

Mid-Miocene volcanic migration in the westernmost Sunda arc induced by India-Eurasia collision

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¹Supplemental Material:

1. Analytical Methods.

2. Figure S1. (A) Summarized age data of Cenozoic igneous rocks in Sumatra; (B) age data < 30 Ma showing volcanic migration in NW Sumatra; (C) age data < 30 Ma from elsewhere in Central and SE Sumatra. Data sources: (1) K-Ar ages from Kanao et al. (1971); De Coster (1974); Hehuwat (1976); Bennett et al. (1981); Eubank and Makki (1981); Cameron et al. (1982); Rock et al. (1983); Koning and Aulia (1985); Wajzer (1986); van Leeuwen et al. (1987); JICA (1988); Kallagher (1990); Sato (1991); Kusnama et al. (1993); McCourt and Cobbing (1993); Wikarno et al. (1993); Amin et al. (1994); Gafoer et al. (1994); Bellon et al. (2004); (2) ⁴⁰Ar/³⁹Ar and Rb-Sr ages from Imtihanah (2000); (3) zircon U-Pb ages from this study, Lai et al. (2021) and Liu et al. (2021).

3. Figure S2. (A) Chondrite-normalized REE diagram for three volcanic suites in NW Sumatra. (B) Primitive mantle-normalized incompatible element variation diagram (or, spidergram) of the volcanic suites. Chondrite and primitive mantle normalizing values are from Sun and McDonough (1989).

4. Table S1. Magmatic zircon U-Pb age data from NW Sumatra.

5. Table S2. Geochemical and Sr-Nd isotopic data from NW Sumatra.

6. Table S3. Detrital zircon U-Pb age data from NW Sumatra (Hsu, 2016, National Taiwan University master thesis).

7. References cited in supplemental materials.

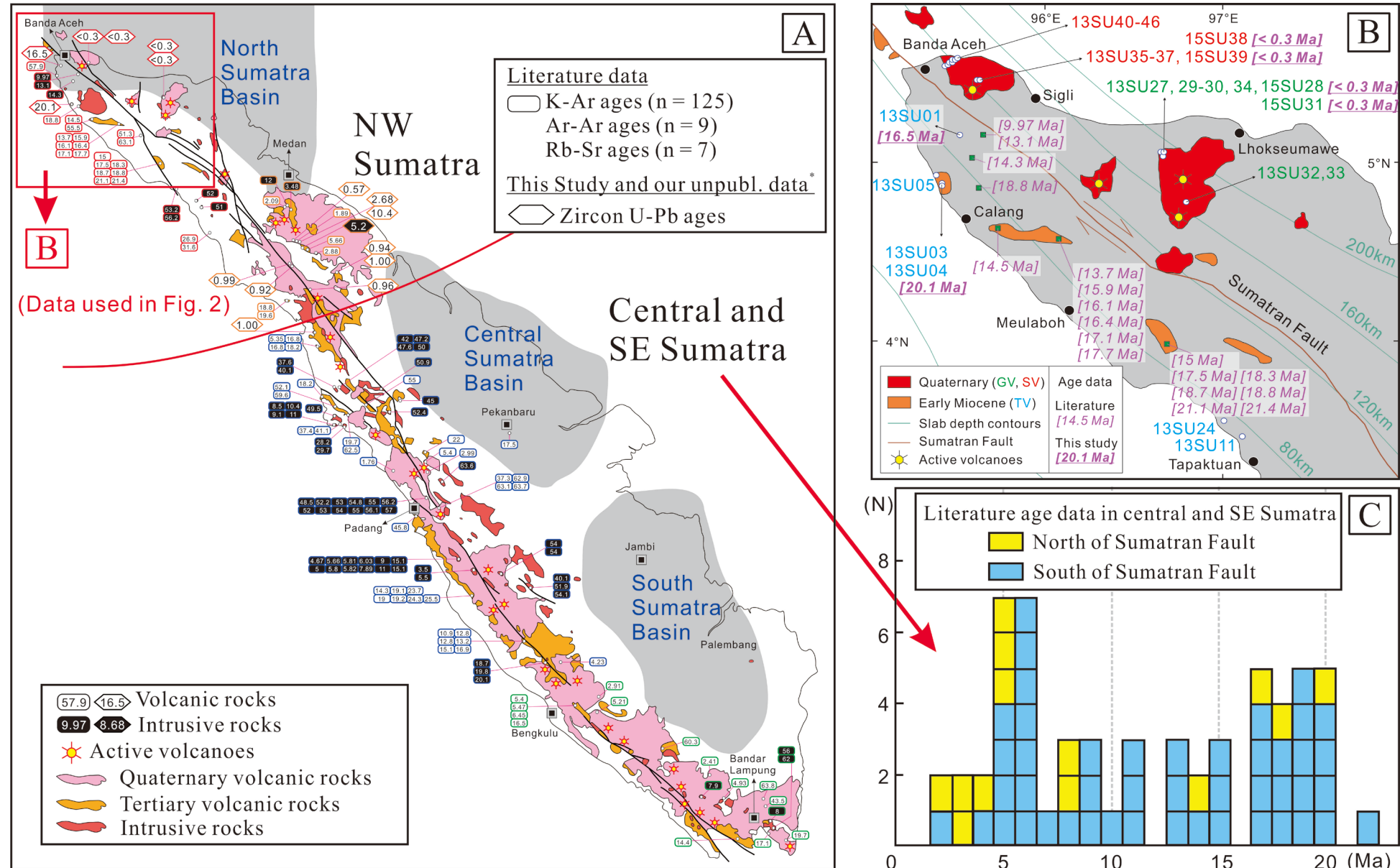
1. Analytical Methods

A total of 23 volcanic rock samples were collected from NW Sumatra, including 6 samples from the southern coast, 7 and 10 samples from Seulawah Agam and Geureudong volcanoes, respectively. Zircon grains were separated using heavy liquid and magnetic techniques, mounted in epoxy, and then were polished to expose their interior crystals. Cathodoluminescence (CL) images were taken using a scanning electron microscope (SEM) at the Institute of Earth Sciences, Academia Sinica, Taipei. Based on these images, we selected suitable positions for U-Pb dating sites. Zircon U-Pb analyses were performed by using Agilent 7500s inductively coupled plasma mass spectrometer (ICP-MS) attached to a Photon Machines Analyte G2 (PM193) laser ablation system at the Department of Geosciences, National Taiwan University (NTU). The repetition rate was 5 Hz and the analysing beam are about 35 μm in diameter. Calibration were made by standard zircon GJ-1 (608.5 ± 0.4 Ma, Jackson et al., 2004), and two standard zircons 91500 (1062.4 ± 0.8 Ma, Wiedenbeck et al., 1995) and Plešovice (337.1 ± 0.4 Ma, Sláma et al., 2008) for controlling the data quality. Common lead was corrected using the function suggested by Andersen (2002). GLITTER 4.0 (Griffin et al., 2008) and Isoplot v. 4.15 (Ludwig, 2012) were used to calculate weighted mean ages and to plot concordia diagrams. Detailed analytical procedures are similar to Chiu et al. (2009) and the age data are show in Table S1.

Rock samples were crushed, powdered and analyzed their whole rock

geochemical compositions at NTU. Loss on ignition (LOI) were analyzed by routine procedures. Major element data were performed by using a Rigaku RIX2000 X-ray fluorescence (XRF) spectrometer with analytical uncertainties within 5%, and trace element data were measured by using an Agilent 7500cx inductively coupled plasma-mass spectrometer (ICP-MS) with the precision better than 3% (Lin et al., 2012). Geochemical analyses results are show in Table S2.

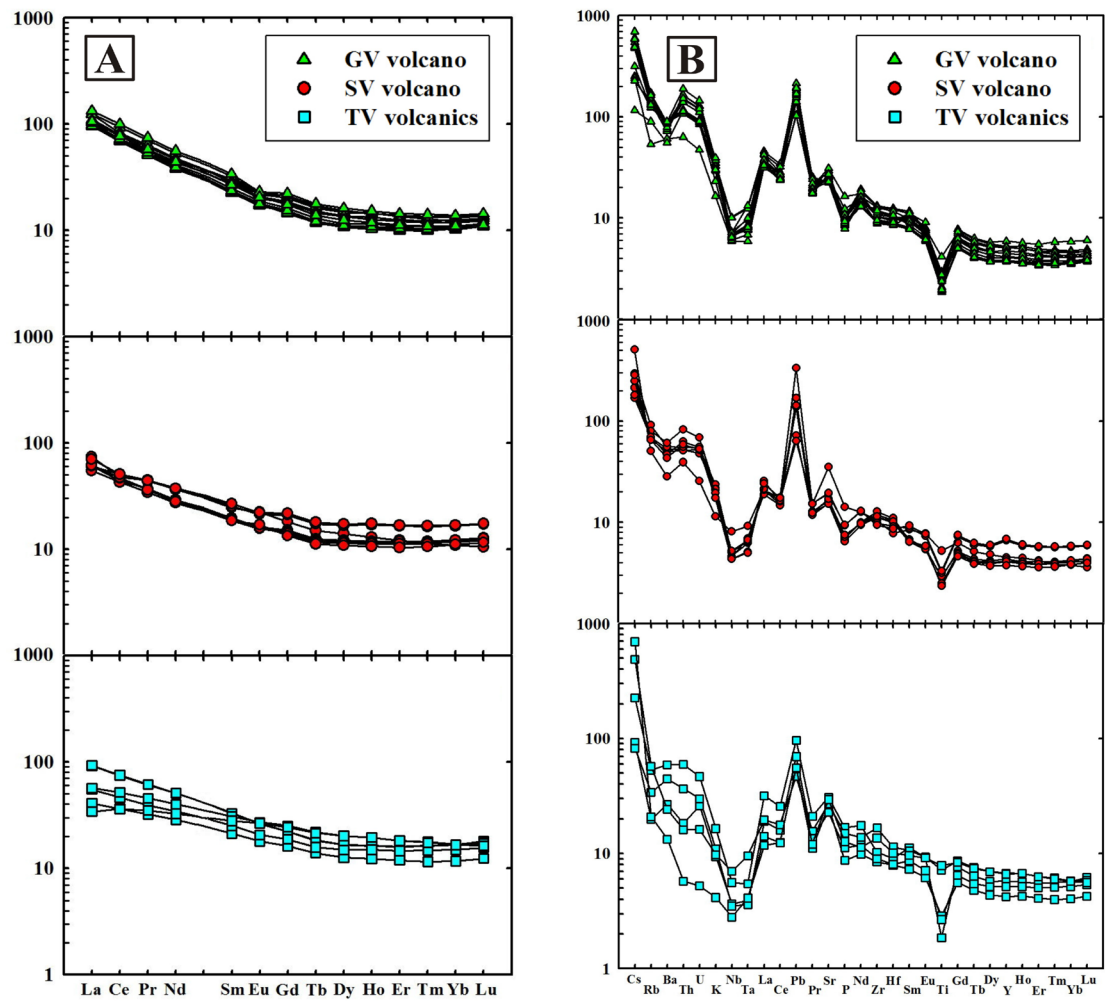
2. Figure S1



*Lai, Y.-M., Liu, P.-P., Ghani, A., Lee, H.-Y., Li, S., Murtadha, S., Quek, L.X., Roselee, M.H., Lintjewas, L., and Chung, S.-L., 2021, Zircon U-Pb geochronology and Hf isotopic compositions of the Cenozoic igneous rocks in Sumatra, Indonesia: ms. in prep.

*Liu, P.-P., Caricchi, L., Chung, S.-L., Li, X.-H., Li, Q., Zhou, M.-F., Ghani, A., Sihotang, T., Sheldrake, T., Simpson, G., and Lai, Y.-M., 2021, Growth and thermal maturation of the Toba magma reservoir: ms. in revision.

