SUPPLEMENTARY MATERIAL TO:

Paleozoic evolution of western Marie Byrd Land, Antarctica

Chris Yakymchuk*, Caitlin R. Brown, Michael Brown, Christine S. Siddoway, C. Mark Fanning, Fawna J. Korhonen

SAMPLE LOCATIONS

The coordinates and names of sample localities are shown in Table DR1.

ANALYTICAL METHODS

Major oxide, trace element and REE chemistry

Major oxide and select trace elements were analyzed by X-ray fluorescence spectrometry at Franklin and Marshall College. A PANanalytical 2404 X-ray fluorescence vacuum spectrometer equipped with a PW2540 X-Y sample handler was used following the procedures described by Boyd and Mertzman (1987). FeO was analyzed by Fe^{2+} titration and the Fe_2O_3 was calculated by difference.

Rare earth elements were analyzed by inductively coupled plasma mass spectrometry at the University of Maryland. Twenty milligrams of powdered sample was dissolved in closed Savillex® Teflon beakers using 0.5 ml of 14M HNO_3 and 3 ml of 29M HF. Samples were digested for 24 hours, dried down and subjected to a second dissolution in 0.25 ml 12M $HClO_4$, 0.5 ml of 14M HNO_3 and 3 ml of 29M HF for 72 hours. The solution was dried down, brought up in 6M HCl and dissolved for an additional 24 hours; this last procedure was repeated until the sample was fully dissolved. Samples were diluted by a factor of 100. One ml of a 20 ppb ^{115}In solution was added to the diluted sample to enable correction for instrumental drift.

The isotopes ^{115}In, ^{139}La, ^{140}Ce, ^{141}Pr, ^{143}Nd, ^{147}Sm, ^{153}Eu, ^{158}Gd, ^{159}Tb, ^{163}Dy, ^{165}Ho, ^{167}Er, ^{169}Tm, ^{173}Yb and ^{175}Lu were analyzed using a Finnigan Element 2 single collector ICP-MS; solutions were introduced into the plasma using an APEX desolvating nebulizer. USGS standards G-2, a granite, and MAG-1, a marine sediment, were used to calculate sample concentrations. Signals were corrected for instrumental drift, by normalizing all data to the ^{115}In signal in the G-2 standard, and the blank, which was <0.1% of the signal for standards and <0.7% of the signal for unknowns. Granites and orthogneisses were corrected using USGS standard G-2, while metasedimentary and paragneiss samples were corrected using USGS standard MAG-1. Uncertainties from counting statistics ranged from 1% to 6%, and propagated uncertainties for concentrations ranged from 4% to 12%. The analytical data are reported in Table DR2.

Whole-rock geochemical compositions (University of Maryland)

Sr and Nd isotope compositions were determined in the Isotope Geochemistry Laboratory at the University of Maryland. The rocks were prepared in a manner similar to that of Korhonen et al. (2010). Fifty milligrams of sample powder were dissolved in Savillex® Teflon beakers using 3 ml of 29M HF and 0.5 ml of 14M HNO_3. Isotopic spikes enriched in ^{87}Rb, ^{84}Sr, ^{149}Sm, and ^{150}Nd were added to powdered samples and underwent closed vessel digestion at 180–190ºC for 24 hours. Samples were dried and re-dissolved in 3 ml of 29M HF, 0.5 ml of 14M HNO_3, and 0.25 ml of 12M $HClO_4$, and digested for a further 72 hours at 180–190ºC, then dried. To finish, 2 ml of 6M HCl was added to the samples, which were digested at 180ºC for 24 hours and dried again; this last procedure was repeated until the resulting solution was clear, after which samples were finally dried and brought up in 2 ml of 2.5M HCl.

Rubidium, Sr and REEs were separated from each other using a primary cation exchange column using AG50Wx4 (200–400 mesh) resin. Samples were loaded into column in chloride

form. Rubidium and Sr were eluted from the column in 2.5M HCl, while the REE were eluted in 6M HCl. Rubidium cuts were dried and diluted in 2% HNO_3. Strontium cuts were passed through a cleanup column using Eichrom™ Sr-spec resin and eluted in 0.05M HNO_3. The REE cuts from the primary column were passed through a secondary column using AG50Wx4 (200–400 mesh) resin. Samarium and Nd were eluted in 0.225M methyllactic acid (pH = 4.67).

Strontium, Nd and Sm ratios were analyzed using a VG Sector 54 TIMS. Strontium cuts were loaded onto a single Re filament with a Ta-oxide activator, and analyzed in a multi-dynamic mode. Strontium isotopes were corrected for mass fractionation by normalizing the measured $^{87}Sr/^{86}Sr$ ratio to the $^{86}Sr/^{88}Sr$ ratio = 0.1194. Repeated analysis of SRM 987 during the course of this study yielded an average $^{87}Sr/^{86}Sr$ value of 0.710238 (n = 30). The mass fractionation corrected and spike corrected $^{87}Sr/^{86}Sr$ ratio was normalized the average SRM 987 $^{87}Sr/^{86}Sr$ value to correct for instrumental bias. Strontium blank concentrations averaged 14.0 ng (n = 4), <1% of sample Sr concentrations.

Rubidium ratios were measured using a Nu Plasma multi-collector (MC) ICP-MS at the University of Maryland. Samples were diluted by a factor of 100 and were introduced into the plasma using an Aridus I desolvating nebulizer. A 50 ppb Rb SpecPure® plasma standard was introduced after every three sample analyses and was used to correct for instrumental fractionation and drift. Rubidium blanks averaged 8.04 ppm (n = 4), <1% of the sample Rb concentrations.

Neodymium and Sm were loaded on two Re filaments with phosphoric acid and loaded in a triple filament arrangement. Neodymium ratios were measured in dynamic mode and corrected for mass fractionation by normalizing the measured $^{143}Nd/^{144}Nd$ ratio to $^{146}Nd/^{144}Nd = 0.7219$. Repeated analysis of the Ames standard during the course of this study yielded an average $^{143}Nd/^{144}Nd$ value of 0.512126 (n = 33). The fractionation and spiked corrected $^{143}Nd/^{144}Nd$ ratio was normalized to the average Ames $^{143}Nd/^{144}Nd$ value to correct for instrumental bias. Samarium was measured in static mode. Samarium blanks averaged 0.311 ng (n = 3) while Nd blanks averaged 2.28 ng (n = 3); both <1% of sample Sm and Nd concentrations.

The USGS G-2 granite was analyzed 7 times over a period of 12 months. Repeat analyses yielded an average $^{87}Sr/^{86}Sr$ of 0.709767 ± 0.000038 (n = 7) and an average $^{143}Nd/^{144}Nd$ of 0.512243 ± 0.000010 (n = 7). Rubidium concentrations averaged 167.6 ppm (range 162.9–174.2 ppm), Sr concentrations 488.8 ppm (range 482.1–496.2 ppm), and Rb/Sr ratios ranged from 0.3367 to 0.3511. Samarium concentrations averaged 7.1 ppm (range 7.0–7.3 ppm), Nd concentrations 52.6 ppm (range 52.2–53.2 ppm), and Sm/Nd ratios ranged from 0.1344 to 0.1372. The analytical data are reported in Table DR3.

U–Pb analysis of igneous zircon (SHRIMP: Australian National University)

U–Pb zircon age determinations were made using SHRIMP II and SHRIMP-RG at the Australian National University Research School of Earth Sciences (ANU-RSES) following the procedures described in Williams (1998 and references therein). Data were reduced using the SQUID Excel Macro (Ludwig, 2001). The zircon U/Pb ratios have been normalized relative to a value of 0.0668 for the Temora reference zircon, equivalent to an age of 417 Ma (Black *et al*. 2003); analytical uncertainties for the respective analytical sessions are given in the footnotes to Table DR4. Uncertainties reported in Table DR4 for individual analyses (ratios and ages) are given at the 1σ level. Tera–Wasserburg (Tera and Wasserburg, 1972) concordia plots, probability density plots with stacked histograms, and weighted mean $^{238}U/^{206}Pb$ age calculations were calculated using ISOPLOT/EX (Ludwig, 2003). Where appropriate the "Mixture Modelling"

algorithm of Sambridge and Compston (1994) via ISOPLOT/EX has been used to un-mix statistical age populations or groupings. From such groupings weighted mean $^{238}U/^{206}Pb$ ages have been calculated and the uncertainties reported as 95% confidence limits, including incorporation, in quadrature, of the uncertainty in the reference zircon calibration. The analytical data are reported in Table DR4.

U–Pb analyses of zircon (LA-ICP-MS: University of Arizona)

Zircon grains (generally 500–1000 for sedimentary rocks and 50–100 for igneous rocks) were incorporated into a 1" epoxy mount together with fragments of the Sri Lanka standard zircon at the University of Arizona. The mounts were sanded down to a depth of ~20 microns, polished, imaged, and cleaned prior to isotopic analysis.

U–Pb geochronology of zircons was conducted by laser ablation multicollector inductively coupled plasma mass spectrometry (LA-MC-ICPMS) at the Arizona LaserChron Center (Gehrels et al., 2006, 2008). The analyses involve ablation of zircon with a New Wave DUV193 Excimer laser (operating at a wavelength of 193 nm) using a spot diameter of 35 μm. The ablated material is carried in helium into the plasma source of a GVI Isoprobe, which is equipped with a flight tube of sufficient width that U, Th, and Pb isotopes are measured simultaneously. All measurements are made in static mode, using Faraday detectors with 10^{11} ohm resistors for ^{238}U, ^{232}Th, ^{208}Pb, and ^{206}Pb, a Faraday detector with a 10e12 ohm resistor for ^{207}Pb, and an ion-counting channel for ^{204}Pb. Ion yields are ~1.0 mv per ppm. Each analysis consists of one 12-second integration on peaks with the laser off (for backgrounds), 12 one-second integrations with the laser firing, and a 30 second delay to purge the previous sample and prepare for the next analysis. The ablation pit is ~12 microns in depth.

For each analysis, the errors in determining $^{206}Pb/^{238}U$ and $^{206}Pb/^{204}Pb$ result in a measurement error of ~1-2% (at 2-sigma level) in the $^{206}Pb/^{238}U$ age. The errors in measurement of $^{206}Pb/^{207}Pb$ and $^{206}Pb/^{204}Pb$ also result in ~1-2% (at 2-sigma level) uncertainty in age for grains that are >1.0 Ga, but are substantially larger for younger grains due to low intensity of the ^{207}Pb signal. For most analyses, the cross-over in precision of $^{206}Pb/^{238}U$ and $^{206}Pb/^{207}Pb$ ages occurs at ~1.0 Ga.

Common Pb correction is accomplished by using the measured ^{204}Pb and assuming an initial Pb composition from Stacey and Kramers (1975) (with uncertainties of 1.0 for $^{206}Pb/^{204}Pb$ and 0.3 for $^{207}Pb/^{204}Pb$). Our measurement of ^{204}Pb is unaffected by the presence of ^{204}Hg because backgrounds are measured on peaks (thereby subtracting any background ^{204}Hg and ^{204}Pb), and because very little Hg is present in the argon gas (background ^{204}Hg = ~300 CPS).

Inter-element fractionation of Pb/U is generally ~20%, whereas apparent fractionation of Pb isotopes is generally <1%. In-run analysis of fragments of a large zircon crystal (generally every fifth measurement) with known age of 563.5 ± 3.2 Ma (2-sigma error) is used to correct for this fractionation. The uncertainty resulting from the calibration correction is generally 1-2% (2-sigma) for both $^{206}Pb/^{207}Pb$ and $^{206}Pb/^{238}U$ ages.

Concentrations of U and Th are calibrated relative to our Sri Lanka zircon, which contains ~518 ppm of U and 68 ppm Th.

The analytical data for zircon from igneous rocks are reported in Table DR5 and for detrital zircon in Table DR6. Uncertainties shown in these tables are at the 1-sigma level, and include only measurement errors. Analyses that are >30% discordant (by comparison of $^{206}Pb/^{238}U$ and $^{206}Pb/^{207}Pb$ ages) or >5% reverse discordant are not considered further.

Whole-rock oxygen isotope compositions (University of Wisconsin, Madison)

Whole-rock powders were analyzed in the University of Wisconsin Stable Isotope Laboratory by laser fluorination following the procedure described in Lackey et al. (2011). Isotope ratios were measured on a dual inlet gas source Finnigan MAT 251 mass spectrometer. Oxygen was extracted from 2–3 mg samples with BrF_5 using a 30W CO_2 laser (l = 10.6 mm), then purified cryogenically, passed through hot Hg to remove any residual F_2, and finally converted to CO_2 with a hot carbon rod (Valley et al., 1995). Analyses were standardized by running five analyses of UWG–2, the Gore Mountain garnet standard; $\delta^{18}O$ values were corrected to the long-term accepted value of 5.80‰ for UWG–2. The average raw $\delta^{18}O$ of UWG–2 for five analyses is 5.76 ± 0.08‰, one standard deviation. The analytical data are reported in Table DR7.

Lu–Hf isotope analyses of detrital zircons (University of Arizona)

Hf isotope analyses are conducted with a Nu HR ICPMS connected to a Photon Machines Analyte G2 excimer laser at the University of Arizona following the procedure outlined in Cecil et al. (2011). Instrument settings are established first by analysis of 10 ppb solutions of JMC475 and a Spex Hf solution, and then by analysis of 10 ppb solutions containing Spex Hf, Yb, and Lu. The mixtures range in concentration of Yb and Lu, with ^{176}(Yb+Lu) up to 70% of the ^{176}Hf. When all solutions yield $^{176}Hf/^{177}Hf$ of ~0.28216, instrument settings are optimized for laser ablation analyses and seven different standard zircons (Mud Tank, 91500, Temora, R33, FC52, Plesovice, and Sri Lanka) are analyzed. These standards are included with unknowns on the same epoxy mounts. When precision and accuracy are acceptable, unknowns are analyzed using exactly the same acquisition parameters.

Laser ablation analyses are conducted with a laser beam diameter of 40 microns, with the ablation pits located on top of the U–Pb analysis pits. CL images are used to ensure that the ablation pits do not overlap multiple age domains or inclusions. Each acquisition consists of one 40-second integration on backgrounds (on peaks with no laser firing) followed by 60 one-second integrations with the laser firing. Using a typical laser fluence of ~5 J/cm2 and pulse rate of 7 hz, the ablation rate is ~0.8 microns per second. Each standard is analyzed once for every ~20 unknowns.

Isotope fractionation is accounted for using the method of Woodhead et al. (2004): βHf is determined from the measured $^{179}Hf/^{177}Hf$; βYb is determined from the measured $^{173}Yb/^{171}Yb$ (except for very low Yb signals); βLu is assumed to be the same as βYb; and an exponential formula is used for fractionation correction. Yb and Lu interferences are corrected by measurement of $^{176}Yb/^{171}Yb$ and $^{176}Lu/^{175}Lu$ (respectively), as advocated by Woodhead et al. (2004). Critical isotope ratios are $^{179}Hf/^{177}Hf$ =0.73250 (Patchett and Tatsumoto, 1980); $^{173}Yb/^{171}Yb$ = 1.132338 (Vervoort et al. 2004); $^{176}Yb/^{171}Yb$ =0.901691 (Vervoort et al., 2004; Amelin and Davis, 2005); $^{176}Lu/^{175}Lu$ = 0.02653 (Patchett, 1983). All corrections are done line-by-line. For very low Yb signals, βHf is used for fractionation of Yb isotopes. The corrected $^{176}Hf/^{177}Hf$ values are filtered for outliers (2-sigma filter), and the average and standard error are calculated from the resulting ~58 integrations. There is no capability to use only a portion of the acquired data.

All solutions, standards, and unknowns analyzed during a session are reduced together. The cutoff for using βHf versus βYb is determined by monitoring the average offset of the standards from their known values, and the cutoff is set at the minimum offset. For most data sets, this is achieved at ~6 mv of ^{171}Yb. For sessions in which the standards yield $^{176}Hf/^{177}Hf$ values that are shifted consistently from the know values, a correction factor is applied to the

$^{176}Hf/^{177}Hf$ of all standards and unknowns. This correction factor, which is not necessary for most sessions, averages 1 epsilon unit.

The $^{176}Hf/^{177}Hf$ at time of crystallization is calculated from measurement of present-day $^{176}Hf/^{177}Hf$ and $^{176}Lu/^{177}Hf$, using the decay constant of ^{176}Lu ($\lambda = 1.867x10^{-11}$) from Scherer et al. (2001) and Söderlund et al. (2004). No capability is provided for calculating Hf Depleted Mantle model ages because the $^{176}Hf/^{177}Hf$ and $^{176}Lu/^{177}Hf$ of the source material(s) from which the zircon crystallized is not known. The analytical data are reported in Table DR8.

Lu–Hf and O analysis of igneous zircon (Australian National University)

Following the U–Pb analyses, the SHRIMP 1–2 μm deep U–Pb pits were lightly polished away and oxygen isotope analyses made in same location using SHRIMP II fitted with a Cs ion source and electron gun for charge compensation as described by Ickert et al. (2008). Oxygen isotope ratios were determined in multiple collector mode using an axial continuous electron multiplier (CEM) triplet collector, and two floating heads with interchangeable CEM–Faraday Cups. The Temora 2 and FC1 reference zircons were analysed to monitor and correct for isotope fractionation. The measured $^{18}O/^{16}O$ ratios and calculated $\delta^{18}O$ values have been normalised relative to an FC1 weighted mean $\delta^{18}O$ value of +5.4 ‰ (Ickert et al. 2008). Reproducibility in the Duluth Gabbro FC1 reference zircon $\delta^{18}O$ value ranged from ± 0.30‰ to 0.44‰ (2σ uncertainty) for the analytical sessions. As a secondary reference, the Temora 2 zircon was analysed in the same sessions, which gave $\delta^{18}O$ values of +8.2‰ in agreement with data reported by Ickert et al. (2008).

Lu–Hf isotope measurements were conducted by laser ablation multicollector inductively coupled plasma mass spectroscopy (LA–MC–ICPMS) using the ANU-RSES Neptune MC–ICPMS coupled with a 193 nm ArF Excimer laser, following procedures similar to those described in Munizaga et al. (2008). For all analyses of unknowns or secondary standards, the laser spot size was ~47 μm in diameter. Laser ablation analyses targeted the same locations within single zircon grains used for both the U–Pb and oxygen isotope analyses described above. The mass spectrometer was first tuned to optimal sensitivity using a large grain of zircon from the Mud Tank carbonatite. Isotopic masses were measured simultaneously in static-collection mode. A gas blank was acquired at regular intervals throughout the analytical session (every 12 analyses). Typically the laser was fired with a 5–8 Hz repetition rate and 50–60 mJ energy. Data were acquired for 100 seconds, but in many cases only a selected interval from the total acquisition was used in data reduction.

Throughout the analytical session several widely used reference zircons (FC-1 and Temora 2) were analysed to monitor data quality and reproducibility. Signal intensity was typically ~5–6 V for total Hf at the beginning of ablation, and decreased over the acquisition time to 2 V or less. Isobaric interferences of ^{176}Lu and ^{176}Yb on the ^{176}Hf signal were corrected by monitoring signal intensities of ^{175}Lu and ^{173}Yb, ^{172}Yb and ^{171}Yb. The calculation of signal intensity for ^{176}Hf also involved independent mass bias corrections for Lu and Yb (see Munizaga et al. 2008 for further details). During the course of this data collection the reference zircons gave the following weighted mean $^{176}Hf/^{177}Hf$ ratios: 915000 = 0.282310 ± 14 (±2s) for 23 analyses, Mud Tank = 0.282516 ± 11 for 8 analyses, FC1 = 0.282173 ± 9 for 22 of 23 analyses, Plesovice = 0.282486 ± 11 for 16 of 17 analyses, and Monastery = 0.282744 ± 12 for 8 analyses. These are within analytical uncertainty of the values reported by Woodhead and Hergt (2005). The analytical data are reported in Table DR9.

REFERENCES

Amelin, Y., and Davis, W. J., 2005, Geochemical test for branching decay of 176Lu: Geochimica et Cosmochimica Acta, v. 69, p. 465-473. doi:http://dx.doi.org/10.1016/j.gca.2004.04.028.

Black, L. P., Kamo, S. L., Allen, C. M., Aleinikoff, J. N., Davis, D. W., Korsch, R. J., and Foudoulis, C., 2003, TEMORA 1: a new zircon standard for Phanerozoic U–Pb geochronology: Chemical geology, v. 200, p. 155-170. doi:http://dx.doi.org/10.1016/S0009-2541(03)00165-7.

Boyd, F. R., and Mertzman, S. A., 1987, Composition and structure of the Kaapvaal lithosphere, southern Africa, *in* Mysen, B. O., ed., Magmatic Processes: Physiochemical Principles. , Volume 1, p. 13–24.

Cecil, M. R., Gehrels, G. E., Ducea, M. N., and Patchett, P. J., 2011, U-Pb-Hf characterization of the central Coast Mountains Batholith; implications for petrogenesis and crustal architecture: Lithosphere, v. 3, p. 247–260. doi:10.1130/l134.1.

Gehrels, G., Valencia, V., and Pullen, A., 2006, Detrital zircon geochronology by laser-ablation multicollector ICPMS at the Arizona Laserchron Center: Paleontological Society Papers, v. 12, p. 67.

Gehrels, G. E., Valencia, V. A., and Ruiz, J., 2008, Enhanced precision, accuracy, efficiency, and spatial resolution of U-Pb ages by laser ablation–multicollector–inductively coupled plasma–mass spectrometry: Geochemistry, Geophysics, Geosystems, v. 9, p. Q03017. doi:10.1029/2007gc001805.

Ickert, R. B., Hiess, J., Williams, I. S., Holden, P., Ireland, T. R., Lanc, P., Schram, N., Foster, J. J., and Clement, S. W., 2008, Determining high precision, in situ, oxygen isotope ratios with a SHRIMP II: Analyses of MPI-DING silicate-glass reference materials and zircon from contrasting granites: Chemical geology, v. 257, p. 114–128. doi:http://dx.doi.org/10.1016/j.chemgeo.2008.08.024.

Korhonen, F. J., Saito, S., Brown, M., Siddoway, C. S., and Day, J. M. D., 2010, Multiple Generations of Granite in the Fosdick Mountains, Marie Byrd Land, West Antarctica: Implications for Polyphase Intracrustal Differentiation in a Continental Margin Setting: Journal of Petrology, v. 51, p. 627–670. doi:10.1093/petrology/egp093.

Lackey, J. S., Erdmann, S., Hark, J. S., Nowak, R. M., Murray, K. E., Clarke, D. B., and Valley, J. W., 2011, Tracing garnet origins in granitoid rocks by oxygen isotope analysis: Examples from the South Mountain Batholith, Nova Scotia: The Canadian Mineralogist, v. 49, p. 417–439. doi:10.3749/canmin.49.2.417.

Ludwig, K. R., 2003, User's manual for ISOPLOT 3, A Geochronological Toolkt for Microsoft Excel: Berkeley Geochronology Center, Special Publication No. 4.

Ludwig, K. R., 2001, User's guide to SQUID 2.2: Berkeley, Berkeley Geochronology Center.

Munizaga, F., Maksaev, V., Fanning, C. M., Giglio, S., Yaxley, G., and Tassinari, C. C. G., 2008, Late Paleozoic, Early Triassic magmatism on the western margin of Gondwana: Collahuasi area, Northern Chile: Gondwana Research, v. 13, p. 407–427. doi:http://dx.doi.org/10.1016/j.gr.2007.12.005.

Patchett, P. J., 1983, Importance of the Lu-Hf isotopic system in studies of planetary chronology and chemical evolution: Geochimica et Cosmochimica Acta, v. 47, p. 81-91. doi:http://dx.doi.org/10.1016/0016-7037(83)90092-3.

Patchett, P. J., and Tatsumoto, M., 1980, Hafnium isotope variations in oceanic basalts: Geophysical Research Letters, v. 7, p. 1077-1080. doi:10.1029/GL007i012p01077.

Sambridge, M. S., and Compston, W., 1994, Mixture modeling of multi-component data sets with application to ion-probe zircon ages: Earth and Planetary Science Letters, v. 128, p. 373-390. doi:10.1016/0012-821x(94)90157-0.

Scherer, E., Münker, C., and Mezger, K., 2001, Calibration of the Lutetium-Hafnium Clock: Science, v. 293, p. 683–687. doi:10.1126/science.1061372.

Söderlund, U., Patchett, J. P., Vervoort, J. D., and Isachsen, C. E., 2004, The Lu-176 decay constant determined by Lu-Hf and U-Pb isotope systematics of Precambrian mafic intrusions: Earth and Planetary Science Letters, v. 219, p. 311–324. doi:10.1016/S0012-821X(04)00012-3.

Stacey, J. S., and Kramers, J. D., 1975, Approximation of terrestrial lead isotope evolution by a two-stage model: Earth and Planetary Science Letters, v. 26, p. 207–221. doi:http://dx.doi.org/10.1016/0012-821X(75)90088-6.

Tera, F., and Wasserburg, G. J., 1972, U-Th-Pb systematics in three Apollo 14 basalts and the problem of initial Pb in lunar rocks: Earth and Planetary Science Letters, v. 14, p. 281–304. doi:10.1016/0012-821x(72)90128-8.

Valley, J. W., Kitchen, N., Kohn, M. J., Niendorf, C. R., and Spicuzza, M. J., 1995, UWG-2, a garnet standard for oxygen isotope ratios; strategies for high precision and accuracy with laser heating: Geochimica et Cosmochimica Acta, v. 59, p. 5223–5231.

Vervoort, J. D., Patchett, P. J., Söderlund, U., and Baker, M., 2004, Isotopic composition of Yb and the determination of Lu concentrations and Lu/Hf ratios by isotope dilution using MC-ICPMS: Geochemistry, Geophysics, Geosystems, v. 5, p. Q11002. doi:10.1029/2004gc000721.

Williams, I. S., 1998, U–Th–Pb geochronology by ion microprobe, Socorro, New Mexico, Reviews in Economic Geology, Society of Economic Geologists, Applications of microanalytical techniques to understanding mineralizing processes, p. 1–35.

Woodhead, J., Hergt, J., Shelley, M., Eggins, S., and Kemp, R., 2004, Zircon Hf-isotope analysis with an excimer laser, depth profiling, ablation of complex geometries, and concomitant age estimation: Chemical Geology, v. 209, p. 121–135.

