

# GSA Data Repository 2014011

## Zircon xenocrysts in Tibetan ultrapotassic magmas: Imaging the deep crust through time

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### References

## Analytical methods

### Zircon in situ U-Pb dating and trace element analyses

Cathodoluminescence (CL) images are taken for inspecting internal structures of individual zircons and selecting positions for U-Pb and Lu-Hf isotope in situ analyses. CL images for representative zircon grains are shown in [Figure DR1](#).

Zircon U-Pb dating and trace element analyses were performed synchronously by using LA-ICP-MS at the State Key Laboratory of Geological Processes and Mineral Resources, China University of Geosciences, Wuhan. The sample surface has been cleaned with ethanol to eliminate possible contamination before analyses. Laser sampling was performed by an excimer laser ablation system (GeoLas 2005), and ion-signal intensities were acquired by ICP-MS instrument (Agilent 7700x). The diameter of spot was 32  $\mu\text{m}$ . The detailed operating conditions for the laser sampling system and the ICP-MS instrument have been described by [Liu et al. \(2010\)](#). Zircon 91500 was used as external standard for U-Pb dating ([Wiedenbeck et al., 1995](#)), and every six sample analyses were followed by analyzing two 91500 zircon standards. Trace element compositions of zircons were calibrated against USGS multiple-reference materials (BCR-2G and BIR-1G) as external standard combined with Si<sup>29</sup> as internal standardization ([Liu et al., 2010](#)). Each analysis incorporated a background acquisition of approximately 20-30 s (gas blank) and 50 s data acquisition from the sample. The dating results and REE analyses for zircon standard 91500 and GJ-1 are shown in [Fig. DR4](#).

Off-line selection, integration of background and analyte signals, time-dependent drifts correction, and quantitative calibration for zircon U-Pb dating and trace element analyses were performed by *ICPMSDataCal\_ver9.0*. The common Pb correction procedure was according to [Andersen \(2002\)](#). Wetherill concordia plots were carried out by *Isoplot/Ex\_ver3* ([Ludwig, 2003](#)) and were illustrated in [Figure DR2](#). Zircon dating results and trace element compositions are listed in [Table DR2](#) and [Table DR3](#), respectively.

### Zircon in situ Hf isotope analyses

Zircon Hf isotope experiments were conducted by a Neptune Plus MC-ICP-MS (Thermo Fisher Scientific, Germany) in the state Key Laboratory of Geological Processes and Mineral Resources, China University of Geosciences in Wuhan. The Geolas 2005 laser sampling ablation system equipped with an ArF-excimer laser (Lambda Physik, Göttingen, Germany) was used in connection with the MC-ICP-MS. A “wire” signal smoothing device is included in this laser ablation system, by which smooth signals are produced even at very low laser repetition rates down to 1 Hz ([Hu et al., 2012a](#)). The energy density of laser ablation that was used in this study was 5.3 J·cm<sup>-2</sup>. Helium was used as the carrier gas within the ablation cell and was merged with argon (makeup gas) after the ablation cell. A simple Y junction downstream from the sample cell was used to add small amounts of nitrogen (4 ml·min<sup>-1</sup>) to the argon makeup gas flow ([Hu et al., 2008](#)). Compared to the standard arrangement, the addition of nitrogen in combination with the use of the newly designed X skimmer cone and Jet sample cone in Neptune Plus improved the signal intensity of Hf, Yb and Lu by a factor of 5.3, 4.0 and 2.4, respectively. In this study, all data were acquired on zircon in single spot ablation mode at a spot size of 44  $\mu\text{m}$ . Each analysis incorporated 50s data acquisition and

every ten sample analyses was followed by analyzing two 91500 zircon standards. Detailed operating conditions for the laser ablation system, MC-ICP-MS instrument and analytical method have been described by [Hu et al. \(2012b\)](#).

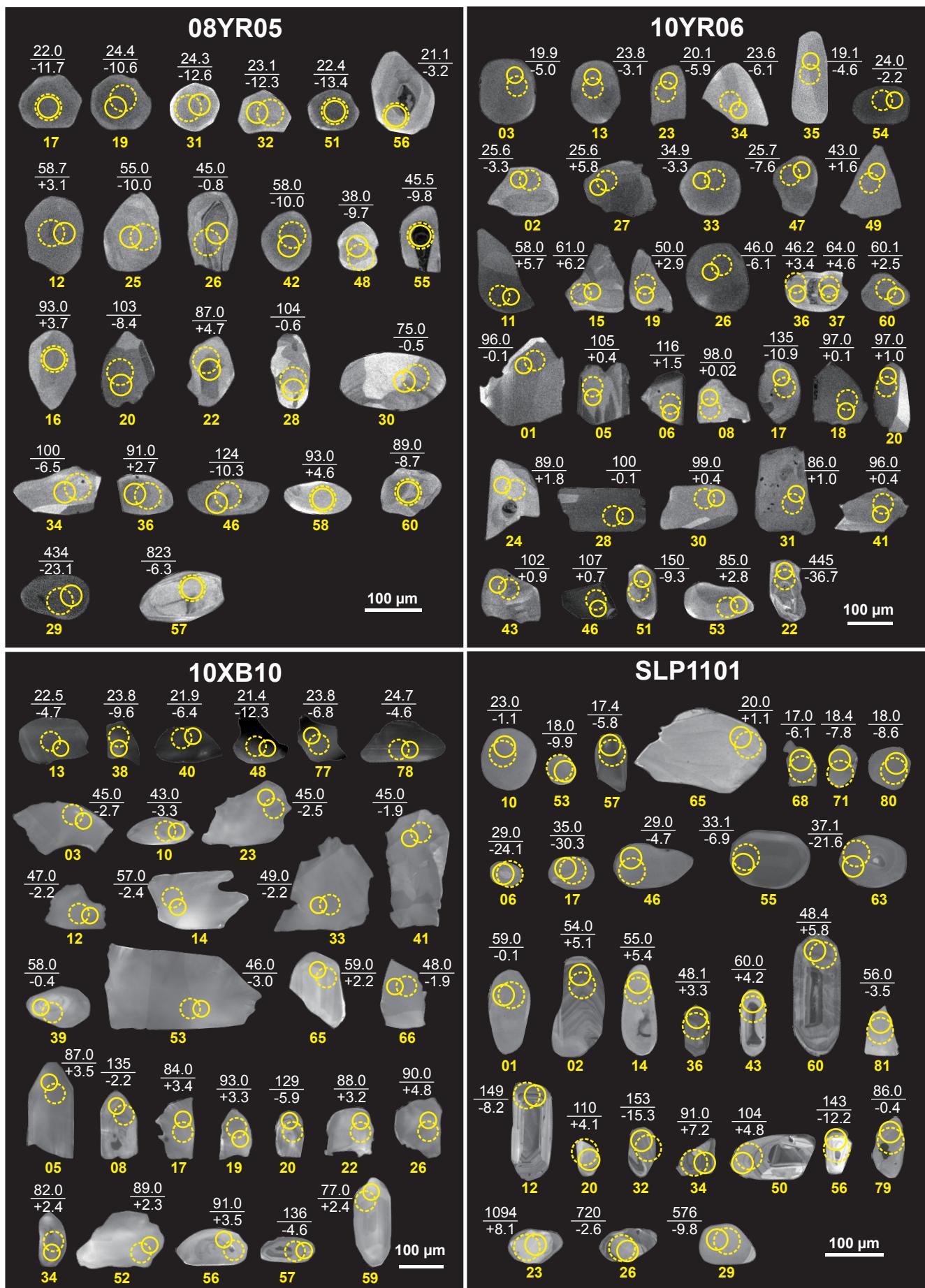
Directly obtained  $\beta_{\text{Yb}}$  value from the zircon sample itself in real-time was applied to calculate the mass fractionation of Lu in this study for their similar physicochemical properties. The  $^{179}\text{Hf}/^{177}\text{Hf}$  and  $^{173}\text{Yb}/^{171}\text{Yb}$  ratios were used to calculate the mass bias of Hf ( $\beta_{\text{Hf}}$ ) and Yb ( $\beta_{\text{Yb}}$ ), which were normalized to  $^{179}\text{Hf}/^{177}\text{Hf} = 0.7325$  and  $^{173}\text{Yb}/^{171}\text{Yb} = 1.13017$  ([Segal et al., 2003](#)) by using an exponential correction. Interference of  $^{176}\text{Yb}$  on  $^{176}\text{Hf}$  was corrected by measuring the interference-free  $^{173}\text{Yb}$  isotope, and  $^{176}\text{Yb}/^{173}\text{Yb} = 0.79381$  ([Segal et al., 2003](#)) was applied to calculate  $^{176}\text{Yb}/^{177}\text{Hf}$ . The interference of  $^{176}\text{Lu}$  on  $^{176}\text{Hf}$  was corrected by measuring the intensity of the interference-free  $^{175}\text{Lu}$  isotope, and the recommended  $^{176}\text{Lu}/^{175}\text{Lu} = 0.02656$  ([Blichert-Toft et al., 1997](#)) was used to calculate  $^{176}\text{Lu}/^{177}\text{Hf}$ . Off-line selection and integration of analyte signals, and mass bias calibrations were performed using *ICPMSDataCal 9.0* ([Liu et al., 2010](#)). In this study, the average  $^{176}\text{Hf}/^{177}\text{Hf}$  ratios for zircon standard 91500 and GJ-1 were  $0.282317 \pm 34$  ( $2\sigma$ ,  $n = 130$ ) and  $0.282028 \pm 31$  ( $2\sigma$ ,  $n = 36$ ), respectively ([Fig. DR4](#)). These results agree with the recommended values within  $2\sigma$  error ([Woodhead et al., 2004](#)).

Initial  $^{176}\text{Hf}/^{177}\text{Hf}$  ratios and  $\epsilon_{\text{Hf}}(t)$  values were calculated with the reference to the chondritic reservoir (CHUR) at the time of zircon growth from magmas. The decay constant for  $^{176}\text{Lu}$  was  $1.867 \times 10^{-11} \text{ yr}^{-1}$  ([Söderlund et al., 2004](#)). The ratios of  $^{176}\text{Lu}/^{177}\text{Hf}$  and  $^{176}\text{Hf}/^{177}\text{Hf}$  ratios were used as 0.0336 and 0.282785 ([Bouvier et al., 2008](#)), respectively. The  $^{176}\text{Lu}/^{177}\text{Hf}$  ratios of 0.0384 for depleted mantle (DM) was adopted ([Griffin et al., 2000](#)), and the depleted mantle model ages ( $T_{\text{DM}}$ ) was calculated with reference to depleted mantle at a present-day  $^{176}\text{Hf}/^{177}\text{Hf}$  ratios of 0.28325 similar to that of the average MORB ([Nowell et al., 1998](#)). The hafnium isotopic "crustal" model age ( $T_{\text{DM}}^{\text{C}}$ ) were also calculated for each zircon grain by assuming its parental magma to have been derived from an average continental crust (MC), with  $^{176}\text{Lu}/^{177}\text{Hf} = 0.015$ , that originated from the depleted mantle source ([Griffin et al., 2002](#)). Our conclusions would not be affected significantly if alternative decay constants are used. The zircon Lu–Hf isotopic data, detailed calculation formulas and decay constants used in this work are listed in [Tables DR4](#).

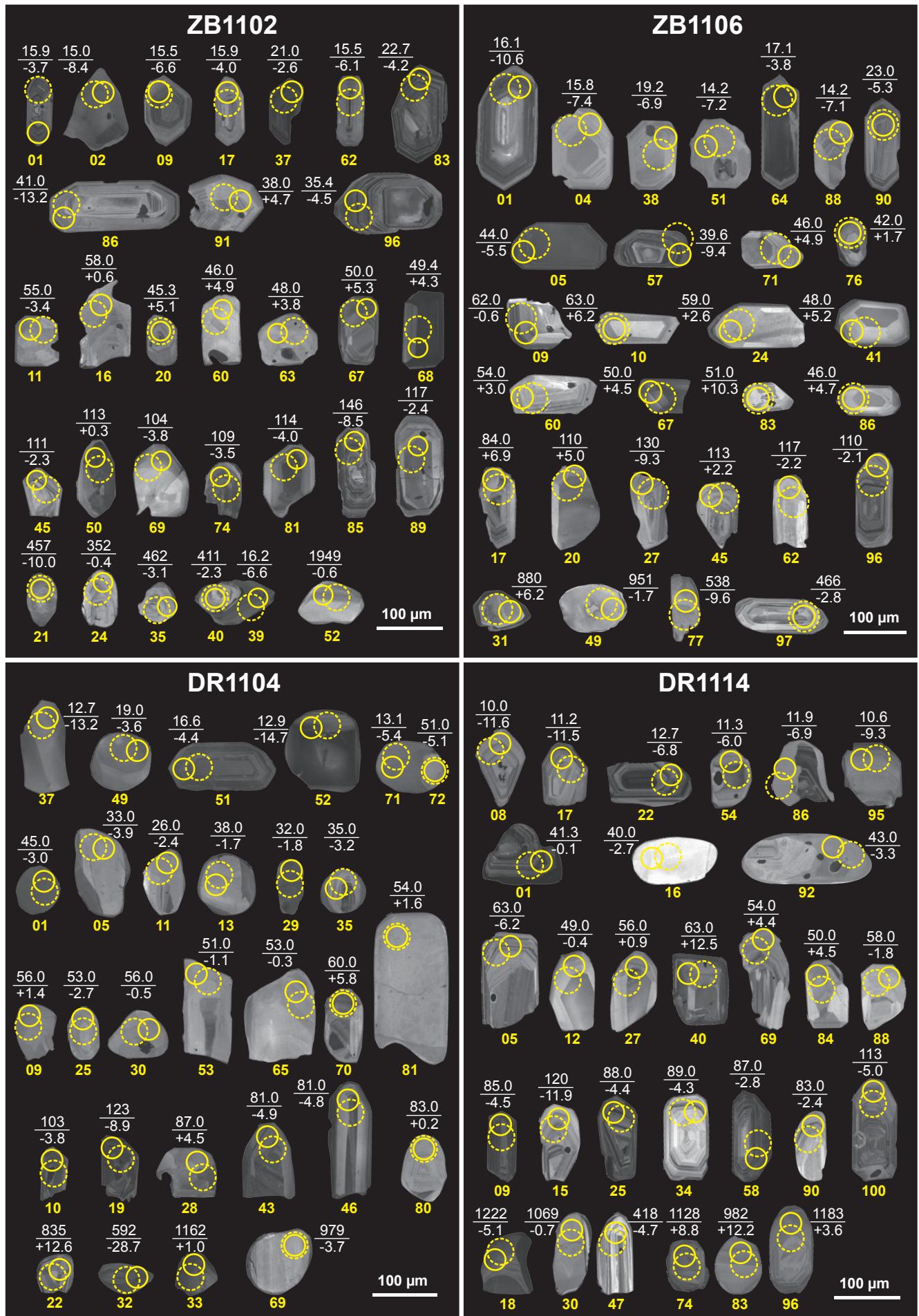
## Liu et al.'s Figure DR1

Cathodoluminescence (CL) images for zircons in Tibetan ultrapotassic rocks.

Solid and dashed circles indicate the locations of U-Pb dating and Hf analyses, respectively. The U-Pb ages and  $\epsilon_{\text{Hf}}(\text{t})$  values are given for each analysis spot.

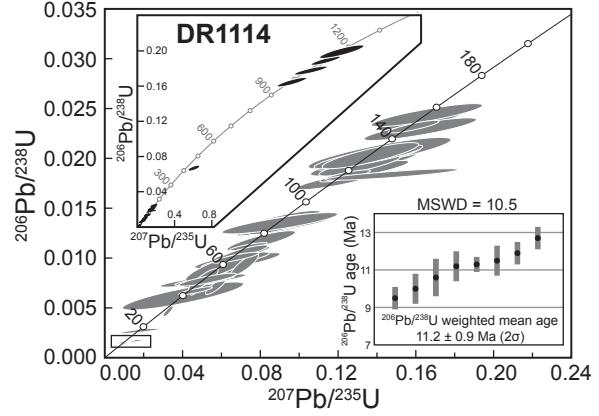
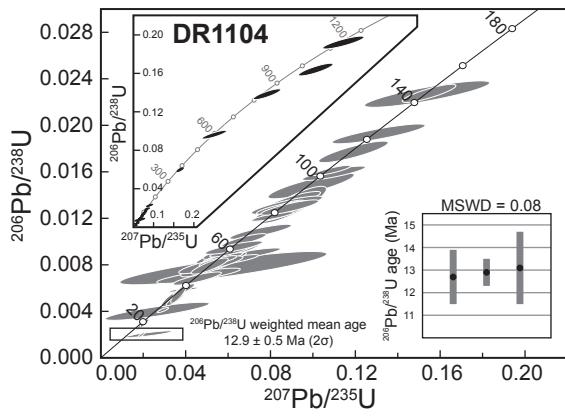
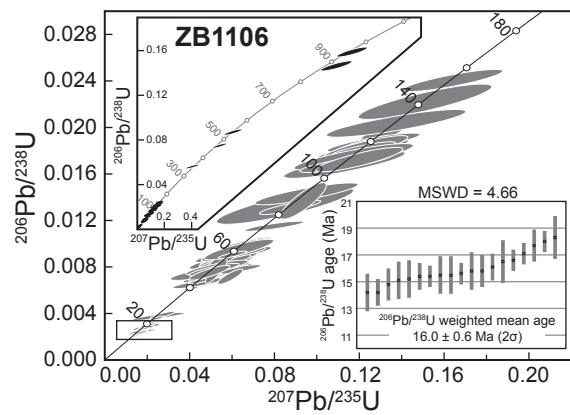
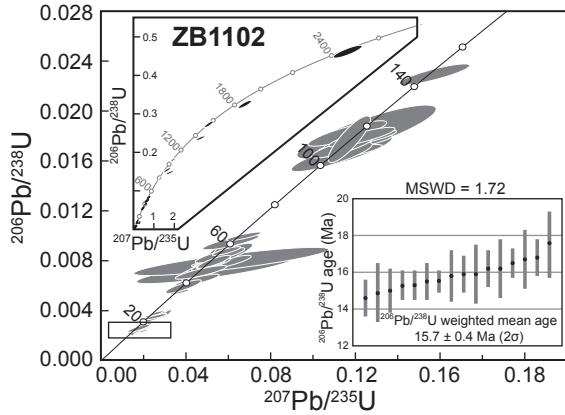
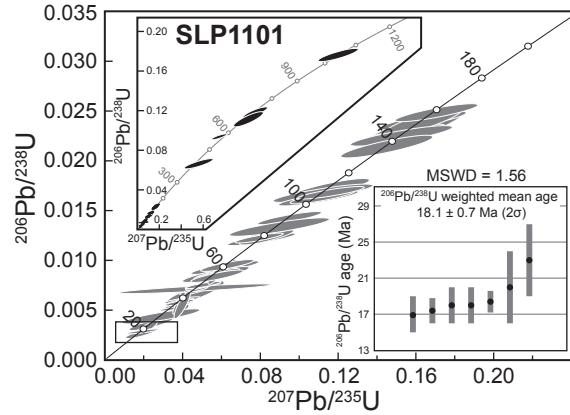
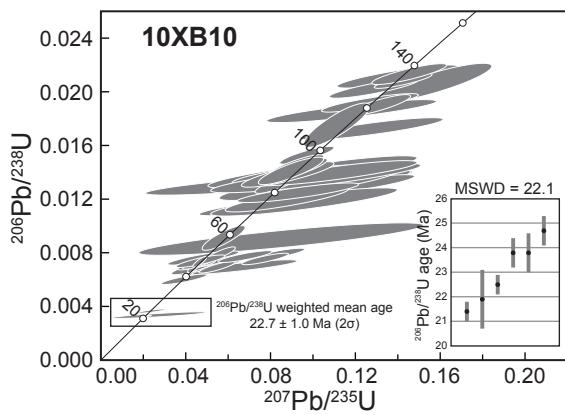
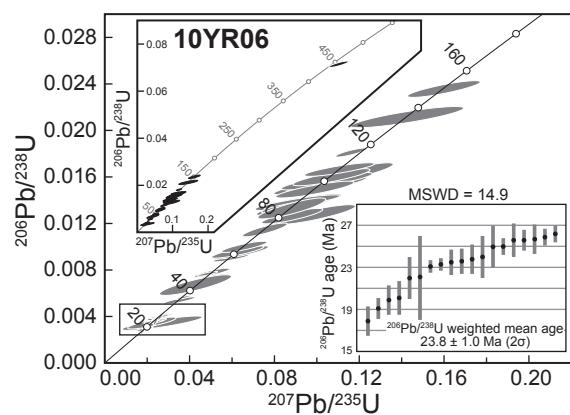
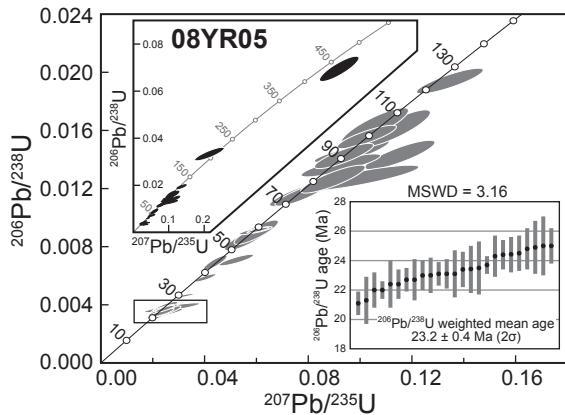


