6.5	5	18.5	16.5	1.5	3.5	4.5	3.5	3	8.5	3.5
Bi	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes: 1. The results for elements 'Al, Ba, Cr, Ti, W, Zr, Sn' by code IC3E digest are acid soluble only, and results may be semi-quantifiable. K' values > 1% by code IC3E may bias low due to the insolubility of potassium perchlorate. 2. For scheme IC4, Total 'Fe' is analysed but is calculated and reported as 'Fe2O3'. 3. 10 Major elements were analysed by IC4 at wt% without SO₃. 43 trace elements were analysed at ppm, Sc, V, Cr, Zr and Ba by IC4 and the rest by IC3M/R. 4. IC3M: A subsample of up to 0.2 g of the analytical pulp is digested using an HF/multi acid digest and the solution is presented to an ICP-MS for the quantification of the elements of interest. Nominal Range is to 0.1%. Some elements may be inappropriate due to mineralisation present. 5. IC3R: The solution from the IC3M digest listed above is prepared and presented to an ICP-MS for the quantification of the elements of interest. Nominal Range is to 0.1%. Some elements may be inappropriate due to mineralisation present. 6. IC4: A 0.1 g subsample of the analytical pulp is fused with lithium metaborate followed by dissolution to give a "total solution". The solution is presented to an ICPOES for the determination of elements of interest.

APPENDIX C MINERAL CHEMISTRY

Electron Microprobe Analyses of individual mineral phases.

Table C-1 Electron microprobe analyses of mineral grains: feldspars, amphiboles, micas, quartz, magnetite and apatite.

Sample Ps008 unalbitised psammitite

Points	Minerals	Ox% (SiO ₂)	Ox% (TiO ₂)	Ox% (Al ₂ O ₃)	Ox% (Fe ₂ O ₃)	Ox% (MnO)	Ox% (MgO)	Ox% (Na ₂ O)	Ox% (K ₂ O)	Ox% (CaO)	Ox% (P ₂ O ₅)	Ox% (Cr ₂ O ₃)	Ox% (SrO)	Ox% (BaO)	Ox% (F)
pt6	Albite	69.43	0.00	21.00	0.04	0.00	0.00	11.05	0.07	0.28	0.01	0.00	0.00	0.05	0.05
3-1	Albite	70.95	0.01	21.09	0.03	0.02	0.00	8.31	0.05	0.25	0.05	0.00	0.00	0.00	0.01
3-2	Albite	68.06	0.01	19.86	0.04	0.03	0.00	9.64	0.16	0.19	0.01	0.06	0.00	0.00	0.00
3-3	Albite	69.49	0.00	20.85	0.04	0.00	0.00	10.75	0.15	0.15	0.00	0.02	0.00	0.00	0.22
4-1	Albite	69.07	0.04	20.74	0.00	0.02	0.00	12.13	0.09	0.20	0.03	0.00	0.00	0.00	0.05
4-2	Albite	68.79	0.00	20.81	0.00	0.00	0.00	11.88	0.06	0.17	0.01	0.00	0.00	0.02	0.00
4-3	Albite	68.11	0.02	20.11	0.02	0.00	0.03	11.88	0.10	0.15	0.05	0.00	0.00	0.02	0.16
5-1	Albite	70.27	0.00	21.07	0.08	0.02	0.00	8.79	0.06	0.21	0.00	0.05	0.00	0.00	0.02
5-2	Albite	68.74	0.01	21.26	0.00	0.03	0.00	11.45	0.07	0.42	0.00	0.00	0.00	0.05	0.06
5-3	Albite	68.83	0.00	21.01	0.09	0.00	0.00	11.76	0.08	0.20	0.00	0.00	0.00	0.00	0.20
5-4	Albite	68.27	0.01	20.91	0.09	0.05	0.00	11.63	0.09	0.23	0.03	0.00	0.00	0.13	0.04
6-1	Albite	69.57	0.04	21.59	0.08	0.01	0.00	7.38	0.06	0.22	0.02	0.00	0.00	0.06	0.16
7-2	Albite	68.86	0.00	21.08	0.17	0.00	0.00	10.31	0.05	0.11	0.04	0.11	0.00	0.00	0.09
8-1	Albite	68.29	0.00	20.75	0.04	0.03	0.03	10.71	0.04	0.23	0.00	0.00	0.00	0.00	0.00
9-1	Albite	66.91	0.04	21.13	0.04	0.00	0.00	10.22	0.06	0.18	0.01	0.00	0.00	0.01	0.14
pt2	Biotite	38.19	0.81	16.73	12.46	0.19	16.47	0.31	9.65	0.00	0.08	0.00	0.00	0.03	2.17
pt3	Biotite	37.04	1.08	17.15	13.21	0.13	15.24	0.14	9.56	0.00	0.02	0.02	0.00	0.09	1.70
pt4	Biotite	38.10	1.09	17.49	13.46	0.13	15.92	0.10	8.94	0.00	0.00	0.00	0.00	0.05	1.70
3-6	Biotite	37.89	0.83	17.29	12.63	0.19	15.80	0.84	9.74	0.00	0.04	0.00	0.00	0.08	1.91
3-7	Biotite	37.58	0.83	16.84	12.49	0.04	15.41	0.62	9.18	0.02	0.05	0.04	0.00	0.15	1.66
3-8	Biotite	37.63	0.95	16.03	12.66	0.16	15.62	0.22	9.52	0.00	0.01	0.00	0.00	0.00	1.83
3-9	Biotite	38.12	0.91	17.87	12.82	0.14	16.04	0.45	9.41	0.00	0.03	0.00	0.00	0.09	1.95
3-10	Biotite	37.89	0.93	16.98	12.96	0.10	15.39	0.94	9.70	0.00	0.00	0.02	0.00	0.01	1.87
5-7	Biotite	38.98	0.79	15.66	12.51	0.21	16.32	0.17	8.98	0.00	0.06	0.00	0.00	0.04	2.17
5-9	Biotite	39.92	0.84	16.39	12.31	0.11	17.23	0.19	9.00	0.02	0.06	0.00	0.00	0.01	1.96
6-2	Biotite	37.17	0.82	16.66	12.72	0.12	16.21	0.14	9.37	0.00	0.00	0.04	0.00	0.00	2.01

7-1	Biotite	36.37	0.92	16.64	13.37	0.16	15.22	0.20	9.34	0.02	0.00	0.00	0.00	0.11	1.83
8-2	Biotite	36.23	1.01	16.63	13.29	0.14	14.98	0.20	9.33	0.00	0.07	0.03	0.00	0.11	1.86
9-2	Biotite	36.56	0.86	16.89	12.54	0.09	15.80	0.22	9.16	0.01	0.03	0.00	0.00	0.00	1.94
4-6	Amphibole	31.45	0.10	16.91	12.61	0.14	0.22	0.05	0.03	14.23	0.00	0.00	0.00	0.06	0.64
4-7	Amphibole	31.03	0.06	16.50	13.10	0.18	0.18	0.04	0.03	13.56	0.00	0.00	0.00	0.10	0.53
pt1	Quartz	97.74	0.00	0.02	0.00	0.00	0.01	0.00	0.01	0.01	0.04	0.02	0.00	0.07	0.08
pt5	Albite	73.19	0.02	21.19	0.03	0.00	0.00	4.41	0.06	0.25	0.00	0.02	0.00	0.04	0.12
3-4	Quartz	99.41	0.00	0.05	0.08	0.05	0.01	0.05	0.02	0.02	0.00	0.00	0.00	0.06	0.07
3-5	Quartz	95.52	0.01	0.99	0.15	0.01	0.00	0.79	0.41	0.10	0.03	0.00	0.00	0.00	0.03
5-5	Quartz	98.79	0.04	0.01	0.09	0.00	0.00	0.15	0.05	0.00	0.00	0.02	0.00	0.05	0.28
5-6	Quartz	97.68	0.00	0.01	0.10	0.00	0.00	0.01	0.02	0.01	0.04	0.00	0.00	0.00	0.18

Table C-1 (continued).

Sample Ab010 albitised psammite

Points	Minerals	Ox% (SiO ₂)	Ox% (TiO ₂)	Ox% (Al ₂ O ₃)	Ox% (Fe ₂ O ₃)	Ox% (MnO)	Ox% (MgO)	Ox% (Na ₂ O)	Ox% (K ₂ O)	Ox% (CaO)	Ox% (P ₂ O ₅)	Ox% (Cr ₂ O ₃)	Ox% (SrO)	Ox% (BaO)	Ox% (F)
4	Albite	73.02	0.05	21.08	9.08	0.00	0.00	5.19	0.08	0.24	0.04	0.00	0.00	0.00	0.15
4-3	Albite	71.74	0.00	21.21	0.10	0.00	0.00	6.62	0.08	0.28	0.00	0.00	0.00	0.04	0.01
4-4	Albite	71.71	0.00	20.34	0.02	0.01	0.03	9.56	0.07	0.15	0.05	0.00	0.00	0.00	0.21
2-4	Albite	70.80	0.01	20.75	0.02	0.01	0.01	8.12	0.07	0.20	0.00	0.03	0.00	0.03	0.00
3-1	Albite	70.04	0.00	20.67	0.09	0.00	0.01	6.92	0.08	0.17	0.00	0.00	0.00	0.00	0.16
5-1	Albite	70.74	0.00	20.28	0.01	0.00	0.00	8.82	0.07	0.17	0.01	0.01	0.00	0.00	0.12
6-1	Albite	67.83	0.00	20.45	0.16	0.00	0.00	7.41	0.10	0.16	0.00	0.03	0.00	0.01	0.28
6-2	Albite	67.55	0.00	20.30	0.07	0.00	0.00	7.19	0.10	0.17	0.00	0.00	0.00	0.01	0.12
8-1	Albite	73.20	0.01	21.14	0.00	0.00	0.00	7.55	0.10	0.19	0.00	0.00	0.00	0.00	0.01
8-2	Albite	70.18	0.03	21.02	0.02	0.00	0.02	6.91	0.12	0.25	0.06	0.00	0.00	0.00	0.10
9-3	Albite	71.00	0.03	20.46	0.00	0.02	0.02	10.13	0.10	0.13	0.00	0.00	0.00	0.00	0.17
10-1	Albite	66.86	0.03	19.49	0.02	0.05	0.00	10.32	0.10	0.21	0.00	0.00	0.00	0.00	0.04
10-2	Albite	69.25	0.02	20.37	0.09	0.00	0.00	8.87	0.05	0.22	0.00	0.00	0.00	0.01	0.14
4-1	Biotite	48.30	0.51	33.93	3.04	0.07	1.10	0.55	8.51	0.00	0.05	0.03	0.00	0.27	0.14
4-2	Biotite	38.24	1.34	17.64	15.33	0.09	13.68	0.18	9.33	0.00	0.00	0.03	0.00	0.17	1.72
4-5	Biotite	38.51	1.31	17.48	15.83	0.21	13.93	0.18	9.61	0.00	0.03	0.00	0.00	0.04	1.74
2-1	Biotite	38.31	1.41	17.12	15.64	0.11	13.62	0.16	9.50	0.02	0.08	0.09	0.00	0.10	1.86

3-2	Biotite	37.73	1.36	16.48	15.23	0.12	13.78	0.17	9.78	0.00	0.00	0.00	0.00	0.10	2.06
8-3	Biotite	45.28	0.46	21.30	8.54	0.00	9.54	0.33	6.72	0.01	0.05	0.03	0.00	0.00	0.86
5-2	Muscovite	47.46	0.52	33.53	2.71	0.04	1.42	0.46	10.18	0.00	0.00	0.01	0.00	0.18	0.41
5-3	Muscovite	47.72	0.42	33.26	3.26	0.02	1.56	0.49	9.65	0.00	0.02	0.01	0.00	0.03	0.37
-6-3	Muscovite	47.14	0.30	32.38	2.89	0.00	1.52	0.58	10.15	0.00	0.00	0.01	0.00	0.10	0.46
6-4	Muscovite	48.12	0.26	32.45	3.41	0.05	1.69	0.46	7.80	0.03	0.00	0.01	0.00	0.12	0.34
9-2	Muscovite	49.43	0.22	31.87	3.24	0.05	1.96	0.59	9.82	0.00	0.04	0.00	0.00	0.10	0.43
10-3	Muscovite	47.71	0.20	32.31	3.39	0.00	1.57	0.49	9.15	0.01	0.00	0.00	0.00	0.21	0.29
9-1	Quartz	102.43	0.00	0.01	0.03	0.04	0.00	0.03	0.03	0.02	0.01	0.05	0.00	0.05	0.00
2-2	Albite	72.60	0.00	20.86	0.09	0.00	0.01	6.48	0.10	0.27	0.02	0.00	0.00	0.00	0.00
2-3	Albite	72.52	0.00	20.66	0.09	0.00	0.00	6.41	0.04	0.21	0.00	0.04	0.00	0.00	0.13
1-1	Albite	71.33	0.00	20.71	0.05	0.03	0.02	5.82	0.07	0.17	0.00	0.00	0.00	0.05	0.19
1-2	Muscovite	46.93	0.41	33.92	2.78	0.03	1.06	0.62	9.58	0.00	0.02	0.05	0.00	0.30	0.29