3. Figure S2



7. References

- Amin, T.C., Sidarto Santosa, S., and Gunuwan, W., 1994, The geology of the Kotaagung Quadrangle (1010), Sumatra. Scale 1:250,000. Geological Research and Development Centre, Bandung.
- Andersen, T., 2002, Correction of common lead in U-Pb analyses that do not report ^{204}Pb : Chemical Geology, v. 192, p. 59-79.
- Bellon, H., Maury, R.C., Sutanto, Soeria-Atmadja, R., Cotten, J., and Polve, M., 2004, 65 m.y.-long magmatic activity in Sumatra (Indonesia), from Paleocene to Present: Bulletin de la Societe Geologique de France, v. 175(1), p. 61-72.
- Bennett, J.D., Bridge, D.McC., Cameron, N R., Djunuddin, A., Ghazali, S.A., Jeffrey, D.H., Kartawa, W., Keats, W., Rock, N.M.S., Thompson, S.J., and Whandoyo, R., 1981, The geology of the Banda Aceh Quadrangle (0421), Sumatra. Scale 1:250,000. Geological Research and Development Centre, Bandung.
- Cameron, N.R., Aspden, J.A., Bridge, D.McC., Djunuddin, A., Ghazali, S.A., Harahap, H., Hariwidjaja, Johari, S., Kartawa, W., Keats, W., Ngabito, H., Rock, N.M.S., and Whandoyo, R., 1982, The geology of the Medan Quadrangle (0619), Sumatra. Scale 1:250,000. Geological Research and Development Centre, Bandung.
- Chiu, H.Y., Chung, S.L., Wu, F.Y., Liu, D.Y., Liang, Y.H., Lin, I.J., Iizuka, Y., Xie, L.W., Wang, Y.B., and Chu, M.F., 2009, Zircon U-Pb and Hf isotopic constraints from eastern Transhimalayan batholiths on the precollisional magmatic and tectonic evolution in southern Tibet: Tectonophysics, v. 477, p. 3-19.
- De Coster, G.G., 1974, The geology of the Central and South Sumatra Basins. In: Indonesian Petroleum Association, Proceedings of the 3rd Annual Convention, Jakarta, v. 3, p. 77-110.
- Eubank, R.T. and Makki, A.C., 1981, Structural geology of the Central Sumatra Back-Arc Basin. In: Indonesian Petroleum Association, Proceedings of the 10th Annual Convention, Jakarta, v. 10, p. 153-196.
- Gafoer, S., Amin, T.C., and Pardede, R., 1994, The geology of the Baturaja Quadrangle (1011), Sumatra. Scale 1:250,000. Geological Research and

Development Centre, Bandung.

- Griffin, W., Powell, W., Pearson, N., and O'Reilly, S., 2008, GLITTER: data reduction software for laser ablation ICP-MS: Laser Ablation-ICP-MS in the Earth Sciences: Mineralogical Association of Canada Short Course Series, v. 40, p. 204-207.
- Hehuwat, F., 1976, Isotopic age determinations in Indonesia, the state of art, volume. 3. Proc. Seminar on Isotopic Dating, CCOP, Bangkok, p. 135-155.
- Hsu, C.C., 2016, Detrital zircon U-Pb and Hf isotopic study in northwestern Sumatra, Indonesia: Master Thesis, National Taiwan University, p. 1-158.
- Imtihanah, 2000, Isotopic dating of igneous sequences of the Sumatra Fault System: M. Phil thesis, London University.
- 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, p. 47-69.
- JICA, 1988, Report on the cooperative mineral exploration of Southern Sumatra, Consolidated Report. Japan International Cooperation Agency, Metal Mining Agency of Japan, February 1988.
- Kallagher, H.J., 1990, K-Ar dating of selected igneous samples from the Sibolga Basin, Meulaboh and Simeulue Island, western Sumatra. Lemigas Scientific Contributions on Petroleum Science and Technology, Special Issue, p. 99-111.
- Kanao, N.E.A., 1971, Summary Report on the Survey of Sumatra, Block 5, Japanese Overseas Mineral Development Company Limited. Unpublished manuscript.
- Koning, T. and Aulia, K., 1985, Petroleum geology of the Ombilin Intermontane Basin, West Sumatra. In: Indonesian Petroleum Association, Proceedings of the 14th Annual Convention, Jakarta, v. 1, p. 117-137.
- Kusnama, Mangga, S.A., and Sukarna, D., 1993, Tertiary stratigraphy and tectonic evolution of southern Sumatra: Geological Society of Malaysia Bulletin, v. 33, p. 143-152.

- Lai, Y.-M., Liu, P.-P., Ghani, A., Lee, H.-Y., Li, S., Murtadha, S., Quek, L.X., Roselee, M.H., Lintjewas, L., and Chung, S.-L., 2021, Zircon U-Pb geochronology and Hf isotopic compositions of the Cenozoic igneous rocks in Sumatra, Indonesia: ms. in prep.
- Lin, I.J., Chung, S.L., Chu, C.H., Lee, H.Y., Gallet, S., Wu, G., Ji, J., and Zhang, Y., 2012, Geochemical and Sr-Nd isotopic characteristics of Cretaceous to Paleocene granitoids and volcanic rocks, SE Tibet: petrogenesis and tectonic implications: *Journal of Asian Earth Sciences* v. 53, p. 131-150.
- Liu, P.-P., Caricchi, L., Chung, S.-L., Li, X.-H., Li, Q., Zhou, M.-F., Ghani, A., Sihotang, T., Sheldrake, T., Simpson, G., and Lai, Y.-M., 2021, Growth and thermal maturation of the Toba magma reservoir: ms. in revision.
- Ludwig, K.R., 2012, Isoplot 3.75–4.15: A geochronological toolkit for Microsoft Excel: Berkeley Geochronology Center Special Publication, p. 1-75
- McCourt, W.J., Cobbing, E.J., 1993, The geochemistry, geochronology and tectonic setting of granitoid rocks from southern Sumatra, Western Indonesia. Southern Sumatra Geological and Mineral Exploration Project. Project Report Series, 9. Directorate of Mineral Resources/Geological Research and Development Centre, Bandung, Indonesia.
- Rock, N.M.S., Aldiss, D.T., Aspden, J.A., Clarke, M.C.G., Djunuddin, A., Kartawa, W., Miswar, S.J., Thompson, R., and Whandoyo, R., 1983, The geology of the Lubuksikaping Quadrangle (0716), Sumatra. Scale 1:250,000. Geological Research and Development Centre, Bandung.
- Sato, K., 1991, K-Ar ages of granitoids in Central Sumatra, Indonesia: *Bulletin Geological Survey of Japan*, v. 42, p. 111-181.
- Sláma, J., Košler, J., Condon, D.J., Crowley, J.L., Gerdes, A., Hanchar, J.M., Horstwood, M.S.A., Morris, G.A., Nasdala, L., and Norberg, N., 2008, Plešovice zircon - a new natural reference material for U-Pb and Hf isotopic microanalysis: *Chemical Geology*, v. 249, p. 1-35.
- van Leeuwen, T.M., Taylor, R.P., and Hutagalung, J., 1987, The geology of the Tangse

porphyry copper-molybdenum prospect, Aceh, Indonesia: *Economic Geology*, v. 82, p. 27-42.

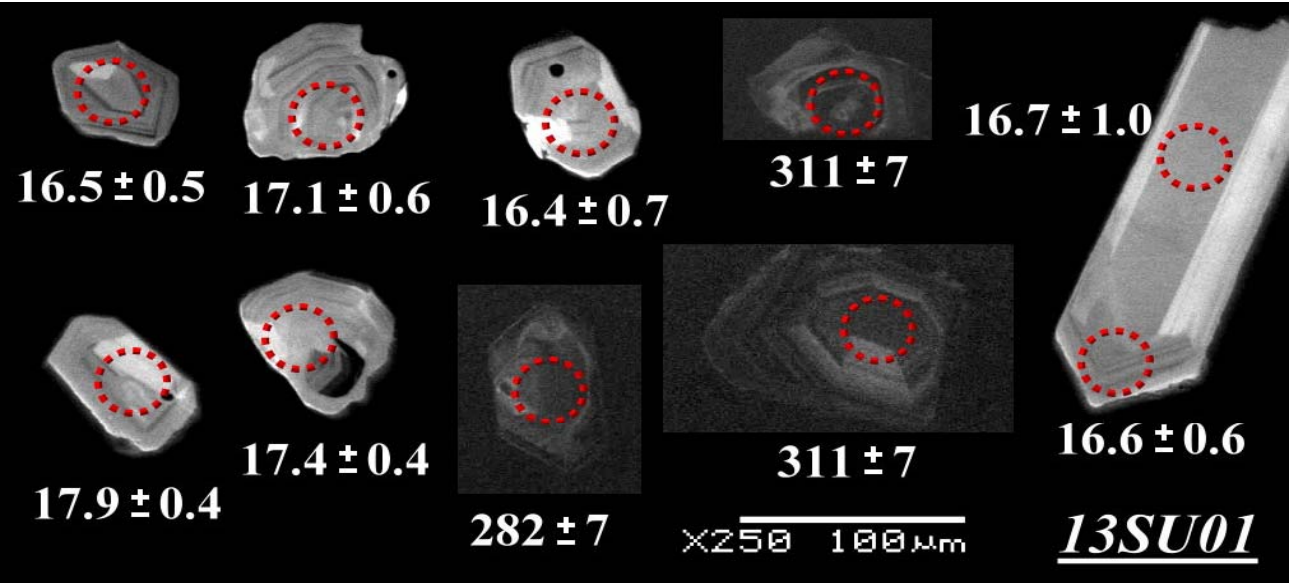
Wajzer, M.R., 1986, The geology and tectonic evolution of the Woyla Group, Natal area, North Sumatra: PhD thesis, University of London.

Wiedenbeck, M., Allé, P., Corfu, F., Griffin, W.L., Meier, M., Oberli, F., Quadt, A.V., 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, p. 1-23.

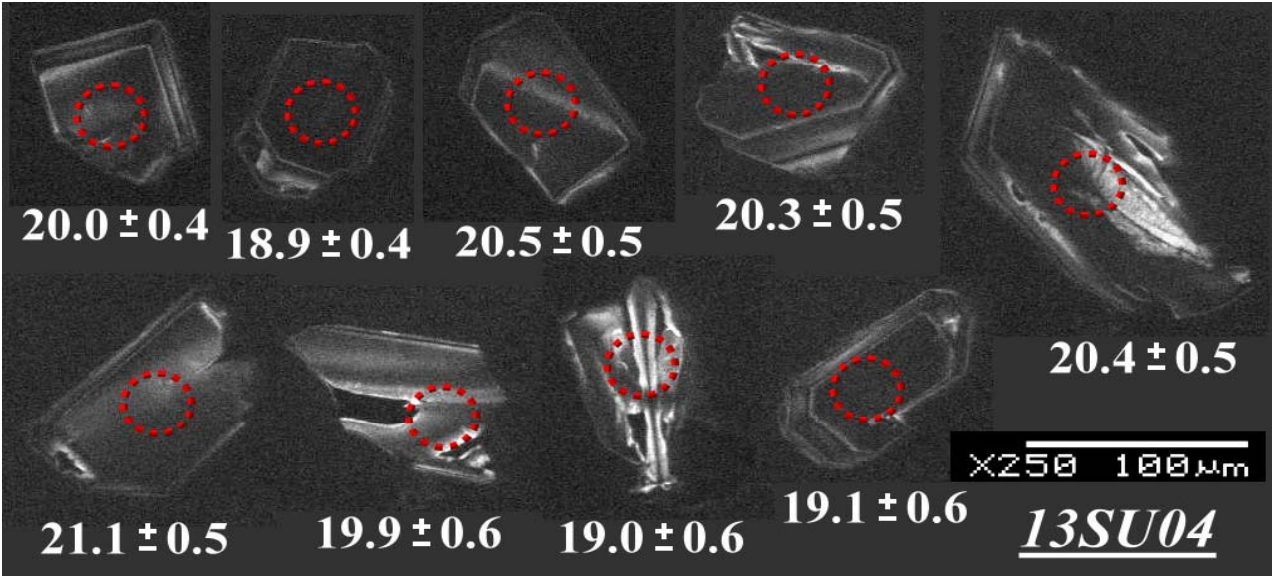
Wikarno, R., Hardjono, f. and Graha, D.S., 1993, Distribution of radiometric ages in Indonesia, scale 1:5000000. Geological Research and Development Centre, Bandung.

