TABLE DR1. REPRESENTATIVE DETRITAL CLINOPYROXENE MAJOR AND TRACE ELEMENT GEOCHEMISTRY

Sample (wt%, majors)	MW6-2 C1-6	MW6-2 C5-1	MP1-7 4	DLP1b-5a C1-7	DLP1b-5a C1-8	DLP1b-5a C1-19	DLP1b-5a C2-1	DLP1b-5a C2-10	DLP1b-5a C2-11	DLP1b-5a C2-16	DLP1b-5a C2-21	DLP1b-5a C2-25	MW6-2 C1-1	MW6-2 C1-12	MW6-2 C1-14	MW6-2 C1-2	MW6-2 C1-25	MW6-2 C5-4	MW6-2 C5-11	DLP3-20 C2-8	MP1-3 C2-35	MP1-7 31	MW6-3 C5-1	MW4-1 C4-7	MW6-2 C1-17	MW6-2 C3-20
SiO_2	52.39	52.70	51.54	51.92	51.74	53.21	52.05	51.26	51.24	51.96	51.21	51.28	51.89	53.85	52.82	52.00	52.18	51.73	51.89	51.84	51.74	50.73	53.63	49.85	52.81	53.95
TiO_2	0.52	0.42	0.75	0.67	0.71	0.47	0.72	0.99	1.00	0.90	1.04	0.99	0.63	0.43	0.41	0.55	0.52	0.80	0.87	0.81	0.95	1.15	0.43	1.37	0.41	0.11
Al_2O_3	3.18	2.93	3.81	2.83	3.59	2.16	2.40	2.08	2.30	2.36	3.83	2.94	2.81	1.57	2.23	1.65	2.09	3.71	2.79	2.18	2.45	3.09	1.59	5.28	1.70	0.69
Cr_2O_3	0.76	0.49	0.52	0.11	0.29	0.13	0.16	0.06	0.03	0.00	0.30	0.01	0.16	0.25	0.18	0.03	0.07	0.14	0.00	0.03	0.03	0.00	0.13	0.49	0.09	0.29
FeO*	5.16	5.37	5.78	9.76	6.25	5.98	7.73	10.14	9.36	8.27	8.03	9.20	7.42	7.32	5.78	9.01	7.39	6.62	9.55	9.16	10.83	10.12	7.41	6.59	6.47	4.14
MnO	0.17	0.15	0.17	0.21	0.15	0.16	0.20	0.28	0.25	0.23	0.19	0.22	0.20	0.22	0.17	0.15	0.28	0.16	0.23	0.16	0.34	0.30	0.23	0.13	0.22	0.12
MgO	17.10	17.53	16.54	14.99	17.49	17.13	14.91	13.77	14.24	14.75	16.81	15.52	16.97	18.83	16.88	14.78	15.39	16.83	17.42	14.61	16.64	15.78	19.58	14.58	15.67	16.13
CaO	20.67	20.14	20.51	18.89	19.38	20.76	21.66	21.25	21.39	21.24	18.50	19.57	19.30	17.41	20.98	20.82	21.15	19.91	16.92	20.75	16.67	18.38	16.84	21.20	22.16	24.40
Na_2O	0.26	0.25	0.26	0.74	0.25	0.21	0.34	0.39	0.37	0.31	0.24	0.29	0.28	0.18	0.26	0.39	0.33	0.28	0.27	0.36	0.26	0.25	0.18	0.32	0.29	0.14
K_2O	0.00	0.00	0.01	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00
NiO	0.06	0.01	0.04	0.00	0.00	0.04	0.04	0.01	0.00	0.00	0.00	0.03	0.03	0.02	0.04	0.03	0.00	0.00	0.09	0.00	0.03	0.00	0.03	0.03	0.00	0.03
Total	100.29	99.99	99.94	100.15	99.86	100.27	100.22	100.23	100.19	100.02	100.16	100.04	99.70	100.08	99.75	99.41	99.40	100.19	100.03	99.93	99.93	99.81	100.05	99.84	99.83	100.00
Al(t)%†	4.57	3.91	5.58	4.07	5.42	2.89	3.88	4.44	4.78	3.66	6.01	5.09	4.54	1.75	3.13	2.95	3.13	5.47	4.53	3.61	4.10	5.77	2.43	7.86	2.62	1.13
Mg#	85.10	85.00	83.20	72.82	82.95	83.26	77.02	70.20	72.54	75.56	78.47	74.61	79.87	81.66	83.48	74.19	78.14	81.57	76.05	73.64	72.64	72.97	82.04	79.44	80.68	87.10
Cr#	13.89	10.11	8.42	2.49	5.12	3.96	4.34	1.80	0.93	0.03	5.01	0.33	3.58	9.65	5.20	1.34	2.22	2.48	0.00	0.98	0.90	0.00	5.15	5.83	3.52	22.31
En	48.94	49.95	47.77	43.88	49.95	48.27	42.69	39.47	40.69	42.41	48.41	44.52	48.33	52.93	47.83	42.37	44.10	48.16	49.68	42.05	47.70	45.30	54.43	43.41	44.33	44.74
Wo	42.50	41.23	42.58	39.74	39.79	42.03	44.57	43.78	43.91	43.88	38.30	40.33	39.49	35.18	42.71	42.89	43.56	40.95	34.67	42.91	34.34	37.92	33.65	45.36	45.05	48.63
Fs	8.57	8.82	9.65	16.38	10.26	9.70	12.74	16.75	15.40	13.71	13.29	15.15	12.18	11.89	9.46	14.74	12.34	10.88	15.65	15.05	17.96	16.78	11.92	11.23	10.61	6.63
mineral (Morimoto 1988)	chromian augite	chromian augite	chromian augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	augite	chromian diopside	diopside	diopside

Sample (ppm, trace)	MW6-2 C1-6	MW6-2 C5-1	DLP1b-5a C1-7	DLP1b-5a C1-8	DLP1b-5a C1-19	DLP1b-5a C2-1	DLP1b-5a C2-10	DLP1b-5a C2-11	DLP1b-5a C2-16	DLP1b-5a C2-21	DLP1b-5a C2-25	MW6-2 C1-1	MW6-2 C1-12	MW6-2 C1-14	MW6-2 C1-2	MW6-2 C1-25	MW6-2 C5-4	MW6-2 C5-11	MW6-2 C1-17
Li	0.85	0.80	5.99	3.93	8.86	3.95	1.08	1.04	3.21	6.36	4.00	1.26	1.76	1.85	1.68	2.35	0.86	1.32	4.67
Be	<0.19	<0.13	0.269	0.155	0.226	<0.186	0.407	0.53	0.24	0.32	<0.30	<0.12	<0.26	0.24	0.25	0.40	0.33	0.25	1.26
B	1.54	1.06	1.22	1.03	1.51	1.21	1.63	2.28	0.78	2.53	<0.65	1.79	1.84	1.77	2.06	3.06	1.34	3.42	2.21
P	46.3	43.3	44.5	36.8	35.9	55.1	54.0	39.9	37.1	94.8	59.8	53.0	69.4	38.0	51.2	51.3	50.3	65.7	46.8
K	14.2	<1.62	133	41.3	168	90.5	22.1	12.0	12.5	2097	29.6	<1.41	162	114	8.26	68.2	96.5	97.4	224
Sc	101	98.5	106	126	94.4	102	102	97.1	115	92.7	122	115	92.3	91.5	107	98.0	85.3	92.8	96.4
V	344	349	446	475	341	449	462	474	560	349	600	442	299	352	290	440	263	268	341
Co	35.7	45.2	46.1	40.1	42.4	47.5	49.5	45.2	38.3	83.3	51.4	48.1	51.7	41.8	48.9	45.9	49.7	51.2	64.4
Ni	165	156	99.2	153	120	103	71	74.4	114	205	87.2	110	144	124	75.1	91.8	123	149	125
Cu	0.76	1.94	15.8	3.13	12.07	7.38	3.99	3.92	0.78	109	3.36	0.97	3.45	10.06	0.55	2.60	2.43	18.5	29.3
Zn	20.2	32.0	49.7	31.0	38.1	47.9	51.4	50.8	47.2	161	43.4	38.1	45.0	34.4	16.5	41.6	21.3	42.4	72.9
Ga	4.48	4.42	6.89	5.48	4.21	5.76	6.85	5.21	4.91	21.2	6.75	5.26	2.99	4.10	5.29	4.43	6.03	7.47	8.88
Ge	4.37	4.92	6.45	5.21	4.81	6.39	7.06	6.65	6.60	8.98	5.78	6.21	5.89	5.75	7.55	6.35	6.83	6.74	5.69
As	4.27	<0.47	<0.29	<0.22	0.28	<0.31	0.42	0.38	<0.59	0.71	<0.52	0.40	32.0	3.42	0.97	14.14	12.9	0.52	34.3
Rb	0.091	<0.041	0.082	0.14	0.40	0.10	0.05	0.027	0.078	2.89	0.058	<0.029	0.489	0.19	<0.026	0.24	0.21	0.11	0.56
Sr	8.32	5.97	13.5	7.18	12.4	12.3	8.91	10.4	7.46	43.0	10.3	7.83	6.99	10.6	6.98	7.80	7.34	9.47	21.1
Y	13.0	12.2	40.7	19.2	11.2	24.4	42.2	24.2	85.2	14.9	26.5	17.9	14.3	10.9	52.2	20.7	89.7	37.2	11.9
Zr	11.1	5.84	35	22	9.23	25	31	17	166	14.6	21.2	11.4	7.95	6.48	63.6	37.5	92.6	52.3	10.5
Nb	0.065	0.02	0.88	0.13	0.050	0.42	0.13	0.089	0.10	0.19	0.041	0.040	0.10	0.086	0.073	1.13	0.11	0.13	0.41
Mo	<0.211	<0.10	<0.12	<0.097	<0.099	<0.14	<0.11	<0.084	<0.26	<0.26	<0.19	0.11	0.21	<0.083	<0.120	<0.076	<0.105	0.12	<0.14
Cs	<0.037	<0.022	0.0238	<0.0151	<0.016	<0.025	<0.026	<0.017	<0.039	0.074	<0.040	<0.015	<0.034	0.018	<0.016	<0.0173	<0.018	<0.020	<0.024
Ba	0.76	<0.11	2.46	0.47	2.97	2.61	1.63	2.25	0.29	38.1	0.77	<0.13	2.74	2.62	0.43	4.59	2.13	3.21	7.11
Hf	0.65	0.33	1.56	1.20	0.39	0.83	1.39	0.69	3.93	0.57	1.26	0.69	0.39	0.36	2.64	0.89	2.92	2.03	0.54

