Supplementary Material

Albite-actinolite altered porphyry dykes in Archean gold deposits of the Boulder Lefroy-Golden Mile fault system, Yilgarn Craton, Western Australia: Petrography, chronology, and comparison to Canadian albitites

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Minerals, MDPI, Article ID minerals-1435424, November 2021

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References

Details of analytical methods and explanatory comments are given in the footnotes of the data tables.

Table S1a:	Whole rock major element analyses and Mesonorms after Barth (1959) of porphyry dykes from the Hampton Boulder open pit and outcrops at the New Celebration gold deposit, Kalgoorlie.							
	Quartz-plagioclase porphyries				**Albite-act Porphyries**		**Reference data**	
Sample no.	59070	HB-4	HB-5	HB-6	HB-8a	59071	TTG	Archean
Location	Surface	HB open pit	HB open pit	HB open pit	HB open pit	Surface	batho-	adakites
MGA North (m)	656 5985	656 6161	656 6317	656 6307	656 6122	656 6015	liths	(sanuki-
MGA East (m)	367 250	366 890	366 723	366 695	366 843	366 935	<3 Ga	toids)
Elevation a.s.l.	355	267	224	224	224	355	n = 666	<62%
Dyke name	Southeast	East	Main	Main	Albite-act	Albite-act		SiO2
Phenocrysts (%)	30pl, 3qtz	35pl, 3qtz	25pl, 2qtz	5pl, 2qtz	20pl	20pl, 1qtz		n =31
Alteration	2act, 2ms,	5bt, 3cal	5bt, 3ms, 7ank,	5-10ms, 2kfs,	20act, 4cal,	10act,		
minerals (vol. %)	1py(ox)	1mag+py	3kfs, 1mag, 1py	15ank, 5py	3py, 1ilm	1py(ox)	Martin et al. 2005	
SiO_2 (wt. %)	74.52	70.83	69.46	56.20	61.69	66.07	68.36	58.76
TiO_2	0.24	0.17	0.17	0.26	0.48	0.60	0.38	0.74
Al_2O_3	15.60	15.00	14.65	14.43	15.17	17.38	15.52	15.80
Fe_2O_3	0.07	n.a.	n.a.	n.a.	n.a.	1.93	n.a.	n.a.
FeO	0.87	1.00	0.98	2.96	3.45	1.61	2.94	5.28
MnO	< 0.01	0.01	0.01	0.04	0.05	0.04	0.05	0.09
MgO	0.99	0.75	0.75	2.76	3.13	3.51	1.36	3.90
CaO	0.81	1.39	1.49	4.99	3.90	2.24	3.23	5.57
Na_2O	6.59	7.98	6.16	6.52	8.92	6.89	4.70	4.42
K_2O	0.14	0.56	3.22	2.38	0.08	0.11	2.00	2.78
P_2O_5	0.08	0.07	0.08	0.10	0.28	0.36	0.15	0.39
L.O.I.	0.23	2.04	2.87	9.59	2.99	0.53	1.09	1.79
Total	100.14	99.80	99.84	100.23	100.14	101.27	99.78	99.52
CO_2	0.08	1.61	2.09	7.59	1.43	0.06		
Sulfur	0.06	0.14	0.28	1.50	1.06	0.01		
Mg/(Mg+Fe total)	0.65	0.57	0.58	0.62	0.62	0.65	0.45	0.57
Mesonorm (equivalent cation percent)								
calcite	0.20	3.98	5.20	18.14	3.44	0.16	0.00	0.00
apatite	0.16	0.00	0.00	0.00	0.56	0.75	0.32	0.83
pyrite	0.15	0.36	0.72	3.68	2.63	0.02	0.00	0.00
magnetite	0.08	0.00	0.00	0.00	0.00	1.97	0.00	0.00
titanite	0.48	0.00	0.00	0.00	0.96	1.20	0.81	1.56
orthoclase	0.00	0.50	16.13	5.63	0.00	0.00	4.88	10.49
albite	58.35	69.80	54.35	55.30	76.35	59.95	42.70	40.15
anorthite	2.15	0.00	0.00	0.00	0.00	6.02	13.85	7.78
corundum	4.11	1.34	1.10	1.17	0.00	3.87	0.67	0.00
hornblende	0.00	0.00	0.00	0.00	16.28	0.00	0.00	22.48
biotite	5.16	4.40	4.11	12.20	3.99	14.08	11.31	9.78
quartz	31.58	20.10	19.37	8.03	2.21	20.19	25.46	6.93
Total	102.42	100.48	100.98	104.14	106.41	108.20	100.00	99.99