4. Table S1

Spot.	U (ppm)	Th (ppm)	Th/U	U-Th-Pb ratios						Age (Ma)						Age (Ma)	
				²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ	²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ	²⁰⁶ Pb/ ²³⁸ U	± 1σ
Tertiary Volcano																	
13SU01	wt. mean = 16.5 ± 0.5 (2σ)																
SU01-01	119	64	0.53	0.0026	0.0001	0.0476	0.0049	0.0169	0.0021	16.5	0.5	81	210	17.0	2.0	16.5	0.5
SU01-02	127	63	0.49	0.0027	0.0001	0.0506	0.0046	0.0185	0.0022	17.1	0.6	221	205	19.0	2.0	17.1	0.6
SU01-03	155	71	0.46	0.0026	0.0001	0.0461	0.0021	0.0168	0.0012	17.0	0.8	1.0	88	17.0	1.0	17.0	0.8
SU01-05	117	60	0.51	0.0026	0.0001	0.0559	0.0060	0.0199	0.0026	16.6	0.5	450	246	20.0	3.0	16.6	0.5
SU01-06	129	64	0.50	0.0024	0.0001	0.0451	0.0047	0.0150	0.0020	15.6	0.5	-14	211	15.0	2.0	15.6	0.5
SU01-08	471	325	0.69	0.0023	0.0001	0.0461	0.0011	0.0147	0.0007	14.9	0.5	1.0	47	14.8	0.7	14.9	0.5
SU01-09	119	65	0.54	0.0026	0.0001	0.0461	0.0031	0.0166	0.0014	16.8	0.5	3.0	145	17.0	1.0	16.8	0.5
SU01-10	120	69	0.58	0.0028	0.0001	0.0461	0.0021	0.0177	0.0011	17.9	0.4	4.0	94	18.0	1.0	17.9	0.4
SU01-12	220	70	0.32	0.0027	0.0001	0.0462	0.0020	0.0172	0.0010	17.4	0.4	6.0	91	17.0	1.0	17.4	0.4
SU01-13R	141	74	0.52	0.0026	0.0001	0.0523	0.0063	0.0186	0.0027	16.6	0.6	299	259	19.0	3.0	16.6	0.6
SU01-15	244	292	1.20	0.0028	0.0002	0.0508	0.0069	0.0197	0.0036	18.1	1.0	230	290	20.0	4.0	18.1	1.0
SU01-17	107	65	0.61	0.0026	0.0001	0.0461	0.0085	0.0162	0.0034	16.4	0.7	4.0	309	16.0	3.0	16.4	0.7
SU01-19	360	398	1.11	0.0024	0.0001	0.0461	0.0022	0.0152	0.0009	15.3	0.4	3.0	98	15.3	0.9	15.3	0.4
SU01-20	80	35	0.44	0.0027	0.0001	0.0469	0.0091	0.0171	0.0041	17.1	0.8	44	346	17.0	4.0	17.1	0.8
SU01-23	117	62	0.53	0.0023	0.0002	0.0461	0.0075	0.0147	0.0030	15.0	1.0	1.0	278	15.0	3.0	15.0	1.0
SU01-24	133	72	0.54	0.0025	0.0001	0.0488	0.0098	0.0165	0.0039	15.8	0.8	139.0	353	17.0	4.0	15.8	0.8



Spot.	U (ppm)	Th (ppm)	Th/U	U-Th-Pb ratios						Age (Ma)						Age (Ma)	
				²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ	²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ	²⁰⁶ Pb/ ²³⁸ U	± 1σ
Tertiary Volcano																	
13SU04	wt. mean = 20.1 ± 0.3 (2σ)																
SU04-01	687	1174	1.71	0.0032	0.0001	0.0462	0.0065	0.0203	0.0034	20.5	0.7	7.0	242	20.0	3.0	20.5	0.7
SU04-02	1593	5806	3.64	0.0031	0.0001	0.0486	0.0009	0.0209	0.0008	20.0	0.4	129	42	21.0	0.8	20.0	0.4
SU04-04	1742	5892	3.38	0.0032	0.0001	0.0492	0.0008	0.0216	0.0007	20.5	0.5	156	33	21.6	0.7	20.5	0.5
SU04-05	1052	5091	4.84	0.0031	0.0001	0.0461	0.0015	0.0197	0.0010	19.9	0.5	4.0	58	19.8	1.0	19.9	0.5
SU04-06	938	3499	3.73	0.0031	0.0001	0.0461	0.0028	0.0196	0.0015	19.9	0.5	3.0	111	20.0	2.0	19.9	0.5
SU04-07	1500	5279	3.52	0.0031	0.0001	0.0461	0.0026	0.0200	0.0015	20.2	0.5	3.0	105	20.0	1.0	20.2	0.5
SU04-08	1568	4134	2.64	0.0032	0.0001	0.0461	0.0002	0.0200	0.0005	20.3	0.5	3.0	10.0	20.1	0.5	20.3	0.5
SU04-09	1572	3546	2.26	0.0032	0.0001	0.0507	0.0010	0.0222	0.0009	20.4	0.5	228	41	22.3	0.8	20.4	0.5
SU04-10	1563	7068	4.52	0.0031	0.0001	0.0530	0.0010	0.0230	0.0009	20.2	0.5	331	38	23.1	0.8	20.2	0.5
SU04-11	1473	4964	3.37	0.0033	0.0001	0.0461	0.0003	0.0209	0.0005	21.1	0.5	2.0	12.0	21.0	0.5	21.1	0.5
SU04-12	1449	6852	4.73	0.0033	0.0001	0.0461	0.0027	0.0207	0.0016	20.9	0.5	5.0	107	21.0	2.0	20.9	0.5
SU04-14	1418	6682	4.71	0.0030	0.0001	0.0461	0.0025	0.0190	0.0014	19.2	0.5	4.0	101	19.0	1.0	19.2	0.5
SU04-15R	1508	5874	3.89	0.0031	0.0001	0.0491	0.0010	0.0213	0.0009	20.2	0.5	155	45	21.4	0.9	20.2	0.5
SU04-17	989	2324	2.35	0.0031	0.0001	0.0462	0.0036	0.0197	0.0020	19.9	0.6	6.0	147	20.0	2.0	19.9	0.6
SU04-18	968	1367	1.41	0.0030	0.0001	0.0461	0.0004	0.0187	0.0006	19.0	0.6	2.0	16.0	18.8	0.6	19.0	0.6
SU04-19	1555	7596	4.88	0.0030	0.0001	0.0462	0.0063	0.0189	0.0030	19.1	0.6	6.0	235	19.0	3.0	19.1	0.6
SU04-20	925	2330	2.52	0.0033	0.0001	0.0462	0.0053	0.0207	0.0028	20.9	0.6	7.0	216	21.0	3.0	20.9	0.6



5. Table S2

Sample name	13SU01	13SU03	13SU04	13SU05	13SU11	13SU24	13SU27
Volcanoes ^a	TV	TV	TV	TV	TV	TV	GV
GPS	N 05° 04.523' E 95° 35.948' 32 m	N 04° 51.191' E 95° 25.317' 25 m	N 04° 51.191' E 95° 25.317' 25 m	N 04° 54.214' E 95° 23.705' 15 m	N 03° 21.304' E 97° 07.303' 18 m	N 03° 29.527' E 97° 04.635' 5 m	N 05° 01.142' E 96° 41.929' 366 m
Ages ^b	16.5 ± 0.5		20.1 ± 0.3				
⁸⁷ Sr/ ⁸⁶ Sr	0.705548±10		0.704789±10		0.704337±08	0.704759±08	
¹⁴³ Nd/ ¹⁴⁴ Nd	0.512867±06		0.512754±06		0.512902±04	0.512969±07	
<i>Major oxides (wt.%)</i>							
SiO ₂	53.65	58.35	58.48	55.33	48.20	49.63	58.11
TiO ₂	0.74	0.47	0.45	0.69	1.69	1.68	0.69
Al ₂ O ₃	18.50	18.40	18.28	18.31	17.05	15.51	17.81
Fe ₂ O ₃ ^c	7.84	6.20	5.66	8.61	10.42	9.38	7.14
MnO	0.14	0.24	0.21	0.19	0.21	0.16	0.16
MgO	3.72	1.76	1.54	2.83	6.82	6.27	2.35
CaO	7.30	5.78	4.61	6.32	8.67	11.05	6.78
Na ₂ O	4.40	5.04	5.53	4.83	3.58	4.25	3.17
K ₂ O	0.68	1.19	1.26	0.79	0.71	0.30	2.53
P ₂ O ₅	0.20	0.35	0.34	0.25	0.34	0.24	0.21
L.O.I.	4.49	2.53	3.68	2.95	3.52	2.42	0.81
Total	101.70	100.30	100.00	101.10	101.20	100.90	99.80
<i>Trace elements (ppm)</i>							
Sc	25.7	11.5	23.8	21.2	39.1	58.0	11.5
V	193	53.4	43.7	126	229	315	175
Cr	35.0	23.0	47.0	12.0	118	88.0	20.0
Co	18.8	7.10	5.90	13.3	37.0	33.4	11.7
Ni	21.5	32.2	25.1	9.46	54.1	41.5	10.8
Rb	12.6	33.8	33.4	21.6	36.6	13.3	110
Sr	549	651	457	481	570	623	475
Y	19.2	26.4	26.0	23.5	30.7	30.2	23.9
Zr	95.0	115	119	101	187	153	148
Nb	2.60	4.00	4.10	2.50	5.00	2.00	7.30
Cs	0.73	1.78	1.28	0.65	3.83	5.48	4.74
Ba	188	413	431	311	169	93.0	511
La	9.70	21.9	22.0	13.1	13.5	8.10	31.4
Ce	22.2	45.6	46.0	28.4	31.7	22.1	60.9
Pr	3.06	5.82	5.86	3.75	4.33	3.34	7.06
Nd	13.4	23.7	23.9	16.1	18.7	15.3	26.0
Sm	3.25	5.00	5.04	3.85	4.71	4.29	5.17
Eu	1.04	1.55	1.53	1.20	1.57	1.54	1.33
Gd	3.33	4.57	4.56	3.86	5.16	5.01	4.57
Tb	0.52	0.69	0.68	0.59	0.82	0.81	0.67
Dy	3.22	4.21	4.25	3.80	5.13	5.13	4.11
Ho	0.70	0.93	0.92	0.85	1.10	1.10	0.86
Er	1.97	2.65	2.65	2.42	3.03	3.02	2.37
Tm	0.30	0.42	0.42	0.38	0.46	0.44	0.36
Yb	1.99	2.83	2.83	2.54	2.85	2.83	2.34
Lu	0.32	0.46	0.45	0.40	0.44	0.42	0.36
Hf	2.46	2.79	2.91	2.49	3.53	3.12	3.87
Ta	0.16	0.22	0.24	0.15	0.39	0.17	0.52
Th	1.55	5.06	5.20	3.11	1.37	0.49	13.9
U	0.55	0.98	1.00	0.63	0.34	0.11	2.67

^aTV, Tertiary volcanics; GV, Geureudong volcano; SV, Seulawah Agam volcano.^bAge data are zircon U-Pb ages.^cTotal Fe measured as Fe₂O₃.

Table S2. (continued)

Sample name	13SU28	13SU29	13SU30-1	13SU30-2	13SU30-3	13SU30-4	13SU30-5
Volcano	GV	GV	GV	GV	GV	GV	GV
GPS	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m	N 05° 01.142' E 96° 41.929' 366m
Ages	< 0.3						
$^{87}\text{Sr}/^{86}\text{Sr}$		0.704700±06	0.704424±08	0.704498±12			
$^{143}\text{Nd}/^{144}\text{Nd}$		0.512632±06	0.512662±05	0.512667±05			
<i>Major oxides (wt.%)</i>							
SiO ₂	61.84	58.48	49.59	54.77	58.26	57.34	57.03
TiO ₂	0.48	0.60	0.94	0.73	0.71	0.61	0.69
Al ₂ O ₃	17.41	18.33	19.05	17.54	17.81	17.85	17.71
Fe ₂ O ₃	5.56	7.10	10.99	8.45	7.24	7.58	7.71
MnO	0.14	0.14	0.39	0.23	0.16	0.17	0.17
MgO	1.89	2.16	3.24	3.51	2.48	2.64	2.92
CaO	5.78	6.88	9.54	8.38	6.94	6.80	7.48
Na ₂ O	3.62	3.67	3.20	3.12	3.28	3.10	3.25
K ₂ O	2.18	2.14	1.68	2.16	2.38	2.71	2.35
P ₂ O ₅	0.18	0.21	0.27	0.25	0.21	0.22	0.20
L.O.I.	0.40	0.41	1.45	1.33	0.81	1.14	1.31
Total	99.50	100.10	100.30	100.50	100.30	100.20	100.80
<i>Trace elements (ppm)</i>							
Sc	10.1	15.7	28.2	26.5	18.4	23.3	26.0
V	97.1	180	299	251	171	174	209
Cr	9.00	64.0	20.0	135	20.0	48.0	6.00
Co	9.80	12.2	22.7	19.3	11.5	14.8	16.9
Ni	7.32	26.5	65.0	41.4	15.4	30.0	12.4
Rb	78.1	78.8	56.9	88.5	104	108	92.0
Sr	542	616	531	508	471	489	506
Y	17.3	18.9	23.2	24.0	23.4	21.6	20.5
Zr	105	117	99.0	121	146	143	127
Nb	4.90	4.80	4.30	4.80	7.20	5.20	4.90
Cs	1.98	2.49	0.92	1.79	3.90	5.49	4.31
Ba	632	614	386	503	527	616	551
La	24.2	25.0	22.6	26.1	29.6	29.0	24.8
Ce	44.1	47.3	44.1	48.3	56.9	50.4	46.9
Pr	5.08	5.52	5.38	5.76	6.69	6.05	5.45
Nd	18.4	20.6	20.9	21.6	24.7	22.1	20.3
Sm	3.60	4.10	4.60	4.43	4.92	4.34	4.14
Eu	1.03	1.19	1.33	1.26	1.27	1.20	1.16
Gd	3.15	3.59	4.31	4.17	4.38	3.83	3.72
Tb	0.45	0.52	0.62	0.61	0.63	0.57	0.54
Dy	2.82	3.18	3.86	3.77	3.90	3.47	3.43
Ho	0.61	0.67	0.83	0.81	0.81	0.75	0.71
Er	1.73	1.85	2.22	2.28	2.28	2.05	2.00
Tm	0.26	0.28	0.33	0.34	0.34	0.31	0.30
Yb	1.85	1.87	2.07	2.27	2.28	2.12	2.01
Lu	0.29	0.29	0.31	0.34	0.35	0.33	0.31
Hf	2.78	2.99	2.62	3.16	3.77	3.60	3.22
Ta	0.35	0.31	0.28	0.34	0.51	0.40	0.41
Th	9.97	9.14	9.70	12.6	14.0	16.1	11.8
U	1.90	1.77	1.85	2.52	2.69	3.04	2.33