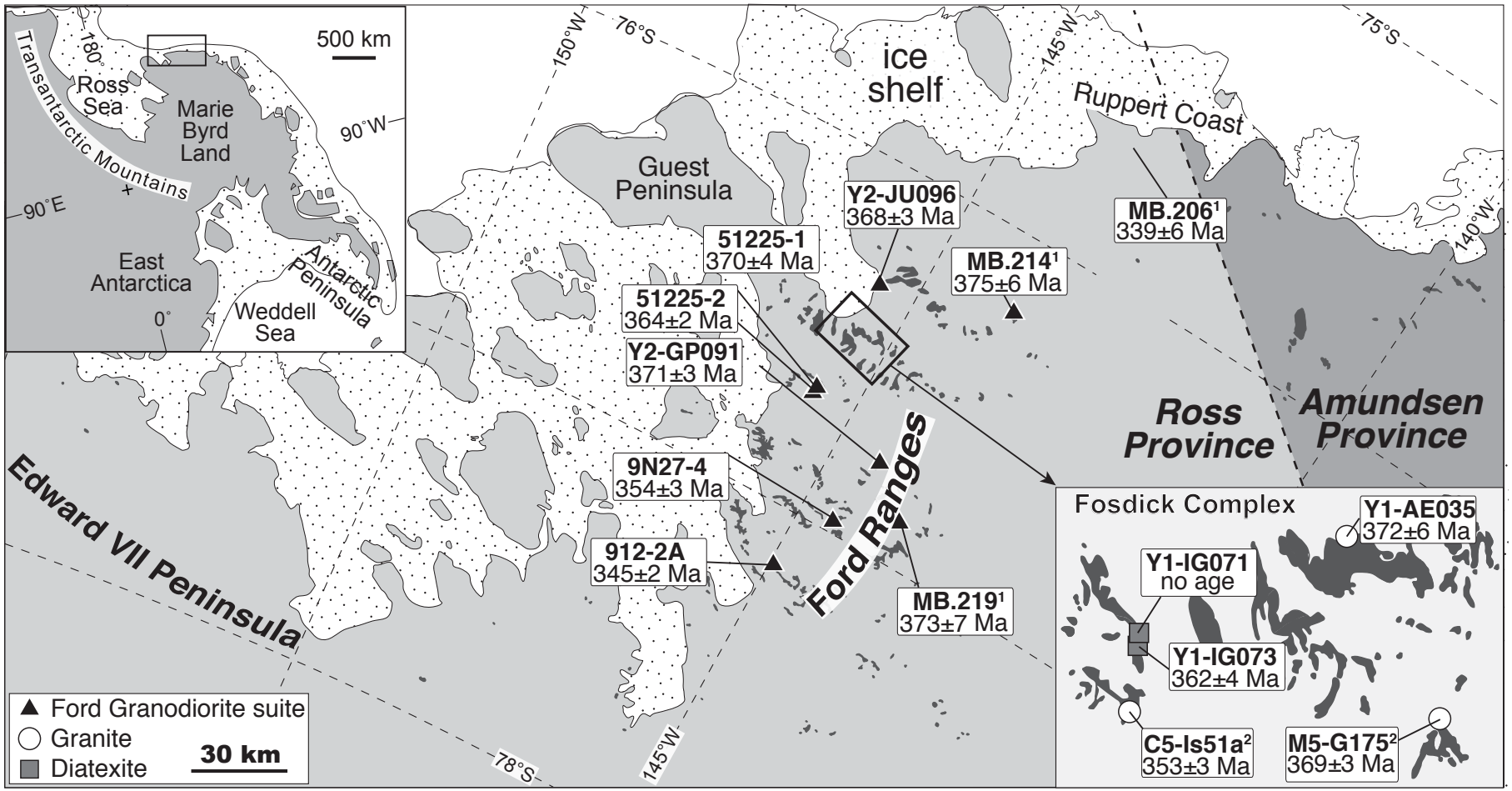

Figure DR1. Ages of the Ford Granodiorite suite as well as Devonian–Carboniferous granites and diatexites from the Fosdick complex. Ages are from this study in addition to: [1]Pankhurst et al. (1998); [2]Siddoway and Fanning (2009).

Table DR1. Sample Locations

Sample	Rock Type	Location	Latitude	Longitude
10CY-001	Swanson Formation	Clark Mountains	77°16.729' S	142°09.726' W
10CY-002	Swanson Formation	Clark Mountains	77°16.729' S	142°09.726' W
Y2-BR086	Swanson Formation	Bailey Ridge	77°09.679' S	145°16.739' W
Y2-MD092	Swanson Formation	Mount Dolber	77°04.219' S	145°45.077' W
Y2-MP098	Swanson Formation	Mount Passel	76°53.851' S	144°52.003' W
318-M9	Metasedimentary gneiss	Mitchell Peak	76°25.000' S	147°22.000' W
21223-3	Metasedimentary gneiss	Scott Nunataks	77°14.000' S	154°12.000' W
21223-8	Metasedimentary gneiss	Scott Nunataks	77°14.000' S	154°12.000' W
8D27-10	Metasedimentary gneiss	Mt Woodward	77°18.000' S	145°47.000' W
912-2A	Ford Granodiorite Suite	Asman Ridge	77°10.000’ S	144°48.000’ W
9N27-4	Ford Granodiorite Suite	Mount Ralph	76°58.000’ S	144°32.000’ W
51225-1	Ford Granodiorite Suite	Chester Mountains	76°40.000' S	145°35.000' W
51225-2	Ford Granodiorite Suite	Chester Mountains	76°40.000' S	145°35.000' W
Y2-GP091	Ford Granodiorite Suite	Greer Peak	76°46.570' S	144°25.644' W
Y2-HN097	Ford Granodiorite Suite	Herman Nunatak	76°13.377' S	143°52.879' W
Y2-JU096	Ford Granodiorite Suite	Mount June	76°15.109' S	145°16.515' W
Y2-SM095	Ford Granodiorite Suite	Saunders Mountain	76°51.104' S	145°41.644' W
Y1-AE035	Devonian–Carboniferous Granite	Mount Avers	76°27.950' S	145°16.324' W
M5-G175	Devonian–Carboniferous Granite	Mount Getz	76°33.180' S	145°13.200' W
Y1-IG071	Diatexite	Mount Iphigene	76°30.676' S	145°48.368' W
Y1-IG073	Diatexite	Mount Iphigene	76°30.676' S	145°48.368' W

Table DR2. Major element, trace element and REE concentrations

Rock Type	Swanson Formation					Ford Granodiorite Suite					
Sample no.	10CY-001	10CY-002	Y2-BR086	Y2-MD092	Y2-MP098	51225-1	51225-2	Y2-GP091	Y2-HN097	Y2-JU096	Y2-SM095
wt %											
SiO_2	64.33	63.92	71.59	73.92	74.06	68.24	66.43	67.50	69.08	69.10	67.38
TiO_2	0.68	0.70	0.73	0.57	0.68	0.70	0.78	0.59	0.53	0.54	0.68
Al_2O_3	15.86	16.52	14.02	11.54	12.00	15.13	15.37	15.35	14.98	15.00	15.29
Fe_2O_3	0.70	0.74	0.58	0.21	0.57	0.39	0.56	0.89	0.83	0.53	1.06
FeO	5.70	5.82	4.08	4.03	4.06	3.61	4.01	2.47	2.43	2.68	3.14
MnO	0.11	0.11	0.08	0.11	0.11	0.07	0.07	0.06	0.06	0.05	0.07
MgO	3.69	3.76	2.41	2.97	2.78	1.42	1.62	2.02	1.77	1.66	2.35
CaO	3.01	1.25	0.94	2.31	1.47	2.67	2.59	3.20	3.15	2.74	3.92
Na_2O	2.20	2.44	1.70	1.57	1.93	3.19	3.03	3.83	3.97	3.48	3.40
K_2O	3.02	4.24	3.36	2.33	2.15	3.70	4.19	3.05	2.52	3.35	2.63
P_2O_5	0.18	0.17	0.19	0.17	0.18	0.22	0.24	0.18	0.17	0.16	0.17
LOI	1.50	1.86	2.05	0.98	1.97	1.06	1.05	1.62	0.94	1.71	1.36
Total	100.11	100.32	100.13	100.18	100.44	99.74	99.34	99.42	99.76	99.59	100.44
ppm (XRF)											
Rb	140	195.9	162.8	98.9	95.9	189.2	208.7	143.8	88.1	116.9	98.5
Sr	207	149	137	196	155	223	218	378	354	418	346
Y	32	33.6	39.4	33.4	38.8	32.4	34.8	23	23.7	35.2	27
Zr	123	121	172	166	233	228	240	146	143	173	155
V	131	112	89	80	84	73	82	77	72	73	97
Ni	110	118	43	106	112	9	10	37	35	34	35
Cr	110	118	84	123	151	33	36	60	80	64	78
Nb	11.6	13.4	15.2	11.7	13.5	19.7	21.3	13.2	15.1	14.5	10.1
Ga	20.6	21.2	18.9	15.7	17.1	21.5	21.7	18.7	19.5	19.2	19
Cu	39	41	6	8	30	12	23	9	9	9	9
Zn	120	152	85	74	78	66	73	48	46	53	59
Co	26	28	18	17	17	11	14	12	11	11	15
Ba	483	658	727	426	438	514	565	483	472	628	525
La	26	29	32	30	37	34	44	24	23	38	29
Ce	69	75	82	65	83	75	105	51	44	80	55
U	3.1	1.4	3.8	1.9	3.8	5.1	5.3	2.1	4.9	4.7	2.3
Th	14.2	17.2	14.3	13.7	13.3	14.8	24.5	14.5	5.4	16.2	9.4
Sc	18	16	12	12	12	11	12	11	9	11	11
Pb	8	12	15	11	3	15	28	<1	10	189	22
ppm (ICP-MS)											
Sc	18.2	17.31	11.19	9.8	10.44	10.92	11.28	8.64	8.72	9.59	11.42
Y	28.59	30.36	38.89	27.05	31.32	34.49	33.81	20.93	19	30.66	22.45
La	32.26	37.35	42.9	32.66	36.72	47.96	53.18	25.03	21.02	40.53	22.35
Ce	66.58	76.4	90.12	66.73	75.01	103.16	114.31	50.07	41.61	82.65	48.97
Pr	7.83	8.84	10.6	7.92	8.97	12.8	14.07	6.16	5.04	10.03	6.05
Nd	30.03	34.16	40.27	30.29	34.16	48.3	52.72	23.34	19.32	37.43	23.07
Sm	6.25	6.96	8.43	6.1	6.92	8.97	9.47	4.65	3.93	6.91	4.63
Eu	1.34	1.44	1.65	1.18	1.29	1.38	1.34	1.06	0.94	1.39	1.16
Gd	5.05	5.52	6.95	4.89	5.47	7.53	7.59	4.21	3.65	6.02	4.3
Tb	0.85	0.91	1.2	0.81	0.93	1.17	1.18	0.69	0.61	0.97	0.7
Dy	5.03	5.26	7.03	4.75	5.5	6.31	6.48	3.9	3.45	5.34	3.94
Ho	1.03	1.07	1.41	0.96	1.14	1.19	1.22	0.74	0.67	1.03	0.77
Er	2.89	3.01	3.83	2.65	3.17	3.51	3.63	2.21	1.99	3.06	2.27
Tm	0.43	0.43	0.55	0.39	0.47	0.55	0.58	0.36	0.32	0.49	0.36
Yb	2.81	2.86	3.45	2.43	3.03	3.39	3.59	2.38	2.03	3.09	2.29
Lu	0.39	0.4	0.45	0.33	0.42	0.52	0.56	0.39	0.32	0.49	0.37

Table DR2. M

Rock Type	Diatexite		Devonian–Carboniferous g	
Sample no.	Y1-IG071	Y1-IG073	Y1-AE035	M5-G175
wt %				
SiO_2	72.88	71.63	66.59	67.54
TiO_2	0.46	0.48	0.87	0.70
Al_2O_3	13.91	14.62	16.04	15.23
Fe_2O_3	0.49	0.26	1.15	0.92
FeO	2.51	2.39	3.71	3.76
MnO	0.04	0.02	0.06	0.06
MgO	1.36	1.04	1.63	1.96
CaO	1.63	2.08	3.52	1.72
Na_2O	2.72	2.96	3.68	3.11
K_2O	4.16	4.00	2.26	4.14
P_2O_5	0.08	0.17	0.27	0.09
LOI	1.06	0.98	1.05	1.10
Total	100.52	99.92	100.19	99.65
ppm (XRF)				
Rb	173	150.7	146.4	201
Sr	191	259	281	249
Y	26.1	22.4	23	39.1
Zr	169	255	256	233
V	57	51	100	85
Ni	15	10	10	23
Cr	75	34	58	77
Nb	13.5	11.7	16.6	19.2
Ga	19.1	18.5	22	22.1
Cu	7	7	8	23
Zn	58	50	80	81
Co	8	6	14	15
Ba	551	1109	690	1119
La	24	40	23	36
Ce	53	100	50	87
U	3.7	3.6	2.2	6.2
Th	12.2	22.4	5.7	16.8
Sc	8	8	16	12
Pb	28	33	21	27
ppm (ICP-MS				
Sc	10.32	7.97	15.77	13.95
Y	17.74	22.49	25.8	35.88
La	31.52	63.83	43.65	58.01
Ce	65.68	131.69	91.8	115.07
Pr	8.16	16	11.32	13.67
Nd	29.77	60.97	44.48	50.09
Sm	6.04	11.12	8.37	8.94
Eu	1.18	1.74	1.76	1.53
Gd	4.92	8.65	6.83	7.82
Tb	0.79	1.24	1.05	1.19
Dy	3.88	5.83	5.38	6.25
Ho	0.64	0.87	0.95	1.19
Er	1.56	1.91	2.54	3.5
Tm	0.2	0.21	0.37	0.53
Yb	1.1	0.96	2.19	3.1
Lu	0.15	0.12	0.33	0.48

Table DR3. Sr–Nd isotope compositions

Rock Type	Swanson Formation					Ford Granodiorite suite						Carboniferous granite		Diatexites	
Sample no.	10CY-001	10CY-002	Y2-BR086	Y2-MD092	Y2-MP098	51225-1	51225-2	Y2-GP091	Y2-HN097	Y2-JU096	Y2-SM095	Y1-AE035	M5-G175	Y1-IG071	Y2-IG073
Rb	131.3	205.5	155.2	99.9	95.5	194.2	220.7	142.5	85.3	122.2	100.4	128.6	213.8	171.17	146.55
Sr	201.1	147.6	128.7	194.8	150.7	223	220.4	375.9	357.2	422.8	345.6	271.1	248.5	190.47	279.69
Rb/Sr	0.65	1.39	1.21	0.51	0.63	0.87	1.00	0.38	0.24	0.29	0.29	0.47	0.86	0.90	0.52
$^{87}Rb/^{86}Sr$	2.09	4.04	3.50	1.49	1.84	2.29	2.90	1.10	0.69	0.84	0.84	1.37	2.49	2.60	1.64
$^{87}Sr/^{86}Sr$	0.726291	0.732242	0.738139	0.727782	0.72801	0.720773	0.72163	0.71077	0.708715	0.71085	0.710204	0.715979	0.720081	0.7176359	0.7176359
$^{87}Sr/^{86}Sr_{(100Ma}$	0.723375	0.726599	0.733244	0.725704	0.725442	0.717575	0.717575	0.709237	0.707749	0.709681	0.709028	0.714059	0.716597	0.7139972	0.7153412
$^{87}Sr/^{86}Sr_{(360Ma}$	0.715775	0.71189	0.720484	0.720285	0.718746	0.709237	0.707005	0.705241	0.705231	0.706634	0.705965	0.709056	0.707518	0.7045129	0.7093598
Sm	6.6	6.7	8	6	6.9	9.2	11.2	4.3	3.8	8.6	4.8	6.1	10.2	8.5	11.5
Nd	35.3	32.8	38.8	30.3	34.3	45.9	59.6	21.5	18.2	46.6	23	31.4	53.6	41.3	61.6
Sm/Nd	0.19	0.2	0.21	0.2	0.2	0.2	0.19	0.2	0.21	0.18	0.21	0.19	0.19	0.2	0.2
$^{147}Sm/^{144}Nd$	0.113254	0.122727	0.124266	0.120037	0.120772	0.090416	0.113363	0.121087	0.110934	0.126897	0.127007	0.116782	0.114473	0.123871	0.1125472
$^{143}Nd/^{144}Nd$	0.512117	0.512084	0.512079	0.511979	0.512061	0.512378	0.512292	0.512432	0.512276	0.512438	0.512368	0.512254	0.512225	0.5121746	0.512217
$\varepsilon Nd_{(0Ma)}$	-10.2	-10.8	-10.9	-12.8	-11.3	-5.1	-6.7	-4	-7.1	-3.9	-5.3	-7.5	-8.1	-9.0	-8.2
$\varepsilon Nd_{(100Ma)}$	-9.1	-9.9	-10	-11.9	-10.3	-3.7	-5.7	-3.1	-6	-3.0	-4.4	-6.5	-7.0	-8.1	-7.1
$\varepsilon Nd_{(360Ma)}$	-6.3	-7.4	-7.6	-9.3	-7.8	-0.2	-2.9	-0.5	-3.1	-0.7	-2.1	-3.8	-4.3	-5.7	-4.3

Notes: $\lambda_{Rb} = 1.3968 \times 10^{-11}$

$\lambda_{Sm} = 6.54 \times 10^{-12}$

$^{143}Nd/^{144}Nd_{CHUR\ (0)} = 0.512638$

$^{147}Sm/^{144}Nd_{CHUR(0)} = 0.1967$

Table DR4. Summary of SHRIMP U–Pb results for zircon.

Grain spot	U (ppm)	Th (ppm)	Th/U	$^{206}Pb^*$ (ppm)	$^{204}Pb/^{206}Pb$	f_{206} %	Total $^{238}U/^{206}Pb$	±	Total $^{207}Pb/^{206}Pb$	±	Radiogenic $^{206}Pb/^{238}U$	±	Age (Ma) $^{206}Pb/^{238}U$	±
Y2-JU096														
1.1	1055	64	0.06	52.4	-	<0.01	17.29	0.18	0.0536	0.0004	0.0578	0.0006	362.5	3.8
2.1	185	98	0.53	9.3	0.000068	0.03	17.00	0.21	0.0542	0.0009	0.0588	0.0007	368.5	4.4
3.1	166	132	0.79	8.3	-	<0.01	17.15	0.21	0.0536	0.0010	0.0583	0.0007	365.4	4.5
4.1	239	38	0.16	12.4	-	<0.01	16.66	0.20	0.0540	0.0008	0.0600	0.0007	375.9	4.4
5.1	386	168	0.44	19.4	-	<0.01	17.06	0.26	0.0533	0.0006	0.0587	0.0009	367.5	5.6
6.1	278	106	0.38	14.3	0.000027	0.03	16.69	0.19	0.0544	0.0007	0.0599	0.0007	374.9	4.3
6.2	163	89	0.55	8.2	0.000196	0.10	17.16	0.21	0.0547	0.0010	0.0582	0.0007	364.8	4.5
7.1	258	100	0.39	12.5	-	0.00	17.75	0.21	0.0536	0.0010	0.0563	0.0007	353.4	4.1
7.2	248	81	0.33	11.6	0.000113	0.12	18.44	0.22	0.0543	0.0009	0.0542	0.0007	340.1	4.0
8.1	1014	212	0.21	52.6	0.000025	0.09	16.56	0.19	0.0549	0.0006	0.0603	0.0007	377.7	4.2
9.1	439	119	0.27	22.1	-	-0.06	17.07	0.19	0.0534	0.0006	0.0586	0.0007	367.2	4.0
10.1	704	194	0.28	35.5	0.000010	-0.14	17.03	0.18	0.0528	0.0005	0.0588	0.0006	368.3	3.9
11.1	566	125	0.22	28.5	0.000080	0.02	17.02	0.19	0.0541	0.0005	0.0587	0.0007	367.9	4.0
12.1	143	63	0.44	7.5	-	-0.07	16.44	0.21	0.0537	0.0011	0.0609	0.0008	380.9	4.9
13.1	260	106	0.41	13.1	-	-0.01	17.08	0.20	0.0538	0.0008	0.0586	0.0007	366.8	4.2
14.1	636	139	0.22	32.9	-	-0.06	16.62	0.18	0.0537	0.0005	0.0602	0.0007	376.9	4.1
15.1	318	71	0.22	16.1	-	-0.06	16.98	0.20	0.0535	0.0007	0.0589	0.0007	369.1	4.2
16.1	791	188	0.24	38.9	0.000042	0.07	17.48	0.19	0.0542	0.0005	0.0572	0.0006	358.4	3.9
17.1	385	148	0.39	19.6	0.000021	0.02	16.90	0.19	0.0542	0.0007	0.0592	0.0007	370.5	4.1
18.1	163	33	0.20	8.2	0.000119	0.03	17.07	0.21	0.0541	0.0010	0.0586	0.0007	366.9	4.5
19.1	223	112	0.50	11.2	0.000103	0.08	17.13	0.20	0.0545	0.0008	0.0583	0.0007	365.5	4.3
20.1	152	110	0.72	7.6	-	0.11	17.15	0.23	0.0548	0.0010	0.0582	0.0008	364.8	4.8
Error in Temora reference zircon calibration was 0.30% for the analytical session.														
51225-2														
1.1	1524	202	0.13	76.5	0.000014	0.09	17.12	0.18	0.0546	0.0003	0.0584	0.0006	365.6	3.7
2.1	316	65	0.21	15.6	0.000030	0.04	17.35	0.20	0.0541	0.0008	0.0576	0.0007	361.0	4.2
3.1	246	219	0.89	12.3	-	<0.01	17.24	0.21	0.0536	0.0009	0.0580	0.0007	363.5	4.4
4.1	2742	398	0.14	137.6	-	<0.01	17.12	0.18	0.0536	0.0003	0.0584	0.0006	366.0	3.7
5.1	1278	247	0.19	63.2	0.000023	0.01	17.38	0.18	0.0538	0.0004	0.0575	0.0006	360.6	3.7
6.1	686	144	0.21	37.0	0.000013	0.02	15.95	0.17	0.0547	0.0007	0.0627	0.0007	392.0	4.2
7.1	2114	211	0.10	107.6	0.000011	0.01	16.87	0.18	0.0541	0.0003	0.0593	0.0007	371.2	4.0
7.2	709	117	0.17	35.5	-	<0.01	17.15	0.19	0.0538	0.0006	0.0583	0.0007	365.4	4.0
8.1	807	211	0.26	39.8	0.000019	0.03	17.42	0.19	0.0540	0.0005	0.0574	0.0006	359.8	3.8
9.1	382	52	0.14	18.9	-	0.01	17.38	0.20	0.0539	0.0008	0.0575	0.0007	360.6	4.1
9.2	403	8	0.02	30.6	0.000031	0.06	11.29	0.13	0.0589	0.0006	0.0885	0.0010	546.8	6.0
10.1	492	465	0.94	24.3	0.000031	0.16	17.44	0.20	0.0550	0.0006	0.0573	0.0007	359.0	4.1
11.1	683	131	0.19	34.2	0.000033	0.05	17.18	0.19	0.0542	0.0005	0.0582	0.0006	364.6	3.9
11.2	204	155	0.76	10.3	-	0.04	17.07	0.22	0.0542	0.0010	0.0586	0.0008	366.9	4.6
12.1	787	143	0.18	39.7	0.000041	0.08	17.02	0.18	0.0546	0.0005	0.0587	0.0006	367.7	3.9
13.1	834	107	0.13	42.3	0.000053	0.04	16.95	0.18	0.0543	0.0005	0.0590	0.0006	369.4	3.9
14.1	832	230	0.28	42.4	0.000045	<0.01	16.85	0.18	0.0538	0.0005	0.0594	0.0006	371.8	3.9
15.1	990	279	0.28	50.6	0.000039	<0.01	16.82	0.18	0.0537	0.0004	0.0595	0.0006	372.5	3.9
15.2	432	168	0.39	57.4	0.000004	<0.01	6.470	0.073	0.0682	0.0005	0.1549	0.0018	928.3	10.1
16.1	401	49	0.12	19.7	-	<0.01	17.45	0.21	0.0531	0.0007	0.0573	0.0007	359.5	4.2
17.1	442	450	1.02	22.1	-	<0.01	17.17	0.19	0.0534	0.0006	0.0583	0.0007	365.1	4.1
18.1	582	137	0.23	28.8	0.000017	0.09	17.35	0.19	0.0544	0.0006	0.0576	0.0006	360.8	3.9
19.1	606	152	0.25	29.9	0.000044	0.11	17.43	0.20	0.0546	0.0006	0.0573	0.0007	359.1	4.0
20.1	421	117	0.28	20.8	0.000021	<0.01	17.37	0.20	0.0537	0.0007	0.0576	0.0007	360.9	4.2
Error in Temora reference zircon calibration was 0.33% for the analytical session.														
9N27-4														
1.1	807	609	0.76	39.2	0.000045	0.06	17.66	0.19	0.0541	0.0004	0.0566	0.0006	354.9	3.7
2.1	510	180	0.35	24.5	0.000028	0.12	17.91	0.19	0.0545	0.0005	0.0558	0.0006	349.7	3.7
3.1	127	39	0.31	6.3	0.000235	<0.01	17.30	0.22	0.0538	0.0010	0.0578	0.0008	362.3	4.6
4.1	1321	667	0.51	65.2	0.000163	0.08	17.41	0.18	0.0544	0.0003	0.0574	0.0006	359.7	3.6
5.1	384	112	0.29	18.3	0.000000	0.08	18.06	0.20	0.0541	0.0006	0.0553	0.0006	347.2	3.9
6.1	671	192	0.29	34.5	0.000145	0.09	16.68	0.18	0.0549	0.0005	0.0599	0.0007	374.9	4.0
7.1	653	366	0.56	31.5	-	0.08	17.81	0.19	0.0542	0.0004	0.0561	0.0006	351.8	3.7
8.1	496	276	0.56	23.8	-	0.06	17.93	0.19	0.0540	0.0005	0.0557	0.0006	349.7	3.7
9.1	494	127	0.26	24.3	-	<0.01	17.44	0.19	0.0531	0.0005	0.0574	0.0006	359.7	3.8
10.1	848	345	0.41	41.0	0.000026	0.01	17.76	0.19	0.0537	0.0004	0.0563	0.0006	353.2	3.6
11.1	202	73	0.36	9.9	0.000139	0.04	17.56	0.21	0.0540	0.0008	0.0569	0.0007	356.8	4.2
12.1	343	131	0.38	17.1	0.001536	2.80	17.23	0.19	0.0762	0.0014	0.0564	0.0006	353.8	3.9
13.1	817	584	0.71	40.5	0.000076	<0.01	17.31	0.18	0.0538	0.0004	0.0578	0.0006	362.0	3.8
14.1	139	38	0.27	6.6	-	0.22	18.20	0.23	0.0552	0.0009	0.0548	0.0007	344.1	4.3
15.1	789	290	0.37	38.6	0.000024	0.03	17.59	0.19	0.0539	0.0004	0.0568	0.0006	356.4	3.7
16.1	481	242	0.50	23.1	0.000197	0.42	17.89	0.19	0.0568	0.0005	0.0557	0.0006	349.3	3.7
17.1	1487	1234	0.83	71.6	0.000021	0.05	17.84	0.18	0.0539	0.0003	0.0560	0.0006	351.4	3.5
18.1	311	81	0.26	15.2	0.000008	<0.01	17.55	0.20	0.0537	0.0006	0.0570	0.0006	357.3	3.9
19.1	699	211	0.30	33.2	0.000014	0.11	18.10	0.19	0.0543	0.0004	0.0552	0.0006	346.3	3.6
20.1	306	156	0.51	14.8	-	0.08	17.79	0.20	0.0542	0.0007	0.0562	0.0007	352.3	4.0
Error in Temora reference zircon calibration was 0.29% for the analytical session.														