The Map Grid Australia (MGA) 1994 UTM coordinates, Zone 51, are equivalent to World Geodetic Survey (WGS) 1984.
Phenocryst and alteration minerals are volume percent visual estimates using percentage diagrams.
Minerals: actinolite(act), ankerite (ank), biotite (bt), calcite (cal), ilmenite (ilm), K-feldspar (kfs), magnetite (mag), muscovite-phengite (ms), plagioclase (pl), pyrite (py), quartz (qtz). Carbonate is leached and pyrite oxidized (ox) to limonite in the surface samples. Albite is dominant in all samples.

Samples 59070 (2.63 g/cc) and 59071 (2.67 g/cc) are from the Clarke Earth Science museum at the University of Western Australia. They were ground in an agate mill, the others in a tungsten carbide ring mill (W, Co contamination). 59070 and 59071 powders were analyzed by wet chemistry (MgO, Na2O), XRF fused glass disc, FeO by titration, and Leco induction furnace (CO2; O'Beirne 1968). P2O5 and sulfur were analyzed separately by ICP-OES at Genalysis/Intertek, Perth.

The powders of the four HB open pit samples were analyzed at the Genalysis/Intertek laboratory in Perth by X-ray fluorescence fused glass disc, and induction furnace infrared spectrometry (CO2). Loss on ignition (LOI) was at 1000°C. Detection limits are 0.01-0.05 wt.% for oxides and 10-20 ppm for sulfur. Fe2O3 not analyzed (n.a.) means that the total iron is reported as FeO.

The Mesonorm works well for unaltered TTGs and adakites but gives only approximate mineralogy for altered rocks. Negative apatite / orthoclase were set to Zero, and Totals >102% indicate suspect minerals. Calcite (for carbonate), pyrite and albite contents are considered reasonably reliable. K-feldspar is more abundant (5-15%) in HB-5 and HB-6 than indicated by microscopy. Biotite is incorrectly calculated: in HB-6 instead of muscovite because the carbonate is dolomite-ankerite and not calcite, in rocks with K2O<0.15% including the weakly weathered surface samples. Al2O3 as corundum suggests muscovite, phengite or kaolinite (surface).

Table S1b: Whole rock trace element analyses of porphyry dykes from the Hampton Boulder open pit and outcrops at the New Celebration gold deposit, Kalgoorlie, Western Australia.

