

Figure DR1. Present day configuration of West South Tasman Rise (W-STR) East South Tasman Rise (E-STR) and dredge site DR 27.

PETROGRAPHY AND MINERAL CHEMISTRY OF SOUTH TASMAN RISE DR27 QUARTZ SYENITE

The rock is an undeformed, equigranular, medium-grained alkali feldspar quartz-syenite. Pinkish K-feldspar ($Or_{65}Ab_{31}An_4$) has a diffuse kaoline alteration. Plagioclase is mostly pure albite with a maximum An content of 5%. Zoned plagioclase with An_{29} core is rarely present, and only within K-feldspar. Quartz occurs as subhedral to euhedral grains in graphic intergrowth with feldspar. Mafic silicates are mainly found in aggregates together with opaque minerals. Pyroxene ($Wo_{40}En_{22}Fs_{38}$, Fe/Fe+Mg = 0.61) is an early phase. It is well preserved when included in plagioclase; otherwise it is extensively replaced by amphibole. Amphibole ranges in composition from ferrohorneblende to ferroedenite with rare ferroactinolite rims (Fe/Fe+Mg = 0.65-0.84), and contains up to 1.6 wt.% F and 1 wt.% Cl. Ilmenite (2.8 wt.% Mn), is more abundant than magnetite and titanomagnetite. Apatite and zircon are common accessory phases. Chlorite is a secondary interstitial phase.

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Chemical composition of mineral phases in quartz syenite DR 27. WDS, Electron Microprobe analyses: natural and synthetic standards, 15kV, 15nA, 10 seconds, 5 seconds background. CNR-IGG laboratory, Padova (Italy) AMPHIBOLE