Liu et al.'s Figure DR1



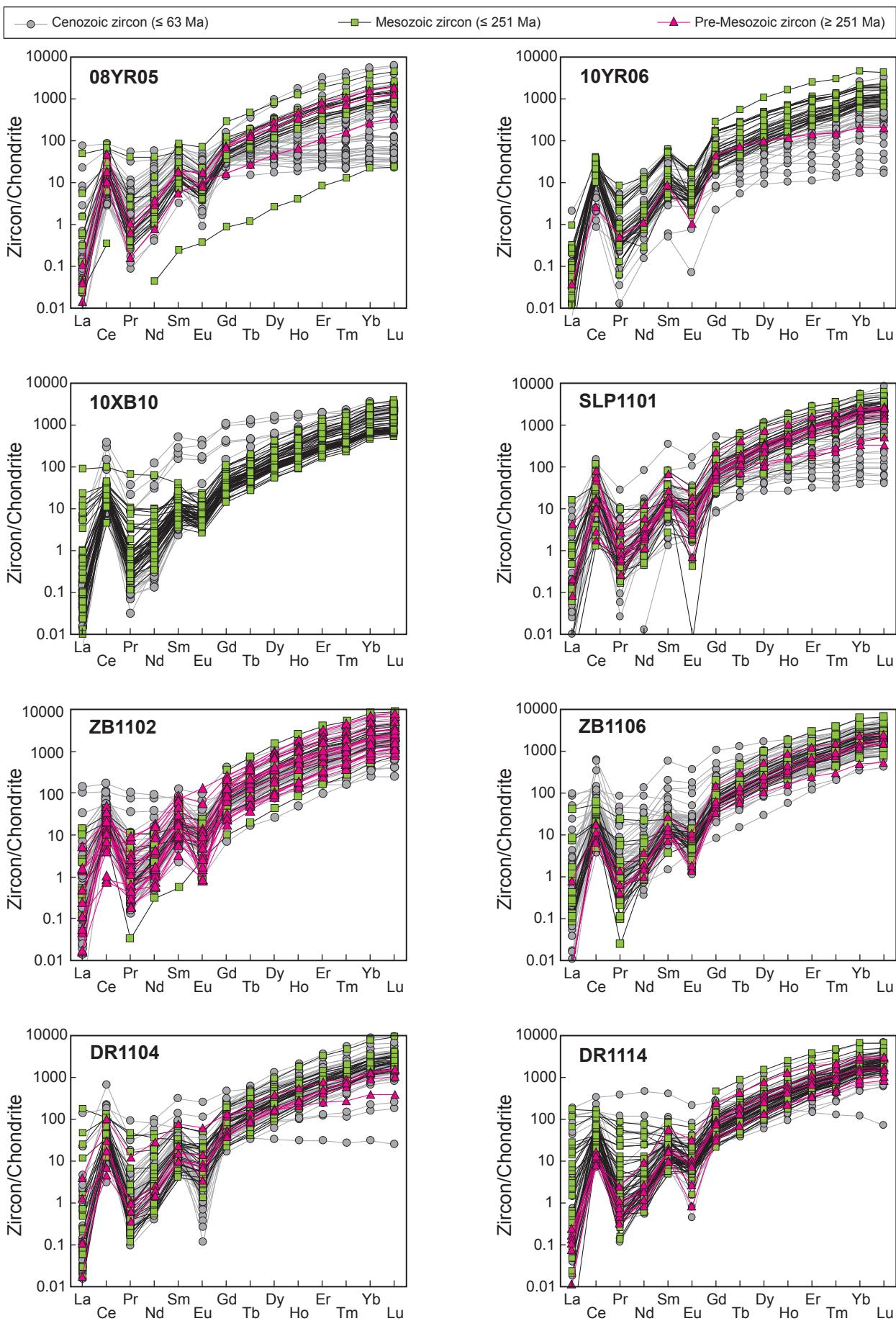
## Liu et al.'s Figure DR2

Concordia plots for zircons in Tibetan ultrapotassic rocks.



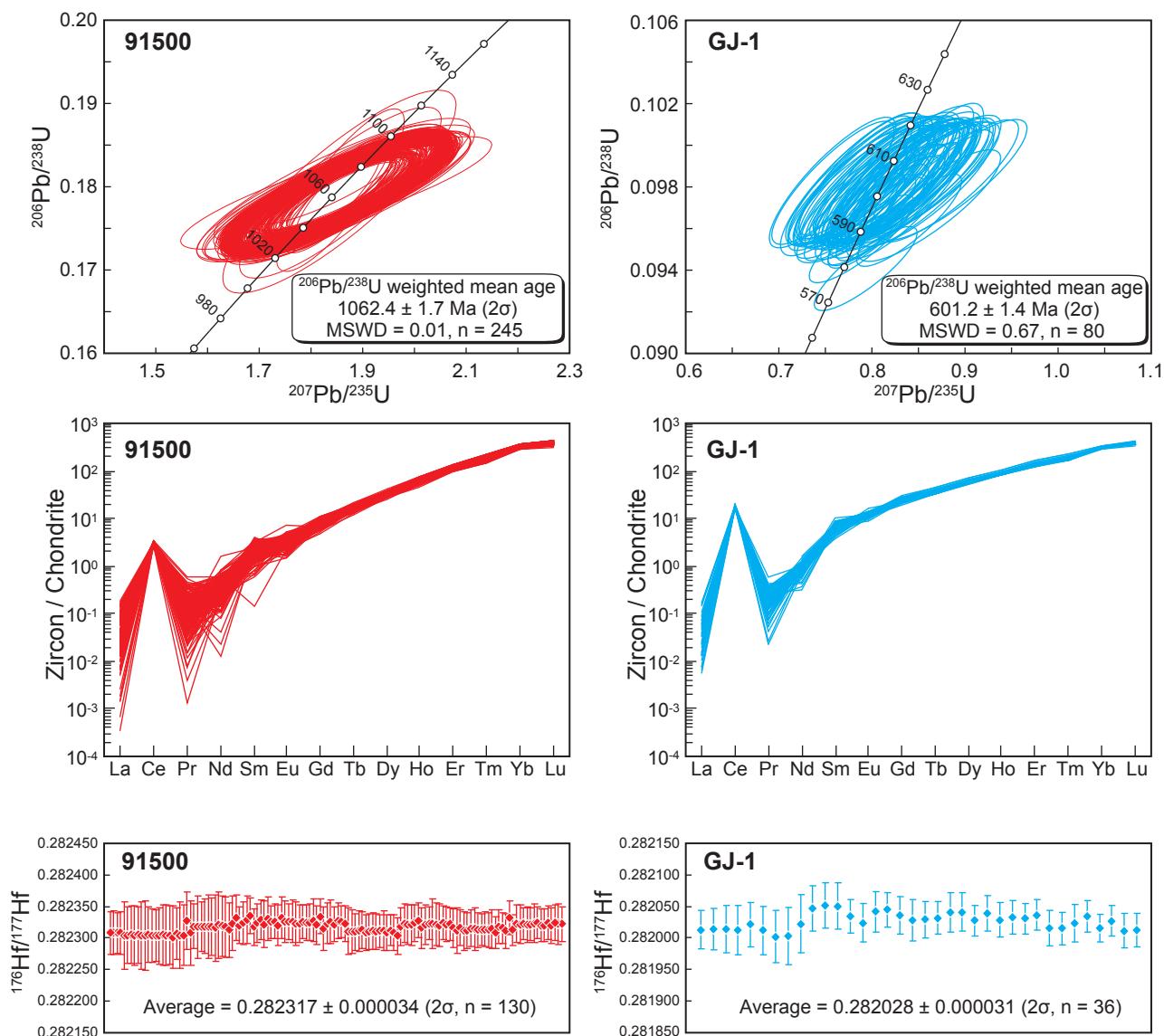
## Liu et al.'s Figure DR3

Chondrite-normalized REE patterns for zircons in Tibetan ultrapotassic rocks.



## Liu et al.'s Figure DR4

Concordia plots, chondrite-normalized REE patterns, and  $^{176}\text{Hf}/^{177}\text{Hf}$  ratios for zircon standard 91500 and GJ-1. U-Pb isotopes were presented without common lead correction. Zircon REE patterns were normalized by Boynton (1984). The hafnium isotope data are presented in chronological order, and error bars represent the within-run precision ( $2\sigma$ ).



**Table DR1** Sample description and dating results of Tibetan ultrapotassic rocks.

| Sample No.          | Locality | GPS location |           | Lithology      | Geochemical features  | Dating results    |              |                   | Previous dating results                           |            |  |
|---------------------|----------|--------------|-----------|----------------|---|-------------------|--------------|-------------------|---|------------|--|
|                     |          | Latitude     | Longitude |                |   | Eruptive Age (Ma) | Dated grains | Concordant grains | Dating method                                     | Ages (Ma)  | Data Source  |
| 08YR05              | Xungba   | 31°50'48"    | 82°06'33" | Trachyandesite | MgO = 5.3~6.8 wt.%  | 23.0 ± 0.4 (n=25) | 60           | 56                | <sup>40</sup> Ar- <sup>39</sup> Ar<br>Zircon U-Pb | 25.4~17.0  | <a href="#">Miller et al., 1999;</a><br><a href="#">Liu et al., 2011</a> |
| 10YR06 <sup>‡</sup> |          | 31°50'38"    | 82°06'36" | Trachyandesite | K <sub>2</sub> O = 5.7~6.8 wt.%   | 23.8 ± 1.0 (n=19) | 60           | 59                |   |            |  |
| 10XB10              |          | 32°00'02"    | 81°41'36" | Trachyandesite | K <sub>2</sub> O/Na <sub>2</sub> O = 2.6~3.1  | 22.7 ± 1.3 (n=6)  | 79           | 79                |   |            |  |
| SLP1101             | Sailipu  | 31°17'47"    | 82°58'29" | Trachyandesite | MgO = 8.0 wt.%<br>K <sub>2</sub> O = 5.8 wt.%<br>K <sub>2</sub> O/Na <sub>2</sub> O = 3.3 | 18.1 ± 0.6 (n=7)  | 81           | 72                | Zircon U-Pb                                       | 17.5 ± 0.2 | <a href="#">Sun et al., 2008</a>   |
| ZB1102              | Zabuye   | 31°22'20"    | 84°23'28" | Trachyandesite | MgO = 3.5~3.6 wt.%  | 15.7 ± 0.4 (n=16) | 96           | 64                | <sup>40</sup> Ar- <sup>39</sup> Ar                | 16.2 ± 0.2 | <a href="#">Nomade et al., 2004</a>                                      |
| ZB1106              |          | 31°22'21"    | 84°23'27" | Trachyandesite | K <sub>2</sub> O = 6.1~6.3 wt.%<br>K <sub>2</sub> O/Na <sub>2</sub> O = 2.0~2.1           | 16.0 ± 0.6 (n=19) | 98           | 93                |   |            |  |
| DR1104              | Tangra   | 30°43'47"    | 86°42'33" | Trachyandesite | MgO = 4.1~5.5 wt.%  | 12.9 ± 0.5 (n=3)  | 82           | 77                | <sup>40</sup> Ar- <sup>39</sup> Ar                | 12.6~14.2  | <a href="#">Zhao et al., 2009</a>  |
| DR1114              | Yumco    | 30°43'46"    | 86°42'32" | Trachyandesite | K <sub>2</sub> O = 6.7~6.9 wt.%<br>K <sub>2</sub> O/Na <sub>2</sub> O = 3.9~4.3           | 11.2 ± 0.9 (n=8)  | 101          | 95                |   |            |  |

<sup>‡</sup> U-Pb Age data for sample 10YR06 are from [Liu et al., 2011](#).