Table S2. (continued)

Sample name	13SU30-6	13SU32	13SU33-1	13SU33-2	13SU33-3	13SU33-4	13SU35
Volcano	GV	GV	GV	GV	GV	GV	SV
GPS	N 05° 01.142'	N 04° 43.376'	N 04° 43.376'	N 04° 43.376'	N 04° 43.376'	N 04° 43.376'	N 05° 27.001'
	E 96° 41.929'	E 96° 50.306'	E 96° 50.306'	E 96° 50.306'	E 96° 50.306'	E 96° 50.306'	E 95° 41.189'
	366m	1432m	1432m	1432m	1432m	1432m	777m
Ages							
⁸⁷ Sr/ ⁸⁶ Sr		0.705049±10					0.705349±10
¹⁴³ Nd/ ¹⁴⁴ Nd		0.512630±05					0.512762±06
Major oxides (wt.%)							
SiO ₂	59.05	61.24	61.66	61.16	61.27	61.38	48.38
TiO ₂	0.59	0.48	0.50	0.48	0.51	0.49	1.13
Al ₂ O ₃	17.33	17.73	17.50	17.64	17.63	17.55	21.26
Fe ₂ O ₃	6.73	5.72	5.75	5.68	5.90	5.69	7.19
MnO	0.14	0.14	0.14	0.14	0.15	0.14	0.11
MgO	2.26	2.03	2.07	2.00	2.11	2.04	4.54
CaO	6.46	6.21	5.95	6.23	6.18	6.12	11.62
Na ₂ O	2.96	3.54	3.56	3.54	3.48	3.59	3.27
K ₂ O	2.84	2.12	2.19	2.11	2.13	2.16	0.83
P ₂ O ₅	0.18	0.19	0.19	0.19	0.19	0.19	0.27
L.O.I.	1.38	0.53	0.63	0.80	0.81	0.86	1.98
Total	99.90	99.90	100.10	100.00	100.40	100.20	100.60
Trace elements (ppm)							
Sc	10.9	13.5	14.2	10.2	16.9	9.20	30.4
V	156	123	121	124	126	127	179
Cr	11.0	19.0	11.0	13.0	13.0	26.0	281
Co	12.6	10.4	10.0	9.80	10.2	9.80	25.5
Ni	7.83	12.3	8.43	13.6	9.39	10.9	91.7
Rb	103	82.5	85.1	82.2	83.2	83.8	32.2
Sr	481	574	549	571	564	569	740
Y	18.6	16.8	17.5	17.0	17.2	17.3	20.5
Zr	133	104	104	102	107	107	118
Nb	5.10	4.60	4.70	4.50	4.70	4.60	5.80
Cs	4.60	3.81	3.95	3.84	3.75	3.83	4.02
Ba	595	622	634	621	630	628	199
La	25.7	22.8	23.5	22.8	22.9	22.9	14.3
Ce	47.5	41.9	43.5	42.1	42.5	42.4	31.1
Pr	5.34	4.80	4.97	4.86	4.85	4.83	4.17
Nd	19.4	17.6	18.1	17.7	17.6	17.8	17.1
Sm	3.79	3.44	3.47	3.44	3.51	3.46	3.76
Eu	1.10	1.01	0.99	1.03	1.04	1.03	1.30
Gd	3.33	3.04	3.06	2.96	3.04	3.00	3.75
Tb	0.48	0.43	0.44	0.44	0.44	0.44	0.56
Dy	2.94	2.73	2.76	2.79	2.75	2.72	3.55
Ho	0.65	0.58	0.59	0.58	0.59	0.58	0.73
Er	1.78	1.63	1.68	1.66	1.69	1.66	2.01
Tm	0.28	0.26	0.26	0.25	0.25	0.27	0.29
Yb	1.86	1.73	1.79	1.77	1.81	1.79	1.86
Lu	0.29	0.28	0.28	0.28	0.28	0.28	0.27
Hf	3.30	2.72	2.73	2.65	2.79	2.81	2.41
Ta	0.54	0.34	0.33	0.35	0.32	0.33	0.38
Th	13.0	9.53	9.98	9.54	9.49	9.63	3.33
U	2.52	1.87	1.95	1.84	1.83	1.90	0.54

Table S2. (continued)

Sample name	13SU37	13SU38	13SU39	13SU40	13SU43	13SU44
Volcano	SV	SV	SV	SV	SV	SV
GPS	N 05° 26.971'	N 05° 26.971'	N 05° 26.971'	N 05° 33.069'	N 05° 32.336'	N 05° 31.640'
	E 95° 41.901'	E 95° 41.901'	E 95° 41.901'	E 95° 30.951'	E 95° 29.586'	E 95° 29.376'
	772m	772m	772m	525m	350m	245m
Ages	< 0.3		< 0.3			
⁸⁷ Sr/ ⁸⁶ Sr	0.705101±12		0.704752±12		0.704579±08	
¹⁴³ Nd/ ¹⁴⁴ Nd	0.512743±05		0.512782±05		0.512771±05	
<i>Major oxides (wt.%)</i>						
SiO ₂	59.16	58.14	61.15	62.36	56.54	56.12
TiO ₂	0.71	0.71	0.60	0.57	0.76	0.79
Al ₂ O ₃	17.81	17.52	17.22	17.79	18.00	18.11
Fe ₂ O ₃	7.13	7.17	6.25	4.96	7.98	8.32
MnO	0.14	0.14	0.14	0.13	0.16	0.15
MgO	2.89	3.30	2.63	2.09	3.08	3.42
CaO	6.07	6.63	5.91	5.53	7.79	7.98
Na ₂ O	3.41	3.35	3.77	3.68	3.32	3.31
K ₂ O	1.57	1.51	1.71	1.55	1.41	1.26
P ₂ O ₅	0.14	0.13	0.14	0.15	0.18	0.18
L.O.I.	1.21	1.55	1.03	1.17	0.89	1.08
Total	100.20	100.10	100.60	100.00	100.10	100.70
<i>Trace elements (ppm)</i>						
Sc	27.7	34.5	24.9	12.9	21.1	33.2
V	194	225	150	135	239	252
Cr	15.0	14.0	27.0	13.0	44.0	48.0
Co	17.0	17.9	13.9	11.5	20.4	20.5
Ni	9.15	8.94	12.2	11.7	28.0	35.8
Rb	43.9	42.6	58.0	50.7	44.3	41.4
Sr	343	326	320	358	407	413
Y	19.6	18.6	18.6	17.0	30.0	31.1
Zr	133	126	143	128	110	105
Nb	3.30	3.20	3.60	3.70	3.10	3.10
Cs	1.34	1.69	2.33	1.43	1.97	2.25
Ba	372	349	390	426	328	303
La	14.5	13.0	14.4	14.6	17.6	16.6
Ce	26.9	26.1	28.6	28.8	29.1	31.0
Pr	3.51	3.26	3.49	3.43	4.24	4.21
Nd	13.6	12.7	13.6	13.1	17.2	17.5
Sm	3.02	2.86	2.96	2.86	3.90	4.11
Eu	0.94	0.91	0.92	0.98	1.24	1.29
Gd	3.10	2.98	2.88	2.75	4.32	4.47
Tb	0.47	0.45	0.44	0.42	0.65	0.67
Dy	3.07	2.97	2.88	2.75	4.25	4.41
Ho	0.67	0.66	0.64	0.60	0.96	0.99
Er	1.96	1.86	1.86	1.72	2.73	2.78
Tm	0.30	0.29	0.29	0.27	0.42	0.43
Yb	2.08	1.99	2.06	1.89	2.81	2.87
Lu	0.33	0.31	0.32	0.29	0.44	0.44
Hf	3.24	3.08	3.41	3.14	2.82	2.67
Ta	0.26	0.28	0.27	0.27	0.21	0.20
Th	4.45	4.37	4.71	7.04	5.34	4.99
U	1.01	1.09	1.14	1.44	1.16	1.11

6. Table S3

Spot.	U (ppm)	Th (ppm)	Th/U	U-Th-Pb ratios						Age (Ma)						Inferred Age (Ma)	± 1σ
				²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ	²⁰⁶ Pb/ ²³⁸ U	± 1σ	²⁰⁷ Pb/ ²⁰⁶ Pb	± 1σ	²⁰⁷ Pb/ ²³⁵ U	± 1σ		
All data from (Hsu, 2016)																	
13SU26																	
SU26-001	400	302	0.75	0.0009	0.0000	0.0705	0.0043	0.0087	0.0008	5.8	0.2	942	111	8.8	0.8	5.8	0.2
SU26-002	286	294	1.03	0.0013	0.0001	0.0632	0.0041	0.0114	0.0011	8.4	0.3	713	125	12	1	8.4	0.3
SU26-003	119	127	1.07	0.0021	0.0001	0.0606	0.0072	0.0179	0.0028	13.8	0.6	625	235	18	3	13.8	0.6
SU26-004	204	170	0.83	0.0016	0.0001	0.0462	0.0050	0.0100	0.0014	10.1	0.4	7	193	10	1	10.1	0.4
SU26-005	104	95	0.91	0.1901	0.0046	0.0772	0.0009	2.0221	0.0531	1122	25	1126	20	1123	18	1126	20
SU26-006	56	53	0.95	0.0074	0.0003	0.0347	0.0056	0.0355	0.0068	48	2	-84	199	35	7	48	2
SU26-007	76	80	1.05	0.1916	0.0046	0.0765	0.0009	2.0202	0.0540	1130	25	1108	21	1122	18	1108	21
SU26-008	73	68	0.93	0.0101	0.0003	0.0399	0.0024	0.0555	0.0048	65	2	-298	125	55	5	65	2
SU26-009	181	185	1.02	0.0016	0.0001	0.0416	0.0068	0.0093	0.0018	10.5	0.4	-201	235	9	2	10.5	0.4
SU26-010	520	1759	3.38	0.0065	0.0002	0.0465	0.0009	0.0418	0.0016	42	1	22	38	42	2	42	1
SU26-011	248	228	0.92	0.0035	0.0001	0.0461	0.0030	0.0224	0.0019	22.6	0.6	4	121	22	2	22.6	0.6
SU26-012	130	130	1.00	0.0025	0.0001	0.0542	0.0045	0.0188	0.0022	16.2	0.6	381	169	19	2	16.2	0.6
SU26-013	127	118	0.93	0.0009	0.0001	0.1071	0.0099	0.0139	0.0020	6.1	0.4	1750	153	14	2	6.1	0.4
SU26-014	69	139	2.02	0.0829	0.0020	0.0624	0.0009	0.7136	0.0220	513	12	689	26	547	13	513	12
SU26-015	337	314	0.93	0.0248	0.0006	0.0496	0.0007	0.1698	0.0051	158	4	175	28	159	4	158	4
SU26-016	78	69	0.89	0.0325	0.0008	0.0510	0.0011	0.2287	0.0094	206	5	242	44	209	8	206	5
SU26-017	163	111	0.68	0.0012	0.0001	0.0581	0.0084	0.0099	0.0018	8	0.3	532	281	10	2	8	0.3
SU26-018	206	322	1.56	0.0016	0.0001	0.2137	0.0353	0.0460	0.0107	10	0.8	2934	261	46	10	10	0.8
SU26-019	137	81	0.59	0.0012	0.0001	0.0288	0.0107	0.0048	0.0020	7.7	0.4	-337	365	5	2	7.7	0.4
SU26-020	269	292	1.08	0.0010	0.0000	0.0461	0.0035	0.0065	0.0006	6.6	0.2	4	132	6.6	0.6	6.6	0.2
SU26-021	199	123	0.62	0.0018	0.0001	0.0346	0.0056	0.0085	0.0016	11.4	0.4	-89	200	9	2	11.4	0.4
SU26-022	286	327	1.14	0.0012	0.0000	0.0727	0.0048	0.0116	0.0011	7.5	0.3	1005	120	12	1	7.5	0.3
SU26-023	297	520	1.75	0.0076	0.0002	0.0443	0.0011	0.0463	0.0022	49	1	-54	45	46	2	49	1
SU26-024	68	45	0.66	0.0016	0.0001	0.0246	0.0176	0.0054	0.0042	10.3	0.6	-533	680	5	4	10.3	0.6
SU26-025	350	362	1.03	0.0011	0.0000	0.0320	0.0040	0.0048	0.0008	7.1	0.3	-198	145	4.9	0.8	7.1	0.3
SU26-026	125	89	0.71	0.0010	0.0001	0.0501	0.0149	0.0067	0.0023	6.3	0.3	198	444	7	2	6.3	0.3
SU26-027	205	193	0.94	0.0009	0.0000	0.0461	0.0017	0.0060	0.0003	6.1	0.2	2	63	6.1	0.3	6.1	0.2
SU26-028	111	108	0.98	0.0075	0.0002	0.0684	0.0021	0.0705	0.0039	48	1	880	58	69	4	48	1
SU26-029	128	147	1.16	0.0010	0.0001	0.0320	0.0147	0.0042	0.0022	6.2	0.4	-199	512	4	2	6.2	0.4
SU26-030	297	195	0.65	0.0249	0.0006	0.0459	0.0007	0.1574	0.0051	158	4	-7	26	148	4	158	4
SU26-031	140	174	1.24	0.1604	0.0038	0.0795	0.0009	1.7572	0.0450	959	21	1184	20	1030	17	959	21
SU26-032	752	598	0.79	0.0333	0.0008	0.0580	0.0007	0.2667	0.0069	211	5	531	22	240	6	211	5