Spot number	1	4	7	8	20	28	29	30	31	37	42	43	44	53	54	55	56
SiO2	43.96	50.46	40.69	42.21	45.16	42.31	42.55	42.06	41.17	46.26	41.17	40.53	40.93	41.88	42.39	43.03	41.15
TiO2	1.33	0.18	1.98	0.96	0.38	1.80	1.66	1.58	1.71	0.71	1.58	1.77	1.59	1.97	1.29	1.77	1.42
AI2O3	5.81	1.09	7.31	5.77	5.63	7.05	6.70	6.91	7.06	3.75	7.04	7.24	6.74	6.99	6.30	6.90	7.38
FeO	28.50	25.98	28.30	28.35	24.92	28.44	27.39	27.66	29.41	25.63	28.04	27.86	26.10	28.42	28.12	27.04	29.73
MnO	0.76	0.66	0.58	0.72	0.83	0.57	0.59	0.61	0.68	0.67	0.74	0.65	0.48	0.61	0.71	0.42	0.60
MgO	5.05	7.30	4.28	4.59	7.29	4.38	5.50	5.26	4.00	7.45	4.55	4.45	6.30	4.03	4.67	5.62	3.57
CaO	10.32	11.26	10.27	10.39	10.91	10.31	10.46	10.28	10.07	9.94	10.36	10.42	10.02	10.26	10.23	10.15	10.05
Na2O	1.90	0.60	2.07	1.73	1.66	1.94	1.94	1.92	1.93	1.44	1.85	1.91	1.92	1.88	1.85	1.95	2.01
K2O	0.78	0.21	1.10	0.93	1.03	1.11	1.02	1.05	1.05	0.61	1.00	1.10	1.07	1.07	1.01	1.11	1.04
F	1.12	0.25	0.92	0.69	1.67	0.72	1.03	0.98	1.04	1.34	1.51	1.14	0.81	0.82	1.06	1.08	0.88
CI	0.26	0.06	0.44	0.78	0.18	0.46	0.41	0.38	0.48	0.36	0.48	0.49	0.38	0.45	0.88	0.39	0.73
	100.77	98.06	97.93	97.13	99.66	99.09	99.26	98.67	98.60	98.17	98.33	97.57	96.34	98.38	98.51	99.46	98.54
Structural formulae based on 23 O																	
Si	6.818	7.712	6.503	6.783	6.949	6.645	6.641	6.597	6.534	7.131	6.565	6.515	6.512	6.648	6.732	6.672	6.555
Al iv	1.063	0.197	1.378	1.092	1.020	1.306	1.233	1.278	1.321	0.682	1.323	1.372	1.264	1.308	1.179	1.261	1.385
Al vi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ti	0.156	0.021	0.238	0.116	0.045	0.213	0.195	0.186	0.204	0.083	0.189	0.214	0.190	0.235	0.154	0.207	0.170
Fe3+	0.837	0.430	0.759	0.799	0.698	0.696	0.808	0.909	0.973	1.055	0.850	0.759	1.106	0.642	0.792	0.804	0.903
Fe2+	2.860	2.891	3.023	3.011	2.508	3.040	2.768	2.719	2.930	2.249	2.890	2.986	2.367	3.129	2.943	2.703	3.058
Mn	0.099	0.086	0.079	0.099	0.108	0.076	0.078	0.081	0.092	0.087	0.100	0.088	0.065	0.083	0.095	0.055	0.081
Mg	1.168	1.664	1.020	1.100	1.672	1.025	1.279	1.230	0.946	1.713	1.083	1.066	1.495	0.954	1.106	1.299	0.848
Ca	1.714	1.844	1.758	1.790	1.798	1.735	1.749	1.727	1.712	1.642	1.771	1.795	1.708	1.745	1.741	1.687	1.716
Na	0.571	0.179	0.640	0.540	0.497	0.591	0.588	0.583	0.593	0.431	0.573	0.596	0.593	0.578	0.571	0.586	0.620
r F	0.154	0.042	0.224	0.190	0.202	0.222	0.203	0.210	0.213	0.120	0.203	0.226	0.216	0.216	0.206	0.219	0.210
	0.547	0.123	0.400	0.349	0.011	0.357	0.510	0.404	0.521	0.052	0.703	0.560	0.405	0.409	0.555	0.520	0.443
OH*	1 385	1 862	1 4 1 6	1 4 3 9	1 141	1 520	1.381	1 4 1 5	1.351	1 254	1 106	1 286	1 4 9 3	1 470	1 230	1.369	1 361
Total	17.439	17.064	17.622	17.520	17.497	17.547	17.540	17.520	17.518	17.193	17.547	17.616	17.517	17.539	17.517	17.492	17.546
Amphibole grou	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca
(Ca+Na) (B)	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Na (B)	0.286	0.156	0.242	0.210	0.202	0.265	0.251	0.273	0.288	0.358	0.229	0.205	0.292	0.255	0.259	0.313	0.284
(Na+K) (A)	0.439	0.064	0.622	0.520	0.497	0.547	0.540	0.520	0.518	0.193	0.547	0.616	0.517	0.539	0.517	0.492	0.546
Mg/(Mg+Fe2)	0.290	0.365	0.252	0.268	0.400	0.252	0.316	0.311	0.244	0.432	0.273	0.263	0.387	0.234	0.273	0.325	0.217
Fe3/(Fe3+Alvi)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Sum of S2	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000	13.000
Fe3/Fe2	0.293	0.149	0.251	0.265	0.278	0.229	0.292	0.334	0.332	0.469	0.294	0.254	0.467	0.205	0.269	0.298	0.295
retot/retot+Mg	0.760	0.666	0.788	0.776	0.657	0.785	0.737	0.747	0.805	0.659	0.775	0.778	0.699	0.798	0.772	0.730	0.824