**Table DR2** U-Pb dating results for zircons in Tibetan ultrapotassic rocks.

| Analysis Spot        | Concentrations (ppm) |       |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |         | Isotopic ages (Ma)                |     |                                  |    |                                  |    |  |
|----------------------|----------------------|-------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|---------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|--|
|                      | Pb                   | Th    | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |  |
| <b>Sample 08YR05</b> |                      |       |        |      |                                   |        |                                  |        |                                  |         |                                   |     |                                  |    |                                  |    |  |
| 08YR05-01            | 1.01                 | 149.0 | 206.1  | 0.73 | 0.0612                            | 0.0081 | 0.0330                           | 0.0043 | 0.0039                           | 0.0001  | 645                               | 300 | 33                               | 4  | 25                               | 4  |  |
| 08YR05-02            | 2.11                 | 124.1 | 436.4  | 0.28 | 0.0499                            | 0.0026 | 0.0320                           | 0.0016 | 0.0047                           | 0.0001  | 191                               | 89  | 32                               | 2  | 30                               | 0  |  |
| 08YR05-03            | 1.04                 | 127.5 | 117.4  | 1.09 | 0.0541                            | 0.0031 | 0.0519                           | 0.0027 | 0.0071                           | 0.0002  | 374                               | 80  | 51                               | 3  | 46                               | 1  |  |
| 08YR05-04            | 0.98                 | 221.0 | 223.3  | 0.99 | 0.0567                            | 0.0032 | 0.0268                           | 0.0014 | 0.0036                           | 0.0001  | 479                               | 69  | 27                               | 1  | 23                               | 1  |  |
| 08YR05-05            | 11.25                | 981.4 | 989.3  | 0.99 | 0.0473                            | 0.0013 | 0.0604                           | 0.0017 | 0.0092                           | 0.0001  | 63                                | 48  | 60                               | 2  | 59                               | 1  |  |
| 08YR05-06            | 1.53                 | 249.8 | 378.2  | 0.66 | 0.0475                            | 0.0027 | 0.0233                           | 0.0013 | 0.0036                           | 0.0001  | 76                                | 90  | 23                               | 1  | 23                               | 0  |  |
| 08YR05-07            | 0.87                 | 256.3 | 268.7  | 0.95 | 0.0878                            | 0.0066 | 0.0298                           | 0.0020 | 0.0026                           | 0.0004  | 1370                              | 88  | 30                               | 2  | 17                               | 4  |  |
| 08YR05-08            | 6.89                 | 268.3 | 1980.4 | 0.14 | 0.0473                            | 0.0017 | 0.0235                           | 0.0009 | 0.0035                           | 0.0001  | 64                                | 58  | 24                               | 1  | 23                               | 0  |  |
| 08YR05-09            | 0.31                 | 50.9  | 56.0   | 0.91 | 0.0978                            | 0.0125 | 0.0590                           | 0.0074 | 0.0044                           | 0.0002  | 1583                              | 251 | 58                               | 7  | 28                               | 4  |  |
| 08YR05-10            | 1.57                 | 221.4 | 401.5  | 0.55 | 0.0532                            | 0.0031 | 0.0259                           | 0.0014 | 0.0036                           | 0.0001  | 336                               | 81  | 26                               | 1  | 23                               | 1  |  |
| 08YR05-11            | 1.06                 | 161.6 | 266.7  | 0.61 | 0.0556                            | 0.0033 | 0.0270                           | 0.0017 | 0.0036                           | 0.0001  | 438                               | 95  | 27                               | 2  | 23                               | 1  |  |
| 08YR05-12            | 4.24                 | 338.8 | 395.0  | 0.86 | 0.0474                            | 0.0021 | 0.0595                           | 0.0026 | 0.0092                           | 0.0001  | 70                                | 74  | 59                               | 2  | 59                               | 1  |  |
| 08YR05-13            | 2.10                 | 314.9 | 521.3  | 0.60 | 0.0478                            | 0.0029 | 0.0237                           | 0.0013 | 0.0037                           | 0.0001  | 91                                | 98  | 24                               | 1  | 24                               | 0  |  |
| 08YR05-14            | 1.50                 | 209.9 | 392.6  | 0.53 | 0.0503                            | 0.0032 | 0.0240                           | 0.0015 | 0.0036                           | 0.0001  | 210                               | 101 | 24                               | 1  | 23                               | 1  |  |
| 08YR05-15            | 0.46                 | 70.8  | 89.2   | 0.79 | 0.0742                            | 0.0141 | 0.0434                           | 0.0085 | 0.0044                           | 0.0002  | 964                               | 438 | 43                               | 8  | 28                               | 4  |  |
| 08YR05-16            | 2.66                 | 199.2 | 137.2  | 1.45 | 0.0519                            | 0.0028 | 0.0988                           | 0.0051 | 0.0146                           | 0.0004  | 281                               | 74  | 96                               | 5  | 93                               | 2  |  |
| 08YR05-17            | 1.57                 | 273.0 | 416.7  | 0.66 | 0.0506                            | 0.0037 | 0.022                            | 0.0016 | 0.0034                           | 0.0001  | 220                               | 114 | 22                               | 2  | 22                               | 1  |  |
| 08YR05-18            | 0.83                 | 141.1 | 240.9  | 0.59 | 0.0569                            | 0.0047 | 0.0216                           | 0.0013 | 0.0033                           | 0.0001  | 487                               | 67  | 22                               | 1  | 21                               | 1  |  |
| 08YR05-19            | 2.04                 | 330.9 | 456.6  | 0.72 | 0.0464                            | 0.0029 | 0.0243                           | 0.0016 | 0.0038                           | 0.0001  | 17                                | 98  | 24                               | 2  | 24                               | 1  |  |
| 08YR05-20            | 4.21                 | 244.4 | 212.1  | 1.15 | 0.0532                            | 0.0026 | 0.1135                           | 0.0055 | 0.0162                           | 0.0005  | 336                               | 56  | 109                              | 5  | 103                              | 3  |  |
| 08YR05-21            | 0.44                 | 109.6 | 80.0   | 4.37 | 0.1494                            | 0.0377 | 0.0812                           | 0.0204 | 0.0039                           | 0.0002  | 2340                              | 500 | 79                               | 19 | 25                               | 4  |  |
| 08YR05-22            | 3.10                 | 247.6 | 178.6  | 1.39 | 0.0491                            | 0.0032 | 0.0924                           | 0.0063 | 0.0136                           | 0.0003  | 152                               | 110 | 90                               | 6  | 87                               | 2  |  |
| 08YR05-23            | 1.94                 | 326.3 | 462.3  | 0.71 | 0.0512                            | 0.0048 | 0.0242                           | 0.0021 | 0.0039                           | 0.0002  | 247                               | 122 | 24                               | 2  | 25                               | 1  |  |
| 08YR05-24            | 2.05                 | 386.7 | 456.4  | 0.85 | 0.0466                            | 0.0036 | 0.0247                           | 0.0020 | 0.0039                           | 0.0001  | 28                                | 125 | 25                               | 2  | 25                               | 1  |  |
| 08YR05-25            | 2.69                 | 31.1  | 383.4  | 0.08 | 0.0499                            | 0.0032 | 0.0563                           | 0.0036 | 0.0086                           | 0.0004  | 189                               | 76  | 56                               | 3  | 55                               | 2  |  |
| 08YR05-26            | 5.88                 | 132.2 | 896.8  | 0.15 | 0.0478                            | 0.0022 | 0.0439                           | 0.0019 | 0.0070                           | 0.0002  | 91                                | 50  | 44                               | 2  | 45                               | 1  |  |
| 08YR05-27            | 2.60                 | 43.1  | 229.2  | 0.19 | 0.0470                            | 0.0029 | 0.0751                           | 0.0042 | 0.0116                           | 0.0003  | 48                                | 138 | 73                               | 4  | 74                               | 2  |  |
| 08YR05-28            | 4.76                 | 291.0 | 236.6  | 1.23 | 0.0487                            | 0.0023 | 0.1056                           | 0.0053 | 0.0163                           | 0.0005  | 135                               | 62  | 102                              | 5  | 104                              | 3  |  |
| 08YR05-29            | 6.58                 | 37.0  | 92.8   | 0.40 | 0.0617                            | 0.0022 | 0.5797                           | 0.0229 | 0.0696                           | 0.0022  | 665                               | 39  | 464                              | 15 | 434                              | 13 |  |
| 08YR05-30            | 2.65                 | 176.2 | 195.8  | 0.90 | 0.0514                            | 0.0028 | 0.0768                           | 0.0040 | 0.01163                          | 0.00032 | 258                               | 70  | 75                               | 4  | 75                               | 2  |  |
| 08YR05-31            | 1.82                 | 229.6 | 460.1  | 0.50 | 0.0508                            | 0.0033 | 0.0243                           | 0.0013 | 0.00377                          | 0.00011 | 232                               | 72  | 24                               | 1  | 24                               | 1  |  |
| 08YR05-32            | 1.72                 | 284.5 | 456.3  | 0.62 | 0.0538                            | 0.0032 | 0.0238                           | 0.0012 | 0.00358                          | 0.00013 | 361                               | 58  | 24                               | 1  | 23                               | 1  |  |
| 08YR05-33            | 1.65                 | 121.9 | 100.9  | 1.21 | 0.0572                            | 0.0057 | 0.0999                           | 0.0093 | 0.01276                          | 0.00036 | 500                               | 156 | 97                               | 9  | 82                               | 2  |  |
| 08YR05-34            | 3.10                 | 173.9 | 166.3  | 1.05 | 0.0488                            | 0.0024 | 0.1024                           | 0.0047 | 0.01558                          | 0.00033 | 139                               | 67  | 99                               | 4  | 100                              | 2  |  |
| 08YR05-35            | 1.64                 | 217.9 | 426.2  | 0.51 | 0.0543                            | 0.0042 | 0.0259                           | 0.0019 | 0.00366                          | 0.00014 | 384                               | 99  | 26                               | 2  | 24                               | 1  |  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |       |        |      | Th/U   | Isotopic ratios                   |        |                                  |        |                                  |    | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|----------------------|----------------------|-------|--------|------|--------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|----|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|                      | Pb                   | Th    | U      | Th/U |        | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| 08YR05-36            | 2.41                 | 157.2 | 136.3  | 1.15 | 0.0503 | 0.0027                            | 0.0936 | 0.0047                           | 0.0143 | 0.0004                           |    | 207                               | 72  | 91                               | 4  | 91                               | 2  |
| 08YR05-37            | 2.06                 | 278.8 | 512.7  | 0.54 | 0.0461 | 0.0043                            | 0.0231 | 0.0020                           | 0.0036 | 0.0001                           |    | 1                                 | 201 | 23                               | 2  | 23                               | 1  |
| 08YR05-38            | 2.20                 | 151.0 | 141.3  | 1.07 | 0.0534 | 0.0031                            | 0.0893 | 0.0051                           | 0.0127 | 0.0004                           |    | 347                               | 75  | 87                               | 5  | 81                               | 2  |
| 08YR05-39            | 17.33                | 143.0 | 453.5  | 0.32 | 0.0465 | 0.0041                            | 0.2134 | 0.0172                           | 0.0333 | 0.0012                           |    | 21                                | 194 | 196                              | 14 | 211                              | 7  |
| 08YR05-40            | 1.32                 | 88.4  | 385.0  | 0.23 | 0.0484 | 0.0038                            | 0.0232 | 0.0019                           | 0.0035 | 0.0001                           |    | 116                               | 121 | 23                               | 2  | 23                               | 1  |
| 08YR05-41            | 1.38                 | 82.7  | 80.1   | 1.03 | 0.0612 | 0.0037                            | 0.1152 | 0.0055                           | 0.0144 | 0.0004                           |    | 646                               | 55  | 111                              | 5  | 92                               | 3  |
| 08YR05-42            | 2.37                 | 142.3 | 262.7  | 0.54 | 0.0515 | 0.0024                            | 0.0596 | 0.0035                           | 0.0090 | 0.0003                           |    | 263                               | 70  | 59                               | 3  | 58                               | 2  |
| 08YR05-43            | 1.90                 | 293.3 | 458.4  | 0.64 | 0.0517 | 0.0038                            | 0.0244 | 0.0015                           | 0.0038 | 0.0001                           |    | 274                               | 95  | 24                               | 2  | 24                               | 1  |
| 08YR05-44            | 3.50                 | 190.2 | 205.7  | 0.92 | 0.0481 | 0.0021                            | 0.0931 | 0.0043                           | 0.0142 | 0.0003                           |    | 103                               | 69  | 90                               | 4  | 91                               | 2  |
| 08YR05-45            | 79.24                | 116.1 | 108.9  | 1.07 | 0.2421 | 0.0056                            | 17.097 | 0.3276                           | 0.5122 | 0.0066                           |    | 3134                              | 38  | 2940                             | 18 | 2666                             | 28 |
| 08YR05-46            | 6.25                 | 118.8 | 303.2  | 0.39 | 0.0504 | 0.0019                            | 0.1345 | 0.0053                           | 0.0194 | 0.0004                           |    | 212                               | 57  | 128                              | 5  | 124                              | 2  |
| 08YR05-47            | 1.11                 | 293.4 | 254.3  | 1.15 | 0.0541 | 0.0045                            | 0.0245 | 0.0021                           | 0.0035 | 0.0001                           |    | 374                               | 129 | 25                               | 2  | 22                               | 1  |
| 08YR05-48            | 3.61                 | 79.2  | 628.7  | 0.13 | 0.0494 | 0.0021                            | 0.0399 | 0.0017                           | 0.0059 | 0.0001                           |    | 168                               | 63  | 40                               | 2  | 38                               | 1  |
| 08YR05-49            | 0.86                 | 125.9 | 227.1  | 0.55 | 0.0703 | 0.0070                            | 0.0345 | 0.0030                           | 0.0033 | 0.0004                           |    | 938                               | 243 | 31                               | 3  | 21                               | 4  |
| 08YR05-50            | 3.20                 | 114.6 | 977.0  | 0.12 | 0.0477 | 0.0022                            | 0.0220 | 0.001                            | 0.0034 | 0.0001                           |    | 83                                | 73  | 22                               | 1  | 22                               | 0  |
| 08YR05-51            | 1.76                 | 341.9 | 438.6  | 0.78 | 0.0506 | 0.0032                            | 0.0236 | 0.0015                           | 0.0035 | 0.0001                           |    | 224                               | 105 | 24                               | 1  | 22                               | 1  |
| 08YR05-52            | 0.90                 | 210.2 | 170.0  | 1.24 | 0.0509 | 0.0085                            | 0.0272 | 0.0044                           | 0.0039 | 0.0001                           |    | 236                               | 339 | 27                               | 4  | 25                               | 1  |
| 08YR05-53            | 1.84                 | 261.1 | 451.7  | 0.58 | 0.0507 | 0.0031                            | 0.0264 | 0.0014                           | 0.0039 | 0.0001                           |    | 226                               | 76  | 26                               | 1  | 25                               | 1  |
| 08YR05-54            | 0.85                 | 221.5 | 161.9  | 1.37 | 0.0642 | 0.0088                            | 0.0316 | 0.0042                           | 0.0036 | 0.0004                           |    | 750                               | 305 | 32                               | 4  | 23                               | 4  |
| 08YR05-55            | 42.16                | 524.9 | 6228.8 | 0.08 | 0.0472 | 0.0008                            | 0.0462 | 0.0008                           | 0.0071 | 0.0001                           |    | 60                                | 24  | 46                               | 1  | 46                               | 0  |
| 08YR05-56            | 2.86                 | 196.5 | 861.2  | 0.23 | 0.0477 | 0.0039                            | 0.0213 | 0.0017                           | 0.0033 | 0.0001                           |    | 86                                | 139 | 21                               | 2  | 21                               | 0  |
| 08YR05-57            | 16.34                | 75.7  | 99.6   | 0.76 | 0.0838 | 0.0042                            | 1.5730 | 0.0719                           | 0.1362 | 0.0026                           |    | 1287                              | 99  | 960                              | 28 | 823                              | 15 |
| 08YR05-58            | 2.25                 | 140.7 | 126.8  | 1.11 | 0.0488 | 0.0028                            | 0.0954 | 0.0055                           | 0.0145 | 0.0003                           |    | 136                               | 97  | 93                               | 5  | 93                               | 2  |
| 08YR05-59            | 1.71                 | 389.8 | 376.2  | 1.04 | 0.0493 | 0.0034                            | 0.0264 | 0.0017                           | 0.0038 | 0.0001                           |    | 160                               | 102 | 26                               | 2  | 25                               | 1  |
| 08YR05-60            | 4.68                 | 146.5 | 313.7  | 0.47 | 0.0485 | 0.0020                            | 0.0921 | 0.0038                           | 0.0140 | 0.0002                           |    | 126                               | 70  | 89                               | 4  | 89                               | 1  |
| <b>Sample 10YR06</b> |                      |       |        |      |        |                                   |        |                                  |        |                                  |    |                                   |     |                                  |    |                                  |    |
| 10YR06-01            | 18.40                | 322.2 | 208.2  | 1.55 | 0.0493 | 0.0029                            | 0.1000 | 0.0057                           | 0.0150 | 0.0002                           |    | 163                               | 101 | 97                               | 5  | 96                               | 2  |
| 10YR06-02            | 15.65                | 264.8 | 180.5  | 1.47 | 0.0511 | 0.0028                            | 0.0259 | 0.0007                           | 0.0040 | 0.0001                           |    | 245                               | 35  | 26                               | 1  | 26                               | 1  |
| 10YR06-03            | 4.92                 | 165.1 | 158.7  | 1.04 | 0.0461 | 0.0023                            | 0.0196 | 0.0007                           | 0.0031 | 0.0001                           |    | -                                 | 105 | 20                               | 1  | 20                               | 1  |
| 10YR06-04            | 11.66                | 149.5 | 2456.5 | 0.06 | 0.0469 | 0.0019                            | 0.0232 | 0.0010                           | 0.0036 | 0.0000                           |    | 42                                | 69  | 23                               | 1  | 23                               | 0  |
| 10YR06-05            | 8.29                 | 124.6 | 155.0  | 0.80 | 0.0536 | 0.0032                            | 0.1190 | 0.0069                           | 0.0164 | 0.0003                           |    | 356                               | 93  | 114                              | 6  | 105                              | 2  |
| 10YR06-06            | 54.48                | 667.4 | 1659.6 | 0.40 | 0.0464 | 0.0012                            | 0.1160 | 0.0030                           | 0.0181 | 0.0002                           |    | 18                                | 39  | 111                              | 3  | 116                              | 1  |
| 10YR06-07            | 9.25                 | 109.8 | 1013.1 | 0.11 | 0.0516 | 0.0026                            | 0.0251 | 0.0012                           | 0.0036 | 0.0001                           |    | 266                               | 83  | 25                               | 1  | 23                               | 0  |
| 10YR06-08            | 10.15                | 140.4 | 144.9  | 0.97 | 0.0494 | 0.0044                            | 0.1015 | 0.0090                           | 0.0153 | 0.0003                           |    | 168                               | 159 | 98                               | 8  | 98                               | 2  |
| 10YR06-09            | 23.49                | 379.7 | 251.2  | 1.51 | 0.0483 | 0.0028                            | 0.1059 | 0.0062                           | 0.0160 | 0.0002                           |    | 113                               | 106 | 102                              | 6  | 102                              | 1  |
| 10YR06-10            | 11.14                | 192.3 | 165.7  | 1.16 | 0.0489 | 0.0027                            | 0.1024 | 0.0055                           | 0.0155 | 0.0002                           |    | 142                               | 94  | 99                               | 5  | 99                               | 1  |
| 10YR06-11            | 20.37                | 495.9 | 419.8  | 1.18 | 0.0484 | 0.0029                            | 0.0593 | 0.0035                           | 0.0090 | 0.0001                           |    | 117                               | 105 | 59                               | 3  | 58                               | 1  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |       |       | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|-------|-------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th    | U     |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
|               |                      |       |       |      |                                   |        |                                  |        |                                  |        |                                   |     |                                  |    |                                  |    |
| 10YR06-12     | 7.77                 | 93.9  | 91.6  | 4.03 | 0.0720                            | 0.0097 | 0.0360                           | 0.0007 | 0.0038                           | 0.0003 | 986                               | 106 | 36                               | 4  | 24                               | 2  |
| 10YR06-13     | 8.88                 | 245.3 | 217.9 | 1.13 | 0.0533                            | 0.0052 | 0.0238                           | 0.0009 | 0.0037                           | 0.0001 | 341                               | 43  | 24                               | 1  | 24                               | 1  |
| 10YR06-14     | 8.75                 | 174.0 | 175.8 | 0.99 | 0.0497                            | 0.0034 | 0.0905                           | 0.0063 | 0.0136                           | 0.0003 | 180                               | 117 | 88                               | 6  | 87                               | 2  |
| 10YR06-15     | 6.69                 | 10.6  | 168.8 | 0.06 | 0.0531                            | 0.0054 | 0.0640                           | 0.0054 | 0.0095                           | 0.0002 | 331                               | 147 | 63                               | 5  | 61                               | 1  |
| 10YR06-16     | 1.78                 | 137.0 | 98.6  | 1.39 | 0.0607                            | 0.0056 | 0.0252                           | 0.0009 | 0.0039                           | 0.0002 | 629                               | 44  | 25                               | 1  | 25                               | 1  |
| 10YR06-17     | 7.39                 | 92.3  | 117.1 | 0.79 | 0.0498                            | 0.0040 | 0.1425                           | 0.0109 | 0.0212                           | 0.0004 | 184                               | 140 | 135                              | 10 | 135                              | 2  |
| 10YR06-18     | 19.93                | 292.2 | 278.4 | 1.05 | 0.0486                            | 0.0033 | 0.1011                           | 0.0064 | 0.0152                           | 0.0002 | 130                               | 114 | 98                               | 6  | 97                               | 1  |
| 10YR06-19     | 4.20                 | 91.0  | 230.0 | 0.40 | 0.0469                            | 0.0031 | 0.0506                           | 0.0034 | 0.0078                           | 0.0002 | 43                                | 108 | 50                               | 3  | 50                               | 1  |
| 10YR06-20     | 25.96                | 459.3 | 330.4 | 1.39 | 0.0484                            | 0.0024 | 0.1010                           | 0.0048 | 0.0152                           | 0.0002 | 119                               | 83  | 98                               | 4  | 97                               | 1  |
| 10YR06-21     | 5.16                 | 76.7  | 139.2 | 0.55 | 0.0525                            | 0.0048 | 0.0626                           | 0.0051 | 0.0096                           | 0.0002 | 309                               | 144 | 62                               | 5  | 61                               | 1  |
| 10YR06-22     | 64.82                | 90.6  | 852.9 | 0.11 | 0.0572                            | 0.0012 | 0.5673                           | 0.0115 | 0.0715                           | 0.0006 | 500                               | 31  | 456                              | 7  | 445                              | 3  |
| 10YR06-23     | 5.02                 | 200.5 | 177.1 | 1.13 | 0.0563                            | 0.0065 | 0.0200                           | 0.0012 | 0.0031                           | 0.0001 | 464                               | 67  | 20                               | 1  | 20                               | 1  |
| 10YR06-24     | 7.00                 | 121.7 | 150.6 | 0.81 | 0.0483                            | 0.0045 | 0.0911                           | 0.0083 | 0.0139                           | 0.0003 | 112                               | 164 | 89                               | 8  | 89                               | 2  |
| 10YR06-25     | 7.16                 | 152.2 | 146.5 | 1.04 | 0.0527                            | 0.0039 | 0.0882                           | 0.0059 | 0.0127                           | 0.0003 | 314                               | 114 | 86                               | 5  | 81                               | 2  |
| 10YR06-26     | 8.17                 | 124.9 | 232.0 | 0.54 | 0.0483                            | 0.0038 | 0.0473                           | 0.0039 | 0.0072                           | 0.0002 | 116                               | 131 | 47                               | 4  | 46                               | 1  |
| 10YR06-27     | 9.14                 | 622.3 | 691.0 | 0.90 | 0.0464                            | 0.0046 | 0.0257                           | 0.0024 | 0.0040                           | 0.0001 | 18                                | 168 | 26                               | 2  | 26                               | 1  |
| 10YR06-28     | 25.84                | 405.8 | 250.4 | 1.62 | 0.0495                            | 0.0031 | 0.1041                           | 0.0058 | 0.0156                           | 0.0002 | 171                               | 103 | 101                              | 5  | 100                              | 1  |
