

Table S1 (geochemical data)

Sample	Lat	Long	Structure	on bottom mbsl	off bottom mbsl	Age (Ma) ± 2σ	Chemical Group	Analyzed Material	Trace Elements Method	LOI g/100g
SO255-DR32-1	-34.25	179.51	cliff	2990	2537		depleted KR	whole rock	ICP-MS	1.41
SO255-DR32-8	-34.25	179.51	cliff	2990	2537		depleted KR	whole rock	ICP-MS	<a href="#">1.93</a>
SO255-DR47-1	-29.78	-176.44	step	8106	7737		depleted KR	whole rock	ICP-MS	1.30
SO255-DR47-2	-29.78	-176.44	step	8106	7737		depleted KR	whole rock	ICP-MS	5.29
SO255-DR47-3	-29.78	-176.44	step	8106	7737		depleted KR	whole rock	ICP-MS	6.01
SO255-DR52-1	-29.87	-178.33	step	1608	1100		depleted KR	whole rock	ICP-MS	8.62
SO255-DR62-1	-28.44	-177.66	step	1512	1161		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR62-5	-28.44	-177.66	step	1512	1161		depleted KR	whole rock	ICP-MS	0.97
SO255-DR62-6	-28.44	-177.66	step	1512	1161		depleted KR	whole rock	ICP-MS	0.00
SO255-DR63-1	-28.12	-177.73	smt	2204	1770		depleted KR	whole rock	ICP-MS	0.83
SO255-DR63-2	-28.12	-177.73	smt	2204	1770		depleted KR	whole rock	ICP-MS	0.90
SO255-DR63-3	-28.12	-177.73	smt	2204	1770		depleted KR	whole rock	ICP-MS	0.98
SO255-DR63-4	-28.12	-177.73	smt	2204	1770		depleted KR	whole rock	ICP-MS	0.80
SO255-DR63-5	-28.12	-177.73	smt	2204	1770		depleted KR	whole rock	ICP-MS	0.74
SO255-DR125-1	-31.03	-178.74	smt	883	504		depleted KR	whole rock	ICP-MS	0.00
SO255-DR125-6	-31.03	-178.74	smt	883	504		depleted KR	whole rock	ICP-MS	0.15
SO255-DR128-1	-31.78	-179.04	smt	2314	1933		depleted KR	whole rock	ICP-MS	0.04
SO255-DR128-5	-31.78	-179.04	smt	2314	1933		depleted KR	whole rock	ICP-MS	0.79
SO255-DR129-1	-31.80	-179.04	smt	1716	1325		depleted KR	whole rock	ICP-MS	0.00
SO255-DR129-10	-31.80	-179.04	smt	1716	1325		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR129-12	-31.80	-179.04	smt	1716	1325		depleted KR	whole rock	ICP-MS	0.00
SO255-DR129-20	-31.80	-179.04	smt	1716	1325		depleted KR	whole rock	ICP-MS	0.16
SO255-DR130-1	-31.68	-179.02	smt	2395	2091		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR130-2	-31.68	-179.02	smt	2395	2091		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR130-3	-31.68	-179.02	smt	2395	2091		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR130-4	-31.68	-179.02	smt	2395	2091		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR131-1	-31.86	-179.06	basin	2040	1730		depleted KR	whole rock	ICP-MS	0.53
SO255-DR131-2	-31.86	-179.06	basin	2040	1730		depleted KR	whole rock	ICP-MS	0.48
SO255-DR131-3	-31.86	-179.06	basin	2040	1730		depleted KR	whole rock	ICP-MS	0.47
SO255-DR132-2	-31.98	-179.11	ridge	1010	1635		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR132-4	-31.98	-179.11	ridge	1010	1635		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR132-5	-31.98	-179.11	ridge	1010	1635		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR133-1	-32.09	-179.26	smt	2230	1830		depleted KR	whole rock	ICP-MS	0.21
SO255-DR133-4	-32.09	-179.26	smt	2230	1830		depleted KR	whole rock	ICP-MS	0.13
SO255-DR134-1	-32.30	-179.29	ridge	2954	2753		depleted KR	whole rock	ICP-MS	0.62
SO255-DR134-6	-32.30	-179.29	ridge	2954	2753		depleted KR	whole rock	ICP-MS	0.00
SO255-DR135-1	-32.33	-179.29	ridge	2275	1961		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR135-4	-32.33	-179.29	ridge	2275	1961		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR135-6	-32.33	-179.29	ridge	2275	1961		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR135-7	-32.33	-179.29	ridge	2275	1961		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR135-10	-32.33	-179.29	ridge	2275	1961		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR176-1	-33.87	179.82	smt	2147	1896		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR176-2	-33.87	179.82	smt	2147	1896		depleted KR	volcanic glass	LA-ICP-MS	n.d.
SO255-DR176-2	-33.87	179.82	smt	2147	1896		depleted KR	whole rock	ICP-MS	0.05
SO255-DR176-3	-33.87	179.82	smt	2147	1896		depleted KR	whole rock	ICP-MS	0.23
SO255-DR176-4	-33.87	179.82	smt	2147	1896		depleted KR	whole rock	ICP-MS	0.30
SO255-DR30-2	-34.55	179.48	cliff	2235	1720		enriched KR	whole rock	ICP-MS	<a href="#">1.93</a>
SO255-DR30-4	-34.55	179.48	cliff	2235	1720	4.41 ± 0.35**	enriched KR	whole rock	ICP-MS	<a href="#">0.78</a>
SO255-DR31-1	-34.49	179.48	cliff	2670	2330		enriched KR	whole rock	ICP-MS	<a href="#">1.39</a>
SO255-DR31-3	-34.49	179.48	cliff	2670	2330		enriched KR	whole rock	ICP-MS	<a href="#">0.75</a>
SO255-DR35-2	-34.35	179.61	cliff	1739	1459		enriched KR	whole rock	ICP-MS	2.06
SO255-DR35-4	-34.35	179.61	cliff	1739	1459		enriched KR	whole rock	ICP-MS	2.12
SO255-DR35-6	-34.35	179.61	cliff	1739	1459		enriched KR	whole rock	ICP-MS	<a href="#">2.02</a>
SO255-DR35-9	-34.35	179.61	cliff	1739	1459		enriched KR	whole rock	ICP-MS	<a href="#">1.28</a>
SO255-DR54-2	-29.83	-178.29	step	1477	1165		enriched KR	whole rock	ICP-MS	1.06
SO255-DR54-3Clast1	-29.83	-178.29	step	1477	1165		enriched KR	whole rock	ICP-MS	3.38
SO255-DR54-3Clast2	-29.83	-178.29	step	1477	1165		enriched KR	whole rock	ICP-MS	3.50
SO255-DR126-1	-31.61	-178.87	scarp	1217	872		enriched KR	whole rock	ICP-MS	0.65
SO255-DR126-4	-31.61	-178.87	scarp	1217	872		enriched KR	whole rock	ICP-MS	1.90
SO255-DR136-1	-32.36	-179.22	ridge	1180	972		enriched KR	whole rock	ICP-MS	2.99
SO255-DR136-3	-32.36	-179.22	ridge	1180	972		enriched KR	whole rock	ICP-MS	3.04
SO255-DR137-1	-32.78	-179.51	ridge	2481	2052		enriched KR	whole rock	ICP-MS	7.27
SO255-DR137-2	-32.78	-179.51	ridge	2481	2052		enriched KR	whole rock	ICP-MS	6.26
SO255-DR138-1	-32.83	-179.51	ridge	1888	1473		enriched KR	whole rock	ICP-MS	2.39
SO255-DR138-9	-32.83	-179.51	ridge	1888	1473		enriched KR	whole rock	ICP-MS	3.79