Ta	<0.030	<0.012	<0.022	<0.014	<0.013	0.030	<0.0191	<0.010	<0.034	<0.039	0.053	0.018	<0.034	<0.011	<0.014	0.069	0.017	0.016	0.022
Pb	0.40	0.060	0.38	0.40	0.74	0.20	0.14	0.22	<0.068	0.39	0.24	<0.031	0.23	0.35	0.12	0.73	0.17	3.63	1.76
Th	<0.035	<0.021	0.13	<0.017	0.016	0.053	0.052	0.026	0.40	0.061	0.035	<0.017	<0.027	<0.013	<0.014	0.16	0.029	0.021	0.11
U	<0.032	<0.020	0.036	<0.015	0.027	<0.021	0.023	<0.013	0.13	0.047	<0.028	<0.016	<0.041	0.014	<0.011	0.046	0.022	0.014	0.030
Rare Earth Elements (REE)	**MW6-2 C1-6**	**MW6-2 C5-1**	**DLP1b-5a C1-7**	**DLP1b-5a C1-8**	**DLP1b-5a C1-19**	**DLP1b-5a C2-1**	**DLP1b-5a C2-10**	**DLP1b-5a C2-11**	**DLP1b-5a C2-16**	**DLP1b-5a C2-21**	**DLP1b-5a C2-25**	**MW6-2 C1-1**	**MW6-2 C1-12**	**MW6-2 C1-14**	**MW6-2 C1-2**	**MW6-2 C1-25**	**MW6-2 C5-4**	**MW6-2 C5-11**	**MW6-2 C1-17**
La	0.38	0.15	2.05	1.06	0.50	1.30	1.60	1.21	1.92	0.52	0.82	0.39	0.20	0.49	1.86	0.63	2.64	1.45	1.99
Ce	1.91	0.80	7.97	3.19	1.60	4.56	6.08	4.22	10.8	1.45	3.64	1.57	1.17	1.83	9.14	3.14	13.4	7.08	7.95
Pr	0.43	0.20	1.59	0.56	0.39	0.92	1.35	0.88	2.69	0.40	0.80	0.37	0.24	0.34	1.94	0.70	2.99	1.54	0.76
Nd	2.66	1.75	9.41	3.87	2.45	5.72	8.91	5.56	17.8	2.25	5.19	2.87	1.97	2.27	12.2	4.32	20.5	10.4	3.94
Sm	0.96	1.01	3.84	1.81	0.94	2.41	4.07	2.52	8.24	1.87	3.01	1.40	1.06	1.05	4.64	1.91	9.53	4.29	1.56
Eu	0.43	0.36	1.10	0.69	0.42	0.68	1.06	0.76	0.95	0.44	0.98	0.56	0.42	0.36	1.11	0.61	1.67	1.05	0.43
Gd	1.98	1.45	5.25	2.77	1.58	3.40	6.07	3.18	12.0	1.56	4.08	2.52	1.75	1.43	6.98	2.62	12.4	6.03	1.92
Tb	0.34	0.29	1.00	0.41	0.26	0.61	1.08	0.60	2.19	0.32	0.65	0.46	0.34	0.25	1.24	0.49	2.43	1.10	0.31
Dy	2.06	2.25	7.15	3.54	1.99	4.33	7.53	4.40	16.2	2.37	5.30	3.23	2.42	1.82	9.12	3.48	16.4	6.86	1.99
Ho	0.51	0.48	1.56	0.77	0.40	0.95	1.67	0.94	3.23	0.54	1.13	0.69	0.52	0.44	1.97	0.74	3.54	1.53	0.51
Er	1.22	1.37	4.26	1.91	1.02	2.74	4.51	2.67	9.71	1.52	2.73	1.93	1.55	1.13	5.58	2.42	9.54	3.84	1.70
Tm	0.20	0.19	0.68	0.32	0.17	0.37	0.66	0.40	1.29	0.21	0.41	0.26	0.25	0.18	0.79	0.35	1.42	0.51	0.14
Yb	1.12	1.39	4.06	1.88	1.13	2.54	4.48	2.73	8.63	1.56	2.91	1.79	1.68	1.18	5.27	2.39	9.74	4.05	1.73
Lu	0.19	0.19	0.63	0.27	0.19	0.38	0.62	0.41	1.22	0.35	0.32	0.27	0.21	0.13	0.77	0.35	1.41	0.47	0.14

*All Fe expressed as FeO
†Tetrahedrally cooridinated Al

Operating conditions:

Major Element geochemistry

Carbon-coated polished thin-sections (~30 µm) were analyzed with a Cameca SX-100 electron microprobe, equipped with five wavelength dispersive spectrometers (WDS) and a PGT energy dispersion system (EDS). Major and minor elements were analysed on Kα emission lines at an accelerating voltage of 15 keV, a beam current of 20 nA and a focused beam size of 1-2 µm. Counting times of 10 seconds were used for both peak and background determination. Natural mineral and synthetic silicate and oxide standards were analysed for the elements cited in brackets – albite (Na), kyanite (Al), orthoclase (K), Fe_2O_3 (Fe), Mn-garn (Mn), Olivine (Mg), Cr (Cr), TiO_2 (Ti), $CaSiO_3$ (Si, Ca). The PAP matrix correction procedure (Pouchou and Pichoir, 1984) was applied to convert the raw X-ray intensity data to weight percent oxide.

Trace element geochemistry

Polished thick (100 µm) sections for samples of interest were prepared for trace-element analysis by LA-ICP-MS. Trace-element concentrations of clinopyroxene grains were determined in-situ using a New Wave UP 266 nm Nd: YAG laser ablation system, linked to an Agilent 7500cs ICP-MS, with no reaction cell. Analyses were carried out with a beam diameter of 60 µm for large grains and 30-40 µm for smaller grains, a 5 Hz (pulses per second) repetition rate, and output energy of ~0.117 mJ per pulse. Ablation was conducted in a He atmosphere (~1 l min-1). The sample + He mixture was combined with Ar (~0.9 l min-1) in a teflon mixing chamber prior to being transported to the ICP. Data acquisition was performed by peak hopping (one point per isotope) in pulse counting mode. Each analysis took 180 s, with a "gas blank" measurement of the carrier gas (He) taken over the first ~50 s, before initiation of ablation of the sample for ~130 s. Data were acquired on 50 isotopes for trace-element determinations, with short dwell times to provide quasi-simultaneous measurements.

Samples were analysed in 'runs' of 15 analyses consisting of two analyses of synthetic NIST-610 glass calibration standards, one analysis of BCR-2G, a basaltic glass reference material, 10 analyses of unknowns, followed by a further two NIST-610 standards. 43Ca was used as an internal standard, using the electron microprobe measurements of CaO (wt %) in the same clinopyroxene grains. The certified values for the NIST-610 standard glass are given in Norman et al. (1996).

Data reduction was completed using the online software package GLITTER (GEMOC Laser ICPMS Total Trace Element Reduction), Version 4.4 (van Achterbergh et al., 1999). The time-resolved analysis software, in which the signal intensity data for each mass and each ratio is displayed as a function of time during the analysis, allows for the most stable portion of the signal to be selected for integration, thereby enabling compositional heterogeneities such as inclusions to be identified and avoided.

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TABLE DR2. DETRITAL U-Pb ZIRCON GEOCHRONOLOGY (LA-ICPMS)