| 10YR06-29     | 3.68                 | 67.6  | 411.4 | 0.61 | 0.1063                            | 0.0139 | 0.0437                           | 0.0010 | 0.0037                           | 0.0002 | 4737                              | 70  | 44                               | 4  | 24                               | 4  |
| 10YR06-30     | 31.01                | 396.2 | 427.2 | 0.93 | 0.0487                            | 0.0024 | 0.1026                           | 0.0049 | 0.0154                           | 0.0002 | 135                               | 89  | 99                               | 5  | 99                               | 1  |
| 10YR06-31     | 8.31                 | 137.9 | 174.3 | 0.79 | 0.0469                            | 0.0036 | 0.0886                           | 0.0070 | 0.0135                           | 0.0003 | 43                                | 132 | 86                               | 7  | 86                               | 2  |
| 10YR06-32     | 5.17                 | 87.9  | 94.1  | 0.93 | 0.0494                            | 0.0041 | 0.1046                           | 0.0088 | 0.0157                           | 0.0003 | 166                               | 152 | 101                              | 8  | 100                              | 2  |
| 10YR06-33     | 2.41                 | 83.6  | 256.0 | 0.33 | 0.0482                            | 0.0043 | 0.0351                           | 0.0031 | 0.0054                           | 0.0001 | 108                               | 151 | 35                               | 3  | 35                               | 1  |
| 10YR06-34     | 4.02                 | 296.1 | 257.2 | 1.15 | 0.0534                            | 0.0099 | 0.0238                           | 0.0031 | 0.0037                           | 0.0001 | 348                               | 243 | 24                               | 3  | 24                               | 1  |
| 10YR06-35     | 5.19                 | 186.8 | 438.5 | 0.43 | 0.0468                            | 0.0044 | 0.0190                           | 0.0016 | 0.0030                           | 0.0001 | 41                                | 137 | 19                               | 2  | 19                               | 1  |
| 10YR06-36     | 4.77                 | 26.7  | 629.9 | 0.04 | 0.0482                            | 0.0025 | 0.0470                           | 0.0023 | 0.0072                           | 0.0001 | 109                               | 83  | 47                               | 2  | 46                               | 1  |
| 10YR06-37     | 18.40                | 386.5 | 600.6 | 0.64 | 0.0480                            | 0.0034 | 0.0657                           | 0.0044 | 0.0100                           | 0.0002 | 100                               | 112 | 65                               | 4  | 64                               | 1  |
| 10YR06-38     | 11.41                | 248.6 | 393.0 | 0.63 | 0.0476                            | 0.0026 | 0.0754                           | 0.0043 | 0.0115                           | 0.0002 | 79                                | 88  | 74                               | 4  | 74                               | 2  |
| 10YR06-39     | 1.62                 | 134.6 | 106.6 | 1.26 | 0.0461                            | 0.0101 | 0.0222                           | 0.0047 | 0.0035                           | 0.0002 | -                                 | 361 | 22                               | 5  | 22                               | 1  |
| 10YR06-40     | 16.05                | 300.2 | 208.2 | 1.44 | 0.0482                            | 0.0029 | 0.0989                           | 0.0059 | 0.0150                           | 0.0003 | 106                               | 103 | 96                               | 5  | 96                               | 2  |
| 10YR06-41     | 12.35                | 213.5 | 144.3 | 1.48 | 0.0493                            | 0.0041 | 0.0990                           | 0.0075 | 0.0149                           | 0.0003 | 160                               | 135 | 96                               | 7  | 96                               | 2  |
| 10YR06-42     | 7.39                 | 114.9 | 232.9 | 0.49 | 0.0465                            | 0.0034 | 0.0180                           | 0.0005 | 0.0028                           | 0.0001 | 25                                | 39  | 18                               | 1  | 18                               | 1  |
| 10YR06-43     | 10.24                | 123.6 | 117.2 | 1.05 | 0.0492                            | 0.0034 | 0.1067                           | 0.0074 | 0.0160                           | 0.0003 | 159                               | 122 | 103                              | 7  | 102                              | 2  |
| 10YR06-44     | 8.21                 | 147.1 | 216.0 | 0.68 | 0.0499                            | 0.0043 | 0.0926                           | 0.0075 | 0.0139                           | 0.0002 | 191                               | 149 | 90                               | 7  | 89                               | 2  |
| 10YR06-45     | 4.47                 | 78.7  | 72.7  | 1.08 | 0.0563                            | 0.0166 | 0.0270                           | 0.0077 | 0.0035                           | 0.0003 | 463                               | 558 | 27                               | 8  | 22                               | 2  |
| 10YR06-46     | 14.86                | 264.7 | 240.2 | 1.10 | 0.0486                            | 0.0030 | 0.1105                           | 0.0068 | 0.0167                           | 0.0002 | 128                               | 112 | 106                              | 6  | 107                              | 2  |
| 10YR06-47     | 3.39                 | 243.2 | 162.4 | 1.50 | 0.0493                            | 0.0061 | 0.0257                           | 0.0024 | 0.0040                           | 0.0001 | 164                               | 157 | 26                               | 2  | 26                               | 1  |
| 10YR06-48     | 8.15                 | 152.4 | 145.5 | 1.05 | 0.0490                            | 0.0035 | 0.0890                           | 0.0062 | 0.0135                           | 0.0002 | 149                               | 123 | 87                               | 6  | 86                               | 2  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |       |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |         | Isotopic ages (Ma)                |     |                                  |    |                                  |    |  |
|----------------------|----------------------|-------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|---------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|--|
|                      | Pb                   | Th    | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |  |
| 10YR06-49            | 2.63                 | 101.8 | 66.0   | 1.54 | 0.0461                            | 0.0079 | 0.0427                           | 0.0069 | 0.0067                           | 0.0004  | -                                 | 300 | 42                               | 7  | 43                               | 2  |  |
| 10YR06-50            | 18.71                | 175.3 | 1355.4 | 0.13 | 0.0457                            | 0.0018 | 0.0485                           | 0.0020 | 0.0077                           | 0.0001  | -18                               | 63  | 48                               | 2  | 50                               | 1  |  |
| 10YR06-51            | 18.89                | 207.5 | 292.2  | 0.71 | 0.0496                            | 0.0022 | 0.1596                           | 0.0070 | 0.0236                           | 0.0003  | 178                               | 79  | 150                              | 6  | 150                              | 2  |  |
| 10YR06-52            | 9.60                 | 363.6 | 572.0  | 0.64 | 0.0500                            | 0.0039 | 0.0260                           | 0.0019 | 0.0040                           | 0.0001  | 194                               | 138 | 26                               | 2  | 26                               | 0  |  |
| 10YR06-53            | 5.85                 | 106.3 | 103.4  | 1.03 | 0.0522                            | 0.0044 | 0.0880                           | 0.0065 | 0.0133                           | 0.0004  | 294                               | 119 | 86                               | 6  | 85                               | 2  |  |
| 10YR06-54            | 2.54                 | 205.4 | 150.3  | 1.37 | 0.0436                            | 0.0039 | 0.0241                           | 0.0005 | 0.0037                           | 0.0002  | -90                               | 63  | 24                               | 1  | 24                               | 1  |  |
| 10YR06-55            | 15.53                | 479.4 | 1304.2 | 0.37 | 0.0480                            | 0.0026 | 0.0259                           | 0.0015 | 0.0039                           | 0.0001  | 98                                | 98  | 26                               | 1  | 25                               | 0  |  |
| 10YR06-56            | 10.51                | 473.4 | 785.8  | 0.60 | 0.0485                            | 0.0028 | 0.0271                           | 0.0015 | 0.0041                           | 0.0001  | 125                               | 100 | 27                               | 2  | 26                               | 0  |  |
| 10YR06-57            | 5.16                 | 385.2 | 286.1  | 1.35 | 0.0447                            | 0.0037 | 0.0238                           | 0.0022 | 0.0037                           | 0.0001  | -32                               | 151 | 24                               | 2  | 24                               | 1  |  |
| 10YR06-58            | 9.61                 | 26.0  | 983.2  | 0.03 | 0.0472                            | 0.0019 | 0.0371                           | 0.0015 | 0.0057                           | 0.0001  | 61                                | 63  | 37                               | 1  | 37                               | 1  |  |
| 10YR06-59            | 10.68                | 119.9 | 124.3  | 0.96 | 0.0611                            | 0.0055 | 0.0988                           | 0.0078 | 0.0128                           | 0.0004  | 642                               | 124 | 96                               | 7  | 82                               | 2  |  |
| 10YR06-60            | 8.81                 | 223.0 | 364.5  | 0.61 | 0.0492                            | 0.0030 | 0.0617                           | 0.0036 | 0.0094                           | 0.0002  | 158                               | 102 | 61                               | 3  | 60                               | 1  |  |
| <b>Sample 10XB10</b> |                      |       |        |      |                                   |        |                                  |        |                                  |         |                                   |     |                                  |    |                                  |    |  |
| 10XB10-01            | 7.63                 | 57.6  | 205.2  | 0.28 | 0.0665                            | 0.0126 | 0.0637                           | 0.0119 | 0.0070                           | 0.0002  | 821                               | 423 | 63                               | 11 | 45                               | 1  |  |
| 10XB10-02            | 10.49                | 123.1 | 127.7  | 0.96 | 0.0546                            | 0.0091 | 0.1040                           | 0.0172 | 0.0138                           | 0.0003  | 398                               | 353 | 100                              | 16 | 88                               | 2  |  |
| 10XB10-03            | 3.83                 | 49.1  | 168.2  | 0.29 | 0.0526                            | 0.0064 | 0.0510                           | 0.0061 | 0.0070                           | 0.0002  | 313                               | 277 | 51                               | 6  | 45                               | 1  |  |
| 10XB10-04            | 4.89                 | 54.2  | 229.0  | 0.24 | 0.0760                            | 0.0056 | 0.0828                           | 0.0055 | 0.0079                           | 0.0002  | 1096                              | 94  | 81                               | 5  | 51                               | 1  |  |
| 10XB10-05            | 14.37                | 199.7 | 160.2  | 1.25 | 0.0465                            | 0.0066 | 0.0872                           | 0.0122 | 0.0136                           | 0.0003  | 23                                | 262 | 85                               | 11 | 87                               | 2  |  |
| 10XB10-06            | 21.49                | 144.6 | 185.3  | 0.78 | 0.0461                            | 0.0026 | 0.0972                           | 0.0052 | 0.0153                           | 0.0003  | -                                 | 123 | 94                               | 5  | 98                               | 2  |  |
| 10XB10-07            | 44.55                | 525.9 | 477.7  | 1.10 | 0.0536                            | 0.0059 | 0.1276                           | 0.0138 | 0.0173                           | 0.0003  | 355                               | 251 | 122                              | 12 | 110                              | 2  |  |
| 10XB10-08            | 21.15                | 204.5 | 252.1  | 0.81 | 0.0480                            | 0.0041 | 0.1401                           | 0.0117 | 0.0212                           | 0.0004  | 101                               | 192 | 133                              | 10 | 135                              | 2  |  |
| 10XB10-09            | 8.04                 | 105.9 | 125.4  | 0.84 | 0.0600                            | 0.0085 | 0.1092                           | 0.0150 | 0.0132                           | 0.0004  | 603                               | 319 | 105                              | 14 | 85                               | 3  |  |
| 10XB10-10            | 3.82                 | 43.3  | 144.1  | 0.30 | 0.0461                            | 0.0026 | 0.0429                           | 0.0018 | 0.0068                           | 0.0003  | -                                 | 121 | 43                               | 2  | 43                               | 2  |  |
| 10XB10-11            | 84.75                | 631.9 | 481.0  | 1.31 | 0.1098                            | 0.0040 | 0.3398                           | 0.0117 | 0.0224                           | 0.0003  | 1796                              | 42  | 297                              | 9  | 143                              | 2  |  |
| 10XB10-12            | 5.00                 | 78.3  | 268.4  | 0.29 | 0.0461                            | 0.0030 | 0.0469                           | 0.0029 | 0.0074                           | 0.0002  | -                                 | 145 | 47                               | 3  | 47                               | 1  |  |
| 10XB10-13            | 34.09                | 987.5 | 5861.6 | 0.17 | 0.0523                            | 0.0018 | 0.0252                           | 0.0008 | 0.0035                           | 0.00003 | 299                               | 58  | 25                               | 1  | 23                               | 0  |  |
| 10XB10-14            | 4.66                 | 44.1  | 91.5   | 0.48 | 0.0461                            | 0.0032 | 0.0565                           | 0.0032 | 0.0089                           | 0.0004  | -                                 | 151 | 56                               | 3  | 57                               | 2  |  |
| 10XB10-15            | 9.97                 | 76.1  | 106.3  | 0.72 | 0.0564                            | 0.0041 | 0.1570                           | 0.0111 | 0.0207                           | 0.0006  | 466                               | 106 | 148                              | 10 | 132                              | 4  |  |
| 10XB10-16            | 21.10                | 222.6 | 174.2  | 1.28 | 0.0462                            | 0.0064 | 0.1182                           | 0.0164 | 0.0186                           | 0.0004  | 5                                 | 256 | 113                              | 15 | 119                              | 2  |  |
| 10XB10-17            | 12.52                | 90.7  | 125.6  | 0.72 | 0.0461                            | 0.0027 | 0.0838                           | 0.0045 | 0.0132                           | 0.0003  | -                                 | 126 | 82                               | 4  | 84                               | 2  |  |
| 10XB10-18            | 27.35                | 307.8 | 343.2  | 0.90 | 0.0785                            | 0.0056 | 0.1482                           | 0.0108 | 0.0137                           | 0.0003  | 1160                              | 407 | 440                              | 10 | 88                               | 2  |  |
| 10XB10-19            | 23.21                | 95.4  | 120.0  | 0.79 | 0.0461                            | 0.0028 | 0.0922                           | 0.0053 | 0.0145                           | 0.0003  | -                                 | 135 | 90                               | 5  | 93                               | 2  |  |
| 10XB10-20            | 35.10                | 358.1 | 304.0  | 1.18 | 0.0461                            | 0.0032 | 0.1287                           | 0.0086 | 0.0203                           | 0.0003  | -                                 | 151 | 123                              | 8  | 129                              | 2  |  |
| 10XB10-21            | 18.21                | 140.2 | 147.5  | 0.95 | 0.0461                            | 0.0081 | 0.0880                           | 0.0152 | 0.0139                           | 0.0004  | -                                 | 307 | 86                               | 14 | 89                               | 3  |  |
| 10XB10-22            | 11.34                | 136.6 | 148.4  | 0.92 | 0.0461                            | 0.0043 | 0.0872                           | 0.0079 | 0.0137                           | 0.0003  | -                                 | 200 | 85                               | 7  | 88                               | 2  |  |
| 10XB10-23            | 5.45                 | 50.6  | 174.9  | 0.29 | 0.0461                            | 0.0022 | 0.0441                           | 0.0016 | 0.0070                           | 0.0002  | -                                 | 100 | 44                               | 2  | 45                               | 1  |  |
| 10XB10-24            | 70.19                | 806.1 | 553.2  | 1.46 | 0.0495                            | 0.0020 | 0.1426                           | 0.0056 | 0.0208                           | 0.0002  | 169                               | 70  | 135                              | 5  | 133                              | 1  |  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |         |         | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|---------|---------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th      | U       |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| 10XB10-25     | 15.99                | 191.9   | 139.8   | 1.37 | 0.0461                            | 0.0038 | 0.0893                           | 0.0071 | 0.0141                           | 0.0003 | -                                 | 181 | 87                               | 7  | 90                               | 2  |
| 10XB10-26     | 10.66                | 101.3   | 125.0   | 0.81 | 0.0461                            | 0.0023 | 0.0890                           | 0.0039 | 0.0140                           | 0.0003 | -                                 | 107 | 87                               | 4  | 90                               | 2  |
| 10XB10-27     | 28.72                | 388.0   | 517.5   | 0.75 | 0.0473                            | 0.0034 | 0.0886                           | 0.0062 | 0.0136                           | 0.0002 | 65                                | 160 | 86                               | 6  | 87                               | 1  |
| 10XB10-28     | 10.61                | 120.2   | 115.5   | 1.04 | 0.0461                            | 0.0035 | 0.0897                           | 0.0063 | 0.0141                           | 0.0004 | -                                 | 170 | 87                               | 6  | 90                               | 3  |
| 10XB10-29     | 28.37                | 299.1   | 331.8   | 0.90 | 0.0480                            | 0.0036 | 0.1269                           | 0.0093 | 0.0192                           | 0.0003 | 97                                | 168 | 121                              | 8  | 123                              | 2  |
| 10XB10-30     | 12.32                | 130.9   | 161.7   | 0.81 | 0.0495                            | 0.0084 | 0.0787                           | 0.0132 | 0.0115                           | 0.0003 | 171                               | 322 | 77                               | 12 | 74                               | 2  |
| 10XB10-31     | 29.80                | 350.4   | 260.0   | 1.35 | 0.0510                            | 0.0026 | 0.1308                           | 0.0062 | 0.0190                           | 0.0003 | 243                               | 78  | 125                              | 6  | 121                              | 2  |
| 10XB10-32     | 5.58                 | 62.2    | 243.6   | 0.26 | 0.0461                            | 0.0021 | 0.0474                           | 0.0019 | 0.0075                           | 0.0002 | -                                 | 97  | 47                               | 2  | 48                               | 1  |
| 10XB10-33     | 4.61                 | 58.2    | 239.6   | 0.24 | 0.0788                            | 0.0057 | 0.0776                           | 0.0045 | 0.0076                           | 0.0002 | 1167                              | 76  | 76                               | 4  | 49                               | 1  |
| 10XB10-34     | 11.27                | 165.2   | 227.2   | 0.73 | 0.0514                            | 0.0052 | 0.0901                           | 0.0090 | 0.0127                           | 0.0003 | 257                               | 233 | 88                               | 8  | 82                               | 2  |
| 10XB10-35     | 9.00                 | 129.6   | 173.9   | 0.75 | 0.0660                            | 0.0068 | 0.1190                           | 0.0119 | 0.0131                           | 0.0003 | 808                               | 224 | 114                              | 11 | 84                               | 2  |
| 10XB10-36     | 8.48                 | 131.5   | 119.0   | 1.11 | 0.0854                            | 0.0057 | 0.1380                           | 0.0069 | 0.0139                           | 0.0004 | 1326                              | 56  | 131                              | 6  | 89                               | 2  |
| 10XB10-37     | 6.94                 | 63.3    | 232.8   | 0.27 | 0.0461                            | 0.0047 | 0.0440                           | 0.0043 | 0.0069                           | 0.0002 | -                                 | 210 | 44                               | 4  | 45                               | 1  |
| 10XB10-38     | 57.11                | 3012.4  | 1576.7  | 1.91 | 0.0461                            | 0.0019 | 0.0235                           | 0.0009 | 0.0037                           | 0.0001 | -                                 | 86  | 24                               | 1  | 24                               | 0  |
| 10XB10-39     | 6.04                 | 48.4    | 78.1    | 0.62 | 0.0681                            | 0.0222 | 0.0851                           | 0.0274 | 0.0091                           | 0.0005 | 871                               | 667 | 83                               | 26 | 58                               | 3  |
| 10XB10-40     | 290.22               | 11122.1 | 4125.0  | 2.70 | 0.0590                            | 0.0199 | 0.0276                           | 0.0093 | 0.0034                           | 0.0001 | 566                               | 651 | 28                               | 9  | 22                               | 1  |
| 10XB10-41     | 5.92                 | 104.0   | 300.1   | 0.35 | 0.0615                            | 0.0038 | 0.0549                           | 0.0035 | 0.0070                           | 0.0002 | 657                               | 90  | 54                               | 3  | 45                               | 1  |
| 10XB10-42     | 8.77                 | 108.9   | 116.1   | 0.94 | 0.0543                            | 0.0098 | 0.0984                           | 0.0173 | 0.0132                           | 0.0005 | 382                               | 368 | 95                               | 16 | 84                               | 3  |
| 10XB10-43     | 5.66                 | 89.0    | 285.8   | 0.31 | 0.0505                            | 0.0049 | 0.0512                           | 0.0049 | 0.0073                           | 0.0002 | 220                               | 223 | 51                               | 5  | 47                               | 1  |
| 10XB10-44     | 52.09                | 382.3   | 390.9   | 0.98 | 0.0942                            | 0.0042 | 0.2553                           | 0.0096 | 0.0202                           | 0.0004 | 1542                              | 44  | 231                              | 8  | 129                              | 2  |
| 10XB10-45     | 5.84                 | 63.7    | 246.2   | 0.26 | 0.0461                            | 0.0038 | 0.0452                           | 0.0036 | 0.0071                           | 0.0001 | -                                 | 181 | 45                               | 4  | 46                               | 1  |
| 10XB10-46     | 7.26                 | 111.0   | 106.8   | 1.04 | 0.0861                            | 0.0060 | 0.1495                           | 0.0094 | 0.0136                           | 0.0004 | 1330                              | 74  | 141                              | 8  | 87                               | 2  |
| 10XB10-47     | 7.13                 | 103.6   | 91.4    | 1.13 | 0.0588                            | 0.0112 | 0.0959                           | 0.0180 | 0.0118                           | 0.0004 | 561                               | 405 | 93                               | 17 | 76                               | 3  |
| 10XB10-48     | 202.32               | 13141.6 | 10739.8 | 1.22 | 0.0465                            | 0.0024 | 0.0213                           | 0.0011 | 0.0033                           | 0.0003 | 23                                | 112 | 21                               | 1  | 21                               | 0  |
| 10XB10-49     | 6.61                 | 151.2   | 319.7   | 0.47 | 0.0473                            | 0.0055 | 0.0395                           | 0.0045 | 0.0061                           | 0.0002 | 66                                | 238 | 39                               | 4  | 39                               | 1  |
| 10XB10-50     | 4.26                 | 62.9    | 229.7   | 0.27 | 0.0461                            | 0.0019 | 0.0446                           | 0.0014 | 0.0070                           | 0.0002 | -                                 | 88  | 44                               | 1  | 45                               | 1  |
| 10XB10-51     | 16.58                | 231.5   | 296.2   | 0.78 | 0.0539                            | 0.0069 | 0.0930                           | 0.0117 | 0.0125                           | 0.0003 | 368                               | 289 | 90                               | 11 | 80                               | 2  |
| 10XB10-52     | 6.78                 | 87.1    | 95.7    | 0.91 | 0.0461                            | 0.0048 | 0.0881                           | 0.0089 | 0.0139                           | 0.0004 | -                                 | 213 | 86                               | 8  | 89                               | 2  |
| 10XB10-53     | 4.15                 | 66.6    | 252.5   | 0.26 | 0.0461                            | 0.0031 | 0.0458                           | 0.0029 | 0.0072                           | 0.0002 | -                                 | 148 | 45                               | 3  | 46                               | 1  |
| 10XB10-54     | 19.43                | 248.8   | 201.5   | 1.23 | 0.0497                            | 0.0028 | 0.0959                           | 0.0044 | 0.0144                           | 0.0003 | 179                               | 71  | 93                               | 4  | 92                               | 2  |
| 10XB10-55     | 14.44                | 168.2   | 345.2   | 0.49 | 0.0516                            | 0.0028 | 0.0949                           | 0.0050 | 0.0136                           | 0.0002 | 266                               | 94  | 92                               | 5  | 87                               | 1  |
| 10XB10-56     | 10.87                | 118.0   | 125.4   | 0.94 | 0.0540                            | 0.0093 | 0.1056                           | 0.0178 | 0.0142                           | 0.0004 | 373                               | 356 | 102                              | 16 | 91                               | 3  |
| 10XB10-57     | 33.95                | 263.9   | 492.0   | 0.54 | 0.0501                            | 0.0026 | 0.1454                           | 0.0072 | 0.0213                           | 0.0003 | 197                               | 87  | 138                              | 6  | 136                              | 2  |
| 10XB10-58     | 7.81                 | 96.9    | 102.6   | 0.94 | 0.0686                            | 0.0087 | 0.1356                           | 0.0167 | 0.0143                           | 0.0004 | 887                               | 276 | 429                              | 45 | 92                               | 3  |
| 10XB10-59     | 5.58                 | 71.2    | 113.1   | 0.63 | 0.0530                            | 0.0074 | 0.0877                           | 0.0119 | 0.012                            | 0.0004 | 328                               | 308 | 85                               | 11 | 77                               | 2  |
| 10XB10-60     | 9.57                 | 114.3   | 219.6   | 0.52 | 0.0607                            | 0.0054 | 0.1145                           | 0.0100 | 0.0137                           | 0.0003 | 629                               | 199 | 110                              | 9  | 88                               | 2  |
| 10XB10-61     | 13.70                | 160.8   | 238.6   | 0.67 | 0.0504                            | 0.0051 | 0.0963                           | 0.0095 | 0.0139                           | 0.0003 | 214                               | 231 | 93                               | 9  | 89                               | 2  |