	Quartz-plagioclase porphyries				Albite-act porphyries			Detect.	Background	
Sample no.	59070	HB-4	HB-5	HB-6	HB-8a	59071	Method	limits	TTG <3 Ga	Archean
Location	Surface	HB open pit	HB open pit	HB open pit	HB open pit	Surface		(ppm)	Cont. Crust	adakites
Ag (ppm)	1.2	0.14	0.29	1.53	0.05	0.4	4A/MS	0.01	0.07	
As	< 1	< 0.5	< 0.5	1.1	0.9	2	4A/MS	0.5	1.8	
Au	n.a.	0.008	0.54	11.19	0.005	n.a.	FA25/MS	0.001	0.002	
Ba	1610	1390	1672	525	214	158	FB6/MS	0.5	847	1543
Be	1.7	1.64	1.37	1.45	1.14	0.8	4A/MS	0.05	1.0	
Bi	4.0	0.28	0.36	0.64	0.22	0.26	4A/MS	0.01	0.2	
Cd	n.a.	0.03	0.02	0.06	0.05	n.a.	4A/MS	0.02	0.2	
Co	< 5	n.a.	n.a.	n.a.	n.a.	7	4A/MS	0.1	9	
Cr	11	< 20	22	141	130	131	FB6/OE	20	50	128
Cs	0.07	0.52	0.64	0.46	0.30	0.55	FB6/MS	0.05	0.7	
Cu	44	< 0.5	12	8.2	35	30	4A/OE	0.5	9	
Ga	21	19.8	19.2	20.0	18.6	21	FB6/MS	0.1	18	
Ge	n.a.	0.78	0.89	0.68	0.91	n.a.	4A/MS	0.05	1.5	
Hf	2.8	3.2	3.0	3.2	3.7	3.3	FB6/MS	0.1	3.0	
Hg	n.a.	< 0.001	0.002	0.005	0.001	n.a.	HG1/CV	0.001	0.08	
In	n.a.	0.009	0.014	0.025	0.018	n.a.	4A/MS	0.005	0.1	
Li	0.9	3.8	5.7	3.9	2.9	1.2	4A/MS	0.1	21	
Mo	0.8	0.5	3.0	1.5	13.5	0.7	4A/MS	0.1	1.5	
Nb	1.8	1.7	1.6	2.0	3.0	2.3	FB6/MS	0.1	7	10
Ni	2	7.5	9.8	73	63	52	4A/OE	0.5	21	72
Pb	275	32	30	34	9.4	7	4A/MS	0.5	13	
Pd	n.a.	< 0.001	< 0.001	0.003	0.006	n.a.	FA25/MS	0.001	0.002	
Pt	n.a.	< 0.001	< 0.001	0.004	0.007	n.a.	FA25/MS	0.001	0.002	
Rb	< 2	10	43	31	1.3	< 2	FB6/MS	0.1	67	65
Re	< 0.01	0.003	0.004	0.002	0.004	< 0.01	4A/MS	0.002	0.001	
Sb	0.17	0.13	0.20	0.51	0.09	0.22	4A/MS	0.05	0.2	
Sc	< 3	< 10	< 10	< 10	< 10	3	FB6/OE	10	3	
Se	n.a.	< 0.5	0.5	1.1	0.7	n.a.	4A/MS	0.5	0.05	
Sn	0.7	< 1	< 1	1	1	1.0	FB6/MS	1	2	
Sr	646	844	1002	643	602	460	FB6/MS	0.2	541	1170
Ta	0.36	0.3	0.4	0.2	0.3	0.33	FB6/MS	0.1	0.1	
Te	0.7	< 0.05	0.11	1.57	0.06	0.3	4A/MS	0.05	0.001	
Th	8.7	9.89	9.13	6.02	5.28	5.2	FB6/MS	0.05	7.2	
Tl	0.05	0.08	0.43	0.28	< 0.02	0.03	4A/MS	0.02	0.5	
U	2.1	3.2	2.8	4.9	1.4	0.91	FB6/MS	0.05	1.8	
V	20	18	16	39	74	63	FB6/OE	10	52	95
W	1.6	n.a.	n.a.	n.a.	n.a.	1.9	FB6/MS	1	1.5	
Y	2.4	2.6	2.6	4.3	8.4	8	FB6/MS	0.5	11	18
Zn	28	39	24	56	30	25	4A/OE	1	51	
Zr	116	100	100	103	127	145	FB6/MS	1	95	184
La	22	19.0	19.8	23.2	23.9	32	FB6/MS	0.2	30.8	59.9
Ce	42	36.8	37.5	51.5	58.6	57	FB6/MS	0.5	58.5	125
Pr	4.5	4.13	4.08	5.32	6.38	7.8	FB6/MS	0.05	n.a.	n.a.
Nd	16	14.3	14.5	19.7	25.4	30	FB6/MS	0.1	23.2	54.8
Sm	3.0	2.42	2.43	3.22	4.42	4.6	FB6/MS	0.05	3.5	9.8
Eu	0.85	0.62	0.52	0.79	1.15	1.2	FB6/MS	0.05	0.9	2.3
Gd	1.6	1.46	1.44	2.03	3.04	3.3	FB6/MS	0.05	2.3	6.0
Tb	0.17	0.14	0.16	0.19	0.36	0.39	FB6/MS	0.02	n.a.	n.a.
Dy	0.73	0.68	0.60	0.92	1.67	1.9	FB6/MS	0.05	1.6	3.2
Ho	n.a.	0.08	0.08	0.14	0.28	n.a.	FB6/MS	0.02	n.a.	n.a.
Er	0.19	0.22	0.21	0.39	0.75	0.78	FB6/MS	0.05	0.75	1.41
Yb	0.17	0.15	0.16	0.34	0.64	0.60	FB6/MS	0.05	0.63	1.32
Lu	0.03	0.02	0.02	0.05	0.08	0.10	FB6/MS	0.02	0.12	0.26
(La/Yb) N	84.69	84.70	82.75	45.63	24.97	35.11			32.52	29.92