Colluvium and lake shore sand				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS								CORRECTED AGES							
Analysis	Th (ppm)	U (ppm)	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common $^{208}Pb^*$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
MACA-01	35	54	0.65	0.00387	0.00890	0.00121	0.00012	0.02328	0.05354	0.00042	0.00020	< detection limit	.					0.04312							7.8	0.8			
MACA-02	16	28	0.55	-0.00087	0.01694	0.00129	0.00020	-0.00489	0.09544	0.00031	0.00046	< detection limit	.					0.00796							8.3	1.2			
MACA-03	195	233	0.84	0.00722	0.00210	0.00123	0.00004	0.04263	0.01244	0.00039	0.00004	concordant	.					0.11181							7.9	0.2			
MACA-04	94	120	0.79	0.00801	0.00448	0.00127	0.00008	0.04581	0.02582	0.00041	0.00010	concordant	.					0.11263							8.2	0.6			
MACA-05	17	29	0.58	0.00700	0.02006	0.00139	0.00028	0.03658	0.10500	0.00016	0.00046	< detection limit	.					0.07029							9	1.8			
MACA-06	15	29	0.53	0.01389	0.01512	0.00133	0.00020	0.07551	0.08290	0.00005	0.00042	concordant	.					0.13814							8.6	1.2			
MACA-07	23	30	0.77	0.00849	0.01536	0.00133	0.00022	0.04614	0.08384	0.00045	0.00030	< detection limit	.					0.09143							8.6	1.4			
MACA-09	33	55	0.59	0.00931	0.01068	0.00141	0.00018	0.04774	0.05510	0.00047	0.00026	concordant	.					0.11128							9.1	1.2			
MACA-10	48	60	0.81	0.00468	0.00818	0.00126	0.00012	0.02686	0.04692	0.00026	0.00016	< detection limit	.					0.05449							8.1	0.8			
MACA-11	19	32	0.61	0.00283	0.01412	0.00126	0.00018	0.01633	0.08158	0.00067	0.00032	< detection limit	.					0.02863							8.1	1.2			
MACA-13	37	48	0.76	0.00828	0.01252	0.00119	0.00020	0.05063	0.07704	0.00044	0.00026	concordant	.					0.11115							7.7	1.2			
MACA-15	115	180	0.64	0.00755	0.00306	0.00126	0.00006	0.04362	0.01782	0.00045	0.00008	< detection limit	.					0.11749							8.1	0.4			
MACA-15B	204	268	0.76	0.00927	0.00250	0.00129	0.00006	0.05198	0.01420	0.00047	0.00006	concordant	.					0.17247							8.3	0.4			
MACA-16	17	32	0.55	0.01848	0.01494	0.00119	0.00022	0.11267	0.09330	0.00093	0.00038	< detection limit	.					0.22868							7.7	1.4			
MACA-18	22	31	0.71	0.01840	0.01572	0.00135	0.00022	0.09861	0.08576	0.00052	0.00032	concordant	.					0.19075							8.7	1.4			
MACA-19	77	127	0.61	0.01059	0.00352	0.00138	0.00006	0.05550	0.01866	0.00037	0.00010	concordant	.					0.13081							8.9	0.4			
MACA-21	56	99	0.57	0.00829	0.00514	0.00139	0.00010	0.04316	0.02686	0.00034	0.00014	< detection limit	.					0.11603							9	0.6			
MACA-57	301	323	0.93	0.00712	0.00164	0.00127	0.00004	0.04059	0.00946	0.00041	0.00004	concordant	.					0.13674							8.2	0.2			
MACA-22	39	63	0.61	0.00661	0.00770	0.00104	0.00012	0.04610	0.05400	0.00033	0.00018	concordant	.					0.09905							6.7	0.8			
MACA-24	17	24	0.70	0.00971	0.02362	0.00145	0.00030	0.04857	0.11860	0.00041	0.00054	< detection limit	.					0.08505							9.3	2			
MACA-25	16	25	0.65	0.00777	0.02360	0.00112	0.00032	0.05054	0.15410	0.00035	0.00054	< detection limit	.					0.09407							7	2			
MACA-27	18	31	0.59	0.02408	0.01736	0.00147	0.00024	0.11902	0.08786	0.00028	0.00044	concordant	.					0.22646							9.5	1.6			
MACA-28	57	92	0.61	0.00865	0.00572	0.00135	0.00010	0.04638	0.03086	0.00042	0.00014	concordant	.					0.11202							8.7	0.6			
MACA-29	38	67	0.57	0.00929	0.00758	0.00125	0.00010	0.05371	0.04408	0.00045	0.00020	concordant	.					0.09805							8.1	0.6			
MACA-31	30	44	0.68	0.00699	0.01196	0.00116	0.00018	0.04387	0.07532	0.00045	0.00028	< detection limit	.					0.09069							7.5	1.2			
MACA-32	12	20	0.59	-0.00658	0.02604	0.00123	0.00034	-0.03894	0.15446	0.00074	0.00058	< detection limit	.					0.06985							8	2			
MACA-33	84	103	0.82	0.01792	0.00470	0.00126	0.00008	0.10280	0.02774	0.00043	0.00010	< detection limit	.					0.24208							8.1	0.6			
MACA-35	45	54	0.83	0.00923	0.01188	0.00135	0.00018	0.04977	0.06438	0.00046	0.00022	concordant	.					0.10359							8.7	1.2			
MACA-36	47	74	0.63	0.00872	0.00932	0.00125	0.00014	0.05044	0.05420	0.00031	0.00022	< detection limit	.					0.10479							8.1	1			
MACA-37	25	52	0.49	0.00757	0.01150	0.00119	0.00016	0.04625	0.07060	0.00039	0.00034	< detection limit	.					0.08851							7.7	1			
MACA-38	89	149	0.60	0.00740	0.00436	0.00121	0.00008	0.04438	0.02628	0.00042	0.00012	concordant	.					0.11221							7.8	0.6			
MACA-41	49	83	0.59	0.00875	0.00776	0.00131	0.00012	0.04833	0.04312	0.00036	0.00020	concordant	.					0.10329							8.4	0.8			
MACA-42	18	30	0.58	0.02485	0.01864	0.00123	0.00024	0.14662	0.11364	0.00042	0.00046	concordant	.					0.26013							7.9	1.6			
MACA-43	58	79	0.74	0.00624	0.00778	0.00133	0.00012	0.03413	0.04266	0.00042	0.00016	< detection limit	.					0.07237							8.6	0.8			
MACA-45	160	192	0.83	0.00622	0.00294	0.00126	0.00006	0.03570	0.01694	0.00048	0.00006	concordant	.					0.10075							8.1	0.4			
MACA-47	39	64	0.62	0.00956	0.00840	0.00132	0.00014	0.05271	0.04672	0.00047	0.00020	< detection limit	.					0.12071							8.5	1			
MACA-48	48	60	0.80	0.00864	0.01080	0.00083	0.00016	0.07521	0.09508	0.00039	0.00020	< detection limit	.					0.15422							5.3	1			
MACA-49	9	17	0.55	0.00841	0.03402	0.00127	0.00042	0.04803	0.19484	0.00109	0.00090	< detection limit	.					0.08175							8	2			
MACA-51	861	1072	0.80	0.03211	0.02058	0.00135	0.00028	0.17223	0.11592	0.00045	0.00038	< detection limit	.					0.32361							8.7	1.8			
MACA-52	24	30	0.80	0.01080	0.00158	0.00135	0.00006	0.05789	0.00872	0.00045	0.00006	< detection limit	.					0.30380							8.7	0.4			
MACA-53	33	55	0.61	0.00895	0.01228	0.00136	0.00022	0.04790	0.06614	0.00041	0.00034	concordant	.					0.11790							8.8	1.4			
MACA-54	22	30	0.73	0.04163	0.02508	0.00154	0.00034	0.19626	0.12582	0.00028	0.00054	< detection limit	.					0.36647							10	2			
MACA-56	65	73	0.89	0.00785	0.00930	0.00127	0.00014	0.04492	0.05342	0.00046	0.00016	concordant	.					0.09305							8.2	1			
MACA-58	2932	2301	1.27	0.00804	0.00042	0.00125	0.00002	0.04661	0.00252	0.00041	0.00002	concordant	.					0.30629							8.1	0.2			
MACA-58B	2076	1735	1.20	0.00835	0.00064	0.00129	0.00004	0.04680	0.00370	0.00042	0.00002	concordant	.					0.40455							8.3	0.2			
MACA-59	192	245	0.78	0.00937	0.00308	0.00137	0.00006	0.04963	0.01650	0.00045	0.00006	concordant	.					0.13324							8.8	0.4			
MACA-62	55	187	0.29	0.00727	0.00392	0.00123	0.00008	0.04280	0.02328	0.00039	0.00020	< detection limit	.					0.12062							7.9	0.6			
MACA-63	61	89	0.69	0.01472	0.00824	0.00138	0.00014	0.07718	0.04380	0.00044	0.00020	concordant	.					0.18123							8.9	1			
MACA-64	809	676	1.20	0.00902	0.00144	0.00130	0.00006	0.05031	0.00828	0.00044	0.00004	concordant	.					0.28910							8.4	0.4			
MACA-66	42	63	0.66	0.00727	0.01002	0.00122	0.00018	0.04328	0.05998	0.00034	0.00022	< detection	.					0.10705							7.9	1.2			

												limit																
MACA-68	66	115	0.57	0.00975	0.00544	0.00131	0.00010	0.05390	0.03036	0.00045	0.00014	concordant	.					0.13682								8.4	0.6
												< detection																
MACA-73	29	51	0.57	0.00821	0.01150	0.00128	0.00016	0.04649	0.06532	0.00015	0.00030	limit	.					0.08924								8.2	1
MACA-75	44	72	0.60	0.00817	0.00826	0.00135	0.00016	0.04384	0.04466	0.00042	0.00022	concordant	.					0.11723								8.7	1
MACA-77	206	352	0.59	0.00929	0.00312	0.00134	0.00008	0.05038	0.01720	0.00049	0.00010	concordant	.					0.17777								8.6	0.6
MACA-80	21	30	0.68	0.00909	0.01594	0.00129	0.00024	0.05112	0.09010	0.00051	0.00034	concordant	.					0.10610								8.3	1.6
MACA-82	18	34	0.54	0.00787	0.01202	0.00113	0.00016	0.05044	0.07736	0.00069	0.00034	concordant	.					0.09271								7.3	1
												< detection																
MACA-83	23	39	0.60	0.02582	0.01452	0.00144	0.00022	0.12970	0.07562	0.00036	0.00036	limit	.					0.27168								9.3	1.4
MACA-84	13	23	0.56	0.01244	0.01924	0.00125	0.00026	0.07223	0.11268	0.00063	0.00048	concordant	.					0.13449								8.1	1.6
MACA-85	157	218	0.72	0.01041	0.00258	0.00129	0.00008	0.05849	0.01484	0.00040	0.00008	concordant	.					0.25023								8.3	0.6
												< detection																
MACA-86	43	74	0.57	0.01537	0.00614	0.00125	0.00012	0.08940	0.03666	0.00040	0.00018	limit	.					0.24031								8.1	0.8
												< detection																
MACA-89	53	67	0.79	0.00783	0.00814	0.00124	0.00014	0.04561	0.04770	0.00040	0.00016	limit	.					0.10860								8	1
												< detection																
MACA-91	31	41	0.77	0.00781	0.01050	0.00117	0.00016	0.04858	0.06558	0.00046	0.00020	limit	.					0.10172								7.5	1
												< detection																
MACA-92	20	33	0.59	0.00880	0.01512	0.00112	0.00024	0.05698	0.09856	0.00057	0.00040	limit	.					0.12472								7.2	1.6
MACA-93	2226	2006	1.11	0.00964	0.00056	0.00137	0.00004	0.05085	0.00306	0.00046	0.00002	0.63	0.44	0.00865	0.00048	0.00136	0.00004	0.53002	0.04607	0.00288	0.00044	0.00002				8.8	0.2
MACA-97	18	31	0.59	0.00217	0.01702	0.00148	0.00024	0.01065	0.08358	0.00043	0.00040	concordant	.					0.02068								9.5	1.6
MACA-98	39	47	0.83	0.00805	0.01014	0.00131	0.00018	0.04465	0.05656	0.00054	0.00020	concordant	.					0.10908								8.4	1.2
MACA-100	89	109	0.81	0.00950	0.00504	0.00128	0.00012	0.05374	0.02886	0.00041	0.00010	concordant	.					0.17671								8.2	0.8
MACA-101	20	30	0.65	0.01325	0.01614	0.00111	0.00026	0.08662	0.10726	0.00036	0.00038	concordant	.					0.19229								7.2	1.6
												< detection																
MACA-104	19	31	0.63	0.00878	0.01686	0.00146	0.00022	0.04358	0.08388	0.00046	0.00038	limit	.					0.07847								9.4	1.4
												< detection																
MACA-105	38	53	0.71	0.03333	0.01654	0.00131	0.00022	0.18385	0.09638	0.00043	0.00034	limit	.					0.33842								8.4	1.4
MACA-106	31	53	0.58	0.01013	0.01622	0.00119	0.00028	0.06152	0.09960	-0.00350	0.00068	concordant	.					0.14695								7.7	1.8
MACA-107	85	148	0.57	0.00934	0.00320	0.00127	0.00006	0.05339	0.01848	0.00043	0.00010	concordant	.					0.13789								8.2	0.4
MACA-111	62	74	0.83	0.01364	0.00902	0.00132	0.00012	0.07522	0.05022	0.00044	0.00016	concordant	.					0.13747								8.5	0.8
												< detection																
MACA-114	22	35	0.64	0.00711	0.01612	0.00132	0.00024	0.03915	0.08906	0.00049	0.00034	limit	.					0.08019								8.5	1.6
												< detection						-										
MACA-115	42	47	0.90	-0.00899	0.01668	0.00124	0.00022	-0.05254	0.09800	0.00036	0.00028	limit	.					0.09562								8	1.4
												< detection																
MACA-117	108	114	0.95	0.00854	0.00606	0.00124	0.00010	0.04984	0.03556	0.00046	0.00010	limit	.					0.11365								8	0.6
MACA-118	45	60	0.74	0.00828	0.01284	0.00130	0.00018	0.04631	0.07212	0.00042	0.00024	concordant	.					0.08929								8.4	1.2
												< detection																
MACA-120	30	43	0.70	0.00829	0.01616	0.00120	0.00022	0.05024	0.09834	0.00044	0.00034	limit	.					0.09405								7.7	1.4
MACA-122	122	148	0.82	0.00971	0.00532	0.00134	0.00010	0.05268	0.02900	0.00048	0.00010	concordant	.					0.13621								8.6	0.6
												< detection																
MACA-123	23	35	0.67	0.00616	0.02544	0.00138	0.00032	0.03244	0.13420	0.00040	0.00054	limit	.					0.05615								9	2
												< detection																
MACA-124	25	40	0.61	0.01171	0.01418	0.00139	0.00022	0.06114	0.07468	0.00043	0.00034	limit	.					0.13070								9	1.4
MACA-125	70	129	0.54	0.00953	0.00406	0.00144	0.00008	0.04787	0.02056	0.00043	0.00012	concordant	.					0.13041								9.3	0.6
												< detection																
MACA-127	128	143	0.90	0.00664	0.00568	0.00133	0.00010	0.03622	0.03116	0.00052	0.00010	limit	.					0.08790								8.6	0.6
MACA-129	21	27	0.77	0.01696	0.01888	0.00168	0.00026	0.07321	0.08224	0.00052	0.00036	concordant	.					0.13902								10.8	1.6
												< detection																
MACA-133	29	50	0.58	0.00970	0.01056	0.00136	0.00016	0.05181	0.05680	0.00045	0.00028	limit	.					0.10807								8.8	1
												< detection																
MACA-135	155	243	0.64	0.01108	0.00232	0.00129	0.00006	0.06222	0.01326	0.00042	0.00006	limit	.					0.22213								8.3	0.4
MACA-136	146	183	0.80	0.00859	0.00292	0.00135	0.00006	0.04628	0.01590	0.00044	0.00006	concordant	.					0.13075								8.7	0.4
MACA-139	215	216	1.00	0.00813	0.00274	0.00127	0.00008	0.04651	0.01584	0.00041	0.00006	concordant	.					0.18691								8.2	0.6