**Table DR2 (Continued)**

| Analysis Spot         | Concentrations (ppm) |         |         | Th/U | Isotopic ratios                   |        |                                  |        |                                  |         | Isotopic ages (Ma)                |     |                                  |    |                                  |    |  |
|-----------------------|----------------------|---------|---------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|---------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|--|
|                       | Pb                   | Th      | U       |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |  |
| 10XB10-62             | 12.82                | 154.7   | 132.9   | 1.16 | 0.0540                            | 0.0109 | 0.1013                           | 0.0202 | 0.0136                           | 0.0005  | 370                               | 398 | 98                               | 19 | 87                               | 3  |  |
| 10XB10-63             | 4.84                 | 97.3    | 331.5   | 0.29 | 0.0639                            | 0.0051 | 0.0682                           | 0.0052 | 0.0077                           | 0.0002  | 737                               | 176 | 67                               | 5  | 50                               | 1  |  |
| 10XB10-64             | 8.51                 | 109.8   | 102.6   | 1.07 | 0.0672                            | 0.0100 | 0.1261                           | 0.0185 | 0.0136                           | 0.0004  | 844                               | 331 | 121                              | 17 | 87                               | 3  |  |
| 10XB10-65             | 4.02                 | 60.6    | 86.2    | 0.70 | 0.0461                            | 0.0038 | 0.0581                           | 0.0042 | 0.0091                           | 0.0004  | -                                 | 181 | 57                               | 4  | 59                               | 2  |  |
| 10XB10-66             | 8.60                 | 140.1   | 328.8   | 0.43 | 0.0461                            | 0.0048 | 0.0471                           | 0.0047 | 0.0074                           | 0.0002  | -                                 | 213 | 47                               | 5  | 48                               | 1  |  |
| 10XB10-67             | 3.48                 | 35.4    | 58.3    | 0.61 | 0.0980                            | 0.0183 | 0.1603                           | 0.0288 | 0.0119                           | 0.0006  | 4586                              | 380 | 151                              | 25 | 76                               | 4  |  |
| 10XB10-68             | 4.53                 | 57.3    | 197.0   | 0.29 | 0.0461                            | 0.0016 | 0.0469                           | 0.0013 | 0.0074                           | 0.0002  | -                                 | 74  | 46                               | 1  | 47                               | 1  |  |
| 10XB10-69             | 11.07                | 160.3   | 173.5   | 0.92 | 0.0851                            | 0.0059 | 0.1439                           | 0.0080 | 0.0135                           | 0.0004  | 4317                              | 68  | 136                              | 7  | 86                               | 2  |  |
| 10XB10-70             | 16.60                | 144.2   | 227.7   | 0.63 | 0.0728                            | 0.0056 | 0.1465                           | 0.0087 | 0.0157                           | 0.0004  | 1009                              | 79  | 139                              | 8  | 101                              | 3  |  |
| 10XB10-71             | 12.02                | 169.3   | 167.5   | 1.01 | 0.0571                            | 0.0085 | 0.1100                           | 0.0160 | 0.0140                           | 0.0004  | 497                               | 333 | 106                              | 15 | 89                               | 2  |  |
| 10XB10-72             | 3.86                 | 25.0    | 36.9    | 0.68 | 0.0461                            | 0.0032 | 0.1113                           | 0.0064 | 0.0175                           | 0.0007  | -                                 | 152 | 107                              | 6  | 112                              | 4  |  |
| 10XB10-73             | 5.44                 | 31.2    | 54.8    | 0.57 | 0.1368                            | 0.0276 | 0.2196                           | 0.0430 | 0.0116                           | 0.0006  | 2187                              | 385 | 202                              | 36 | 75                               | 4  |  |
| 10XB10-74             | 8.52                 | 125.8   | 135.5   | 0.93 | 0.0886                            | 0.0064 | 0.1523                           | 0.0078 | 0.0133                           | 0.0004  | 4395                              | 56  | 144                              | 7  | 85                               | 2  |  |
| 10XB10-75             | 5.19                 | 57.7    | 203.2   | 0.28 | 0.0461                            | 0.0067 | 0.0485                           | 0.0069 | 0.0077                           | 0.0002  | -                                 | 263 | 48                               | 7  | 49                               | 1  |  |
| 10XB10-76             | 3.59                 | 59.1    | 214.3   | 0.28 | 0.0554                            | 0.0037 | 0.0567                           | 0.0029 | 0.0080                           | 0.0002  | 427                               | 66  | 56                               | 3  | 51                               | 1  |  |
| 10XB10-77             | 481.72               | 23511.1 | 23268.6 | 1.01 | 0.0476                            | 0.0055 | 0.0243                           | 0.0028 | 0.0037                           | 0.0001  | 77                                | 240 | 24                               | 3  | 24                               | 0  |  |
| 10XB10-78             | 17.31                | 362.0   | 3386.7  | 0.11 | 0.0469                            | 0.0019 | 0.0248                           | 0.0010 | 0.0038                           | 0.00004 | 42                                | 67  | 25                               | 1  | 25                               | 0  |  |
| 10XB10-79             | 30.47                | 109.5   | 111.3   | 0.98 | 0.0461                            | 0.0142 | 0.0841                           | 0.0258 | 0.0133                           | 0.0004  | -                                 | 496 | 82                               | 24 | 85                               | 2  |  |
| <b>Sample SLP1101</b> |                      |         |         |      |                                   |        |                                  |        |                                  |         |                                   |     |                                  |    |                                  |    |  |
| SLP1101-01            | 44.39                | 929.8   | 434.5   | 2.14 | 0.0499                            | 0.0056 | 0.0608                           | 0.0072 | 0.0093                           | 0.0003  | 192                               | 208 | 60                               | 7  | 59                               | 2  |  |
| SLP1101-02            | 53.54                | 1179.1  | 2146.9  | 0.55 | 0.0470                            | 0.0028 | 0.0549                           | 0.0032 | 0.0084                           | 0.0002  | 49                                | 95  | 54                               | 3  | 54                               | 1  |  |
| SLP1101-03            | 37.20                | 836.3   | 3736.4  | 0.22 | 0.0471                            | 0.0028 | 0.0341                           | 0.0020 | 0.0053                           | 0.0001  | 53                                | 96  | 34                               | 2  | 34                               | 1  |  |
| SLP1101-04            | 41.38                | 627.0   | 1121.4  | 0.56 | 0.0493                            | 0.0048 | 0.0798                           | 0.0072 | 0.0121                           | 0.0003  | 161                               | 163 | 78                               | 7  | 78                               | 2  |  |
| SLP1101-05            | 20.41                | 583.4   | 247.5   | 2.36 | 0.1276                            | 0.0496 | 0.0453                           | 0.0062 | 0.0067                           | 0.0005  | 2064                              | 139 | 45                               | 6  | 43                               | 3  |  |
| SLP1101-06            | 6.77                 | 82.1    | 1012.3  | 0.08 | 0.0636                            | 0.0076 | 0.0308                           | 0.0047 | 0.0046                           | 0.0004  | 727                               | 172 | 31                               | 5  | 29                               | 3  |  |
| SLP1101-07            | 102.23               | 434.2   | 3202.4  | 0.14 | 0.0489                            | 0.0023 | 0.1596                           | 0.0070 | 0.0236                           | 0.0003  | 144                               | 76  | 150                              | 6  | 150                              | 2  |  |
| SLP1101-08            | 46.20                | 972.7   | 3174.2  | 0.31 | 0.0465                            | 0.0030 | 0.0450                           | 0.0031 | 0.0069                           | 0.0002  | 25                                | 103 | 45                               | 3  | 45                               | 1  |  |
| SLP1101-09            | 17.81                | 451.1   | 626.2   | 0.72 | 0.0461                            | 0.0027 | 0.0384                           | 0.0017 | 0.0060                           | 0.0002  | -                                 | 128 | 38                               | 2  | 39                               | 2  |  |
| SLP1101-10            | 8.24                 | 316.2   | 296.8   | 1.07 | 0.0461                            | 0.0101 | 0.0229                           | 0.0047 | 0.0036                           | 0.0003  | -                                 | 363 | 23                               | 5  | 23                               | 2  |  |
| SLP1101-11            | 398.33               | 551.6   | 1639.8  | 0.34 | 0.0682                            | 0.0060 | 0.7559                           | 0.0610 | 0.0805                           | 0.0027  | 873                               | 487 | 572                              | 35 | 499                              | 16 |  |
| SLP1101-12            | 123.90               | 1067.6  | 1074.3  | 0.99 | 0.0517                            | 0.0036 | 0.1592                           | 0.0107 | 0.0234                           | 0.0008  | 274                               | 91  | 150                              | 9  | 149                              | 5  |  |
| SLP1101-13            | 115.06               | 796.7   | 683.2   | 1.17 | 0.0461                            | 0.0165 | 0.0455                           | 0.0162 | 0.0072                           | 0.0002  | -                                 | 579 | 45                               | 16 | 46                               | 1  |  |
| SLP1101-14            | 19.83                | 346.6   | 416.9   | 0.83 | 0.0513                            | 0.0089 | 0.0562                           | 0.0071 | 0.0086                           | 0.0003  | 255                               | 211 | 55                               | 7  | 55                               | 2  |  |
| SLP1101-15            | 92.88                | 668.5   | 6155.3  | 0.11 | 0.0479                            | 0.0018 | 0.0799                           | 0.0028 | 0.0121                           | 0.0001  | 96                                | 58  | 78                               | 3  | 78                               | 1  |  |
| SLP1101-16            | 169.15               | 4055.5  | 7692.1  | 0.53 | 0.0468                            | 0.0023 | 0.0468                           | 0.0024 | 0.0073                           | 0.0001  | 37                                | 84  | 46                               | 2  | 47                               | 1  |  |
| SLP1101-17            | 1.64                 | 117.4   | 262.0   | 0.45 | 0.0645                            | 0.0243 | 0.0366                           | 0.0013 | 0.0055                           | 0.0004  | 758                               | 85  | 37                               | 1  | 35                               | 2  |  |
| SLP1101-18            | 99.47                | 1256.7  | 3151.8  | 0.40 | 0.0477                            | 0.0022 | 0.0833                           | 0.0039 | 0.0127                           | 0.0002  | 82                                | 80  | 81                               | 4  | 81                               | 1  |  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |        |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|--------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th     | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| SLP1101-19    | 85.82                | 590.9  | 1149.7 | 0.51 | 0.0498                            | 0.0029 | 0.1631                           | 0.0092 | 0.0241                           | 0.0004 | 187                               | 100 | 153                              | 8  | 153                              | 2  |
| SLP1101-20    | 30.38                | 334.2  | 443.6  | 0.75 | 0.0502                            | 0.0039 | 0.1141                           | 0.0087 | 0.0172                           | 0.0004 | 204                               | 127 | 110                              | 8  | 110                              | 3  |
| SLP1101-21    | 162.41               | 3169.3 | 3128.1 | 1.01 | 0.0483                            | 0.0027 | 0.0632                           | 0.0033 | 0.0096                           | 0.0002 | 113                               | 89  | 62                               | 3  | 62                               | 1  |
| SLP1101-22    | 110.41               | 2811.0 | 7062.1 | 0.40 | 0.0467                            | 0.0024 | 0.0348                           | 0.0018 | 0.0054                           | 0.0001 | 34                                | 84  | 35                               | 2  | 35                               | 0  |
| SLP1101-23    | 258.94               | 302.7  | 256.7  | 1.18 | 0.0760                            | 0.0033 | 1.8314                           | 0.0752 | 0.1763                           | 0.0027 | 1094                              | 58  | 1057                             | 27 | 1047                             | 15 |
| SLP1101-24    | 94.27                | 743.8  | 1210.1 | 0.61 | 0.0487                            | 0.0027 | 0.1536                           | 0.0085 | 0.0228                           | 0.0004 | 133                               | 97  | 145                              | 7  | 145                              | 2  |
| SLP1101-25    | 6.40                 | 207.9  | 376.5  | 0.55 | 0.0722                            | 0.0194 | 0.0367                           | 0.0033 | 0.0056                           | 0.0003 | 992                               | 110 | 37                               | 3  | 36                               | 2  |
| SLP1101-26    | 162.47               | 254.0  | 268.9  | 0.94 | 0.0665                            | 0.0031 | 1.0687                           | 0.0468 | 0.1182                           | 0.0024 | 821                               | 58  | 738                              | 23 | 720                              | 14 |
| SLP1101-27    | 140.89               | 1191.3 | 1197.7 | 0.99 | 0.0493                            | 0.0028 | 0.1512                           | 0.0083 | 0.0224                           | 0.0004 | 160                               | 94  | 143                              | 7  | 143                              | 2  |
| SLP1101-28    | 154.39               | 4172.8 | 5201.4 | 0.80 | 0.0477                            | 0.0027 | 0.0460                           | 0.0025 | 0.0071                           | 0.0001 | 83                                | 88  | 46                               | 2  | 45                               | 1  |
| SLP1101-29    | 307.38               | 696.5  | 525.9  | 1.32 | 0.0573                            | 0.0023 | 0.7382                           | 0.0292 | 0.0936                           | 0.0012 | 502                               | 64  | 561                              | 17 | 576                              | 7  |
| SLP1101-30    | 151.17               | 2342.0 | 8373.0 | 0.28 | 0.0459                            | 0.0019 | 0.0569                           | 0.0024 | 0.0090                           | 0.0001 | -8                                | 57  | 56                               | 2  | 58                               | 1  |
| SLP1101-31    | 162.36               | 3758.5 | 4913.5 | 0.76 | 0.0471                            | 0.0024 | 0.0547                           | 0.0029 | 0.0084                           | 0.0001 | 56                                | 83  | 54                               | 3  | 54                               | 1  |
| SLP1101-32    | 47.05                | 93.7   | 2101.0 | 0.04 | 0.0497                            | 0.0028 | 0.1630                           | 0.0083 | 0.0240                           | 0.0006 | 182                               | 74  | 153                              | 7  | 153                              | 4  |
| SLP1101-33    | 107.23               | 835.8  | 999.9  | 0.84 | 0.0499                            | 0.0027 | 0.1702                           | 0.0088 | 0.0248                           | 0.0004 | 191                               | 93  | 160                              | 8  | 158                              | 2  |
| SLP1101-34    | 70.94                | 990.0  | 1083.0 | 0.91 | 0.0491                            | 0.0036 | 0.0943                           | 0.0067 | 0.0142                           | 0.0003 | 152                               | 126 | 91                               | 6  | 91                               | 2  |
| SLP1101-35    | 13.17                | 266.8  | 1353.8 | 0.20 | 0.0482                            | 0.0033 | 0.0481                           | 0.0031 | 0.0074                           | 0.0002 | 107                               | 103 | 48                               | 3  | 48                               | 1  |
| SLP1101-36    | 82.26                | 2187.9 | 1802.8 | 1.21 | 0.0481                            | 0.0036 | 0.0494                           | 0.0037 | 0.0075                           | 0.0001 | 106                               | 133 | 49                               | 4  | 48                               | 1  |
| SLP1101-37    | 38.95                | 442.7  | 476.3  | 0.93 | 0.0494                            | 0.0047 | 0.1116                           | 0.0106 | 0.0168                           | 0.0004 | 168                               | 170 | 107                              | 10 | 107                              | 2  |
| SLP1101-38    | 60.50                | 961.4  | 890.9  | 1.08 | 0.0490                            | 0.0035 | 0.0824                           | 0.0057 | 0.0123                           | 0.0003 | 147                               | 111 | 80                               | 5  | 79                               | 2  |
| SLP1101-39    | 148.93               | 2037.5 | 2549.1 | 0.80 | 0.0489                            | 0.0027 | 0.0896                           | 0.0051 | 0.0132                           | 0.0002 | 143                               | 103 | 87                               | 5  | 84                               | 1  |
| SLP1101-40    | 120.95               | 2664.9 | 2615.2 | 1.02 | 0.0479                            | 0.0026 | 0.0594                           | 0.0030 | 0.0091                           | 0.0002 | 93                                | 81  | 59                               | 3  | 59                               | 1  |
| SLP1101-41    | 351.74               | 451.2  | 763.6  | 0.59 | 0.0766                            | 0.0027 | 1.4554                           | 0.0534 | 0.1366                           | 0.0017 | 1110                              | 54  | 912                              | 22 | 825                              | 10 |
| SLP1101-42    | 42.94                | 1116.5 | 3852.9 | 0.29 | 0.0478                            | 0.0036 | 0.0367                           | 0.0026 | 0.0057                           | 0.0001 | 92                                | 121 | 37                               | 3  | 37                               | 1  |
| SLP1101-43    | 43.01                | 1164.6 | 1424.7 | 0.82 | 0.0477                            | 0.0030 | 0.0618                           | 0.0040 | 0.0094                           | 0.0002 | 85                                | 112 | 61                               | 4  | 60                               | 1  |
| SLP1101-44    | 300.88               | 360.4  | 4575.8 | 0.23 | 0.0774                            | 0.0023 | 1.2123                           | 0.0370 | 0.1129                           | 0.0013 | 1132                              | 42  | 806                              | 17 | 690                              | 8  |
| SLP1101-45    | 7.90                 | 322.6  | 375.8  | 0.86 | 0.0461                            | 0.0041 | 0.0296                           | 0.0020 | 0.0047                           | 0.0003 | -                                 | 193 | 30                               | 2  | 30                               | 2  |
| SLP1101-46    | 8.25                 | 336.3  | 329.0  | 1.02 | 0.0461                            | 0.0035 | 0.0291                           | 0.0016 | 0.0046                           | 0.0002 | -                                 | 170 | 29                               | 2  | 29                               | 2  |
| SLP1101-47    | 25.91                | 756.4  | 1073.5 | 0.70 | 0.0482                            | 0.0051 | 0.0387                           | 0.0038 | 0.0060                           | 0.0001 | 109                               | 176 | 39                               | 4  | 39                               | 1  |
| SLP1101-48    | 84.10                | 2655.5 | 2455.6 | 1.08 | 0.0475                            | 0.0034 | 0.0378                           | 0.0028 | 0.0059                           | 0.0001 | 74                                | 124 | 38                               | 3  | 38                               | 1  |
| SLP1101-49    | 15.70                | 647.8  | 352.3  | 1.84 | 0.0461                            | 0.0141 | 0.0279                           | 0.0083 | 0.0044                           | 0.0003 | -                                 | 492 | 28                               | 8  | 28                               | 2  |
| SLP1101-50    | 47.49                | 507.4  | 612.4  | 0.83 | 0.0481                            | 0.0037 | 0.1092                           | 0.0084 | 0.0163                           | 0.0003 | 104                               | 136 | 105                              | 8  | 104                              | 2  |
| SLP1101-51    | 22.82                | 517.7  | 328.2  | 1.58 | 0.0631                            | 0.0077 | 0.0622                           | 0.0019 | 0.0093                           | 0.0003 | 711                               | 35  | 61                               | 2  | 59                               | 2  |
| SLP1101-52    | 18.32                | 406.2  | 292.0  | 1.39 | 0.0538                            | 0.0061 | 0.0585                           | 0.0032 | 0.0088                           | 0.0004 | 361                               | 57  | 58                               | 3  | 56                               | 2  |
| SLP1101-53    | 9.83                 | 742.9  | 590.0  | 1.26 | 0.0494                            | 0.0064 | 0.0179                           | 0.0005 | 0.0028                           | 0.0002 | 168                               | 124 | 18                               | 1  | 18                               | 1  |
| SLP1101-54    | 22.10                | 353.7  | 1303.4 | 0.27 | 0.0480                            | 0.0035 | 0.0540                           | 0.0039 | 0.0082                           | 0.0002 | 99                                | 118 | 53                               | 4  | 53                               | 1  |
| SLP1101-55    | 16.39                | 406.6  | 2105.0 | 0.19 | 0.0491                            | 0.0046 | 0.0336                           | 0.0029 | 0.0052                           | 0.0001 | 151                               | 154 | 34                               | 3  | 33                               | 1  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |              |               |             | Isotopic ratios                   |               |               |                                  |               |               |                                  |            | Isotopic ages (Ma) |                                   |             |                                  |                                  |                                  |           |                                  |  |           |
|----------------------|----------------------|--------------|---------------|-------------|-----------------------------------|---------------|---------------|----------------------------------|---------------|---------------|----------------------------------|------------|--------------------|-----------------------------------|-------------|----------------------------------|----------------------------------|----------------------------------|-----------|----------------------------------|--|-----------|
|                      | Pb                   | Th           | U             | Th/U        | $^{207}\text{Pb}/^{206}\text{Pb}$ |               | $1\sigma$     | $^{207}\text{Pb}/^{235}\text{U}$ |               | $1\sigma$     | $^{206}\text{Pb}/^{238}\text{U}$ |            | $1\sigma$          | $^{207}\text{Pb}/^{206}\text{Pb}$ |             | $1\sigma$                        | $^{207}\text{Pb}/^{235}\text{U}$ |                                  | $1\sigma$ | $^{206}\text{Pb}/^{238}\text{U}$ |  | $1\sigma$ |
|                      |                      |              |               |             | $^{207}\text{Pb}/^{206}\text{Pb}$ | $1\sigma$     |               | $^{207}\text{Pb}/^{235}\text{U}$ | $1\sigma$     |               | $^{206}\text{Pb}/^{238}\text{U}$ | $1\sigma$  |                    | $^{207}\text{Pb}/^{206}\text{Pb}$ | $1\sigma$   | $^{207}\text{Pb}/^{235}\text{U}$ | $1\sigma$                        | $^{206}\text{Pb}/^{238}\text{U}$ | $1\sigma$ |                                  |  |           |
| SLP1101-56           | 39.78                | 276.1        | 698.2         | 0.40        | 0.0496                            | 0.0036        | 0.1521        | 0.0108                           | 0.0225        | 0.0004        | 178                              | 125        | 144                | 9                                 | 143         | 3                                |                                  |                                  |           |                                  |  |           |
| SLP1101-57           | 106.98               | 7547.0       | 2394.6        | 3.15        | 0.0477                            | 0.0083        | 0.0175        | 0.0030                           | 0.0027        | 0.0001        | 82                               | 275        | 18                 | 3                                 | 17          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-58           | 161.75               | 368.1        | 548.9         | 0.67        | 0.0600                            | 0.0062        | 0.5493        | 0.0544                           | 0.0664        | 0.0021        | 604                              | 234        | 445                | 36                                | 414         | 13                               |                                  |                                  |           |                                  |  |           |