Table DR4. Summary of SHRIMP U–Pb results for zircon.

Grain	U	Th	Th/U	$^{206}Pb^*$	$^{204}Pb/$	f_{206}	Total				Radiogenic		Age (Ma)	
spot	(ppm)	(ppm)		(ppm)	^{206}Pb	%	$^{238}U/^{206}Pb$	±	$^{207}Pb/^{206}Pb$	±	$^{206}Pb/^{238}U$	±	$^{206}Pb/^{238}U$	±
912-2A														
1.1	281	222	0.79	13.3	0.000022	<0.01	18.19	0.21	0.0531	0.0007	0.0550	0.0006	345.2	3.9
2.1	267	192	0.72	12.6	0.000213	0.30	18.16	0.21	0.0558	0.0007	0.0549	0.0006	344.4	3.9
3.1	159	69	0.43	7.4	-	0.03	18.39	0.23	0.0535	0.0009	0.0544	0.0007	341.2	4.1
4.1	252	102	0.40	11.9	0.000020	0.08	18.16	0.21	0.0540	0.0007	0.0550	0.0006	345.3	3.9
5.1	230	199	0.86	10.8	0.000113	0.19	18.25	0.21	0.0548	0.0007	0.0547	0.0006	343.2	3.9
6.1	684	386	0.56	30.8	0.001843	3.40	19.08	0.33	0.0801	0.0008	0.0506	0.0009	318.4	5.5
6.2	547	168	0.31	25.7	-	0.02	18.31	0.20	0.0535	0.0005	0.0546	0.0006	342.8	3.6
7.1	495	223	0.45	23.6	0.000025	<0.01	18.03	0.19	0.0531	0.0005	0.0555	0.0006	348.1	3.7
8.1	103	66	0.64	4.8	-	0.14	18.45	0.24	0.0544	0.0011	0.0541	0.0007	339.8	4.5
9.1	383	318	0.83	18.0	0.000207	0.48	18.24	0.20	0.0572	0.0007	0.0545	0.0006	342.4	3.7
10.1	1500	448	0.30	111.2	0.001021	2.04	11.59	0.12	0.0744	0.0003	0.0845	0.0009	523.0	5.2
11.1	165	113	0.69	7.8	-	<0.01	18.22	0.22	0.0529	0.0008	0.0549	0.0007	344.6	4.1
12.1	73	42	0.58	5.1	0.001798	2.45	12.13	0.17	0.0771	0.0077	0.0804	0.0014	498.6	8.3
13.1	350	146	0.42	16.5	0.000099	<0.01	18.27	0.20	0.0531	0.0006	0.0547	0.0006	343.6	3.8
13.2	388	137	0.35	18.6	0.000122	0.31	17.92	0.20	0.0559	0.0006	0.0556	0.0006	349.0	3.8
14.1	205	143	0.70	9.7	0.000058	0.14	18.12	0.21	0.0545	0.0008	0.0551	0.0007	345.8	4.0
15.1	391	191	0.49	18.7	0.000120	<0.01	17.97	0.20	0.0528	0.0006	0.0557	0.0006	349.4	3.8
16.1	470	316	0.67	22.4	0.000034	0.06	18.05	0.20	0.0539	0.0005	0.0554	0.0006	347.4	3.7
17.1	256	129	0.50	12.0	-	0.05	18.24	0.21	0.0538	0.0007	0.0548	0.0006	343.8	3.9
18.1	242	108	0.44	11.5	0.000056	<0.01	18.06	0.21	0.0531	0.0007	0.0554	0.0006	347.5	3.9
19.1	222	110	0.50	10.5	0.000150	0.05	18.08	0.21	0.0538	0.0007	0.0553	0.0007	346.8	4.0
20.1	240	221	0.92	11.5	0.000531	0.45	17.91	0.21	0.0571	0.0012	0.0556	0.0007	348.7	4.0
21.1	211	93	0.44	10.1	-	0.19	17.94	0.21	0.0550	0.0008	0.0556	0.0007	349.1	4.1
22.1	916	334	0.36	43.0	0.000079	0.12	18.33	0.19	0.0543	0.0004	0.0545	0.0006	342.0	3.5
Error in Temora reference zircon calibration was 0.29% for the analytical session.														
Y1-IG073 – Homogeneous diatexite														
1.1	342	24	0.07	16.8	0.000194	<0.01	17.48	0.21	0.0535	0.0008	0.0572	0.0007	358.7	4.3
1.2	505	78	0.15	25.7	-	0.10	16.89	0.19	0.0548	0.0006	0.0592	0.0007	370.5	4.2
4.1	677	93	0.14	30.2	0.000050	0.13	19.25	0.21	0.0540	0.0006	0.0519	0.0006	326.0	3.5
2.1	684	24	0.04	34.9	0.000035	<0.01	16.84	0.18	0.0538	0.0005	0.0594	0.0007	372.0	4.0
3.1	435	50	0.11	22.4	-	<0.01	16.70	0.19	0.0540	0.0006	0.0599	0.0007	375.0	4.1
5.1	397	49	0.12	20.4	0.000042	<0.01	16.69	0.19	0.0533	0.0006	0.0600	0.0007	375.4	4.2
6.1	1623	7	0.00	75.7	-	<0.01	18.42	0.19	0.0533	0.0003	0.0543	0.0006	340.8	3.5
7.1	275	43	0.16	13.9	-	0.12	17.02	0.21	0.0549	0.0008	0.0587	0.0007	367.7	4.5
8.1	419	71	0.17	21.2	-	0.05	16.97	0.19	0.0544	0.0008	0.0589	0.0007	368.8	4.1
9.1	480	42	0.09	23.3	0.000059	<0.01	17.68	0.20	0.0536	0.0009	0.0566	0.0006	354.7	3.9
10.1	315	60	0.19	16.0	-	0.11	16.90	0.20	0.0549	0.0008	0.0591	0.0007	370.3	4.3
11.1	387	73	0.19	19.9	0.000123	0.08	16.73	0.19	0.0547	0.0007	0.0597	0.0007	374.0	4.2
12.1	656	104	0.16	34.1	0.000069	<0.01	16.53	0.18	0.0539	0.0005	0.0605	0.0007	378.7	4.1
13.1	1408	240	0.17	73.2	0.000018	0.03	16.53	0.18	0.0544	0.0004	0.0605	0.0006	378.5	3.9
14.1	178	57	0.32	8.6	0.000115	0.16	17.70	0.23	0.0549	0.0012	0.0564	0.0007	353.8	4.5
15.1	610	26	0.04	31.3	0.000034	0.07	16.74	0.18	0.0546	0.0006	0.0597	0.0007	373.9	4.0
15.2	419	61	0.15	20.9	0.000029	0.01	17.20	0.19	0.0539	0.0007	0.0581	0.0007	364.2	4.1
16.1	629	26	0.04	27.7	0.000046	<0.01	19.28	0.21	0.0526	0.0005	0.0519	0.0006	326.2	3.6
17.1	362	67	0.19	17.0	0.000085	0.11	17.96	0.21	0.0544	0.0007	0.0556	0.0007	348.9	4.0
18.1	344	74	0.22	17.0	-	0.03	17.18	0.20	0.0541	0.0007	0.0582	0.0007	364.7	4.1
19.1	1842	9	0.01	85.7	0.000069	0.08	18.19	0.19	0.0540	0.0003	0.0549	0.0006	344.6	3.5
20.1	180	29	0.16	8.8	-	0.12	17.33	0.22	0.0547	0.0010	0.0576	0.0007	361.2	4.5
Error in Temora reference zircon calibration was 0.33% for the analytical session.														

Notes
1. Uncertainties given at the one s level.
2. f_{206} % denotes the percentage of ^{206}Pb that is common Pb.
3. Correction for common Pb for the U/Pb data has been made using the measured $^{238}U/^{206}Pb$ and $^{207}Pb/^{206}Pb$ ratios following Tera and Wasserburg (1972) as outlined in Williams (1998).

Table DR4. Continued

Grain.	U	Th	Th/U	$^{206}Pb^*$	$^{204}Pb/$	f_{206}	Total Ratios				Radiogenic Ratios							Age (Ma)				
							$^{238}U/$		$^{207}Pb/$		$^{207}Pb/$		$^{206}Pb/$		$^{207}Pb/$			$^{206}Pb/$		$^{207}Pb/$		%
spot	(ppm)	(ppm)		(ppm)	^{206}Pb	%	^{206}Pb	±	^{206}Pb	±	^{235}U	±	^{238}U	±	^{206}Pb	±	ρ	^{238}U	±	^{206}Pb	±	Disc
Y1-IG071 – Inhomogeneous diatexite																						
1.1	586	42	0.071	29.2	0.000028	0.01	17.279	0.188	0.0539	0.0005	0.0579	0.0006						362.6	3.9			
2.1	1439	259	0.180	61.2	0.001003	2.12	20.206	0.214	0.0695	0.0013	0.0484	0.0005						304.9	3.2			
3.1	389	173	0.445	19.3	0.000090	<0.01	17.318	0.195	0.0538	0.0007	0.0577	0.0007						361.9	4.0			
4.1	1346	27	0.020	19.3	-	0.16	59.956	0.654	0.0494	0.0006	0.0167	0.0002						106.5	1.2			
4.2	267	102	0.383	25.8	0.000042	<0.01	8.873	0.103	0.0622	0.0006	0.1127	0.0013						688.6	7.8			
4.3	638	68	0.107	33.0	0.000027	<0.01	16.639	0.180	0.0539	0.0005	0.0601	0.0007						376.3	4.0			
5.1	1715	39	0.023	24.7	0.000016	0.03	59.661	0.652	0.0484	0.0005	0.0168	0.0002						107.1	1.2			
6.1	1092	14	0.013	15.6	0.000134	0.01	59.988	0.678	0.0482	0.0007	0.0167	0.0002						106.6	1.2			
6.2	345	33	0.097	55.3	0.000007	0.01	5.362	0.060	0.1039	0.0028	0.1865	0.0021	2.668	0.078	0.1038	0.0028	0.382	1102	11	1693	50	35
7.1	926	138	0.149	83.9	-	<0.01	9.482	0.101	0.0609	0.0004	0.1055	0.0011						646.5	6.6			
7.2	520	113	0.217	58.2	0.000179	0.31	7.664	0.083	0.0688	0.0009	0.1301	0.0014	1.188	0.023	0.0662	0.0011	0.549	788	8	813	34	3
8.1	1737	37	0.021	25.1	-	0.05	59.489	0.639	0.0486	0.0005	0.0168	0.0002						107.4	1.2			
8.2	193	109	0.565	50.0	0.000007	0.01	3.322	0.038	0.1120	0.0009	0.3010	0.0035	4.643	0.066	0.1119	0.0009	0.815	1696	17	1830	15	7
9.1	1317	35	0.027	18.6	-	0.01	60.986	0.666	0.0482	0.0006	0.0164	0.0002						104.8	1.1			
10.1	1298	7	0.005	56.5	0.000045	0.06	19.757	0.255	0.0533	0.0004	0.0506	0.0007						318.1	4.0			
10.2	138	77	0.562	12.0	-	<0.01	9.825	0.121	0.0604	0.0009	0.1018	0.0013						625.0	7.5			
11.1	1325	22	0.016	37.1	-	0.12	30.703	0.334	0.0512	0.0005	0.0325	0.0004						206.4	2.2			
11.1	260	25	0.097	39.6	0.000026	0.04	5.636	0.065	0.0732	0.0008	0.1775	0.0021	1.795	0.032	0.0734	0.0009	0.754	1053	11	1024	24	-3
12.1	1343	6	0.004	57.6	-	<0.01	20.026	0.295	0.0507	0.0014	0.0501	0.0007						314.9	4.6			
12.2	450	59	0.131	33.9	-	<0.01	11.413	0.128	0.0574	0.0006	0.0877	0.0010						542.1	5.9			
13.1	1518	42	0.028	44.8	0.000016	0.24	29.081	0.312	0.0524	0.0005	0.0343	0.0004						217.4	2.3			
14.1	1174	7	0.006	35.4	-	0.03	28.445	0.308	0.0509	0.0005	0.0351	0.0004						222.7	2.4			
14.2	732	363	0.496	266.3	-	<0.01	2.361	0.025	0.1426	0.0003	0.4236	0.0045	8.327	0.090	0.1426	0.0003	0.978	2277	20	2259	4	-1
15.1	2554	75	0.029	37.4	0.000011	0.08	58.694	0.628	0.0488	0.0004	0.0170	0.0002						108.8	1.2			
16.1	1378	50	0.036	19.5	-	<0.01	60.565	0.657	0.0473	0.0006	0.0165	0.0002						105.7	1.1			
17.1	1404	53	0.038	20.1	0.000040	<0.01	60.106	0.665	0.0478	0.0006	0.0166	0.0002						106.4	1.2			
18.1	1540	5	0.003	75.3	0.000029	<0.01	17.579	0.186	0.0534	0.0004	0.0569	0.0006						356.8	3.7			
19.1	1449	33	0.023	20.3	0.000050	<0.01	61.442	0.666	0.0475	0.0006	0.0163	0.0002						104.1	1.1			
19.2	324	130	0.401	42.8	0.000038	0.06	6.495	0.072	0.0671	0.0005	0.1539	0.0018	1.416	0.041	0.0667	0.0014	0.762	923	10	830	45	-11
20.1	1365	5	0.003	19.5	-	0.05	60.172	0.670	0.0485	0.0006	0.0166	0.0002						106.2	1.2			
20.2	82	47	0.573	6.5	-	0.09	10.854	0.152	0.0598	0.0014	0.0920	0.0013						567.6	7.8			

Notes:
1. Uncertainties given at the one s level.
2. Error in Temora reference zircon calibration was 0.304% for the analytical session.
   (not included in above errors but required when comparing $^{206}Pb/^{238}U$ data from different mounts).
3. f_{206} % denotes the percentage of ^{206}Pb that is common Pb.
4. For areas older than ~800 Ma correction for common Pb made using the measured $^{204}Pb/^{206}Pb$ ratio.
5. For areas younger than ~800 Ma correction for common Pb made using the measured $^{238}U/^{206}Pb$ and $^{207}Pb/^{206}Pb$ ratios following Tera and Wasserburg (1972) as outlined in Williams (1998).
6. For % Disc, 0% denotes a concordant analysis.

Table DR5. Summary of LA-ICP-MSP U-Pb results for zircon

					Radiogenic Ratios				Age (Ma)			
	Spot Size (μm)	U (ppm)	Th (ppm)	U/Th	$^{206}Pb/^{238}U$	2σ	$^{207}Pb/^{235}U$	2σ	$^{206}/^{207}$ Pb	2σ	$^{206}Pb/^{238}U$	2σ
Y2-GP091 – Ford Granodiorite suite												
Y2-GP091_24	30	460	120	3.8	0.0611	0.0035	0.4571	0.030	382.5	81.4	359.4	9.9
Y2-GP091_17	30	110	78	1.4	0.0591	0.0035	0.4488	0.051	370.4	78.4	361.2	15.5
Y2-GP091_5	30	329	364	0.91	0.0596	0.0018	0.4423	0.019	373.2	40.4	363.0	10.9
Y2-GP091_4	30	109	57	1.9	0.0580	0.0058	0.4297	0.045	363.7	127.6	363.7	35.1
Y2-GP091_10	30	480	183	2.6	0.0595	0.0017	0.4466	0.016	372.7	38.9	363.8	10.2
Y2-GP091_8	30	125	126	1	0.0587	0.0038	0.4356	0.038	367.7	85.8	364.0	11.9
Y2-GP091_6	30	229	76	3	0.0602	0.0018	0.4472	0.020	377.1	41.1	365.0	18.1
Y2-GP091_3	30	265	78	3.4	0.0600	0.0028	0.4425	0.025	375.6	63.1	366.0	18.6
Y2-GP091_21	30	102	68	1.5	0.0600	0.0044	0.4575	0.046	375.9	101.3	367.1	26.1
Y2-GP091_7	30	344	110	3.1	0.0590	0.0024	0.4377	0.022	369.5	53.7	367.6	11.7
Y2-GP091_18	30	65	45	1.4	0.0584	0.0031	0.4333	0.090	366.0	68.2	367.7	23.3
Y2-GP091_20	30	104	69	1.5	0.0583	0.0030	0.4363	0.037	365.0	65.9	369.5	14.5
Y2-GP091_22	30	225	163	1.4	0.0598	0.0043	0.4488	0.033	374.1	97.8	370.4	21.2
Y2-GP091_12	30	96	76	1.3	0.0587	0.0019	0.4475	0.047	367.6	43.2	372.7	10.4
Y2-GP091_14	30	100	76	1.3	0.0581	0.0017	0.4139	0.054	363.8	37.0	373.2	10.8
Y2-GP091_23	30	156	96	1.6	0.0573	0.0016	0.4297	0.038	359.4	35.5	373.6	15.4
Y2-GP091_25	30	648	127	5.1	0.0610	0.0013	0.4549	0.010	381.8	29.4	374.1	26.2
Y2-GP091_15	30	195	93	2.1	0.0579	0.0018	0.4247	0.020	363.0	39.6	375.6	16.8
Y2-GP091_16	30	233	111	2.1	0.0608	0.0040	0.4447	0.037	380.8	92.7	375.9	27.0
Y2-GP091_11	30	193	54	3.6	0.0581	0.0020	0.4225	0.033	364.0	43.3	377.1	10.9
Y2-GP091_1	30	126	59	2.1	0.0597	0.0025	0.4499	0.043	373.6	57.5	380.8	24.3
Y2-GP091_2	30	160	39	4.1	0.0742	0.0046	0.6055	0.050	461.6	128.0	381.8	7.7
Y2-GP091_9	30	147	50	2.9	0.0626	0.0036	0.4793	0.045	391.4	85.1	382.5	21.3
Y2-GP091_19	30	105	39	2.7	0.0586	0.0043	0.4580	0.060	367.1	95.7	391.4	21.7
Y2-GP091_13	30	326	260	1.3	0.0576	0.0025	0.4309	0.023	361.2	56.0	461.6	27.7
*1.0=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												
51225-1 – Ford Granodiorite suite												
51225-1_2	30	337	218	1.5	0.0562	0.0046	0.4205	0.040	352.5	98.9	352.5	28.1
51225-1_6	30	1295	265	4.9	0.0563	0.0013	0.4209	0.010	352.8	28.7	352.8	8.1
51225-1_7	30	693	192	3.6	0.0573	0.0029	0.4276	0.022	359.3	63.5	359.3	17.7
51225-1_4	30	381	147	2.6	0.0575	0.0034	0.4315	0.027	360.2	75.7	360.2	21.0
51225-1_10	30	279	173	1.6	0.0581	0.0017	0.4346	0.022	363.9	37.8	363.9	10.4
51225-1_1	30	520	123	4.2	0.0581	0.0024	0.4333	0.022	364.0	53.8	364.0	14.8
51225-1_17	30	158	150	1	0.0581	0.0013	0.4298	0.037	364.2	28.0	364.2	7.7
51225-1_22	30	430	258	1.7	0.0582	0.0019	0.4340	0.018	364.7	42.8	364.7	11.7
51225-1_9	30	330	121	2.7	0.0589	0.0021	0.4398	0.020	368.9	46.6	368.9	12.6
51225-1_12	30	482	166	2.9	0.0590	0.0016	0.4375	0.018	369.6	36.1	369.6	9.8
51225-1_13	30	487	204	2.4	0.0593	0.0036	0.4427	0.029	371.1	82.2	371.1	22.2
51225-1_8	30	339	150	2.3	0.0596	0.0038	0.4412	0.031	373.3	86.9	373.3	23.3
51225-1_11	30	810	260	3.1	0.0597	0.0014	0.4473	0.011	373.6	32.6	373.6	8.7
51225-1_24	30	497	196	2.5	0.0597	0.0032	0.4435	0.025	373.8	71.8	373.8	19.2
51225-1_18	30	400	203	2	0.0600	0.0011	0.4426	0.012	375.5	24.0	375.5	6.4
51225-1_25	30	423	158	2.7	0.0602	0.0017	0.4452	0.016	377.1	39.2	377.1	10.4
51225-1_14	30	1045	158	6.6	0.0603	0.0016	0.4489	0.013	377.4	36.4	377.4	9.7
51225-1_21	30	278	112	2.5	0.0604	0.0015	0.4514	0.025	378.2	33.6	378.2	8.9
51225-1_19	30	324	111	2.9	0.0605	0.0016	0.4489	0.021	378.6	37.4	378.6	9.9
51225-1_20	30	768	194	4	0.0612	0.0023	0.4562	0.019	382.6	53.6	382.6	14.0
51225-1_15	30	263	94	2.8	0.0634	0.0054	0.4738	0.046	396.4	128.9	396.4	32.5
51225-1_23	30	443	124	3.6	0.0665	0.0024	0.4984	0.025	415.0	60.4	415.0	14.5
51225-1_16	30	224	166	1.4	0.0667	0.0086	0.5213	0.092	416.2	216.8	416.2	52.1
51225-1_3	30	78	53	1.5	0.1810	0.0060	1.8772	0.074	1072.4	350.2	1074.4	42.8
*1.3=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												
51225-2 – Ford Granodiorite suite												
51225-2_2	30	778	163	4.8	0.0559	0.0032	0.4158	0.024	350.7	67.9	358.6	12.7
51225-2_4	30	641	125	5.1	0.0572	0.0011	0.4286	0.011	358.4	24.4	350.7	19.4
51225-2_1	30	505	147	3.4	0.0572	0.0021	0.4270	0.019	358.6	45.5	371.9	7.2
51225-2_5	30	537	129	4.2	0.0577	0.0013	0.4253	0.014	361.6	28.3	358.4	6.8
51225-2_6	30	452	318	1.4	0.0579	0.0016	0.4304	0.015	362.9	36.2	361.6	7.8
51225-2_18	30	645	159	4.1	0.0580	0.0011	0.4323	0.012	363.2	24.9	362.9	10.0
51225-2_21	30	766	133	5.8	0.0580	0.0015	0.4309	0.014	363.4	32.6	380.2	13.4
51225-2_13	30	368	115	3.2	0.0580	0.0018	0.4345	0.019	363.7	40.6	369.8	7.5
51225-2_11	30	639	105	6.1	0.0584	0.0012	0.4365	0.011	366.0	27.4	373.5	10.0
51225-2_19	30	1143	174	6.6	0.0585	0.0007	0.4343	0.008	366.2	16.2	368.9	10.0
51225-2_10	30	792	96	8.2	0.0589	0.0016	0.4378	0.013	368.9	36.9	366.0	7.5
51225-2_8	30	401	124	3.2	0.0590	0.0012	0.4374	0.017	369.8	27.6	378.7	7.9
51225-2_15	30	209	71	2.9	0.0594	0.0011	0.4399	0.025	371.7	24.8	363.7	11.2
51225-2_3	30	589	217	2.7	0.0594	0.0012	0.4444	0.012	371.9	26.8	383.3	25.9
51225-2_9	30	161	135	1.2	0.0597	0.0016	0.4456	0.028	373.5	37.3	371.7	6.7
51225-2_17	30	683	140	4.9	0.0597	0.0014	0.4441	0.015	374.1	32.3	377.1	7.9
51225-2_24	30	561	206	2.7	0.0602	0.0019	0.4485	0.015	376.7	42.7	374.1	8.6
51225-2_16	30	484	137	3.5	0.0602	0.0013	0.4494	0.014	377.1	29.8	363.2	6.9
51225-2_12	30	572	157	3.6	0.0605	0.0013	0.4466	0.016	378.7	29.8	366.2	4.4
51225-2_23	30	676	208	3.2	0.0606	0.0012	0.4529	0.013	379.0	28.0	385.4	25.5
51225-2_7	30	472	169	2.8	0.0608	0.0022	0.4533	0.023	380.2	50.9	363.4	9.0
51225-2_14	30	213	140	1.5	0.0613	0.0043	0.4529	0.044	383.3	99.2	379.0	7.4
51225-2_20	30	911	244	3.7	0.0616	0.0042	0.4615	0.032	385.4	98.3	376.7	11.3
51225-2_22	30	326	167	2	0.0818	0.0036	0.6462	0.031	506.6	109.1	506.6	21.5
51225-2_25	30	547	131	4.2	0.1254	0.0058	1.2081	0.057	761.6	253.0	761.6	33.2
*1.3=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												