SO255-DR139-2	-32.93	-179.53	ridge	995	633	4.6 ± 1.6**	enriched KR	whole rock	ICP-MS	<a href="#">0.94</a>
SO255-DR139-8	-32.93	-179.53	ridge	995	633		enriched KR	whole rock	ICP-MS	<a href="#">1.48</a>
SO255-DR139-12	-32.93	-179.53	ridge	995	633		enriched KR	whole rock	ICP-MS	<a href="#">2.25</a>
SO255-DR139-15	-32.93	-179.53	ridge	995	633		enriched KR	whole rock	ICP-MS	1.16
SO255-DR139-16	-32.93	-179.53	ridge	995	633		enriched KR	whole rock	ICP-MS	5.16
SO255-DR139-17	-32.93	-179.53	ridge	995	633		enriched KR	whole rock	ICP-MS	2.56
SO255-DR178-2	-34.17	179.76	smt	1200	838		enriched KR	whole rock	ICP-MS	0.78
SO255-DR178-3	-34.17	179.76	smt	1200	838		enriched KR	whole rock	ICP-MS	5.70
SO255-DR179-1	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	2.49
SO255-DR179-5	-34.22	179.71	ridge	1106	738	4.8 ± 1.2**	enriched KR	whole rock	ICP-MS	1.50
SO255-DR179-8	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	0.51
SO255-DR179-12	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	0.94
SO255-DR179-14	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	0.75
SO255-DR179-15	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	2.25
SO255-DR179-16	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	0.61
SO255-DR179-17	-34.22	179.71	ridge	1106	738		enriched KR	whole rock	ICP-MS	0.38
SO255-DR76-1	-28.02	-179.77	smt	1018	877		depleted CR	whole rock	ICP-MS	1.87

Sample	Lat	Long	Structure	on bottom mbsl	off bottom mbsl	Age (Ma) ± 2σ	Chemical Group	Analyzed Material	Trace Elements Method	LOI g/100g
SO255-DR76-2	-28.02	-179.77	smt	1018	877	16.68 ± 0.10*	depleted CR	whole rock	ICP-MS	0.72
SO255-DR76-3	-28.02	-179.77	smt	1018	877		depleted CR	whole rock	XRF	2.64
SO255-DR78-1A	-28.50	-179.60	smt	1372	1002		depleted CR	whole rock	ICP-MS	4.36
SO255-DR78-1BClastl	-28.50	-179.60	smt	1372	1002		depleted CR	whole rock	ICP-MS	9.21
SO255-DR78-1BClastll	-28.50	-179.60	smt	1372	1002		depleted CR	whole rock	XRF	9.63
TAN1611-DR017A	-32.81	178.70	smt	1160	1130		depleted CR	whole rock	ICP-MS	3.75
TAN1611-DR017B	-32.81	178.70	smt	1160	1130		depleted CR	whole rock	XRF	4.05
P49127*	-35.06	177.49	ridge	832	832		depleted CR	whole rock	ICP-MS	2.94
SO255-DR4-1	-34.00	178.28	ridge	1811	1298		enriched CR	whole rock	ICP-MS	1.71
SO255-DR4-3	-34.00	178.28	ridge	1811	1298		enriched CR	whole rock	XRF	2.38
SO255-DR4-12	-34.00	178.28	ridge	1811	1298		enriched CR	whole rock	NP-ICP-MS	2.15
SO255-DR4-13	-34.00	178.28	ridge	1811	1298		enriched CR	whole rock	NP-ICP-MS	2.21
SO255-DR5-1	-33.94	178.24	ridge	2280	1875		enriched CR	whole rock	ICP-MS	0.57
SO255-DR5-4	-33.94	178.24	ridge	2280	1875		enriched CR	whole rock	XRF	11.7
SO255-DR5-6	-33.94	178.24	ridge	2280	1875		enriched CR	whole rock	XRF	1.85
SO255-DR85-1	-30.22	179.29	smt	1200	755		enriched CR	whole rock	ICP-MS	2.36
SO255-DR85-2	-30.22	179.29	smt	1200	755		enriched CR	whole rock	ICP-MS	7.44
SO255-DR89-1	-29.59	-179.77	smt	1013	844		enriched CR	whole rock	ICP-MS	3.81
SO255-DR89-3	-29.59	-179.77	smt	1013	844		enriched CR	whole rock	XRF	8.16
SO255-DR89-4	-29.59	-179.77	smt	1013	844		enriched CR	whole rock	XRF	5.93
SO255-DR93-1	-28.95	-179.91	ridge	1369	995		enriched CR	whole rock	ICP-MS	0.52
SO255-DR93-2	-28.95	-179.91	ridge	1369	995		enriched CR	whole rock	XRF	0.54
SO255-DR97-1	-28.59	-179.69	ridge	1210	1013		enriched CR	whole rock	ICP-MS	1.70
SO255-DR97-4	-28.59	-179.69	ridge	1210	1013		enriched CR	whole rock	ICP-MS	1.46
SO255-DR97-8	-28.59	-179.69	ridge	1210	1013		enriched CR	whole rock	XRF	2.30
SO255-DR98-1	-28.57	-179.67	ridge	1034	710		enriched CR	whole rock	ICP-MS	5.06
SO255-DR98-2	-28.57	-179.67	ridge	1034	710		enriched CR	whole rock	ICP-MS	3.06
SO255-DR98-3	-28.57	-179.67	ridge	1034	710		enriched CR	whole rock	XRF	14.80
SO255-DR99-1	-28.53	-179.60	smt	1217	1097		enriched CR	whole rock	ICP-MS	8.38
SO255-DR99-2	-28.53	-179.60	smt	1217	1097		enriched CR	whole rock	XRF	8.43
SO255-DR99-3	-28.53	-179.60	smt	1217	1097		enriched CR	whole rock	ICP-MS	8.92
SO255-DR101-1A	-28.55	-179.65	smt	879	708		enriched CR	whole rock	ICP-MS	7.45
SO255-DR101-1B	-28.55	-179.65	smt	879	708		enriched CR	whole rock	ICP-MS	7.62
SO255-DR101-2	-28.55	-179.65	smt	879	708		enriched CR	whole rock	ICP-MS	8.92
SO255-DR155-1	-31.88	179.37	ridge	2540	2120		enriched CR	whole rock	ICP-MS	8.37
SO255-DR156-1AClastl	-31.89	179.35	ridge	2060	1860		enriched CR	whole rock	XRF	2.45
SO255-DR156-1AClastll	-31.89	179.35	ridge	2060	1860		enriched CR	whole rock	ICP-MS	1.36
SO255-DR156-1AClastlll	-31.89	179.35	ridge	2060	1860		enriched CR	whole rock	ICP-MS	1.81
SO255-DR156-1BClastl	-31.89	179.35	ridge	2060	1860		enriched CR	whole rock	ICP-MS	2.94
SO255-DR156-1BClastll	-31.89	179.35	ridge	2060	1860		enriched CR	whole rock	XRF	3.19
SO255-DR158-1	-31.91	179.33	ridge	3390	2980		enriched CR	whole rock	ICP-MS	3.04
SO255-DR158-2	-31.91	179.33	ridge	3390	2980		enriched CR	whole rock	ICP-MS	2.49
SO255-DR159-1	-31.96	179.26	ridge	3439	3101		enriched CR	whole rock	ICP-MS	3.36
TAN1611-DR05A	-31.82	179.42	smt	1209	1135		enriched CR	whole rock	ICP-MS	0.82
TAN1611-DR06A	-31.86	179.38	smt	834	760		enriched CR	whole rock	ICP-MS	2.17
TAN1611-DR06B	-31.86	179.38	smt	834	760		enriched CR	whole rock	XRF	2.84
TAN1611-DR06C	-31.86	179.38	smt	834	760		enriched CR	whole rock	XRF	2.30
TAN1611-DR08B	-32.10	179.18	smt	1200	1167		enriched CR	whole rock	ICP-MS	1.97
SO255-DR2-1	-33.56	177.89	smt	2540	2180		intraplate CR	whole rock	ICP-MS	2.82
SO255-DR2-3	-33.56	177.89	smt	2540	2180		intraplate CR	whole rock	XRF	4.36
SO255-DR2-4	-33.56	177.89	smt	2540	2180		intraplate CR	whole rock	ICP-MS	1.25
SO255-DR3-1Clastl	-33.56	177.93	smt	2148	1900		intraplate CR	whole rock	ICP-MS	n.d.
SO255-DR3-1Clastll	-33.56	177.93	smt	2148	1900		intraplate CR	whole rock	ICP-MS	n.d.