Finch-Langdon sequence				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS								CORRECTED AGES							
Cormorant Point	Th	U	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common ^{206}Pb*	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
Analysis	(ppm)	(ppm)										calculated following Anderson (2002)																	
CP1-5-26	10	19	0.52	0.05461	0.05356	0.00481	0.00076	0.08231	0.08174	0.00206	0.00156	concordant	.					0.16110							31	4				
CP1-5-27	5	13	0.39	0.06370	0.07302	0.00543	0.00102	0.08500	0.09872	0.00124	0.00264	concordant	.					0.16387							35	6				
CP1-5-28	6	11	0.51	0.04402	0.08094	0.00524	0.00098	0.06095	0.11266	0.00188	0.00266	concordant	.					0.10171							34	6				
												< detection						-												
CP1-5-30	4	9	0.40	-0.01629	0.10510	0.00479	0.00124	-0.02468	0.15932	0.00406	0.00356	limit	.					0.04012							31	8				
												< detection																		
CP1-5-32	7	14	0.54	0.02654	0.06832	0.00500	0.00082	0.03850	0.09930	0.00208	0.00196	limit	.					0.06371							32	6				
~~CP1-5-32A-2~~	~~2~~	~~4~~	~~0.52~~	~~0.26836~~	~~0.20468~~	~~0.00613~~	~~0.00232~~	~~0.31737~~	~~0.27004~~	~~0.00584~~	~~0.00606~~	~~< detection limit~~	~~.~~					~~0.49621~~							~~39~~	~~14~~				
CP1-5-34-2	264	376	0.70	4.55905	0.11498	0.31026	0.00646	0.10658	0.00274	0.08531	0.00412	concordant	.					0.82558							1742	22	1742	32	1742	48	1655	76
CP1-5-35R-2	215	1132	0.19	3.85088	0.14050	0.27528	0.00694	0.10149	0.00366	0.07658	0.00646	concordant	.					0.69098							1603	30	1568	36	1652	68	1491	122
CP1-5-36-2	12	12	1.03	0.04501	0.06630	0.00552	0.00082	0.05918	0.08762	0.00256	0.00104	concordant	.					0.10085									35	6				
CP1-5-85	43	105	0.41	3.66876	0.09668	0.26533	0.00556	0.10029	0.00274	0.08350	0.00394	0.46	0.3	3.52827	0.13430	0.26411	0.00570	0.56699	0.09689	0.00424	0.07738	0.00172	1534	30	1511	30	1565	84	1506	32
												< detection																		
CP1-5-87	8	14	0.54	0.07143	0.02864	0.00495	0.00056	0.10461	0.04350	0.00192	0.00082	limit	.					0.28216							32	4				
CP1-5-88	64	179	0.36	0.03140	0.00414	0.00449	0.00018	0.05073	0.00688	0.00168	0.00022	concordant	.					0.30406							28.9	1.2				

												< detection																
CP1-5-89	1	4	0.32	0.00402	0.12722	0.00497	0.00156	0.00586	0.18562	0.00152	0.00576	limit	.					0.00992								32	10		
CP1-5-91	61	102	0.60	0.03598	0.00570	0.00487	0.00018	0.05353	0.00866	0.00151	0.00018	concordant	.					0.23331								31.3	1.2		
CP1-5-92	2	7	0.32	0.01290	0.05898	0.00533	0.00086	0.01754	0.08026	0.00105	0.00232	concordant	.					0.03529								34	6		
CP1-5-93	3	7	0.38	0.07136	0.06274	0.00608	0.00094	0.08507	0.07592	0.00353	0.00244	concordant	.					0.17585								39	6		
CP1-5-96	11	28	0.39	0.03866	0.01600	0.00521	0.00034	0.05379	0.02252	0.00296	0.00060	concordant	.					0.15768								33	2		
CP1-5-97	4	9	0.49	1.72182	0.09906	0.17046	0.00474	0.07326	0.00438	0.05923	0.00432	concordant	.					0.48333							1017	36	1015	26	1021	124	1163	82
												< detection																			
CP1-5-98	534	582	0.92	3.89888	0.11188	0.26687	0.00580	0.10596	0.00306	0.07938	0.00494	limit	.					0.75738							1613	24	1525	30	1731	54	1544	92
												< detection																			
CP1-5-99	8	16	0.48	0.09806	0.03022	0.00725	0.00064	0.09814	0.03140	0.00273	0.00110	limit	.					0.28644								47	4		
~~CP1-5-103~~	~~9~~	~~17~~	~~0.54~~	~~0.49627~~	~~0.05506~~	~~0.00941~~	~~0.00078~~	~~0.38262~~	~~0.05206~~	~~0.01826~~	~~0.00210~~	~~42.61~~	~~6.32~~	~~0.03429~~	~~0.03018~~	~~0.00540~~	~~0.00094~~	~~0.19778~~	~~0.04605~~	~~0.04130~~	~~0.00266~~	~~0.00236~~				~~35~~	~~6~~		
CP1-5-104	6	10	0.58	0.10113	0.04256	0.00544	0.00068	0.13477	0.05908	0.00273	0.00118	6.18	5.82	0.06236	0.04748	0.00510	0.00076	0.19572	0.08863	0.06876	0.00151	0.00056				33	4		
CP1-5-106	3	7	0.39	0.07885	0.06860	0.00537	0.00092	0.10647	0.09438	0.00190	0.00212	concordant	.					0.19692								35	6		
CP1-5-107	92	116	0.80	0.05726	0.00662	0.00514	0.00022	0.08072	0.00978	0.00203	0.00020	3.54	1.36	0.03630	0.00848	0.00496	0.00024	0.20713	0.05309	0.01268	0.00155	0.00010				31.9	1.6		
CP1-5-109	3	4	0.70	0.14117	0.11428	0.00507	0.00140	0.20181	0.17246	0.00292	0.00238	concordant	.					0.34111								33	8		
CP1-5-110	2	4	0.48	0.08905	0.12278	0.00455	0.00154	0.14194	0.20146	0.00676	0.00374	concordant	.					0.24548								29	10		