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FELDSPAR														
spot	9-kf	3-kf	6-Kf_rim	4a-Albi	2-PI rim	2-PI rim	2-PI rim	2-PI rim	2-PI core	2-PI rim	2-Pl rimi-	Albi_core	Plag-core	Plag-rim
SiO ₂	66.37	66.95	67.86	68.72	69.17	68.52	68.74	68.49	69.95	69.65	68.50	68.50	61.06	64.60
Al ₂ O ₃	18.84	19.85	18.49	20.17	19.84	19.69	19.84	19.83	19.66	19.83	19.14	20.60	24.24	21.89
FeO	0.09	0.06	0.07	0.45	0.24	0.19	0.15	0.25	0.00	0.34	0.76	0.08	0.13	0.17
CaO	0.48	0.74	0.04	0.95	0.29	0.33	0.42	0.36	0.19	0.31	0.12	0.90	6.18	3.20
Na₂O	5.88	7.35	4.43	10.98	11.25	11.32	11.54	11.19	11.63	11.37	11.34	10.86	7.73	8.73
K₂O	7.78	5.30	11.07	0.14	0.11	0.12	0.07	0.09	0.05	0.14	0.09	0.58	0.40	0.66
Totale	99.50	100.43	101.98	101.47	100.95	100.25	100.80	100.27	101.66	101.75	100.06	101.61	99.96	99.38
Si	2.994	2.968	3.018	2.967	2.992	2.987	2.982	2.984	3.004	2.993	2.998	2.955	2.720	2.863
AI	1.002	1.037	0.969	1.026	1.011	1.011	1.014	1.018	0.995	1.004	0.987	1.047	1.272	1.143
Fe ²⁺	0.003	0.002	0.003	0.016	0.009	0.007	0.006	0.009	0.000	0.012	0.028	0.003	0.005	0.006
Ca	0.023	0.035	0.002	0.044	0.013	0.015	0.020	0.017	0.009	0.014	0.005	0.042	0.295	0.152
Na	0.514	0.632	0.382	0.919	0.944	0.957	0.970	0.946	0.969	0.947	0.962	0.908	0.668	0.750
к	0.448	0.300	0.628	0.008	0.006	0.006	0.004	0.005	0.003	0.008	0.005	0.032	0.023	0.038
Totale	4.986	4.979	5.002	4.982	4.977	4.988	4.997	4.981	4.983	4.982	4.992	4.990	4.988	4.956
Sito Z	3.999	4.008	3.990	4.010	4.012	4.007	4.003	4.013	4.001	4.010	4.013	4.007	3.999	4.016
Sito X	0.986	0.971	1.012	0.972	0.965	0.981	0.994	0.969	0.982	0.972	0.979	0.983	0.989	0.940
Ab %	52.21	65.38	37.77	94.68	97.97	97.76	97.63	97.71	98.82	97.71	98.90	92.53	67.76	79.84
An %	2.35	3.64	0.18	4.53	1.38	1.58	1.99	1.75	0.88	1.48	0.56	4.24	29.92	16.15
Or %	45.44	30.98	62.05	0.79	0.65	0.66	0.39	0.54	0.30	0.81	0.54	3.23	2.32	4.00