Table C-1 (continued).
Sample Am011 unalbitised amphibolite

Points	Minerals	Ox% (SiO ₂)	Ox% (TiO ₂)	Ox% (Al ₂ O ₃)	Ox% (Fe ₂ O ₃)	Ox% (MnO)	Ox% (MgO)	Ox% (Na ₂ O)	Ox% (K ₂ O)	Ox% (CaO)	Ox% (P ₂ O ₅)	Ox% (Cr ₂ O ₃)	Ox% (SrO)	Ox% (BaO)	Ox% (F)
3-1	Albite	67.97	0.02	19.30	0.11	0.00	0.00	11.52	0.10	0.39	0.02	0.04	0.00	0.04	0.00
4-1	Albite	67.26	0.00	20.59	0.04	0.04	0.00	7.08	0.11	0.49	0.00	0.02	0.00	0.00	0.16
-6-1	Albite	69.49	0.02	20.27	0.17	0.01	0.00	9.06	0.12	0.49	0.00	0.00	0.00	0.00	0.03
1-2	Biotite	39.09	1.62	17.10	14.37	0.15	14.67	0.23	9.04	0.01	0.01	0.00	0.00	0.17	1.82
2-2	Biotite	39.22	1.67	17.45	14.95	0.16	14.58	0.29	8.50	0.07	0.01	0.04	0.00	0.04	1.59
2-3	Biotite	38.59	1.48	16.79	14.86	0.23	14.20	0.16	9.49	0.00	0.01	0.00	0.00	0.17	1.83
3-2	Biotite	38.96	1.56	16.34	14.06	0.31	15.01	0.21	8.89	0.00	0.03	0.00	0.00	0.00	1.98
4-2	Anthophyllite	25.30	0.07	21.79	18.85	0.28	18.18	0.13	0.19	0.00	0.07	0.00	0.00	0.02	0.41
5-1	Biotite	38.85	1.39	16.48	14.64	0.11	14.61	0.19	8.60	0.00	0.01	0.01	0.00	0.05	1.86
5-2	Anthophyllite	26.23	0.07	22.07	19.62	0.26	19.27	0.11	0.09	0.07	0.09	0.01	0.00	0.02	0.46
6-2	Anthophyllite	26.06	0.03	21.78	19.64	0.36	19.27	0.13	0.11	0.04	0.04	0.00	0.00	0.06	0.34
7-1	Biotite	39.76	1.45	17.00	15.19	0.27	14.89	0.12	6.98	0.06	0.00	0.05	0.00	0.16	1.95
7-4	Anthophyllite	25.90	0.12	20.44	18.60	0.31	19.31	0.18	0.14	0.03	0.10	0.00	0.00	0.08	0.52
6-3	Magnetite	0.07	0.00	0.07	94.06	0.20	0.01	0.08	0.01	0.00	0.00	0.00	0.00	0.01	0.75

7-3	Magnetite	0.04	0.02	0.03	95.66	0.10	0.04	0.12	0.05	0.00	0.02	0.00	0.01	0.00	0.85
5-4	Quartz	101.18	0.01	0.00	0.15	0.04	0.00	0.19	0.03	0.02	0.00	0.03	0.00	0.00	0.16
7-2	Quartz	103.44	0.01	0.01	0.13	0.02	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.04	0.22
5-3	F-apatite	0.06	0.01	0.00	0.12	0.18	0.00	0.16	0.02	54.72	42.88	0.02	0.00	0.04	5.33
4-3	Albite-biotite	54.17	0.02	17.59	1.91	0.11	1.65	8.20	0.76	0.38	0.04	0.00	0.00	0.00	0.30
1-1	Albite-quartz	74.13	0.02	21.44	0.11	0.03	0.00	4.31	0.08	0.51	0.00	0.00	0.00	0.00	0.00
1-3	Albite-quartz	72.85	0.01	20.68	0.04	0.00	0.01	3.29	0.08	0.10	0.02	0.00	0.00	0.02	0.17
2-1	Albite-quartz	71.89	0.00	20.38	0.06	0.01	0.00	7.71	0.09	0.08	0.00	0.00	0.00	0.02	0.11
3-3	Albite-quartz	70.24	0.00	21.68	0.13	0.00	0.00	6.97	0.09	1.00	0.03	0.00	0.00	0.00	0.00
3-4	Albite-quartz	70.78	0.05	20.67	0.05	0.00	0.00	5.39	0.08	0.16	0.01	0.00	0.00	0.00	0.04

Table C-1 (continued).
Sample AbA012 albitised amphibolite

Points	Minerals	Ox% (SiO ₂)	Ox% (TiO ₂)	Ox% (Al ₂ O ₃)	Ox% (Fe ₂ O ₃)	Ox% (MnO)	Ox% (MgO)	Ox% (Na ₂ O)	Ox% (K ₂ O)	Ox% (CaO)	Ox% (P ₂ O ₅)	Ox% (Cr ₂ O ₃)	Ox% (SrO)	Ox% (BaO)	Ox% (F)
6-16	Albite-quartz	78.08	0.01	0.05	0.07	0.00	0.08	5.29	0.56	0.10	0.00	0.02	0.00	0.00	0.08
6-18	Albite	68.61	0.01	19.70	0.10	0.00	0.01	9.43	0.13	0.12	0.02	0.00	0.00	0.01	0.07
6-19	Albite	66.95	0.00	20.31	0.04	0.00	0.03	10.00	0.11	1.00	0.00	0.00	0.00	0.02	0.05
AbA012	Anthophyllite	28.78	0.07	22.73	17.98	0.23	16.94	0.11	0.12	0.11	0.23	0.05	0.00	0.02	0.38
1-3	Anthophyllite	27.81	0.00	21.22	18.59	0.33	18.00	0.15	0.08	0.00	0.01	0.00	0.00	0.00	0.51
3-1	Anthophyllite	25.28	0.05	22.11	19.33	0.43	18.88	0.17	0.12	0.02	0.11	0.05	0.00	0.00	0.44
6-2	Anthophyllite	25.77	0.09	21.74	19.42	0.41	18.30	0.13	0.11	0.02	0.08	0.00	0.00	0.06	0.41
6-3	Anthophyllite	25.64	0.07	22.07	20.03	0.35	18.25	0.12	0.12	0.03	0.14	0.05	0.00	0.00	0.47
6-4	Anthophyllite	25.52	0.03	21.98	17.91	0.35	18.34	0.12	0.09	0.03	0.05	0.00	0.00	0.02	0.54
6-5	Anthophyllite	21.08	0.07	16.97	14.86	0.28	13.34	3.26	0.23	0.36	0.36	0.03	0.00	0.01	0.40
6-6	Anthophyllite	26.16	0.06	22.43	19.92	0.36	18.73	0.24	0.22	0.06	0.39	0.00	0.00	0.09	0.40
6-7	Anthophyllite	26.34	0.05	22.55	19.77	0.31	18.84	0.06	0.13	0.00	0.15	0.06	0.00	0.03	0.40
6-8	Anthophyllite	26.23	0.04	22.24	18.79	0.37	19.04	0.14	0.10	0.01	0.13	0.04	0.00	0.04	0.49
6-20	Anthophyllite	26.09	0.10	22.75	19.24	0.36	18.87	0.13	0.06	0.02	0.06	0.02	0.00	0.00	0.42
1	Biotite	36.71	1.47	16.00	13.98	0.15	13.63	0.15	9.19	0.00	0.05	0.00	0.00	0.00	1.94
2-1	Biotite	37.51	1.61	16.52	14.78	0.29	13.81	0.18	9.31	0.01	0.01	0.07	0.00	0.13	1.95
3-2	Biotite	39.02	1.48	15.80	13.82	0.23	14.80	0.36	9.16	0.00	0.04	0.00	0.00	0.15	2.20

6-12	Biotite	38.28	1.56	16.18	14.13	0.20	14.05	0.31	9.61	0.00	0.05	0.00	0.00	0.00	1.94
6-14	Biotite	37.34	1.51	16.29	15.00	0.27	13.71	0.16	9.88	0.00	0.06	0.03	0.00	0.04	1.81
6-1	Anthophyllite	28.56	0.07	24.71	18.30	0.30	21.22	0.20	0.10	0.02	0.11	0.01	0.00	0.02	0.09
6-17	Anthophyllite	25.22	0.03	21.76	18.40	0.33	18.00	0.46	0.34	0.04	0.23	0.11	0.00	0.00	0.42

Table C-1 (continued).
Sample Op031 unaltered pegmatite

Points	Minerals	Ox% (SiO ₂)	Ox% (TiO ₂)	Ox% (Al ₂ O ₃)	Ox% (Fe ₂ O ₃)	Ox% (MnO)	Ox% (MgO)	Ox% (Na ₂ O)	Ox% (K ₂ O)	Ox% (CaO)	Ox% (P ₂ O ₅)	Ox% (Cr ₂ O ₃)	Ox% (SrO)	Ox% (BaO)	Ox% (F)
1-1	Albite-quartz	72.93	0.00	21.11	0.00	0.06	0.00	2.51	0.06	0.43	0.15	0.00	0.00	0.00	0.13
1-3	Albite	70.73	0.01	20.53	0.09	0.00	0.00	5.70	0.13	0.21	0.00	0.00	0.00	0.03	0.05
2-1	Albite	69.33	0.00	20.11	0.03	0.02	0.01	6.82	0.15	0.33	0.21	0.01	0.00	0.00	0.00
2-2	Albite	70.54	0.01	20.18	0.00	0.00	0.00	6.68	0.13	0.01	0.00	0.00	0.00	0.04	0.21
2-3	Albite	71.41	0.04	20.76	0.08	0.07	0.00	7.35	0.08	0.20	0.02	0.00	0.00	0.04	0.00
4-1	Albite	69.34	0.00	20.86	0.03	0.02	0.03	7.63	0.09	0.15	0.00	0.00	0.00	0.00	0.11
4-2	Albite	69.69	0.00	20.13	0.03	0.05	0.05	7.72	0.07	0.10	0.00	0.00	0.00	0.18	0.17
5-1	Albite	68.50	0.00	19.54	0.08	0.00	0.00	10.67	0.11	0.30	0.03	0.00	0.00	0.00	0.08
5-3	Albite	68.46	0.00	20.04	0.03	0.00	0.01	9.36	0.12	0.27	0.12	0.00	0.00	0.00	0.02
1-2	Orthoclase	64.25	0.00	18.81	0.00	0.07	0.01	0.19	15.85	0.00	0.13	0.01	0.00	0.39	0.30
1-4	Orthoclase	64.63	0.01	18.23	0.00	0.01	0.00	0.29	16.10	0.00	0.17	0.00	0.00	0.30	0.00
2-4	Orthoclase	64.44	0.01	17.84	0.05	0.00	0.01	0.27	14.89	0.00	0.17	0.02	0.00	0.31	0.13
3-1	Orthoclase	64.75	0.00	18.47	0.00	0.00	0.01	0.27	15.98	0.00	0.15	0.01	0.00	0.37	0.00
4-3	Orthoclase	64.07	0.05	18.18	0.00	0.03	0.02	0.13	16.27	0.00	0.01	0.00	0.00	0.25	0.00
3-3	Biotite	48.68	0.25	31.73	4.32	0.00	1.95	0.16	8.52	0.00	0.00	0.00	0.00	0.04	0.46
5-2	Biotite	48.42	0.30	31.23	4.53	0.00	1.93	0.16	8.96	0.00	0.00	0.00	0.00	0.07	0.57
3-2	Quartz	100.18	0.00	0.01	0.04	0.00	0.00	0.01	0.02	0.01	0.05	0.04	0.00	0.00	0.13
4-4	Quartz	99.93	0.00	0.02	0.00	0.00	0.00	0.03	0.01	0.00	0.04	0.04	0.00	0.00	0.03