SO255-DR3-2	-33.56	177.93	smt	2148	1900		intraplate CR	whole rock	ICP-MS	2.24
TAN1611-DR01A	-31.42	179.44	smt	1370	1100		intraplate CR	whole rock	ICP-MS	0.59
TAN1611-DR01B	-31.42	179.44	smt	1370	1100		intraplate CR	whole rock	XRF	1.13
TAN1611-DR01C	-31.42	179.44	smt	1370	1100		intraplate CR	whole rock	ICP-MS	1.10
TAN1611-DR02A	-31.44	179.50	smt	1452	1249		intraplate CR	whole rock	ICP-MS	0.07
TAN1611-DR02B	-31.44	179.50	smt	1452	1249		intraplate CR	whole rock	XRF	0.19
TAN1611-DR02C	-31.44	179.50	smt	1452	1249		intraplate CR	whole rock	XRF	0.08

Sample	Li	Sc	V	Cr	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
SO255-DR32-1	11.9	42.8	351	136	35.5	32.6	140	77.5	16.6	18.2	320	19.3	60.1	0.868	0.722	302	6.32	15.0
SO255-DR32-8	14.7	31.5	347	23.1	29.7	18.7	160	76.6	17.8	11.3	318	19.4	47.7	0.770	0.586	322	6.09	13.4
SO255-DR47-1	4.11	51.0	550	51.6	42.5	24.2	259	105	18.4	10.2	350	23.9	57.8	0.715	0.227	270	5.85	13.3
SO255-DR47-2	8.67	55.7	749	38.3	46.6	24.5	226	123	17.6	13.0	549	26.1	70.7	0.941	0.236	182	8.08	18.2
SO255-DR47-3	4.27	34.4	401	35.9	30.4	17.6	194	78.1	15.5	12.3	482	18.0	43.0	0.590	0.195	153	4.05	9.79
SO255-DR52-1	25.3	36.9	261	303	43.6	170	64.4	84.6	13.1	6.61	363	24.9	52.1	1.81	0.078	92.5	9.58	18.0
SO255-DR62-1	6.92	42.8	458	37.1	40.8	16.8	300	133	17.2	9.42	186	23.3	49.5	0.560	0.550	174	3.44	10.2
SO255-DR62-5	13.7	45.9	427	48.4	39.9	19.5	201	101	18.0	5.30	238	22.6	49.2	0.473	0.341	103	3.17	8.62
SO255-DR62-6	9.33	51.5	527	8.30	49.4	20.0	144	121	18.4	7.01	225	29.0	67.8	0.618	0.353	172	3.78	10.6
SO255-DR63-1	6.53	8.24	11.0	5.39	2.49	0.418	3.66	68.2	16.5	17.3	241	34.7	132	1.15	0.493	288	7.12	18.8
SO255-DR63-2	11.1	9.09	12.8	5.49	3.01	1.03	3.83	75.4	17.1	22.2	252	36.0	138	1.21	0.732	306	7.26	19.3
SO255-DR63-3	8.16	8.12	13.3	5.15	2.73	2.85	4.15	67.3	16.3	19.4	244	36.5	127	1.18	0.902	290	7.36	19.4
SO255-DR63-4	6.86	8.18	10.7	5.03	2.53	0.432	4.63	61.9	15.7	17.0	240	35.6	121	1.13	0.633	284	7.12	18.7
SO255-DR63-5	6.88	7.39	10.3	5.34	2.43	0.521	4.91	63.7	16.3	18.6	243	36.0	124	1.17	0.599	292	7.23	19.1
SO255-DR125-1	5.88	42.7	376	21.9	40.0	16.3	162	86.4	18.0	6.85	229	20.3	44.1	0.527	0.420	133	3.64	8.95
SO255-DR125-6	6.73	41.5	372	12.7	37.4	10.8	148	87.6	17.1	7.92	209	22.6	44.8	0.573	0.493	147	4.07	10.1
SO255-DR128-1	5.57	46.9	296	221	36.3	61.5	95.6	62.1	13.3	2.86	114	14.4	22.4	0.141	0.408	61.0	0.666	2.33
SO255-DR128-5	6.50	49.0	292	175	40.0	48.9	102	66.7	13.3	2.12	110	14.8	23.5	0.138	0.327	40.0	0.660	2.35
SO255-DR129-1	2.48	61.6	208	1558	54.8	234	31.7	43.0	6.3	1.01	46.4	8.06	10.8	0.077	0.127	19.6	0.306	1.11
SO255-DR129-10	6.37	32.6	301	9.26	40.2	27.8	166	100	15.2	14.9	241	16.2	42.3	0.735	0.658	353	5.67	13.2
SO255-DR129-12	5.39	42.7	305	65.2	36.1	36.3	149	74.1	14.4	4.31	173	16.7	30.8	0.396	0.397	89.0	2.09	5.54
SO255-DR129-20	9.02	51.2	306	89.7	40.7	43.2	113	68.3	13.7	1.43	125	16.2	29.1	0.197	0.124	58.6	0.902	3.14
SO255-DR130-1	5.59	54.3	400	26.0	41.2	13.3	249	113	15.9	3.92	111	20.3	33.4	0.185	0.574	76.8	1.05	3.61
SO255-DR130-2	5.67	47.7	389	11.5	41.5	13.1	235	110	15.7	4.18	118	18.8	31.5	0.187	0.590	78.8	1.06	3.64
SO255-DR130-3	5.68	48.0	403	13.6	43.2	14.4	240	114	15.4	4.02	112	18.5	30.9	0.187	0.602	79.4	1.07	3.72
SO255-DR130-4	5.79	46.5	389	11.7	40.4	12.2	245	115	15.6	4.47	116	19.9	33.4	0.199	0.638	87.8	1.15	3.90
SO255-DR131-1	5.56	47.5	326	66.6	36.7	34.4	120	72.7	14.0	4.81	134	15.8	27.1	0.230	0.418	97.0	1.22	3.56
SO255-DR131-2	4.78	45.9	297	69.5	36.8	37.6	110	71.7	13.9	4.61	127	15.1	25.5	0.236	0.395	88.3	1.13	3.34
SO255-DR131-3	5.71	49.6	321	72.7	35.8	33.5	105	71.6	14.0	4.98	135	15.3	25.3	0.237	0.408	89.4	1.15	3.38
SO255-DR132-2	4.67	48.4	337	52.0	44.1	28.7	161	101	15.0	7.09	187	18.9	38.1	0.440	0.361	152	2.75	7.25
SO255-DR132-4	5.98	37.8	382	7.07	34.7	10.4	222	113	16.8	7.16	175	21.5	47.9	0.545	0.439	160	2.73	7.77
SO255-DR132-5	4.19	44.6	324	43.1	44.7	35.7	147	90.4	14.5	6.77	179	16.0	31.6	0.413	0.350	141	2.45	6.60
SO255-DR133-1	5.43	41.0	340	28.3	35.8	25.9	90.5	75.0	15.7	3.43	150	16.6	29.4	0.188	0.338	74.6	1.10	3.58
SO255-DR133-4	4.50	45.9	285	41.3	41.9	151	92.2	63.0	12.8	2.26	110	13.9	22.2	0.124	0.275	53.6	0.693	2.44
SO255-DR134-1	8.01	42.6	342	31.0	35.2	34.9	93.1	75.7	15.5	3.09	195	15.6	29.1	0.215	0.280	85.3	1.17	3.41
SO255-DR134-6	6.51	40.5	318	59.2	35.8	46.5	56.3	73.5	15.6	1.71	192	16.9	26.3	0.236	0.117	78.7	1.37	3.71
SO255-DR135-1	7.05	50.9	427	7.62	34.2	12.9	200	116	14.9	4.80	139	25.9	45.7	0.254	0.392	132	1.42	4.75
SO255-DR135-4	6.90	48.6	421	9.40	35.8	13.6	201	116	15.9	4.91	122	23.8	41.6	0.243	0.417	121	1.33	4.37
SO255-DR135-6	6.71	49.9	547	11.9	36.7	8.63	267	137	17.3	4.61	191	24.4	43.2	0.308	0.414	143	1.95	5.96
SO255-DR135-7	6.13	49.6	501	21.0	38.9	9.84	238	127	16.8	3.84	191	20.8	35.0	0.231	0.392	126	1.61	4.94
SO255-DR135-10	5.92	52.8	508	27.4	38.2	9.48	236	126	16.5	3.72	189	20.7	34.4	0.230	0.385	123	1.57	4.76
SO255-DR176-1	6.65	43.7	377	8.76	45.3	14.7	195	127	15.5	11.9	272	18.7	47.9	0.854	0.369	343	4.38	10.4
SO255-DR176-2	7.21	43.1	392	5.92	44.0	13.1	210	125	15.9	13.3	280	19.7	52.0	0.887	0.418	363	4.69	11.1
SO255-DR176-2	6.75	46.2	350	53.3	46.2	31.0	137	78.1	15.4	9.70	314	17.2	44.5	0.713	0.335	304	3.84	9.13
SO255-DR176-3	6.81	48.5	361	31.1	44.8	22.8	129	75.9	14.9	7.83	275	16.7	40.5	0.576	0.338	244	2.79	7.11
SO255-DR176-4	6.59	43.0	322	26.8	44.1	25.4	139	77.2	15.3	9.39	299	16.7	44.1	0.711	0.322	292	3.74	8.89