| SLP1101-59           | 46.54                | 591.7        | 1631.3        | 0.36        | 0.0479                            | 0.0034        | 0.0786        | 0.0050                           | 0.0123        | 0.0002        | 93                               | 111        | 77                 | 5                                 | 78          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-60           | 37.93                | 826.0        | 1314.0        | 0.63        | 0.0494                            | 0.0040        | 0.0498        | 0.0037                           | 0.0075        | 0.0002        | 169                              | 132        | 49                 | 4                                 | 48          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-61           | 31.64                | 685.9        | 801.9         | 0.86        | 0.0489                            | 0.0039        | 0.0572        | 0.0046                           | 0.0087        | 0.0002        | 144                              | 134        | 56                 | 4                                 | 56          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-62           | 3.67                 | 166.6        | 121.2         | 1.37        | 0.1045                            | 0.0208        | 0.0371        | 0.0013                           | 0.0056        | 0.0004        | 1705                             | 78         | 37                 | 1                                 | 36          | 3                                |                                  |                                  |           |                                  |  |           |
| SLP1101-63           | 12.32                | 78.0         | 2444.2        | 0.03        | 0.0489                            | 0.0048        | 0.0372        | 0.0032                           | 0.0058        | 0.0001        | 145                              | 150        | 37                 | 3                                 | 37          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-64           | 222.43               | 389.1        | 238.8         | 1.63        | 0.0664                            | 0.0036        | 1.0076        | 0.0561                           | 0.1114        | 0.0032        | 818                              | 70         | 708                | 28                                | 681         | 18                               |                                  |                                  |           |                                  |  |           |
| SLP1101-65           | 4.57                 | 220.6        | 140.8         | 1.57        | 0.0461                            | 0.0071        | 0.0201        | 0.0024                           | 0.0032        | 0.0003        | -                                | 278        | 20                 | 2                                 | 20          | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-66           | 148.06               | 757.2        | 5140.1        | 0.15        | 0.0486                            | 0.0020        | 0.1431        | 0.0059                           | 0.0213        | 0.0003        | 130                              | 69         | 136                | 5                                 | 136         | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-67           | 108.04               | 1162.9       | 1242.1        | 0.94        | 0.0493                            | 0.0030        | 0.1113        | 0.0069                           | 0.0164        | 0.0003        | 162                              | 109        | 107                | 6                                 | 105         | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-68           | 9.25                 | 480.4        | 457.9         | 1.05        | 0.1202                            | 0.0486        | 0.0178        | 0.0034                           | 0.0027        | 0.0002        | 1959                             | 237        | 18                 | 3                                 | 17          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-69           | 8.40                 | 248.4        | 170.0         | 1.46        | 0.1043                            | 0.0356        | 0.0388        | 0.0017                           | 0.0055        | 0.0006        | 1702                             | 124        | 39                 | 2                                 | 36          | 4                                |                                  |                                  |           |                                  |  |           |
| <b>SLP1101-70</b>    | <b>1089.20</b>       | <b>556.4</b> | <b>2508.8</b> | <b>0.22</b> | <b>0.1574</b>                     | <b>0.0038</b> | <b>4.6317</b> | <b>0.1013</b>                    | <b>0.2134</b> | <b>0.0022</b> | <b>2428</b>                      | <b>42</b>  | <b>1755</b>        | <b>48</b>                         | <b>1247</b> | <b>12</b>                        |                                  |                                  |           |                                  |  |           |
| SLP1101-71           | 32.78                | 2495.8       | 1061.5        | 2.35        | 0.0560                            | 0.0127        | 0.0185        | 0.0035                           | 0.0029        | 0.0001        | 451                              | 347        | 19                 | 3                                 | 18          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-72           | 31.82                | 640.1        | 365.7         | 1.75        | 0.0573                            | 0.0073        | 0.0568        | 0.0020                           | 0.0087        | 0.0004        | 502                              | 52         | 56                 | 2                                 | 56          | 3                                |                                  |                                  |           |                                  |  |           |
| SLP1101-73           | 17.65                | 282.9        | 973.3         | 0.29        | 0.0466                            | 0.0037        | 0.0564        | 0.0048                           | 0.0085        | 0.0002        | 30                               | 146        | 56                 | 5                                 | 55          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-74           | 37.24                | 294.0        | 650.0         | 0.45        | 0.0496                            | 0.0034        | 0.1445        | 0.0098                           | 0.0214        | 0.0005        | 178                              | 115        | 137                | 9                                 | 137         | 3                                |                                  |                                  |           |                                  |  |           |
| SLP1101-75           | 33.84                | 678.7        | 723.5         | 0.94        | 0.0509                            | 0.0052        | 0.0621        | 0.0057                           | 0.0095        | 0.0002        | 234                              | 159        | 61                 | 5                                 | 61          | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-76           | 283.23               | 3335.7       | 2639.5        | 1.26        | 0.0489                            | 0.0029        | 0.1158        | 0.0070                           | 0.0168        | 0.0003        | 142                              | 108        | 111                | 6                                 | 107         | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-77           | 49.69                | 1145.2       | 770.8         | 1.49        | 0.0497                            | 0.0045        | 0.0568        | 0.0055                           | 0.0084        | 0.0003        | 181                              | 162        | 56                 | 5                                 | 54          | 2                                |                                  |                                  |           |                                  |  |           |
| <b>SLP1101-78</b>    | <b>94.42</b>         | <b>683.1</b> | <b>790.3</b>  | <b>0.86</b> | <b>0.0818</b>                     | <b>0.0141</b> | <b>0.1864</b> | <b>0.0314</b>                    | <b>0.0165</b> | <b>0.0006</b> | <b>1241</b>                      | <b>367</b> | <b>174</b>         | <b>27</b>                         | <b>106</b>  | <b>4</b>                         |                                  |                                  |           |                                  |  |           |
| SLP1101-79           | 18.63                | 238.6        | 406.3         | 0.59        | 0.0494                            | 0.0062        | 0.0890        | 0.0106                           | 0.0134        | 0.0004        | 165                              | 215        | 87                 | 10                                | 86          | 2                                |                                  |                                  |           |                                  |  |           |
| SLP1101-80           | 9.16                 | 497.8        | 378.8         | 1.31        | 0.0461                            | 0.0041        | 0.0175        | 0.0012                           | 0.0028        | 0.0002        | -                                | 196        | 18                 | 1                                 | 18          | 1                                |                                  |                                  |           |                                  |  |           |
| SLP1101-81           | 4.57                 | 429.8        | 401.1         | 1.07        | 0.0569                            | 0.0116        | 0.0567        | 0.0065                           | 0.0087        | 0.0003        | 487                              | 189        | 56                 | 6                                 | 56          | 2                                |                                  |                                  |           |                                  |  |           |
| <b>Sample ZB1102</b> |                      |              |               |             |                                   |               |               |                                  |               |               |                                  |            |                    |                                   |             |                                  |                                  |                                  |           |                                  |  |           |
| ZB1102-01            | 37.23                | 1964.1       | 2757.0        | 0.71        | 0.0548                            | 0.0064        | 0.0160        | 0.0015                           | 0.0025        | 0.0001        | 403                              | 158        | 16                 | 2                                 | 16          | 1                                |                                  |                                  |           |                                  |  |           |
| ZB1102-02            | 47.49                | 2765.4       | 2199.6        | 1.26        | 0.0627                            | 0.0138        | 0.0148        | 0.0010                           | 0.0023        | 0.0001        | 699                              | 77         | 15                 | 1                                 | 15          | 1                                |                                  |                                  |           |                                  |  |           |
| ZB1102-03            | 44.14                | 2835.5       | 4189.2        | 0.68        | 0.0486                            | 0.0033        | 0.0155        | 0.0010                           | 0.0024        | 0.0001        | 128                              | 103        | 16                 | 1                                 | 15          | 0                                |                                  |                                  |           |                                  |  |           |
| ZB1102-04            | 19.76                | 1490.8       | 2102.9        | 0.71        | 0.0461                            | 0.0047        | 0.0144        | 0.0014                           | 0.0023        | 0.0001        | 1                                | 209        | 15                 | 1                                 | 15          | 1                                |                                  |                                  |           |                                  |  |           |
| ZB1102-05            | 157.35               | 509.0        | 551.2         | 0.92        | 0.0540                            | 0.0030        | 0.3939        | 0.0219                           | 0.0528        | 0.0009        | 372                              | 94         | 337                | 16                                | 331         | 5                                |                                  |                                  |           |                                  |  |           |
| ZB1102-06            | 33.25                | 759.6        | 668.0         | 1.14        | 0.0602                            | 0.0051        | 0.0504        | 0.0026                           | 0.0075        | 0.0003        | 610                              | 52         | 50                 | 2                                 | 48          | 2                                |                                  |                                  |           |                                  |  |           |
| <b>ZB1102-07</b>     | <b>11.02</b>         | <b>252.2</b> | <b>427.2</b>  | <b>0.59</b> | <b>0.0556</b>                     | <b>0.0102</b> | <b>0.0633</b> | <b>0.0111</b>                    | <b>0.0083</b> | <b>0.0005</b> | <b>435</b>                       | <b>383</b> | <b>62</b>          | <b>11</b>                         | <b>53</b>   | <b>3</b>                         |                                  |                                  |           |                                  |  |           |
| ZB1102-08            | 44.77                | 903.1        | 1103.8        | 0.82        | 0.0477                            | 0.0052        | 0.0481        | 0.0051                           | 0.0073        | 0.0003        | 84                               | 165        | 48                 | 5                                 | 47          | 2                                |                                  |                                  |           |                                  |  |           |
| ZB1102-09            | 34.99                | 2752.9       | 2377.3        | 1.16        | 0.0491                            | 0.0048        | 0.0152        | 0.0005                           | 0.0024        | 0.0001        | 155                              | 36         | 15                 | 1                                 | 16          | 1                                |                                  |                                  |           |                                  |  |           |
| ZB1102-10            | 45.02                | 527.9        | 427.3         | 1.24        | 0.0496                            | 0.0047        | 0.1140        | 0.0094                           | 0.0167        | 0.0006        | 177                              | 124        | 110                | 9                                 | 107         | 4                                |                                  |                                  |           |                                  |  |           |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |        |         | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|--------|---------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th     | U       |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| ZB1102-11     | 17.65                | 243.7  | 364.4   | 0.67 | 0.0461                            | 0.0041 | 0.0547                           | 0.0036 | 0.0086                           | 0.0005 | -                                 | 193 | 54                               | 3  | 55                               | 3  |
| ZB1102-12     | 116.73               | 1225.8 | 1440.5  | 0.85 | 0.0493                            | 0.0036 | 0.1130                           | 0.0078 | 0.0166                           | 0.0003 | 160                               | 122 | 109                              | 7  | 106                              | 2  |
| ZB1102-13     | 225.63               | 74.3   | 673.6   | 0.11 | 0.0988                            | 0.0030 | 3.2266                           | 0.0928 | 0.2369                           | 0.0026 | 1601                              | 59  | 1464                             | 22 | 1371                             | 14 |
| ZB1102-14     | 98.51                | 1633.2 | 15559.4 | 0.10 | 0.0656                            | 0.0026 | 0.0500                           | 0.0039 | 0.0054                           | 0.0002 | 793                               | 60  | 50                               | 3  | 35                               | 2  |
| ZB1102-15     | 33.08                | 1900.2 | 2518.4  | 0.75 | 0.0461                            | 0.0033 | 0.0163                           | 0.0010 | 0.0025                           | 0.0001 | 5                                 | 80  | 16                               | 1  | 16                               | 1  |
| ZB1102-16     | 23.21                | 285.9  | 424.3   | 0.67 | 0.0461                            | 0.0028 | 0.0574                           | 0.0026 | 0.0090                           | 0.0004 | -                                 | 134 | 57                               | 3  | 58                               | 2  |
| ZB1102-17     | 15.05                | 530.3  | 930.9   | 0.57 | 0.0673                            | 0.0203 | 0.0152                           | 0.0007 | 0.0025                           | 0.0001 | 848                               | 45  | 15                               | 1  | 16                               | 1  |
| ZB1102-18     | 27.54                | 310.1  | 296.5   | 1.05 | 0.4262                            | 0.0117 | 0.2356                           | 0.0449 | 0.0156                           | 0.0006 | 2045                              | 63  | 215                              | 42 | 100                              | 4  |
| ZB1102-19     | 87.31                | 1885.9 | 4110.0  | 0.46 | 0.0474                            | 0.0030 | 0.0478                           | 0.0030 | 0.0074                           | 0.0001 | 71                                | 107 | 47                               | 3  | 47                               | 1  |
| ZB1102-20     | 76.46                | 2063.0 | 1960.4  | 1.05 | 0.0462                            | 0.0032 | 0.0458                           | 0.0030 | 0.0071                           | 0.0002 | 8                                 | 102 | 45                               | 3  | 45                               | 1  |
| ZB1102-21     | 133.51               | 135.2  | 1597.6  | 0.08 | 0.0556                            | 0.0019 | 0.5705                           | 0.0198 | 0.0735                           | 0.0009 | 438                               | 56  | 458                              | 13 | 457                              | 5  |
| ZB1102-22     | 107.54               | 5513.5 | 2226.9  | 2.48 | 0.0488                            | 0.0043 | 0.0244                           | 0.0020 | 0.0037                           | 0.0001 | 140                               | 136 | 24                               | 2  | 24                               | 1  |
| ZB1102-23     | 30.89                | 710.3  | 962.1   | 0.74 | 0.0493                            | 0.0050 | 0.0494                           | 0.0040 | 0.0076                           | 0.0002 | 162                               | 123 | 49                               | 4  | 49                               | 2  |
| ZB1102-24     | 212.21               | 755.6  | 546.6   | 1.38 | 0.0538                            | 0.0032 | 0.4161                           | 0.0235 | 0.0561                           | 0.0010 | 363                               | 95  | 353                              | 17 | 352                              | 6  |
| ZB1102-25     | 34.44                | 2136.1 | 4280.8  | 0.50 | 0.0517                            | 0.0034 | 0.0187                           | 0.0013 | 0.0026                           | 0.0001 | 270                               | 113 | 19                               | 1  | 17                               | 0  |
| ZB1102-26     | 72.94                | 1685.4 | 2765.9  | 0.61 | 0.0454                            | 0.0033 | 0.0513                           | 0.0040 | 0.0079                           | 0.0002 | -2                                | 133 | 51                               | 4  | 51                               | 1  |
| ZB1102-27     | 35.02                | 477.4  | 957.5   | 0.50 | 0.0461                            | 0.0044 | 0.0602                           | 0.0055 | 0.0095                           | 0.0002 | -                                 | 200 | 59                               | 5  | 61                               | 2  |
| ZB1102-28     | 61.92                | 1362.2 | 1280.8  | 1.06 | 0.0502                            | 0.0030 | 0.0560                           | 0.0030 | 0.0085                           | 0.0002 | 203                               | 78  | 55                               | 3  | 54                               | 1  |
| ZB1102-29     | 46.15                | 2992.9 | 3335.8  | 0.90 | 0.0566                            | 0.0039 | 0.0184                           | 0.0013 | 0.0024                           | 0.0001 | 475                               | 108 | 18                               | 1  | 15                               | 0  |
| ZB1102-30     | 30.20                | 764.4  | 653.8   | 1.17 | 0.0469                            | 0.0035 | 0.0556                           | 0.0027 | 0.0083                           | 0.0003 | 42                                | 54  | 55                               | 3  | 53                               | 2  |
| ZB1102-31     | 55.25                | 1327.8 | 1754.4  | 0.76 | 0.0490                            | 0.0034 | 0.0490                           | 0.0031 | 0.0075                           | 0.0002 | 147                               | 105 | 49                               | 3  | 48                               | 1  |
| ZB1102-32     | 34.07                | 468.2  | 540.6   | 0.87 | 0.0535                            | 0.0076 | 0.0942                           | 0.0130 | 0.0128                           | 0.0004 | 348                               | 316 | 94                               | 42 | 82                               | 2  |
| ZB1102-33     | 39.30                | 871.3  | 1517.4  | 0.57 | 0.0484                            | 0.0033 | 0.0514                           | 0.0035 | 0.0079                           | 0.0002 | 120                               | 109 | 51                               | 3  | 51                               | 1  |
| ZB1102-34     | 53.18                | 1283.9 | 1275.0  | 1.01 | 0.0566                            | 0.0057 | 0.0584                           | 0.0046 | 0.0079                           | 0.0002 | 475                               | 124 | 58                               | 4  | 51                               | 1  |
| ZB1102-35     | 160.32               | 231.6  | 1616.9  | 0.14 | 0.0590                            | 0.0020 | 0.6073                           | 0.0210 | 0.0743                           | 0.0009 | 566                               | 55  | 482                              | 13 | 462                              | 5  |
| ZB1102-36     | 34.36                | 729.4  | 1185.6  | 0.62 | 0.0521                            | 0.0065 | 0.0587                           | 0.0048 | 0.0085                           | 0.0004 | 290                               | 113 | 58                               | 5  | 55                               | 2  |
| ZB1102-37     | 51.43                | 2350.8 | 3365.9  | 0.70 | 0.0511                            | 0.0039 | 0.0221                           | 0.0015 | 0.0033                           | 0.0001 | 245                               | 106 | 22                               | 1  | 21                               | 1  |
| ZB1102-38     | 70.88                | 2713.3 | 6506.5  | 0.42 | 0.0484                            | 0.0031 | 0.0245                           | 0.0016 | 0.0038                           | 0.0001 | 120                               | 103 | 25                               | 2  | 24                               | 1  |
| ZB1102-39     | 17.27                | 859.1  | 2607.2  | 0.33 | 0.0475                            | 0.0079 | 0.0160                           | 0.0007 | 0.0025                           | 0.0001 | 74                                | 51  | 16                               | 1  | 16                               | 1  |
| ZB1102-40     | 166.15               | 243.3  | 1950.0  | 0.12 | 0.0603                            | 0.0021 | 0.5492                           | 0.0176 | 0.0658                           | 0.0008 | 616                               | 48  | 444                              | 12 | 411                              | 5  |
| ZB1102-41     | 68.82                | 3042.7 | 5948.4  | 0.51 | 0.0481                            | 0.0029 | 0.0229                           | 0.0014 | 0.0035                           | 0.0001 | 102                               | 101 | 23                               | 1  | 23                               | 0  |
| ZB1102-42     | 25.54                | 521.5  | 677.8   | 0.77 | 0.0597                            | 0.0110 | 0.0686                           | 0.0124 | 0.0083                           | 0.0003 | 593                               | 396 | 67                               | 12 | 53                               | 2  |
| ZB1102-43     | 33.82                | 1887.1 | 1748.2  | 1.08 | 0.0730                            | 0.0048 | 0.0376                           | 0.0022 | 0.0037                           | 0.0001 | 1015                              | 76  | 37                               | 2  | 24                               | 1  |
| ZB1102-44     | 252.87               | 4463.5 | 23932.4 | 0.19 | 0.0480                            | 0.0017 | 0.0435                           | 0.0015 | 0.0065                           | 0.0001 | 98                                | 57  | 43                               | 1  | 42                               | 1  |
| ZB1102-45     | 147.68               | 1544.0 | 1792.9  | 0.86 | 0.0497                            | 0.0030 | 0.1192                           | 0.0072 | 0.0174                           | 0.0003 | 180                               | 107 | 114                              | 7  | 111                              | 2  |
| ZB1102-46     | 166.52               | 3248.2 | 4225.5  | 0.77 | 0.0483                            | 0.0025 | 0.0665                           | 0.0033 | 0.0100                           | 0.0001 | 114                               | 86  | 65                               | 3  | 64                               | 1  |
| ZB1102-47     | 20.10                | 410.2  | 352.6   | 1.16 | 0.0579                            | 0.0125 | 0.0668                           | 0.0140 | 0.0084                           | 0.0004 | 527                               | 446 | 66                               | 13 | 54                               | 2  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |        |        |      | Th/U   | Isotopic ratios                   |         |                                  |        |                                  |    | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|--------|--------|------|--------|-----------------------------------|---------|----------------------------------|--------|----------------------------------|----|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th     | U      |      |        | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ      | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| ZB1102-48     | 31.48                | 930.2  | 1199.2 | 0.78 | 0.0493 | 0.0036                            | 0.0517  | 0.0035                           | 0.0079 | 0.0002                           |    | 162                               | 112 | 51                               | 3  | 51                               | 1  |
| ZB1102-49     | 15.11                | 196.6  | 171.8  | 1.14 | 0.1167 | 0.0203                            | 0.2349  | 0.0109                           | 0.0175 | 0.0010                           |    | 1906                              | 47  | 214                              | 9  | 112                              | 6  |