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PYROX	ENE								ILMENI	TE					
	relics in Hbl		well preserve	ed individua	als										
Spot	8-Px_	8-Px2_	9-Cpx1	9-Cpx2	9-Срх3	9-Cpx1bis	9-Cpx4	3-срх	spot	51	33	34	39	40	15
SiO ₂	52.12	51.05	47.83	48.28	49.36	49.48	47.40	50.42	MgO	0.01	0.00	0.01	0.07	0.03	0.03
TiO ₂	0.09	0.21	0.49	0.40	0.41	0.34	0.34	0.29	Al ₂ O ₃	0.00	0.00	0.00	0.16	0.01	0.19
Al ₂ O ₃	0.35	1.14	0.64	0.70	0.61	0.54	0.64	0.77	SiO ₂	0.04	0.04	0.01	0.07	0.07	0.08
Cr ₂ O ₃	0.02	0.02	0.00	0.04	0.00	0.04	0.05	0.00	TiO ₂	51.02	50.85	51.28	37.50	36.34	35.50
FeO	26.39	25.34	22.99	22.39	22.53	21.76	24.45	20.74	Cr ₂ O ₃	0.00	0.00	0.00	0.01	0.05	0.01
Mno	0.78	0.75	0.79	0.98	0.98	0.75	0.95	0.96	Mno	2.84	2.72	2.82	1.87	1.78	1.38
MgO	7.41	7.76	6.90	7.07	7.09	6.99	6.75	7.59	FeO	45.06	45.29	45.58	57.16	59.88	60.01
CaO	12.24	11.30	18.56	19.10	18.33	19.35	17.50	18.49	Totale	98.97	98.90	99.70	96.84	98.16	97.19
Na ₂ O	0.05	0.77	0.32	0.27	0.29	0.25	0.29	0.30	Si	0.001	0.001	0.000	0.002	0.002	0.002
K₂O	0.07	0.18	0.01	0.01	0.01	0.06	0.10	0.05	Ti	0.985	0.983	0.983	0.796	0.770	0.761
Totale	99.52	98.52	98.54	99.24	99.62	99.56	98.48	99.60	AI	0.000	0.000	0.000	0.005	0.000	0.006
Si	2.0572	2.0309	1.9401	1.9407	1.9668	1.9696	1.9358	1.9871	Cr	0.000	0.000	0.000	0.000	0.001	0.000
Ti	0.0027	0.0063	0.0150	0.0120	0.0123	0.0101	0.0106	0.0085	Fe ²⁺	0.967	0.973	0.972	1.349	1.410	1.430
AI	0.0165	0.0533	0.0304	0.0331	0.0284	0.0251	0.0307	0.0356	Fe ³⁺	0.000	0.000	0.000	0.000	0.000	0.000
Cr	0.0005	0.0005	0.0000	0.0012	0.0000	0.0013	0.0015	0.0000	Mn	0.062	0.059	0.061	0.045	0.042	0.033
Fe ²⁺	0.8711	0.8431	0.7798	0.7525	0.7507	0.7245	0.8351	0.6835	Mg	0.000	0.000	0.000	0.003	0.001	0.001
Mn	0.0260	0.0253	0.0272	0.0334	0.0329	0.0253	0.0327	0.0321	Totale	2.014	2.016	2.016	2.199	2.227	2.234
Mg	0.4360	0.4605	0.4175	0.4239	0.4213	0.4147	0.4112	0.4460							
Ca	0.5177	0.4818	0.8067	0.8227	0.7826	0.8254	0.7656	0.7808							
Na	0.0037	0.0591	0.0255	0.0209	0.0227	0.0190	0.0230	0.0231							
K	0.0036	0.0092	0.0006	0.0007	0.0006	0.0031	0.0054	0.0026							
Totale	3.9352	3.9700	4.0427	4.0410	4.0183	4.0181	4.0517	3.9994							
Wo	28.31	26.12	39.75	40.73	39.58	41.61	37.62	40.38							
En	23.84	24.97	20.57	20.99	21.31	20.90	20.21	23.07							
Fs	47.64	45.71	38.42	37.25	37.97	36.53	41.04	35.35							
Acm	0.20	3.20	1.25	1.03	1.15	0.96	1.13	1.20							
N° Mg	33.36	35.33	34.87	36.03	35.95	36.40	32.99	39.48							







Summary of SHRIMP U-Pb zircon results for W-South Tasman Rise sample DR27 syenite.

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Temora 1 was used as the Pb/U reference standard (Black et al., 2003).

The calibration error associated with the measured Pb/U ratio of the standard was 2.8%, 1 sigma (54 standards).