Finch-Langdon sequence				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS									CORRECTED AGES							
Mawson Point	Th	U	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common $^{206}Pb^*$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
Analysis	(ppm)	(ppm)										calculated following Anderson (2002)																		
MP1-4-17	8	16	0.50	0.04629	0.05980	0.00461	0.00096	0.07278	0.09522	0.00288	0.00204	concordant	.					0.16120								30	6		
																		-												
MP1-4-18	2	6	0.45	-0.00443	0.13978	0.00730	0.00152	-0.00440	0.13896	0.00445	0.00448	concordant	.					0.00660								47	10		
MP1-4-19	10	13	0.78	0.05476	0.06182	0.00470	0.00086	0.08445	0.09656	0.00159	0.00114	concordant	.					0.16208								30	6		
												< detection																		
MP1-4-19R	7	10	0.73	0.01078	0.07654	0.00523	0.00100	0.01494	0.10616	0.00144	0.00160	limit	.					0.02693								34	6		
MP1-4-142	3	6	0.41	0.09273	0.06722	0.00647	0.00092	0.10398	0.07676	0.00533	0.00258	concordant	.					0.19616								42	6		
												< detection																		
MP1-4-143	8	15	0.50	0.01463	0.02672	0.00558	0.00050	0.01900	0.03476	0.00178	0.00080	limit	.					0.04906								36	4		
MP1-4-144	19	31	0.61	0.02553	0.01572	0.00424	0.00030	0.04364	0.02704	0.00172	0.00040	concordant	.					0.11491								27.3	2		
MP1-4-145	7	14	0.48	0.04457	0.03258	0.00537	0.00050	0.06016	0.04434	0.00261	0.00098	concordant	.					0.12738								35	4		
												< detection																		
MP1-4-146	2	5	0.37	0.03028	0.08262	0.00506	0.00116	0.04340	0.11884	0.00470	0.00340	limit	.					0.08402								33	8		
MP1-4-151	77	76	1.02	0.03784	0.00660	0.00414	0.00018	0.06623	0.01186	0.00162	0.00016	2.56	1.48	0.02561	0.00218	0.00403	0.00020	0.58301	0.04605	0.00454	0.00140	0.00018				26	1		
MP1-4-153	227	321	0.71	0.03558	0.00236	0.00496	0.00014	0.05205	0.00356	0.00173	0.00010	0.76	0.46	0.03125	0.00158	0.00492	0.00014	0.56280	0.04605	0.00268	0.00162	0.00010				31.7	1.0		
												< detection																		
MP1-4-153	270	284	0.95	0.03270	0.00246	0.00439	0.00012	0.05403	0.00420	0.00145	0.00008	limit	.					0.36335								28.2	0.8		
												< detection																		
MP1-4-158	264	398	0.66	4.08226	0.09994	0.28211	0.00584	0.10496	0.00262	0.08217	0.00370	limit	.					0.84558							1651	20	1602	30	1714	46	1596	70
												< detection																		
MP1-4-159	816	723	1.13	2.15263	0.05316	0.16207	0.00338	0.09634	0.00242	0.04244	0.00188	limit	.					0.84450							1166	18	968	18	1554	48	840	36
MP1-4-160	89	150	0.59	0.01616	0.00378	0.00190	0.00010	0.06159	0.01468	0.00069	0.00012	concordant	.					0.22501								12.2	0.6		
MP1-4-163	10	15	0.66	0.05841	0.02862	0.00479	0.00052	0.08837	0.04428	0.00169	0.00076	concordant	.					0.22156								31	4		
MP1-4-164	609	1051	0.58	0.73955	0.01852	0.09036	0.00186	0.05936	0.00152	0.02797	0.00128	concordant	.					0.82198							562	10	558	10	580	56	558	26
MP1-4-167	4	11	0.35	0.03102	0.03874	0.00542	0.00060	0.04151	0.05204	0.00375	0.00166	concordant	.					0.08864								35	4		
MP1-4-177	6	11	0.54	0.07400	0.04168	0.00540	0.00066	0.09944	0.05724	0.00302	0.00122	concordant	.					0.21700								35	4		
MP1-4-178	39	170	0.23	0.04264	0.00554	0.00495	0.00022	0.06251	0.00844	0.00240	0.00040	1.86	0.84	0.03201	0.00522	0.00486	0.00022	0.27759	0.04779	0.00810	0.00154	0.00034				31.2	1.4		

Major Lake sequence				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS									CORRECTED AGES							
Mt. Waite	Th	U	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common $^{206}Pb^*$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
Analysis	(ppm)	(ppm)										calculated following Anderson (2002)																		
MW6-2-01	9	18	0.47	0.03037	0.05106	0.00409	0.00046	0.05379	0.09064	0.00156	0.00090	concordant	.					0.06690								26	2		
												< detection						-												
MW6-2-02	11	21	0.53	-0.01034	0.02410	0.00431	0.00030	-0.01738	0.04054	0.00162	0.00056	limit	.					0.02986								27.7	2		
MW6-2-03	13	27	0.48	0.05984	0.03058	0.00424	0.00034	0.10249	0.05298	0.00206	0.00058	concordant	.					0.15692								27	2		
MW6-2-04	39	39	1.01	0.02413	0.01298	0.00426	0.00020	0.04111	0.02218	0.00141	0.00020	concordant	.					0.08728								27.4	1.2		
												< detection																		
MW6-2-05	400	362	1.10	0.02800	0.00220	0.00385	0.00010	0.05280	0.00428	0.00125	0.00006	limit	.					0.33058								24.8	0.6		
MW6-2-06	15	47	0.33	0.02167	0.01594	0.00434	0.00028	0.03629	0.02678	0.00142	0.00076	concordant	.					0.08771								27.9	1.8		
MW6-2-07	5	12	0.42	0.01894	0.03964	0.00443	0.00046	0.03098	0.06494	0.00329	0.00116	concordant	.					0.04961								28	2		
MW6-2-08	13	29	0.44	0.02967	0.01662	0.00430	0.00024	0.05010	0.02818	0.00146	0.00048	concordant	.					0.09964								27.7	1.6		
MW6-2-09	3	9	0.33	0.04689	0.09176	0.00502	0.00136	0.06788	0.13408	0.00439	0.00458	concordant	.					0.13844								32	8		
MW6-2-09R	7	15	0.47	0.02624	0.04454	0.00467	0.00058	0.04079	0.06942	0.00292	0.00152	concordant	.					0.07317								30	4		
MW6-2-10	24	37	0.65	0.02111	0.01352	0.00430	0.00024	0.03563	0.02288	0.00142	0.00030	concordant	.					0.08715								27.7	1.6		
MW6-2-12	16	27	0.60	0.03680	0.02250	0.00471	0.00038	0.05672	0.03496	0.00152	0.00054	concordant	.					0.13196								30	2		
MW6-2-16	9	17	0.53	0.06707	0.04520	0.00424	0.00042	0.11479	0.07816	0.00156	0.00076	concordant	.					0.14699								27	2		
MW6-2-17	27	35	0.75	0.02696	0.01634	0.00416	0.00028	0.04703	0.02866	0.00107	0.00030	concordant	.					0.11105								26.8	1.8		
MW6-2-18	11	25	0.45	0.07333	0.03160	0.00351	0.00046	0.15168	0.06820	0.00226	0.00096	7.7	5.6	0.04218	0.03314	0.00324	0.00050	0.19642	0.09443	0.07558	0.00095	0.00048				21	4		
MW6-2-22	7	17	0.44	0.03036	0.05092	0.00433	0.00048	0.05083	0.08544	0.00288	0.00082	concordant	.					0.06609								28	4		
MW6-2-23	31	52	0.59	0.02951	0.01490	0.00421	0.00026	0.05078	0.02582	0.00132	0.00044	concordant	.					0.12231								27.1	1.6		
MW6-2-24	29	41	0.71	0.03689	0.01204	0.00425	0.00020	0.06288	0.02070	0.00150	0.00024	concordant	.					0.14419								27.3	1.2		
												< detection																		
MW6-2-26	11	30	0.38	0.01018	0.02362	0.00443	0.00038	0.01668	0.03874	0.00157	0.00092	limit	.					0.03697								28	2		
MW6-2-28	6	14	0.45	0.04562	0.03302	0.00419	0.00042	0.07890	0.05766	0.00117	0.00096	concordant	.					0.13849								27	2		
MW6-2-29	14	34	0.41	0.03362	0.01492	0.00414	0.00024	0.05891	0.02634	0.00160	0.00048	concordant	.					0.13063								26.6	1.6		