Table C-1 (continued).
Sample Bp032 altered pegmatite

Points	Minerals	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%	Ox%
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		(SiO ₂)	(TiO ₂)	(Al ₂ O ₃)	(Fe ₂ O ₃)	(MnO)	(MgO)	(Na ₂ O)	(K ₂ O)	(CaO)	(P ₂ O ₅)	(Cr ₂ O ₃)	(SrO)	(BaO)	(F)
1-2-2	Albite	68.00	0.01	19.83	0.00	0.00	0.03	9.64	0.20	0.39	0.29	0.00	0.00	0.02	0.03
1-2-3	Albite	65.70	0.03	19.32	0.01	0.02	0.00	8.36	0.16	0.24	0.13	0.05	0.00	0.14	0.05
4-2	Albite	63.96	0.02	18.06	0.00	0.02	0.00	9.23	0.18	0.03	0.05	0.06	0.00	0.30	0.03
5-1	Albite	68.48	0.01	20.09	0.00	0.00	0.00	8.24	0.10	0.17	0.03	0.05	0.00	0.00	0.00
6-2	Albite	68.33	0.00	20.09	0.04	0.07	0.00	10.11	0.09	0.16	0.00	0.00	0.00	0.17	0.03
6-3	Albite	67.96	0.06	20.14	0.00	0.03	0.01	9.37	0.10	0.19	0.16	0.02	0.00	0.00	0.04
7-1	Albite	70.60	0.01	20.12	0.04	0.00	0.00	9.12	0.10	0.17	0.00	0.04	0.00	0.00	0.01
1-2	Orthoclase	65.21	0.04	18.34	0.05	0.00	0.00	0.45	15.78	0.03	0.25	0.00	0.00	0.05	0.21
1-2-4	Orthoclase	65.30	0.01	18.01	0.00	0.00	0.02	0.54	15.23	0.45	0.51	0.08	0.00	0.09	0.15
1-2-5	K-feldspar	53.99	0.02	14.88	0.05	0.00	0.76	1.75	12.72	0.31	0.33	0.00	0.00	0.14	0.19
1-2-6	Orthoclase	67.75	0.00	18.84	0.04	0.04	0.00	0.27	10.32	0.00	0.32	0.00	0.00	0.05	0.22
3-2	Orthoclase	65.07	0.00	18.57	0.00	0.00	0.00	0.44	16.16	0.00	0.26	0.00	0.00	0.09	0.21
3-3	Orthoclase	62.29	0.02	17.88	0.02	0.00	0.01	0.43	14.80	0.02	0.09	0.03	0.00	0.10	0.30
3-5	Orthoclase	65.44	0.05	18.38	0.03	0.00	0.00	0.29	15.86	0.00	0.05	0.00	0.00	0.21	0.30
4-1	Orthoclase	65.76	0.01	18.51	0.06	0.00	0.00	0.22	16.48	0.00	0.05	0.00	0.00	0.12	0.15
5-2	Orthoclase	62.62	0.04	18.09	1.36	0.02	0.00	0.23	15.93	0.00	0.03	0.01	0.00	0.13	0.15
6-1	Orthoclase	63.35	0.00	18.31	0.00	0.00	0.02	0.29	16.23	0.00	0.17	0.00	0.00	0.00	0.11
7-2	K-feldspar	65.88	0.00	18.35	0.05	0.02	0.02	0.81	15.50	0.00	0.15	0.00	0.00	0.14	0.08
1-1	Quartz	100.38	0.00	0.01	0.00	0.00	0.01	0.04	0.02	0.00	0.00	0.03	0.00	0.00	0.02
1-2-1	Quartz	101.80	0.00	0.02	0.00	0.06	0.01	0.06	0.01	0.01	0.01	0.00	0.00	0.01	0.01
3-1	Quartz	100.37	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.08	0.02
8-1	Quartz	102.33	0.01	0.03	0.00	0.04	0.03	0.14	0.11	0.02	0.03	0.05	0.00	0.13	0.03
9-1	Quartz	100.62	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.13	0.00
9-2	Quartz	85.92	0.00	0.05	0.00	0.00	0.00	0.22	0.05	0.03	0.07	0.02	0.00	0.26	0.08

LAICPMS Analysis

Table C-2 The REE (Rare Earth Element) and relative elements were analysed by the LAICPMS in altered/unaltered psammitite, amphibolite and pegmatite. Sample Ps008 unalbitised psammitite

GLITTER!: Trace Element Concentrations MDL filtered.													
Mineral	Sample Ps008						13point						
Point	Albite	Albite	Albite	Albite	Plagioclase	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite
	albite04	albite6b	albite7a	albite9b	albite01	biot01	albite05b	biot5a	biot3a	biot6a	biot6b	biotite8a	biotit9a
Na23	12	12	12	11.5	12	1223.94	802.71	613.26	658.56	700.45	746.3	827.72	814.86
Mg24	744.91	10711.8	4522.97	10955.32	25137.76	109213.3	100677.8	102571.6	103751.5	101928	101919.8	99098.96	100133.6
Al27	95471.52	133955	45590.77	67749.5	4238.14	112251	100025.3	98078.56	101210.6	97372.07	94996.42	91615.6	94169.83
K39	1658.29	80800.85	1533.25	979.99	1907.87	9.5	9	9	9	9	9	9	9
Ca43	2435.27	7357.67	2039.76	13312.53	52794.42	523.58	327.3	216.24	303.7	379.83	379.82	<245.27	414.39
Ti47	42.57	689.42	46	445.29	69.9	6270.9	5295.79	5656.68	5855.58	5743.61	5816.28	6090.61	6640.37
Fe56	1299.61	20047.07	5954.39	10268.49	1017.99	130738.9	125370.4	120140.1	115919	119717.6	117278.4	111706.7	115209.8
Fe57	489.96	18898.03	2339.56	4945.62	296.38	34620.55	37988.32	37356.51	36854.39	40445.12	40200.96	45567.87	51825.65
Co59	9.76	91.12	3.54	5.98	0.25	19.25	18.01	16.44	15.73	19.02	21.57	15.21	15.34
Ni60	6.16	208.32	12.46	22.31	0.886	112.3	91.47	94.15	71.29	91.1	92.38	94.67	90.56
Cu63	26.39	2380.33	41.03	91.08	3.95	3.6	13.56	15.29	14.35	9.16	20.93	14.51	7.87
Zn66	87.09	1983.04	545.76	2588.61	4.14	184.89	144.94	145.09	135.82	147.2	150.19	150.41	150.13
Ga69	41.23	46.38	25.49	21.32	2.17	76.99	65.51	61.91	58.36	63.89	63.83	63.84	66.58
Sr88	18.88	73.61	18.62	28.85	74.37	27.22	1.39	6.68	1.96	2.75	1.95	3.37	4.53
Ba137	9.36	126.31	271.13	53.06	35.49	614.97	447.06	378.2	351.75	390.01	384.58	342.52	400.24
La139	6.67	36.47	8.11	13.42	2.77	0.438	0.877	0.424	0.825	0.08	0.486	0.482	1.11
Ce140	7.18	37.63	12.46	7.3	5.74	1.92	7.2	1.317	1.7	0.512	1.359	1.55	1.4
Pr141	2.26	8.23	6.3	2.86	0.643	0.157	0.334	0.187	0.136	0.0322	0.14	0.144	0.379
Nd146	7.33	35.93	8.77	15.18	2.36	0.839	1.52	0.693	0.8	0.11	0.675	0.55	2.25
Sm147	4.36	8.78	3.01	5.98	0.443	0.407	0.7	0.339	0.49	0.114	0.306	0.25	0.92
Eu153	0.691	1.97	1.54	0.61	0.0906	0.157	0.184	0.138	0.166	0.091	0.12	0.075	0.277
Gd157	10.29	21.3	4.99	2.23	0.414	0.85	1.23	0.54	1.15	0.126	0.74	0.32	1.86
Tb159	1.69	3.08	1.24	0.352	0.0701	0.19	0.234	0.107	0.385	0.0362	0.16	0.123	0.453

Dy163	46.87	37.58	7.42	1.5	0.464	1.3	1.65	0.724	2.62	0.299	1.3	1.62	3.57
Ho165	3.29	5.58	2.04	0.284	0.145	0.304	0.322	0.121	0.611	0.081	0.35	0.348	0.78
Er167	7.29	16.65	5.06	0.95	0.255	0.843	0.79	0.334	1.83	0.162	0.91	1.05	2.5
Tm169	1.029	3.19	0.83	0.045	0.0356	0.116	0.109	0.0318	0.235	0.0308	0.13	0.156	0.395
Yb173	7.88	17.18	7.1	0.55	0.242	0.787	0.6	0.265	2.29	0.169	0.83	1.05	2.66
Lu175	1.009	2.79	0.92	0.073	0.0405	0.104	0.081	0.0458	0.353	0.0323	0.147	0.151	0.446
Au197	0.063	<2.46	<0.213	<0.23	<0.0237	0.034	<0.056	<0.057	0.125	<0.058	<0.040	<0.150	<0.046
Pb208	16.5	108.39	19.34	28.99	1.71	5.12	13.97	5.98	5.46	2.62	3.3	3.37	3.4
U238	34.8	102.15	14.29	1.32	0.904	11.68	5.39	1.058	4.82	1.662	7.21	3.74	2.63
GLITTER!: Trace element concentrations normalised to chondrite.													
Mineral	Albite	Albite	Albite	Albite	Plagioclase	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite	Biotite
Point	albite04	albite6b	albite7a	albite9b	albite01	biot01	albite05b	biot5a	biot3a	biot6a	biot6b	biotite8a	biotit9a
Na23	12.29	12.29	12.29	11.78	12.29	0.169	0.111	0.0846	0.0909	0.097	0.103	0.114	0.112
Mg24	0.00521	0.0749	0.0316	0.0766	0.1758	0.764	0.704	0.717	0.726	0.713	0.713	0.693	0.7
Al27	7.4	10.38	3.53	5.25	0.329	8.7	7.75	7.6	7.85	7.55	7.36	7.1	7.3
K39	1.94	94.61	1.8	1.15	2.23	92.35	87.49	87.49	87.49	87.49	87.49	87.49	87.49
Ca43	0.18	0.55	0.151	0.986	3.91	0.0388	0.0242	0.016	0.0225	0.0281	0.0281	0	0.0307
Ti47	0.0651	1.05	0.0703	0.681	0.1069	9.59	8.1	8.65	8.95	8.78	8.89	9.31	10.15
Fe56	0.00467	0.0721	0.0214	0.0369	0.00366	0.47	0.451	0.432	0.417	0.431	0.422	0.402	0.414
Fe57	0.00176	0.068	0.00842	0.0178	0.00107	0.125	0.137	0.134	0.133	0.145	0.145	0.164	0.186
Co59	0.01277	0.119	0.00463	0.00783	0.00033	0.0252	0.0236	0.0215	0.0206	0.0249	0.0282	0.0199	0.0201
Ni60	0.00037	0.0126	0.00076	0.00135	0.00005	0.00681	0.00554	0.00571	0.00432	0.00552	0.0056	0.00574	0.00549
Cu63	0.1571	14.17	0.244	0.542	0.0235	0.0214	0.0807	0.091	0.0854	0.0545	0.125	0.086	0.0468
Zn66	0.189	4.29	1.181	5.6	0.00895	0.4	0.314	0.314	0.294	0.319	0.325	0.326	0.325
Ga69	2.71	3.05	1.68	1.4	0.1427	5.07	4.31	4.07	3.84	4.2	4.2	4.2	4.38
Sr88	1.59	6.19	1.57	2.42	6.25	2.29	0.117	0.561	0.165	0.231	0.164	0.283	0.381
Ba137	2.75	37.04	79.51	15.56	10.41	180.34	131.1	110.91	103.15	114.37	112.78	100.45	117.37
La139	18.17	99.37	22.1	36.57	7.56	1.19	2.39	1.16	2.25	0.217	1.32	1.31	3.02
Ce140	7.51	39.32	13.02	7.63	6	2.01	7.52	1.376	1.78	0.535	1.42	1.62	1.46
Pr141	16.46	60.04	46	20.88	4.69	1.14	2.44	1.36	0.99	0.235	1.02	1.05	2.77