Table DR5. Summary of LA-ICP-MSP U-Pb results for zircon

					Radiogenic Ratios				Age (Ma)			
	Spot Size (μm)	U (ppm)	Th (ppm)	U/Th	$^{206}Pb/^{238}U$	2σ	$^{207}Pb/^{235}U$	2σ	$^{206}/^{207}$ Pb	2σ	$^{206}Pb/^{238}U$	2σ
Y2-JU096 – Ford Granodiorite suite												
Y2-JU096_14	30	771	428	1.8	0.0499	0.0039	0.3737	0.032	313.9	75.7	364.7	15.8
Y2-JU096_7	30	582	315	1.8	0.0523	0.0048	0.3917	0.039	328.8	96.2	354.1	16.8
Y2-JU096_8	30	626	303	2.1	0.0530	0.0017	0.3967	0.016	332.7	35.1	370.2	10.6
Y2-JU096_11	30	391	264	1.5	0.0532	0.0084	0.4034	0.066	334.2	172.7	362.1	10.6
Y2-JU096_13	30	297	137	2.2	0.0542	0.0036	0.4004	0.029	340.3	74.7	369.5	12.9
Y2-JU096_24	30	264	159	1.7	0.0563	0.0051	0.4253	0.041	353.1	110.3	328.8	29.2
Y2-JU096_2	30	467	218	2.1	0.0565	0.0028	0.4234	0.026	354.1	59.5	332.7	10.6
Y2-JU096_10	30	721	444	1.6	0.0575	0.0017	0.4263	0.014	360.1	37.4	366.7	6.6
Y2-JU096_25	30	382	320	1.2	0.0577	0.0043	0.4314	0.036	361.7	94.2	360.1	10.4
Y2-JU096_22	30	475	315	1.5	0.0577	0.0019	0.4295	0.019	361.8	42.2	334.2	51.7
Y2-JU096_23	30	472	271	1.7	0.0578	0.0011	0.4284	0.012	362.0	25.2	371.2	17.8
Y2-JU096_4	30	360	205	1.8	0.0578	0.0017	0.4370	0.021	362.1	38.2	340.3	21.9
Y2-JU096_15	30	335	187	1.8	0.0581	0.0020	0.4318	0.018	364.2	45.4	313.9	24.1
Y2-JU096_21	30	650	372	1.8	0.0582	0.0032	0.4320	0.025	364.7	70.2	364.2	12.5
Y2-JU096_1	30	617	414	1.5	0.0582	0.0026	0.4310	0.023	364.7	57.7	368.1	9.9
Y2-JU096_9	30	407	190	2.1	0.0585	0.0011	0.4327	0.015	366.7	24.2	389.0	15.5
Y2-JU096_16	30	209	145	1.4	0.0588	0.0016	0.4381	0.024	368.1	36.6	364.7	19.2
Y2-JU096_6	30	258	98	2.6	0.0590	0.0021	0.4412	0.020	369.5	47.8	361.8	11.7
Y2-JU096_3	30	342	186	1.8	0.0591	0.0017	0.4466	0.021	370.2	39.3	362.0	7.0
Y2-JU096_12	30	288	131	2.2	0.0593	0.0029	0.4346	0.025	371.2	66.2	353.1	31.2
Y2-JU096_20	30	394	187	2.1	0.0622	0.0026	0.4836	0.029	389.0	60.3	361.7	26.1
*1.0=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												
Y1-IG073 – Homogeneous diatexite												
Y1-IG073_20	30	268	20	13.1	0.0516	0.0094	0.3865	0.077	324.5	187.6	376.2	13.9
Y1-IG073_09	30	375	36	10.4	0.0534	0.0027	0.3994	0.029	335.2	54.3	359.3	20.4
Y1-IG073_05	30	128	64	2	0.0554	0.0034	0.3979	0.046	347.7	73.7	379.4	12.1
Y1-IG073_11	30	249	59	4.2	0.0558	0.0029	0.4122	0.036	350.3	62.4	369.9	12.0
Y1-IG073_08	30	317	38	8.3	0.0559	0.0048	0.4062	0.040	350.5	101.6	347.7	21.2
Y1-IG073_24	30	77	48	1.6	0.0565	0.0041	0.4045	0.085	354.1	87.1	371.5	15.4
Y1-IG073_14	30	276	197	1.4	0.0566	0.0025	0.4232	0.028	354.7	53.2	356.4	13.6
Y1-IG073_13	30	525	81	6.5	0.0566	0.0010	0.4208	0.015	355.1	22.7	350.5	29.0
Y1-IG073_07	30	274	53	5.2	0.0568	0.0023	0.4197	0.028	356.4	48.5	335.2	16.3
Y1-IG073_22	30	242	65	3.7	0.0571	0.0010	0.4242	0.039	358.0	22.2	371.3	19.8
Y1-IG073_02	30	127	49	2.6	0.0573	0.0033	0.4208	0.065	359.3	73.3	350.3	17.7
Y1-IG073_12	30	197	42	4.7	0.0574	0.0018	0.4236	0.034	359.7	40.3	359.7	11.2
Y1-IG073_19	30	311	58	5.4	0.0574	0.0011	0.4267	0.023	360.0	25.2	355.1	6.3
Y1-IG073_18	30	112	70	1.6	0.0580	0.0020	0.4361	0.072	363.6	42.9	354.7	15.0
Y1-IG073_16	30	115	88	1.3	0.0581	0.0023	0.4271	0.044	364.3	52.5	365.7	7.7
Y1-IG073_15	30	525	75	7	0.0584	0.0013	0.4331	0.016	365.7	28.5	364.3	14.4
Y1-IG073_04	30	173	192	0.9	0.0591	0.0020	0.4532	0.035	369.9	44.4	413.7	38.1
Y1-IG073_10	30	168	40	4.2	0.0593	0.0032	0.4324	0.053	371.3	73.5	363.6	11.7
Y1-IG073_06	30	180	39	4.6	0.0593	0.0025	0.4334	0.032	371.5	57.2	360.0	6.9
Y1-IG073_23	30	111	69	1.6	0.0599	0.0018	0.4276	0.063	374.8	39.7	324.5	57.8
Y1-IG073_01	30	332	63	5.3	0.0601	0.0023	0.4508	0.032	376.2	51.9	358.0	6.3
Y1-IG073_03	30	331	24	13.6	0.0606	0.0019	0.4456	0.022	379.4	45.5	374.8	10.6
Y1-IG073_25	30	818	210	3.9	0.0614	0.0033	0.4581	0.026	383.9	76.8	354.1	24.6
Y1-IG073_17	30	226	61	3.7	0.0663	0.0064	0.4891	0.059	413.7	158.0	383.9	20.0
*1.2=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												
Y1-IG071 – Inhomogeneous diatexite												
Y1-IG071_11	30	1032	42	24	0.0165	0.0003	0.1106	0.005	105.5	2.3	425.7	18.2
Y1-IG071_11	30	1491	57	26	0.0165	0.0004	0.1096	0.004	105.8	2.5	766.1	19.8
Y1-IG071_3	30	756	17	44	0.0223	0.0024	0.1528	0.020	142.3	21.9	142.3	15.4
Y1-IG071_9	30	765	7	108	0.0233	0.0009	0.1632	0.008	148.7	8.3	439.2	9.6
Y1-IG071_25	30	1084	31	35	0.0275	0.0006	0.1918	0.007	175.0	6.7	212.0	9.0
Y1-IG071_5	30	1142	28	41	0.0334	0.0014	0.2377	0.011	212.0	19.1	358.4	15.9
Y1-IG071_17	30	624	5	123	0.0410	0.0016	0.2980	0.013	259.3	24.9	321.6	7.2
Y1-IG071_14	30	673	243	2.8	0.0442	0.0035	0.3238	0.027	279.1	61.4	411.9	19.2
Y1-IG071_19	30	951	5	194	0.0502	0.0015	0.3686	0.012	315.5	28.4	148.7	5.5
Y1-IG071_7	30	1068	7	151	0.0512	0.0012	0.3831	0.010	321.6	23.2	334.5	7.7
Y1-IG071_12	30	933	8	113	0.0514	0.0018	0.3838	0.015	323.1	34.9	105.5	2.2
Y1-IG071_10	30	1123	12	93	0.0533	0.0013	0.3944	0.010	334.5	25.4	105.8	2.3
Y1-IG071_16	30	1225	5	272	0.0552	0.0016	0.4084	0.013	346.5	34.7	323.1	10.8
Y1-IG071_21	30	1139	4	308	0.0556	0.0016	0.4124	0.013	349.1	32.8	364.1	10.8
Y1-IG071_18	30	911	231	3.9	0.0564	0.0016	0.4248	0.015	353.9	34.7	279.1	21.9
Y1-IG071_6	30	1032	24	44	0.0572	0.0026	0.4227	0.020	358.4	57.3	579.6	29.2
Y1-IG071_20	30	406	40	10	0.0580	0.0015	0.4368	0.018	363.4	34.2	346.5	10.0
Y1-IG071_13	30	421	149	2.8	0.0581	0.0018	0.4269	0.016	364.1	39.3	259.3	9.7
Y1-IG071_23	30	216	183	1.2	0.0618	0.0027	0.4583	0.031	386.8	64.2	353.9	9.8
Y1-IG071_8	30	573	13	45	0.0660	0.0032	0.5206	0.026	411.9	79.1	315.5	9.0
Y1-IG071_1	30	629	59	11	0.0683	0.0030	0.5345	0.024	425.7	77.5	363.4	9.4
Y1-IG071_4	30	693	45	15	0.0705	0.0016	0.5528	0.015	439.2	42.2	349.1	9.5
Y1-IG071_15	30	685	143	4.8	0.0941	0.0050	0.7802	0.042	579.6	169.2	386.8	16.6
Y1-IG071_2	30	235	14	17	0.1262	0.0035	1.1937	0.041	766.1	151.7	175.0	3.7
*1.0=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard												

Table DR5. Summary of LA-ICP-MSP U-Pb results for zircon

					Radiogenic Ratios				Age (Ma)			
	Spot Size (µm)	U (ppm)	Th (ppm)	U/Th	$^{206}Pb/^{238}U$	2σ	$^{207}Pb/^{235}U$	2σ	$^{206}/^{207}$ Pb	2σ	$^{206}Pb/^{238}U$	2σ
Y1-AE035 – Devonian–Carboniferous granite												
Y1-AE035_16	30	114	52	2.2	0.0537	0.0030	0.4022	0.093	337.2	62.3	337.2	18.4
Y1-AE035_1	30	180	93	1.9	0.0623	0.0018	0.4659	0.049	389.3	42.6	389.3	11.0
Y1-AE035_2	30	261	172	1.5	0.0567	0.0020	0.4182	0.026	355.8	43.1	355.8	12.2
Y1-AE035_3	30	258	119	2.2	0.0578	0.0035	0.4223	0.035	362.4	76.2	362.4	21.0
Y1-AE035_3	30	242	114	2.1	0.0588	0.0009	0.4397	0.036	368.3	20.3	368.3	5.6
Y1-AE035_5	30	207	167	1.2	0.0585	0.0013	0.4453	0.025	366.4	28.1	366.4	7.6
Y1-AE035_6	30	251	84	3	0.0572	0.0021	0.4187	0.039	358.6	46.0	358.6	12.8
Y1-AE035_7	30	472	481	1	0.0598	0.0012	0.4414	0.014	374.5	27.9	374.5	7.4
Y1-AE035_8	30	135	56	2.4	0.0599	0.0025	0.4365	0.046	374.7	57.3	374.7	15.2
Y1-AE035_9	30	310	115	2.7	0.0597	0.0022	0.4427	0.032	374.0	49.7	374.0	13.2
Y1-AE035_9	30	385	200	1.9	0.0583	0.0030	0.4402	0.033	365.1	66.3	365.1	18.2
Y1-AE035_11	30	368	99	3.7	0.0592	0.0027	0.4372	0.026	370.5	60.0	370.5	16.2
Y1-AE035_12	30	259	105	2.5	0.0613	0.0016	0.4546	0.026	383.5	37.4	383.5	9.8
Y1-AE035_13	30	149	60	2.5	0.0605	0.0031	0.4456	0.032	378.8	70.8	378.8	18.6
Y1-AE035_14	30	138	61	2.3	0.0575	0.0018	0.4334	0.046	360.6	40.2	360.6	11.2
Y1-AE035_17	30	145	63	2.3	0.0601	0.0016	0.4342	0.045	376.0	37.6	376.0	10.0
Y1-AE035_18	30	206	127	1.6	0.0593	0.0015	0.4441	0.032	371.4	34.4	371.4	9.2
Y1-AE035_19	30	137	62	2.2	0.0583	0.0020	0.4276	0.046	365.1	43.8	365.1	12.0
Y1-AE035_20	30	140	53	2.7	0.0606	0.0037	0.4395	0.062	379.4	84.9	379.4	22.4
Y1-AE035_21	30	227	107	2.1	0.0609	0.0009	0.4469	0.023	381.1	21.7	381.1	5.6
Y1-AE035_22	30	106	44	2.4	0.0584	0.0021	0.4411	0.063	365.9	46.4	365.9	12.6
Y1-AE035_23	30	240	101	2.4	0.0608	0.0020	0.4415	0.036	380.2	47.3	380.2	12.4
Y1-AE035_24	30	138	64	2.1	0.0598	0.0019	0.4446	0.064	374.2	43.3	374.2	11.6
Y1-AE035_25	30	207	168	1.2	0.0586	0.0017	0.4294	0.035	367.1	37.9	367.1	10.4

*1.3=Systematic error of $^{206}Pb/^{238}U$ age based on Sri Lankan standard

Notes:

[1] Analyses with >10% uncertainty (1-sigma) in 206Pb/238U age are not included.

[2] Analyses with >10% uncertainty (1-sigma) in 206Pb/207Pb age are not included, unless 206Pb/238U age is <500 Ma.

[3] Best age is determined from 206Pb/238U age for analyses with 206Pb/238U age <1000 Ma and from 206Pb/207Pb age for analyses with 206Pb/238Uage >

[4] Concordance is based on 206Pb/238U age / 206Pb/207Pb age. Value is not reported for 206Pb/238U ages <500 Ma because of large uncertainty in 206Pb/2

[5] Analyses with 206Pb/238U age > 500 Ma and with >20% discordance (<80% concordance) are not included.

[6] Analyses with 206Pb/238U age > 500 Ma and with >5% reverse discordance (<105% concordance) are not included.

[7] Analyses conducted by LA-MC-ICPMS, as described by Gehrels et al. (2008).

[8] U concentration and U/Th are calibrated relative to Sri Lanka zircon standard and are accurate to ~20%.

[9] Common Pb correction is from measured 204Pb with common Pb composition interpreted from Stacey and Kramers (1975).

[10] Common Pb composition assigned uncertainties of 1.5 for 206Pb/204Pb, 0.3 for 207Pb/204Pb, and 2.0 for 208Pb/204Pb.

[11] U/Pb and 206Pb/207Pb fractionation is calibrated relative to fragments of a large Sri Lanka zircon of 563.5 ± 3.2 Ma (2-sigma).

[12] U decay constants and composition as follows: 238U = 9.8485 x 10-10, 235U = 1.55125 x 10-10, 238U/235U = 137.88.

Table DR6. U–Pb data for detrital zircon analyses

						Isotope ratios					Apparent ages (Ma)								
Spot	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
Y2-MD092																			
29	172	9789	1.2	17.3897	5.0	0.5538	5.8	0.0698	3.0	0.51	435.2	12.6	447.5	21.0	511.0	109.5	435.2	12.6	85.2
27	174	13158	1.1	17.7489	5.7	0.6006	7.1	0.0773	4.2	0.60	480.1	19.5	477.6	26.9	465.9	125.6	480.1	19.5	103.0
85	253	22863	1.8	16.9718	4.4	0.6385	5.0	0.0786	2.4	0.49	487.7	11.4	501.4	19.8	564.2	95.5	487.7	11.4	86.5
34	56	3646	0.7	18.6314	13.4	0.5862	14.1	0.0792	4.6	0.33	491.4	21.9	468.5	53.1	357.3	302.8	491.4	21.9	137.5
7	117	9456	1.5	18.1793	7.8	0.6014	8.2	0.0793	2.6	0.32	491.9	12.4	478.1	31.5	412.5	175.0	491.9	12.4	119.3
66	69	7890	2.8	16.7894	6.1	0.6633	7.7	0.0808	4.8	0.62	500.7	22.9	516.7	31.3	587.7	132.1	500.7	22.9	85.2
89	59	5445	1.8	16.9861	20.8	0.6676	21.3	0.0822	4.4	0.21	509.5	21.6	519.2	86.7	562.3	458.0	509.5	21.6	90.6
101	188	26497	1.1	16.7859	4.0	0.6846	4.3	0.0833	1.5	0.34	516.1	7.2	529.6	17.7	588.1	87.5	516.1	7.2	87.8
21	305	29070	1.8	17.3081	3.1	0.6753	3.3	0.0848	1.3	0.38	524.6	6.4	523.9	13.6	521.3	67.6	524.6	6.4	100.6
1	294	32147	1.7	17.6573	4.1	0.6629	4.4	0.0849	1.5	0.34	525.3	7.4	516.4	17.8	477.3	91.7	525.3	7.4	110.1
96	405	38243	1.2	17.2761	2.7	0.6800	2.9	0.0852	1.1	0.38	527.1	5.7	526.8	12.1	525.3	59.4	527.1	5.7	100.3
33	120	8458	1.2	18.5008	9.0	0.6449	9.5	0.0865	2.8	0.30	535.0	14.6	505.3	37.7	373.2	203.9	535.0	14.6	143.4
83	70	8299	0.6	16.0025	13.5	0.7536	13.9	0.0875	3.0	0.22	540.6	15.5	570.3	60.5	690.9	289.8	540.6	15.5	78.2
25	315	50924	1.4	17.0127	2.9	0.7153	3.2	0.0883	1.3	0.40	545.2	6.7	547.9	13.5	558.9	63.6	545.2	6.7	97.6
15	49	3404	2.2	17.3747	22.8	0.7023	23.3	0.0885	5.0	0.21	546.7	26.2	540.2	98.1	512.8	507.1	546.7	26.2	106.6
63	364	39480	10.5	16.9796	2.7	0.7249	3.0	0.0893	1.3	0.42	551.2	6.8	553.6	12.9	563.2	59.7	551.2	6.8	97.9
6	213	22710	1.0	17.3947	2.6	0.7092	3.0	0.0895	1.5	0.51	552.4	8.1	544.3	12.5	510.3	56.1	552.4	8.1	108.2
68	282	22547	2.4	17.2238	2.6	0.7173	3.0	0.0896	1.5	0.50	553.2	7.9	549.1	12.6	532.0	56.5	553.2	7.9	104.0
78	491	59117	4.7	17.1039	1.7	0.7269	2.2	0.0902	1.3	0.61	556.6	7.1	554.8	9.3	547.3	37.6	556.6	7.1	101.7
62	182	25822	1.1	16.8969	6.8	0.7368	7.0	0.0903	1.8	0.26	557.3	9.7	560.5	30.2	573.8	147.5	557.3	9.7	97.1
16	117	10229	6.0	18.6877	7.9	0.6696	8.1	0.0908	2.0	0.25	560.0	10.8	520.5	33.1	350.5	178.4	560.0	10.8	159.8
64	85	5655	0.6	17.5517	10.4	0.7134	10.7	0.0908	2.3	0.22	560.3	12.3	546.7	45.1	490.6	230.1	560.3	12.3	114.2
90	74	7853	0.7	18.0053	8.6	0.7004	9.0	0.0915	2.7	0.30	564.2	14.4	539.0	37.6	434.0	191.3	564.2	14.4	130.0
44	71	5553	1.9	18.4905	11.2	0.6837	11.6	0.0917	3.0	0.26	565.5	16.0	529.0	47.7	374.4	252.4	565.5	16.0	151.0
38	102	9673	1.7	17.2198	10.1	0.7402	10.7	0.0924	3.5	0.33	570.0	19.0	562.5	46.1	532.5	221.1	570.0	19.0	107.0
40	81	10389	1.7	17.4874	18.0	0.7323	18.5	0.0929	4.3	0.23	572.5	23.6	557.9	79.5	498.6	398.7	572.5	23.6	114.8
102	95	10495	1.9	18.0255	6.9	0.7123	7.4	0.0931	2.5	0.34	574.0	13.7	546.1	31.2	431.5	154.9	574.0	13.7	133.0
47	98	8636	1.5	17.5210	7.5	0.7329	8.3	0.0931	3.5	0.43	574.0	19.4	558.2	35.7	494.4	166.1	574.0	19.4	116.1
50	116	14153	0.6	17.6704	5.7	0.7274	6.4	0.0932	3.0	0.46	574.5	16.3	555.0	27.6	475.6	126.5	574.5	16.3	120.8
17	364	44413	15.5	16.8419	2.3	0.7678	2.8	0.0938	1.6	0.57	577.9	8.9	578.5	12.4	580.9	50.1	577.9	8.9	99.5
37	130	15674	1.6	16.9948	6.7	0.7690	7.0	0.0948	2.2	0.31	583.8	12.1	579.2	30.9	561.2	145.3	583.8	12.1	104.0
80	1050	139735	4.3	16.6495	0.9	0.7853	1.3	0.0948	0.9	0.69	584.0	5.0	588.5	5.8	605.8	20.2	584.0	5.0	96.4
32	181	31642	3.5	16.5187	4.2	0.7931	4.5	0.0950	1.3	0.30	585.1	7.5	592.9	20.0	622.8	91.6	585.1	7.5	93.9
35	672	23722	1.2	16.1397	7.5	0.8185	11.1	0.0958	8.2	0.74	589.8	46.0	607.2	50.7	672.7	160.8	589.8	46.0	87.7
59	436	52017	23.1	16.6609	2.1	0.7946	2.3	0.0960	1.0	0.44	591.0	5.8	593.8	10.5	604.3	45.2	591.0	5.8	97.8
93	112	21390	0.8	17.7764	6.3	0.7495	7.2	0.0966	3.5	0.48	594.6	19.7	567.9	31.2	462.4	139.0	594.6	19.7	128.6
26	122	13474	1.8	17.3203	9.8	0.7708	9.9	0.0968	1.6	0.16	595.8	9.2	580.2	43.9	519.7	215.1	595.8	9.2	114.6
81	92	13842	22.8	16.6480	6.2	0.8067	6.5	0.0974	1.8	0.28	599.2	10.5	600.6	29.4	606.0	134.7	599.2	10.5	98.9
77	244	26423	3.6	16.5584	3.7	0.8123	6.9	0.0975	5.8	0.84	600.0	33.3	603.7	31.3	617.6	79.6	600.0	33.3	97.1
86	197	37531	1.8	16.7057	2.4	0.8354	3.2	0.1012	2.1	0.65	621.5	12.2	616.6	14.6	598.5	51.8	621.5	12.2	103.8
22	157	16702	0.8	16.5497	4.6	0.8595	4.8	0.1032	1.3	0.27	632.9	7.7	629.8	22.3	618.8	98.9	632.9	7.7	102.3
87	298	31892	2.3	16.5651	1.9	0.8694	2.5	0.1045	1.6	0.63	640.5	9.7	635.3	11.9	616.8	42.0	640.5	9.7	103.8
8	997	146827	29.7	16.3058	0.8	0.9012	1.8	0.1066	1.6	0.91	652.9	10.2	652.4	8.7	650.8	16.1	652.9	10.2	100.3
3	81	8061	2.2	16.1384	5.6	0.9113	6.2	0.1067	2.8	0.45	653.3	17.3	657.7	30.2	672.9	119.7	653.3	17.3	97.1
84	479	48340	6.4	15.2597	1.6	0.9670	2.2	0.1070	1.6	0.70	655.4	9.8	686.9	11.1	791.4	33.2	655.4	9.8	82.8
71	211	21896	6.6	15.9781	2.0	0.9506	3.6	0.1102	3.0	0.83	673.7	19.1	678.4	17.9	694.2	43.5	673.7	19.1	97.0
24	378	39794	1.0	15.4178	1.7	1.0408	6.8	0.1164	6.6	0.97	709.7	44.6	724.3	35.5	769.8	35.5	709.7	44.6	92.2
45	682	55552	3.5	15.2492	1.8	1.0543	5.1	0.1166	4.7	0.94	711.0	31.8	731.0	26.3	792.9	37.6	711.0	31.8	89.7
51	348	37374	169.2	15.6179	1.4	1.0733	4.9	0.1216	4.7	0.96	739.6	33.2	740.4	26.0	742.6	28.9	739.6	33.2	99.6
70	189	27949	2.3	15.2858	2.4	1.1357	3.1	0.1259	1.9	0.62	764.5	14.0	770.5	16.8	787.9	51.2	764.5	14.0	97.0
2	358	41392	3.8	14.7054	2.0	1.2370	2.7	0.1319	1.9	0.70	798.9	14.3	817.5	15.4	868.6	40.9	798.9	14.3	92.0
100	157	31116	2.4	14.7628	3.2	1.3621	9.9	0.1458	9.3	0.94	877.6	76.6	872.8	57.9	860.5	67.2	877.6	76.6	102.0
12	132	35489	1.7	14.2240	2.8	1.5786	3.4	0.1629	1.8	0.53	972.6	16.0	961.8	20.9	937.2	58.4	937.2	58.4	103.8
4	103	32245	3.9	14.1884	4.9	1.3991	6.2	0.1440	3.7	0.60	867.1	30.3	888.6	36.7	942.4	101.5	942.4	101.5	92.0
67	67	16232	1.5	14.1121	7.4	1.5847	7.6	0.1622	1.7	0.23	969.0	15.6	964.2	47.4	953.4	151.6	953.4	151.6	101.6
92	289	84295	2.0	13.9389	1.5	1.6082	1.8	0.1626	1.0	0.58	971.1	9.5	973.4	11.4	978.6	30.4	978.6	30.4	99.2
52	256	87196	3.7	13.7684	1.6	1.7002	2.5	0.1698	1.9	0.76	1010.9	17.5	1008.6	15.7	1003.6	32.4	1003.6	32.4	100.7
60	343	97994	1.4	13.6433	1.7	1.7109	2.4	0.1693	1.7	0.71	1008.2	16.0	1012.6	15.5	1022.1	34.7	1022.1	34.7	98.6
95	78	27928	2.4	13.6122	5.9	1.6563	6.4	0.1635	2.5	0.39	976.3	22.6	992.0	40.7	1026.8	119.8	1026.8	119.8	95.1
75	81	15210	1.1	13.6061	4.3	1.7889	5.0	0.1765	2.4	0.48	1048.0	23.1	1041.4	32.3	1027.7	87.8	1027.7	87.8	102.0
11	120	29422	2.8	13.5863	5.6	1.6405	8.3	0.1616	6.1	0.74	965.9	55.0	985.9	52.3	1030.6	112.5	1030.6	112.5	93.7
46	83	34777	1.5	13.5241	4.0	1.7963	4.2	0.1762	1.2	0.28	1046.2	11.3	1044.1	27.4	1039.9	81.3	1039.9	81.3	100.6
103	120	36676	2.3	13.5214	3.3	1.8109	5.1	0.1776	3.9	0.77	1053.8	38.4	1049.4	33.6	1040.3	66.4	1040.3	66.4	101.3
30	132	21508	1.5	13.4674	2.5	1.7634	2.7	0.1722	1.2	0.44	1024.4	11.5	1032.1	17.7	1048.4	49.5	1048.4	49.5	97.7
9	302	73236	1.9	13.4630	0.9	1.8020	1.4	0.1759	1.1	0.76	1044.8	10.6	1046.2	9.4	1049.0	18.8	1049.0	18.8	99.6
48	161	42860	1.9	13.4113	2.2	1.7539	2.8	0.1706	1.8	0.64	1015.4	17.1	1028.6	18.4	1056.8	44.0	1056.8	44.0	96.1
41	253	90275	1.4	13.3537	1.0	1.9093	1.6	0.1849	1.1	0.74	1093.8	11.6	1084.3	10.3	1065.5	20.9	1065.5	20.9	102.7
20	189	52682	3.0	13.2015	2.9	1.9982	3.9	0.1913	2.6	0.67	1128.5	27.2	1114.9	26.6	1088.4	58.8	1088.4	58.8	103.7
57	171	39668	2.7	13.1272	1.7	1.8874	2.4	0.1797	1.7	0.70	1065.3	16.6	1076.7	15.9	1099.8	34.1	1099.8	34.1	96.9
79	138	66331	2.7	13.0249	3.3	1.9074	3.5	0.1802	1.4	0.38	1068.0	13.3	1083.7	23.5	1115.4	65.2	1115.4	65.2	95.8
36	399	116114	1.4	12.9269	1.1	2.0249	5.2	0.1898	5.1	0.98	1120.5	52.7	1123.9	35.7	1130.4	22.6	1130.4	22.6	99.1
28	468	122503	3.7	12.8228	0.6	2.0756	2.3	0.1930	2.2	0.96	1137.7	23.4	1140.8	16.0	1146.5	12.8	1146.5	12.8	99.2
23	149	89140	3.2	12.7962	2.3	2.0550	2.8	0.1907	1.6	0.58	1125.3	16.5	1134.0	18.9	1150.7	44.9	1150.7	44.9	97.8
39	100	7324	1.7	12.7740	6.6	1.7050	8.2	0.1580	4.9	0.60	945.5	43.3	1010.4	52.6	1154.1	130.6	1154.1	130.6	81.9
105	74	20248	1.5	12.1414	2.8	2.4062	3.2	0.2119	1.7	0.52	1238.9	18.9	1244.5	23.1	1254.1	53.9	1254.1	53.9	98.8
18	133	35383	1.3	10.9397	2.2	3.0757	2.9	0.2440	1.8	0.64	1407.6	23.3	1426.7	22.1	1455.1	42.1	1455.1	42.1	96.7
74	305	78208	4.3	9.4646	0.9	3.7974	1.9	0.2607	1.7	0.90	1493.3	23.2	1592.2	15.6	1725.7	15.8	1725.7	15.8	86.5
99	68	33126	1.5	9.3585	2.0	4.7016	2.4	0.3191	1.4	0.56	1785.4	21.1	1767.5	20.2	1746.4	36.7	1746.4	36.7	102.2
72	298	138434	1.2	9.2749	0.2	4.5408	1.5	0.3054	1.5	0.99	1718.3	22.2	1738.5	12.4	1762.8	3.9	1762.8	3.9	97.5
104	140	50366	2.9	9.2113	1.6	4.8114	1.8	0.3214	0.8	0.47	1796.7	13.2	1786.9	15.1	1775.4	29.0	1775.4	29.0	101.2
43	226	72463	3.7	9.0792	0.5	5.0552	1.7	0.3329	1.7	0.96	1852.3	26.7	1828.6	14.6	1801.7	8.5	1801.7	8.5	102.8
82	98	49893	0.9	9.0065	1.3	4.5545	1.7	0.2975	1.2	0.68	1678.9	17.2	1741.0	14.3	1816.3	22.9	1816.3	22.9	92.4
10	53	27672	0.7	8.7728	2.2	5.1909	2.8	0.3303	1.8	0.64	1839.7	28.6	1851.1	24.0	1863.9	39.2	1863.9	39.2	98.7
55	234	137499	4.5	8.0458	1.9	6.3685	8.2	0.3716	8.0	0.97	2037.1	140.1	2027.9	72.4	2018.7	33.5	2018.7	33.5	100.9
14	110	82638	4.8	5.8552	0.7	11.1267	3.2	0.4725	3.1	0.97	2494.5	64.4	2533.8	29.8	2565.4	12.1	2565.4	12.1	97.2
73	69	25129	1.3	5.5998	1.1	11.7982	2.0	0.4792	1.7	0.85	2523.6	35.2	2588.5	18.7	2639.7	17.6	2639.7	17.6	95.6
5	248	157673	3.7	5.2690	0.4	13.7257	1.3	0.5245	1.2	0.96	2718.3	27.7	2731.0	12.3	2740.3	5.9	2740.3	5.9	99.2
31	366	126014	1.4	4.9891	0.3	14.9972	1.4	0.5427	1.4	0.98	2794.6	31.0	2815.1	13.3	2829.8	4.4	2829.8	4.4	98.8
94	20	13830	1.7	4.3973	2.0	15.8764	4.3	0.5063	3.8	0.89	2640.9	82.0	2869.4	40.8	3033.9	31.8	3033.9	31.8	87.0