grain	U	Th	Th/U	²⁰⁶ Pb/ ²⁰⁴ Pb	f 206	²⁰⁷ Pb/ ²⁰⁶ Pb	²⁰⁷ Pb/ ²³⁵ U	²⁰⁶ Pb/ ²³⁸ U	Age (Ma)	Age (Ma)
	ppm	ppm		(*)	200				²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²⁰⁶ Pb
401.1	165	73	0.46	21565	0.08	0.0753 ± 0.0011	1.9300 ± 0.0406	0.1860 ± 0.0029	1099.5 ± 15.5	1075.7 ± 29
402.1	204	112	0.57	-176840	-0.01	0.0786 ± 0.0010	1.9456 ± 0.0379	0.1795 ± 0.0027	1064.1 ± 14.7	1162.7 ± 25
403.1	181	83	0.47	-28115	-0.06	$0.0780\ \pm\ 0.0013$	$2.0406 \ \pm \ 0.0479$	$0.1896 \ \pm \ 0.0032$	1119.5 ± 17.5	$1147.8~\pm~~32$
404.1	126	49	0.40	11134	0.15	0.0769 ± 0.0014	$2.0004 \ \pm \ 0.0476$	0.1886 ± 0.0030	1113.9 ± 16.2	1119.1 ± 35
405.1	152	62	0.42	-8547	-0.20	0.0783 ± 0.0011	$2.0203 \ \pm \ 0.0428$	0.1872 ± 0.0029	1106.2 ± 15.7	$1153.8~\pm~~29$
406.1	141	62	0.46	-57066	-0.03	0.0774 ± 0.0012	2.0007 ± 0.0433	0.1874 ± 0.0029	1107.2 ± 15.8	$1132.5~\pm~~30$
407.1	167	62	0.38	-43818	-0.04	0.0793 ± 0.0014	1.9856 ± 0.0472	0.1816 ± 0.0028	1075.5 ± 15.2	1180.1 ± 36
408.1	198	65	0.34	8638	0.20	0.0754 ± 0.0015	1.9530 ± 0.0505	0.1879 ± 0.0030	1110.1 ± 16.3	1078.4 ± 41
409.1	111	40	0.38	1115	0.24	0.0754 ± 0.0016	2.0075 ± 0.0523	0.1931 ± 0.0031	1138.2 ± 16.6	1079.1 ± 41
410.1	110	42	0.30	12204	0.14	0.0703 ± 0.0012	1.9030 ± 0.0400 2.1362 ± 0.0647	0.1005 ± 0.0032 0.1004 \pm 0.0030	1113.0 ± 17.5 1123.3 ± 16.5	1104.2 ± 51
411.1	150	42 64	0.30	-4042 24716	0.04	0.0014 ± 0.0021 0.0757 ± 0.0012	2.1302 ± 0.0047 1 9393 \pm 0 0429	0.1904 ± 0.0030 0.1858 ± 0.0029	1123.3 ± 10.3 1098.7 ± 15.7	1230.8 ± 30 1086.9 ± 32
413.1	323	211	0.44	13591	0.07	0.0737 ± 0.0012 0.0772 + 0.0010	2.0607 ± 0.0398	0.1030 ± 0.0029 0.1935 + 0.0029	1030.7 ± 15.7 1140.3 + 15.4	1000.9 ± 32 1127.4 + 25
414 1	179	86	0.50	7747	0.72	0.0762 ± 0.0012	1.9877 ± 0.0431	0.1892 ± 0.0029	1117.0 ± 15.0	1127.1 ± 20 1100.1 ± 31
415.1	150	69	0.48	30727	0.06	0.0749 ± 0.0012	1.9246 ± 0.0428	0.1863 ± 0.0029	1101.4 ± 15.7	1066.2 ± 32
416.1	155	67	0.45	-23500	-0.07	0.0788 ± 0.0011	2.0472 ± 0.0433	0.1884 ± 0.0029	1112.5 ± 15.8	1167.8 ± 29
417.1	170	78	0.48	-10125	-0.17	0.0780 ± 0.0011	1.9225 ± 0.0431	0.1787 ± 0.0030	1060.1 ± 16.6	1147.1 ± 29
418.1	117	42	0.37	7932	0.21	0.0746 ± 0.0015	1.9637 ± 0.0494	0.1909 ± 0.0030	1126.1 ± 16.4	1058.1 ± 39
419.1	150	65	0.45	-11068	-0.15	0.0772 ± 0.0012	2.0392 ± 0.0440	0.1916 ± 0.0030	1130.1 ± 16.1	1126.0 ± 30