SO255-DR30-2	7.88	29.5	267	16.3	22.7	7.9	80.4	89.4	16.8	15.5	275	38.5	74.0	1.34	0.492	386	5.31	12.7
SO255-DR30-4	8.79	33.9	288	30.6	30.1	13.1	72.2	84.6	16.3	15.5	245	24.9	81.3	1.20	0.525	455	5.51	12.6
SO255-DR31-1	11.8	27.9	337	33.1	29.2	16.1	150	80.3	17.7	10.4	343	19.2	53.1	0.903	0.337	347	3.66	8.87
SO255-DR31-3	6.29	43.6	378	149	37.3	32.9	131	82.1	16.6	9.94	321	18.5	54.3	0.815	0.319	320	3.35	7.95
SO255-DR35-2	17.2	37.4	369	13.9	28.3	10.0	145	102	21.9	7.96	449	32.0	90.0	1.40	0.407	481	11.7	25.2
SO255-DR35-4	17.5	37.9	385	14.1	28.3	10.7	105	106	22.6	12.4	443	31.0	91.7	1.43	0.340	641	11.7	25.2
SO255-DR35-6	17.2	36.6	367	14.1	28.5	11.0	143	104	21.7	13.0	440	30.5	90.4	1.40	0.348	630	11.5	24.9
SO255-DR35-9	30.4	16.3	62.5	4.79	7.16	1.75	18.5	80.7	17.3	37.3	257	37.9	150	2.35	0.627	920	14.9	33.5
SO255-DR54-2	18.8	47.6	544	19.5	31.1	13.4	98.4	98.6	23.6	15.5	392	52.2	70.9	0.95	0.096	381	15.4	27.8
SO255-DR54-3Clast1	23.0	46.8	499	14.4	34.8	16.0	155	104	17.7	12.7	339	38.8	70.1	0.668	0.275	114	6.94	15.8
SO255-DR54-3Clast2	23.1	48.7	510	15.4	35.7	16.6	156	106	17.9	12.8	325	39.8	71.2	0.671	0.273	112	6.89	15.0
SO255-DR126-1	6.36	44.0	356	6.85	34.7	4.75	65.9	105	18.0	7.29	239	27.8	61.0	0.445	0.224	217	3.29	8.78
SO255-DR126-4	7.16	46.3	408	5.13	32.8	16.6	84.0	125	21.8	15.1	296	36.4	73.1	0.551	0.501	327	4.41	11.2
SO255-DR136-1	14.1	48.9	530	5.65	37.7	7.17	40.3	124	18.9	23.0	432	31.1	100	1.46	0.863	604	11.9	26.1
SO255-DR136-3	16.8	40.5	252	5.77	31.2	3.83	85.7	152	19.5	26.5	446	43.5	139	2.10	0.891	831	18.1	39.9
SO255-DR137-1	10.7	33.3	331	16.4	26.5	13.4	125	110	16.2	55.1	181	21.8	86.0	1.19	0.346	825	8.55	17.8
SO255-DR137-2	8.98	34.0	300	15.9	22.1	10.9	137	122	15.7	60.6	181	16.8	92.3	1.25	0.285	1084	7.79	16.4
SO255-DR138-1	14.6	59.5	383	261	47.5	62.0	54.9	87.9	16.5	5.25	469	30.4	51.4	0.652	0.123	180	11.3	16.4
SO255-DR138-9	38.9	52.4	345	47.8	25.0	20.2	129	57.9	13.6	10.0	286	35.2	36.5	0.487	0.119	410	8.89	18.7
SO255-DR139-2	15.5	38.3	294	18.5	35.0	17.5	104	68.5	16.1	9.78	350	12.6	25.0	0.284	1.07	110	1.47	3.98
SO255-DR139-8	19.7	40.1	337	28.3	33.4	38.6	92.7	105.1	17.9	5.34	1011	33.4	95.8	1.71	0.050	775	1	

Sample	Li	Sc	V	Cr	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
SO255-DR76-2	12.8	22.8	283	45.5	22.9	25.9	67.2	65.3	18.7	16.4	757	20.7	89.2	5.26	0.184	236	14.9	32.9
SO255-DR76-3																		
SO255-DR78-1A	19.4	40.1	370	8.13	41.3	25.5	48.1	108	17.6	9.67	346	21.9	54.7	1.2	0.186	90.1	6.66	16.9
SO255-DR78-1BClastI	15.8	34.5	296	7.69	37.2	17.5	38.2	78.7	14.5	25.2	311	24.6	47.1	0.859	0.289	115	6.77	14.9
SO255-DR78-1BClastII																		
TAN1611-DR017A	14.0	32.0	286	166	35.0	79.1	55.6	86.5	17.2	5.92	706	26.5	101	8.88	0.060	339	17.7	36.8
TAN1611-DR017B																		
P49127*	20.2	30.8	336	15.5	50.4	40.6	136	93.0	18.2	1.97	1347	27.6	90.3	2.60	0.066	467	18.4	36.9
SO255-DR4-1	8.13	29.0	245	8.19	16.0	4.9	28.8	89.2	15.2	10.4	319	19.4	19.5	1.33	0.109	281	6.57	14.9
SO255-DR4-3																		
SO255-DR4-12	7.20	29.1	225	13.7	23.6	8.59	103	56.2	17.2	29.1	314	19.3	71.5	1.62	0.34	566	7.31	14.8
SO255-DR4-13	5.66	20.1	138	7.48	13.4	5.78	36.6	41.9	15.1	49.3	268	12.8	104	1.82	0.21	756	6.12	13.6
SO255-DR5-1	12.0	25.9	222	8.27	22.9	7.15	110	74.2	18.4	5.56	478	19.6	59.9	1.56	0.056	605	6.85	15.4
SO255-DR5-4																		
SO255-DR5-6																		
SO255-DR85-1	7.46	20.7	192	15.6	17.9	10.8	21.1	73.4	18.1	13.8	540	25.8	162	5.08	0.067	754	24.2	51.9
SO255-DR85-2	15.1	6.74	35.8	5.20	4.4	90.9	11.9	57.7	18.2	31.2	402	33.8	223	6.45	0.087	985	30.1	60.2
SO255-DR89-1	32.2	35.0	282	126	43.0	92.4	41.1	89.8	15.4	4.50	472	22.4	77.5	3.55	0.270	129	10.8	23.6
SO255-DR89-3																		
SO255-DR89-4																		
SO255-DR93-1	19.2	9.58	46.4	6.30	4.8	10.7	25.3	35.2	17.4	96.6	171	39.7	179	13.6	0.307	1288	35.5	70.1
SO255-DR93-2																		
SO255-DR97-1	29.0	14.4	115	5.27	12.5	31.3	33.7	88.1	21.8	71.9	311	48.3	296	5.54	0.334	920	34.8	72.3
SO255-DR97-4	16.9	23.6	233	5.44	24.2	6.3	81.7	101	17.9	45.4	412	39.3	190	3.45	0.949	572	26.7	56.3
SO255-DR97-8																		
SO255-DR98-1	38.2	20.3	216	24.5	19.6	34.5	35.0	74.1	17.5	28.7	415	28.4	133	2.02	0.180	509	17.0	35.5
SO255-DR98-2	24.0	38.4	361	52.2	33.6	20.7	77.1	92.7	17.3	5.57	430	20.7	67.9	1.14	0.084	302	10.6	23.4
SO255-DR98-3																		
SO255-DR99-1	66.0	28.9	279	34.2	35.3	66.6	42.7	123	17.6	155	131	33.5	112	1.87	1.825	678	16.0	31.4
SO255-DR99-2																		
SO255-DR99-3	44.1	25.4	221	20.4	27.5	39.1	32.2	114	14.3	73.1	294	43.7	124	2.11	0.361	835	22.9	43.2
SO255-DR101-1A	21.7	24.3	260	9.71	25.9	8.58	37.6	66.9	17.6	39.2	315	21.6	93.6	1.58	0.768	1029	13.0	28.1
SO255-DR101-1B	27.4	32.9	339	9.90	33.1	10.4	67.4	144	19.9	15.2	302	21.2	81.4	1.16	0.472	446	7.88	18.3
SO255-DR101-2	31.0	28.8	275	27.3	33.2	22.7	61.7	91.4	18.0	16.6	330	22.0	109	1.81	0.247	525	13.8	29.4
SO255-DR155-1	14.2	36.2	414	9.00	31.8	10.7	118	104	15.7	15.7	257	25.2	68.5	0.874	0.056	261	6.10	14.7
SO255-DR156-1AClastI																		
SO255-DR156-1AClastII	23.9	13.4	80.2	12.7	10.1	24.9	30.9	33.5	6.2	38.9	193	22.3	63.9	1.08	0.096	1039	6.58	18.0
SO255-DR156-1AClastIII	13.5	17.0	109	7.20	7.03	4.57	47.7	75.9	9.9	49.6	223	53.8	135	1.65	0.108	1375	14.2	31.4
SO255-DR156-1BClastI	18.6	17.0	119	12.4	12.8	9.24	57.4	88.3	14.9	66.2	267	26.9	92.4	1.34	0.131	1470	7.96	21.3