Table DR6. U–Pb data for detrital zircon analyses

						Isotope ratios					Apparent ages (Ma)								
Spot	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
Y2-MP098																			
33	121	16299	4.3	17.2803	4.7	0.6535	4.8	0.0819	1.1	0.23	507.5	5.4	510.6	19.4	524.8	103.4	507.5	5.4	96.7
97	778	84595	4.1	17.3709	0.8	0.6594	1.0	0.0831	0.6	0.59	514.5	2.9	514.3	4.0	513.3	17.6	514.5	2.9	100.2
24	131	21372	1.7	15.5838	7.3	0.7504	10.0	0.0848	6.8	0.68	524.8	34.1	568.5	43.5	747.2	155.3	524.8	34.1	70.2
50	207	25148	0.7	17.5397	3.0	0.6684	3.4	0.0850	1.8	0.51	526.1	8.9	519.7	14.0	492.1	65.2	526.1	8.9	106.9
81	75	10331	2.0	18.0953	6.1	0.6539	7.3	0.0858	3.9	0.54	530.8	19.9	510.9	29.3	422.9	137.3	530.8	19.9	125.5
68	73	8143	2.0	16.7650	10.9	0.7176	11.2	0.0873	2.6	0.23	539.3	13.2	549.3	47.4	590.8	236.5	539.3	13.2	91.3
9	93	17555	0.8	16.3769	5.3	0.7368	6.4	0.0875	3.5	0.55	540.8	18.3	560.5	27.6	641.4	114.7	540.8	18.3	84.3
29	138	18315	1.3	17.2137	6.6	0.7039	7.0	0.0879	2.2	0.32	542.9	11.6	541.1	29.2	533.3	144.6	542.9	11.6	101.8
34	82	7725	2.0	19.0563	8.9	0.6392	9.1	0.0883	2.1	0.23	545.7	10.9	501.8	36.0	306.2	202.0	545.7	10.9	178.2
63	189	27234	1.8	16.7798	2.1	0.7309	2.5	0.0889	1.4	0.54	549.3	7.2	557.1	10.9	588.9	46.3	549.3	7.2	93.3
23	41	6216	0.9	16.9041	11.7	0.7265	12.5	0.0891	4.3	0.34	550.0	22.5	554.5	53.4	572.9	256.2	550.0	22.5	96.0
22	124	40416	1.5	16.7385	4.8	0.7345	5.5	0.0892	2.8	0.51	550.6	14.8	559.2	23.7	594.3	103.1	550.6	14.8	92.7
82	70	10693	1.2	17.8069	14.9	0.6919	15.3	0.0894	3.6	0.24	551.7	19.0	533.9	63.6	458.6	331.1	551.7	19.0	120.3
5	79	13039	0.7	17.5902	12.3	0.7004	13.4	0.0894	5.5	0.41	551.7	28.9	539.1	56.3	485.7	272.2	551.7	28.9	113.6
28	70	7451	1.8	18.1448	7.8	0.6822	8.7	0.0898	3.9	0.45	554.2	20.8	528.1	36.0	416.8	175.0	554.2	20.8	133.0
77	165	10456	3.9	16.8669	6.4	0.7363	6.5	0.0901	1.1	0.17	556.0	6.1	560.2	28.1	577.7	139.7	556.0	6.1	96.2
32	887	101402	2.8	16.9924	0.6	0.7319	1.4	0.0902	1.3	0.89	556.7	6.7	557.7	6.1	561.5	13.8	556.7	6.7	99.1
84	200	15319	2.2	16.7536	5.1	0.7507	6.2	0.0912	3.4	0.55	562.7	18.4	568.6	26.8	592.3	111.4	562.7	18.4	95.0
18	247	62075	1.2	17.0025	2.8	0.7417	3.2	0.0915	1.6	0.50	564.2	8.6	563.4	13.8	560.2	60.3	564.2	8.6	100.7
46	100	16580	0.8	17.4576	10.2	0.7264	10.4	0.0920	2.1	0.21	567.2	11.7	554.5	44.4	502.4	224.4	567.2	11.7	112.9
47	128	15797	1.4	16.8913	5.8	0.7518	6.7	0.0921	3.4	0.51	567.9	18.8	569.2	29.3	574.5	125.5	567.9	18.8	98.9
69	107	10128	1.5	17.2503	7.5	0.7414	7.8	0.0928	2.2	0.29	571.8	12.3	563.2	33.8	528.6	164.4	571.8	12.3	108.2
76	493	41901	72.5	17.1738	1.8	0.7464	2.3	0.0930	1.4	0.62	573.1	7.8	566.1	10.0	538.4	39.5	573.1	7.8	106.5
36	289	41911	9.0	16.7925	2.7	0.7651	3.5	0.0932	2.2	0.63	574.3	12.0	576.9	15.3	587.3	58.3	574.3	12.0	97.8
95	231	18219	15.5	17.1890	2.2	0.7488	2.7	0.0934	1.6	0.60	575.3	9.0	567.5	11.9	536.4	47.9	575.3	9.0	107.3
94	197	28976	8.1	17.3044	3.7	0.7443	4.0	0.0934	1.3	0.33	575.7	7.3	564.9	17.2	521.7	82.0	575.7	7.3	110.3
44	74	4445	1.2	18.3333	10.6	0.7033	11.1	0.0935	3.2	0.29	576.3	17.9	540.8	46.7	393.6	239.4	576.3	17.9	146.4
86	240	25138	6.5	17.4125	3.5	0.7430	3.8	0.0938	1.5	0.40	578.1	8.4	564.1	16.4	508.1	76.3	578.1	8.4	113.8
52	109	15950	1.2	16.9419	5.2	0.7689	5.6	0.0945	2.1	0.38	582.0	11.9	579.1	24.7	568.0	112.3	582.0	11.9	102.5
73	310	50014	1.0	17.0120	1.5	0.7724	2.5	0.0953	2.0	0.80	586.8	11.3	581.1	11.1	559.1	32.5	586.8	11.3	105.0
43	297	31116	1.7	17.0520	1.9	0.7731	2.8	0.0956	2.1	0.73	588.6	11.5	581.5	12.5	553.9	42.2	588.6	11.5	106.3
74	187	13659	1.3	17.0765	3.6	0.7738	4.5	0.0958	2.7	0.60	590.0	15.1	582.0	19.9	550.8	79.0	590.0	15.1	107.1
6	419	120385	21.0	16.2828	2.9	0.8183	4.5	0.0966	3.4	0.76	594.7	19.1	607.1	20.4	653.8	62.5	594.7	19.1	91.0
20	116	11900	2.6	16.8469	4.5	0.7922	4.9	0.0968	1.9	0.39	595.6	10.9	592.4	21.9	580.3	97.5	595.6	10.9	102.6
101	175	14157	3.3	17.4015	5.1	0.7714	6.2	0.0974	3.4	0.55	598.9	19.5	580.6	27.3	509.5	112.9	598.9	19.5	117.6
31	218	36571	1.7	16.4325	3.0	0.8270	4.6	0.0986	3.5	0.76	606.0	20.3	612.0	21.3	634.1	65.3	606.0	20.3	95.6
102	142	21241	1.1	16.5492	4.7	0.8228	5.1	0.0988	1.9	0.38	607.1	11.2	609.6	23.5	618.8	102.4	607.1	11.2	98.1
62	160	26020	8.9	15.8542	3.6	0.8677	6.0	0.0998	4.9	0.80	613.1	28.4	634.3	28.5	710.7	76.5	613.1	28.4	86.3
8	228	28498	1.4	16.5174	2.7	0.8400	5.8	0.1006	5.1	0.88	618.1	30.2	619.2	26.9	623.0	58.5	618.1	30.2	99.2
4	56	11059	1.2	16.4612	9.3	0.8468	9.7	0.1011	2.9	0.30	620.8	17.1	622.9	45.3	630.4	200.3	620.8	17.1	98.5
103	306	27239	2.9	16.3908	1.2	0.8847	1.8	0.1052	1.3	0.73	644.6	8.1	643.5	8.5	639.6	26.1	644.6	8.1	100.8
75	275	30428	1.6	16.5175	1.6	0.8814	2.2	0.1056	1.5	0.67	647.1	9.1	641.7	10.5	623.0	35.0	647.1	9.1	103.9
79	308	40375	4.8	16.4668	1.6	0.8869	1.8	0.1059	0.9	0.49	649.0	5.5	644.7	8.6	629.6	33.6	649.0	5.5	103.1
7	197	27799	2.2	16.0577	1.7	0.9330	2.9	0.1087	2.4	0.81	665.0	14.9	669.2	14.2	683.6	35.9	665.0	14.9	97.3
71	83	8686	1.2	15.7218	7.1	0.9846	7.5	0.1123	2.3	0.31	685.9	15.1	696.0	37.6	728.6	150.6	685.9	15.1	94.1
98	129	31995	2.8	15.9040	4.7	0.9920	5.0	0.1144	1.5	0.31	698.4	10.2	699.7	25.1	704.1	100.5	698.4	10.2	99.2
85	448	75349	2.6	16.0213	1.6	0.9857	1.9	0.1145	1.1	0.56	699.0	7.0	696.5	9.5	688.5	33.3	699.0	7.0	101.5
26	338	74732	4.2	15.9466	2.2	1.0324	3.2	0.1194	2.3	0.73	727.1	16.1	720.1	16.6	698.4	47.0	727.1	16.1	104.1
19	223	22884	3.0	15.1845	1.9	1.1520	3.7	0.1269	3.2	0.86	770.0	23.4	778.2	20.4	801.8	40.2	770.0	23.4	96.0
105	220	57229	7.5	15.2724	1.8	1.1590	5.5	0.1284	5.2	0.95	778.6	38.3	781.5	30.0	789.7	36.8	778.6	38.3	98.6
2	365	57584	1.5	15.3371	1.4	1.1614	2.4	0.1292	1.9	0.79	783.2	13.7	782.6	12.8	780.8	30.3	783.2	13.7	100.3
61	696	29943	2.2	15.3294	0.8	1.1828	1.6	0.1315	1.3	0.84	796.4	9.8	792.6	8.6	781.9	17.7	796.4	9.8	101.9
17	67	15995	2.8	14.1574	6.2	1.3954	7.0	0.1433	3.3	0.47	863.2	26.4	887.0	41.2	946.8	126.1	946.8	126.1	91.2
48	120	52047	3.0	14.1031	2.2	1.4870	5.1	0.1521	4.6	0.90	912.7	38.9	925.1	30.7	954.7	44.3	954.7	44.3	95.6
15	304	71778	2.2	14.0629	1.2	1.6058	3.5	0.1638	3.3	0.94	977.7	30.1	972.5	22.2	960.6	25.3	960.6	25.3	101.8
70	357	73254	5.9	14.0334	1.3	1.5673	3.7	0.1595	3.4	0.93	954.1	30.4	957.4	22.8	964.9	27.3	964.9	27.3	98.9
11	199	42773	2.5	13.9464	1.2	1.4546	7.4	0.1471	7.3	0.99	884.9	60.1	911.8	44.4	977.5	24.8	977.5	24.8	90.5
35	268	48632	1.5	13.9137	1.7	1.6192	2.6	0.1634	2.0	0.77	975.6	17.8	977.7	16.2	982.3	33.7	982.3	33.7	99.3
39	43	8210	2.0	13.9051	8.9	1.4702	12.0	0.1483	8.1	0.68	891.2	67.6	918.2	72.8	983.6	180.8	983.6	180.8	90.6
40	51	10753	1.3	13.8706	7.0	1.7078	7.4	0.1718	2.5	0.33	1022.0	23.4	1011.5	47.5	988.6	142.1	988.6	142.1	103.4
37	37	5890	2.2	13.7244	6.6	1.6720	8.3	0.1664	5.0	0.60	992.4	45.7	998.0	52.7	1010.1	134.6	1010.1	134.6	98.2
16	92	35428	5.5	13.6386	2.9	1.7599	5.6	0.1741	4.8	0.85	1034.6	45.5	1030.8	36.1	1022.8	58.6	1022.8	58.6	101.1
41	438	78471	3.8	13.6230	1.1	1.5932	2.0	0.1574	1.6	0.82	942.4	14.2	967.6	12.4	1025.1	23.0	1025.1	23.0	91.9
88	310	161322	7.8	13.5096	1.4	1.7963	4.2	0.1760	3.9	0.94	1045.1	38.0	1044.1	27.3	1042.0	28.3	1042.0	28.3	100.3
27	84	21454	1.6	13.4846	4.9	1.8061	5.3	0.1766	2.0	0.38	1048.5	19.6	1047.7	34.9	1045.8	99.6	1045.8	99.6	100.3
60	213	84693	2.8	13.4779	1.4	1.7897	2.5	0.1749	2.0	0.81	1039.3	19.5	1041.7	16.3	1046.8	29.2	1046.8	29.2	99.3
21	75	31505	2.3	13.4280	4.0	1.7575	4.8	0.1712	2.6	0.54	1018.5	24.0	1029.9	30.9	1054.3	81.1	1054.3	81.1	96.6
56	285	75216	1.4	13.4174	1.2	1.7925	1.8	0.1744	1.3	0.74	1036.5	12.8	1042.7	11.8	1055.9	24.5	1055.9	24.5	98.2
54	72	17966	1.9	13.4087	4.5	1.9110	4.9	0.1858	1.8	0.36	1098.8	18.0	1084.9	32.6	1057.2	91.6	1057.2	91.6	103.9
53	226	40150	1.7	13.3388	2.2	1.7894	2.5	0.1731	1.1	0.43	1029.2	10.3	1041.6	16.2	1067.7	45.0	1067.7	45.0	96.4
1	128	26488	2.1	13.3274	2.2	1.8672	3.0	0.1805	2.0	0.68	1069.6	19.8	1069.5	19.7	1069.4	44.2	1069.4	44.2	100.0
80	121	54302	1.0	13.2384	2.4	1.8581	2.7	0.1784	1.3	0.48	1058.2	12.5	1066.3	17.7	1082.8	47.5	1082.8	47.5	97.7
83	174	50182	1.9	13.2168	2.1	1.9233	7.0	0.1844	6.7	0.96	1090.8	67.4	1089.2	47.0	1086.1	41.3	1086.1	41.3	100.4
65	202	102806	2.0	13.1834	1.9	1.8575	2.4	0.1776	1.5	0.61	1053.9	14.3	1066.1	16.0	1091.2	38.7	1091.2	38.7	96.6
100	101	17969	1.3	13.1417	2.6	1.9724	5.1	0.1880	4.4	0.86	1110.5	44.5	1106.1	34.1	1097.5	51.5	1097.5	51.5	101.2
12	85	48848	1.7	13.0118	3.1	2.0075	5.5	0.1895	4.5	0.83	1118.4	46.6	1118.1	37.2	1117.4	61.7	1117.4	61.7	100.1
64	202	44792	1.8	12.6991	1.3	2.1292	3.4	0.1961	3.1	0.92	1154.3	33.0	1158.3	23.5	1165.7	26.4	1165.7	26.4	99.0
13	656	124221	3.2	12.6836	0.6	2.1364	2.2	0.1965	2.2	0.97	1156.6	23.0	1160.6	15.5	1168.2	11.1	1168.2	11.1	99.0
96	132	28037	1.3	11.2563	2.1	2.8376	9.7	0.2317	9.5	0.98	1343.2	115.3	1365.5	73.3	1400.7	41.0	1400.7	41.0	95.9
72	124	56487	1.4	9.6974	1.4	4.1607	1.7	0.2926	0.9	0.57	1654.7	13.7	1666.3	13.6	1681.0	25.2	1681.0	25.2	98.4
67	169	55746	5.8	9.5776	1.8	4.0204	6.4	0.2793	6.2	0.96	1587.7	86.7	1638.3	52.3	1703.9	33.3	1703.9	33.3	93.2
90	225	80340	1.5	9.4822	0.4	4.6795	1.9	0.3218	1.9	0.98	1798.6	29.6	1763.6	16.1	1722.3	7.2	1722.3	7.2	104.4
58	261	113839	1.6	9.4290	0.5	4.5972	6.7	0.3144	6.7	1.00	1762.2	102.9	1748.8	55.9	1732.7	8.9	1732.7	8.9	101.7
78	194	92239	1.8	9.3334	0.5	4.1979	2.3	0.2842	2.2	0.97	1612.3	31.5	1673.6	18.7	1751.3	9.9	1751.3	9.9	92.1
91	238	105208	1.8	9.1398	0.3	4.9652	1.2	0.3291	1.2	0.97	1834.2	18.9	1813.4	10.3	1789.6	5.7	1789.6	5.7	102.5
10	179	51977	0.7	8.9938	0.8	5.1244	3.8	0.3343	3.7	0.98	1859.0	59.7	1840.2	32.1	1818.9	13.6	1818.9	13.6	102.2
49	177	73311	2.1	8.7446	0.8	5.3258	1.7	0.3378	1.6	0.90	1875.9	25.6	1873.0	14.9	1869.8	13.6	1869.8	13.6	100.3
87	117	91248	3.2	8.0341	0.8	6.3819	1.9	0.3719	1.7	0.89	2038.2	29.1	2029.8	16.3	2021.2	14.7	2021.2	14.7	100.8
14	105	195681	1.7	5.1369	0.3	14.2031	1.7	0.5292	1.7	0.98	2737.9	37.2	2763.4	16.1	2782.0	5.5	2782.0	5.5	98.4
3	245	97152	0.4	5.0903	0.1	14.1968	2.3	0.5241	2.3	1.00	2716.6	50.0	2762.9	21.4	2796.9	2.3	2796.9	2.3	97.1