420.1	144	60	0.43	20893	0.08	0.0734 ± 0.0012	1.9052 ± 0.0423	0.1883 ± 0.0029	1112.3 ± 15.9	$1024.2~\pm~32$
421.1	186	86	0.48	17537	0.10	0.0754 ± 0.0012	1.9675 ± 0.0432	0.1893 ± 0.0029	1117.7 ± 15.7	1078.5 ± 32
422.1	150	63	0.44	17081	0.10	$0.0775~\pm~0.0012$	$2.0774~\pm~0.0460$	$0.1943 \ \pm \ 0.0031$	1144.6 ± 16.7	1135.2 ± 31
423.1	130	57	0.45	65823	0.03	$0.0755~\pm~0.0013$	1.9178 ± 0.0438	$0.1843 \ \pm \ 0.0029$	1090.6 ± 15.7	1080.7 ± 33
424.1	170	75	0.46	-8573	-0.20	$0.0770~\pm~0.0019$	2.0438 ± 0.0621	$0.1926~\pm~0.0034$	1135.4 ± 18.1	$1120.3~\pm~50$
425.1	142	57	0.42	5450	0.31	0.0757 ± 0.0017	1.9373 ± 0.0528	0.1855 ± 0.0030	1096.9 ± 16.3	$1088.3~\pm~44$
426.1	179	79	0.46	22724	0.07	0.0763 ± 0.0012	1.9455 ± 0.0421	0.1850 ± 0.0029	1094.3 ± 15.6	$1102.0~\pm~~30$
427.1	169	76	0.46	7248	0.24	0.0731 ± 0.0012	1.8288 ± 0.0408	0.1815 ± 0.0028	1075.3 ± 15.4	$1015.8~\pm~33$
428.1	129	44	0.35	16097	0.11	0.0756 ± 0.0014	1.8122 ± 0.0437	0.1740 ± 0.0028	1033.9 ± 15.2	1083.2 ± 36
429.1	244	117	0.50	-221924	-0.01	0.0767 ± 0.0009	2.0101 ± 0.0391	0.1901 ± 0.0029	1122.2 ± 15.5	1112.7 ± 25
431.1	207	84	0.42	1527	1.10	0.0788 ± 0.0029	1.9719 ± 0.0791	0.1814 ± 0.0029	1074.6 ± 15.7	1168.2 ± 73
432.1	166	66	0.41	16673	0.10	0.0786 ± 0.0014	1.9743 ± 0.0470	0.1821 ± 0.0029	1078.3 ± 15.7	1163.3 ± 35
433.1	137	58	0.44	10086	0.17	0.0758 ± 0.0015	1.9539 ± 0.0500	0.1871 ± 0.0030	1105.5 ± 16.4	1088.5 ± 40
434.1	117	51	0.45	17550	0.10	0.0791 ± 0.0015	2.0254 ± 0.0502	0.1856 ± 0.0030	1097.7 ± 16.4	1175.5 ± 37
435.1	174	00 70	0.39	27500	0.31	0.0746 ± 0.0016	1.7510 ± 0.0474	0.1703 ± 0.0029	1013.0 ± 10.2	1057.9 ± 42
430.1	1/0	79	0.47	37509	0.05	0.0751 ± 0.0012	1.8052 ± 0.0414 1.0299 ± 0.0437	0.1801 ± 0.0028 0.1911 ± 0.0028	1007.8 ± 15.3 1073.0 ± 15.5	1071.1 ± 32 11276 ± 32
437.1	163	73	0.44	15627	0.07	0.0772 ± 0.0013 0.0775 ± 0.0013	1.9200 ± 0.0437 1.9201 + 0.0460	0.1811 ± 0.0028 0.1865 ± 0.0029	1073.0 ± 15.0 1102.6 ± 15.0	1127.0 ± 33 1134.8 ± 34
430.1	210	105	0.50	158103	0.01	0.0773 ± 0.0013 0.0761 + 0.0011	1.9341 ± 0.0403	0.1850 ± 0.0023	102.0 ± 15.0	1098.6 ± 28
440 1	172	77	0.00	-23557	-0.07	0.0773 ± 0.0012	1.9470 ± 0.0405 1.9634 + 0.0435	0.1843 ± 0.0029	1094.0 ± 15.4	1030.0 ± 20 1128.4 ± 31
441.1	195	95	0.50	85501	0.02	0.0762 ± 0.0012	1.9586 ± 0.0423	0.1864 ± 0.0029	1000.0 ± 10.7 1101.6 ± 15.7	1101.0 ± 30