Samples 59070 and 59071, analyses by XRF: Ba, Co, Cr, Sc (DL 3-5 ppm), Cu, Ga, Ni, Pb, Rb, Sr, V, Y, Zn, Zr (DL 1-2 ppm) at the University of Western Australia (unpubl. Mueller 1990). All other analyses at Genalysis/Intertek laboratories, Perth, using the methods listed. 4A/MS or OE= 4-acid digest (hydrofluoric, nitric, perchloric, hydrochloric), ICP-MS or -OES. FA25/MS = 25 g lead collection fire assay in new pots, ICP-MS analysis. FB6/MS or OE= lithium borate fusion, analysis by ICP-MS or -OES. HG1/CV = low-T perchloric acid digest, analysed by cold vapour generation AAS. Re and Te crustal values: Wikipedia.
Neoarchean trondhjemite-tonalite-granodiorite (TTG) batholiths: Martin et al. 2005 and Feng et al. 1993 (black).
Neoarchean adakites (sanukitoids): Martin et al. 2005. Bulk continental crust: Krauskopf & Bird 1995 (red).

Table S2:	Energy-dispersive (EDS) electron microprobe analyses of actinolite and albite in dykes from the Hampton Boulder open pit, New Celebration gold deposit, Kalgoorlie, Western Australia.											
	Albite-actinolite Porphyry (sample HB-8a)						**Quartz-actinolite veined dyke (sample HB-8b)**					
Contact pair	Pair 1	Pair 1	Pair 2	Pair 2	Pair 3	Pair 3	Pair 1	Pair 1	Pair 2	Pair 2	Pair 3	Pair 3
Mineral	Actinolite	Albite	Actinolite	Albite	Actinolite	Albite	Actinolite	Albite	Actinolite	Albite	Actinolite	Albite
Analyses	n=2	n=3	n=3	n=3	n=2	n=3	n=3	n=3	n=3	n=3	n=3	n=3
SiO2 (wt.%)	53.01	68.46	56.09	69.22	55.49	68.29	56.00	69.36	55.95	69.05	56.89	69.34
TiO2	0.11	0.00	0.00	0.00	0.20	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Al2O3	2.53	18.89	0.59	19.19	1.65	18.90	2.09	19.10	1.85	19.11	1.12	19.15
Cr2O3	0.14	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.25	0.00	0.00	0.00
Fe2O3	2.17	0.16	0.78	0.20	0.60	0.28	1.21	0.00	1.10	0.18	0.60	0.00
FeO	8.92	0.00	9.23	0.00	9.23	0.00	6.22	0.00	6.32	0.00	6.92	0.00
MnO	0.15	0.00	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.15	0.00
MgO	16.80	0.00	18.16	0.00	17.62	0.00	19.48	0.00	19.32	0.00	19.54	0.00
CaO	11.50	0.20	11.46	0.16	12.34	0.12	12.27	0.10	12.21	0.20	12.40	0.11
Na2O	1.00	11.50	0.63	11.68	0.61	11.57	0.74	11.79	0.69	11.67	0.47	11.82
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	96.33	99.21	97.09	100.45	97.89	99.16	98.22	100.35	97.69	100.21	98.09	100.42
Si	7.659	3.011	7.968	3.008	7.840	3.007	7.786	3.015	7.821	3.008	7.920	3.013
Ti	0.012	0.000	0.000	0.000	0.021	0.000	0.010	0.000	0.000	0.000	0.000	0.000
Al	0.431	0.980	0.099	0.983	0.275	0.981	0.343	0.979	0.305	0.982	0.184	0.981
Cr	0.016	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.028	0.000	0.000	0.000
Fe3	0.236	0.005	0.084	0.007	0.064	0.009	0.126	0.000	0.115	0.006	0.063	0.000
Fe2	1.078	0.000	1.096	0.000	1.091	0.000	0.723	0.000	0.739	0.000	0.806	0.000
Mn	0.018	0.000	0.018	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.018	0.000
Mg	3.617	0.000	3.845	0.000	3.710	0.000	4.036	0.000	4.025	0.000	4.054	0.000
Ca	1.780	0.009	1.744	0.007	1.868	0.006	1.828	0.005	1.829	0.009	1.850	0.005
Na	0.280	0.981	0.174	0.984	0.167	0.988	0.199	0.994	0.187	0.986	0.127	0.996
K	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cation sum	15.127	4.986	15.028	4.989	15.054	4.991	15.063	4.993	15.049	4.991	15.022	4.995
Oxygens	23	8	23	8	23	8	23	8	23	8	23	8
Classification according to the International Mineralogical Association (Leake et al. 1997)												
Mg/Mg+Fe2	0.77		0.78		0.77		0.85		0.84		0.83	
(Na + K) A	0.060		0.000		0.035		0.027		0.016		0.000	
Name	actinolite		actinolite		actinolite		actinolite		actinolite		actinolite	
Edenite-tremolite thermometer at Xab = 0.98 (Holland and Blundy 1994)												
T °C at 4 kb	550		no result		no result		480		no result		no result	
Temperature estimates after Spear (1980)												
ln(Xan/Xab)		-4.69		-4.95		-5.10		-5.29		-4.70		-5.29
ln(Ca/Na)M4	2.09		2.30		2.65		2.36		2.37		2.68	
The EDS system count rate was calibrated using pure copper, and standard spectra were collected in the TESCAN Vega3 SEM from jadeite (Na), periclase (Mg), corundum (Al), wollastonite (Si and Ca), orthoclase (K), rutile (Ti), chromite (Cr), rhodonite (Mn) and pyrite (Fe). Analytical precision is ±1-2% relative for major elements (>10 wt.%) and ±5-10% relative for minor elements (<10 wt.%). Zero oxide values are below the 0.1 wt.% detection limit.												
The program AX of Holland and Powell (2000) was used for Fe3/Fe2 allocation, see Holland and Blundy (1994; App. B).												