MW6-2-30	33	43	0.77	0.03698	0.01674	0.00512	0.00032	0.05241	0.02394	0.00150	0.00038	concordant	.					0.13807								33	2									
MW6-2-31	33	62	0.52	0.03382	0.00794	0.00419	0.00016	0.05857	0.01388	0.00160	0.00022	concordant	.					0.16265								27	1									
MW6-2-32	41	40	1.01	0.03638	0.01680	0.00400	0.00028	0.06600	0.03082	0.00147	0.00030	concordant	.					0.15158								25.7	1.8									
MW6-2-33	215	151	1.43	0.02930	0.00396	0.00394	0.00012	0.05394	0.00740	0.00122	0.00006	concordant	.					0.22535								25.3	0.8									
MW6-2-34	47	63	0.74	0.03307	0.01008	0.00401	0.00022	0.05978	0.01844	0.00151	0.00020	concordant	.					0.17999								25.8	1.4									
MW6-2-37	30	51	0.59	0.02395	0.01122	0.00399	0.00020	0.04358	0.02050	0.00138	0.00028	concordant	.					0.10700								25.7	1.2									
MW6-2-38	32	42	0.76	0.02273	0.02100	0.00407	0.00024	0.04048	0.03746	0.00138	0.00026	concordant	.					0.06383								26.2	1.6									
MW6-2-42	15	25	0.59	0.05887	0.02012	0.00452	0.00028	0.09452	0.03280	0.00240	0.00046	6.13	3.36	0.02694	0.01504	0.00424	0.00032	0.13519	0.04605	0.02596	0.00138	0.00058				27	2									
MW6-2-43	20	26	0.77	0.03046	0.02706	0.00433	0.00042	0.05108	0.04564	0.00157	0.00058	concordant	.					0.10919								28	2									
MW6-2-44	17	25	0.67	0.02640	0.02044	0.00399	0.00030	0.04799	0.03732	0.00168	0.00042	concordant	.					0.09711								25.7	2									
MW6-2-46	285	480	0.59	0.03072	0.00216	0.00434	0.00012	0.05139	0.00372	0.00139	0.00012	< detection limit	.					0.39324								27.9	0.8									
~~MW6-2-48~~	~~141~~	~~4~~	~~35.25~~	~~1.34054~~	~~0.20966~~	~~0.01352~~	~~0.00238~~	~~0.71953~~	~~0.16838~~	~~0.00192~~	~~0.00016~~	~~85.23~~	~~26.96~~	~~0.01267~~	~~0.16386~~	~~0.00200~~	~~0.00388~~	~~0.15000~~	~~0.04605~~	~~0.60200~~	~~0.00132~~	~~0.00020~~				~~13~~	~~24~~									
MW6-2-48	57	81	0.71	0.01942	0.00954	0.00418	0.00016	0.03365	0.01658	0.00112	0.00014	< detection limit	.					0.07792								26.9	1									
~~MW6-2-54~~	~~56~~	~~1~~	~~41.19~~	~~0.28708~~	~~0.50648~~	~~0.00414~~	~~0.00510~~	~~0.50300~~	~~1.08222~~	~~0.00140~~	~~0.00024~~	~~< detection limit~~	~~.~~					~~0.69825~~								~~27~~	~~32~~									
MW6-2-56	34	40	0.85	0.03671	0.01712	0.00451	0.00030	0.05910	0.02780	0.00148	0.00034	concordant	.					0.14263								29	2									
MW6-2-57	20	37	0.54	0.06290	0.01864	0.00434	0.00030	0.10510	0.03196	0.00189	0.00062	3.94	3.62	0.04319	0.02286	0.00417	0.00034	0.15405	0.07513	0.04024	0.00126	0.00022				27	2									
MW6-2-60	13	27	0.47	0.03965	0.03114	0.00455	0.00030	0.06320	0.04982	0.00192	0.00060	concordant	.					0.08395								29.3	2									
MW6-2-62	26	40	0.65	0.03675	0.01214	0.00438	0.00020	0.06080	0.02024	0.00126	0.00026	concordant	.					0.13823								28.2	1.2									
MW6-2-65	24	31	0.79	0.03883	0.01766	0.00422	0.00026	0.06680	0.03066	0.00110	0.00032	concordant	.					0.13547								27.1	1.6									
MW6-2-68	267	343	0.78	0.02853	0.00182	0.00407	0.00010	0.05083	0.00332	0.00129	0.00006	< detection limit	.					0.38516								26.2	0.6									
MW6-2-69	18	29	0.64	0.04054	0.01606	0.00416	0.00024	0.07067	0.02830	0.00139	0.00032	concordant	.					0.14563								26.8	1.6									
MW6-2-70	26	55	0.47	0.02280	0.01532	0.00414	0.00018	0.03991	0.02686	0.00166	0.00028	concordant	.					0.06471								26.6	1.2									
MW6-2-75	207	165	1.25	0.02938	0.00512	0.00396	0.00012	0.05386	0.00948	0.00125	0.00006	concordant	.					0.17389								25.5	0.8									
MW6-2-78	207	477	0.43	2.45305	0.05298	0.21528	0.00424	0.08264	0.00186	0.06202	0.00224	concordant	.					0.91192								1258	16	1257	22	1261	46	1216	42			
MW6-2-82	37	57	0.64	0.02509	0.01366	0.00439	0.00024	0.04150	0.02270	0.00151	0.00036	concordant	.					0.10041								28.2	1.6									
MW6-2-83	35	56	0.63	0.04066	0.01348	0.00430	0.00028	0.06860	0.02312	0.00129	0.00040	concordant	.					0.19641								27.7	1.8									
MW6-2-85	51	58	0.88	0.05301	0.01410	0.00421	0.00024	0.09122	0.02474	0.00211	0.00030	5.73	3.1	0.02520	0.00304	0.00397	0.00028	0.58465	0.04605	0.00646	0.00156	0.00040				25.5	1.8									
MW6-2-92	45	73	0.62	0.03764	0.01024	0.00436	0.00022	0.06262	0.01726	0.00141	0.00030	concordant	.					0.18548								28	1.4									
MW6-2-94	39	47	0.82	0.03033	0.01692	0.00438	0.00022	0.05025	0.02812	0.00171	0.00020	concordant	.					0.09004								28.2	1.4									
MW6-2-101	12	21	0.58	0.00234	0.03708	0.00431	0.00052	0.00393	0.06236	0.00139	0.00102	< detection limit	.					0.00761								28	4									
MW6-2-105	15	32	0.48	0.01434	0.02470	0.00433	0.00036	0.02403	0.04146	0.00182	0.00078	< detection limit	.					0.04827								28	2									

Major Lake sequence				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS										CORRECTED AGES							
Mt. Martin Analysis	Th (ppm)	U (ppm)	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common ^{206}Pb* calculated following Anderson (2002)	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
MM1-1-11	374	705	0.53	2.22469	0.05916	0.20466	0.00422	0.07884	0.00216	0.05861	0.00336	concordant	.					0.77539					1189	18	1200	22	1168	56	1151	64
MM1-1-12	5	10	0.52	0.12549	0.07560	0.00421	0.00060	0.21635	0.13396	0.00301	0.00132	11.83	8.6	0.06810	0.07212	0.00371	0.00070	0.17816	0.13305	0.14314	0.00105	0.00088			24	4				
MM1-1-13	49	79	0.63	0.03371	0.00984	0.00440	0.00016	0.05553	0.01628	0.00144	0.00014	concordant	.					0.12458							28.3	1				
MM1-1-14	7	16	0.40	0.03596	0.05174	0.00407	0.00052	0.06411	0.09262	0.00330	0.00118	concordant	.					0.08880							26	4				
MM1-1-20	80	80	1.00	0.02671	0.00980	0.00423	0.00016	0.04580	0.01688	0.00131	0.00010	concordant	.					0.10309							27.2	1				
MM1-1-21	27	44	0.61	0.03575	0.01712	0.00413	0.00020	0.06271	0.03016	0.00185	0.00026	concordant	.					0.10112							26.6	1.2				
MM1-1-22	31	62	0.50	0.03170	0.01188	0.00423	0.00018	0.05438	0.02046	0.00191	0.00022	concordant	.					0.11355							27.2	1.2				
MM1-1-23	9	18	0.53	0.05020	0.04324	0.00385	0.00042	0.09448	0.08204	0.00221	0.00074	concordant	.					0.12665							25	2				
MM1-1-25	24	41	0.59	0.03548	0.02520	0.00411	0.00034	0.06260	0.04472	0.00176	0.00042	concordant	.					0.11647							26	2				
MM1-1-26	11	19	0.56	-0.00225	0.04054	0.00420	0.00040	-0.00389	0.07000	0.00231	0.00062	< detection limit	.					-0.00529							27	2				
MM1-1-211	31	45	0.69	0.03435	0.01004	0.00440	0.00024	0.05657	0.01678	0.00130	0.00028	concordant	.					0.18662							28.3	1.6				
MM1-1-212	18	26	0.68	0.04873	0.01726	0.00444	0.00032	0.07961	0.02876	0.00160	0.00042	< detection limit	.					0.20348							29	2				
MM1-1-215	15	32	0.46	0.03266	0.01532	0.00450	0.00028	0.05265	0.02488	0.00139	0.00052	concordant	.					0.13265							28.9	1.8				
MM1-1-217	66	80	0.83	0.03812	0.00632	0.00450	0.00020	0.06149	0.01046	0.00153	0.00018	< detection limit	.					0.26807							28.9	1.2				
MM1-1-218	21	26	0.81	0.09492	0.01966	0.00464	0.00034	0.14850	0.03248	0.00227	0.00044	8.27	3.66	0.05072	0.02458	0.00426	0.00040	0.19375	0.08642	0.04262	0.00126	0.00014			27	2				
MM1-1-219	146	377	0.39	0.03401	0.00260	0.00516	0.00014	0.04776	0.00378	0.00158	0.00014	concordant	.					0.35490							33.2	0.8				
MM1-1-220	3	6	0.46	0.10155	0.06748	0.00564	0.00098	0.13060	0.08966	0.00361	0.00230	concordant	.					0.26149							36	6				
MM1-1-221	48	61	0.78	0.04325	0.00902	0.00443	0.00024	0.07076	0.01516	0.00179	0.00022	3.13	1.76	0.02725	0.00614	0.00429	0.00026	0.26898	0.04605	0.01076	0.00142	0.00024			27.6	1.6				
~~MM1-1-222~~	~~764~~	~~447~~	~~1.71~~	~~0.26836~~	~~0.00846~~	~~0.00621~~	~~0.00016~~	~~0.31364~~	~~0.01100~~	~~0.00380~~	~~0.00022~~	~~32.77~~	~~2.58~~	~~0.03388~~	~~0.01778~~	~~0.00418~~	~~0.00022~~	~~0.10029~~	~~0.05885~~	~~0.03106~~	~~0.00129~~	~~0.00010~~			~~26.9~~	~~1.4~~				
MM1-1-224	25	32	0.77	0.03445	0.01552	0.00419	0.00028	0.05962	0.02714	0.00140	0.00032	concordant	.	0.03445	0.01552	0.00419	0.00028	0.14833							27	1.8				
MM1-1-228	48	76	0.63	0.06659	0.01150	0.00489	0.00032	0.09881	0.01804	0.00216	0.00036	4.43	2.14	0.04163	0.01444	0.00467	0.00034	0.20989	0.06461	0.02292	0.00143	0.00014			30	2				

Major Lake sequence				MEASURED RATIOS								COMMON LEAD		CORRECTED RATIOS										CORRECTED AGES							
Double Point Analysis	Th (ppm)	U (ppm)	Th/U	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	% common ^{206}Pb* calculated following Anderson (2002)	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	RHO	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
DLP1B-5A-01	55	83	0.66	0.02599	0.00860	0.00438	0.00018	0.04302	0.01436	0.00145	0.00022	concordant	.					0.12420							28.2	1.2				
DLP1B-5A-02	22	40	0.56	0.07107	0.02404	0.00466	0.00042	0.11060	0.03872	0.00233	0.00066	6.25	4.02	0.03752	0.02424	0.00437	0.00046	0.16293	0.06229	0.04080	0.00134	0.00044			28	4				
DLP1B-5A-03	6	16	0.40	-0.00257	0.05488	0.00442	0.00050	-0.00423	0.09018	0.00204	0.00118	concordant	.					-0.00530							28	4				
DLP1B-5A-05	24	39	0.63	0.01840	0.02240	0.00439	0.00026	0.03036	0.03700	0.00141	0.00032	< detection limit	.					0.04865							28.2	1.6				