Nd146	10.3	50.54	12.34	21.35	3.33	1.18	2.14	0.97	1.13	0.154	0.95	0.77	3.16
Sm147	18.86	38.02	13.03	25.88	1.92	1.76	3.01	1.47	2.1	0.49	1.32	1.09	3.99
Eu153	7.95	22.64	17.69	7.01	1.042	1.8	2.12	1.59	1.91	1.05	1.38	0.86	3.19
Gd157	33.62	69.6	16.3	7.3	1.35	2.76	4	1.76	3.77	0.41	2.42	1.04	6.07
Tb159	29.17	53.19	21.38	6.06	1.21	3.28	4.03	1.85	6.64	0.62	2.76	2.12	7.81
Dy163	123.01	98.64	19.46	3.94	1.22	3.41	4.34	1.9	6.87	0.78	3.41	4.26	9.37
Ho165	38.63	65.52	24.03	3.34	1.71	3.57	3.78	1.42	7.18	0.95	4.11	4.09	9.18
Er167	29.28	66.85	20.32	3.82	1.02	3.39	3.17	1.34	7.37	0.65	3.67	4.21	10.04
Tm169	28.9	89.48	23.28	1.25	1	3.27	3.06	0.89	6.6	0.87	3.64	4.38	11.1
Yb173	31.77	69.28	28.63	2.22	0.98	3.17	2.43	1.07	9.24	0.68	3.35	4.25	10.72
Lu175	26.47	73.22	24.08	1.92	1.06	2.74	2.14	1.2	9.26	0.85	3.87	3.97	11.7
Au197	0.29	0	0	0	0	0.158	0	0	0.57	0	0	0	0
Pb208	4.52	29.7	5.3	7.94	0.468	1.404	3.83	1.638	1.497	0.719	0.905	0.923	0.93
U238	2852.17	8372.74	1170.99	107.81	74.1	957.41	442.03	86.71	395.41	136.23	591.14	306.83	215.42

Table C-2 (continued). Sample Ab010 albitised psammite.

GLITTER!: Trace Element Concentrations MDL filtered.						Sample	Ab010	12points				
Mineral	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Amphibole	Biotite	Biotite	Biotite
Element	ab10_5	ab10_6	ab10_7	ab10_8	ab10_10	ab10_17	ab10_18	ab10_19d	ab10_21d	ab10-2	ab10_3	Ab10-9
Na23	70921.59	60238.84	65431.85	65802.77	60238.84	65802.77	76559.71	75150.18	519.01	77420.57	12834	73371.04
Mg24	1101.38	1467.03	2.32	1185.44	1740.03	1709.08	9837.82	4459.21	82903.26	23852.37	102877	14590.11
Al27	87767.49	66281.99	80849.16	79855.53	72810.05	78171.64	66924.25	78140.57	72288.2	3330.88	103281.4	35651.50
K39	1034.18	927.86	901.24	1099.88	1354.62	5292.02	22394.28	1525.25	74714.51	2364.11	116064.8	1423.05
Ca43	3029.08	3709.31	1028.24	3016.05	3229.89	4178.47	20676.03	9905.25	186.25	49624.09	9037.38	31151.75
Ti47	107.93	18.39	31.09	12.91	66.62	20.92	58.74	21.62	5902.1	62.48	9705.96	43.15
Fe56	287.35	327.03	<****	<****	<****	<****	<****	<****	267582.3	77485.00	396763.8	172.20
Fe57	29.1	29.62	13.15	39.68	250.05	34.16	178.83	74.85	35135.91	204.66	52418.02	245.40
Co59	<0.186	<0.144	<0.182	<0.171	1.19	<0.153	0.97	<0.25	28.5	0.20	25.08	0.00
Cu63	4.47	2.32	3.68	7.53	7.87	5.08	11.14	7.3	39.23	3.91	3.26	9.16
Zn66	136.83	30.59	2.56	129.87	309.86	210.64	479.53	291.69	265.68	94.76	341.22	335.90

Ga69	23.25	19.19	21.26	23.55	17.13	20.51	24.12	15.39	60.2	3.08	96.3	10.45
Sr88	17.01	15.33	11.48	12.57	19.42	18.62	52.63	29.85	1.37	70.69	14	48.31
Zr90	748.87	22.16	188.67	101.09	10.27	3.63	25.34	169.37	47.95	51.78	7.93	26.60
Ba137	2.91	2.98	0.68	20.64	4.5	3.31	252.43	8.35	326.41	30.40	563.3	20.50
La139	0.729	0.573	0.633	0.379	0.16	0.426	1.283	0.611	0.025	2.68	0.495	1.75
Ce140	1.96	1.533	2.02	0.736	0.374	1.452	2.67	1.72	0.097	5.03	1.04	3.10
Pr141	0.241	0.206	0.187	0.118	0.06	0.249	0.276	0.237	0.0134	0.53	0.161	0.34
Nd146	1.16	0.694	0.732	0.373	0.267	1.22	1.07	0.91	0.094	2.07	0.385	1.38
Sm147	0.526	0.152	<0.112	0.193	0.082	0.304	0.323	0.188	0.123	0.45	0.076	0.23
Eu153	0.058	0.036	0.07	0.05	0.027	0.031	0.101	<0.043	0.046	0.08	0.031	0.08
Gd157	0.485	0.113	0.152	0.417	0.094	0.263	0.395	0.234	0.117	0.42	0.107	0.25
Tb159	0.111	0.0172	0.0405	0.082	0.0385	0.0211	0.084	0.049	0.0424	0.07	<0.0175	0.05
Dy163	1.006	0.101	0.395	0.77	0.174	0.175	0.72	0.247	0.341	0.43	0.089	0.32
Ho165	0.225	0.0203	0.092	0.154	0.054	0.0321	0.138	0.057	0.067	0.08	0.0236	0.07
Er167	0.937	0.057	0.372	0.709	0.245	<0.071	0.362	0.294	0.192	0.24	<0.060	0.18
Tm169	0.17	<0.0133	0.089	0.104	0.0288	0.0108	0.087	0.048	0.059	0.04	0.0155	0.03
Yb173	2.06	0.084	1.05	0.83	0.268	0.081	0.281	0.73	0.295	0.13	0.072	0.31
Lu175	0.391	0.0165	0.199	0.164	0.033	<0.0176	0.065	0.144	0.063	0.03	<0.0146	0.02
Au197	<0.064	<0.080	<0.085	<0.091	<0.104	<0.101	<0.107	<0.101	<0.046	0.13	<0.098	0.00
Pb208	4.1	1.62	3.42	4.58	3.83	4.42	7.72	6.14	4.67	1.68	5.81	5.41
U238	2.23	0.102	1.33	0.537	0.372	0.108	0.526	0.75	0.344	0.64	0.181	0.45

GLITTER!: Trace element concentrations normalised to chondrite.

Element	ab10_5	ab10_6	ab10_7	ab10_8	ab10_10	ab10_17	ab10_18	ab10_19d	ab10_21d	Ab10-2	ab10_3	Ab10-9
Na23	9.79	8.31	9.03	9.08	8.31	9.08	10.57	10.37	0.0716	10.69	1.77	10.13
Mg24	0.0077	0.01026	0.00002	0.00829	0.01217	0.01195	0.0688	0.0312	0.58	0.17	0.719	0.102519
Al27	6.8	5.14	6.27	6.19	5.64	6.06	5.19	6.06	5.6	0.26	8.01	2.764242
K39	1.21	1.09	1.06	1.29	1.59	6.2	26.22	1.79	87.49	#VALUE!	135.91	1.669329
Ca43	0.224	0.275	0.076	0.223	0.239	0.31	1.53	0.734	0.0138	3.67	0.669	2.306082
Ti47	0.165	0.028	0.048	0.0197	0.102	0.032	0.09	0.033	9.02	0.10	14.84	0.065942

Fe56	0	0	0	0	0	0	0	0	0.96	#VALUE!	1.43	0.00601
Fe57	0.0001	0.00011	0.00005	0.00014	0.0009	0.00012	0.0006	0.00027	0.126	0.00	0.189	0.000876
Co59	0	0	0	0	0.00156	0	0.00127	0	0.0373	0.00	0.0328	0
Ni60	0	0	0	0	0.00009	0.00002	0.00011	0	0.00385	0.00	0.00454	4.33E-05
Cu63	0.0266	0.0138	0.0219	0.0448	0.0468	0.0303	0.0663	0.0434	0.234	0.02	0.0194	0.054608
Zn66	0.296	0.0662	0.0055	0.281	0.671	0.456	1.038	0.631	0.575	0.21	0.739	0.727251
Ga69	1.53	1.26	1.4	1.55	1.13	1.35	1.59	1.01	3.96	0.20	6.34	0.686209
Sr88	1.43	1.289	0.965	1.056	1.63	1.56	4.42	2.51	0.1149	5.94	1.177	4.059212
Zr90	135.17	4	34.06	18.25	1.85	0.655	4.57	30.57	8.65	9.34	1.43	4.798828
Ba137	0.853	0.874	0.2	6.05	1.32	0.969	74.03	2.45	95.72	8.91	165.19	6.00828
La139	1.99	1.56	1.72	1.033	0.436	1.16	3.5	1.66	0.068	7.30	1.35	4.755553
Ce140	2.05	1.602	2.11	0.769	0.39	1.517	2.79	1.79	0.102	5.26	1.087	3.238715
Pr141	1.76	1.5	1.36	0.861	0.434	1.82	2.01	1.73	0.098	3.90	1.17	2.499787
Nd146	1.63	0.98	1.03	0.524	0.376	1.72	1.5	1.27	0.132	2.91	0.54	1.94735
Sm147	2.28	0.66	0	0.84	0.35	1.31	1.4	0.81	0.53	1.96	0.33	1.011454
Eu153	0.67	0.42	0.81	0.58	0.31	0.36	1.16	0	0.52	0.94	0.36	0.863944
Gd157	1.58	0.37	0.5	1.36	0.31	0.86	1.29	0.76	0.38	1.36	0.35	0.823417
Tb159	1.92	0.3	0.7	1.42	0.66	0.36	1.46	0.84	0.73	1.13	0	0.874247
Dy163	2.64	0.264	1.04	2.02	0.46	0.46	1.9	0.65	0.89	1.12	0.233	0.845054
Ho165	2.64	0.238	1.08	1.81	0.64	0.377	1.62	0.67	0.79	0.97	0.28	0.836811
Er167	3.76	0.23	1.49	2.85	0.98	0	1.45	1.18	0.77	0.98	0	0.706129
Tm169	4.78	0	2.51	2.93	0.81	0.3	2.44	1.34	1.66	1.07	0.44	0.896056
Yb173	8.29	0.34	4.23	3.35	1.08	0.33	1.13	2.94	1.19	0.51	0.29	1.249464
Lu175	10.27	0.43	5.22	4.31	0.87	0	1.72	3.79	1.65	0.85	0	0.488898
Au197	0	0	0	0	0	0	0	0	0	0.58	0	0
Pb208	1.12	0.444	0.936	1.25	1.05	1.21	2.11	1.68	1.28	0.46	1.59	1.482837
U238	182.6	8.38	109.12	44.02	30.45	8.82	43.15	61.44	28.19	52.74	14.83	36.99743