442.1	201	94	0.48	145730	0.01	0.0764 ± 0.0011	1.9888 ± 0.0420	0.1889 ± 0.0029	1115.4 ± 15.8	1104.4 ± 29
443.1	162	74	0.47	11000	0.15	0.0764 ± 0.0013	1.9514 ± 0.0449	0.1853 ± 0.0029	1095.8 ± 15.8	1105.2 ± 34
444.1	204	61	0.31	71030	0.02	0.0770 ± 0.0011	1.9540 ± 0.0439	0.1841 ± 0.0032	1089.3 ± 17.3	1120.6 ± 29
445.1	132	53	0.41	7418	0.23	0.0724 ± 0.0013	1.8828 ± 0.0449	0.1887 ± 0.0030	1114.4 ± 16.2	996.1 ± 36
446.1	208	101	0.50	9318	0.18	0.0759 ± 0.0010	1.9480 ± 0.0399	0.1861 ± 0.0028	1100.2 ± 15.3	1092.9 ± 28
447.1	171	45	0.27	-10123	-0.17	0.0781 ± 0.0014	1.9845 ± 0.0475	0.1842 ± 0.0028	1090.0 ± 15.4	1150.1 ± 36
448.1	259	123	0.49	47231	0.04	$0.0755~\pm~0.0011$	1.9577 ± 0.0409	$0.1880\ \pm\ 0.0029$	1110.8 ± 15.5	$1082.0~\pm~~29$
449.1	203	68	0.35	-15630	-0.11	$0.0773~\pm~0.0011$	1.9612 ± 0.0414	$0.1840\ \pm\ 0.0028$	1088.6 ± 15.2	$1129.5~\pm~29$
450.1	142	57	0.42	-34118	-0.05	$0.0794~\pm~0.0016$	2.0318 ± 0.0514	$0.1856~\pm~0.0029$	1097.7 ± 15.8	$1181.6~\pm~~39$
451.1	199	70	0.36	108503	0.02	$0.0774~\pm~0.0010$	$2.0147 ~\pm~ 0.0405$	0.1887 ± 0.0029	1114.5 ± 15.5	1132.2 ± 26
452.1	146	60	0.42	-5393	-0.31	0.0793 ± 0.0018	$2.0423 \ \pm \ 0.0567$	0.1869 ± 0.0029	1104.4 ± 16.0	$1178.8~\pm~45$
453.1	247	110	0.46	116097	0.01	$0.0756~\pm~0.0009$	$1.9362 \ \pm \ 0.0372$	$0.1856 \ \pm \ 0.0028$	1097.7 ± 15.1	1085.7 ± 24
454.1	148	69	0.48	-25621	-0.07	0.0764 ± 0.0011	1.9982 ± 0.0432	0.1897 ± 0.0029	1119.6 ± 16.0	1105.6 ± 30
455.1	207	72	0.36	-19724	-0.09	0.0788 ± 0.0010	2.0841 ± 0.0410	0.1919 ± 0.0029	1131.7 ± 15.7	1166.3 ± 25
456.1	373	220	0.61	27936	0.06	0.0763 ± 0.0008	1.9741 ± 0.0366	0.1878 ± 0.0029	1109.2 ± 15.8	1101.7 ± 20
457.1	174	81	0.48	-6304	-0.27	0.0803 ± 0.0016	1.9708 ± 0.0500	0.1779 ± 0.0027	1055.6 ± 15.0	1205.3 ± 40
458.1	129	51	0.41	-9937	-0.17	0.0793 ± 0.0015	2.0400 ± 0.0505	0.1871 ± 0.0030	1105.9 ± 16.1	1180.1 ± 37
459.1	144	61	U.44	-6/84	-0.25	0.0779 ± 0.0012	∠.U30U ± U.U451	0.1095 ± 0.0030	1110.7 ± 10.1	1144.9 ± 31

(*) 204 overcount correction applied	Mean age of coherent group (N=56)	1119.9
	age error (95% conf.)	8.5
Errors are 1 sigma	MSWD	1.22
	Probability	0.12
The data were processed using Squid (Ludwig, 2002) program		

Ludwig, K.R., 2002, SQUID1.02, a user's manual: Berkeley Geochronology Center Special Publication No. 2.

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