SO255-DR156-1BClastII																		
SO255-DR158-1	14.3	28.7	246	5.13	22.4	3.25	46.1	120	17.3	18.4	252	34.6	105	1.48	0.114	1404	8.67	20.7
SO255-DR158-2	7.68	21.0	158	4.91	20.4	2.93	19.2	118	14.9	4.30	283	31.6	69.2	1.58	0.056	660	11.6	26.2
SO255-DR159-1	37.0	36.3	234	107	33.4	46.7	136	87.3	14.3	7.46	318	10.2	30.7	0.407	0.180	226	3.00	6.66
TAN1611-DR05A	13.5	25.4	267	6.25	23.7	10.3	34.0	77.7	18.4	7.38	344	21.3	64	1.02	0.107	418	4.90	11.8
TAN1611-DR06A	11.5	29.3	177	5.51	20.9	27.2	67.2	116	20.4	24.1	372	47.7	144	2.03	0.161	1081	14.3	32.8
TAN1611-DR06B																		
TAN1611-DR06C																		
TAN1611-DR08B	15.3	14.3	45.4	5.07	6.5	7.99	37.7	221	23.5	68.1	246	52.3	157	2.05	0.198	4050	14.7	31.7
SO255-DR2-1	9.70	7.94	10.2	4.72	9.65	141	44.3	94.2	21.7	13.3	259	31.6	138	13.1	0.090	361	19.7	46.8
SO255-DR2-3																		
SO255-DR2-4	11.9	11.4	82.6	5.42	7.82	58.8	69.0	127	22.2	24.7	407	59.9	226	28.6	0.379	328	30.9	54.2
SO255-DR3-1ClastI	24.7	26.7	177	240	28.5	112	52.6	127	15.4	11.0	571	92.6	195	31.7	0.082	229	41.5	46.6
SO255-DR3-1ClastII	24.1	35.3	204	236	20.4	90.1	50.3	119	16.6	7.97	622	165	196	32.7	0.072	243	64.5	50.0
SO255-DR3-2	17.2	28.5	275	245	25.9	88.6	110	151	16.7	10.0	591	143	203	35.8	0.067	267	63.5	51.6
TAN1611-DR01A	9.30	29.7	251	320	54.0	216	61.7	96.1	17.7	14.5	1064	21.9	166	51.6	0.175	263	27.5	54.1
TAN1611-DR01B																		
TAN1611-DR01C	8.54	32.0	268	364	58.0	242	53.5	93.9	16.3	6.87	1601	23.0	167	52.3	0.080	241	28.2	55.9
TAN1611-DR02A	7.24	20.8	168	369	48.4	235	53.9	94.2	18.3	11.2	448	18.2	127	29.2	0.162	173	15.4	29.9
TAN1611-DR02B																		
TAN1611-DR02C																		

Sample	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
SO255-DR32-1	2.17	10.5	2.82	0.950	3.06	0.501	3.16	0.661	1.98	0.283	1.92	0.300	1.47	0.058	2.89	1.11	0.800
SO255-DR32-8	1.97	9.52	2.66	0.931	3.01	0.504	3.23	0.682	1.83	0.294	1.97	0.310	1.32	0.055	3.49	1.13	0.789
SO255-DR47-1	1.98	9.77	2.83	0.986	3.39	0.590	3.92	0.832	2.49	0.362	2.43	0.377	1.51	0.050	3.42	0.889	0.679
SO255-DR47-2	2.61	12.5	3.36	1.15	3.87	0.656	4.29	0.908	2.71	0.393	2.60	0.407	1.81	0.064	4.10	1.36	0.400
SO255-DR47-3	1.53	7.59	2.29	0.825	2.71	0.468	3.10	0.654	1.76	0.283	1.89	0.295	1.21	0.045	2.35	0.728	0.266
SO255-DR52-1	2.97	14.0	3.39	1.21	3.67	0.578	3.69	0.784	2.07	0.323	2.06	0.327	1.39	0.121	2.32	0.866	2.40
SO255-DR62-1	1.67	8.94	2.76	0.973	3.48	0.597	4.11	0.853	2.52	0.378	2.62	0.385	1.66	0.041	3.06	0.392	0.178
SO255-DR62-5	1.44	7.89	2.52	0.902	3.12	0.559	3.69	0.797	2.40	0.344	2.32	0.368	1.43	0.040	2.30	0.334	2.26
SO255-DR62-6	1.77	9.59	3.12	1.08	3.89	0.692	4.64	0.997	3.02	0.439	2.93	0.461	1.88	0.048	2.72	0.426	0.257
SO255-DR63-1	2.91	14.5	4.11	1.18	4.64	0.828	5.55	1.18	3.61	0.542	3.73	0.598	3.26	0.088	2.61	0.621	0.265
SO255-DR63-2	3.02	14.9	4.21	1.21	4.80	0.852	5.64	1.21	3.68	0.552	3.77	0.600	3.36	0.091	2.79	0.645	0.274
SO255-DR63-3	3.03	14.9	4.22	1.22	4.86	0.845	5.65	1.21	3.37	0.558	3.84	0.618	3.23	0.096	2.78	0.654	0.275
SO255-DR63-4	2.96	14.4	4.11	1.19	4.72	0.832	5.55	1.19	3.32	0.552	3.81	0.617	3.09	0.093	2.61	0.622	0.265
SO255-DR63-5	2.97	14.7	4.18	1.20	4.78	0.846	5.60	1.20	3.33	0.558	3.82	0.616	3.23	0.094	2.72	0.650	0.271
SO255-DR125-1	1.39	7.14	2.26	0.829	2.77	0.494	3.33	0.721	2.18	0.316	2.12	0.336	1.20	0.039	2.04	0.658	3.41
SO255-DR125-6	1.56	8.08	2.52	0.918	3.14	0.553	3.74	0.805	2.20	0.355	2.36	0.374	1.32	0.045	2.13	0.752	0.335
SO255-DR128-1	0.460	2.88	1.22	0.506	1.78	0.343	2.39	0.528	1.53	0.236	1.59	0.252	0.711	0.020	1.37	0.054	0.035
SO255-DR128-5	0.479	2.99	1.27	0.520	1.84	0.355	2.48	0.540	1.57	0.240	1.60	0.253	0.740	0.019	1.24	0.046	0.030
SO255-DR129-1	0.232	1.50	0.673	0.275	1.00	0.196	1.36	0.304	0.862	0.133	0.881	0.141	0.363	0.014	0.722	0.032	0.024
SO255-DR129-10	1.90	9.12	2.47	0.807	2.72	0.443	2.88	0.607	1.74	0.252	1.81	0.273	1.21	0.044	4.21	1.35	0.346
SO255-DR129-12	0.892	4.82	1.65	0.637	2.17	0.401	2.77	0.605	1.76	0.273	1.83	0.290	0.889	0.037	1.80	0.334	0.104
SO255-DR129-20	0.595	3.61	1.44	0.587	2.04	0.388	2.69	0.592	1.70	0.261	1.75	0.275	0.880	0.025	1.70	0.076	0.581
SO255-DR130-1	0.699	4.43	1.79	0.687	2.65	0.491	3.54	0.759	2.30	0.339	2.44	0.359	1.15	0.013	2.43	0.097	0.045
SO255-DR130-2	0.715	4.14	1.69	0.667	2.45	0.461	3.21	0.687	2.11	0.302	2.20	0.322	1.04	0.013	2.40	0.090	0.050
SO255-DR130-3	0.706	4.23	1.72	0.687	2.49	0.455	3.17	0.682	2.10	0.296	2.20	0.323	1.04	0.014	2.43	0.094	0.053
SO255-DR130-4	0.742	4.43	1.77	0.707	2.56	0.492	3.41	0.747	2.22	0.314	2.32	0.339	1.10	0.014	2.59	0.109	0.057
SO255-DR131-1	0.628	3.63	1.41	0.560	1.98	0.376	2.63	0.578	1.69	0.262	1.75	0.278	0.843	0.025	1.70	0.199	0.087
SO255-DR131-2	0.594	3.41	1.33	0.531	1.88	0.359	2.51	0.550	1.59	0.246	1.67	0.261	0.788	0.026	1.55	0.176	0.077
SO255-DR131-3	0.595	3.44	1.35	0.535	1.89	0.360	2.51	0.557	1.61	0.251	1.67	0.268	0.792	0.026	1.65	0.184	0.090
SO255-DR132-2	1.21	6.59	2.16	0.846	3.01	0.512	3.51	0.755	2.23	0.324	2.21	0.331	1.26	0.033	2.14	0.418	0.134
SO255-DR132-4	1.27	6.94	2.39	0.936	3.25	0.557	3.74	0.801	2.37	0.346	2.43	0.361	1.46	0.035	2.32	0.427	0.166
SO255-DR132-5	1.06	5.59	1.86	0.715	2.37	0.417	2.83	0.595	1.78	0.254	1.79	0.256	0.972	0.027	1.88	0.363	0.123
SO255-DR133-1	0.650	3.84	1.49	0.615	2.10	0.390	2.70	0.586	1.69	0.261	1.75	0.275	0.876	0.022	1.32	0.119	0.052