SU26-033	184	169	0.92	0.0060	0.0002	0.0556	0.0018	0.0461	0.0025	39	1	438	64	46	2	39	1
SU26-034	128	147	1.15	0.0019	0.0001	0.0701	0.0059	0.0188	0.0023	12.5	0.5	931	157	19	2	12.5	0.5
SU26-035	84	54	0.65	0.0014	0.0001	0.0942	0.0193	0.0177	0.0045	8.8	0.5	1512	400	18	4	8.8	0.5
SU26-036	89	128	1.43	0.0024	0.0001	0.0585	0.0104	0.0197	0.0042	15.7	0.7	550	359	20	4	15.7	0.7
SU26-037	179	262	1.46	0.0971	0.0023	0.0603	0.0007	0.8073	0.0215	597	14	616	24	601	12	597	14
SU26-038	136	89	0.66	0.0015	0.0001	0.0302	0.0090	0.0064	0.0021	9.9	0.4	-275	331	6	2	9.9	0.4
SU26-039	211	442	2.10	0.0091	0.0002	0.0364	0.0012	0.0457	0.0025	58	2	-17	242	45	2	58	2
SU26-040	114	73	0.64	0.0016	0.0001	0.0809	0.0091	0.0178	0.0027	10.2	0.5	1219	216	18	3	10.2	0.5
SU26-041	92	73	0.80	0.0011	0.0001	0.1489	0.0106	0.0234	0.0028	7.3	0.5	2334	116	24	3	7.3	0.5
SU26-042	69	61	0.88	0.0019	0.0001	0.0593	0.0129	0.0153	0.0040	12	0.6	577	427	15	4	12	0.6
SU26-043	85	99	1.17	0.0012	0.0001	-0.0040	-0.0171	-0.0007	0.0028	7.7	0.5	-2328	1372	-1	3	7.7	0.5
SU26-044	220	135	0.61	0.0016	0.0001	0.0568	0.0040	0.0127	0.0013	10.4	0.4	485	147	13	1	10.4	0.4
SU26-045	154	122	0.80	0.0161	0.0004	0.0441	0.0011	0.0976	0.0044	103	3	-67	49	95	4	103	3
SU26-046	233	234	1.00	0.1972	0.0048	0.0767	0.0009	2.0850	0.0526	1160	26	1113	21	1144	17	1113	21
SU26-047	79	85	1.08	0.0012	0.0001	0.0756	0.0190	0.0120	0.0036	7.4	0.5	1085	501	12	4	7.4	0.5
SU26-048	131	98	0.75	0.0014	0.0001	0.0425	0.0055	0.0084	0.0014	9.3	0.4	-153	194	9	1	9.3	0.4
SU26-049	92	104	1.14	0.0083	0.0004	0.1475	0.0185	0.1683	0.0271	53	2	2317	210	158	24	53	2
SU26-050	146	109	0.75	0.0019	0.0001	0.1435	0.0347	0.0370	0.0110	12	0.8	2270	446	37	11	12	0.8
SU26-051	126	83	0.66	0.0016	0.0001	0.0461	0.0011	0.0098	0.0004	10	0.3	1	43	9.9	0.4	10	0.3
SU26-052	648	1310	2.02	0.0067	0.0002	0.0503	0.0008	0.0466	0.0016	43	1	207	33	46	2	43	1
SU26-053	111	129	1.16	0.0065	0.0002	0.0520	0.0017	0.0469	0.0027	42	1	286	72	47	3	42	1
SU26-054	232	133	0.57	0.4596	0.0112	0.1627	0.0018	10.3057	0.2576	2438	50	2483	18	2463	23	2483	18
SU26-055	266	273	1.03	0.0009	0.0000	0.0344	0.0055	0.0043	0.0009	5.9	0.3	-99	216	4.3	0.9	5.9	0.3
SU26-056	367	394	1.07	0.0015	0.0001	0.0662	0.0026	0.0141	0.0009	9.9	0.3	814	78	14.2	0.9	9.9	0.3
SU26-057	72	67	0.93	0.0013	0.0001	0.0225	0.0158	0.0039	0.0030	8.1	0.5	-632	713	4	3	8.1	0.5
SU26-058	340	384	1.13	0.0063	0.0002	0.0457	0.0011	0.0395	0.0017	40	1	-18	41	39	2	40	1
SU26-059	112	90	0.80	0.0014	0.0001	0.0504	0.0099	0.0100	0.0023	9.2	0.4	214	339	10	2	9.2	0.4
SU26-060	235	236	1.00	0.0010	0.0000	0.0558	0.0049	0.0080	0.0010	6.7	0.3	443	186	8.1	1	6.7	0.3
SU26-061	190	146	0.77	0.0010	0.0000	0.0486	0.0068	0.0068	0.0012	6.6	0.3	127	262	7	1	6.6	0.3
SU26-062	220	212	0.96	0.0009	0.0000	0.0461	0.0021	0.0058	0.0004	5.9	0.2	3	80	5.8	0.4	5.9	0.2
SU26-063	136	114	0.84	0.0010	0.0001	0.0904	0.0110	0.0125	0.0021	6.5	0.3	1435	226	13	2	6.5	0.3
SU26-064	138	116	0.84	0.0012	0.0001	0.1814	0.0188	0.0310	0.0046	8	0.4	2666	166	31	4	8	0.4
SU26-065	149	77	0.52	0.0016	0.0001	0.3023	0.0087	0.0673	0.0038	10.4	0.4	3482	41	66	4	10.4	0.4
SU26-066	995	1098	1.10	0.0090	0.0002	0.0533	0.0007	0.0663	0.0019	58	1	342	27	65	2	58	1
SU26-068	531	140	0.26	0.1546	0.0038	0.0739	0.0008	1.5750	0.0400	927	21	1038	21	960	16	927	21
SU26-069	124	89	0.72	0.0010	0.0000	0.0482	0.0125	0.0065	0.0019	6.3	0.3	107	386	7	2	6.3	0.3
SU26-070	148	125	0.84	0.0011	0.0001	0.1055	0.0059	0.0160	0.0015	7.1	0.3	1723	97	16	1	7.1	0.3

SU26-071	174	144	0.82	0.0015	0.0001	0.0462	0.0069	0.0095	0.0017	9.6	0.3	10	247	10	2	9.6	0.3
SU26-072	83	85	1.03	0.0034	0.0002	0.0461	0.0043	0.0216	0.0027	22	1	1	168	22	3	22	1
SU26-073	350	418	1.20	0.0010	0.0000	0.0462	0.0042	0.0066	0.0007	6.7	0.2	7	168	6.7	0.7	6.7	0.2
SU26-074	304	668	2.20	0.0915	0.0022	0.0607	0.0007	0.7650	0.0203	564	13	628	24	577	12	564	13
SU26-075	89	67	0.75	0.0019	0.0001	0.0626	0.0124	0.0165	0.0039	12.3	0.6	693	400	17	4	12.3	0.6
SU26-076	166	93	0.56	0.1140	0.0029	0.0624	0.0007	0.9808	0.0265	696	16	688	24	694	14	696	16
SU26-077	99	91	0.93	0.0011	0.0001	0.0461	0.0054	0.0068	0.0010	6.9	0.3	3	203	6.9	1	6.9	0.3
SU26-078	101	54	0.53	0.0013	0.0001	0.0461	0.0032	0.0084	0.0008	8.5	0.3	2	123	8.5	0.8	8.5	0.3
SU26-079	97	113	1.16	0.0061	0.0002	0.0901	0.0093	0.0763	0.0099	39	1	1428	190	75	9	39	1
SU26-080	162	107	0.66	0.0014	0.0001	0.0525	0.0050	0.0103	0.0014	9.1	0.4	307	203	10	1	9.1	0.4
SU26-081	229	224	0.98	0.0017	0.0001	0.0423	0.0048	0.0100	0.0015	11.1	0.4	-160	177	10	1	11.1	0.4
SU26-082	190	123	0.65	0.0014	0.0001	0.0509	0.0072	0.0098	0.0016	9	0.3	237	276	10	2	9	0.3
SU26-083	785	935	1.19	0.0018	0.0001	0.0714	0.0063	0.0180	0.0020	11.7	0.3	970	173	18	2	11.7	0.3
SU26-084	332	217	0.65	0.0092	0.0002	0.0486	0.0009	0.0613	0.0023	59	2	127	40	60	2	59	2
SU26-085	319	361	1.13	0.0024	0.0001	0.0461	0.0013	0.0155	0.0007	15.7	0.4	3	50	15.6	0.7	15.7	0.4
SU26-086	228	376	1.65	0.0014	0.0001	0.0408	0.0047	0.0081	0.0012	9.2	0.3	-243	179	8	1	9.2	0.3
SU26-087	112	98	0.88	0.0351	0.0009	0.0466	0.0008	0.2253	0.0079	222	6	29	33	206	7	222	6
SU26-088	504	581	1.15	0.0100	0.0003	0.0493	0.0007	0.0678	0.0022	64	2	161	32	67	2	64	2
SU26-089	84	60	0.71	0.0014	0.0001	0.0461	0.0005	0.0089	0.0004	9	0.4	2	18	9	0.4	9	0.4
SU26-090	266	206	0.78	0.0012	0.0000	0.0796	0.0043	0.0133	0.0011	7.8	0.3	1187	101	13	1	7.8	0.3
SU26-091	291	168	0.58	0.0009	0.0000	0.0574	0.0098	0.0070	0.0015	5.7	0.3	507	352	7	1	5.7	0.3
SU26-092	226	98	0.43	0.0015	0.0001	0.0467	0.0081	0.0093	0.0020	9.3	0.4	33	276	9	2	9.3	0.4
SU26-093	280	234	0.83	0.0011	0.0000	0.0412	0.0089	0.0063	0.0016	7.2	0.3	-221	300	6	2	7.2	0.3
SU26-094	122	79	0.65	0.0012	0.0001	0.0494	0.0178	0.0080	0.0033	7.5	0.5	166	593	8	3	7.5	0.5
SU26-095	193	122	0.63	0.0012	0.0001	0.0467	0.0118	0.0074	0.0022	7.4	0.4	36	399	7	2	7.4	0.4