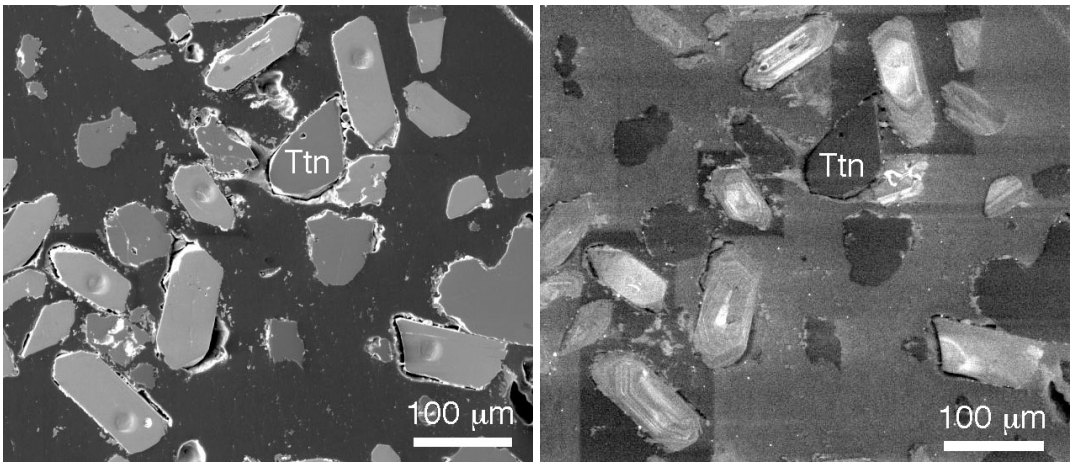

Figure S1: Scanning electron microscope images of igneous zircons and alteration titanite (Ttn) in SHRIMP mount 12-21C, sample HB-8a: Backscattered electron image (left) showing the analytical pits sputtered by the ion microprobe beam in five zircon grains. Cathodo-luminescence image (right) showing the oscillatory zones in the zircons analyzed.

Table S3: Ion microprobe U-Pb analyses of zircons from the Albite-actinolite Porphyry dyke (sample HB-8a), Hampton-Boulder open pit, New Celebration gold deposit, Kalgoorlie, Western Australia.