Table DR6. U–Pb data for detrital zircon analyses

						Isotope ratios					Apparent ages (Ma)								
Spot	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
318-M9																			
67	267.3	80122	2.0	17.9398	2.3	0.4012	3.7	0.0522	2.9	0.78	328.0	9.2	342.5	10.8	442.1	51.8	328.0	9.2	NA
33	505.7	111794	1.2	17.7906	0.8	0.4751	1.5	0.0613	1.3	0.87	383.5	4.8	394.7	4.9	460.6	16.7	383.5	4.8	NA
90	333.2	78529	2.5	17.3691	1.5	0.5563	2.2	0.0701	1.6	0.73	436.6	7.0	449.1	8.1	513.6	33.4	436.6	7.0	85.0
69b	399	106244	3.5	17.4958	1.3	0.5622	1.8	0.0713	1.2	0.68	444.2	5.2	453.0	6.5	497.6	28.5	444.2	5.2	89.3
66	241	64553	2.7	16.6451	2.8	0.6340	3.5	0.0765	2.0	0.58	475.4	9.3	498.6	13.8	606.4	61.4	475.4	9.3	78.4
61	425	153731	124.6	17.3579	1.3	0.6416	1.5	0.0808	0.9	0.56	500.7	4.2	503.3	6.1	515.0	28.0	500.7	4.2	97.2
29	225	69754	1.4	17.0668	1.6	0.6738	1.9	0.0834	1.0	0.55	516.4	5.2	523.0	7.8	552.0	35.0	516.4	5.2	93.6
68b	409	91772	3.3	17.2016	1.2	0.6748	2.1	0.0842	1.8	0.84	521.1	9.0	523.6	8.7	534.8	25.3	521.1	9.0	97.4
47	670	161760	8.5	16.7159	0.5	0.7059	3.4	0.0856	3.3	0.99	529.3	16.9	542.3	14.1	597.2	9.8	529.3	16.9	88.6
97	432	95308	2.2	16.8803	0.8	0.7051	6.2	0.0863	6.1	0.99	533.7	31.3	541.8	25.9	575.9	18.3	533.7	31.3	92.7
38	264	94882	7.4	17.1081	1.5	0.7001	2.4	0.0869	1.8	0.77	537.0	9.3	538.9	9.8	546.7	32.9	537.0	9.3	98.2
30	208	57209	2.2	17.1791	2.0	0.7002	3.6	0.0872	2.9	0.82	539.2	15.1	538.9	14.9	537.7	44.5	539.2	15.1	100.3
75	359	162785	3.5	17.0491	0.9	0.7058	3.1	0.0873	2.9	0.95	539.4	15.1	542.3	12.9	554.3	20.3	539.4	15.1	97.3
27	230	72265	2.2	17.1208	1.5	0.7071	2.1	0.0878	1.5	0.70	542.5	7.7	543.0	8.9	545.1	33.1	542.5	7.7	99.5
35	118	68108	1.8	17.0134	3.9	0.7144	4.1	0.0881	1.3	0.31	544.6	6.6	547.3	17.4	558.8	85.3	544.6	6.6	97.4
55	655	140774	16.7	17.0232	0.7	0.7193	1.8	0.0888	1.6	0.92	548.5	8.5	550.2	7.5	557.6	15.5	548.5	8.5	98.4
22	107	57960	0.6	16.9195	4.7	0.7273	5.1	0.0893	1.9	0.38	551.1	10.3	555.0	21.9	570.9	103.1	551.1	10.3	96.5
79	98	47306	0.9	16.8267	2.3	0.7318	2.7	0.0893	1.3	0.49	551.4	6.9	557.6	11.5	582.9	50.7	551.4	6.9	94.6
100	995	365941	8.1	16.6572	0.4	0.7464	3.0	0.0902	3.0	0.99	556.6	16.0	566.1	13.1	604.8	8.8	556.6	16.0	92.0
39	208	64190	1.2	17.1950	1.2	0.7279	2.1	0.0908	1.8	0.83	560.1	9.5	555.3	9.1	535.7	26.0	560.1	9.5	104.6
52	754	286126	7.6	16.9501	0.5	0.7461	1.8	0.0917	1.7	0.96	565.7	9.3	566.0	7.8	567.0	10.8	565.7	9.3	99.8
84	182	66123	1.0	16.9928	1.7	0.7468	2.1	0.0920	1.2	0.58	567.6	6.6	566.3	9.2	561.5	37.6	567.6	6.6	101.1
48	335	100178	5.6	16.0027	1.4	0.7997	5.3	0.0928	5.1	0.96	572.2	27.9	596.7	23.9	690.9	30.9	572.2	27.9	82.8
85	426	178033	19.0	16.8339	1.0	0.7677	1.7	0.0937	1.4	0.80	577.6	7.7	578.4	7.6	581.9	22.4	577.6	7.7	99.2
21	62	18331	1.8	16.7835	3.7	0.7815	5.6	0.0951	4.2	0.75	585.8	23.6	586.3	24.9	588.5	79.7	585.8	23.6	99.5
36	39	15062	2.0	16.3166	9.2	0.8063	9.4	0.0954	2.2	0.23	587.5	12.3	600.3	42.8	649.3	197.4	587.5	12.3	90.5
19	114	66491	1.7	16.4518	4.1	0.8136	4.1	0.0971	0.9	0.21	597.3	5.0	604.5	18.9	631.6	87.3	597.3	5.0	94.6
91	130	37134	2.0	15.8959	3.6	0.8433	3.8	0.0972	1.1	0.29	598.1	6.2	621.0	17.6	705.2	77.4	598.1	6.2	84.8
76	1557	618894	13.7	16.4793	0.4	0.8214	0.7	0.0982	0.6	0.84	603.7	3.4	608.8	3.2	628.0	8.1	603.7	3.4	96.1
37	181	146321	2.3	15.9833	2.1	0.8656	4.1	0.1003	3.5	0.86	616.4	20.8	633.2	19.4	693.5	44.9	616.4	20.8	88.9
41	396	112119	5.0	15.3050	1.0	1.0047	3.2	0.1115	3.0	0.95	681.6	19.6	706.2	16.2	785.2	20.9	681.6	19.6	86.8
46	86	34426	2.6	15.1835	4.6	1.0274	6.6	0.1131	4.8	0.72	691.0	31.2	717.6	34.1	801.9	96.6	691.0	31.2	86.2
50	138	56705	2.5	15.7990	2.1	0.9986	2.7	0.1144	1.8	0.65	698.4	11.7	703.1	13.8	718.1	44.2	698.4	11.7	97.3
49	231	98508	2.5	15.3241	1.1	1.0473	2.2	0.1164	2.0	0.88	709.8	13.2	727.5	11.6	782.6	22.1	709.8	13.2	90.7
17	960	337018	3.7	15.4442	0.4	1.0592	2.3	0.1186	2.2	0.99	722.7	15.3	733.4	11.8	766.2	7.9	722.7	15.3	94.3
16	350	149175	2.5	15.4650	0.8	1.0762	1.4	0.1207	1.1	0.80	734.6	7.6	741.8	7.2	763.3	17.3	734.6	7.6	96.2
43	1037	615522	15.7	15.6639	0.6	1.0914	3.4	0.1240	3.3	0.98	753.5	23.8	749.2	18.1	736.4	13.1	753.5	23.8	102.3
95	489	80796	5.9	14.4360	0.8	1.2086	7.7	0.1265	7.7	0.99	768.1	55.7	804.6	43.0	906.8	17.5	768.1	55.7	84.7
44	309	122113	3.6	14.6507	0.8	1.2166	2.2	0.1293	2.0	0.94	783.7	14.9	808.2	12.0	876.3	15.7	783.7	14.9	89.4
42	393	266967	4.1	14.6608	1.0	1.2240	1.9	0.1301	1.5	0.83	788.7	11.4	811.6	10.4	874.9	21.7	788.7	11.4	90.1
81	97	35350	3.9	14.9438	2.1	1.2024	10.1	0.1303	9.9	0.98	789.7	73.7	801.7	56.2	835.2	42.7	789.7	73.7	94.5
94	391	193150	1.7	15.1164	0.6	1.2037	4.6	0.1320	4.6	0.99	799.1	34.4	802.3	25.6	811.3	12.4	799.1	34.4	98.5
62	171	117457	2.6	13.8069	1.8	1.3207	4.9	0.1323	4.5	0.93	800.7	34.1	854.8	28.3	998.0	37.4	800.7	34.1	80.2
80	228	88514	9.9	14.4650	0.9	1.2739	2.9	0.1336	2.7	0.94	808.7	20.6	834.2	16.3	902.7	19.5	808.7	20.6	89.6
53	281	87657	2.9	14.5742	0.6	1.4022	3.6	0.1482	3.5	0.99	891.0	29.5	889.9	21.3	887.2	12.0	891.0	29.5	100.4
63a	111	62856	2.7	13.7237	1.3	1.7455	3.4	0.1737	3.2	0.92	1032.6	30.2	1025.5	22.2	1010.2	27.1	1010.2	27.1	102.2
59	490	185459	4.6	13.6887	0.7	1.5546	2.2	0.1543	2.0	0.95	925.3	17.7	952.3	13.3	1015.4	13.6	1015.4	13.6	91.1
28	206	148971	3.2	13.6521	0.7	1.6963	2.0	0.1680	1.8	0.93	1000.8	17.0	1007.1	12.5	1020.8	14.3	1020.8	14.3	98.0
89	220	51191	3.4	13.5264	0.7	1.6877	1.1	0.1656	0.8	0.77	987.7	7.5	1003.9	6.7	1039.5	13.6	1039.5	13.6	95.0
87	271	166136	2.8	13.5024	0.7	1.7405	2.8	0.1704	2.7	0.96	1014.6	25.1	1023.6	17.9	1043.1	14.9	1043.1	14.9	97.3
34	83	54718	1.4	13.4956	2.0	1.7427	2.2	0.1706	1.0	0.45	1015.3	9.3	1024.5	14.3	1044.1	40.0	1044.1	40.0	97.2
64a	90	24840	2.4	13.4903	1.2	1.7788	2.8	0.1740	2.6	0.91	1034.3	24.5	1037.7	18.3	1044.9	23.4	1044.9	23.4	99.0
20	118	69923	1.6	13.4627	1.4	1.8301	3.3	0.1787	3.0	0.91	1059.8	29.0	1056.3	21.4	1049.1	27.4	1049.1	27.4	101.0
15	96	75687	2.5	13.4536	2.5	1.7569	2.7	0.1714	0.9	0.35	1020.0	8.9	1029.7	17.4	1050.5	50.9	1050.5	50.9	97.1
70	284	201113	4.9	13.3459	0.6	1.8915	5.2	0.1831	5.2	0.99	1083.8	51.6	1078.1	34.6	1066.6	13.0	1066.6	13.0	101.6
71	274	168191	3.0	13.3150	0.8	1.8141	1.3	0.1752	1.1	0.82	1040.6	10.4	1050.6	8.6	1071.3	15.2	1071.3	15.2	97.1
25	193	174323	1.9	13.2561	0.7	1.9087	2.3	0.1835	2.2	0.95	1086.1	22.2	1084.1	15.6	1080.2	14.7	1080.2	14.7	100.6
98	726	332417	32.3	13.2365	0.3	1.7852	1.7	0.1714	1.6	0.98	1019.7	15.4	1040.1	10.8	1083.1	6.2	1083.1	6.2	94.1
88	85	34967	1.8	13.2250	1.7	1.9160	2.8	0.1838	2.2	0.79	1087.6	21.8	1086.7	18.5	1084.9	34.3	1084.9	34.3	100.2
86	135	49828	3.7	13.1999	1.6	1.8846	2.2	0.1804	1.5	0.69	1069.3	14.9	1075.7	14.5	1088.7	31.9	1088.7	31.9	98.2
78	251	177784	2.6	13.1538	0.5	1.8081	0.8	0.1725	0.6	0.74	1025.8	5.3	1048.4	4.9	1095.7	10.1	1095.7	10.1	93.6
26	177	202340	3.0	13.1522	0.7	1.8949	2.7	0.1808	2.6	0.97	1071.1	25.3	1079.3	17.7	1096.0	13.7	1096.0	13.7	97.7
83	275	143861	4.2	13.1075	0.7	1.9218	1.7	0.1827	1.6	0.92	1081.7	16.0	1088.7	11.7	1102.8	13.9	1102.8	13.9	98.1
51	117	86556	3.2	13.0387	1.1	1.9649	1.8	0.1858	1.5	0.80	1098.6	14.9	1103.6	12.3	1113.3	21.7	1113.3	21.7	98.7
74	573	232622	1.9	12.9830	0.5	1.9290	1.4	0.1816	1.3	0.94	1075.9	12.8	1091.2	9.2	1121.8	9.6	1121.8	9.6	95.9
54	144	364338	0.9	12.3228	1.1	2.2712	1.4	0.2030	0.9	0.65	1191.3	10.0	1203.4	9.9	1225.1	21.1	1225.1	21.1	97.2
96	660	222250	2.5	11.3334	0.2	2.7109	1.4	0.2228	1.3	0.99	1296.8	15.8	1331.5	10.1	1387.6	3.9	1387.6	3.9	93.5
93	68	63779	0.8	11.0200	1.1	2.9714	1.3	0.2375	0.7	0.56	1373.6	9.2	1400.3	10.1	1441.2	20.8	1441.2	20.8	95.3
24	447	24770	4.2	9.5826	0.3	4.2457	2.0	0.2951	2.0	0.99	1666.8	28.8	1682.9	16.3	1703.0	5.3	1703.0	5.3	97.9
45	132	86076	2.5	9.2253	0.5	3.6776	6.1	0.2461	6.1	1.00	1418.1	77.8	1566.5	49.0	1772.6	9.3	1772.6	9.3	80.0
32	128	133203	1.0	8.7796	0.6	5.1074	2.2	0.3252	2.1	0.97	1815.2	33.5	1837.3	18.6	1862.5	10.1	1862.5	10.1	97.5
73	564	195055	3.7	8.5164	0.3	5.2346	2.6	0.3233	2.6	0.99	1806.0	40.2	1858.3	21.9	1917.3	5.2	1917.3	5.2	94.2
40	389	363488	2.9	8.0960	2.8	4.9921	6.5	0.2931	5.9	0.90	1657.1	85.8	1818.0	55.2	2007.6	50.4	2007.6	50.4	82.5
31	729	490009	2.3	6.4267	0.2	8.7167	2.2	0.4063	2.2	1.00	2197.9	40.3	2308.8	19.8	2408.4	2.6	2408.4	2.6	91.3
56	178	269460	2.6	6.3467	0.4	8.8795	1.7	0.4087	1.7	0.97	2209.1	31.6	2325.7	15.8	2429.7	6.7	2429.7	6.7	90.9
77	380	516685	1.0	6.2454	0.1	9.7471	1.0	0.4415	1.0	0.99	2357.4	20.3	2411.2	9.6	2456.9	2.5	2456.9	2.5	95.9

Table DR6. U–Pb data for detrital zircon analyses

						Isotope ratios					Apparent ages (Ma)								
Spot	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
21223-3																			
39	424	23390	9.9	19.1374	4.8	0.1279	6.8	0.0178	4.8	0.71	113.5	5.4	122.2	7.9	296.5	110.0	113.5	5.4	NA
27	450	32853	4.6	17.8730	2.5	0.3057	7.2	0.0396	6.8	0.94	250.5	16.7	270.9	17.2	450.4	55.7	250.5	16.7	NA
8	267	17021	2.6	17.1597	3.2	0.3351	8.3	0.0417	7.7	0.92	263.4	19.9	293.5	21.3	540.2	70.0	263.4	19.9	NA
26	141	23871	4.6	17.7116	3.8	0.3983	4.6	0.0512	2.6	0.56	321.7	8.0	340.4	13.2	470.5	83.8	321.7	8.0	NA
7	333	40261	3.0	17.2414	1.1	0.4792	6.5	0.0599	6.4	0.99	375.2	23.5	397.5	21.5	529.8	24.3	375.2	23.5	NA
43	136	38567	1.6	16.2729	1.7	0.5547	6.1	0.0655	5.8	0.96	408.8	23.1	448.1	22.0	655.1	36.8	408.8	23.1	62.4
40	647	101154	1.2	17.6809	1.0	0.5180	5.8	0.0664	5.7	0.99	414.6	23.0	423.8	20.2	474.4	21.4	414.6	23.0	87.4
32	360	55794	9.2	17.1413	1.3	0.5475	6.4	0.0681	6.2	0.98	424.5	25.6	443.4	22.8	542.5	28.1	424.5	25.6	78.2
9	387	74058	1.9	17.6971	1.4	0.5528	8.5	0.0709	8.3	0.99	441.9	35.6	446.8	30.6	472.3	31.5	441.9	35.6	93.5
33	275	51644	3.0	17.2563	0.9	0.5887	3.1	0.0737	2.9	0.96	458.3	13.0	470.0	11.6	527.9	19.1	458.3	13.0	86.8
20	390	62566	2.2	17.4282	1.6	0.5991	7.7	0.0757	7.5	0.98	470.6	34.2	476.7	29.3	506.1	34.8	470.6	34.2	93.0
19	298	104523	2.3	17.4097	1.0	0.6135	1.8	0.0775	1.6	0.85	481.0	7.2	485.8	7.1	508.5	21.5	481.0	7.2	94.6
18	248	51171	3.5	17.2510	1.5	0.6272	2.1	0.0785	1.4	0.69	487.0	6.8	494.4	8.2	528.6	32.9	487.0	6.8	92.1
24	423	93607	2.9	17.3954	1.3	0.6389	2.3	0.0806	1.9	0.84	499.8	9.2	501.6	9.0	510.2	27.5	499.8	9.2	98.0
16	516	180052	3.9	17.2224	1.0	0.6531	4.8	0.0816	4.6	0.98	505.5	22.6	510.4	19.1	532.2	22.6	505.5	22.6	95.0
34	440	59013	2.7	17.0623	0.9	0.6703	6.4	0.0829	6.3	0.99	513.7	31.3	520.9	26.1	552.6	19.0	513.7	31.3	93.0
14	270	132808	9.0	17.2599	1.5	0.6769	2.3	0.0847	1.7	0.74	524.3	8.6	524.9	9.5	527.4	33.9	524.3	8.6	99.4
45	957	145611	5.7	17.2036	0.5	0.6808	1.4	0.0849	1.4	0.95	525.6	6.9	527.3	5.9	534.6	10.3	525.6	6.9	98.3
4	489	296222	2.9	16.9521	1.0	0.7014	2.7	0.0862	2.4	0.92	533.3	12.5	539.6	11.1	566.7	22.8	533.3	12.5	94.1
30	360	89903	4.8	16.5888	1.2	0.7314	4.3	0.0880	4.2	0.96	543.7	21.7	557.4	18.6	613.7	26.8	543.7	21.7	88.6
15	220	99318	1.7	16.6175	2.5	0.7322	3.0	0.0882	1.7	0.55	545.2	8.7	557.9	12.9	609.9	54.3	545.2	8.7	89.4
11	1075	327638	3.3	17.1179	0.2	0.7241	4.0	0.0899	4.0	1.00	554.9	21.1	553.1	17.0	545.5	5.3	554.9	21.1	101.7
37	479	147969	25.9	17.0746	0.8	0.7339	3.3	0.0909	3.2	0.97	560.7	17.2	558.8	14.2	551.0	17.0	560.7	17.2	101.8
6	46	14697	1.9	16.6834	9.8	0.7516	10.0	0.0909	1.9	0.19	561.1	9.9	569.1	43.6	601.4	213.0	561.1	9.9	93.3
1	360	85500	5.0	15.8503	2.4	0.8093	7.0	0.0930	6.5	0.94	573.5	35.8	602.1	31.7	711.3	52.1	573.5	35.8	80.6
2	321	98837	4.4	15.9305	1.0	0.8106	4.6	0.0937	4.5	0.98	577.2	24.8	602.8	20.9	700.5	20.6	577.2	24.8	82.4
31	216	89301	3.0	15.4926	1.7	0.8595	6.6	0.0966	6.4	0.97	594.3	36.2	629.9	30.9	759.6	34.8	594.3	36.2	78.2
35	66	22978	3.0	13.8055	2.5	1.3317	6.6	0.1333	6.1	0.92	806.9	46.5	859.6	38.4	998.2	51.3	998.2	51.3	80.8
3	690	24432	1.5	13.7872	0.7	1.4899	2.9	0.1490	2.8	0.97	895.3	23.4	926.3	17.5	1000.9	13.3	1000.9	13.3	89.5
29	64	17212	1.3	13.7159	1.9	1.4896	2.9	0.1482	2.1	0.74	890.8	17.8	926.2	17.5	1011.4	39.1	1011.4	39.1	88.1
10	531	236229	2.1	13.6976	0.4	1.7343	1.2	0.1723	1.1	0.94	1024.7	10.6	1021.3	7.7	1014.1	8.4	1014.1	8.4	101.0
44	172	79131	1.2	13.6064	0.9	1.7365	2.7	0.1714	2.6	0.95	1019.6	24.3	1022.2	17.5	1027.6	17.6	1027.6	17.6	99.2
12	218	152454	2.7	13.5480	0.8	1.7104	3.0	0.1681	2.9	0.97	1001.4	27.2	1012.4	19.4	1036.3	15.4	1036.3	15.4	96.6
41	528	88290	15.5	12.8115	0.4	1.6753	2.4	0.1557	2.4	0.99	932.6	21.0	999.2	15.5	1148.3	7.3	1148.3	7.3	81.2
25	110	53407	2.3	10.2662	1.1	3.5464	5.3	0.2641	5.2	0.98	1510.6	69.8	1537.6	41.9	1575.0	19.7	1575.0	19.7	95.9
22	224	55009	1.8	8.9282	0.6	4.0431	2.7	0.2618	2.6	0.98	1499.1	35.4	1642.9	22.0	1832.2	10.0	1832.2	10.0	81.8
17	12	15123	1.0	8.1972	3.4	5.9585	4.2	0.3542	2.5	0.59	1954.8	41.7	1969.8	36.4	1985.6	60.0	1985.6	60.0	98.5
21223-8																			
R61	108	16498	1.8	16.9073	5.7	0.4570	10.1	0.0560	8.3	0.82	351.5	28.3	382.2	32.1	572.5	124.9	351.5	28.3	NA
54	30	3426	1.5	21.2912	14.7	0.4099	15.6	0.0633	5.3	0.34	395.6	20.3	348.8	46.1	47.6	352.3	395.6	20.3	NA
45	271	10781	2.5	14.6525	1.8	0.6137	5.7	0.0652	5.4	0.95	407.3	21.3	485.9	22.0	876.1	37.2	407.3	21.3	46.5
59	528	112627	11.4	17.0026	1.4	0.5289	8.7	0.0652	8.6	0.99	407.3	33.8	431.1	30.5	560.2	30.5	407.3	33.8	72.7
8 <	206	26264	5.6	17.2319	1.4	0.5255	3.0	0.0657	2.6	0.88	410.1	10.4	428.8	10.4	531.0	31.0	410.1	10.4	77.2
40	305	25086	3.2	17.4095	1.0	0.5882	5.6	0.0743	5.5	0.98	461.8	24.5	469.7	21.1	508.5	22.9	461.8	24.5	90.8
56	326	46011	1.6	17.3915	1.0	0.6120	4.9	0.0772	4.8	0.98	479.4	22.4	484.8	19.1	510.7	22.2	479.4	22.4	93.9
52	158	24537	1.6	17.6556	1.4	0.6168	3.8	0.0790	3.5	0.93	490.1	16.5	487.8	14.6	477.5	31.4	490.1	16.5	102.6
2	294	50700	1.7	17.1393	1.5	0.6371	2.2	0.0792	1.7	0.75	491.3	7.9	500.5	8.8	542.8	32.5	491.3	7.9	90.5
62	232	42404	1.3	17.6877	1.5	0.6281	2.1	0.0806	1.4	0.67	499.6	6.7	494.9	8.2	473.5	34.1	499.6	6.7	105.5
24	710	84997	1.5	17.1489	1.0	0.6544	1.2	0.0814	0.8	0.64	504.4	3.9	511.2	5.0	541.5	20.9	504.4	3.9	93.2
57	50	8799	1.0	17.7284	5.1	0.6439	5.4	0.0828	1.7	0.31	512.8	8.3	504.7	21.5	468.4	113.9	512.8	8.3	109.5
67	238	63908	1.4	17.1506	0.8	0.6723	3.4	0.0836	3.3	0.97	517.7	16.4	522.1	13.9	541.3	18.0	517.7	16.4	95.6
13	809	198589	6.5	17.1316	0.3	0.6764	1.5	0.0840	1.4	0.99	520.2	7.2	524.6	6.0	543.7	5.5	520.2	7.2	95.7
34	331	55249	2.0	17.2085	1.0	0.6795	2.4	0.0848	2.2	0.91	524.7	11.0	526.5	9.9	534.0	21.9	524.7	11.0	98.3
50	611	247337	2.9	17.1207	0.4	0.6856	1.2	0.0851	1.1	0.94	526.7	5.5	530.1	4.8	545.1	8.9	526.7	5.5	96.6
7	139	20612	1.9	17.2080	1.6	0.6877	6.6	0.0858	6.4	0.97	530.8	32.5	531.4	27.2	534.0	34.8	530.8	32.5	99.4
14	320	76145	4.2	16.8003	1.0	0.7048	9.6	0.0859	9.6	0.99	531.1	48.8	541.7	40.5	586.3	21.9	531.1	48.8	90.6
66	232	318557	1.2	17.3008	1.0	0.6851	1.7	0.0860	1.4	0.80	531.6	7.0	529.9	7.1	522.2	22.7	531.6	7.0	101.8
32	404	62511	6.7	16.9280	0.8	0.7030	6.1	0.0863	6.0	0.99	533.7	30.9	540.6	25.5	569.8	16.7	533.7	30.9	93.7
28	406	88145	1.6	17.4269	1.0	0.6842	1.2	0.0865	0.7	0.60	534.7	3.8	529.3	5.1	506.3	21.8	534.7	3.8	105.6
41	345	83876	1.5	17.0142	0.9	0.7123	1.5	0.0879	1.2	0.82	543.1	6.5	546.1	6.4	558.7	18.7	543.1	6.5	97.2
19	644	146512	1.9	17.0289	0.7	0.7196	2.2	0.0889	2.1	0.95	548.9	11.0	550.4	9.3	556.9	14.4	548.9	11.0	98.6
55	109	18249	1.8	17.2898	3.3	0.7092	5.3	0.0889	4.2	0.79	549.2	22.2	544.2	22.4	523.6	71.4	549.2	22.2	104.9
42	151	36274	0.5	16.9674	1.4	0.7380	3.0	0.0908	2.6	0.88	560.4	14.1	561.2	12.9	564.7	31.1	560.4	14.1	99.2
23	1180	57319	4.6	14.3670	0.3	0.9180	4.0	0.0957	4.0	1.00	588.9	22.5	661.3	19.5	916.7	6.4	588.9	22.5	64.2
35	689	120728	1.5	16.7062	0.5	0.8044	1.3	0.0975	1.2	0.93	599.5	6.8	599.3	5.8	598.4	10.3	599.5	6.8	100.2
15	171	40331	1.9	16.2684	1.1	0.8293	3.7	0.0979	3.5	0.95	601.8	20.3	613.3	17.1	655.7	24.4	601.8	20.3	91.8
11	497	92920	4.2	16.4949	0.8	0.8235	3.0	0.0985	2.9	0.97	605.7	16.8	610.0	13.8	625.9	16.5	605.7	16.8	96.8
1	693	112922	8.2	16.2985	0.3	0.8541	2.8	0.1010	2.8	0.99	620.1	16.7	626.9	13.3	651.7	7.0	620.1	16.7	95.1
20	193	34781	3.5	15.9183	1.6	0.9367	5.4	0.1081	5.1	0.95	661.9	32.3	671.1	26.5	702.2	34.7	661.9	32.3	94.3
30	67	14954	0.7	15.0298	3.2	1.0257	8.6	0.1118	8.0	0.93	683.3	51.7	716.8	44.2	823.3	66.4	683.3	51.7	83.0
33	426	227140	5.8	15.4988	0.9	1.0047	5.3	0.1129	5.2	0.99	689.8	34.3	706.2	27.1	758.7	18.9	689.8	34.3	90.9
22	486	138638	4.6	14.8602	0.6	1.0914	5.0	0.1176	4.9	0.99	716.9	33.4	749.2	26.3	846.9	12.0	716.9	33.4	84.7
46	267	50357	1.7	15.5143	0.5	1.0697	1.3	0.1204	1.2	0.92	732.6	8.4	738.6	6.9	756.6	11.0	732.6	8.4	96.8
39	339	103772	2.5	14.0807	0.7	1.3132	7.7	0.1341	7.7	1.00	811.3	58.8	851.5	44.7	958.0	14.7	811.3	58.8	84.7
60	292	48594	2.3	13.9675	0.7	1.6043	4.8	0.1625	4.8	0.99	970.7	43.0	971.9	30.2	974.4	13.5	974.4	13.5	99.6
29	396	70960	40.7	13.6744	0.5	1.3794	5.7	0.1368	5.7	1.00	826.6	44.1	880.2	33.6	1017.5	9.9	1017.5	9.9	81.2
44	286	153114	4.2	13.5668	0.8	1.7102	4.8	0.1683	4.7	0.98	1002.6	44.0	1012.4	30.9	1033.5	17.1	1033.5	17.1	97.0
21	171	42308	2.7	13.5377	1.1	1.5412	1.8	0.1513	1.3	0.76	908.4	11.4	947.0	10.8	1037.8	22.8	1037.8	22.8	87.5
53	258	79608	5.9	13.5159	0.4	1.8423	3.8	0.1806	3.8	0.99	1070.2	37.6	1060.7	25.2	1041.1	8.9	1041.1	8.9	102.8
51	588	135022	1.1	13.3237	0.3	1.6706	1.4	0.1614	1.4	0.97	964.8	12.5	997.4	9.1	1070.0	6.7	1070.0	6.7	90.2
4	285	123503	1.5	13.2891	0.6	1.9612	3.4	0.1890	3.4	0.98	1116.1	34.4	1102.3	22.9	1075.2	12.0	1075.2	12.0	103.8
26	220	58837	1.5	13.2870	0.6	1.8273	1.2	0.1761	1.0	0.87	1045.6	9.7	1055.3	7.6	1075.5	11.3	1075.5	11.3	97.2
49	289	187007	0.9	13.2237	0.1	1.8227	2.3	0.1748	2.3	1.00	1038.6	21.8	1053.7	14.9	1085.1	2.4	1085.1	2.4	95.7
25	418	189069	1.7	13.1424	0.2	1.7974	1.6	0.1713	1.6	0.99	1019.4	15.2	1044.5	10.7	1097.4	5.0	1097.4	5.0	92.9
65	170	96301	2.4	12.4524	0.8	2.1759	2.0	0.1965	1.8	0.92	1156.6	19.1	1173.4	13.6	1204.5	15.2	1204.5	15.2	96.0
5	288	127225	2.6	12.4088	0.4	2.2356	3.4	0.2012	3.3	0.99	1181.8	36.1	1192.3	23.6	1211.4	8.3	1211.4	8.3	97.6
58	102	76697	1.1	12.1409	1.0	2.2664	3.3	0.1996	3.2	0.96	1173.0	34.0	1201.9	23.3	1254.2	19.0	1254.2	19.0	93.5
68	18	8453	2.4	11.9507	5.1	2.4150	6.2	0.2093	3.6	0.58	1225.2	40.0	1247.1	44.6	1285.0	98.6	1285.0	98.6	95.3
36	152	72498	1.5	10.0681	0.2	3.4464	1.1	0.2517	1.1	0.98	1447.0	14.2	1515.0	8.8	1611.4	4.2	1611.4	4.2	89.8
16	351	169440	1.8	9.8682	0.3	3.9646	1.8	0.2837	1.8	0.98	1610.2	25.3	1627.0	14.6	1648.7	5.9	1648.7	5.9	97.7
64	191	70477	1.8	9.4690	0.6	4.2596	6.3	0.2925	6.3	1.00	1654.2	91.2	1685.6	51.7	1724.9	10.6	1724.9	10.6	95.9
31	322	169511	3.2	9.3391	0.4	4.0468	3.1	0.2741	3.0	0.99	1561.6	42.2	1643.6	25.0	1750.2	7.6	1750.2	7.6	89.2
17	254	133969	1.3	8.8422	0.3	4.1690	4.9	0.2674	4.9	1.00	1527.4	66.9	1668.0	40.4	1849.7	4.9	1849.7	4.9	82.6
43	131	180703	2.2	5.5289	0.2	11.1625	2.5	0.4476	2.5	1.00	2384.6	49.8	2536.8	23.4	2660.8	3.2	2660.8	3.2	89.6