Table C-2 (continued).
Sample Am011 unalbitised amphibolite

GLITTER!: Trace Element Concentrations MDL filtered.						Sample	Amo11	10points		
Mineral	albite	albite	albite	albite	amphibole	amphibole	amphibole	amphibole	amphibole	biotite
Element	Am011_3c	Am011_4a	Am011_4b	Am011_4c	Am011_1e	Am011_5a	Am011_5b	Am011_6a	Am011_6b	Am011_5d
Na23	74185.77	74185.77	74185.77	74185.77	1237502	857430.3	1300324	1263764	1296272	690072.1
Mg24	22921.44	22707.69	22590.62	22904.47	374544.9	268470.7	382065.5	381742.3	392811	207129.1
Al27	3194.11	3164.88	3185.81	3251.26	52925.05	52925.04	52925.04	52925.04	52925.04	52925.04
K39	<****	<****	<****	<****	<****	<****	<****	<****	<****	<****
Ca43	44897.33	44735.79	44651.06	45172.8	756110	518545.2	808043.6	735114.9	787513.5	411049.6
Ti47	95.95	89.68	90.78	116.25	1153.26	772.59	1533.08	1365.87	1330.41	749.84
Fe56	943.97	921.9	866.47	851.18	56521.76	24723.92	38608.74	22153.42	26894.69	18175.19
Fe57	<****	<****	<****	<****	<****	<****	<****	<****	<****	<****
Co59	<0.32	<0.31	<0.30	<0.32	<4.45	3.66	<5.47	<5.25	<4.73	1.76
Ni60	<0.65	<0.58	<0.98	1.24	<11.28	13.44	13.92	<11.15	12.27	5.2
Cu63	4.19	3.96	4.04	5.13	78.05	48.3	74.13	66.2	128.28	40.18
Zn66	222.22	287.66	258.12	306.33	8138.3	858.67	1923.03	4284.17	5347.02	642.62
Ga69	1.6	1.94	2.31	1.89	39.33	21.56	34.5	34.33	461.92	18
Sr88	60.62	61.3	62.35	58.93	1013.93	709.67	1070.7	1021.7	1199.02	539.69
Zr90	38.27	41.48	40.91	38.77	646.23	424.71	687.19	639.76	625.74	307.16
Ba137	28.05	27.6	28.96	28.15	490.16	326.44	517.64	468.86	11846.41	251.44
La139	2.47	2.53	2.5	2.32	37.21	24.93	38.7	39.23	39.36	18.92
Ce140	4.58	4.27	4.46	4.71	77.62	50.69	78.57	72.8	76.49	39.58
Pr141	0.475	0.58	0.55	0.53	8.19	4.75	10.95	7.61	8.59	4.46
Nd146	1.84	1.88	1.89	1.98	30.97	20.17	27.78	32.3	32.25	16.02
Sm147	0.47	0.4	<0.15	0.45	4.58	4.57	<3.00	7.69	8.99	3.36
Eu153	0.082	0.062	0.054	0.076	1.78	1.09	2.21	<0.73	1.57	0.57
Gd157	0.47	0.36	0.37	0.37	<2.85	3.2	8.47	4.03	6.35	3.5
Tb159	0.083	0.056	0.056	0.076	0.91	0.83	0.76	0.91	0.8	0.49
Dy163	0.37	0.42	0.46	0.43	4.49	3.04	8.12	7.95	6.69	2.2
Ho165	0.097	0.075	0.078	0.065	1.62	0.86	1.13	1.37	1.39	0.66
Er167	0.137	0.231	0.229	0.21	4.51	1.58	5.33	2.27	3.95	1.55
Tm169	<0.036	0.038	0.037	0.041	0.63	0.48	<0.47	0.66	0.44	0.189

Yb173	<0.184	0.3	0.15	0.22	4.46	<2.59	4.66	3.77	4.13	1.33
Lu175	0.048	0.045	<0.029	<0.029	0.4	0.36	0.75	<0.44	0.52	0.164
Au197	<0.099	<0.111	<0.084	<0.128	<1.97	<1.39	3.66	<2.61	<1.68	<0.61
Pb208	4.73	1.88	2.26	3.27	44.39	18.59	25.98	28.63	47.74	12.4
U238	0.507	0.469	0.454	0.46	7.39	6.96	10.19	8.17	8.87	4.69
GLITTER!: 1 sigma error.					Sample	Amo11	10points			
Mineral	albite	albite	albite	albite	amphibole	amphibole	amphibole	amphibole	amphibole	biotite
Element	Am011_3c	Am011_4a	Am011_4b	Am011_4c	Am011_1e	Am011_5a	Am011_5b	Am011_6a	Am011_6b	Am011_5d
Na23	2346.32	2346.3	2346.45	2346.36	105275.5	74206.45	113551.3	115030.8	118917.8	61247.54
Mg24	1597.12	1623.04	1628.48	1665.08	23438.62	17056.54	24480.96	25392.14	26308.39	13457.3
Al27	400.64	411.37	419.04	432.68	1686.49	1682.25	1692.52	1687.75	1680.35	1676.06
K39	1835.6	1726.82	1736.47	1657.6	95054.04	59811.28	89696.02	76638.63	77755.45	48396
Ca43	8844.65	9114.07	9205.22	9412.26	73197.87	51120.73	80682.04	76573.38	82323.81	41401.77
Ti47	46.24	47.17	49.31	64.9	387.9	270.48	548.63	541.15	535.25	276.48
Fe56	5039.48	4431.29	4035.54	3847.02	645117.2	236224.8	341868.7	145820.9	168860.9	140900.9
Fe57	823.78	586.78	567.16	543.42	311972.1	68275.63	77142.4	22753.04	24395.34	27507.31
Co59	0.14	0.15	0.16	0.15	2.53	1.74	2.96	2.65	2.05	0.76
Ni60	0.32	0.31	0.51	0.46	6.38	4.37	8.29	6.66	4.66	1.78
Cu63	0.83	0.8	0.86	1.05	10.47	6.73	10.76	9.6	14.68	4.55
Zn66	38.93	51.5	46.64	55.68	768.34	85.96	193.25	429.66	534.3	63.41
Ga69	0.32	0.39	0.48	0.4	4.44	2.63	4.57	4.34	43.3	1.83
Sr88	10.72	11.18	11.5	10.98	80.51	57.28	87.43	86.71	102.16	44.48
Zr90	8.21	9.22	9.21	8.83	68.55	45.95	75.4	73.36	71.99	33.96
Ba137	5.82	5.88	6.25	6.11	55.34	37.42	60.71	56.38	1372.89	28.68
La139	0.54	0.57	0.57	0.53	4.4	3	4.8	4.94	4.83	2.23
Ce140	0.78	0.75	0.79	0.84	6.3	4.18	6.69	6.29	6.4	3.19
Pr141	0.094	0.11	0.11	0.11	0.97	0.61	1.35	0.97	0.93	0.45
Nd146	0.44	0.46	0.48	0.49	4.89	3.24	5.07	5.32	4.64	2.17
Sm147	0.15	0.16	0.1	0.16	1.92	1.42	2.09	2.36	2.03	0.75
Eu153	0.029	0.031	0.03	0.031	0.54	0.33	0.73	0.45	0.35	0.15

Gd157	0.15	0.13	0.15	0.14	1.8	1.34	2.81	2	1.75	0.78
Tb159	0.026	0.022	0.023	0.025	0.32	0.24	0.31	0.35	0.22	0.11
Dy163	0.11	0.12	0.14	0.13	1.45	1.03	2.01	1.87	1.31	0.48
Ho165	0.029	0.025	0.029	0.025	0.44	0.25	0.42	0.4	0.32	0.13
Er167	0.073	0.09	0.094	0.087	1.47	0.78	1.91	1.43	1.1	0.47
Tm169	0.018	0.018	0.018	0.018	0.31	0.21	0.33	0.34	0.21	0.078
Yb173	0.1	0.13	0.1	0.11	2.04	1.43	2.63	1.88	1.48	0.55
Lu175	0.02	0.02	0.014	0.016	0.26	0.2	0.37	0.26	0.23	0.085
Au197	0.043	0.053	0.059	0.057	1.07	0.84	1.71	1.2	0.75	0.25
Pb208	0.69	0.3	0.36	0.5	3.9	1.91	3.31	3.05	3.59	0.99
U238	0.09	0.084	0.087	0.086	0.96	0.81	1.37	1.06	0.9	0.44
GLITTER!: Trace element concentrations normalised to chondrite.							Amphibolite	10 points		
Element	Am011_3c	Am011_4a	Am011_4b	Am011_4c	Am011_1e	Am011_5a	Am011_5b	Am011_6a	Am011_6b	Am011_5d
Na23	10.24	10.24	10.24	10.24	170.81	118.35	179.48	174.43	178.92	95.25
Mg24	0.16	0.159	0.158	0.16	2.62	1.88	2.67	2.67	2.75	1.448
Al27	0.248	0.245	0.247	0.252	4.1	4.1	4.1	4.1	4.1	4.1
K39	0	0	0	0	0	0	0	0	0	0
Ca43	3.33	3.31	3.31	3.35	56.01	38.41	59.86	54.45	58.33	30.45
Ti47	0.147	0.137	0.139	0.178	1.76	1.18	2.34	2.09	2.03	1.15
Fe56	0.003	0.003	0.003	0.003	0.2	0.09	0.14	0.08	0.1	0.07
Fe57	0	0	0	0	0	0	0	0	0	0
Co59	0	0	0	0	0	0.0048	0	0	0	0.00231
Ni60	0	0	0	0.00008	0	0.00081	0.00084	0	0.00074	0.00032
Cu63	0.025	0.0236	0.024	0.0306	0.465	0.287	0.441	0.394	0.764	0.239
Zn66	0.481	0.62	0.56	0.66	17.62	1.86	4.16	9.27	11.57	1.39
Ga69	0.105	0.128	0.152	0.124	2.59	1.42	2.27	2.26	30.39	1.18
Sr88	5.09	5.15	5.24	4.95	85.2	59.64	89.97	85.86	100.76	45.35
Zr90	6.91	7.49	7.38	7	116.65	76.66	124.04	115.48	112.95	55.44
Ba137	8.23	8.09	8.49	8.26	143.74	95.73	151.8	137.5	3474.02	73.74
La139	6.74	6.9	6.81	6.31	101.38	67.92	105.46	106.9	107.26	51.55

Ce140	4.78	4.46	4.66	4.92	81.11	52.97	82.1	76.07	79.92	41.35
Pr141	3.47	4.2	4.02	3.9	59.77	34.67	79.92	55.54	62.7	32.57
Nd146	2.59	2.64	2.66	2.79	43.56	28.36	39.07	45.43	45.36	22.53
Sm147	2.02	1.74	0	1.93	19.85	19.77	0	33.27	38.91	14.56
Eu153	0.94	0.71	0.62	0.87	20.41	12.58	25.45	0	18.09	6.51
Gd157	1.52	1.18	1.2	1.2	0	10.45	27.67	13.16	20.75	11.44
Tb159	1.43	0.96	0.97	1.31	15.71	14.26	13.03	15.66	13.83	8.42
Dy163	0.97	1.11	1.2	1.12	11.78	7.99	21.3	20.86	17.57	5.79
Ho165	1.15	0.88	0.91	0.76	19.01	10.14	13.34	16.14	16.35	7.76
Er167	0.55	0.93	0.92	0.85	18.12	6.35	21.39	9.11	15.87	6.21
Tm169	0	1.08	1.04	1.15	17.67	13.42	0	18.53	12.39	5.31
Yb173	0	1.22	0.62	0.87	17.99	0	18.8	15.19	16.65	5.38
Lu175	1.25	1.18	0	0	10.54	9.4	19.62	0	13.72	4.3
Au197	0	0	0	0	0	0	16.81	0	0	0
Pb208	1.3	0.515	0.618	0.9	12.16	5.09	7.12	7.84	13.08	3.4
U238	41.55	38.41	37.2	37.71	605.6	570.46	835.55	669.6	727.35	384.23

Table C-2 (continued).
Sample Ab012 albitised amphibolite

GLITTER!: Trace Element Concentrations MDL filtered. Sample altered amphibolite (AbA012), 7 Points							
Mineral	Albite	Albite	Albite	Amphibole	Amphibole	Amphibole	Amphibole
Element	AbA012-12	AbA012-13	AbA012-2	AbA012-14	AbA012-15	AbA012-31	AbA012-33
Na23	74185.77	39244.27	69957.17	46461.9	103719.1	239.45	139.71
Mg24	22462.77	11215.03	20693.47	166802.6	31045.41	136698.6	134678
Al27	3220.38	1538.02	2888.1	149219.6	4235.51	103733.1	103733.1
K39	3478.03	5091.24	3014.1	182635.5	2977.21	2086.37	2567.89
Ca43	45719.29	23130.45	44374.48	24617.82	66984.13	1485.69	1402.67
Ti47	75.69	26.72	48.81	14497.6	295.77	315.79	314.47
Fe56	<****	<****	<****	523567.3	21853.49	<****	<****
Fe57	221.56	83.32	160.86	68240.03	284.35	25652.96	25607.4
Co59	<0.49	<0.236	<0.30	30.39	0.38	22.43	23.82