SO255-DR133-4	0.468	2.85	1.19	0.489	1.73	0.323	2.29	0.498	1.43	0.223	1.48	0.236	0.703	0.019	1.01	0.060	0.032
SO255-DR134-1	0.656	3.85	1.49	0.621	2.07	0.386	2.66	0.577	1.65	0.254	1.70	0.268	0.866	0.025	1.08	0.096	0.050
SO255-DR134-6	0.723	4.19	1.57	0.654	2.16	0.398	2.74	0.598	1.72	0.260	1.73	0.271	0.826	0.028	0.88	0.119	0.050
SO255-DR135-1	0.947	5.32	2.27	0.889	3.44	0.626	4.37	0.931	2.78	0.412	2.92	0.465	1.45	0.026	1.78	0.112	0.079
SO255-DR135-4	0.856	5.29	2.00	0.778	3.01	0.560	4.08	0.873	2.77	0.384	2.83	0.409	1.43	0.021	1.72	0.089	0.057
SO255-DR135-6	1.10	6.27	2.36	0.923	3.41	0.607	4.25	0.902	2.73	0.399	2.90	0.428	1.42	0.024	1.82	0.111	0.051
SO255-DR135-7	0.921	5.35	1.99	0.829	2.87	0.514	3.67	0.780	2.34	0.339	2.47	0.358	1.18	0.016	1.64	0.080	0.038
SO255-DR135-10	0.900	5.25	1.98	0.824	2.87	0.515	3.53	0.769	2.32	0.335	2.38	0.355	1.11	0.015	1.56	0.078	0.038
SO255-DR176-1	1.62	8.10	2.41	0.844	2.95	0.491	3.27	0.679	2.02	0.301	2.06	0.304	1.38	0.048	3.53	0.721	0.258
SO255-DR176-2	1.70	8.59	2.52	0.883	3.10	0.515	3.48	0.740	2.12	0.315	2.17	0.322	1.47	0.052	3.82	0.822	0.279
SO255-DR176-2	1.41	7.02	2.14	0.755	2.54	0.437	2.89	0.609	1.72	0.260	1.72	0.270	1.21	0.052	2.50	0.628	0.247
SO255-DR176-3	1.12	5.88	1.90	0.698	2.38	0.415	2.80	0.597	1.69	0.257	1.71	0.265	1.13	0.044	2.07	0.407	0.176
SO255-DR176-4	1.36	6.89	2.10	0.738	2.47	0.427	2.83	0.598	1.69	0.257	1.70	0.266	1.21	0.052	2.50	0.622	0.235
SO255-DR30-2	1.97	9.91	2.93	0.992	3.79	0.670	4.73	1.10	3.18	0.524	3.55	0.586	1.91	0.097	2.97	0.724	1.91
SO255-DR30-4	1.92	9.43	2.74	0.895	3.25	0.570	3.84	0.836	2.57	0.375	2.57	0.413	1.98	0.081	2.94	0.855	1.51
SO255-DR31-1	1.42	7.22	2.22	0.818	2.72	0.470	3.12	0.665	1.82	0.291	1.94	0.308	1.41	0.063	2.98	0.524	0.194
SO255-DR31-3	1.27	6.60	2.05	0.746	2.51	0.437	2.92	0.621	1.87	0.273	1.83	0.286	1.35	0.053	2.61	0.469	0.188
SO255-DR35-2	3.81	18.0	4.79	1.56	5.19	0.844	5.35	1.10	2.96	0.469	3.08	0.470	2.43	0.092	4.74	1.59	0.685
SO255-DR35-4	3.88	18.5	4.87	1.59	5.29	0.853	5.34	1.11	2.91	0.452	2.91	0.440	2.49	0.094	4.30	1.62	0.711
SO255-DR35-6	3.83	18.1	4.82	1.55	5.24	0.844	5.30	1.09	2.84	0.440	2.83	0.427	2.44	0.094	3.96	1.60	0.706
SO255-DR35-9	4.77	22.0	5.63	1.58	6.01	0.980	6.23	1.30	3.52	0.570	3.83	0.600	4.01	0.152	5.76	2.93	0.906
SO255-DR54-2	3.93	18.6	4.82	1.61	5.95	0.964	6.35	1.39	3.75	0.593	3.88	0.642	1.94	0.064	3.44	1.24	0.619
SO255-DR54-3C1ast1	2.66	13.4	4.10	1.37	5.01	0.863	5.79	1.24	3.44	0.550	3.68	0.607	2.28	0.063	2.10	1.05	0.616
SO255-DR54-3C1ast2	2.59	13.2	4.04	1.37	4.94	0.865	5.78	1.26	3.46	0.558	3.75	0.612	2.26	0.062	2.01	1.00	0.439
SO255-DR126-1	1.46	8.11	2.75	1.03	3.60	0.661	4.50	0.980	2.94	0.436	2.91	0.460	1.73	0.037	1.74	0.480	0.160
SO255-DR126-4	1.91	10.3	3.52	1.31	4.64	0.845	5.80	1.25	3.43	0.556	3.73	0.591	2.17	0.048	1.91	0.629	0.925
SO255-DR136-1	3.79	18.0	4.62	1.50	4.98	0.819	5.20	1.07	3.16	0.456	3.03	0.472	2.39	0.089	6.03	1.73	0.577
SO255-DR136-3	5.87	28.0	6.94	2.11	7.34	1.17	7.26	1.51	4.37	0.622	4.11	0.637	3.28	0.123	8.32	2.59	0.726
SO255-DR137-1	2.71	12.7	3.15	0.909	3.26	0.539	3.45	0.738	2.25	0.324	2.19	0.342	2.04	0.071	3.81	1.47	0.724
SO255-DR137-2	2.40	11.0	2.61	0.750	2.63	0.402	2.54	0.563	1.81	0.281	1.98	0.325	2.17	0.074	2.74	1.56	0.786
SO255-DR138-1	3.30	15.9	3.84	1.27	4.11	0.612	3.79	0.806	2.38	0.328	2.13	0.345	1.32	0.040	3.19	1.07	0.206
SO255-DR138-9	2.91	14.7	3.86	1.25	4.60	0.687	4.29	0.917	2.66	0.361	2.31	0.369	1.01	0.037	1.90	0.459	0.359
SO255-DR139-2	0.696	3.89	1.39	0.589	1.79	0.321	2.15	0.460	1.32	0.200	1.31	0.208	0.730	0.027	1.38	0.120	0.114
SO255-DR139-8	4.39	20.5	4.99	1.48	5.12	0.817	5.11	1.07	3.19	0.454	3.03						

Sample	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
SO255-DR76-2	4.45	19.8	4.35	1.43	4.06	0.612	3.68	0.748	2.08	0.306	2.03	0.312	1.98	0.337	1.84	1.77	0.539
SO255-DR76-3																	
SO255-DR78-1A	2.48	12.3	3.35	1.21	3.64	0.597	3.74	0.777	2.14	0.318	2.06	0.320	1.47	0.071	3.35	0.600	1.99
SO255-DR78-1BClastI	2.38	11.8	3.17	1.14	3.50	0.571	3.69	0.791	2.23	0.331	2.15	0.340	1.22	0.061	1.69	0.510	1.50
SO255-DR78-1BClastII																	
TAN1611-DR017A	4.71	20.3	4.56	1.46	4.60	0.721	4.40	0.908	2.52	0.375	2.45	0.380	2.49	0.499	3.76	2.64	1.34
TAN1611-DR017B																	
P49127*	4.97	21.7	4.940	1.46	4.96	0.767	4.69	0.961	2.71	0.408	2.69	0.421	2.59	0.339	4.76	3.49	1.21
SO255-DR4-1	2.16	10.4	2.85	0.872	3.08	0.519	3.30	0.692	1.94	0.290	1.91	0.287	0.702	0.093	4.99	1.34	0.325
SO255-DR4-3																	
SO255-DR4-12	2.24	10.2	2.85	0.923	3.08	0.507	3.34	0.717	2.04	0.332	2.17	0.338	2.23	0.112	1.44	1.36	0.43
SO255-DR4-13	1.83	7.84	1.84	0.861	2.01	0.320	2.06	0.457	1.37	0.230	1.59	0.262	3.12	0.145	2.33	2.17	1.03
SO255-DR5-1	2.16	10.2	2.74	0.964	3.06	0.513	3.30	0.697	1.99	0.301	2.04	0.322	1.71	0.106	2.87	1.28	0.301
SO255-DR5-4																	
SO255-DR5-6																	
SO255-DR85-1	6.18	25.6	5.47	1.73	5.16	0.798	4.76	0.968	2.69	0.407	2.74	0.427	3.69	0.343	3.47	5.36	0.859
SO255-DR85-2	7.43	29.9	6.09	1.74	5.68	0.896	5.53	1.16	3.37	0.521	3.58	0.570	4.83	0.434	5.02	6.27	1.61
SO255-DR89-1	3.20	14.4	3.46	1.22	3.69	0.596	3.76	0.791	2.21	0.333	2.20	0.350	1.74	0.217	3.54	1.27	1.56
SO255-DR89-3																	
SO255-DR89-4																	
SO255-DR93-1	8.38	32.1	6.52	1.18	6.19	1.01	6.35	1.34	3.92	0.616	4.21	0.660	5.09	1.02	6.25	11.8	2.77
SO255-DR93-2																	