13SU36																	
SU36-001	246	127	0.52	0.0579	0.0015	0.0544	0.0007	0.4343	0.0126	363	9	389	28	366	9	363	9
SU36-002	736	533	0.72	0.0210	0.0006	0.0535	0.0007	0.1552	0.0045	134	3	351	28	147	4	134	3
SU36-003	1051	208	0.20	0.0674	0.0017	0.0578	0.0014	0.5373	0.0228	421	10	522	54	437	15	421	10
SU36-004	1070	1343	1.25	0.0204	0.0005	0.0518	0.0006	0.1452	0.0041	130	3	274	28	138	4	130	3
SU36-005	202	198	0.98	0.0206	0.0006	0.0469	0.0036	0.1335	0.0126	132	3	46	157	127	11	132	3
SU36-006	224	200	0.89	0.0206	0.0006	0.0485	0.0038	0.1376	0.0134	131	3	122	165	131	12	131	3
SU36-007	360	410	1.14	0.0203	0.0005	0.0519	0.0007	0.1452	0.0047	129	3	281	32	138	4	129	3
SU36-008	273	280	1.02	0.0229	0.0006	0.0581	0.0011	0.1839	0.0074	146	4	535	42	171	6	146	4
SU36-009	219	244	1.12	0.0223	0.0006	0.0584	0.0009	0.1797	0.0062	142	4	544	34	168	5	142	4
SU36-010	670	937	1.40	0.0202	0.0005	0.0565	0.0007	0.1575	0.0047	129	3	474	28	149	4	129	3

SU36-011	992	1302	1.31	0.0203	0.0005	0.0505	0.0006	0.1415	0.0041	130	3	217	29	134	4	130	3
SU36-012	549	368	0.67	0.0202	0.0005	0.0478	0.0027	0.1329	0.0101	129	3	91	121	127	9	129	3
SU36-013	437	382	0.87	0.0195	0.0005	0.0516	0.0009	0.1389	0.0051	125	3	266	38	132	5	125	3
SU36-014	599	309	0.52	0.0418	0.0011	0.0557	0.0007	0.3213	0.0090	264	7	441	27	283	7	264	7
SU36-015	251	229	0.91	0.0206	0.0006	0.0469	0.0038	0.1331	0.0133	131	4	44	169	127	12	131	4
SU36-016	183	108	0.59	0.0211	0.0006	0.0510	0.0009	0.1483	0.0056	135	4	241	40	140	5	135	4
SU36-017	368	258	0.70	0.0213	0.0006	0.0506	0.0007	0.1488	0.0048	136	4	222	32	141	4	136	4
SU36-018	428	524	1.22	0.0208	0.0006	0.0820	0.0011	0.2349	0.0070	133	4	1245	25	214	6	133	4
SU36-019	1054	1771	1.68	0.0197	0.0005	0.0461	0.0045	0.1251	0.0145	126	3	1	197	120	13	126	3
SU36-020	178	98	0.55	0.0333	0.0009	0.0574	0.0009	0.2635	0.0088	211	6	506	32	237	7	211	6
SU36-021	339	333	0.98	0.0204	0.0006	0.0547	0.0008	0.1535	0.0050	130	3	400	32	145	4	130	3
SU36-022	747	1938	2.59	0.0201	0.0005	0.0567	0.0007	0.1570	0.0046	128	3	481	28	148	4	128	3
SU36-023	388	401	1.03	0.0202	0.0006	0.0496	0.0042	0.1380	0.0147	129	4	174	185	131	13	129	4
SU36-024	167	120	0.72	0.0209	0.0006	0.0461	0.0039	0.1329	0.0137	133	4	1	178	127	12	133	4
SU36-025	353	355	1.01	0.0206	0.0006	0.0528	0.0046	0.1498	0.0164	131	4	321	194	142	14	131	4
SU36-026	251	271	1.08	0.0210	0.0005	0.0461	0.0025	0.1332	0.0096	134	3	1	110	127	9	134	3
SU36-027	85	48	0.57	0.0202	0.0006	0.0688	0.0016	0.1918	0.0088	129	4	891	48	178	7	129	4
SU36-028	335	391	1.17	0.0200	0.0006	0.0484	0.0043	0.1332	0.0146	127	4	118	188	127	13	127	4
SU36-030	1063	1517	1.43	0.0198	0.0005	0.0509	0.0006	0.1392	0.0040	127	3	235	27	132	4	127	3
SU36-031	434	609	1.40	0.0198	0.0005	0.0564	0.0008	0.1539	0.0048	126	3	468	28	145	4	126	3
SU36-032	1046	1923	1.84	0.0201	0.0005	0.0580	0.0007	0.1606	0.0046	128	3	531	25	151	4	128	3
SU36-033	594	397	0.67	0.1070	0.0033	0.0606	0.0033	0.8932	0.0707	655	19	623	108	648	38	655	19
SU36-034	189	207	1.09	0.0198	0.0007	0.0550	0.0061	0.1497	0.0209	126	4	411	227	142	18	126	4
SU36-035	97	44	0.45	0.0586	0.0018	0.0559	0.0030	0.4513	0.0352	367	11	446	109	378	25	367	11
SU36-037	105	120	1.14	0.0221	0.0008	0.0645	0.0076	0.1967	0.0291	141	5	759	233	182	25	141	5
SU36-038	200	242	1.21	0.0210	0.0007	0.0504	0.0047	0.1458	0.0173	134	4	215	187	138	15	134	4
SU36-039	751	1795	2.39	0.0203	0.0005	0.0514	0.0006	0.1436	0.0041	129	3	259	26	136	4	129	3
SU36-040	94	90	0.97	0.0232	0.0009	0.0626	0.0087	0.2001	0.0342	148	6	694	278	185	29	148	6
SU36-041	863	541	0.63	0.0210	0.0005	0.0496	0.0006	0.1438	0.0040	134	3	175	26	136	4	134	3
SU36-042	161	87	0.54	0.0206	0.0006	0.0518	0.0028	0.1475	0.0117	132	4	278	115	140	10	132	4
SU36-043	2435	2500	1.03	0.0176	0.0004	0.0512	0.0006	0.1246	0.0033	113	3	251	25	119	3	113	3
SU36-044	148	116	0.79	0.0203	0.0006	0.0523	0.0014	0.1465	0.0071	130	3	298	57	139	6	130	3
SU36-045	364	541	1.49	0.0201	0.0005	0.0574	0.0008	0.1587	0.0050	128	3	505	29	150	4	128	3
SU36-046	222	221	1.00	0.0192	0.0007	0.0498	0.0057	0.1316	0.0188	122	4	186	225	126	17	122	4
SU36-047	363	380	1.05	0.0210	0.0006	0.0478	0.0035	0.1386	0.0132	134	4	89	141	132	12	134	4
SU36-048	777	605	0.78	0.0205	0.0005	0.0507	0.0006	0.1435	0.0041	131	3	229	27	136	4	131	3
SU36-049	133	84	0.63	0.0207	0.0005	0.0499	0.0012	0.1421	0.0065	132	3	191	53	135	6	132	3

SU36-050	208	227	1.09	0.0003	0.0000	0.7147	0.0276	0.0332	0.0028	2.2	0.2	4761	51	33	3	2.2	0.2
14SU09																	
SU09-001	1353	694	0.51	0.0000	0.0000	-1.2609	-0.9730	-0.0038	0.0011	0.1	0.1	-26530	29705	-4	1	0.1	0.1
SU09-002	277	470	1.70	0.0001	0.0001	0.9759	0.3310	0.0096	0.0049	0.5	0.3	5203	510	10	5	0.5	0.3
SU09-003	352	362	1.03	0.0001	0.0000	0.1354	0.3983	0.0011	0.0040	0.4	0.3	2170	4809	1	4	0.4	0.3
SU09-004	213	108	0.51	0.3533	0.0083	0.1190	0.0013	5.7960	0.1460	1950	40	1941	18	1946	22	1941	18
SU09-005	202	240	1.19	0.0002	0.0001	0.2743	0.2363	0.0072	0.0090	1.2	0.6	3331	2528	7	9	1.2	0.6
SU09-006	1110	873	0.79	0.0001	0.0000	0.0463	0.0255	0.0005	0.0003	0.5	0.1	14	647	0.5	0.3	0.5	0.1
SU09-007	153	195	1.27	0.0009	0.0001	0.6546	0.0350	0.0809	0.0099	5.8	0.6	4634	71	79	9	5.8	0.6
SU09-008	191	335	1.76	0.0002	0.0001	-0.0113	-0.2443	-0.0004	0.0075	1.5	0.5	-2967	4303	0	8	1.5	0.5
SU09-009	905	529	0.58	0.0325	0.0008	0.1219	0.0014	0.5454	0.0145	206	5	1984	19	442	10	206	5
SU09-011	696	1416	2.03	0.0002	0.0000	0.8814	0.0512	0.0180	0.0022	1	0.1	5059	76	18	2	1	0.1
SU09-013	296	378	1.28	0.0001	0.0001	0.1017	0.5337	0.0008	0.0047	0.4	0.3	1654	4995	1	5	0.4	0.3
SU09-014	223	367	1.65	0.0000	0.0001	-1.1803	-6.3006	-0.0035	0.0068	0.1	0.5	-22594	24397	-4	7	0.1	0.5
SU09-016	143	136	0.95	0.0003	0.0001	0.1555	0.2335	0.0057	0.0106	1.7	0.7	2407	3062	6	11	1.7	0.7
SU09-017	328	369	1.12	0.0000	0.0001	0.1292	2.3843	0.0003	0.0064	0.1	0.5	2087	27819	0	6	0.1	0.5
SU09-018	189	225	1.19	0.0001	0.0001	-0.3186	-0.7091	-0.0050	0.0077	0.7	0.5	-783	16247	-5	8	0.7	0.5
SU09-019	236	397	1.68	0.0001	0.0001	0.4381	0.1851	0.0075	0.0065	0.8	0.5	4045	785	8	7	0.8	0.5
SU09-020	105	170	1.62	0.0820	0.0020	0.0587	0.0011	0.6633	0.0253	508	12	556	39	517	15	508	12
SU09-021	600	418	0.70	0.0000	0.0000	-1.2442	-1.8832	-0.0050	0.0027	0.2	0.2	-25676	29707	-5	3	0.2	0.2
SU09-022	733	162	0.22	0.3040	0.0073	0.1074	0.0013	4.5014	0.1209	1711	36	1756	20	1731	22	1756	20
SU09-023	1662	1243	0.75	0.0001	0.0000	-0.3323	-0.1548	-0.0027	0.0009	0.4	0.1	-943	4429	-2.8	0.9	0.4	0.1
SU09-025	406	514	1.27	0.0006	0.0001	0.8091	0.0315	0.0652	0.0044	3.7	0.3	4938	51	64	4	3.7	0.3
14SU53																	
SU53-002	430	590	1.37	0.0001	0.0000	0.1035	0.1849	0.0010	0.0021	0.5	0.1	1688	3288	1	2	0.5	0.1
SU53-003	260	241	0.93	0.0002	0.0000	0.1634	0.1107	0.0035	0.0030	1	0.2	2491	1604	4	3	1	0.2
SU53-004	1990	1038	0.52	0.0003	0.0000	0.0464	0.0102	0.0016	0.0004	1.6	0.1	17	316	1.6	0.4	1.6	0.1
SU53-005	132	147	1.12	0.0843	0.0019	0.0584	0.0008	0.6788	0.0197	522	11	544	27	526	12	522	11
SU53-006	612	526	0.86	0.0001	0.0000	0.2679	0.1097	0.0036	0.0022	0.6	0.1	3294	1582	4	2	0.6	0.1
SU53-007	226	194	0.86	0.0180	0.0005	0.0672	0.0019	0.1669	0.0081	115	3	845	55	157	7	115	3
SU53-009	218	240	1.10	0.0000	0.0000	0.9555	0.5933	0.0043	0.0043	0.2	0.3	5173	2789	4	4	0.2	0.3
SU53-010	188	181	0.96	0.0004	0.0001	0.7955	0.0639	0.0414	0.0067	2.4	0.5	4914	109	41	7	2.4	0.5
SU53-011	186	337	1.82	0.1343	0.0030	0.0698	0.0008	1.2924	0.0342	812	17	923	22	842	15	812	17
SU53-012	1446	1719	1.19	0.0399	0.0009	0.0840	0.0009	0.4618	0.0119	252	5	1293	20	386	8	252	5
SU53-014	235	361	1.53	0.1324	0.0029	0.0697	0.0008	1.2720	0.0322	801	17	920	21	833	14	801	17