Ni60	<1.02	<0.48	<0.82	28.05	<0.79	17.52	20.45
Cu63	5.01	1.92	<0.97	15.36	3.91	12.42	11.28
Zn66	238.18	87.82	491.28	726.19	211.94	508.73	500.81
Ga69	2.28	1.21	2.38	75.72	3	60.76	45.83
Sr88	66.18	33.43	63.48	44.47	89.16	13.63	10.83
Zr90	38.64	19.58	38.67	21.23	52.28	2.07	2.74
Ba137	31.46	16.68	30.9	457.24	41.27	720.69	352.15
La139	2.63	1.378	2.45	4.33	3.41	1.134	2.42
Ce140	4.87	2.65	4.78	5.25	6.2	1.19	2.49
Pr141	0.555	0.285	0.608	0.472	0.676	0.371	0.819
Nd146	2.2	1.16	2.04	2.27	2.84	1.49	4.26
Sm147	0.58	0.163	0.43	<0.23	0.53	0.339	0.98
Eu153	0.107	0.044	0.072	0.063	0.112	0.045	0.227
Gd157	0.38	0.29	0.37	0.315	0.38	0.566	1.18
Tb159	0.037	0.046	0.065	0.064	0.043	0.0431	0.14
Dy163	0.39	0.234	0.319	0.202	0.55	0.221	0.772
Ho165	0.078	0.063	0.083	0.068	0.115	0.058	0.112
Er167	0.237	0.172	0.312	0.201	0.43	0.091	0.296
Tm169	<0.047	0.0182	0.036	<0.037	0.058	0.0207	0.041
Yb173	<0.28	<0.152	0.21	0.224	<0.18	<0.074	0.093
Lu175	0.068	<0.02	0.046	0.033	0.06	<0.0128	0.0134
Au197	<0.29	<0.089	<0.162	<0.215	<0.134	<0.091	<0.073
Pb208	2.67	1.34	2.12	8.47	2.28	2.15	2.61
U238	0.74	0.376	0.583	0.457	0.896	0.124	0.143

GLITTER!: Trace element concentrations normalised to chondrite.

Element	AbA012-12	AbA012-13	AbA012-2	AbA012-14	AbA012-15	AbA012-31	AbA012-33
Na23	10.24	5.42	9.66	6.41	14.32	0.0331	0.02
Mg24	0.1571	0.0784	0.1447	1.17	0.217	0.956	1.03
Al27	0.25	0.1192	0.224	11.57	0.328	8.04	9.07
K39	4.07	5.96	3.53	213.86	3.49	2.44	1.51
Ca43	3.39	1.71	3.29	1.82	4.96	0.11	0.12
Ti47	0.116	0.041	0.075	22.17	0.452	0.48	0.65
Fe56	0	0	0	1.88	0.08	0	1.56
Fe57	0.0008	0.0003	0.00058	0.245	0.001	0.09	0.20

Co59	0	0	0	0.0398	0.0005	0.0294	0.04
Ni60	0	0	0	0.0017	0	0.00106	0.00
Cu63	0.0298	0.0114	0	0.0914	0.0233	0.0739	0.08
Zn66	0.516	0.19	1.063	1.57	0.459	1.1	1.09
Ga69	0.15	0.079	0.157	4.98	0.197	4	3.40
Sr88	5.56	2.81	5.33	3.74	7.49	1.146	0.99
Zr90	6.97	3.53	6.98	3.83	9.44	0.374	0.57
Ba137	9.23	4.89	9.06	134.09	12.1	211.35	106.02
La139	7.16	3.75	6.67	11.79	9.3	3.09	6.99
Ce140	5.09	2.77	4.99	5.49	6.48	1.24	2.63
Pr141	4.05	2.08	4.44	3.45	4.94	2.71	6.20
Nd146	3.09	1.63	2.87	3.19	3.99	2.09	6.28
Sm147	2.53	0.7	1.86	0.1125	2.28	1.47	4.57
Eu153	1.23	0.51	0.83	0.73	1.28	0.52	2.72
Gd157	1.23	0.95	1.2	1.03	1.24	1.85	4.21
Tb159	0.64	0.79	1.12	1.11	0.75	0.74	2.57
Dy163	1.01	0.61	0.84	0.53	1.45	0.58	2.19
Ho165	0.91	0.74	0.98	0.8	1.35	0.68	1.41
Er167	0.95	0.69	1.25	0.81	1.73	0.36	1.26
Tm169	0	0.51	1	0.01865	1.63	0.58	1.25
Yb173	0	0	0.85	0.9	0.091	0	0.40
Lu175	1.8	0	1.22	0.86	1.58	0	0.37
Au197	0	0	0	0	0	0	0.00
Pb208	0.731	0.368	0.582	2.32	0.624	0.588	0.70
U238	60.56	30.84	47.76	37.49	73.42	10.17	10.67

Table C-2 (continued).
Sample Op031 unaltered pegmatite

Element	GLITTER!: Trace Element Concentrations MDL filtered.				Sample Op031, Pegmatite, 19 points					
	Albite	Albite	Albite	Albite	Albite	Albite	orthoclase	Orthoclase	Orthoclase	K-feldspar
	Op31_2b	Op31_2c	Op31_1d	Op31_3f	Op31_1c	Op31_1h	Op31_2f	Op31_3b	Op31_5d	Op31_3a
Na23	179160.2	223577.1	54649.92	122228.4	22045.75	136786.6	227584.8	127505.6	1415826	1148843

Mg24	51526.73	58187.79	2674.38	44703.99	10466.33	23733.92	52097.58	36127.93	403600.8	369899.9
Al27	6716.97	6280.14	52925.04	84680.05	47632.54	47632.54	179632.8	52925.03	52925.04	52925.04
K39	4769.39	5716.9	<****	91746.77	<****	<****	450081.7	100927.1	157661	135258.9
Ca43	99922.34	99922.35	5863.61	59410.74	12455.44	45199.13	99922.34	69756.07	799846.4	650202.9
Ti47	109.1	102.14	13.41	866.16	922.24	50.88	148.59	72.14	811.08	661.74
Fe56	<****	<****	<****	<****	<****	<****	<****	<****	<****	<****
Fe57	155.33	192.87	39.41	1566.58	1019.07	112.12	322.14	82.33	1132.51	842.89
Co59	0.56	<0.24	<0.139	3.65	1.29	0.24	<0.54	<0.31	<3.10	5.39
Ni60	1.59	4.53	0.35	9.66	3.15	1.23	5.87	1.43	19.22	12.23
Cu63	8.22	17.45	7.66	69.48	9.29	14.63	45.85	6.51	603.8	72.9
Zn66	344.67	746.01	597.85	560.33	223.36	557.77	3154.2	744.71	50615.85	5059.15
Ga69	5.33	5.53	9.2	62.43	32.96	12.12	240.98	48.53	37.19	51.81
Sr88	140.27	136.18	18.61	87.52	20.05	74.14	246.16	146.16	1123.04	924.41
Zr90	81.72	70.17	4.54	46.91	12.93	36.2	83.28	54.08	700.24	496.06
Ba137	69.08	78.17	7.41	302.43	301.77	33.12	4583.32	679.49	556.24	593.34
La139	5.47	4.96	7.44	3.63	0.75	3.68	7.36	3.96	46.48	36.06
Ce140	10.73	10.94	13.98	8.45	1.78	18.39	44.17	8.49	92.61	74.53
Pr141	1.302	1.175	1.356	0.931	0.2	0.945	2.69	1.006	9.79	7.68
Nd146	4.89	3.48	6.78	3.38	0.67	3.36	8.6	3.53	41.53	30.21
Sm147	1.17	0.8	1.78	0.74	0.226	0.7	3.43	0.99	9.05	5.46
Eu153	0.149	0.087	0.266	0.166	0.071	0.12	0.7	0.36	0.82	0.8
Gd157	1.01	0.51	1.99	0.53	0.168	0.58	1.81	0.39	9.97	5.44
Tb159	0.104	0.11	0.253	0.042	0.0259	0.072	0.374	0.059	0.96	0.92
Dy163	0.92	0.8	1.29	0.52	0.191	0.535	1.83	0.5	8	6.64
Ho165	0.137	0.207	0.209	0.096	0.0249	0.109	0.258	0.093	1.53	1.12
Er167	0.39	0.61	0.391	0.227	0.118	0.47	0.62	0.4	2.79	2.45
Tm169	0.051	0.084	0.0379	0.056	0.0108	0.046	0.149	0.043	1.05	0.46
Yb173	0.64	0.62	0.185	0.207	0.079	0.39	0.66	0.61	5.59	3.16
Lu175	0.093	0.022	0.044	0.068	0.0154	0.042	0.155	0.044	0.69	0.57
Au197	<0.207	<0.149	<0.070	<0.112	<0.019	<0.149	<0.31	<0.277	<1.53	<0.92
Pb208	1.13	5.26	5.88	24.14	4.24	13.4	123.72	47.17	334.94	149.16

U238	1.43	1.64	0.149	1.48	0.406	0.891	2.13	1.037	11.6	10.29
GLITTER!: 1 sigma error.										
	Albite	Albite	Orthoclase	orthoclase	Orthoclase	K-feldspar	orthoclase	Orthoclase	Orthoclase	K-feldspar
Element	Op31_2b	Op31_2c	Op31_1d	Op31_3f	Op31_1c	Op31_1hD	Op31_2f	Op31_3b	Op31_5d	Op31_3a
Na23	20347.29	25668.3	3123.21	6021.87	1247.59	8058.3	27072.28	6227.15	72865.09	56086.76
Mg24	4525.97	5159.02	122.51	1863.44	476.06	1109.29	4769.21	1497.89	17283.63	15332.36
Al27	490.74	462.66	1673.87	2678.23	1506.68	1506.88	13628.56	1674.38	1679.77	1676.92
K39	8459.9	10246.49	46031.75	1279749	2367962	79552.62	833567.1	1029151	7324936	1293038
Ca43	3427.78	3427.78	397.6	3337.71	821.06	3020.16	3541.87	3909.13	46821.37	36038.56
Ti47	20.9	19.89	2.2	99.38	137.3	8.52	30.35	8.57	106.54	75.19
Fe56	2258.88	3097.03	1087.62	21778.35	26716.97	3854.05	5162.14	932.15	18298.08	7867.71
Fe57	193.22	247.04	49.56	1131.82	1236.94	157.49	452.72	55.11	986.39	554.07
Co59	0.21	0.14	0.061	0.23	0.11	0.12	0.25	0.15	1.47	0.88
Ni60	0.48	0.63	0.15	0.75	0.37	0.34	0.91	0.4	4.05	2.14
Cu63	0.76	1.33	0.53	3.76	0.65	1.06	3.39	0.55	34.82	4.75
Zn66	18.71	39.5	40.29	33.82	15.21	38.89	167.06	45.17	3112.32	305.51
Ga69	0.38	0.38	0.55	3.13	1.89	0.78	12.43	2.47	2.72	2.99
Sr88	5.72	5.58	1.03	4.24	1.11	4.18	10.3	7.03	56.4	44.34
Zr90	3.89	3.38	0.33	2.77	0.91	2.59	4.14	3.19	43.23	28.79
Ba137	3.5	3.93	0.62	19.5	22.14	2.7	210.28	43.52	39.23	39.08
La139	0.35	0.33	0.55	0.25	0.069	0.3	0.49	0.28	3.33	2.41
Ce140	0.48	0.49	0.76	0.43	0.11	1.04	1.87	0.45	4.92	3.74
Pr141	0.096	0.09	0.088	0.065	0.023	0.077	0.18	0.081	0.75	0.53
Nd146	0.45	0.35	0.56	0.31	0.1	0.36	0.73	0.37	3.99	2.67
Sm147	0.22	0.17	0.19	0.13	0.062	0.15	0.45	0.18	1.73	1.01
Eu153	0.041	0.03	0.03	0.029	0.018	0.033	0.11	0.057	0.37	0.23
Gd157	0.22	0.15	0.21	0.12	0.057	0.14	0.31	0.15	1.77	1.04
Tb159	0.028	0.026	0.027	0.013	0.0086	0.019	0.058	0.02	0.23	0.16
Dy163	0.15	0.14	0.12	0.088	0.049	0.095	0.26	0.11	1.29	0.84
Ho165	0.036	0.035	0.023	0.019	0.0089	0.024	0.053	0.025	0.3	0.18
Er167	0.14	0.13	0.061	0.066	0.042	0.11	0.16	0.11	0.94	0.64