SO255-DR97-1	9.46	39.8	8.62	2.10	8.23	1.31	8.05	1.66	4.69	0.704	4.66	0.718	6.84	0.334	9.74	8.56	2.97
SO255-DR97-4	7.53	32.6	7.23	1.91	7.03	1.10	6.73	1.38	3.89	0.578	3.85	0.603	4.45	0.211	6.57	5.48	1.50
SO255-DR97-8																	
SO255-DR98-1	4.71	20.4	4.64	1.46	4.69	0.757	4.76	0.995	2.82	0.429	2.88	0.451	3.07	0.135	4.20	2.70	0.959
SO255-DR98-2	3.27	14.9	3.60	1.19	3.69	0.590	3.65	0.755	2.08	0.305	1.99	0.306	1.71	0.077	2.59	1.66	0.378
SO255-DR98-3																	
SO255-DR99-1	4.32	19.4	4.44	1.43	4.91	0.773	4.89	1.04	2.93	0.432	2.81	0.446	2.69	0.124	4.28	2.91	0.797
SO255-DR99-2																	
SO255-DR99-3	6.18	27.6	6.03	1.86	6.50	0.965	5.92	1.24	3.49	0.508	3.31	0.522	2.96	0.136	6.75	3.21	1.03
SO255-DR101-1A	3.77	16.7	3.87	1.22	3.85	0.614	3.80	0.783	2.19	0.327	2.16	0.337	2.24	0.104	3.19	2.53	0.596
SO255-DR101-1B	2.64	12.4	3.22	1.18	3.42	0.572	3.69	0.780	2.25	0.348	2.36	0.370	2.01	0.081	1.94	1.07	0.343
SO255-DR101-2	3.92	17.3	3.98	1.25	3.93	0.633	3.93	0.805	2.29	0.350	2.35	0.367	2.58	0.120	3.33	2.98	0.803
SO255-DR155-1	2.27	11.5	3.31	1.04	3.80	0.647	4.19	0.887	2.53	0.381	2.55	0.397	1.81	0.061	1.93	0.878	0.346
SO255-DR156-1AClastI																	
SO255-DR156-1AClastII	2.72	12.7	3.25	0.954	3.51	0.560	3.48	0.715	1.98	0.289	1.88	0.288	1.64	0.062	8.73	0.904	0.457
SO255-DR156-1AClastIII	4.67	22.4	6.17	1.53	6.98	1.21	8.11	1.78	5.30	0.835	5.66	0.896	3.40	0.107	7.84	1.34	0.728
SO255-DR156-1BClastI	3.30	15.7	4.08	1.15	4.35	0.696	4.34	0.897	2.52	0.378	2.52	0.392	2.36	0.085	3.56	1.29	0.573
SO255-DR156-1BClastII																	
SO255-DR158-1	3.22	16.1	4.60	1.46	5.28	0.895	5.84	1.24	3.53	0.533	3.56	0.555	2.72	0.095	6.18	1.16	0.484
SO255-DR158-2	3.84	18.1	4.69	1.39	5.06	0.850	5.39	1.12	3.12	0.468	3.06	0.448	2.22	0.104	3.29	1.57	0.563
SO255-DR159-1	0.98	4.83	1.40	0.514	1.60	0.272	1.77	0.373	1.05	0.158	1.04	0.163	0.881	0.033	2.11	0.649	0.282
TAN1611-DR05A	1.82	9.13	2.74	1.00	3.24	0.564	3.71	0.781	2.21	0.335	2.23	0.345	1.74	0.075	3.01	0.682	0.198
TAN1611-DR06A	5.01	24.6	6.78	2.00	7.42	1.232	7.88	1.66	4.72	0.714	4.73	0.745	3.83	0.130	5.54	1.93	6.47
TAN1611-DR06B																	
TAN1611-DR06C																	
TAN1611-DR08B	4.97	24.0	6.27	1.72	6.87	1.13	7.35	1.60	4.72	0.734	4.97	0.802	4.00	0.129	34.8	2.20	0.850
SO255-DR2-1	5.39	23.6	5.38	2.37	5.52	0.888	5.43	1.11	3.02	0.432	2.71	0.412	4.38	1.20	7.05	3.06	0.367
SO255-DR2-3																	
SO255-DR2-4	8.26	36.2	8.16	2.82	8.80	1.41	8.94	1.88	5.30	0.780	5.08	0.787	4.64	1.60	7.62	2.99	0.973
SO255-DR3-1ClastI	9.52	40.7	8.60	2.87	9.65	1.52	9.91	2.23	6.46	0.940	6.07	0.988	3.88	1.82	2.39	3.15	0.962
SO255-DR3-1ClastII	13.4	57.8	11.9	4.00	14.3	2.25	15.3	3.61	10.8	1.59	10.5	1.76	3.98	1.89	2.41	3.32	1.42
SO255-DR3-2	11.8	51.7	10.5	3.25	12.9	1.99	13.5	3.18	9.42	1.36	8.83	1.46	4.30	1.94	16.5	3.46	2.46
TAN1611-DR01A	6.31	26.2	5.67	1.96	5.45	0.799	4.41	0.811	2.04	0.273	1.68	0.245	3.34	3.07	1.72	3.33	1.04
TAN1611-DR01B																	
TAN1611-DR01C	6.56	27.3	5.94	2.05	5.73	0.838	4.64	0.845	2.13	0.288	1.75	0.257	3.45	3.16	1.88	3.43	1.39
TAN1611-DR02A	3.54	15.1	3.84	1.43	4.03	0.624	3.60	0.671	1.72	0.236	1.44	0.213	2.65	1.70	1.06	1.97	0.671
TAN1611-DR02B																	
TAN1611-DR02C																	



Sample	<sup>87</sup> Sr/ <sup>86</sup> Sr	2SE	<sup>143</sup> Nd/ <sup>144</sup> Nd	2SE	εNd**	<sup>176</sup> Hf/ <sup>177</sup> Hf	2SE	εHf**	<sup>206</sup> Pb/ <sup>204</sup> Pb	2SE	<sup>207</sup> Pb/ <sup>204</sup> Pb	2SE	<sup>208</sup> Pb/ <sup>204</sup> Pb	2SE
SO255-DR32-1	0.703946	0.000005	0.512950	0.000005	6.24				18.8022	0.0009	15.6156	0.0011	38.6497	0.0035
SO255-DR32-8	0.704031	0.000005	0.512946	0.000004	6.16	0.283144	0.000005	12.69	18.8298	0.0008	15.6204	0.0009	38.6808	0.0027
SO255-DR47-1	0.703920	0.000005	0.512982	0.000005	6.87	0.283131	0.000005	12.25	18.7260	0.0013	15.5576	0.0011	38.6507	0.0031
SO255-DR47-2														
SO255-DR47-3														
SO255-DR52-1	0.703752	0.000005	0.512959	0.000004	6.42	0.283114	0.000006	11.65	18.7303	0.0037	15.5579	0.0032	38.5646	0.0077
SO255-DR62-1	0.703316	0.000005	0.513051	0.000005	8.21				18.6641	0.0009	15.5736	0.0009	38.3646	0.0026
SO255-DR62-5														
SO255-DR62-6	0.703315	0.000005	0.513046	0.000004	8.12	0.283140	0.000004	12.54	18.6688	0.0008	15.5740	0.0007	38.3722	0.0020
SO255-DR63-1	0.703568	0.000005	0.513039	0.000004	7.98	0.283128	0.000004	12.12	18.7317	0.0007	15.5603	0.0008	38.5017	0.0026
SO255-DR63-2	0.703590	0.000005	0.513033	0.000005	7.87	0.283129	0.000004	12.17	18.7331	0.0009	15.5612	0.0010	38.5068	0.0033
SO255-DR63-3	0.703572	0.000005	0.513040	0.000005	8.00				18.7324	0.0006	15.5608	0.0006	38.5049	0.0019
SO255-DR63-4														
SO255-DR63-5														
SO255-DR125-1														
SO255-DR125-6	0.703750	0.000005	0.512974	0.000004	6.71	0.283130	0.000005	12.18	18.7549	0.0005	15.6051	0.0004	38.5892	0.0012
SO255-DR128-1	0.704030	0.000005	0.513062	0.000005	8.42	0.283155	0.000006	13.10	18.8002	0.0006	15.6187	0.0006	38.6910	0.0019
SO255-DR128-5														
SO255-DR129-1	0.704011	0.000005	0.513074	0.000005	8.67				18.8150	0.0015	15.6235	0.0013	38.6998	0.0034
SO255-DR129-10	0.703958	0.000005	0.512957	0.000005	6.38				18.7573	0.0016	15.6067	0.0014	38.6309	0.0035
SO255-DR129-12	0.703607	0.000006	0.513040	0.000005	7.99				18.7889	0.0007	15.6159	0.0007	38.6461	0.0022
SO255-DR129-20														
SO255-DR130-1														