| ZB1102-50     | 101.29               | 1056.9 | 1488.6 | 0.71 | 0.0490 | 0.0028                            | 0.1217  | 0.0070                           | 0.0178 | 0.0003                           |    | 148                               | 100 | 117                              | 6  | 113                              | 2  |
| ZB1102-51     | 18.30                | 1018.2 | 542.6  | 1.88 | 0.0461 | 0.0037                            | 0.0147  | 0.0009                           | 0.0023 | 0.0001                           |    | -                                 | 178 | 15                               | 1  | 15                               | 1  |
| ZB1102-52     | 1234.80              | 763.6  | 862.6  | 0.89 | 0.1195 | 0.0031                            | 5.3996  | 0.1382                           | 0.3249 | 0.0043                           |    | 1949                              | 27  | 1885                             | 22 | 1814                             | 21 |
| ZB1102-53     | 12.22                | 821.5  | 540.1  | 1.52 | 0.0907 | 0.0117                            | 0.0993  | 0.0046                           | 0.0079 | 0.0003                           |    | 1441                              | 41  | 96                               | 4  | 51                               | 2  |
| ZB1102-54     | 1047.79              | 386.3  | 824.5  | 0.47 | 0.1617 | 0.0044                            | 10.4231 | 0.2917                           | 0.4616 | 0.0068                           |    | 2474                              | 28  | 2473                             | 26 | 2447                             | 30 |
| ZB1102-55     | 199.73               | 506.0  | 741.2  | 0.68 | 0.0600 | 0.0027                            | 0.6241  | 0.0274                           | 0.0748 | 0.0012                           |    | 603                               | 68  | 492                              | 17 | 465                              | 7  |
| ZB1102-56     | 30.60                | 2090.2 | 2895.7 | 0.72 | 0.0500 | 0.0048                            | 0.0169  | 0.0013                           | 0.0026 | 0.0001                           |    | 195                               | 112 | 17                               | 1  | 17                               | 1  |
| ZB1102-57     | 321.23               | 773.1  | 876.3  | 0.88 | 0.0602 | 0.0024                            | 0.6934  | 0.0268                           | 0.0829 | 0.0010                           |    | 611                               | 62  | 535                              | 16 | 514                              | 6  |
| ZB1102-58     | 9.01                 | 147.3  | 1185.3 | 0.12 | 0.0485 | 0.0038                            | 0.0454  | 0.0035                           | 0.0069 | 0.0002                           |    | 122                               | 116 | 45                               | 3  | 44                               | 1  |
| ZB1102-59     | 728.21               | 769.1  | 2976.2 | 0.26 | 0.0684 | 0.0019                            | 1.2617  | 0.0374                           | 0.1325 | 0.0025                           |    | 882                               | 32  | 829                              | 17 | 802                              | 14 |
| ZB1102-60     | 19.72                | 405.9  | 388.6  | 1.04 | 0.0524 | 0.0154                            | 0.0522  | 0.0150                           | 0.0072 | 0.0004                           |    | 304                               | 531 | 52                               | 14 | 46                               | 3  |
| ZB1102-64     | 44.11                | 1030.9 | 1332.3 | 0.77 | 0.0649 | 0.0045                            | 0.0733  | 0.0049                           | 0.0085 | 0.0002                           |    | 770                               | 99  | 72                               | 5  | 55                               | 4  |
| ZB1102-62     | 61.91                | 4739.9 | 6576.1 | 0.72 | 0.0515 | 0.0032                            | 0.0166  | 0.0010                           | 0.0024 | 0.0001                           |    | 265                               | 94  | 17                               | 1  | 16                               | 0  |
| ZB1102-63     | 12.79                | 412.9  | 458.6  | 0.90 | 0.0493 | 0.0052                            | 0.0490  | 0.0023                           | 0.0074 | 0.0005                           |    | 161                               | 66  | 49                               | 2  | 48                               | 3  |
| ZB1102-64     | 34.74                | 990.6  | 848.4  | 1.17 | 0.0509 | 0.0048                            | 0.0550  | 0.0048                           | 0.0085 | 0.0003                           |    | 234                               | 144 | 54                               | 5  | 54                               | 2  |
| ZB1102-65     | 64.15                | 582.7  | 641.9  | 0.91 | 0.0461 | 0.0032                            | 0.1156  | 0.0076                           | 0.0182 | 0.0004                           |    | -                                 | 155 | 111                              | 7  | 116                              | 3  |
| ZB1102-66     | 42.55                | 1133.1 | 727.5  | 1.56 | 0.0816 | 0.0174                            | 0.0833  | 0.0175                           | 0.0074 | 0.0003                           |    | 1235                              | 463 | 81                               | 16 | 48                               | 2  |
| ZB1102-67     | 63.98                | 1660.0 | 2232.7 | 0.74 | 0.0499 | 0.0043                            | 0.0508  | 0.0038                           | 0.0077 | 0.0002                           |    | 190                               | 120 | 50                               | 4  | 50                               | 1  |
| ZB1102-68     | 318.75               | 8925.6 | 4474.4 | 1.99 | 0.0473 | 0.0026                            | 0.0506  | 0.0028                           | 0.0077 | 0.0001                           |    | 64                                | 92  | 50                               | 3  | 49                               | 1  |
| ZB1102-69     | 24.67                | 285.1  | 469.8  | 0.61 | 0.0572 | 0.0069                            | 0.1081  | 0.0079                           | 0.0163 | 0.0005                           |    | 500                               | 110 | 104                              | 7  | 104                              | 3  |
| ZB1102-70     | 22.37                | 1327.2 | 1288.3 | 1.03 | 0.0830 | 0.0118                            | 0.0295  | 0.0010                           | 0.0038 | 0.0001                           |    | 1269                              | 31  | 30                               | 1  | 24                               | 1  |
| ZB1102-71     | 177.87               | 262.2  | 1949.2 | 0.13 | 0.0558 | 0.0018                            | 0.5581  | 0.0181                           | 0.0722 | 0.0007                           |    | 445                               | 55  | 450                              | 12 | 449                              | 4  |
| ZB1102-72     | 131.12               | 166.8  | 193.3  | 0.86 | 0.0753 | 0.0035                            | 1.5965  | 0.0762                           | 0.1542 | 0.0026                           |    | 1077                              | 69  | 969                              | 30 | 925                              | 15 |
| ZB1102-73     | 18.23                | 1153.1 | 1778.7 | 0.65 | 0.0540 | 0.0076                            | 0.0176  | 0.0020                           | 0.0027 | 0.0001                           |    | 372                               | 165 | 18                               | 2  | 18                               | 1  |
| ZB1102-74     | 61.96                | 764.7  | 718.4  | 1.06 | 0.0509 | 0.0027                            | 0.1131  | 0.0060                           | 0.0171 | 0.0004                           |    | 236                               | 84  | 109                              | 5  | 109                              | 2  |
| ZB1102-75     | 62.73                | 1773.8 | 1231.4 | 1.44 | 0.0498 | 0.0050                            | 0.0457  | 0.0044                           | 0.0071 | 0.0002                           |    | 186                               | 165 | 45                               | 4  | 45                               | 1  |
| ZB1102-76     | 14.38                | 1029.7 | 1037.0 | 0.99 | 0.0551 | 0.0087                            | 0.0164  | 0.0010                           | 0.0025 | 0.0001                           |    | 414                               | 61  | 17                               | 1  | 16                               | 1  |
| ZB1102-77     | 1643.27              | 1284.9 | 1416.0 | 0.91 | 0.0962 | 0.0023                            | 3.6350  | 0.0925                           | 0.2730 | 0.0034                           |    | 1551                              | 29  | 1557                             | 20 | 1556                             | 17 |
| ZB1102-78     | 64.24                | 1466.9 | 8752.6 | 0.17 | 0.0467 | 0.0022                            | 0.0388  | 0.0018                           | 0.0060 | 0.0001                           |    | 36                                | 74  | 39                               | 2  | 39                               | 1  |
| ZB1102-79     | 26.74                | 742.2  | 900.4  | 0.82 | 0.0517 | 0.0048                            | 0.0461  | 0.0050                           | 0.0071 | 0.0002                           |    | 272                               | 187 | 46                               | 5  | 45                               | 1  |
| ZB1102-80     | 462.57               | 436.4  | 965.8  | 0.45 | 0.0751 | 0.0021                            | 1.8847  | 0.0543                           | 0.1804 | 0.0021                           |    | 1072                              | 39  | 1076                             | 19 | 1069                             | 12 |
| ZB1102-81     | 112.43               | 1202.9 | 1494.8 | 0.80 | 0.0510 | 0.0028                            | 0.1225  | 0.0064                           | 0.0179 | 0.0003                           |    | 240                               | 88  | 117                              | 6  | 114                              | 2  |
| ZB1102-82     | 15.08                | 689.1  | 1376.9 | 0.50 | 0.0677 | 0.0131                            | 0.0164  | 0.0021                           | 0.0026 | 0.0001                           |    | 859                               | 194 | 17                               | 2  | 17                               | 1  |
| ZB1102-83     | 32.98                | 1266.1 | 2551.4 | 0.50 | 0.0537 | 0.0050                            | 0.0248  | 0.0020                           | 0.0035 | 0.0001                           |    | 356                               | 135 | 25                               | 2  | 23                               | 1  |
| ZB1102-84     | 33.68                | 340.6  | 334.3  | 1.02 | 0.0524 | 0.0044                            | 0.1164  | 0.0041                           | 0.0178 | 0.0008                           |    | 305                               | 44  | 112                              | 4  | 113                              | 5  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |         |         | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |  |
|----------------------|----------------------|---------|---------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|--|
|                      | Pb                   | Th      | U       |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |  |
| ZB1102-85            | 117.13               | 757.2   | 2633.1  | 0.29 | 0.0498                            | 0.0022 | 0.1569                           | 0.0068 | 0.0230                           | 0.0003 | 187                               | 73  | 148                              | 6  | 146                              | 2  |  |
| ZB1102-86            | 18.25                | 440.5   | 1465.7  | 0.30 | 0.0484                            | 0.0046 | 0.0442                           | 0.0043 | 0.0064                           | 0.0002 | 121                               | 160 | 44                               | 4  | 41                               | 1  |  |
| ZB1102-87            | 8.22                 | 189.4   | 271.9   | 0.70 | 0.0550                            | 0.0176 | 0.0603                           | 0.0190 | 0.0080                           | 0.0005 | 413                               | 592 | 59                               | 18 | 51                               | 3  |  |
| ZB1102-88            | 16.39                | 289.6   | 153.2   | 1.89 | 0.1911                            | 0.0645 | 0.2337                           | 0.0744 | 0.0089                           | 0.0010 | 2752                              | 727 | 243                              | 61 | 57                               | 6  |  |
| ZB1102-89            | 28.47                | 398.6   | 416.0   | 0.96 | 0.0533                            | 0.0062 | 0.1248                           | 0.0135 | 0.0183                           | 0.0009 | 342                               | 159 | 119                              | 12 | 117                              | 6  |  |
| ZB1102-90            | 47.52                | 360.5   | 508.4   | 0.71 | 0.0663                            | 0.0042 | 0.0861                           | 0.0024 | 0.0092                           | 0.0004 | 845                               | 42  | 84                               | 2  | 59                               | 2  |  |
| ZB1102-91            | 39.94                | 1132.0  | 1120.7  | 1.01 | 0.0461                            | 0.0046 | 0.0377                           | 0.0035 | 0.0059                           | 0.0002 | -                                 | 208 | 38                               | 3  | 38                               | 1  |  |
| ZB1102-92            | 1964.01              | 2355.7  | 2812.0  | 0.84 | 0.0846                            | 0.0043 | 1.7182                           | 0.0829 | 0.1472                           | 0.0021 | 1307                              | 100 | 1015                             | 31 | 885                              | 12 |  |
| ZB1102-93            | 125.49               | 2365.2  | 5762.6  | 0.41 | 0.0479                            | 0.0023 | 0.0582                           | 0.0027 | 0.0088                           | 0.0001 | 93                                | 76  | 57                               | 3  | 56                               | 1  |  |
| ZB1102-94            | 41.64                | 878.2   | 1120.4  | 0.78 | 0.0485                            | 0.0033 | 0.0521                           | 0.0032 | 0.0079                           | 0.0002 | 122                               | 90  | 52                               | 3  | 51                               | 1  |  |
| ZB1102-95            | 57.62                | 1578.5  | 1733.2  | 0.91 | 0.0489                            | 0.0041 | 0.0465                           | 0.0034 | 0.0072                           | 0.0002 | 145                               | 117 | 46                               | 3  | 46                               | 1  |  |
| ZB1102-96            | 102.97               | 2780.0  | 9009.8  | 0.31 | 0.0466                            | 0.0026 | 0.0358                           | 0.0021 | 0.0055                           | 0.0001 | 28                                | 94  | 36                               | 2  | 35                               | 1  |  |
| <b>Sample ZB1106</b> |                      |         |         |      |                                   |        |                                  |        |                                  |        |                                   |     |                                  |    |                                  |    |  |
| ZB1106-01            | 31.56                | 1529.7  | 4096.1  | 0.37 | 0.0472                            | 0.0040 | 0.0161                           | 0.0013 | 0.0025                           | 0.0001 | 61                                | 129 | 16                               | 1  | 16                               | 1  |  |
| ZB1106-02            | 15.23                | 1245.1  | 1282.2  | 0.97 | 0.0483                            | 0.0053 | 0.0162                           | 0.0009 | 0.0024                           | 0.0001 | 113                               | 56  | 16                               | 1  | 16                               | 1  |  |
| ZB1106-03            | 50.19                | 1033.2  | 1598.0  | 0.65 | 0.0489                            | 0.0032 | 0.0568                           | 0.0034 | 0.0087                           | 0.0002 | 143                               | 97  | 56                               | 3  | 56                               | 1  |  |
| ZB1106-04            | 8.91                 | 738.1   | 820.4   | 0.90 | 0.0656                            | 0.0088 | 0.0150                           | 0.0004 | 0.0025                           | 0.0001 | 792                               | 58  | 15                               | 0  | 16                               | 1  |  |
| ZB1106-05            | 87.66                | 2057.7  | 4166.1  | 0.49 | 0.0473                            | 0.0029 | 0.0447                           | 0.0026 | 0.0069                           | 0.0001 | 66                                | 100 | 44                               | 3  | 44                               | 1  |  |
| ZB1106-06            | 14.64                | 261.9   | 619.9   | 0.42 | 0.0516                            | 0.0046 | 0.0520                           | 0.0029 | 0.0080                           | 0.0003 | 266                               | 66  | 51                               | 3  | 51                               | 2  |  |
| ZB1106-07            | 52.59                | 818.6   | 2659.0  | 0.31 | 0.0479                            | 0.0029 | 0.0576                           | 0.0036 | 0.0087                           | 0.0002 | 92                                | 103 | 57                               | 3  | 56                               | 1  |  |
| ZB1106-08            | 56.32                | 1197.7  | 3340.1  | 0.36 | 0.0466                            | 0.0027 | 0.0449                           | 0.0024 | 0.0071                           | 0.0001 | 31                                | 84  | 45                               | 2  | 46                               | 1  |  |
| ZB1106-09            | 152.25               | 2842.4  | 3328.2  | 0.85 | 0.0474                            | 0.0027 | 0.0630                           | 0.0035 | 0.0097                           | 0.0002 | 67                                | 93  | 62                               | 3  | 62                               | 1  |  |
| ZB1106-10            | 28.91                | 553.9   | 859.8   | 0.64 | 0.0480                            | 0.0039 | 0.0644                           | 0.0049 | 0.0099                           | 0.0003 | 100                               | 120 | 63                               | 5  | 63                               | 2  |  |
| ZB1106-11            | 577.17               | 35352.7 | 10113.4 | 3.50 | 0.0462                            | 0.0021 | 0.0227                           | 0.0011 | 0.0035                           | 0.0001 | 10                                | 70  | 23                               | 1  | 23                               | 0  |  |
| ZB1106-12            | 34.52                | 3334.1  | 2167.8  | 1.54 | 0.0529                            | 0.0062 | 0.0152                           | 0.0017 | 0.0023                           | 0.0001 | 324                               | 165 | 15                               | 2  | 15                               | 1  |  |
| ZB1106-13            | 152.96               | 1237.8  | 1306.2  | 0.95 | 0.0486                            | 0.0029 | 0.1636                           | 0.0097 | 0.0241                           | 0.0004 | 129                               | 103 | 154                              | 8  | 153                              | 2  |  |
| ZB1106-14            | 231.10               | 16736.1 | 10381.4 | 1.61 | 0.0485                            | 0.0059 | 0.0180                           | 0.0019 | 0.0028                           | 0.0001 | 125                               | 201 | 18                               | 2  | 18                               | 0  |  |
| ZB1106-15            | 33.16                | 335.5   | 396.0   | 0.85 | 0.0492                            | 0.0049 | 0.1123                           | 0.0118 | 0.0168                           | 0.0005 | 156                               | 182 | 108                              | 11 | 107                              | 3  |  |
| ZB1106-16            | 23.01                | 1071.7  | 1102.8  | 0.97 | 0.0622                            | 0.0094 | 0.0157                           | 0.0005 | 0.0024                           | 0.0001 | 680                               | 50  | 16                               | 1  | 15                               | 1  |  |
| ZB1106-17            | 76.21                | 958.6   | 1175.2  | 0.82 | 0.0490                            | 0.0038 | 0.0865                           | 0.0059 | 0.0131                           | 0.0003 | 147                               | 119 | 84                               | 6  | 84                               | 2  |  |
| ZB1106-18            | 71.55                | 1884.8  | 1903.0  | 0.99 | 0.0480                            | 0.0033 | 0.0478                           | 0.0033 | 0.0074                           | 0.0002 | 99                                | 115 | 47                               | 3  | 47                               | 1  |  |
| ZB1106-19            | 27.02                | 1404.5  | 1890.7  | 0.74 | 0.0503                            | 0.0087 | 0.0185                           | 0.0027 | 0.0028                           | 0.0001 | 207                               | 241 | 19                               | 3  | 18                               | 1  |  |
| ZB1106-20            | 39.23                | 426.4   | 583.5   | 0.73 | 0.0497                            | 0.0040 | 0.1140                           | 0.0086 | 0.0172                           | 0.0004 | 183                               | 127 | 110                              | 8  | 110                              | 3  |  |
| ZB1106-21            | 166.27               | 591.9   | 600.9   | 0.99 | 0.0527                            | 0.0030 | 0.4034                           | 0.0227 | 0.0561                           | 0.0009 | 315                               | 101 | 344                              | 16 | 352                              | 5  |  |
| ZB1106-22            | 159.02               | 3065.8  | 10984.0 | 0.28 | 0.0485                            | 0.0020 | 0.0474                           | 0.0021 | 0.0070                           | 0.0001 | 124                               | 71  | 47                               | 2  | 45                               | 1  |  |
| ZB1106-23            | 46.57                | 2971.9  | 2133.0  | 1.39 | 0.0474                            | 0.0049 | 0.0155                           | 0.0018 | 0.0024                           | 0.0001 | 67                                | 192 | 16                               | 2  | 15                               | 1  |  |
| ZB1106-24            | 19.45                | 311.1   | 391.8   | 0.79 | 0.0494                            | 0.0037 | 0.0601                           | 0.0046 | 0.0092                           | 0.0003 | 167                               | 107 | 59                               | 4  | 59                               | 2  |  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |        |         |      | Th/U   | Isotopic ratios                   |        |                                  |        |                                  |     | Isotopic ages (Ma)                |     |                                  |     |                                  |    |
|---------------|----------------------|--------|---------|------|--------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|-----|-----------------------------------|-----|----------------------------------|-----|----------------------------------|----|
|               | Pb                   | Th     | U       |      |        | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ  | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ  | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| ZB1106-25     | 18.35                | 438.9  | 651.6   | 0.67 | 0.0454 | 0.0042                            | 0.0597 | 0.0074                           | 0.0091 | 0.0003                           | -32 | 200                               | 59  | 7                                | 58  | 2                                |    |
| ZB1106-26     | 67.83                | 1130.3 | 2427.4  | 0.47 | 0.0501 | 0.0037                            | 0.0669 | 0.0044                           | 0.0101 | 0.0002                           | 197 | 113                               | 66  | 4                                | 65  | 1                                |    |
| ZB1106-27     | 59.87                | 574.8  | 592.0   | 0.97 | 0.0495 | 0.0048                            | 0.1368 | 0.0135                           | 0.0204 | 0.0005                           | 170 | 177                               | 130 | 12                               | 130 | 3                                |    |
| ZB1106-28     | 68.13                | 1024.8 | 2532.0  | 0.40 | 0.0484 | 0.0033                            | 0.0792 | 0.0058                           | 0.0115 | 0.0002                           | 119 | 135                               | 77  | 5                                | 74  | 1                                |    |
| ZB1106-29     | 38.13                | 623.9  | 1227.6  | 0.51 | 0.0479 | 0.0036                            | 0.0657 | 0.0047                           | 0.0100 | 0.0002                           | 93  | 122                               | 65  | 4                                | 64  | 1                                |    |
| ZB1106-30     | 36.36                | 404.4  | 615.5   | 0.66 | 0.0497 | 0.0055                            | 0.0944 | 0.0100                           | 0.0143 | 0.0004                           | 179 | 188                               | 92  | 9                                | 92  | 3                                |    |
| ZB1106-31     | 316.09               | 206.2  | 1648.8  | 0.13 | 0.0718 | 0.0023                            | 1.4586 | 0.0482                           | 0.1463 | 0.0019                           | 981 | 46                                | 913 | 20                               | 880 | 10                               |    |
| ZB1106-32     | 123.40               | 2658.5 | 5191.9  | 0.51 | 0.0475 | 0.0027                            | 0.0514 | 0.0029                           | 0.0079 | 0.0001                           | 73  | 95                                | 51  | 3                                | 51  | 1                                |    |
| ZB1106-33     | 34.49                | 983.5  | 1279.7  | 0.77 | 0.0514 | 0.0129                            | 0.0240 | 0.0052                           | 0.0038 | 0.0001                           | 257 | 351                               | 24  | 5                                | 24  | 1                                |    |
| ZB1106-34     | 48.06                | 845.3  | 1209.6  | 0.70 | 0.0498 | 0.0044                            | 0.0612 | 0.0049                           | 0.0092 | 0.0002                           | 185 | 141                               | 60  | 5                                | 59  | 1                                |    |
| ZB1106-35     | 16.94                | 355.5  | 493.6   | 0.72 | 0.0492 | 0.0053                            | 0.0552 | 0.0067                           | 0.0085 | 0.0003                           | 157 | 206                               | 55  | 6                                | 55  | 2                                |    |
| ZB1106-36     | 44.05                | 2241.8 | 2114.2  | 1.06 | 0.0508 | 0.0057                            | 0.0166 | 0.0015                           | 0.0026 | 0.0001                           | 231 | 161                               | 17  | 2                                | 17  | 0                                |    |