Grain-spot (session)	U (ppm)	Th (ppm)	Th/U	common 206Pb (%)	207Pb*/206Pb*	1σ (%)	207Pb*/235U	1σ (%)	206Pb*/238U	1σ (%)	error correlatio	206Pb/238U Age (Ma)	1σ	207Pb/206Pb Age (Ma)	1σ	Disc (%)
Zircon xenocryst (Grain 23)																
23-2(2)	57	51	0.92	0.06	0.1979	1.11	14.6	2.4	0.534	2.1	0.88	2757	47	2809	18	2
23-1(1)	59	64	1.13	0.09	0.1967	0.64	14.16	2.1	0.522	2.0	0.95	2709	44	2799	10	3
23-3(2)	74	74	1.03	0.27	0.1931	1.10	14.1	2.2	0.530	1.9	0.87	2740	43	2769	18	1
23-5(2)	59	50	0.87	0.25	0.1929	1.17	13.9	2.4	0.522	2.1	0.87	2708	45	2767	19	2
23-4(2)	74	176	2.45	0.12	0.1943	1.17	8.5	2.2	0.318	1.8	0.84	1780	28	2779	19	36
Main population of igneous zircons (≤ 5% discordant): Weighted mean age 2662 ± 4 Ma, n = 16, MSWD = 1.14																
3-1(1)	78	0	0.00	0.09	0.1821	0.60	12.62	1.5	0.502	1.4	0.92	2624	31	2672	10	2
2-1(1)	202	82	0.42	0.02	0.1820	0.39	12.35	1.6	0.492	1.5	0.97	2580	32	2672	6	3
10-1(1)	180	127	0.73	0.07	0.1818	0.39	12.45	1.7	0.497	1.7	0.97	2599	36	2670	6	3
42-1(2)	344	305	0.92	0.03	0.1818	0.44	12.0	1.3	0.481	1.2	0.94	2531	26	2669	7	5
4-2(2)	499	255	0.53	0.04	0.1816	0.36	12.5	1.2	0.498	1.2	0.96	2605	25	2668	6	2
6-1(1)	123	98	0.83	0.09	0.1815	0.49	12.31	1.9	0.492	1.9	0.97	2579	40	2667	8	3
15-1(1)	96	70	0.76	0.09	0.1814	0.55	12.43	2.1	0.497	2.0	0.97	2600	44	2666	9	2
5-1(1)	147	107	0.75	0.05	0.1812	0.45	12.10	2.9	0.485	2.9	0.99	2547	61	2664	7	4
4-1(1)	64	35	0.57	0.09	0.1806	0.69	12.47	1.7	0.501	1.5	0.91	2616	33	2659	11	2
14-1(1)	152	125	0.85	0.26	0.1806	0.48	11.96	2.3	0.480	2.2	0.98	2529	47	2658	8	5
24-1(1)	149	117	0.81	0.07	0.1804	0.76	12.07	1.5	0.485	1.3	0.86	2550	27	2657	13	4
44-1(2)	161	138	0.89	0.21	0.1803	0.75	12.2	1.7	0.492	1.5	0.89	2578	31	2655	12	3
27-1(2)	631	283	0.46	0.03	0.1800	0.31	12.2	1.4	0.493	1.4	0.98	2585	29	2653	5	3
28-1(2)	218	171	0.81	0.05	0.1800	0.56	12.1	1.4	0.489	1.3	0.92	2568	28	2653	9	3
22-1(1)	178	170	0.99	0.22	0.1800	0.39	12.26	1.5	0.494	1.5	0.97	2589	31	2653	7	2
7-1(1)	191	168	0.90	0.15	0.1797	0.39	12.16	1.3	0.491	1.3	0.95	2574	27	2650	7	3
Statistical outlier, omitted from the weighted mean age																
6-2(2)	714	375	0.54	0.05	0.1747	0.29	12.1	1.1	0.502	1.1	0.97	2623	24	2603	5	-1
Discordant analyses (>5%)																
30-1(2)	460	731	1.64	0.13	0.1834	0.41	11.1	1.2	0.438	1.2	0.94	2343	23	2683	7	13
34-1(2)	168	140	0.86	0.09	0.1827	0.74	11.9	1.6	0.474	1.5	0.89	2501	30	2678	12	7
8-1(1)	242	240	1.03	0.15	0.1821	0.36	11.21	1.3	0.446	1.2	0.96	2379	25	2672	6	11
32-1(2)	105	84	0.83	0.00	0.1819	0.86	11.6	1.9	0.463	1.6	0.89	2452	34	2670	14	8
13-1(1)	297	322	1.12	0.07	0.1816	0.33	11.39	2.6	0.455	2.5	0.99	2417	51	2668	5	9
31-1(2)	152	78	0.53	0.12	0.1814	0.79	10.1	2.2	0.404	2.0	0.93	2187	38	2666	13	18
39-1(2)	110	117	1.09	0.00	0.1814	0.85	10.1	1.8	0.404	1.6	0.88	2190	29	2666	14	18