SO255-DR130-2														
SO255-DR130-3														
SO255-DR130-4	0.703922	0.000005	0.513067	0.000003	8.52				18.8160	0.0009	15.6238	0.0010	38.6935	0.0033
SO255-DR131-1	0.704042	0.000004	0.513041	0.000005	8.01	0.283160	0.000005	13.25	18.7883	0.0009	15.6129	0.0008	38.6399	0.0022
SO255-DR131-2														
SO255-DR131-3														
SO255-DR132-2	0.703687	0.000005	0.513019	0.000005	7.59	0.283147	0.000005	12.81	18.7631	0.0005	15.6080	0.0005	38.6037	0.0014
SO255-DR132-4														
SO255-DR132-5														
SO255-DR133-1	0.703809	0.000005	0.513064	0.000002	8.47				18.8137	0.0011	15.6179	0.0009	38.6697	0.0022
SO255-DR133-4														
SO255-DR134-1	0.704007	0.000005	0.513049	0.000005	8.18	0.283170	0.000004	13.61	18.7459	0.0009	15.6014	0.0010	38.6040	0.0030
SO255-DR134-6														
SO255-DR135-1														
SO255-DR135-4														
SO255-DR135-6	0.704036	0.000005	0.513053	0.000004	8.24				18.7295	0.0009	15.5969	0.0010	38.5789	0.0030
SO255-DR135-7														
SO255-DR135-10														
SO255-DR176-1														
SO255-DR176-2	0.704100	0.000005	0.512972	0.000005	6.67	0.283144	0.000004	12.68	18.7566	0.0011	15.5861	0.0009	38.6175	0.0022
SO255-DR176-2														
SO255-DR176-3														
SO255-DR176-4	0.704097	0.000005	0.512964	0.000005	6.51	0.283142	0.000005	12.61	18.7528	0.0016	15.5840	0.0014	38.6117	0.0035
SO255-DR30-2	0.703995	0.000005	0.513009	0.000005	7.40	0.283165	0.000004	13.43	18.6773	0.0009	15.5794	0.0010	38.6033	0.0033
SO255-DR30-4	0.704056	0.000005	0.512995	0.000006	7.12				18.6829	0.0014	15.5814	0.0012	38.6074	0.0037
SO255-DR31-1	0.704119	0.000005	0.513003	0.000004	7.28	0.283146	0.000006	12.77	18.6835	0.0009	15.5793	0.0009	38.6494	0.0030
SO255-DR31-3	0.704137	0.000004	0.512995	0.000005	7.12				18.6832	0.0008	15.5784	0.0009	38.6493	0.0031
SO255-DR35-2														
SO255-DR35-4														
SO255-DR35-6	0.704328	0.000005	0.512946	0.000004	6.17	0.283137	0.000006	12.45	18.6370	0.0005	15.5753	0.0006	38.5539	0.0020
SO255-DR35-9	0.704389	0.000005	0.512950	0.000004	6.24	0.283141	0.000003	12.58	18.6584	0.0007	15.5828	0.0007	38.5857	0.0022
SO255-DR54-2	0.704274	0.000005	0.512934	0.000005	5.93	0.283106	0.000005	11.36	18.6212	0.0009	15.5509	0.0008	38.6866	0.0023
SO255-DR54-3Clast1														
SO255-DR54-3Clast2	0.704173	0.000005	0.512964	0.000005	6.51	0.283116	0.000005	11.70	18.6089	0.0017	15.5462	0.0016	38.6639	0.0046
SO255-DR126-1	0.704066	0.000005	0.513016	0.000005	7.53	0.283140	0.000005	12.56	18.6198	0.0010	15.5682	0.0008	38.5144	0.0021
SO255-DR126-4														
SO255-DR136-1	0.704274	0.000005	0.512956	0.000004	6.36	0.283124	0.000006	12.00	18.4013	0.0012	15.5486	0.0014	38.6059	0.0047
SO255-DR136-3														
SO255-DR137-1														
SO255-DR137-2	0.704661	0.000005	0.512944	0.000006	6.13	0.283145	0.000006	12.74	18.4977	0.0008	15.5567	0.0008	38.5904	0.0026
SO255-DR138-1	0.704363	0.000004	0.512928	0.000006	5.81	0.283133	0.000004	12.29	18.4148	0.0021	15.5398	0.0018	38.5815	0.0050
SO255-DR138-9	0.704386	0.000005	0.512965	0.000005	6.54	0.283150	0.000005	12.91	18.4947	0.0012	15.5521	0.0013	38.5886	0.0041
SO255-DR139-2	0.704306	0.000005	0.513015	0.000006	7.52	0.283156	0.000005	13.10	18.4466	0.0009	15.5429	0.0010	38.5384	0.0029
SO255-DR139-8	0.704316	0.000005	0.512951	0.000005	6.26	0.283135	0.000005	12.36	18.4758	0.0013	15.5561	0.0014	38.6111	0.0041
SO255-DR139-12	0.704218	0.000005	0.512983	0.000003	6.88	0.283140	0.000004	12.56	18.4309	0.0022	15.5465	0.0019	38.5854	0.0051
SO255-DR139-15														
SO255-DR139-16														
SO255-DR139-17														
SO255-DR178-2	0.704278	0.000004	0.512976	0.000004	6.74	0.283156	0.000004	13.13	18.6507	0.0007	15.5693	0.0007	38.5778	0.0020
SO255-DR178-3														
SO255-DR179-1														
SO255-DR179-5	0.704299	0.000005	0.512949	0.000005	6.23	0.283154	0.000004	13.03	18.5541	0.0006	15.5591	0.0006	38.5191	0.0016
SO255-DR179-8	0.704270	0.000005	0.512958	0.000006	6.40	0.283149	0.000005	12.87	18.6183	0.0006	15.5641	0.0006	38.5447	0.0016
SO255-DR179-12	0.704248	0.000005	0.512979	0.000006	6.81	0.283159	0.000004	13.22	18.6522	0.0017	15.5758	0.0014	38.5858	0.0038
SO255-DR179-14														
SO255-DR179-15	0.704296	0.000005	0.512956	0.000005	6.36	0.283144	0.000006	12.71	18.6318	0.0006	15.5695	0.0006	38.5652	0.0020
SO255-DR179-16														
SO255-DR179-17	0.704265	0.000005	0.512972	0.000005	6.67	0.283152	0.000006	12.99	18.6229	0.0017	15.5715	0.0015	38.5661	0.0038
SO255-DR76-1	0.703567	0.000005	0.512966	0.000004	6.55	0.283088	0.000005	10.71	18.7573	0.0010	15.5634	0.0009	38.5841	0.0024

[illegible]



\*Mortimer, N., Gans, P. B., Palin, J. M., Meffre, S., Herzer, R. H., and Skinner, D. N. B., 2010, Location and migration of Miocene-Quaternary volcanic arcs in the SW Pacific region: *Journal of Volcanology and Geothermal Research*, v. 190, no. 1, p. 1-10.

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[data in blue from Timm et al 2019](#)

$\epsilon\text{Nd}$  and  $\epsilon\text{Hf}$  calculation uses the CHUR values of Bouvier, A., Vervoort, J. D., and Patchett, P. J., 2008, The Lu-Hf and Sm-Nd isotopic composition of CHUR: Constraints from unequilibrated chondrites and of terrestrial planets: *Earth and Planetary Science Letters*, v. 273, no. 1, p. 48-57. implications for the bulk composition