DLP1B-5A-06	23	34	0.66	0.06067	0.02406	0.00427	0.00028	0.10295	0.04132	0.00096	0.00036	< detection limit	.	0.16535									27.5	1.8
DLP1B-5A-07	2	5	0.37	-0.00182	0.10598	0.00596	0.00110	-0.00222	0.12898	0.00484	0.00368	< detection limit	.	-0.00317									38	8
DLP1B-5A-08	43	58	0.74	0.02576	0.00922	0.00466	0.00018	0.04012	0.01444	0.00141	0.00018	concordant	.	0.10792									30	1.2
DLP1B-5A-09	17	27	0.62	0.03423	0.01980	0.00387	0.00026	0.06424	0.03742	0.00151	0.00040	concordant	.	0.11615									24.9	1.6
DLP1B-5A-10	937	677	1.38	0.02623	0.00154	0.00427	0.00010	0.04454	0.00268	0.00135	0.00006	concordant	.	0.39889									27.5	0.6
DLP1B-5A-11	18	26	0.72	0.02755	0.02682	0.00429	0.00040	0.04663	0.04558	0.00139	0.00056	concordant	.	0.09578									28	2
DLP1B-5A-12	71	103	0.69	0.01852	0.00690	0.00377	0.00018	0.03568	0.01338	0.00137	0.00016	concordant	.	0.12815									24.3	1.2
DLP1B-5A-13	13	14	0.93	0.07636	0.09164	0.00505	0.00086	0.10978	0.13304	0.00256	0.00088	concordant	.	0.14190									32	6
DLP1B-5A-14	4	10	0.44	0.03263	0.05108	0.00470	0.00056	0.05038	0.07908	0.00058	0.00142	concordant	.	0.07611									30	4
DLP1B-5A-15	5	11	0.45	0.06162	0.04702	0.00396	0.00056	0.11293	0.08760	0.00156	0.00124	concordant	.	0.18532									25	4
~~DLP1B-5A-17~~	~~2~~	~~0~~	~~7.76~~	~~-0.97367~~	~~2.58082~~	~~0.01871~~	~~0.02734~~	~~-0.37742~~	~~1.14208~~	~~0.00180~~	~~0.00470~~	~~concordant~~	~~.~~	~~-0.55129~~									~~119~~	~~174~~
DLP1B-5A-17A	47	78	0.61	0.03436	0.00672	0.00444	0.00016	0.05616	0.01110	0.00152	0.00016	concordant	.	0.18426									28.6	1
DLP1B-5A-18	103	127	0.82	0.02803	0.00432	0.00412	0.00012	0.04935	0.00768	0.00140	0.00010	concordant	.	0.18898									26.5	0.8
DLP1B-5A-19	16	32	0.50	0.01782	0.02140	0.00419	0.00034	0.03083	0.03710	0.00125	0.00066	< detection limit	.	0.06757									27	2
DLP1B-5A-20	143	191	0.75	0.02737	0.00298	0.00412	0.00010	0.04818	0.00532	0.00129	0.00008	concordant	.	0.22293									26.5	0.6
DLP1B-5A-22	23	40	0.56	0.03533	0.01224	0.00430	0.00020	0.05957	0.02080	0.00146	0.00030	concordant	.	0.13425									27.7	1.2
DLP1B-5A-23	166	120	1.38	0.02764	0.00678	0.00389	0.00018	0.05156	0.01286	0.00130	0.00012	concordant	.	0.18864									25	1.2
DLP1B-5A-24	23	50	0.47	0.02315	0.01398	0.00434	0.00026	0.03866	0.02344	0.00140	0.00048	concordant	.	0.09920									27.9	1.6
DLP1B-5A-28	16	29	0.54	0.02683	0.02770	0.00400	0.00032	0.04869	0.05038	0.00196	0.00050	concordant	.	0.07749									26	2
DLP1B-5A-29	22	40	0.56	0.03768	0.01236	0.00421	0.00020	0.06493	0.02150	0.00189	0.00030	concordant	.	0.14482									27.1	1.2
DLP1B-5A-30	73	106	0.69	0.04304	0.00706	0.00431	0.00018	0.07245	0.01214	0.00182	0.00018	3.34	1.42	0.02645	0.00310	0.00417	0.00020	0.40922	0.04605	0.00584	0.00142	0.00022	26.8	1.2
DLP1B-5A-31	33	55	0.60	0.03408	0.00980	0.00415	0.00018	0.05958	0.01732	0.00149	0.00022	concordant	.					0.15083					26.7	1.2
DLP1B-5A-32	575	640	0.90	0.02728	0.00166	0.00424	0.00010	0.04666	0.00292	0.00132	0.00008	concordant	.					0.38759					27.3	0.6
DLP1B-5A-33	8	15	0.53	0.03172	0.07742	0.00424	0.00072	0.05429	0.13278	0.00122	0.00118	concordant	.					0.06957					27	4
DLP1B-5A-34	29	56	0.53	0.03145	0.01278	0.00430	0.00024	0.05300	0.02170	0.00157	0.00038	concordant	.					0.13735					27.7	1.6
DLP1B-5A-36	35	51	0.68	0.04371	0.01132	0.00437	0.00020	0.07260	0.01908	0.00197	0.00024	3.36	2.22	0.02682	0.00358	0.00422	0.00024	0.42606	0.04605	0.00666	0.00153	0.00036	27.2	1.4
DLP1B-5A-37	57	63	0.91	0.03039	0.01164	0.00440	0.00026	0.05013	0.01942	0.00130	0.00020	concordant	.					0.15428					28.3	1.6
DLP1B-5A-39	69	66	1.05	0.03403	0.00798	0.00392	0.00016	0.06300	0.01494	0.00135	0.00012	1.71	1.58	0.02630	0.00666	0.00385	0.00018	0.18463	0.04951	0.01276	0.00122	0.00012	24.8	1.2
DLP1B-5A-40	82	92	0.89	0.03811	0.00790	0.00424	0.00018	0.06523	0.01376	0.00159	0.00018	2.42	1.66	0.02627	0.00508	0.00414	0.00020	0.24982	0.04605	0.00920	0.00137	0.00018	26.6	1.4
DLP1B-5A-41	433	420	1.03	0.03222	0.00168	0.00413	0.00010	0.05660	0.00306	0.00132	0.00006	< detection limit	.					0.46437					26.6	0.6
DLP1B-5A-42	3	7	0.40	0.09006	0.07426	0.00402	0.00084	0.16254	0.13830	0.00354	0.00228	concordant	.					0.25341					26	6
DLP1B-5A-43	28	49	0.57	0.03749	0.01070	0.00439	0.00018	0.06188	0.01782	0.00178	0.00026	concordant	.					0.14366					28.2	1.2
DLP1B-5A-44	4	10	0.44	0.01670	0.06372	0.00364	0.00082	0.03325	0.12702	0.00404	0.00188	< detection limit	.					0.05904					23	6
DLP1B-5A-45	41	28	1.48	0.00058	0.03202	0.00448	0.00034	0.00094	0.05178	0.00144	0.00022	concordant	.					0.00137					29	2
DLP1B-5A-46	11	20	0.57	0.07273	0.02842	0.00352	0.00040	0.14977	0.06094	0.00193	0.00066	7.7	5.22	0.04151	0.03012	0.00325	0.00044	0.18658	0.09267	0.06842	0.00096	0.00032	21	2
DLP1B-5A-48	18	42	0.43	0.02382	0.01518	0.00396	0.00028	0.04361	0.02796	0.00140	0.00048	< detection limit	.					0.11095					25.5	1.8
DLP1B-5A-49	7	14	0.50	0.09522	0.03562	0.00440	0.00044	0.15690	0.06074	0.00360	0.00090	13.13	5.74	0.02866	0.02968	0.00382	0.00052	0.13145	0.05438	0.05678	0.00119	0.00096	25	4
DLP1B-5A-50	6	11	0.52	0.01211	0.04222	0.00505	0.00050	0.01739	0.06066	0.00155	0.00100	< detection limit	.					0.02840					32	4
DLP1B-5A-52	45	79	0.57	0.02495	0.00934	0.00414	0.00020	0.04371	0.01648	0.00128	0.00028	concordant	.					0.12905					26.6	1.2
DLP1B-5A-54	16	28	0.55	0.03707	0.02316	0.00410	0.00032	0.06559	0.04130	0.00180	0.00062	concordant	.					0.12493					26	2

DLP1B-5A-59	23	36	0.65	0.02699	0.02572	0.00431	0.00030	0.04547	0.04344	0.00162	0.00038	concordant	.	0.07304			27.7	2
DLP1B-5A-62	20	37	0.54	0.02648	0.02670	0.00391	0.00030	0.04912	0.04966	0.00148	0.00040	concordant	.	0.07609			25.2	2
DLP1B-5A-70	117	139	0.84	0.03198	0.00536	0.00441	0.00016	0.05260	0.00894	0.00139	0.00014	concordant	.	0.21647			28.4	1
DLP1B-5A-75	50	75	0.66	0.03033	0.00916	0.00419	0.00020	0.05251	0.01604	0.00140	0.00024	concordant	.	0.15805			27	1.2
DLP1B-5A-80	61	99	0.61	0.03192	0.00882	0.00437	0.00014	0.05296	0.01474	0.00129	0.00014	concordant	.	0.11594			28.1	0.8
DLP1B-5A-88	10	17	0.62	0.04598	0.03838	0.00494	0.00058	0.06752	0.05690	0.00172	0.00098	concordant	.	0.14066			32	4
DLP1B-5A-90	9	17	0.51	0.04178	0.04184	0.00419	0.00060	0.07236	0.07322	0.00111	0.00126	concordant	.	0.14299			27	4
DLP1B-5A-93	19	36	0.54	0.04834	0.01766	0.00402	0.00032	0.08732	0.03262	0.00125	0.00058	< detection limit	.	0.21789			26	2
DLP1B-5A-95	84	112	0.75	0.02283	0.00646	0.00421	0.00018	0.03936	0.01124	0.00145	0.00018	concordant	.	0.15110			27.1	1.2

*** % common 206 Pb correction (algorithm after Andersen 2002).**

"Concordant" values represent grains that show concordance between the 206Pb/238U, 207Pb/235U, and 208Pb/232Th isotopic ratios, within 95% confidence limits. Grains that show discordance between these systems are corrected such that all three ratios are concordant. The amount of correction is represented by the calculated % of common 206Pb. This method assumes that discordance along an individual concordia is caused by the presence of common Pb introduced into the system at 8 Ma (the most recent age of any igneous activity on the island). Grains with "< detection limit" values have a common 206 Pb % less than instruments sensitivity for individual Pb isotope measurements, and were not corrected.