Table DR6. U–Pb data for detrital zircon analyses

						Isotope ratios					Apparent ages (Ma)							
Spot	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
8D27-10																			
1	116	23078	0.5	17.8046	2.2	0.6248	2.5	0.0807	1.1	0.47	500.2	5.5	492.9	9.6	458.9	48.3	500.2	5.5	109.0
73	517	201519	42.0	17.1791	1.0	0.6749	1.2	0.0841	0.8	0.62	520.5	3.8	523.7	5.1	537.7	21.3	520.5	3.8	96.8
60	740	434697	11.7	17.2390	0.6	0.6750	1.7	0.0844	1.6	0.93	522.3	8.0	523.7	7.0	530.1	13.9	522.3	8.0	98.5
4	352	358110	9.2	16.1286	3.3	0.7250	4.7	0.0848	3.3	0.70	524.8	16.4	553.6	19.9	674.2	71.5	524.8	16.4	77.8
62	757	213979	2.4	17.1759	0.5	0.6923	0.8	0.0862	0.6	0.77	533.3	3.2	534.2	3.3	538.1	11.2	533.3	3.2	99.1
13	190	31804	1.8	17.2333	2.3	0.6968	2.7	0.0871	1.4	0.52	538.3	7.2	536.9	11.1	530.8	49.9	538.3	7.2	101.4
37	70	32054	1.4	17.2906	6.1	0.6968	6.3	0.0874	1.4	0.22	540.0	7.3	536.9	26.2	523.5	134.6	540.0	7.3	103.2
75	353	80437	1.2	17.0952	1.7	0.7098	1.8	0.0880	0.7	0.37	543.7	3.6	544.6	7.7	548.4	36.9	543.7	3.6	99.1
24	128	24879	2.2	16.9638	2.7	0.7188	4.0	0.0884	3.0	0.74	546.3	15.6	550.0	17.1	565.2	59.0	546.3	15.6	96.7
51	123	42497	1.0	16.7343	2.5	0.7297	2.8	0.0886	1.3	0.47	547.0	7.0	556.4	12.1	594.8	54.0	547.0	7.0	92.0
46	134	60325	1.8	17.1311	2.3	0.7141	2.5	0.0887	1.1	0.43	548.0	5.7	547.2	10.6	543.8	49.4	548.0	5.7	100.8
6	560	129956	1.4	16.9786	0.7	0.7239	1.4	0.0891	1.3	0.88	550.5	6.7	553.0	6.1	563.3	14.8	550.5	6.7	97.7
8	238	74350	1.5	17.0424	1.3	0.7223	1.7	0.0893	1.1	0.62	551.3	5.6	552.0	7.3	555.1	29.4	551.3	5.6	99.3
87	136	32603	1.0	17.5450	4.0	0.7039	4.2	0.0896	1.2	0.28	553.0	6.1	541.1	17.4	491.4	87.9	553.0	6.1	112.5
26	89	33652	2.2	17.1518	4.3	0.7208	4.5	0.0897	1.2	0.28	553.5	6.6	551.1	19.0	541.2	94.1	553.5	6.6	102.3
40	320	101507	0.9	16.8722	1.1	0.7414	1.3	0.0907	0.8	0.58	559.9	4.1	563.2	5.8	577.0	23.8	559.9	4.1	97.0
78	573	131917	4.6	16.9591	0.8	0.7421	1.2	0.0913	0.9	0.76	563.1	4.7	563.6	5.0	565.8	16.5	563.1	4.7	99.5
16	481	172900	3.6	16.7833	0.7	0.7513	1.1	0.0914	0.9	0.78	564.1	4.6	569.0	4.8	588.5	15.0	564.1	4.6	95.9
28	442	94934	3.1	17.0242	1.0	0.7412	1.3	0.0915	0.9	0.65	564.5	4.6	563.1	5.7	557.4	22.1	564.5	4.6	101.3
30	107	23893	1.4	17.1314	5.2	0.7414	5.5	0.0921	1.6	0.29	568.1	8.7	563.2	23.6	543.7	114.1	568.1	8.7	104.5
52	284	89556	4.5	16.8872	1.0	0.7543	1.1	0.0924	0.5	0.46	569.6	2.7	570.7	4.8	575.1	21.3	569.6	2.7	99.1
72	229	84338	1.0	16.9672	1.1	0.7511	1.5	0.0924	1.0	0.70	569.9	5.6	568.8	6.4	564.8	22.9	569.9	5.6	100.9
71	227	23433	22.2	16.6565	1.7	0.7697	2.9	0.0930	2.3	0.81	573.1	12.7	579.6	12.6	604.9	36.1	573.1	12.7	94.8
2	807	189117	34.1	16.6904	0.6	0.7683	1.0	0.0930	0.7	0.78	573.3	4.1	578.8	4.2	600.5	12.9	573.3	4.1	95.5
85	52	18919	3.1	16.9805	5.6	0.7610	6.0	0.0937	2.0	0.34	577.5	11.1	574.6	26.2	563.1	122.6	577.5	11.1	102.6
44	221	174383	1.8	16.9445	2.4	0.7697	3.3	0.0946	2.2	0.68	582.6	12.4	579.6	14.5	567.7	52.7	582.6	12.4	102.6
35	325	61838	2.2	16.4576	0.7	0.7964	2.0	0.0951	1.9	0.94	585.4	10.7	594.8	9.2	630.8	15.5	585.4	10.7	92.8
67	524	296194	8.3	16.2674	1.0	0.8098	3.2	0.0955	3.1	0.95	588.3	17.3	602.4	14.7	655.8	21.4	588.3	17.3	89.7
20	162	63523	3.7	16.9052	3.0	0.7805	4.0	0.0957	2.7	0.67	589.1	15.2	585.8	17.8	572.7	64.5	589.1	15.2	102.9
99	361	138223	3.6	16.8816	0.9	0.7860	1.7	0.0962	1.5	0.85	592.3	8.4	588.9	7.8	575.8	19.6	592.3	8.4	102.9
10	318	163363	12.0	16.4684	1.0	0.8067	1.5	0.0964	1.1	0.74	593.0	6.3	600.6	6.8	629.4	21.5	593.0	6.3	94.2
11	538	195561	11.6	16.8888	0.8	0.7885	3.0	0.0966	2.9	0.96	594.3	16.3	590.3	13.4	574.8	17.3	594.3	16.3	103.4
31	130	27666	0.7	16.7543	2.4	0.7970	2.6	0.0968	0.9	0.35	595.9	5.1	595.1	11.5	592.2	51.8	595.9	5.1	100.6
18	298	228324	2.1	16.7944	1.5	0.8049	2.3	0.0980	1.7	0.75	602.9	10.0	599.6	10.5	587.0	33.3	602.9	10.0	102.7
42	71	32218	2.7	16.8063	3.7	0.8147	4.4	0.0993	2.4	0.54	610.3	13.8	605.1	20.2	585.5	81.3	610.3	13.8	104.2
84	2781	84690	45.6	16.7150	0.2	0.8257	1.9	0.1001	1.9	1.00	615.0	11.1	611.2	8.7	597.3	4.0	615.0	11.1	103.0
82	172	68348	4.9	15.6730	2.7	0.8882	3.1	0.1010	1.4	0.45	620.0	8.2	645.4	14.6	735.2	57.8	620.0	8.2	84.3
70	458	255559	6.5	16.2732	0.4	0.8808	5.5	0.1040	5.4	1.00	637.6	33.0	641.4	25.9	655.0	9.5	637.6	33.0	97.3
41	158	57649	2.0	16.4387	2.1	0.8742	2.4	0.1042	1.3	0.53	639.1	7.8	637.9	11.6	633.3	44.7	639.1	7.8	100.9
98	511	221110	1.4	16.3743	1.0	0.8797	2.5	0.1045	2.3	0.91	640.5	14.1	640.8	12.1	641.8	22.6	640.5	14.1	99.8
12	240	92799	3.0	16.0033	0.8	0.9426	1.8	0.1094	1.6	0.89	669.3	10.1	674.3	8.9	690.8	17.9	669.3	10.1	96.9
45	66	30584	1.3	16.1452	5.5	0.9619	6.6	0.1126	3.5	0.54	688.0	23.1	684.3	32.7	672.0	118.7	688.0	23.1	102.4
86	352	56075	1.3	15.0494	1.5	1.0905	1.9	0.1190	1.2	0.63	724.9	8.3	748.7	10.2	820.5	31.2	724.9	8.3	88.4
54	646	708132	7.0	15.2598	1.0	1.0985	2.5	0.1216	2.2	0.91	739.6	15.5	752.6	13.0	791.4	21.9	739.6	15.5	93.5
32	216	54614	1.6	15.0151	3.1	1.1491	5.5	0.1251	4.5	0.82	760.1	32.2	776.8	29.7	825.3	65.5	760.1	32.2	92.1
38	225	106757	2.4	14.5365	1.1	1.2920	2.4	0.1362	2.1	0.89	823.2	16.2	842.2	13.5	892.5	22.3	823.2	16.2	92.2
21	387	560075	1.6	14.1290	0.6	1.3730	1.8	0.1407	1.7	0.94	848.6	13.7	877.4	10.8	950.9	12.9	848.6	13.7	89.2
88	244	180641	1.7	14.6202	1.0	1.4000	1.4	0.1484	0.9	0.67	892.2	7.7	888.9	8.3	880.6	21.5	892.2	7.7	101.3
7	663	181475	2.3	14.4348	0.4	1.4186	1.0	0.1485	0.9	0.93	892.6	7.7	896.8	5.9	907.0	7.3	892.6	7.7	98.4
53	349	168135	5.3	14.2448	0.5	1.4693	2.8	0.1518	2.8	0.99	911.0	23.9	917.8	17.2	934.2	9.5	934.2	9.5	97.5
39	168	82961	2.8	13.9314	1.5	1.6312	1.7	0.1648	0.7	0.43	983.5	6.5	982.3	10.4	979.7	30.4	979.7	30.4	100.4
33	809	177542	2.5	13.8609	0.4	1.5531	1.8	0.1561	1.7	0.97	935.2	15.2	951.7	11.1	990.1	8.6	990.1	8.6	94.5
61	195	93970	5.7	13.8458	1.0	1.5985	3.3	0.1605	3.1	0.95	959.6	27.8	969.6	20.4	992.3	19.9	992.3	19.9	96.7
57	35	18837	1.5	13.8203	3.8	1.6400	4.8	0.1644	2.9	0.61	981.1	26.4	985.7	30.0	996.0	76.7	996.0	76.7	98.5
80	424	135515	1.7	13.8018	0.5	1.6325	0.8	0.1634	0.6	0.74	975.7	5.3	982.8	5.0	998.7	10.9	998.7	10.9	97.7
90	150	6033	2.4	13.7314	2.9	1.4965	3.1	0.1490	1.2	0.38	895.6	9.9	929.0	19.1	1009.1	58.9	1009.1	58.9	88.8
77	179	78539	2.3	13.7112	0.7	1.6585	3.0	0.1649	2.9	0.98	984.1	26.7	992.8	19.0	1012.1	13.4	1012.1	13.4	97.2
17	247	272277	1.3	13.6678	0.6	1.7498	3.9	0.1735	3.9	0.99	1031.1	37.0	1027.1	25.4	1018.5	12.3	1018.5	12.3	101.2
63	251	125597	1.0	13.6466	1.0	1.6926	1.1	0.1675	0.6	0.50	998.4	5.2	1005.7	7.3	1021.6	20.1	1021.6	20.1	97.7
22	73	57719	1.1	13.6133	2.2	1.7117	2.9	0.1690	1.8	0.63	1006.6	16.8	1012.9	18.3	1026.6	44.8	1026.6	44.8	98.1
74	163	95946	4.1	13.5856	1.1	1.7352	1.9	0.1710	1.5	0.82	1017.5	14.4	1021.7	12.0	1030.7	21.8	1030.7	21.8	98.7
92	263	170261	3.6	13.5533	0.7	1.7168	0.9	0.1688	0.5	0.63	1005.2	5.0	1014.8	5.5	1035.5	13.4	1035.5	13.4	97.1
69	357	132472	2.0	13.5298	0.7	1.8044	0.9	0.1771	0.7	0.71	1050.9	6.5	1047.0	6.1	1039.0	13.4	1039.0	13.4	101.1
79	409	543156	1.0	13.4865	0.5	1.7310	1.3	0.1693	1.2	0.92	1008.4	11.0	1020.1	8.3	1045.5	10.2	1045.5	10.2	96.4
96	177	72428	1.6	13.3517	1.2	1.6826	5.8	0.1629	5.7	0.98	973.0	51.2	1001.9	36.9	1065.7	24.0	1065.7	24.0	91.3
10	450	330767	2.2	13.2593	0.5	1.8126	2.3	0.1743	2.2	0.98	1035.8	21.3	1050.0	14.9	1079.7	9.4	1079.7	9.4	95.9
5	66	41758	1.8	13.2322	2.1	1.8441	2.2	0.1770	0.6	0.29	1050.4	6.2	1061.3	14.3	1083.8	41.7	1083.8	41.7	96.9
65	301	136339	1.1	13.2223	0.7	1.9400	1.3	0.1860	1.0	0.82	1099.9	10.4	1095.0	8.4	1085.3	14.5	1085.3	14.5	101.3
3	218	141089	2.4	13.2014	0.7	1.7586	2.9	0.1684	2.8	0.97	1003.2	26.4	1030.3	19.0	1088.5	14.3	1088.5	14.3	92.2
59	362	184862	2.0	13.1922	0.5	1.9177	2.6	0.1835	2.6	0.98	1086.0	25.5	1087.3	17.4	1089.8	10.1	1089.8	10.1	99.6
89	97	51042	2.0	13.1467	1.4	1.9146	1.8	0.1826	1.2	0.65	1080.9	11.7	1086.2	12.0	1096.8	27.4	1096.8	27.4	98.6
95	565	186981	3.4	13.1380	0.3	1.9230	1.0	0.1832	0.9	0.96	1084.6	9.5	1089.1	6.6	1098.1	5.5	1098.1	5.5	98.8
34	185	78613	2.4	13.1370	1.3	1.8843	1.4	0.1795	0.4	0.26	1064.4	3.5	1075.6	9.2	1098.2	26.9	1098.2	26.9	96.9
58	48	37259	1.7	13.1083	2.3	1.8940	2.7	0.1801	1.3	0.48	1067.3	12.5	1079.0	17.6	1102.6	46.5	1102.6	46.5	96.8
93	352	378556	2.3	12.9412	0.6	1.8340	2.5	0.1721	2.4	0.97	1023.9	22.8	1057.7	16.4	1128.3	12.7	1128.3	12.7	90.7
50	66	40507	2.1	12.7247	2.1	2.1117	3.0	0.1949	2.1	0.69	1147.8	21.7	1152.6	20.4	1161.7	42.3	1161.7	42.3	98.8
25	280	159095	4.7	12.6101	0.4	2.1522	6.0	0.1968	6.0	1.00	1158.3	63.4	1165.8	41.6	1179.7	8.2	1179.7	8.2	98.2
43	183	133486	1.1	12.3924	0.9	2.3381	1.7	0.2101	1.5	0.86	1229.6	16.6	1224.0	12.3	1214.0	17.5	1214.0	17.5	101.3
55	194	88356	1.3	12.2323	0.5	2.3670	1.2	0.2100	1.1	0.92	1228.8	11.9	1232.7	8.3	1239.6	8.9	1239.6	8.9	99.1
15	144	140502	0.2	11.3159	0.6	2.9960	1.3	0.2459	1.2	0.90	1417.2	15.0	1406.6	10.1	1390.5	11.3	1390.5	11.3	101.9
91	133	175471	1.5	11.2402	0.6	2.9757	0.8	0.2426	0.5	0.67	1400.1	6.6	1401.4	5.9	1403.4	11.0	1403.4	11.0	99.8
81	163	153148	2.0	11.2106	0.5	2.8407	1.1	0.2310	1.0	0.90	1339.6	11.8	1366.4	8.1	1408.5	9.1	1408.5	9.1	95.1
27	49	37670	1.2	10.9831	2.3	3.1693	2.5	0.2525	1.0	0.40	1451.1	13.0	1449.7	19.2	1447.6	43.3	1447.6	43.3	100.2
94	164	108613	2.0	10.9592	4.8	3.2075	5.0	0.2549	1.1	0.21	1463.9	13.9	1459.0	38.4	1451.7	92.2	1451.7	92.2	100.8
76	81	113795	0.9	10.1760	1.1	3.7989	1.2	0.2804	0.4	0.36	1593.2	6.1	1592.5	9.7	1591.5	21.1	1591.5	21.1	100.1
36	473	166143	1.5	9.4124	0.2	4.0644	1.7	0.2775	1.6	0.99	1578.6	23.0	1647.2	13.5	1735.9	3.0	1735.9	3.0	90.9
47	113	59967	1.1	9.4022	0.5	4.5075	1.9	0.3074	1.8	0.96	1727.8	27.8	1732.4	15.9	1737.9	9.7	1737.9	9.7	99.4
56	247	97954	2.6	9.1688	0.2	4.5776	0.9	0.3044	0.9	0.96	1713.1	13.1	1745.2	7.5	1783.9	4.3	1783.9	4.3	96.0
66	1131	836799	4.1	8.9661	0.3	4.5807	4.7	0.2979	4.7	1.00	1680.8	69.7	1745.8	39.3	1824.5	4.6	1824.5	4.6	92.1
83	184	154792	2.2	6.8446	0.4	8.7318	3.0	0.4335	3.0	0.99	2321.3	58.5	2310.4	27.6	2300.8	7.4	2300.8	7.4	100.9
23	153	221734	1.1	5.3518	0.2	13.4395	0.6	0.5216	0.5	0.93	2706.2	12.1	2711.0	5.6	2714.7	3.4	2714.7	3.4	99.7
64	129	292508	2.1	3.2904	1.0	29.0661	1.9	0.6936	1.6	0.85	3396.5	43.4	3455.8	19.0	3490.3	15.7	3490.3	15.7	97.3

1. All uncertainties are reported at the 1-sigma level, and include only measurement errors. Systematic errors would increase the uncertainty of clusters of ages by 1-2%.
2. U concentration and U/Th are calibrated relative to our Sri Lanka zircon and are accurate to ~20%.
3. Common Pb correction is from ^{204}Pb, with composition interpreted from Stacey and Kramers (1975) and uncertainties of 1.0 for ^{206}Pb/^{204}Pb, 0.3 for ^{207}Pb/^{204}Pb, and 2.0 for ^{208}Pb/^{204}Pb.
4. U/Pb and ^{206}Pb/^{207}Pb fractionation is calibrated relative to fragments of a large Sri Lanka zircon of 563.5 ± 3.2 Ma (2-sigma).
5. U decay constants and composition as follows: ^{238}U = 9.8485 x 10^{-10}, ^{235}U = 1.55125 x 10^{-10}, ^{238}U/^{235}U = 137.88

Table DR7. Whole-rock oxygen isotope results

Sample	Std/Unkn	mg	µml	µml/mg	$\delta^{18}O$ raw	$\delta^{18}O$ crrtd (smow)
UWG-2	std	2.50	32.1	12.8	5.68	
UWG-2	std	2.95	38.4	13.0	5.66	
UWG-2	std	3.36	41.3	12.3	5.83	
UWG-2	std	4.00	51.2	12.8	5.80	
K6-SR29a	WR	2.53	36.3	14.3	12.73	12.77
K6-SR30	WR	2.58	38.2	14.8	13.44	13.48
K6-SR32	WR	3.09	45.4	14.7	9.96	10.00
10CY-001	WR	2.41	35.4	14.7	-6.89	-6.85
10CY-002	WR	2.74	39.7	14.5	-9.16	-9.12
Y2-MP098	WR	2.77	40.4	14.6	11.98	12.02
Y2-BR086	WR	2.44	35.9	14.7	10.00	10.04
Y2-MD092	WR	2.97	42.3	14.2	13.29	13.33
UWG-2	std	3.06	39.7	13.0	5.81	

Notes:
UWG-2: n= 5, x = 5.76, ± 0.08, 1 St. Dev.

Table DR8. Hf isotope analyses for detrital zircons

Spot	Age (Ma)	(^{176}Yb + ^{176}Lu) /^{176}Hf (%)	Volts Hf	^{176}Hf/^{177}Hf	± (1s)	^{176}Lu/^{177}Hf	^{176}Hf/^{177}Hf $_{(t)}$	$\varepsilon_{Hf(0)}$	± 1s	$\varepsilon_{Hf(t)}$
Y2-MP098										
6	595	9.3	2.5	0.281726	0.000031	0.000689	0.281719	-37.4	1.1	-24.5
9	541	6.9	2.2	0.282313	0.000031	0.000407	0.282309	-16.7	1.1	-4.8
10	1819	17.6	2.3	0.281711	0.000041	0.001156	0.281671	-38.0	1.5	1.7
12	1117	18.4	2.2	0.282223	0.000030	0.001230	0.282197	-19.9	1.0	4.3
13	1168	57.6	1.5	0.282246	0.000048	0.003033	0.282179	-19.1	1.7	4.8
14	2782	13.4	1.9	0.280949	0.000030	0.000802	0.280906	-64.9	1.1	-3.1
16	1023	14.3	2.7	0.282312	0.000028	0.000787	0.282297	-16.7	1.0	5.7
17	947	17.9	1.7	0.282286	0.000041	0.001110	0.282266	-17.7	1.5	2.8
19	770	28.2	2.3	0.282312	0.000036	0.001681	0.282288	-16.7	1.3	-0.4
21	1054	8.1	2.2	0.282380	0.000038	0.000499	0.282370	-14.3	1.3	9.0
22	551	2.8	2.3	0.282295	0.000029	0.000167	0.282293	-17.3	1.0	-5.1
27	1046	11.6	2.1	0.282226	0.000028	0.000703	0.282212	-19.8	1.0	3.2
33	508	36.5	2.5	0.282236	0.000038	0.002256	0.282214	-19.4	1.4	-8.9
35	982	36.2	1.7	0.282273	0.000044	0.002210	0.282232	-18.1	1.6	2.4
40	998	9.3	1.6	0.282116	0.000037	0.000607	0.282105	-23.7	1.3	-1.7
43	589	2.2	2.1	0.282439	0.000029	0.000129	0.282437	-12.3	1.0	0.8
46	567	11.9	2.2	0.282375	0.000029	0.000714	0.282367	-14.5	1.0	-2.1
47	568	10.1	2.3	0.282281	0.000037	0.000601	0.282275	-17.8	1.3	-5.4
48	955	25.7	2.1	0.282187	0.000040	0.001441	0.282161	-21.2	1.4	-0.7
49	1868	9.7	2.3	0.281521	0.000031	0.000578	0.281500	-44.7	1.1	-3.3
50	525	5.4	2.1	0.282329	0.000044	0.000326	0.282326	-16.1	1.6	-4.5
53	1068	10.4	2.1	0.282209	0.000033	0.000613	0.282196	-20.4	1.2	3.1
54	1062	10.2	2.0	0.281984	0.000039	0.000611	0.281972	-28.3	1.4	-5.0
58	1731	17.3	2.0	0.281510	0.000038	0.001024	0.281476	-45.1	1.4	-7.3
61	797	12.5	2.2	0.282290	0.000031	0.000853	0.282277	-17.5	1.1	-0.2
62	613	30.6	2.6	0.282071	0.000034	0.001822	0.282050	-25.2	1.2	-12.3
64	1166	4.3	2.3	0.281896	0.000030	0.000212	0.281891	-31.4	1.1	-5.5
65	1090	18.0	2.0	0.282139	0.000035	0.001041	0.282118	-22.8	1.2	0.9
67	1704	15.4	2.0	0.281249	0.000039	0.000946	0.281218	-54.3	1.4	-17.1
70	965	34.5	2.3	0.282129	0.000035	0.001954	0.282093	-23.2	1.2	-2.9
71	686	19.1	1.8	0.282342	0.000038	0.001147	0.282328	-15.6	1.3	-0.9
72	1679	9.6	2.4	0.281849	0.000033	0.000555	0.281831	-33.1	1.2	4.1
75	644	8.0	2.6	0.282446	0.000036	0.000459	0.282440	-12.0	1.3	2.2
76	570	0.9	2.8	0.282492	0.000027	0.000052	0.282491	-10.4	1.0	2.3
78	1749	12.8	2.5	0.281583	0.000033	0.000733	0.281559	-42.5	1.2	-3.9
80	1081	17.0	2.2	0.282401	0.000036	0.001386	0.282372	-13.6	1.3	9.7
82	550	8.5	2.8	0.282295	0.000031	0.000475	0.282291	-17.3	1.1	-5.2
87	2018	16.3	2.7	0.281202	0.000033	0.000893	0.281168	-56.0	1.2	-11.6
90	1721	13.5	2.2	0.281921	0.000037	0.000869	0.281893	-30.5	1.3	7.3
91	1788	28.1	2.6	0.281651	0.000032	0.001647	0.281596	-40.1	1.1	-1.7
95	576	1.3	3.1	0.282245	0.000038	0.000060	0.282244	-19.1	1.3	-6.3
96	1402	28.1	2.3	0.282070	0.000040	0.001567	0.282029	-25.3	1.4	4.8
97	515	18.7	2.7	0.282307	0.000024	0.001198	0.282295	-16.9	0.8	-5.9
98	699	14.7	2.0	0.282600	0.000027	0.000884	0.282589	-6.5	1.0	8.7
102	607	12.0	2.5	0.282436	0.000035	0.000736	0.282428	-12.3	1.2	0.9

Table DR8. Hf isotope analyses for detrital zircons

Spot	Age (Ma)	(^{176}Yb + ^{176}Lu) /^{176}Hf (%)	Volts Hf	^{176}Hf/^{177}Hf	± (1s)	^{176}Lu/^{177}Hf	^{176}Hf/^{177}Hf $_{(t)}$	$\varepsilon_{Hf(0)}$	± 1s	$\varepsilon_{Hf(t)}$
Y2-MD092										
2	799	19.3	3.0	0.282457	0.000032	0.001080	0.282441	-11.6	1.1	5.7
5	2740	37.2	3.3	0.280989	0.000032	0.002148	0.280876	-63.5	1.1	-5.2
9	1049	36.1	3.1	0.282386	0.000033	0.002198	0.282342	-14.1	1.2	7.9
10	1864	19.6	2.5	0.281583	0.000031	0.001227	0.281540	-42.5	1.1	-2.0
11	1031	13.6	2.7	0.282194	0.000031	0.000839	0.282178	-20.9	1.1	1.6
12	937	13.6	2.5	0.281880	0.000035	0.000826	0.281865	-32.0	1.2	-11.6
14	2565	4.1	3.3	0.281063	0.000026	0.000236	0.281052	-60.9	0.9	-3.0
18	1455	22.0	2.9	0.282025	0.000026	0.001347	0.281988	-26.9	0.9	4.5
21	525	10.7	3.2	0.282265	0.000030	0.000602	0.282259	-18.4	1.0	-6.9
23	1151	12.0	2.8	0.282245	0.000029	0.000712	0.282230	-19.1	1.0	6.2
27	480	35.8	2.3	0.282644	0.000035	0.002037	0.282626	-5.0	1.3	5.1
29	435	8.4	1.8	0.282135	0.000039	0.000476	0.282131	-23.0	1.4	-13.4
31	2830	17.6	3.6	0.280864	0.000032	0.000943	0.280813	-67.9	1.1	-5.3
32	585	7.6	2.6	0.282386	0.000030	0.000455	0.282381	-14.1	1.1	-1.2
38	570	2.9	2.9	0.282331	0.000035	0.000178	0.282329	-16.0	1.2	-3.4
41	1066	17.9	2.4	0.282305	0.000034	0.000960	0.282285	-17.0	1.2	6.2
43	1802	44.0	2.7	0.281579	0.000028	0.002587	0.281490	-42.7	1.0	-5.2
45	711	9.1	2.6	0.282246	0.000025	0.000554	0.282239	-19.1	0.9	-3.5
45A	711	60.6	2.3	0.282474	0.000054	0.004084	0.282420	-11.0	1.9	3.0
47	574	0.5	2.8	0.282367	0.000040	0.000029	0.282367	-14.8	1.4	-2.0
48	1057	29.2	2.4	0.282198	0.000028	0.001617	0.282166	-20.7	1.0	1.8
55	2019	22.9	2.8	0.281348	0.000030	0.001238	0.281301	-50.8	1.1	-6.9
57	1100	27.9	3.2	0.282255	0.000032	0.001542	0.282223	-18.7	1.1	4.8
60	1022	36.4	3.0	0.282248	0.000032	0.002066	0.282209	-19.0	1.1	2.5
62	557	1.1	2.7	0.282361	0.000026	0.000068	0.282360	-15.0	0.9	-2.6
63	551	34.4	2.7	0.282281	0.000037	0.001760	0.282262	-17.8	1.3	-6.2
67	953	20.5	1.9	0.282205	0.000047	0.001129	0.282185	-20.5	1.6	0.1
70	765	9.5	2.4	0.282242	0.000030	0.000541	0.282234	-19.2	1.1	-2.4
72	1763	8.4	3.0	0.281525	0.000029	0.000526	0.281507	-44.6	1.0	-5.4
73	2640	39.9	2.3	0.281190	0.000037	0.002263	0.281075	-56.4	1.3	-0.4
74	1726	6.4	3.1	0.281736	0.000022	0.000482	0.281720	-37.1	0.8	1.3
75	1028	8.6	2.2	0.282306	0.000030	0.000540	0.282296	-16.9	1.1	5.7
78	557	76.3	2.2	0.282493	0.000036	0.004576	0.282445	-10.3	1.3	0.4
79	1115	15.8	2.7	0.282280	0.000029	0.000973	0.282259	-17.9	1.0	6.4
81	599	0.8	2.9	0.282542	0.000024	0.000045	0.282542	-8.6	0.9	4.8
82	1816	10.9	2.2	0.281482	0.000027	0.000735	0.281456	-46.1	1.0	-6.0
83	541	1.0	2.7	0.282399	0.000030	0.000077	0.282398	-13.7	1.0	-1.6
85	488	4.6	2.6	0.282440	0.000033	0.000307	0.282437	-12.2	1.2	-1.4
86	622	10.4	2.5	0.282424	0.000032	0.000613	0.282417	-12.8	1.1	0.9
90	564	20.9	2.1	0.282070	0.000045	0.001381	0.282055	-25.3	1.6	-13.2
92	979	23.6	2.1	0.282418	0.000039	0.001619	0.282388	-13.0	1.4	7.9
94	3034	16.3	1.9	0.280714	0.000039	0.001013	0.280655	-73.2	1.4	-6.1
95	1027	14.2	2.1	0.282384	0.000038	0.000915	0.282366	-14.2	1.3	8.2
96	527	83.8	1.8	0.282459	0.000060	0.004933	0.282411	-11.5	2.1	-1.5
99	1746	11.9	2.3	0.281781	0.000030	0.000815	0.281754	-35.5	1.1	2.9
100	878	12.6	1.9	0.282257	0.000040	0.000939	0.282242	-18.7	1.4	0.4
103	1040	8.6	2.3	0.282332	0.000024	0.000509	0.282322	-16.0	0.8	6.9
104	1775	1.2	2.9	0.281607	0.000020	0.000075	0.281604	-41.7	0.7	-1.7
105	1254	10.5	2.3	0.282219	0.000031	0.000668	0.282203	-20.0	1.1	7.6

Notes;

^{176}Lu decay constant of 1.867×10^{-11} (Soderlund et al. 2004).