Tm169	0.022	0.023	0.0081	0.016	0.0075	0.018	0.04	0.019	0.24	0.13
Yb173	0.19	0.16	0.059	0.092	0.045	0.11	0.23	0.15	1.39	0.84
Lu175	0.027	0.015	0.011	0.018	0.0092	0.016	0.039	0.021	0.22	0.13
Au197	0.091	0.067	0.03	0.053	0.019	0.059	0.15	0.095	0.55	0.41
Pb208	0.31	0.35	0.3	1.08	0.25	0.71	5.47	2.1	15.31	6.84
U238	0.12	0.13	0.019	0.1	0.042	0.08	0.17	0.099	0.96	0.74
GLITTER!: Trace element concentrations normalised to chondrite.										
Element	Op31_2b	Op31_2c	Op31_1d	Op31_3f	Op31_1c	Op31_1hD	Op31_2f	Op31_3b	Op31_5d	Op31_3a
Na23	24.73	30.86	7.54	16.87	3.04	18.88	31.41	17.6	195.42	158.57
Mg24	0.36	0.407	0.0187	0.313	0.0732	0.166	0.364	0.253	2.82	2.59
Al27	0.521	0.487	4.1	6.56	3.69	3.69	13.93	4.1	4.1	4.1
K39	5.58	6.69	0	107.43	0	0	527.03	118.18	184.61	158.38
Ca43	7.4	7.4	0.434	4.4	0.923	3.35	7.4	5.17	59.25	48.16
Ti47	0.167	0.156	0.0205	1.32	1.41	0.078	0.227	0.11	1.24	1.01
Fe56	0	0	0	0	0	0	0	0	0	0
Fe57	0.00056	0.00069	0.00014	0.0056	0.0037	0.0004	0.0012	0.0003	0.0041	0.003
Co59	0.00074	0	0	0.00477	0.00168	0.00031	0	0	0	0.0071
Ni60	0.0001	0.00027	0.00002	0.00059	0.00019	0.00007	0.00036	0.00009	0.00116	0.00074
Cu63	0.0489	0.1038	0.0456	0.414	0.0553	0.0871	0.273	0.0387	3.59	0.434
Zn66	0.746	1.615	1.294	1.213	0.483	1.207	6.83	1.612	109.56	10.95
Ga69	0.35	0.364	0.605	4.11	2.17	0.797	15.85	3.19	2.45	3.41
Sr88	11.79	11.44	1.564	7.35	1.685	6.23	20.69	12.28	94.37	77.68
Zr90	14.75	12.67	0.819	8.47	2.33	6.53	15.03	9.76	126.4	89.54
Ba137	20.26	22.92	2.17	88.69	88.49	9.71	1344.08	199.26	163.12	174
La139	14.9	13.53	20.27	9.9	2.04	10.03	20.07	10.8	126.64	98.24
Ce140	11.21	11.43	14.61	8.83	1.86	19.21	46.15	8.88	96.77	77.88
Pr141	9.51	8.58	9.9	6.8	1.46	6.9	19.62	7.34	71.43	56.04
Nd146	6.88	4.89	9.54	4.76	0.95	4.72	12.09	4.97	58.41	42.49
Sm147	5.06	3.46	7.71	3.18	0.98	3.02	14.87	4.27	39.18	23.65
Eu153	1.72	1	3.06	1.91	0.82	1.38	8.03	4.14	9.47	9.21
Gd157	3.3	1.66	6.5	1.75	0.55	1.9	5.9	1.28	32.59	17.77

Tb159	1.8	1.9	4.36	0.73	0.45	1.24	6.45	1.03	16.58	15.83
Dy163	2.43	2.1	3.39	1.36	0.5	1.4	4.81	1.32	20.99	17.43
Ho165	1.61	2.44	2.45	1.13	0.29	1.28	3.03	1.09	17.98	13.17
Er167	1.56	2.44	1.57	0.91	0.48	1.89	2.48	1.62	11.19	9.86
Tm169	1.42	2.35	1.06	1.58	0.3	1.28	4.2	1.2	29.36	13.03
Yb173	2.59	2.51	0.75	0.83	0.32	1.59	2.65	2.47	22.56	12.74
Lu175	2.44	0.58	1.16	1.8	0.4	1.11	4.06	1.15	18.19	15.06
Au197	0	0	0	0	0	0	0	0	0	0
Pb208	0.309	1.442	1.61	6.61	1.162	3.67	33.9	12.92	91.77	40.87
U238	117.02	134.75	12.2	121.24	33.24	73	174.6	85	950.59	843.67

Table C-2 (continued).

Sample Op031 unaltered pegmatite

GLITTER!: Trace Element Concentrations MDL filtered.						Pegmatite	Op031	19 points	
Mineral	K-feldspar	K-feldspar	K-feldspar	K-feldspars	K-feldspar	Plagioclase	Plagioclase	Plagioclase	Biotite
Element	Op31_3c	Op31_3e	Op31_3g	Op31_3h	Op31_5a	Op31_3d	Op31_3i	Op31_1i	Op31_1b
Na23	447486.4	150373.8	1491794	1529531	1420357	1212703	1315655	179312	80205.67
Mg24	123523	46618.41	443402.9	432979.8	423000.7	365778.6	387400.5	24817.44	52423.96
Al27	52925.04	84680.05	52925.03	47632.53	52925.04	52925.03	47632.53	84680.06	111142.6
K39	82168.05	78194.23	161001.9	65084.65	85174.65	48977.02	61248.79	<****	<****
Ca43	233848.4	85554.55	857440.4	772497.6	809628.7	686668.9	741626.5	51836.45	41975.13
Ti47	232.5	1172.33	762.21	704.69	841.07	666.78	722.71	58.43	540.41
Fe56	<****	<****	<****	<****	<****	<****	<****	<****	<****
Fe57	273.37	1087.29	1005.43	935.8	868.2	779.33	896.35	138.35	5634.2
Co59	<0.99	1.1	<2.37	2.61	4.29	<2.09	<2.48	<0.37	22.12
Ni60	4.13	5.5	17.38	34.05	7.36	6.84	9.29	1.26	36.99
Cu63	16.93	31.84	71.36	134.79	47.41	59.88	56.09	14.83	216.19
Zn66	1194.21	402.88	4116.33	463.45	340.47	2949.4	97.94	339.06	803.47
Ga69	20.86	45.79	46.02	40.82	41.89	39.61	38.43	22.01	52.75

Sr88	338.82	114.44	1126.01	1042.23	1115.68	945.25	1016.95	83.3	66.11
Zr90	194.21	67.2	615.18	570.77	646.22	526.55	611.42	42.31	60.52
Ba137	166.08	186.3	583.78	531.58	546.58	555.51	516.53	38.13	186.74
La139	12.72	4.48	43.46	38.9	42.03	35.02	37.84	2.83	4.49
Ce140	26.48	9.32	85.31	92.8	86.32	74.07	80.39	6.37	12.55
Pr141	2.65	1.013	8.98	9.14	9.88	8.11	8.68	0.659	1.75
Nd146	10.87	4.33	36.2	29.42	31.44	31.47	31.44	2.57	7.74
Sm147	2.71	0.79	5.93	7.83	7.14	5.94	5.99	0.81	2.66
Eu153	0.444	0.147	1.86	1.05	0.65	1.36	1.35	0.118	0.417
Gd157	2.48	0.71	6.25	8.86	7.1	6.6	4.07	0.86	2.85
Tb159	0.25	0.06	0.53	1.05	1.11	1.08	1.08	0.097	0.628
Dy163	1.59	0.58	5.71	4.33	5.85	3.85	6.43	0.63	3.54
Ho165	0.332	0.144	1.32	1.17	1.43	0.81	1.33	0.135	0.609
Er167	1.08	0.209	3.67	3.45	4.25	1.54	2.93	0.35	1.82
Tm169	0.107	0.047	1.06	0.48	1.08	0.62	0.63	0.061	0.216
Yb173	2.21	0.33	4.43	2.15	5.43	3.2	2.06	0.24	1.48
Lu175	0.299	0.053	0.33	0.54	0.4	0.29	0.28	<0.038	0.157
Au197	<0.53	<0.137	<1.20	<1.34	<1.36	<0.90	<1.42	<0.210	<0.141
Pb208	11.66	51.35	39.13	44.71	24.45	30.8	24.06	9.55	22.56
U238	3.58	1.52	14.37	10.93	10.99	9.56	10.27	0.832	6.42
GLITTER!: 1 sigma error.									
Element	Op31_3c	Op31_3e	Op31_3g	Op31_3h	Op31_5a	Op31_3d	Op31_3i	Op31_1i	Op31_1b
Na23	21884.14	7385.79	73809.57	76002.45	71668.32	59435.28	65662.85	10672.52	4494.82
Mg24	5125.82	1939.7	18539.63	18152.52	17894.73	15202.46	16279.78	1168.28	2368.74
Al27	1674.93	2678.44	1678.78	1511.74	1677.97	1676.95	1509.51	2678.63	3515.75
K39	898128.2	998904.8	2471722	1109973	2150907	576978.6	1173276	91593.95	4097194
Ca43	13008.82	4793.64	48268.95	43737.06	46377.31	38226.39	41988.45	3507.64	2722.2
Ti47	26.99	133.27	92.11	86.56	105.26	77.57	87.93	10.06	79.73
Fe56	2649.51	14608.78	12325.91	12370.3	13316.37	8754.14	10945.44	4411.23	141312.7
Fe57	186.33	769.79	742.05	705.74	701.53	541.25	691.19	202.07	6608.85

Co59	0.41	0.17	1.13	0.97	1.3	0.94	1.03	0.17	1.07
Ni60	0.87	0.64	3.16	4.44	3.13	2.22	2.54	0.42	2.73
Cu63	1.39	1.83	5.21	8.57	4.09	4.14	4.11	1.15	13.25
Zn66	72.48	24.65	251.21	33.5	25.42	179.1	10.2	24.21	53.96
Ga69	1.22	2.33	2.97	2.74	2.72	2.41	2.39	1.39	3.06
Sr88	16.28	5.53	54.7	50.87	55.01	45.49	49.64	4.75	3.61
Zr90	11.31	3.96	36.45	34.06	38.96	30.73	36.34	3.07	4.13
Ba137	11.08	12.13	39.45	36.33	37.32	36.71	34.64	3.16	13.86
La139	0.86	0.31	2.99	2.72	2.91	2.35	2.57	0.25	0.37
Ce140	1.34	0.48	4.4	4.79	4.45	3.73	4.07	0.39	0.72
Pr141	0.19	0.076	0.67	0.69	0.69	0.56	0.59	0.066	0.14
Nd146	0.98	0.4	3.41	2.96	3.02	2.75	2.8	0.33	0.77
Sm147	0.45	0.16	1.27	1.4	1.31	1.08	1.05	0.18	0.39
Eu153	0.097	0.039	0.33	0.28	0.29	0.25	0.25	0.034	0.073
Gd157	0.43	0.17	1.24	1.52	1.46	1.08	0.94	0.18	0.41
Tb159	0.056	0.019	0.14	0.2	0.19	0.17	0.17	0.025	0.078
Dy163	0.3	0.11	0.94	0.83	1.01	0.74	0.87	0.13	0.38
Ho165	0.069	0.028	0.23	0.22	0.23	0.15	0.21	0.029	0.077
Er167	0.29	0.078	0.85	0.79	0.97	0.56	0.72	0.13	0.27
Tm169	0.047	0.018	0.2	0.16	0.19	0.14	0.16	0.021	0.041
Yb173	0.37	0.12	1.15	0.92	1.22	0.81	0.86	0.11	0.27
Lu175	0.063	0.024	0.16	0.17	0.2	0.12	0.14	0.022	0.038
Au197	0.21	0.079	0.59	0.49	0.61	0.41	0.5	0.085	0.089
Pb208	0.73	2.25	2.53	2.79	1.8	1.91	1.63	0.56	1.18
U238	0.27	0.12	1.06	0.9	0.85	0.7	0.74	0.088	0.4
GLITTER!: Trace element concentrations normalised to chondrite.									
Element	Op31_3c	Op31_3e	Op31_3g	Op31_3h	Op31_5a	Op31_3d	Op31_3i	Op31_1i	Op31_1b
Na23	61.76	20.76	205.91	211.12	196.05	167.38	181.59	24.75	11.07
Mg24	0.864	0.326	3.1	3.03	2.96	2.56	2.71	0.1735	0.367
Al27	4.1	6.56	4.1	3.69	4.1	4.1	3.69	6.56	8.62