42-3(2)	464	239	0.53	0.15	0.1810	0.49	10.2	3.5	0.410	3.5	0.99	2213	66	2662	8	17
19-1(1)	207	399	1.99	0.04	0.1810	0.33	11.30	1.9	0.453	1.9	0.99	2408	38	2662	5	10
11-1(1)	175	104	0.62	0.04	0.1809	0.40	11.25	1.6	0.451	1.6	0.97	2399	32	2661	7	10
1-1(1)	272	209	0.79	0.02	0.1808	1.32	11.52	2.3	0.462	1.9	0.82	2448	39	2660	22	8
17-1(1)	132	90	0.71	0.04	0.1804	0.46	10.88	2.0	0.437	2.0	0.97	2338	39	2657	8	12
38-1(2)	200	146	0.76	0.05	0.1803	0.63	10.1	3.3	0.407	3.2	0.98	2202	60	2656	10	17
12-1(1)	148	95	0.67	0.06	0.1800	0.44	11.61	1.6	0.468	1.5	0.96	2473	31	2653	7	7
21-1(1)	130	90	0.72	0.17	0.1800	0.49	10.38	1.4	0.418	1.3	0.94	2252	25	2652	8	15
42-2(2)	169	147	0.90	0.19	0.1799	0.74	10.5	1.6	0.423	1.4	0.88	2275	27	2652	12	14
9-1(1)	192	163	0.88	0.10	0.1793	0.40	11.30	1.9	0.457	1.8	0.98	2426	37	2646	7	8
43-1(2)	221	200	0.93	0.16	0.1791	0.69	8.6	3.4	0.348	3.4	0.98	1927	56	2644	11	27
3-2(1)	557	494	0.92	0.11	0.1784	0.38	11.0	1.2	0.447	1.1	0.95	2380	23	2638	6	10
16-1(1)	172	424	2.55	0.22	0.1783	0.52	7.38	2.3	0.300	2.2	0.97	1692	33	2637	9	36
37-1(2)	115	74	0.66	0.26	0.1781	0.96	10.0	1.8	0.406	1.6	0.85	2196	29	2635	16	17
33-1(2)	395	301	0.79	0.63	0.1779	0.73	10.1	1.8	0.412	1.7	0.92	2225	31	2633	12	15
27-2(2)	164	105	0.66	0.26	0.1776	0.76	9.6	1.6	0.393	1.4	0.88	2135	26	2631	13	19
40-1(2)	255	166	0.67	0.54	0.1776	0.82	6.6	3.0	0.269	2.9	0.96	1536	40	2630	14	42
36-1(2)	101	66	0.67	0.37	0.1770	1.03	10.9	1.9	0.448	1.6	0.85	2387	33	2625	17	9
25-1(2)	530	246	0.48	0.04	0.1769	0.35	11.4	1.5	0.468	1.4	0.97	2475	29	2624	6	6
35-1(2)	180	83	0.47	0.36	0.1767	1.19	7.1	2.0	0.291	1.5	0.79	1647	23	2622	20	37
16-2(2)	463	692	1.54	0.08	0.1751	0.71	9.5	2.4	0.395	2.3	0.96	2147	43	2607	12	18
18-1(1)	568	377	0.69	0.14	0.1704	2.09	9.36	2.7	0.398	1.7	0.63	2162	31	2562	35	16
29-1(2)	728	592	0.84	0.05	0.1696	0.32	10.0	1.2	0.428	1.1	0.96	2297	21	2554	5	10
20-1(1)	284	816	2.96	0.17	0.1616	0.34	8.75	1.3	0.393	1.2	0.96	2136	22	2473	6	14
26-1(2)	666	770	1.19	0.20	0.1595	0.38	9.2	1.2	0.418	1.1	0.95	2252	21	2451	6	8
5-2(2)	670	692	1.07	0.12	0.1532	0.37	8.6	1.9	0.406	1.8	0.98	2198	34	2382	6	8
41-1(2)	1140	1487	1.35	0.20	0.1365	0.41	6.1	1.7	0.322	1.7	0.97	1801	26	2184	7	18

SHRIMP II ion microprobe at the John de Laeter Center, Curtin University, Perth. SHRIMP mount 12-21C, grain cluster HB08-8a.
Discordance (Disc) is measured as [100 - (206Pb/238U age)/207Pb/206Pb age) x 100]
Uncertainty (1 sigma) in the U/Pb calibration for the BR-266 zircon standard: session 1 (1.15%, n=14); session 2 (1.00%, n=12).
Analytical spot size (approximate): session 1 = 25 microns; session 2 = 12 microns.
* Radiogenic Pb after correction for common Pb using the Broken Hill lead composition.

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