SU53-015	648	812	1.25	0.0015	0.0001	0.0924	0.0247	0.0188	0.0059	9.5	0.5	1476	559	19	6	9.5	0.5
SU53-016	180	133	0.74	0.0773	0.0018	0.0642	0.0011	0.6838	0.0235	480	11	749	33	529	14	480	11
SU53-018	303	321	1.06	0.0001	0.0000	0.9198	0.1841	0.0115	0.0040	0.6	0.3	5120	295	12	4	0.6	0.3
SU53-019	754	454	0.60	0.0001	0.0000	0.0333	0.1826	0.0002	0.0014	0.3	0.1	-144	3518	0	1	0.3	0.1
SU53-020	417	679	1.63	0.0001	0.0000	0.0463	0.0947	0.0004	0.0008	0.4	0.1	11	1487	0.4	0.8	0.4	0.1
SU53-021	326	446	1.37	0.0001	0.0000	0.0465	0.1357	0.0004	0.0013	0.4	0.1	22	1978	0	1	0.4	0.1
SU53-022	288	77	0.27	0.2071	0.0046	0.0831	0.0009	2.3715	0.0580	1213	24	1271	19	1234	17	1271	19
SU53-023	261	263	1.01	0.0002	0.0000	0.2071	0.1269	0.0049	0.0040	1.1	0.3	2883	1808	5	4	1.1	0.3
SU53-024	380	543	1.43	0.0001	0.0000	0.0465	0.1479	0.0005	0.0017	0.5	0.1	24	2108	1	2	0.5	0.1
SU53-025	477	535	1.12	0.0000	0.0000	2.3087	3.6838	0.0045	0.0021	0.1	0.1	6389	13361	5	2	0.1	0.1
SU53-026	361	228	0.63	0.1270	0.0030	0.0695	0.0011	1.2173	0.0400	771	17	915	29	809	18	771	17
SU53-027	1004	1288	1.28	0.0002	0.0000	0.7056	0.0351	0.0176	0.0016	1.2	0.1	4742	66	18	2	1.2	0.1
SU53-029	1318	1627	1.23	0.0002	0.0000	0.6956	0.0150	0.0225	0.0011	1.5	0.1	4722	29	23	1	1.5	0.1
SU53-030	278	178	0.64	0.1663	0.0037	0.0737	0.0008	1.6905	0.0416	992	21	1034	20	1005	16	992	21
SU53-031	245	240	0.98	0.0001	0.0001	1.0986	0.2951	0.0181	0.0053	0.8	0.4	5369	438	18	5	0.8	0.4
SU53-035	517	455	0.88	0.1304	0.0029	0.0669	0.0007	1.2023	0.0299	790	17	834	22	802	14	790	17
SU53-036	253	265	1.05	0.0003	0.0001	0.8581	0.0767	0.0302	0.0043	1.7	0.3	5021	126	30	4	1.7	0.3
SU53-037	552	12	0.02	0.0932	0.0021	0.0616	0.0008	0.7916	0.0225	574	13	661	28	592	13	574	13
SU53-038	164	131	0.80	0.0002	0.0001	0.7119	0.1039	0.0208	0.0065	1.4	0.5	4755	215	21	7	1.4	0.5
SU53-039	196	102	0.52	0.5642	0.0128	0.2165	0.0023	16.8414	0.4020	2884	53	2955	16	2926	23	2955	16
SU53-040	87	53	0.60	0.2418	0.0055	0.0900	0.0010	3.0000	0.0771	1396	29	1425	21	1408	20	1425	21
SU53-041	226	131	0.58	0.3458	0.0078	0.1235	0.0013	5.8891	0.1434	1914	37	2008	18	1960	21	2008	18
SU53-042	386	62	0.16	0.1176	0.0027	0.0632	0.0007	1.0247	0.0257	717	15	715	23	716	13	717	15
SU53-043	1329	662	0.50	0.0001	0.0000	0.0237	0.1067	0.0002	0.0008	0.3	0.1	-576	2536	0.2	0.8	0.3	0.1
SU53-044	779	247	0.32	0.3036	0.0068	0.1107	0.0012	4.6322	0.1116	1709	34	1811	19	1755	20	1811	19
SU53-045	256	16	0.06	0.1587	0.0036	0.0719	0.0008	1.5728	0.0397	949	20	983	22	960	16	949	20
SU53-048	329	459	1.40	0.0006	0.0001	0.9853	0.0480	0.0783	0.0059	3.7	0.4	5217	67	77	6	3.7	0.4
SU53-049	1530	469	0.31	0.0619	0.0014	0.0598	0.0007	0.5100	0.0129	387	8	595	23	418	9	387	8
SU53-050	1919	1024	0.53	0.0001	0.0000	0.0472	0.0734	0.0003	0.0005	0.3	0.1	57	1647	0.3	0.5	0.3	0.1
SU53-051	936	1502	1.60	0.0000	0.0000	0.2427	0.1305	0.0010	0.0007	0.2	0.1	3137	2396	1	0.8	0.2	0.1
SU53-054	294	297	1.01	0.0000	0.0000	1.7047	2.2372	0.0041	0.0034	0.1	0.3	5977	17071	4	3	0.1	0.3
SU53-055	750	348	0.46	0.0708	0.0016	0.0572	0.0006	0.5583	0.0140	441	10	501	23	450	9	441	10
SU53-056	487	181	0.37	0.3040	0.0073	0.1052	0.0018	4.4082	0.1562	1711	36	1717	31	1714	29	1717	31
SU53-058	700	1001	1.43	0.0001	0.0000	0.1638	0.1276	0.0014	0.0015	0.4	0.1	2495	2185	1	1	0.4	0.1
SU53-059	250	236	0.94	0.0000	0.0000	0.0817	1.2794	0.0002	0.0040	0.1	0.3	1238	22701	0	4	0.1	0.3
SU53-061	1471	636	0.43	0.0001	0.0000	0.0473	0.0976	0.0003	0.0007	0.3	0.1	62	2347	0.3	0.8	0.3	0.1
SU53-062	68	50	0.73	0.1510	0.0035	0.0709	0.0010	1.4755	0.0450	907	20	954	28	920	18	907	20

SU53-063	1834	1197	0.65	0.0001	0.0000	0.3502	0.0882	0.0045	0.0020	0.6	0.1	3708	1024	5	2	0.6	0.1
SU53-064	121	82	0.68	0.1852	0.0043	0.0784	0.0009	2.0009	0.0517	1095	23	1156	21	1116	17	1156	21
SU53-065	455	733	1.61	0.0002	0.0000	0.2946	0.0826	0.0063	0.0031	1	0.3	3442	439	6	3	1	0.3
SU53-066	134	75	0.56	0.3081	0.0071	0.1094	0.0012	4.6451	0.1140	1731	35	1789	18	1757	21	1789	18
SU53-067	634	324	0.51	0.4425	0.0101	0.1598	0.0017	9.7515	0.2338	2362	45	2454	17	2412	22	2454	17
SU53-068	433	154	0.36	0.2895	0.0066	0.1049	0.0011	4.1849	0.1013	1639	33	1712	18	1671	20	1712	18
SU53-069	300	426	1.42	0.0001	0.0000	0.3404	0.2006	0.0038	0.0038	0.5	0.3	3665	1327	4	4	0.5	0.3
SU53-070	381	393	1.03	0.0014	0.0001	0.0208	0.0137	0.0040	0.0028	9	0.4	-718	617	4	3	9	0.4
SU53-071	219	89	0.41	0.1785	0.0041	0.0764	0.0009	1.8789	0.0479	1059	22	1105	21	1074	17	1105	21
SU53-072	377	404	1.07	0.0000	0.0000	-1.3157	-2.8332	-0.0039	0.0027	0.1	0.2	-29482	32023	-4	3	0.1	0.2
SU53-074	160	68	0.42	0.1640	0.0038	0.0777	0.0009	1.7551	0.0465	979	21	1138	22	1029	17	979	21
SU53-075	751	1303	1.73	0.0001	0.0000	0.8465	0.0678	0.0126	0.0022	0.7	0.1	5002	107	13	2	0.7	0.1
SU53-077	145	31	0.21	0.1382	0.0031	0.0682	0.0012	1.2984	0.0452	834	18	873	34	845	20	834	18
SU53-078	642	476	0.74	0.0341	0.0008	0.0530	0.0006	0.2494	0.0068	216	5	330	25	226	6	216	5
SU53-079	247	210	0.85	0.5126	0.0118	0.1790	0.0019	12.6530	0.3040	2668	50	2644	16	2654	23	2644	16
SU53-080	670	472	0.70	0.0001	0.0000	0.0466	0.0926	0.0004	0.0009	0.4	0.1	28	1493	0.4	0.9	0.4	0.1
SU53-081	341	443	1.30	0.0000	0.0000	0.8648	0.3956	0.0040	0.0031	0.2	0.2	5032	1287	4	3	0.2	0.2
SU53-082	367	424	1.15	0.0001	0.0000	1.3549	0.2855	0.0145	0.0030	0.5	0.2	5661	298	15	3	0.5	0.2
SU53-083	119	128	1.08	0.0852	0.0020	0.0621	0.0009	0.7303	0.0229	527	12	679	28	557	13	527	12
SU53-084	239	262	1.09	0.0001	0.0001	0.0471	0.2172	0.0009	0.0044	0.9	0.3	52	4163	1	5	0.9	0.3
SU53-086	123	98	0.80	0.1760	0.0041	0.0760	0.0009	1.8439	0.0501	1045	23	1095	22	1061	18	1095	22
SU53-087	407	529	1.30	0.0000	0.0000	0.9972	0.8028	0.0030	0.0027	0.1	0.2	5233	3728	3	3	0.1	0.2
SU53-089	402	151	0.38	0.2609	0.0060	0.0932	0.0010	3.3516	0.0815	1495	31	1491	19	1493	19	1491	19
SU53-091	319	137	0.43	0.0564	0.0013	0.0565	0.0007	0.4392	0.0124	354	8	472	26	370	9	354	8
SU53-092	199	120	0.60	0.2343	0.0056	0.0845	0.0026	2.7300	0.1327	1357	29	1304	55	1337	36	1304	55
SU53-093	252	112	0.45	0.0001	0.0000	0.0016	0.3323	0.0000	0.0041	0.6	0.3	-1894	4593	0	4	0.6	0.3
SU53-094	605	44	0.07	0.1761	0.0041	0.0754	0.0008	1.8296	0.0452	1045	22	1078	20	1056	16	1078	20
SU53-095	359	168	0.47	0.0000	0.0000	4.3573	10.9876	0.0054	0.0029	0.1	0.2	7238	16924	5	3	0.1	0.2
SU53-096	379	176	0.46	0.1753	0.0041	0.0752	0.0008	1.8178	0.0459	1041	22	1074	20	1052	17	1074	20
SU53-097	333	320	0.96	0.0001	0.0000	0.1184	0.2993	0.0011	0.0031	0.5	0.2	1932	4328	1	3	0.5	0.2
SU53-098	1194	250	0.21	0.1037	0.0024	0.0613	0.0007	0.8757	0.0222	636	14	649	22	639	12	636	14
SU53-099	824	320	0.39	0.0263	0.0006	0.0540	0.0007	0.1958	0.0058	167	4	370	28	182	5	167	4
SU53-100	286	337	1.18	0.0000	0.0000	-1.2650	-3.5816	-0.0041	0.0036	0.1	0.3	-26741	29496	-4	4	0.1	0.3
14SU54																	
SU54-001	421	63	0.15	0.3183	0.0069	0.1115	0.0011	4.8920	0.1114	1781	34	1824	19	1801	19	1824	19
SU54-002	236	170	0.72	0.4415	0.0098	0.1567	0.0016	9.5351	0.2238	2357	44	2420	18	2391	22	2420	18