K39	96.22	91.56	188.53	76.21	99.74	57.35	71.72	0	0
Ca43	17.32	6.34	63.51	57.22	59.97	50.86	54.94	3.84	3.11
Ti47	0.356	1.79	1.17	1.08	1.29	1.02	1.11	0.089	0.83
Fe56	0	0	0	0	0	0	0	0	0
Fe57	0.00098	0.0039	0.0036	0.0034	0.0031	0.0028	0.0032	0.0005	0.02
Co59	0	0.00144	0	0.0034	0.0056	0	0	0	0.0289
Ni60	0.00025	0.00033	0.00105	0.00206	0.00045	0.00041	0.00056	0.00008	0.00224
Cu63	0.1008	0.19	0.425	0.802	0.282	0.356	0.334	0.0883	1.287
Zn66	2.58	0.872	8.91	1.003	0.737	6.38	0.212	0.734	1.74
Ga69	1.372	3.01	3.03	2.69	2.76	2.61	2.53	1.448	3.47
Sr88	28.47	9.62	94.62	87.58	93.75	79.43	85.46	7	5.56
Zr90	35.06	12.13	111.04	103.03	116.65	95.04	110.37	7.64	10.92
Ba137	48.7	54.63	171.2	155.89	160.29	162.91	151.48	11.18	54.76
La139	34.65	12.21	118.43	106	114.52	95.42	103.1	7.71	12.24
Ce140	27.67	9.74	89.14	96.97	90.2	77.4	84	6.66	13.11
Pr141	19.33	7.4	65.56	66.71	72.13	59.17	63.34	4.81	12.76
Nd146	15.29	6.09	50.92	41.38	44.22	44.26	44.22	3.61	10.88
Sm147	11.72	3.41	25.66	33.9	30.89	25.73	25.92	3.5	11.52
Eu153	5.1	1.69	21.34	12.03	7.48	15.58	15.49	1.36	4.8
Gd157	8.11	2.31	20.44	28.95	23.21	21.57	13.3	2.8	9.32
Tb159	4.31	1.03	9.11	18.12	19.17	18.66	18.55	1.68	10.83
Dy163	4.18	1.53	14.99	11.36	15.37	10.12	16.87	1.65	9.29
Ho165	3.9	1.69	15.46	13.73	16.83	9.55	15.63	1.59	7.15
Er167	4.33	0.84	14.75	13.84	17.05	6.19	11.77	1.41	7.33
Tm169	3	1.33	29.79	13.42	30.39	17.53	17.83	1.71	6.05
Yb173	8.9	1.34	17.86	8.65	21.91	12.9	8.31	0.99	5.95
Lu175	7.85	1.39	8.69	14.26	10.52	7.57	7.36	0	4.13
Au197	0	0	0	0	0	0	0	0	0
Pb208	3.2	14.07	10.72	12.25	6.7	8.44	6.59	2.62	6.18
U238	293.32	124.49	1177.66	895.57	900.49	783.4	842.04	68.18	525.98

Table C-2 (continued).
Sample Bp032 altered pegmatite

GLITTER!: Trace Element Concentrations MDL filtered.										
Altered pegmatite (Bp032) 10 points										
Mineral	Albite	Albite	Albite	K-feldspar	K-feldspar	Orthoclase	Plagioclase	Biotite	biotite	biotite
Element	Bp32_5b	Bp32_1a	Bp32_1b	Bp32_7b	Bp32_7d	Bp32_7g	Bp32_6b	Bp32_1c	Bp32_4a	Bp32_4b
Na23	61129.07	71515.08	62019.3	12952#	3250#	1641	2121#	1316596	1272403	1700#
Mg24	565.76	21181.6	18012.71	4584#	346971.9	19.32	388803.1	375032.9	378611.9	388898.5
Al27	2175123	3298.96	3133.7	52925.04	52925.04	84680.06	52925.04	52925.04	52925.04	52925.04
K39	<****	<****	<****	105628#	134179#	136782#	134716#	<****	<****	132276#
Ca43	9342.45	47066.66	39545.07	857419.4	788578.3	283.22	838476.7	805208.6	819699.3	848239
Ti47	336.97	74.09	68.59	862.49	642.78	24.25	1021.02	1075.35	1281.96	973.2
Fe56	15886.28	<****	<****	<****	<****	<****	<****	<****	<****	<****
Fe57	891.5	123.56	272.85	1847.37	1967.11	66.09	4672.86	2885.85	3412.87	4345.57
Co59	<6.44	<0.61	0.95	<4.45	<3.91	<0.098	6.38	<6.49	<6.57	<5.04
Ni60	20.28	1.7	1.15	<13.75	32	0.57	12.46	23.19	<13.46	<15.15
Cu63	125.31	9.61	12.9	<16.19	17.89	3.02	56.44	156.68	36.03	22.63
Zn66	93.52	762.42	756.8	2519.67	12019.42	87.78	494.52	17645.73	1588.9	1305.21
Ga69	2036.7	2.92	3.68	39.12	55.04	46.88	39.95	37.25	36.35	34.35
Sr88	1190.88	63.96	53.35	1140.51	1029.04	47.07	1120.26	1118.74	1120.58	1112.77
Zr90	2.29	39.91	187.28	674.4	614.16	0.101	713.5	689.55	699.95	693.77
Ba137	22191.38	32.27	27.22	503.63	840.31	679.76	517.94	554.64	551.05	546.19
La139	78.64	3.76	7.58	43.45	39.45	3.46	43.77	42.57	47.41	43.13
Ce140	114.74	6.67	22.47	84.32	82.52	8.09	83.78	84.31	87.3	89.49
Pr141	21.98	0.89	3.49	8.6	9.17	0.873	9.07	9.38	11.08	10.36
Nd146	55.95	3.17	18.33	30.68	36.4	4.27	44.44	32.89	36	35.95
Sm147	20.65	1.25	17.32	5.73	3.21	1.14	11.89	13.61	9.04	6.58
Eu153	20.56	0.15	3.01	2.05	1.05	0.5	1.35	1.37	1.78	0.93
Gd157	13.53	<0.46	28.01	7.12	4.35	1.05	<3.28	4.77	10.17	6.96
Tb159	3.14	0.13	11.46	0.85	0.96	0.131	1.13	0.76	0.83	0.71

Dy163	9.14	0.48	63.76	5.67	5.16	0.664	6.96	4.96	4.71	8.07
Ho165	1.3	0.29	10.59	1.01	1.28	0.129	1.04	1.78	1.78	0.98
Er167	<3.56	0.63	20.87	3.83	5.09	0.207	4.22	3.37	4.44	3.61
Tm169	<0.65	<0.069	3.46	0.48	<0.28	0.0254	0.65	0.7	<0.56	0.78
Yb173	9.17	0.38	19.57	5.81	<2.96	<0.057	7.78	<4.00	<4.24	7.65
Lu175	<0.92	<0.077	2.88	<0.54	0.42	0.0182	<0.61	<0.56	0.71	0.57
Au197	<4.17	<0.35	<0.24	<1.81	<2.03	<0.058	<2.44	<2.68	<2.51	<2.23
Pb208	2929.32	7.64	10.01	<5.83	55.42	41.09	<6.39	136.1	18.96	<5.63
U238	<1.21	2.72	191.28	10.14	9.38	0.021	10.3	9.15	9.21	11.23

GLITTER!: Trace element concentrations normalised to chondrite.

Element	Bp32_5b	Bp32_1a	Bp32_1b	Bp32_7b	Bp32_7d	Bp32_7g	Bp32_6b	Bp32_1c	Bp32_4a	Bp32_4b
Na23	16.38	9.87	8.56	185.37	172.7	0.421	169.57	181.72	175.62	181.11
Mg24	0.00766	0.148	0.126	2.74	2.43	0.00014	2.72	2.62	2.65	2.72
Al27	278.39	0.256	0.243	4.1	4.1	6.56	4.1	4.1	4.1	4.1
K39	0	0	0	0	0	0	0	0	0	0
Ca43	1.28	3.49	2.93	63.51	58.41	0.021	62.11	59.65	60.72	62.83
Ti47	1.02	0.113	0.105	1.32	0.98	0.0371	1.56	1.64	1.96	1.49
Fe56	0	0	0	0	0	0	0	0	0	0
Fe57	0.007	0.0004	0.001	0.007	0.007	0.00024	0.017	0.01	0.012	0.016
Co59	0	0	0.0012	0	0	0	0.0083	0	0	0
Ni60	0.00147	0.0001	0.00007	0	0.00194	0.00003	0.00076	0.00141	0	0
Cu63	1.12	0.057	0.077	0	0.106	0.018	0.336	0.933	0.214	0.135
Zn66	0.389	1.65	1.64	5.45	26.02	0.19	1.07	38.19	3.44	2.83
Ga69	149.96	0.19	0.24	2.57	3.62	3.08	2.63	2.45	2.39	2.26
Sr88	195.2	5.37	4.48	95.84	86.47	3.96	94.14	94.01	94.17	93.51
Zr90	0.82	7.2	33.81	121.73	110.86	0.0182	128.79	124.47	126.35	125.23
Ba137	12670.72	9.46	7.98	147.69	246.43	199.34	151.89	162.65	161.6	160.17
La139	224.43	10.23	20.65	118.39	107.49	9.42	119.26	116	129.2	117.51
Ce140	151.08	6.97	23.48	88.11	86.23	8.45	87.55	88.1	91.22	93.51
Pr141	130.92	6.49	25.49	62.79	66.96	6.37	66.23	68.49	80.88	75.62
Nd146	75.98	4.45	25.78	43.14	51.19	6	62.5	46.26	50.63	50.56

Sm147	73.44	5.42	74.98	24.8	13.91	4.93	51.47	58.91	39.12	28.47
Eu153	186.05	1.7	34.62	23.6	12.06	5.74	15.51	15.71	20.44	10.74
Gd157	35.6	0	91.53	23.28	14.2	3.44	0	15.59	33.22	22.75
Tb159	44.05	2.22	197.56	14.67	16.57	2.26	19.45	13.06	14.26	12.24
Dy163	20.03	1.26	167.35	14.88	13.53	1.74	18.26	13.03	12.37	21.19
Ho165	12.62	3.36	124.41	11.85	15.05	1.51	12.2	20.9	20.96	11.49
Er167	0	2.54	83.82	15.37	20.42	0.83	16.96	13.52	17.83	14.51
Tm169	0	0	97.32	13.37	0	0.71	18.18	19.68	0	21.79
Yb173	29.37	1.55	78.91	23.42	0	0	31.36	0	0	30.86
Lu175	0	0	75.69	0	11	0.48	0	0	18.66	14.96
Au197	12.66	0	0	0	0	0	0	0	0	0
Pb208	759.32	2.09	2.74	0	15.18	11.26	0	37.29	5.19	0
U238	72.27	223.34	15678.69	831.11	769.19	1.69	844.53	749.75	754.94	920.16

Notes: 1. 71 sets of LAICPMS data were provided in 4 automatic Glitter! programs for comparison. 2. The element concentrations were applied at the MDL filtered. 3. The REE elements were automatically nominated to chondrite for calculation in Adelaide Microscopy. 4. The parameters of the fires were 0.047mJ to 0.53mJ, 5Hz, 6.63-7.62 J/cm³, 65% except Ps008 at 60%-45%, 30 um of points, 28-30 seconds for backgrounds and 65- 67 seconds for the fire. The calibration of standard nist612 was element Na, K and Al for calculation in 4 points in glass beads for each slide. 5. All values for the internal standard(s) were reported in ppm. 6. Exception Na and K in slide Ps008 were entered in units of weight% oxide from EMA analyses for calculation. 7. # is EMA data instead of LAICPMS data due to 3 versions of data sets show some uncertain of signal review in 4 Giltter programs. Data of Bp032 may be semi-quantitative in K-feldspar and biotite.