^{176}Hf/^{177}Hf and ^{176}Lu/^{177}Hf CHUR values of 0.282785 and 0.0336 (Bouvier et al. 2008).

Table DR9. Hf and O isotope analyses of zircons from granites

spot	assigned age (Ma)	$^{18}O/^{16}O$	$\pm10^{-7}$	$\delta^{18}O$ ‰	± 2 S.E.	$^{176}Hf/^{177}Hf$	$\pm10^{-6}$	$^{176}Lu/^{177}Hf$	$\pm10^{-5}$	$\varepsilon_{Hf(0)}$	$^{176}Hf/^{177}Hf_{(t)}$	$\varepsilon_{Hf(t)}$	± 2 S.E.
MB.214.1W (Yakymchuk et al., 2013)													
1	377	0.0020390	2	7.10	0.48	0.282626	22	0.000769	1	-5.6	0.282621	2.6	0.8
2	377	0.0020411	5	8.11	0.52	0.282634	28	0.001273	4	-5.3	0.282625	2.8	1.0
3	377	0.0020375	5	6.36	0.53	0.282597	23	0.000939	4	-6.6	0.282590	1.5	0.8
5	377	0.0020388	4	7.00	0.51	0.282638	24	0.000937	2	-5.2	0.282632	3.0	0.8
6	377	0.0020391	5	7.13	0.53	0.282597	29	0.001386	3	-6.7	0.282587	1.4	1.0
7	377	0.0020389	6	7.05	0.54	0.282619	27	0.001238	3	-5.9	0.282610	2.2	1.0
8	377	0.0020400	6	7.56	0.55	0.282678	30	0.002069	8	-3.8	0.282663	4.1	1.1
9	377	0.0020479	6	11.46	0.54	0.282656	24	0.000998	3	-4.6	0.282649	3.6	0.9
10	377	0.0020384	4	6.80	0.51	0.282642	31	0.001181	9	-5.1	0.282633	3.0	1.1
12	377	0.0020395	5	7.34	0.53	0.282602	46	0.000851	6	-6.5	0.282596	1.7	1.6
13	377	0.0020386	4	6.89	0.51	0.282659	31	0.000788	5	-4.5	0.282653	3.7	1.1
14	377	0.0020395	4	7.32	0.50	0.282603	47	0.001346	6	-6.4	0.282593	1.6	1.7
MB.219.1W (Yakymchuk et al., 2013)													
1	373	0.0020397	2	7.44	0.49	0.282601	28	0.001647	4	-6.5	0.282589	1.4	1.0
2	373	0.0020377	6	6.44	0.50	0.282660	27	0.001058	4	-4.4	0.282653	3.6	1.0
3	373	0.0020392	6	7.20	0.52	0.282622	31	0.001884	7	-5.8	0.282609	2.1	1.1
4	373	0.0020410	8	8.07	0.51	0.282571	22	0.001708	4	-7.6	0.282559	0.3	0.8
5	373	0.0020388	7	7.01	0.50	0.282585	25	0.001879	2	-7.1	0.282572	0.8	0.9
6	373	0.0020384	2	6.78	0.49	0.282611	26	0.001522	3	-6.1	0.282601	1.8	0.9
7	811	0.0020346	7	4.93	0.48	0.282179	26	0.001214	2	-21.4	0.282160	-4.0	0.9
9	373	0.0020391	1	7.14	0.48	0.282668	31	0.001623	7	-4.1	0.282657	3.8	1.1
10	373	0.0020386	9	6.89	0.49	0.282571	28	0.001863	6	-7.6	0.282558	0.3	1.0
11.1	599	0.0020369	9	6.07	0.50	0.282170	23	0.000624	2	-21.7	0.282163	-8.6	0.8
11.2	373	0.0020363	8	5.77	0.50	–	–	–	–	–	–	–	–
912-2A													
1	345	0.0020472	6	8.69	0.52	0.282471	36	0.00168	4	-11.1	0.282460	-3.8	1.3
2	345	0.0020480	5	9.12	0.49	0.282573	75	0.00161	8	-7.5	0.282563	-0.2	2.7
5	345	0.0020462	5	8.21	0.50	0.282605	88	0.00152	9	-6.4	0.282595	1.0	3.1
8	345	0.0020478	5	9.02	0.51	0.282577	80	0.00104	8	-7.3	0.282571	0.1	2.8
9	345	0.0020468	4	8.50	0.48	0.282569	57	0.00114	6	-7.6	0.282562	-0.2	2.0
11	345	0.0020458	5	8.02	0.50	0.282621	50	0.00120	5	-5.8	0.282614	1.6	1.8
13	345	0.0020464	5	8.32	0.51	0.282439	13	0.00131	1	-12.2	0.282431	-4.8	0.5
14	345	0.0020470	4	8.60	0.47	0.282509	56	0.00140	6	-9.8	0.282500	-2.4	2.0
15	345	0.0020472	4	8.73	0.48	–	–	–	–	–	–	–	–
17	345	0.0020483	5	9.26	0.50	0.282189	24	0.00187	2	-21.1	0.282177	-13.8	0.8
18	345	0.0020478	5	9.01	0.51	0.282543	38	0.00155	4	-8.5	0.282533	-1.2	1.3
19	345	0.0020472	5	8.73	0.49	0.282559	100	0.00186	10	-8.0	0.282547	-0.7	3.5
20	345	0.0020468	5	8.52	0.50	0.282628	140	0.00117	14	-5.5	0.282621	1.9	5.0
21	345	0.0020475	5	8.88	0.50	0.282469	63	0.00174	6	-11.2	0.282458	-3.9	2.2
22	345	0.0020446	4	7.44	0.49	0.282479	150	0.00182	15	-10.8	0.282467	-3.5	5.3
9N27-4													
1	354	0.0020441	5	7.20	0.51	0.282455	30	0.00097	3	-11.7	0.282449	-4.0	1.1
3	354	0.0020447	6	7.50	0.53	0.282453	16	0.00086	2	-11.7	0.282448	-4.1	0.6
4	354	0.0020443	5	7.32	0.50	0.282511	42	0.00141	4	-9.7	0.282502	-2.1	1.5
5	354	0.0020451	5	7.70	0.49	0.282569	94	0.00121	9	-7.6	0.282561	0.0	3.3
7	354	0.0020458	4	8.02	0.48	0.282578	41	0.00134	4	-7.3	0.282569	0.2	1.5
8	354	0.0020437	5	7.01	0.49	0.282573	55	0.00138	6	-7.5	0.282564	0.1	1.9
10	354	0.0020447	6	7.49	0.52	0.282549	38	0.00101	4	-8.3	0.282543	-0.7	1.3
11	354	0.0020492	5	9.69	0.51	0.282458	76	0.00098	8	-11.6	0.282452	-3.9	2.7
12	354	0.0020490	5	9.60	0.50	0.282421	64	0.00127	6	-12.9	0.282413	-5.3	2.3
13	354	0.0020461	5	8.20	0.50	0.282431	13	0.00097	1	-12.5	0.282425	-4.9	0.5
14	354	0.0020469	5	8.56	0.50	0.282509	88	0.00112	9	-9.8	0.282502	-2.1	3.1
15	354	0.0020446	6	7.47	0.52	0.282556	41	0.00097	4	-8.1	0.282550	-0.4	1.5
18	354	0.0020446	5	7.45	0.51	0.282554	84	0.00081	8	-8.2	0.282549	-0.5	3.0
19	354	0.0020445	5	7.40	0.50	0.282531	18	0.00158	2	-9.0	0.282521	-1.5	0.6
20	354	0.0020450	6	7.66	0.52	0.282471	150	0.00073	15	-11.1	0.282466	-3.4	5.3

Table DR9. Hf and O isotope analyses of zircons from granites

spot	assigned age (Ma)	$^{18}O/^{16}O$	$\pm10^{-7}$	$\delta^{18}O$ ‰	± 2 S.E.	$^{176}Hf/^{177}Hf$	$\pm10^{-6}$	$^{176}Lu/^{177}Hf$	$\pm10^{-5}$	$\varepsilon_{Hf(0)}$	$^{176}Hf/^{177}Hf_{(t)}$	$\varepsilon_{Hf(t)}$	± 2 S.E.
51225-2													
1	364	0.0020465	3	9.96	0.37	0.282472	36	0.00200	3	-11.1	0.282459	-3.4	1.3
2	364	0.0020462	2	9.80	0.36	0.282561	41	0.00106	2	-7.9	0.282554	0.0	1.5
3	364	0.0020433	0	8.38	0.35	0.282565	37	0.00196	7	-7.8	0.282552	-0.1	1.3
5	364	0.0020464	1	9.89	0.35	0.282534	43	0.00160	2	-8.9	0.282524	-1.1	1.5
7.2	364	0.0020356	2	4.61	0.36	0.282497	37	0.00185	4	-10.2	0.282485	-2.5	1.3
8	364	0.0020457	0	9.55	0.35	0.282553	39	0.00132	1	-8.2	0.282545	-0.4	1.4
9.1	364	0.0020457	2	9.55	0.36	0.282432	36	0.00058	4	-12.5	0.282429	-4.5	1.3
9.2	364	0.0020443	1	8.85	0.36	0.282312	36	0.00003	0	-16.7	0.282312	-8.6	1.3
10	364	0.0020470	1	10.20	0.36	0.282499	32	0.00099	12	-10.1	0.282493	-2.2	1.1
11.2	364	0.0020441	2	8.79	0.36	0.282535	51	0.00183	10	-8.8	0.282523	-1.2	1.8
12	364	0.0020460	2	9.70	0.36	0.282577	52	0.00121	4	-7.3	0.282569	0.5	1.8
13	364	0.0020458	2	9.61	0.36	0.282498	33	0.00202	4	-10.1	0.282485	-2.5	1.2
15	364	0.0020449	1	9.14	0.35	0.282506	39	0.00123	3	-9.8	0.282498	-2.0	1.4
15.2	364	0.0020414	1	7.47	0.36	0.282295	34	0.00135	6	-17.3	0.282286	-9.5	1.2
17	364	0.0020477	1	10.54	0.35	0.282450	29	0.00146	11	-11.8	0.282441	-4.1	1.0
18	364	0.0020453	0	9.37	0.35	0.282516	40	0.00138	2	-9.5	0.282507	-1.7	1.4
19	364	0.0020456	2	9.48	0.36	0.282529	34	0.00168	7	-9.0	0.282518	-1.3	1.2
Y2-JU096													
1	367	0.0020421	1	7.40	0.30	0.282501	32	0.00184	3	-10.0	0.282489	-2.3	1.1
2	367	0.0020429	2	7.82	0.32	0.282560	41	0.00060	1	-7.9	0.282556	0.1	1.5
3	367	0.0020465	3	9.56	0.34	0.282516	51	0.00122	3	-9.5	0.282508	-1.6	1.8
4	377	0.0020459	1	9.28	0.30	0.282528	54	0.00271	25	-9.1	0.282510	-1.6	1.9
5	367	0.0020444	1	8.56	0.30	0.282561	44	0.00071	2	-7.9	0.282557	0.1	1.6
6.1	377	0.0020471	1	9.86	0.30	0.282466	51	0.00191	8	-11.3	0.282453	-3.6	1.8
6.2	367	0.0020458	3	9.23	0.34	0.282441	40	0.00153	9	-12.1	0.282431	-4.4	1.4
8	377	0.0020433	1	8.02	0.30	0.282541	38	0.00086	1	-8.6	0.282536	-0.7	1.3
9	367	0.0020455	0	9.09	0.30	0.282500	41	0.00125	6	-10.1	0.282492	-2.2	1.5
10	367	0.0020438	1	8.26	0.30	0.282459	45	0.00181	5	-11.5	0.282447	-3.8	1.6
11	367	0.0020448	2	8.72	0.30	0.282580	87	0.00119	7	-7.2	0.282572	0.6	3.1
12	377	0.0020453	1	8.99	0.30	0.282455	37	0.00115	2	-11.7	0.282448	-3.8	1.3
13	367	0.0020466	2	9.62	0.32	0.282489	49	0.00139	3	-10.4	0.282480	-2.6	1.7
14	377	0.0020453	2	8.97	0.31	0.282500	42	0.00206	6	-10.1	0.282486	-2.4	1.5
17	367	0.0020438	1	8.24	0.30	0.282527	37	0.00103	5	-9.1	0.282520	-1.2	1.3
18	367	0.0020463	2	9.47	0.30	0.282480	44	0.00113	6	-10.8	0.282473	-2.9	1.6
19	367	0.0020437	1	8.19	0.30	0.282587	56	0.00054	0	-7.0	0.282584	1.0	2.0
20	367	0.0020441	1	8.39	0.30	0.282609	41	0.00119	4	-6.2	0.282601	1.7	1.5
Y1-IG073													
1.1	362	0.0020473	4	10.32	0.38	0.282456	36	0.00070	1	-10.0	0.282452	-3.7	1.3
1.2	362	0.0020469	3	10.13	0.35	0.282464	29	0.00072	2	-11.9	0.282460	-3.5	1.1
2.1	362	0.0020458	1	9.59	0.35	0.282458	27	0.00160	9	-10.2	0.282448	-3.9	1.0
3.1	362	0.0020451	6	9.26	0.36	0.282489	27	0.00050	0	-10.6	0.282486	-2.5	1.0
4.1	362	0.0020473	6	10.36	0.36	0.282488	37	0.00122	2	-9.1	0.282480	-2.7	1.4
5.1	362	0.0020474	6	10.39	0.37	0.282489	43	0.00100	3	-9.5	0.282483	-2.6	1.6
6.1	362	0.0020457	1	9.55	0.36	0.282472	32	0.00095	2	-9.1	0.282466	-3.2	1.2
7.1	362	0.0020457	8	9.54	0.36	0.282481	34	0.00102	5	-8.8	0.282475	-2.9	1.3
8.1	362	0.0020460	9	9.70	0.35	0.282502	38	0.00060	2	-8.5	0.282498	-2.1	1.5
9.1	362	0.0020465	6	9.96	0.35	0.282465	38	0.00063	1	-8.2	0.282461	-3.4	1.4
10.1	362	0.0020460	4	9.71	0.36	0.282460	37	0.00087	3	-7.9	0.282455	-3.6	1.4
11.1	362	0.0020450	6	9.21	0.36	0.282461	32	0.00055	1	-7.6	0.282458	-3.5	1.2
13.1	362	0.0020435	1	8.49	0.35	0.282496	27	0.00147	2	-7.3	0.282487	-2.5	1.0
14.1	362	0.0020463	2	9.82	0.35	0.282465	37	0.00097	3	-7.0	0.282459	-3.5	1.4
15.2	362	0.0020449	7	9.17	0.35	0.282487	34	0.00059	4	-6.7	0.282483	-2.6	1.3
16.1	362	0.0020459	2	9.67	0.36	0.282474	34	0.00074	1	-6.4	0.282469	-3.1	1.3
18.1	362	0.0020438	1	8.64	0.36	0.282462	46	0.00086	2	-6.1	0.282457	-3.6	1.7
19.1	362	0.0020457	8	9.55	0.36	0.282472	33	0.00074	3	-5.7	0.282467	-3.2	1.2
20.1	362	0.0020450	6	9.23	0.36	0.282490	43	0.00087	6	-5.4	0.282485	-2.6	1.6
Y1-IG071													
1.1	360	0.0020461	2	9.37	0.31	0.282451	36	0.00103	12	-11.8	0.282445	-4.0	1.3
3.1	360	0.0020462	3	9.43	0.34	0.282483	45	0.00245	11	-10.7	0.282467	-3.2	1.6
4.1	100	0.0020478	1	10.19	0.30	0.282539	36	0.00144	1	-8.7	0.282537	-6.6	1.3
4.2	689	0.0020450	2	8.82	0.32	0.282340	45	0.00046	4	-15.7	0.282335	-0.6	1.6
4.3	360	0.0020481	2	10.36	0.30	0.282356	26	0.00084	2	-15.2	0.282351	-7.3	0.9
5.1	100	0.0020463	2	9.49	0.31	0.282540	28	0.00155	3	-8.6	0.282538	-6.5	1.0
6.1	100	0.0020474	2	10.00	0.31	0.282567	26	0.00126	2	-7.7	0.282565	-5.6	0.9
8.1	100	0.0020477	2	10.14	0.31	0.282565	50	0.00118	2	-7.8	0.282563	-5.6	1.8
8.2	1696	0.0020419	1	7.32	0.30	0.281601	37	0.00065	1	-41.9	0.281580	-4.4	1.3
9.1	100	0.0020470	1	9.83	0.30	0.282477	34	0.00095	4	-10.9	0.282476	-8.7	1.2
10.1	360	0.0020486	3	10.60	0.32	0.282365	29	0.00114	2	-14.8	0.282358	-7.1	1.0
12.1	360	0.0020482	1	10.42	0.30	0.282285	27	0.00042	9	-17.7	0.282283	-9.8	1.0
14.2	2277	0.0020418	2	7.27	0.31	0.281289	49	0.00052	2	-52.9	0.281266	-2.1	1.7
15.1	100	0.0020467	1	9.68	0.30	0.282596	55	0.00178	2	-6.7	0.282593	-4.6	1.9
16.1	100	0.0020462	4	9.43	0.35	0.282440	33	0.00105	6	-12.2	0.282439	-10.0	1.2
17.1	100	0.0020465	1	9.58	0.30	0.282498	33	0.00102	1	-10.1	0.282497	-8.0	1.2
18.1	360	0.0020474	2	10.01	0.32	0.282528	83	0.00106	2	-9.1	0.282521	-1.3	2.9
19.1	100	0.0020366	1	4.71	0.30	0.282343	46	0.00100	4	-15.6	0.282342	-13.5	1.6
19.2	923	0.0020372	1	4.98	0.30	0.282298	45	0.00096	4	-17.2	0.282282	2.9	1.6
20.1	100	0.0020469	1	9.79	0.30	0.282502	30	0.00088	1	-10.0	0.282501	-7.8	1.1
20.2	568	0.0020457	1	9.17	0.30	0.282320	39	0.00090	7	-16.4	0.282311	-4.1	1.4

Table DR9. Hf and O isotope analyses of zircons from granites

spot	assigned age (Ma)	$^{18}O/^{16}O$	$\pm10^{-7}$	$\delta^{18}O$ ‰	± 2 S.E.	$^{176}Hf/^{177}Hf$	$\pm10^{-6}$	$^{176}Lu/^{177}Hf$	$\pm10^{-5}$	$\varepsilon_{Hf(0)}$	$^{176}Hf/^{177}Hf_{(t)}$	$\varepsilon_{Hf(t)}$	± 2 S.E.
C5-I51a (Yakymchuk et al., 2013)													
1	353	0.0020490	6	9.57	0.36	0.282415	21	0.00103	10	-13.1	0.282408	-5.5	0.7
3	353	0.0020465	19	8.34	0.97	0.282591	26	0.00093	9	-6.9	0.282584	0.8	0.9
4	353	0.0020467	5	8.44	0.34	0.282509	30	0.00096	10	-9.8	0.282502	-2.1	1.1
7	1055	0.0020436	6	6.92	0.35	0.282221	41	0.00191	20	-19.9	0.282183	2.4	1.4
8	353	0.0020516	5	10.84	0.32	0.282498	34	0.00098	10	-10.1	0.282492	-2.5	1.2
9	353	–	–	–	–	0.282441	23	0.00106	11	-12.2	0.282434	-4.6	0.8
10	353	0.0020567	11	12.61	0.67	0.282492	30	0.00125	12	-10.4	0.282484	-2.8	1.1
12	353	0.0020566	16	12.58	0.88	–	–	–	–	–	–	–	–
13	353	0.0020565	5	12.53	0.47	0.282550	36	0.00048	5	-8.3	0.282547	-0.6	1.3
14	353	–	–	–	–	0.282479	27	0.00129	13	-10.8	0.282470	-3.3	1.0
M5-G175 (Yakymchuk et al., 2013)													
1.1	369	0.0020483	4	8.53	0.45	0.282565	27	0.00130	4	-7.8	0.282556	0.1	0.9
2.1	369	0.0020464	5	7.59	0.47	0.282386	22	0.00093	2	-14.1	0.282379	-6.1	0.8
2.2	630	0.0020403	5	4.63	0.48	–	–	–	–	–	–	–	–
3	369	0.0020458	4	8.75	0.28	0.282457	28	0.00160	3	-11.6	0.282446	-3.8	1.0
4	369	0.0020458	4	8.71	0.29	0.282463	50	0.00146	4	-11.4	0.282453	-3.5	1.8
5	369	0.0020437	4	6.26	0.46	0.282504	30	0.00115	2	-9.9	0.282496	-2.0	1.1
6	369	0.0020474	4	9.53	0.28	0.282570	78	0.00206	6	-7.6	0.282556	0.1	2.7
7	369	0.0020428	7	5.84	0.52	0.282569	30	0.00185	6	-7.6	0.282557	0.1	1.1
9	369	0.0020437	5	7.72	0.32	0.282544	21	0.00077	4	-8.5	0.282539	-0.5	0.7
10	369	0.0020462	3	8.95	0.24	0.282416	21	0.00104	2	-13.0	0.282409	-5.1	0.7
11	369	0.0020476	4	9.59	0.26	0.282403	40	0.00140	3	-13.5	0.282393	-5.7	1.4
15	369	0.0020420	3	6.85	0.25	0.282571	23	0.00102	1	-7.6	0.282564	0.4	0.8
16	369	0.0020459	3	8.77	0.25	0.282506	27	0.00110	4	-9.9	0.282498	-1.9	0.9

Notes;
^{176}Lu decay constant of 1.865×10^{-11} (Soderlund et al. 2004).
$^{176}Hf/^{177}Hf$ and $^{176}Lu/^{177}Hf$ CHUR values of 0.282785 and 0.0336 (Bouvier et al. 2008).

Table S10. *p* values for Kruskal-Wallis test of zircon εHf_t and δ18O distributions for pairs of Ford Granodiorite suite samples

εHf (zircon)	MB.219	MB.214	M5-G175	Y1-IG071	Y2-JU096	51225-2	Y1-IG073	9N27-4	C5-Is51a	912-2A
MB.219	–	0.14	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
MB.214	0.14	–	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
M5-G175	**0.00**	**0.00**	–	**0.05**	0.43	0.76	0.31	0.81	0.76	0.68
Y1-IG071	**0.00**	**0.00**	**0.05**	–	**0.01**	0.06	0.07	**0.04**	0.09	**0.03**
Y2-JU096	**0.00**	**0.00**	0.43	**0.01**	–	0.29	**0.00**	0.28	0.19	0.77
51225-2	**0.00**	**0.00**	0.76	0.06	0.29	–	**0.02**	0.81	0.52	0.40
Y1-IG073	**0.00**	**0.00**	0.31	0.07	**0.00**	**0.02**	–	0.23	0.34	0.11
9N27-4	**0.00**	**0.00**	0.81	**0.04**	0.28	0.81	0.23	–	0.65	0.41
C5-Is51a	**0.00**	**0.00**	0.76	0.09	0.19	0.52	0.34	0.65	–	0.37
912-2A	**0.00**	**0.00**	0.68	**0.03**	0.77	0.40	0.11	0.41	0.37	–

$\delta^{18}O$ (zircon)	MB.219	MB.214	M5-G175	Y1-IG071	Y2-JU096	51225-2	Y1-IG073	9N27-4	C5-Is51a	912-2A
MB.219	–	0.13	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
MB.214	0.13	–	0.12	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**
M5-G175	**0.01**	0.12	–	**0.00**	0.16	**0.01**	**0.00**	0.38	**0.02**	0.53
Y1-IG071	**0.00**	**0.00**	**0.00**	–	**0.00**	0.06	0.10	**0.00**	0.48	**0.00**
Y2-JU096	**0.00**	**0.00**	0.16	**0.00**	–	**0.03**	**0.00**	**0.00**	**0.02**	0.53
51225-2	**0.00**	**0.00**	**0.01**	0.06	**0.03**	–	0.35	**0.00**	0.14	**0.00**
Y1-IG073	**0.00**	**0.00**	**0.00**	0.10	**0.00**	0.35	–	**0.00**	0.28	**0.00**
9N27-4	**0.00**	**0.02**	0.38	**0.00**	**0.00**	**0.00**	**0.00**	–	**0.00**	**0.01**
C5-Is51a	**0.00**	**0.00**	**0.02**	0.48	**0.02**	0.14	0.28	**0.00**	–	**0.03**
912-2A	**0.00**	**0.00**	0.53	**0.00**	0.53	**0.00**	**0.00**	**0.01**	**0.03**	–

For *p* values <0.05, the null hypothesis that the two groups sample the same population is rejected.