SU54-004	11	0	0.05	0.1515	0.0039	0.0841	0.0045	1.7570	0.1298	909	22	1295	106	1030	48	909	22
SU54-005	449	244	0.54	0.1638	0.0036	0.0738	0.0008	1.6664	0.0394	978	20	1035	22	996	15	978	20
SU54-006	132	115	0.87	0.2445	0.0054	0.0917	0.0010	3.0911	0.0757	1410	28	1461	21	1430	19	1461	21
SU54-007	730	344	0.47	0.1801	0.0040	0.0751	0.0008	1.8636	0.0440	1067	22	1070	21	1068	16	1070	21
SU54-008	420	357	0.85	0.1615	0.0036	0.0729	0.0008	1.6223	0.0392	965	20	1011	22	979	15	965	20
SU54-009	103	22	0.21	0.1237	0.0028	0.0688	0.0009	1.1729	0.0344	752	16	892	28	788	16	752	16
SU54-011	484	334	0.69	0.0571	0.0013	0.0544	0.0006	0.4281	0.0115	358	8	387	27	362	8	358	8
SU54-012	272	162	0.60	0.1587	0.0035	0.0706	0.0008	1.5445	0.0393	949	20	946	23	948	16	949	20
SU54-013	181	91	0.51	0.1125	0.0025	0.0642	0.0008	0.9958	0.0276	687	15	749	27	702	14	687	15
SU54-014	115	80	0.70	0.1507	0.0034	0.0700	0.0008	1.4547	0.0391	905	19	929	25	912	16	905	19
SU54-015	69	54	0.78	0.1940	0.0044	0.0788	0.0010	2.1086	0.0585	1143	24	1168	25	1152	19	1168	25
SU54-016	89	65	0.72	0.1951	0.0044	0.0807	0.0009	2.1716	0.0575	1149	24	1215	24	1172	18	1215	24
SU54-017	300	416	1.39	0.2750	0.0061	0.0986	0.0010	3.7385	0.0893	1566	31	1598	20	1580	19	1598	20
SU54-018	86	82	0.95	0.2846	0.0064	0.1031	0.0011	4.0443	0.1025	1614	32	1680	21	1643	21	1680	21
SU54-019	11	0	0.03	0.0472	0.0067	0.3121	0.0660	2.0321	0.6928	297	41	3531	394	1126	232	297	41
SU54-020	230	158	0.69	0.0082	0.0002	0.0378	0.0048	0.0424	0.0064	52	1	-425	279	42	6	52	1
SU54-021	177	101	0.57	0.3101	0.0069	0.1086	0.0012	4.6404	0.1142	1741	34	1775	20	1757	21	1775	20
SU54-022	213	133	0.62	0.1874	0.0042	0.0791	0.0009	2.0425	0.0518	1107	23	1173	23	1130	17	1173	23
SU54-024	46	56	1.21	0.2689	0.0062	0.0996	0.0013	3.6900	0.1044	1535	31	1616	24	1569	23	1616	24
SU54-025	527	213	0.40	0.1667	0.0036	0.0707	0.0021	1.6245	0.0720	994	20	948	63	980	28	994	20
SU54-027	223	149	0.67	0.1338	0.0030	0.0664	0.0007	1.2235	0.0312	809	17	817	24	811	14	809	17
SU54-028	301	263	0.87	0.3270	0.0074	0.1116	0.0012	5.0311	0.1225	1824	36	1826	19	1825	21	1826	19
SU54-029	777	195	0.25	0.1517	0.0034	0.0705	0.0007	1.4740	0.0351	910	19	942	21	920	14	910	19
SU54-030	167	146	0.87	0.0983	0.0022	0.0595	0.0008	0.8063	0.0229	604	13	586	27	600	13	604	13
SU54-031	603	355	0.59	0.0082	0.0002	0.0476	0.0017	0.0535	0.0029	52	1	77	75	53	3	52	1
SU54-032	423	263	0.62	0.4508	0.0101	0.1616	0.0017	10.0451	0.2390	2399	45	2473	17	2439	22	2473	17
SU54-033	255	122	0.48	0.0910	0.0021	0.0599	0.0007	0.7521	0.0202	562	12	601	25	569	12	562	12
SU54-034	295	313	1.06	0.0002	0.0001	0.3126	0.1403	0.0071	0.0052	1.1	0.4	3534	2615	7	5	1.1	0.4
SU54-035	57	27	0.47	0.2360	0.0054	0.0897	0.0011	2.9184	0.0813	1366	28	1419	23	1387	21	1419	23
SU54-036	78	163	2.09	0.1446	0.0035	0.0694	0.0013	1.3823	0.0523	871	20	909	39	881	22	871	20
SU54-037	416	278	0.67	0.0039	0.0001	0.0461	0.0020	0.0245	0.0014	24.8	0.6	2	84	25	1	24.8	0.6
SU54-038	1007	14	0.01	0.4409	0.0099	0.1569	0.0017	9.5392	0.2335	2355	44	2423	18	2391	22	2423	18
SU54-039	128	75	0.59	0.1969	0.0044	0.0791	0.0009	2.1468	0.0542	1159	24	1174	21	1164	17	1174	21
SU54-040	874	42	0.05	0.0873	0.0019	0.0601	0.0008	0.7228	0.0200	539	11	606	27	552	12	539	11
SU54-042	292	252	0.86	0.3077	0.0069	0.1097	0.0011	4.6544	0.1105	1729	34	1795	19	1759	20	1795	19
SU54-043	202	124	0.62	0.2622	0.0059	0.0942	0.0010	3.4036	0.0825	1501	30	1512	20	1505	19	1512	20
SU54-044	379	25	0.07	0.0992	0.0022	0.0610	0.0007	0.8345	0.0212	610	13	640	23	616	12	610	13

SU54-045	339	218	0.64	0.1904	0.0043	0.0786	0.0009	2.0642	0.0511	1123	23	1163	21	1137	17	1163	21
SU54-046	216	161	0.75	0.1138	0.0027	0.0645	0.0009	1.0119	0.0317	695	15	758	30	710	16	695	15
SU54-047	145	104	0.72	0.0377	0.0009	0.0518	0.0015	0.2691	0.0133	238	6	277	67	242	11	238	6
SU54-049	250	153	0.61	0.1973	0.0045	0.0800	0.0009	2.1758	0.0553	1161	24	1197	21	1173	18	1197	21
SU54-050	408	27	0.07	0.2276	0.0051	0.0868	0.0010	2.7220	0.0683	1322	27	1355	21	1334	19	1355	21
SU54-051	187	104	0.56	0.0153	0.0004	0.0515	0.0030	0.1086	0.0086	98	2	264	130	105	8	98	2
SU54-052	90	68	0.75	0.0946	0.0026	0.0690	0.0047	0.8989	0.0814	582	15	897	144	651	44	582	15
SU54-053	230	149	0.65	0.1959	0.0044	0.0795	0.0009	2.1477	0.0525	1153	24	1185	21	1164	17	1185	21
SU54-054	257	125	0.49	0.1960	0.0044	0.0798	0.0009	2.1564	0.0525	1154	24	1192	21	1167	17	1192	21
SU54-056	351	226	0.64	0.2960	0.0068	0.1053	0.0012	4.2974	0.1119	1672	34	1719	20	1693	21	1719	20
SU54-058	589	734	1.25	0.0001	0.0000	0.7541	0.1723	0.0063	0.0024	0.4	0.2	4837	387	6	2	0.4	0.2
SU54-059	143	119	0.84	0.0002	0.0001	0.9717	0.2941	0.0220	0.0095	1	0.6	5197	690	22	9	1	0.6
SU54-060	1001	1386	1.39	0.0146	0.0004	0.0608	0.0073	0.1225	0.0174	94	3	633	266	117	16	94	3
SU54-062	386	1012	2.62	0.0001	0.0000	0.1147	0.1709	0.0016	0.0028	0.6	0.3	1876	2563	2	3	0.6	0.3
SU54-063	185	182	0.99	0.0004	0.0001	0.2926	0.0985	0.0177	0.0095	2.8	0.6	3431	1310	18	9	2.8	0.6
SU54-064	594	492	0.83	0.1838	0.0041	0.0784	0.0008	1.9848	0.0472	1087	22	1156	20	1110	16	1156	20
SU54-067	484	115	0.24	0.1800	0.0041	0.0759	0.0008	1.8845	0.0479	1067	22	1093	21	1076	17	1093	21
SU54-068	159	101	0.64	0.0156	0.0005	0.0582	0.0057	0.1250	0.0153	100	3	538	216	120	14	100	3
SU54-069	30	1	0.05	0.0900	0.0029	0.0693	0.0054	0.8600	0.0907	555	17	909	161	630	49	555	17
SU54-070	60	68	1.14	0.1984	0.0046	0.0814	0.0011	2.2263	0.0654	1167	25	1231	25	1189	21	1231	25
SU54-071	675	584	0.87	0.0053	0.0001	0.0461	0.0006	0.0336	0.0009	34	0.8	1	21	33.5	0.9	34	0.8
SU54-072	298	142	0.48	0.2791	0.0063	0.0996	0.0011	3.8318	0.0953	1587	32	1617	20	1599	20	1617	20
SU54-073	7	6	0.86	0.1155	0.0056	0.0667	0.0151	1.0615	0.2854	704	32	828	481	735	141	704	32
SU54-075	1258	215	0.17	0.0967	0.0022	0.0658	0.0007	0.8770	0.0223	595	13	800	23	639	12	595	13
SU54-076	690	830	1.20	0.0933	0.0021	0.0590	0.0006	0.7584	0.0186	575	12	567	23	573	11	575	12
SU54-077	116	44	0.38	0.3074	0.0076	0.1080	0.0021	4.5768	0.1783	1728	37	1766	33	1745	32	1766	33
SU54-078	1392	1737	1.25	0.0083	0.0002	0.0504	0.0050	0.0578	0.0070	53	1	215	202	57	7	53	1
SU54-079	99	90	0.91	0.0004	0.0002	1.0140	0.2047	0.0501	0.0144	2.3	1	5257	281	50	14	2.3	1
SU54-080	301	222	0.74	0.1668	0.0039	0.0776	0.0010	1.7851	0.0502	994	22	1137	23	1040	18	994	22
SU54-082	436	632	1.45	0.0001	0.0000	0.3228	0.1574	0.0042	0.0033	0.6	0.3	3583	2611	4	3	0.6	0.3
SU54-083	128	82	0.64	0.1955	0.0045	0.0806	0.0009	2.1710	0.0570	1151	24	1210	21	1172	18	1210	21
SU54-084	124	100	0.80	0.2393	0.0055	0.0895	0.0010	2.9526	0.0762	1383	29	1415	20	1396	20	1415	20
SU54-085	170	115	0.68	0.3286	0.0075	0.1137	0.0012	5.1517	0.1290	1831	36	1860	18	1845	21	1860	18
SU54-087	329	236	0.72	0.3030	0.0069	0.1053	0.0012	4.3991	0.1102	1706	34	1719	19	1712	21	1719	19
SU54-088	973	32	0.03	0.1019	0.0023	0.0605	0.0007	0.8497	0.0216	625	14	622	22	625	12	625	14
SU54-089	303	321	1.06	0.0866	0.0020	0.0567	0.0007	0.6767	0.0183	536	12	478	24	525	11	536	12
SU54-090	1013	86	0.08	0.2432	0.0055	0.0894	0.0010	2.9978	0.0726	1403	29	1413	19	1407	18	1413	19

SU54-091	69	72	1.04	0.1236	0.0029	0.0687	0.0011	1.1703	0.0398	751	17	889	31	787	19	751	17
SU54-092	463	564	1.22	0.0000	0.0000	0.0261	1.0477	0.0001	0.0041	0.2	0.3	-462	18588	0	4	0.2	0.3
SU54-093	1115	726	0.65	0.0816	0.0019	0.0573	0.0006	0.6445	0.0162	506	11	502	22	505	10	506	11
SU54-094	91	157	1.72	0.0814	0.0020	0.0618	0.0013	0.6938	0.0270	505	12	668	40	535	16	505	12
SU54-095	753	657	0.87	0.0109	0.0003	0.0461	0.0016	0.0692	0.0032	70	2	1	69	68	3	70	2
SU54-096	218	198	0.91	0.0798	0.0019	0.0575	0.0008	0.6318	0.0188	495	11	509	31	497	12	495	11
SU54-097	99	95	0.96	0.1566	0.0037	0.0713	0.0009	1.5385	0.0454	938	20	965	28	946	18	938	20
SU54-098	126	64	0.51	0.1429	0.0033	0.0697	0.0009	1.3734	0.0402	861	19	920	28	878	17	861	19
SU54-099	88	65	0.73	0.3599	0.0083	0.1292	0.0015	6.4092	0.1692	1982	40	2087	21	2034	23	2087	21
SU54-100	100	93	0.93	0.4875	0.0113	0.1816	0.0021	12.2072	0.3191	2560	49	2668	20	2620	25	2668	20