Standards	MEASURED RATIOS								AGES							
	$^{207}Pb/^{235}U$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s	$^{206}Pb/^{238}U$	2s	$^{207}Pb/^{235}U$	2s	$^{207}Pb/^{206}Pb$	2s	$^{208}Pb/^{232}Th$	2s
Average Mudtank analysis this study (n=28)	1.05357	0.08753	0.11928	0.00521	0.06406	0.00426	0.03697	0.00512	726	30	730	43	742	138	734	100
Jackson et al. (2004; n=73))	1.0569	0.0560	0.1202	0.0059	0.0638	0.0012	0.0372	0.0036	731	34	732	28	735	40	734	50
GEMOC lab 2007-2009 (n=660)#	1.04895	0.02825	0.11906	0.00298	0.06383	0.00063	0.03706	0.00279	725	17	728	14	736	21	736	54
Average 91500 analysis this study (n=28)	1.82494	0.07839	0.17730	0.00729	0.07467	0.00205	0.05430	0.00353	1052	40	1054	28	1059	55	1069	68
Jackson et al. (2004; n=83))	1.8491	0.0814	0.1789	0.0066	0.0750	0.0010	0.0538	0.0083	1061	36	1063	29	1068	26	1048	74
GEMOC lab 2007-2009 (n=827)#	1.83835	0.04407	0.17792	0.00396	0.07491	0.00055	0.05438	0.00394	1056	22	1059	16	1066	15	1070	76

#GEMOC lab averages from Norm Pearson (pers. comm. 2010)

Operating Conditions

U-Pb dating of zircon grains were determined using a New Wave 213 nm Nd: YAG laser system, linked to an Agilent 7500s ICP-MS. The technique has been described by Jackson et al. (2004). Analyses were carried out with a beam diameter of 30-40 µm, a 5 Hz (pulses per second) repetition rate, and output energy of ~0.9 mJ per pulse. Ablation was conducted in a He atmosphere (~1 l min-1). The sample + He mixture was combined with Ar (~0.9 l min-1) in a teflon mixing chamber prior to being transported to the ICP. Data acquisition was performed by peak hopping (one point per isotope) in pulse counting mode. Each analysis took 180 s, with a "gas blank" measurement of the carrier gas (He) taken over the first ~50 s, before initiation of ablation of the sample for ~130 s. Data were acquired on ten isotopes with short dwell times to provide quasi-simultaneous measurements.

Samples were analysed in 'runs' of 16 analyses consisting of two analyses of a gem quality GJ zircon standard for calibration of U-Pb isotopes, one Mud Tank and one 91500 zircon reference materials to monitor the accuracy of the method, 10 analyses of unknowns, followed by a further two GJ zircon standards. The overall accuracy and precision of U-Pb isotope measurements were controlled by analysing two external reference standards, zircon 91500 (accepted $^{206}Pb/^{238}U$ TIMS age of 1065.4 ± 0.6 Ma, (Wiedenbeck et al., 1995)); and Mud-Tank (accepted 206Pb/238U TIMS age of 732 ± 5 Ma, (Black and Gulson, 1978)).

U-Pb ages were calculated from the raw signal data using the online software package GLITTER, Version 4.4 (van Achterbergh et al., 1999). The time-resolved analysis software, in which the signal intensity data for each mass and each ratio is displayed as a function of time (ablation depth) during the analysis, allows for the most stable portion of the signal to be selected for integration, thereby enabling isotopic heterogeneities such as inherited cores or inclusions to be identified and avoided. The ^{204}Pb isotope cannot be precisely measured with this technique, due to a combination of low signal and isobaric interference from ^{204}Hg contaminants in the Ar gas supply. Consequently, the common-Pb contents were corrected using the algorithm described by Andersen (2002) where applicable (see table footnote*).

References

Andersen, T., 2002, Correction of common-lead in U-Pb analyses that do not report 204Pb: Chemical Geology, v. 192, p. 59-79.

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Jackson, S. E., Pearson, N. J., Griffin, W. L., and Belousova, E. A., 2004, The application of laser ablation-inductively coupled plasma-mass spectrometry to in situ U-Pb zircon geochronology: Chemical Geology, v. 211, no. 1-2, p. 47-69. Wiedenbeck, M., Allé, P., Corfu, F., Griffin, W. L., Meier, M., Oberli, F., von Quadt, A., Roddick, J. C., and Spiegel, W., 1995, Three natural zircon standards for U–Th–Pb, Lu–Hf, trace element and REE analyses: Geostandards and Geoanalytical Research, v. 19, no. 1, p. 1-23.

TABLE DR3. REPRESENTATIVE DETRITAL AMPHIBOLE MAJOR ELEMENT GEOCHEMISTRY

Sample	MW4-1 C2-10	MW4-1 C2-14	MW4-1 CR-11	MW6-2 C1-3	MW6-2 C1-20	MW6-2 C1-22	MW6-3 C3-17	MW6-2 C4-5	MW6-2 C5-7	MW6-3 C5-2	MW6-3 C5-8	DLP1 b-5a C2-14	dvp2-1a-c4	dvp2-1a-f2	MP1-3 C2-27	MP1-7 25	cp5b-3_e	MW4-1 CM-12	MW4-2 C1-10	MW4-2 C3-9	MW6-2 C1-5	MW6-2 C2-17	MW6-2 C4-3	MW6-3 C3-20	MW6-3 C4-2	MW6-3 C4-3	MW6-3 C4-8	DLP3-20 C1-4	dvp2-1a-f3	dvp2-1a-g3	dvp2-1a-g3-b	mp1-5_d-4	MP1-6	MW6-3 C5-6	DLP3-20 C3-2	DLP3-20 C3-19	MW6-3 C5-10
SiO_2	52.66	51.21	52.89	51.81	51.16	53.58	50.91	54.36	54.25	53.50	52.74	53.00	54.17	53.54	53.32	53.91	51.59	51.44	50.68	49.08	49.87	50.67	46.15	50.62	48.74	50.88	48.43	48.06	51.41	48.49	48.74	50.11	49.93	45.99	46.84	46.50	43.96
TiO_2	0.49	0.39	0.47	0.28	0.25	0.09	1.14	0.50	0.41	0.24	0.35	0.42	0.36	0.29	0.27	0.42	0.23	0.51	0.45	0.69	1.37	0.43	0.65	0.71	0.97	0.41	0.86	0.23	0.74	1.21	0.11	0.59	0.16	1.02	0.12	2.72	3.60
Al_2O_3	1.99	3.30	3.83	2.70	3.39	2.18	2.55	2.20	2.60	3.37	2.17	2.74	2.12	2.56	1.22	1.29	2.84	3.55	4.96	4.29	5.82	3.95	8.36	4.19	7.20	3.95	6.67	7.53	4.24	5.71	5.86	6.56	4.76	9.05	10.00	7.84	9.91
Cr_2O_3	0.00	0.01	0.05	0.00	0.02	0.04	0.00	0.06	0.04	0.00	0.03	0.06	0.01	0.06	0.00	0.00	0.00	0.04	0.00	0.01	0.02	0.03	0.05	0.04	0.10	0.00	0.28	0.00	0.12	0.05	0.05	0.09	0.04	0.08	0.01	0.09	0.17
FeO*	16.57	17.09	9.55	17.37	18.43	13.51	16.36	10.85	9.35	9.19	16.19	14.03	11.49	12.20	18.80	13.30	20.25	17.84	14.29	16.94	9.04	15.53	15.78	13.01	9.98	14.56	13.24	14.62	14.55	15.81	14.71	11.94	13.46	12.62	12.68	13.17	11.61
MnO	0.23	0.30	0.08	0.38	0.25	0.28	0.37	0.20	0.11	0.20	0.53	0.24	0.18	0.26	0.35	0.31	0.37	0.44	0.23	0.27	0.08	0.20	0.21	0.16	0.07	0.26	0.08	0.19	0.26	0.31	0.29	0.17	0.36	0.17	0.22	0.19	0.08
MgO	13.44	13.40	17.82	12.55	12.90	15.26	14.22	17.61	18.36	18.15	14.03	15.56	16.62	16.30	13.19	15.79	11.57	13.90	14.55	13.09	17.66	13.88	12.04	14.84	16.45	14.75	14.88	14.36	14.67	14.19	15.51	15.92	14.94	14.43	14.31	14.44	14.45
CaO	12.22	10.65	12.05	12.10	10.34	12.20	10.27	12.35	11.93	11.62	11.14	11.56	12.42	11.86	11.00	11.97	11.16	9.69	11.49	11.26	11.33	11.30	11.50	13.09	12.03	10.97	11.58	11.12	10.88	10.60	10.43	11.14	13.07	11.47	11.85	11.18	10.98
Na_2O	0.30	0.52	0.77	0.31	0.61	0.16	0.62	0.37	0.57	0.56	0.34	0.32	0.40	0.39	0.31	0.16	0.33	0.60	0.92	1.10	1.87	0.56	1.54	0.76	1.33	0.65	1.37	1.43	1.03	0.43	0.28	1.30	0.64	1.91	1.74	2.09	2.49
K_2O	0.02	0.05	0.06	0.04	0.04	0.00	0.09	0.01	0.03	0.02	0.04	0.04	0.01	0.04	0.02	0.02	0.04	0.03	0.04	0.16	0.14	0.02	0.09	0.04	0.05	0.07	0.07	0.10	0.14	0.04	0.04	0.06	0.06	0.08	0.05	0.40	0.12
Total	97.91	96.92	97.58	97.54	97.39	97.30	96.51	98.51	97.63	96.84	97.56	97.96	97.77	97.49	98.48	97.15	98.37	98.04	97.60	96.88	97.20	96.57	96.36	97.46	96.92	96.51	97.46	97.63	98.03	96.82	96.03	97.90	97.41	96.81	97.82	98.61	97.38
mineral (Leake et al. 1997, 2004)	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	actinolite	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	Mg-hornblende	edenite	edenite	edenite	pargasite

*All Fe expressed as FeO

Operating conditions

See major element geochemistry in DR_Table1.

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