| ZB1106-37     | 44.60                | 981.5  | 1567.2  | 0.63 | 0.0483 | 0.0034                            | 0.0550 | 0.0039                           | 0.0083 | 0.0002                           | 114 | 119                               | 54  | 4                                | 54  | 1                                |    |
| ZB1106-38     | 62.12                | 918.0  | 968.0   | 0.95 | 0.0461 | 0.0041                            | 0.0190 | 0.0016                           | 0.0030 | 0.0001                           | -   | 193                               | 19  | 2                                | 19  | 1                                |    |
| ZB1106-39     | 20.92                | 1177.5 | 2356.2  | 0.50 | 0.0502 | 0.0056                            | 0.0177 | 0.0018                           | 0.0027 | 0.0001                           | 205 | 164                               | 18  | 2                                | 18  | 1                                |    |
| ZB1106-40     | 98.24                | 2144.0 | 4212.4  | 0.51 | 0.0476 | 0.0032                            | 0.0489 | 0.0030                           | 0.0075 | 0.0001                           | 77  | 106                               | 48  | 3                                | 48  | 1                                |    |
| ZB1106-41     | 21.70                | 496.1  | 485.1   | 1.02 | 0.0603 | 0.0077                            | 0.0494 | 0.0041                           | 0.0075 | 0.0004                           | 615 | 97                                | 49  | 4                                | 48  | 2                                |    |
| ZB1106-42     | 14.16                | 867.4  | 901.7   | 0.96 | 0.0461 | 0.0030                            | 0.0163 | 0.0008                           | 0.0026 | 0.0001                           | -   | 144                               | 16  | 1                                | 17  | 1                                |    |
| ZB1106-43     | 86.45                | 888.2  | 844.5   | 1.05 | 0.0498 | 0.0041                            | 0.1211 | 0.0089                           | 0.0181 | 0.0004                           | 187 | 130                               | 116 | 8                                | 116 | 2                                |    |
| ZB1106-44     | 13.46                | 273.8  | 1115.8  | 0.25 | 0.0565 | 0.0086                            | 0.0260 | 0.0024                           | 0.0039 | 0.0001                           | 471 | 141                               | 26  | 2                                | 25  | 1                                |    |
| ZB1106-45     | 49.85                | 529.0  | 731.3   | 0.72 | 0.0490 | 0.0039                            | 0.1186 | 0.0089                           | 0.0178 | 0.0004                           | 146 | 131                               | 114 | 8                                | 113 | 2                                |    |
| ZB1106-46     | 52.53                | 1259.9 | 677.5   | 1.86 | 0.0573 | 0.0086                            | 0.0511 | 0.0045                           | 0.0077 | 0.0002                           | 501 | 139                               | 51  | 4                                | 50  | 1                                |    |
| ZB1106-47     | 108.73               | 3081.3 | 1642.9  | 1.88 | 0.0481 | 0.0038                            | 0.0486 | 0.0039                           | 0.0075 | 0.0001                           | 106 | 143                               | 48  | 4                                | 48  | 1                                |    |
| ZB1106-48     | 28.38                | 747.3  | 728.2   | 1.03 | 0.0539 | 0.0062                            | 0.0471 | 0.0046                           | 0.0072 | 0.0002                           | 367 | 166                               | 47  | 4                                | 46  | 1                                |    |
| ZB1106-49     | 403.55               | 417.4  | 910.4   | 0.46 | 0.0714 | 0.0021                            | 1.5738 | 0.0467                           | 0.1589 | 0.0018                           | 969 | 42                                | 960 | 18                               | 951 | 10                               |    |
| ZB1106-50     | 80.64                | 730.7  | 1130.9  | 0.65 | 0.0501 | 0.0038                            | 0.1261 | 0.0090                           | 0.0187 | 0.0003                           | 201 | 129                               | 121 | 8                                | 120 | 2                                |    |
| ZB1106-51     | 9.11                 | 701.9  | 833.9   | 0.84 | 0.0461 | 0.0035                            | 0.0140 | 0.0008                           | 0.0022 | 0.0001                           | -   | 170                               | 14  | 1                                | 14  | 1                                |    |
| ZB1106-52     | 44.97                | 785.6  | 1320.7  | 0.59 | 0.0498 | 0.0056                            | 0.0570 | 0.0053                           | 0.0087 | 0.0002                           | 186 | 164                               | 56  | 5                                | 56  | 1                                |    |
| ZB1106-53     | 46.08                | 1086.5 | 831.4   | 1.31 | 0.0517 | 0.0045                            | 0.0496 | 0.0026                           | 0.0077 | 0.0002                           | 274 | 73                                | 49  | 3                                | 49  | 1                                |    |
| ZB1106-54     | 24.43                | 390.4  | 416.3   | 0.94 | 0.0640 | 0.0047                            | 0.0624 | 0.0033                           | 0.0085 | 0.0003                           | 743 | 55                                | 61  | 3                                | 55  | 2                                |    |
| ZB1106-55     | 44.65                | 292.5  | 358.8   | 0.82 | 0.0461 | 0.0024                            | 0.1139 | 0.0054                           | 0.0180 | 0.0004                           | -   | 114                               | 110 | 5                                | 115 | 3                                |    |
| ZB1106-56     | 87.61                | 1746.4 | 2110.6  | 0.83 | 0.0490 | 0.0036                            | 0.0579 | 0.0041                           | 0.0088 | 0.0002                           | 147 | 128                               | 57  | 4                                | 57  | 1                                |    |
| ZB1106-57     | 162.41               | 3797.2 | 11387.9 | 0.33 | 0.0470 | 0.0020                            | 0.0397 | 0.0017                           | 0.0062 | 0.0001                           | 50  | 66                                | 40  | 2                                | 40  | 1                                |    |
| ZB1106-58     | 34.31                | 638.2  | 814.5   | 0.78 | 0.0516 | 0.0058                            | 0.0571 | 0.0056                           | 0.0086 | 0.0003                           | 269 | 166                               | 56  | 5                                | 55  | 2                                |    |
| ZB1106-59     | 52.08                | 1088.8 | 1541.9  | 0.71 | 0.0516 | 0.0050                            | 0.0553 | 0.0050                           | 0.0078 | 0.0002                           | 269 | 155                               | 55  | 5                                | 50  | 1                                |    |
| ZB1106-60     | 35.50                | 708.2  | 1082.6  | 0.65 | 0.0484 | 0.0044                            | 0.0552 | 0.0053                           | 0.0084 | 0.0003                           | 119 | 151                               | 55  | 5                                | 54  | 2                                |    |
| ZB1106-61     | 26.14                | 217.3  | 242.2   | 0.90 | 0.0545 | 0.0039                            | 0.1333 | 0.0059                           | 0.0199 | 0.0006                           | 392 | 48                                | 127 | 5                                | 127 | 4                                |    |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |         |         |      | Th/U   | Isotopic ratios                   |        |                                  |        |                                  |    | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|---------|---------|------|--------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|----|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th      | U       |      |        | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| ZB1106-62     | 55.32                | 521.7   | 896.6   | 0.58 | 0.0509 | 0.0035                            | 0.1223 | 0.0082                           | 0.0183 | 0.0004                           |    | 235                               | 113 | 117                              | 7  | 117                              | 3  |
| ZB1106-63     | 104.36               | 4241.6  | 16910.9 | 0.25 | 0.0474 | 0.0021                            | 0.0208 | 0.0009                           | 0.0032 | 0.0001                           |    | 71                                | 74  | 21                               | 1  | 21                               | 0  |
| ZB1106-64     | 239.20               | 17981.7 | 9964.3  | 1.80 | 0.0464 | 0.0028                            | 0.0170 | 0.0012                           | 0.0027 | 0.0001                           |    | 21                                | 108 | 17                               | 1  | 17                               | 0  |
| ZB1106-65     | 19.53                | 1154.4  | 1088.9  | 1.06 | 0.0844 | 0.0256                            | 0.0158 | 0.0024                           | 0.0024 | 0.0001                           |    | 1303                              | 229 | 16                               | 2  | 16                               | 1  |
| ZB1106-66     | 19.06                | 397.1   | 402.1   | 0.99 | 0.0659 | 0.0172                            | 0.0491 | 0.0080                           | 0.0076 | 0.0003                           |    | 804                               | 279 | 49                               | 8  | 49                               | 2  |
| ZB1106-67     | 123.18               | 2871.0  | 1840.4  | 1.56 | 0.0586 | 0.0050                            | 0.0610 | 0.0049                           | 0.0078 | 0.0002                           |    | 552                               | 135 | 60                               | 5  | 50                               | 1  |
| ZB1106-68     | 29.48                | 645.3   | 735.2   | 0.88 | 0.0538 | 0.0077                            | 0.0596 | 0.0063                           | 0.0091 | 0.0003                           |    | 363                               | 186 | 59                               | 6  | 58                               | 2  |
| ZB1106-69     | 21.61                | 284.8   | 244.0   | 1.17 | 0.0637 | 0.0062                            | 0.0929 | 0.0044                           | 0.0137 | 0.0006                           |    | 730                               | 46  | 90                               | 4  | 88                               | 4  |
| ZB1106-70     | 128.68               | 1266.3  | 1545.2  | 0.82 | 0.0485 | 0.0025                            | 0.1215 | 0.0062                           | 0.0182 | 0.0003                           |    | 123                               | 90  | 116                              | 6  | 116                              | 2  |
| ZB1106-71     | 54.43                | 1410.9  | 1358.8  | 1.04 | 0.0502 | 0.0036                            | 0.0462 | 0.0032                           | 0.0071 | 0.0002                           |    | 203                               | 112 | 46                               | 3  | 46                               | 1  |
| ZB1106-72     | 12.65                | 243.1   | 324.5   | 0.75 | 0.0461 | 0.0033                            | 0.0550 | 0.0032                           | 0.0087 | 0.0004                           |    | -                                 | 160 | 54                               | 3  | 56                               | 2  |
| ZB1106-73     | 37.55                | 972.9   | 900.2   | 1.08 | 0.0517 | 0.0054                            | 0.0510 | 0.0051                           | 0.0079 | 0.0002                           |    | 272                               | 174 | 50                               | 5  | 51                               | 1  |
| ZB1106-74     | 37.35                | 2802.4  | 2377.0  | 1.18 | 0.0531 | 0.0063                            | 0.0157 | 0.0016                           | 0.0024 | 0.0001                           |    | 335                               | 186 | 16                               | 2  | 16                               | 0  |
| ZB1106-75     | 51.58                | 522.3   | 545.8   | 0.96 | 0.0519 | 0.0068                            | 0.1167 | 0.0116                           | 0.0175 | 0.0005                           |    | 280                               | 176 | 112                              | 11 | 112                              | 3  |
| ZB1106-76     | 45.87                | 1228.1  | 1338.1  | 0.92 | 0.0500 | 0.0062                            | 0.0430 | 0.0051                           | 0.0066 | 0.0002                           |    | 196                               | 212 | 43                               | 5  | 42                               | 1  |
| ZB1106-77     | 234.51               | 489.6   | 766.2   | 0.64 | 0.0578 | 0.0022                            | 0.7016 | 0.0284                           | 0.0871 | 0.0011                           |    | 521                               | 66  | 540                              | 17 | 538                              | 7  |
| ZB1106-78     | 40.19                | 732.1   | 912.7   | 0.80 | 0.0501 | 0.0064                            | 0.0624 | 0.0068                           | 0.0095 | 0.0004                           |    | 201                               | 172 | 61                               | 6  | 61                               | 2  |
| ZB1106-79     | 56.52                | 1311.3  | 1709.4  | 0.77 | 0.0550 | 0.0042                            | 0.0577 | 0.0040                           | 0.0080 | 0.0002                           |    | 411                               | 116 | 57                               | 4  | 52                               | 1  |
| ZB1106-80     | 17.18                | 1259.0  | 1211.2  | 1.04 | 0.0575 | 0.0101                            | 0.0160 | 0.0028                           | 0.0025 | 0.0001                           |    | 512                               | 319 | 16                               | 3  | 16                               | 1  |
| ZB1106-84     | 18.52                | 164.4   | 208.5   | 0.79 | 0.1033 | 0.0244                            | 0.2641 | 0.0531                           | 0.0186 | 0.0009                           |    | 1684                              | 424 | 238                              | 43 | 418                              | 6- |
| ZB1106-82     | 466.70               | 4819.5  | 5273.7  | 0.91 | 0.0498 | 0.0019                            | 0.1208 | 0.0047                           | 0.0175 | 0.0002                           |    | 184                               | 70  | 116                              | 4  | 112                              | 1  |
| ZB1106-83     | 24.42                | 590.4   | 667.9   | 0.88 | 0.0581 | 0.0103                            | 0.0519 | 0.0060                           | 0.0080 | 0.0003                           |    | 534                               | 199 | 51                               | 6  | 51                               | 2  |
| ZB1106-84     | 262.03               | 5141.0  | 6986.3  | 0.74 | 0.0476 | 0.0023                            | 0.0594 | 0.0028                           | 0.0091 | 0.0001                           |    | 80                                | 79  | 59                               | 3  | 58                               | 1  |
| ZB1106-85     | 67.07                | 741.7   | 821.4   | 0.90 | 0.0494 | 0.0037                            | 0.1129 | 0.0089                           | 0.0169 | 0.0003                           |    | 165                               | 140 | 109                              | 8  | 108                              | 2  |
| ZB1106-86     | 19.57                | 522.2   | 477.2   | 1.09 | 0.0655 | 0.0057                            | 0.0583 | 0.0025                           | 0.0072 | 0.0003                           |    | 790                               | 39  | 57                               | 2  | 46                               | 2  |
| ZB1106-87     | 124.62               | 3084.2  | 3929.0  | 0.78 | 0.0471 | 0.0026                            | 0.0442 | 0.0024                           | 0.0068 | 0.0001                           |    | 52                                | 89  | 44                               | 2  | 44                               | 1  |
| ZB1106-88     | 24.67                | 1990.7  | 1548.5  | 1.29 | 0.0540 | 0.0074                            | 0.0141 | 0.0005                           | 0.0022 | 0.0001                           |    | 369                               | 39  | 14                               | 1  | 14                               | 1  |
| ZB1106-89     | 31.67                | 721.0   | 670.1   | 1.08 | 0.0503 | 0.0054                            | 0.0504 | 0.0049                           | 0.0078 | 0.0002                           |    | 207                               | 165 | 50                               | 5  | 50                               | 1  |
| ZB1106-90     | 51.90                | 2273.8  | 2886.0  | 0.79 | 0.0498 | 0.0038                            | 0.0233 | 0.0015                           | 0.0036 | 0.0001                           |    | 183                               | 109 | 23                               | 2  | 23                               | 1  |
| ZB1106-91     | 41.57                | 373.6   | 314.6   | 1.19 | 0.0582 | 0.0107                            | 0.1505 | 0.0130                           | 0.0222 | 0.0006                           |    | 535                               | 140 | 142                              | 11 | 142                              | 4  |
| ZB1106-92     | 48.15                | 3674.0  | 2818.5  | 1.30 | 0.0521 | 0.0044                            | 0.0162 | 0.0012                           | 0.0024 | 0.0001                           |    | 289                               | 122 | 16                               | 1  | 15                               | 0  |
| ZB1106-93     | 18.56                | 413.8   | 329.5   | 1.26 | 0.0654 | 0.0106                            | 0.0516 | 0.0021                           | 0.0077 | 0.0004                           |    | 787                               | 56  | 51                               | 2  | 49                               | 3  |
| ZB1106-94     | 36.95                | 352.2   | 386.0   | 0.91 | 0.0461 | 0.0076                            | 0.0842 | 0.0133                           | 0.0133 | 0.0006                           |    | -                                 | 290 | 82                               | 12 | 85                               | 4  |
| ZB1106-95     | 44.86                | 1166.8  | 852.1   | 1.37 | 0.0466 | 0.0037                            | 0.0482 | 0.0040                           | 0.0075 | 0.0003                           |    | 29                                | 116 | 48                               | 4  | 48                               | 2  |
| ZB1106-96     | 52.76                | 531.4   | 593.6   | 0.90 | 0.0506 | 0.0038                            | 0.1194 | 0.0085                           | 0.0173 | 0.0004                           |    | 224                               | 116 | 115                              | 8  | 110                              | 3  |
| ZB1106-97     | 180.52               | 389.8   | 982.1   | 0.40 | 0.0581 | 0.0022                            | 0.6043 | 0.0229                           | 0.0750 | 0.0009                           |    | 534                               | 61  | 480                              | 14 | 466                              | 6  |
| ZB1106-98     | 20.17                | 1166.7  | 1102.9  | 1.06 | 0.0461 | 0.0028                            | 0.0146 | 0.0006                           | 0.0023 | 0.0001                           |    | -                                 | 134 | 15                               | 1  | 15                               | 1  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |         |         |      | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|----------------------|----------------------|---------|---------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|                      | Pb                   | Th      | U       | Th/U | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| <b>Sample DR1104</b> |                      |         |         |      |                                   |        |                                  |        |                                  |        |                                   |     |                                  |    |                                  |    |
| DR1104-01            | 47.24                | 1046.7  | 1032.5  | 1.01 | 0.0462                            | 0.0085 | 0.0450                           | 0.0081 | 0.0071                           | 0.0003 | 7                                 | 316 | 45                               | 8  | 45                               | 2  |
| DR1104-02            | 30.47                | 383.0   | 342.7   | 1.12 | 0.0524                            | 0.0047 | 0.0898                           | 0.0065 | 0.0132                           | 0.0007 | 302                               | 83  | 87                               | 6  | 84                               | 4  |
| DR1104-03            | 78.85                | 631.4   | 1001.1  | 0.63 | 0.0497                            | 0.0042 | 0.1535                           | 0.0121 | 0.0227                           | 0.0005 | 183                               | 140 | 145                              | 11 | 145                              | 3  |
| DR1104-04            | 120.26               | 516.8   | 38294.3 | 0.01 | 0.0498                            | 0.0022 | 0.0281                           | 0.0011 | 0.0041                           | 0.0001 | 187                               | 104 | 28                               | 1  | 26                               | 1  |
| DR1104-05            | 19.63                | 360.5   | 323.1   | 1.12 | 0.0461                            | 0.0041 | 0.0328                           | 0.0022 | 0.0052                           | 0.0003 | -                                 | 195 | 33                               | 2  | 33                               | 2  |
| DR1104-06            | 233.11               | 8643.7  | 7503.2  | 1.15 | 0.0469                            | 0.0038 | 0.0379                           | 0.0030 | 0.0059                           | 0.0001 | 46                                | 145 | 38                               | 3  | 38                               | 1  |
| DR1104-07            | 601.02               | 12890.7 | 8325.4  | 1.55 | 0.0473                            | 0.0020 | 0.0669                           | 0.0028 | 0.0102                           | 0.0001 | 64                                | 68  | 66                               | 3  | 66                               | 1  |
| DR1104-08            | 9.50                 | 331.9   | 295.5   | 1.12 | 0.2810                            | 0.0815 | 0.1896                           | 0.0116 | 0.0076                           | 0.0004 | 3369                              | 43  | 476                              | 10 | 49                               | 3  |
| DR1104-09            | 19.77                | 364.2   | 1006.3  | 0.36 | 0.0480                            | 0.0030 | 0.0567                           | 0.0037 | 0.0088                           | 0.0003 | 101                               | 94  | 56                               | 4  | 56                               | 2  |
| DR1104-10            | 489.28               | 5410.9  | 8503.8  | 0.64 | 0.0482                            | 0.0016 | 0.1081                           | 0.0036 | 0.0161                           | 0.0002 | 111                               | 57  | 104                              | 3  | 103                              | 1  |
| DR1104-11            | 6.06                 | 281.5   | 266.5   | 1.06 | 0.0461                            | 0.0187 | 0.0254                           | 0.0101 | 0.0040                           | 0.0003 | -                                 | 669 | 25                               | 10 | 26                               | 2  |
| DR1104-12            | 100.01               | 2467.9  | 3056.9  | 0.81 | 0.0496                            | 0.0037 | 0.0456                           | 0.0036 | 0.0067                           | 0.0002 | 178                               | 133 | 45                               | 3  | 43                               | 1  |
| DR1104-13            | 29.02                | 747.1   | 1018.4  | 0.73 | 0.0590                            | 0.0078 | 0.0380                           | 0.0020 | 0.0059                           | 0.0002 | 568                               | 60  | 38                               | 2  | 38                               | 1  |
| DR1104-14            | 245.80               | 2977.1  | 2283.3  | 1.30 | 0.0503                            | 0.0030 | 0.1093                           | 0.0061 | 0.0159                           | 0.0003 | 211                               | 101 | 105                              | 6  | 102                              | 2  |
| DR1104-15            | 64.43                | 813.0   | 1271.7  | 0.64 | 0.0482                            | 0.0033 | 0.0872                           | 0.0057 | 0.0132                           | 0.0003 | 111                               | 109 | 85                               | 5  | 85                               | 2  |
| DR1104-16            | 22.10                | 480.8   | 629.9   | 0.76 | 0.0688                            | 0.0052 | 0.0705                           | 0.0022 | 0.0082                           | 0.0004 | 894                               | 41  | 69                               | 2  | 53                               | 2  |
| DR1104-17            | 74.52                | 1565.9  | 1242.4  | 1.26 | 0.0576                            | 0.0055 | 0.0686                           | 0.0062 | 0.0089                           | 0.0002 | 513                               | 157 | 67                               | 6  | 57                               | 1  |
| DR1104-18            | 14.76                | 288.4   | 407.6   | 0.71 | 0.0601                            | 0.0096 | 0.0743                           | 0.0113 | 0.0090                           | 0.0004 | 606                               | 357 | 73                               | 11 | 58                               | 3  |
| DR1104-19            | 118.16               | 1118.6  | 1312.2  | 0.85 | 0.0486                            | 0.0035 | 0.1304                           | 0.0090 | 0.0193                           | 0.0004 | 128                               | 121 | 124                              | 8  | 123                              | 2  |
| DR1104-20            | 10.68                | 212.9   | 219.1   | 0.97 | 0.1350                            | 0.0265 | 0.1574                           | 0.0294 | 0.0085                           | 0.0005 | 2164                              | 374 | 448                              | 26 | 54                               | 3  |
| DR1104-21            | 102.78               | 2419.8  | 3266.3  | 0.74 | 0.0499                            | 0.0033 | 0.0466                           | 0.0029 | 0.0069                           | 0.0001 | 189                               | 111 | 46                               | 3  | 44                               | 1  |
| DR1104-22            | 133.73               | 162.5   | 320.6   | 0.51 | 0.0685                            | 0.0029 | 1.3229                           | 0.0562 | 0.1384                           | 0.0023 | 882                               | 60  | 856                              | 25 | 835                              | 13 |
| DR1104-23            | 10.67                | 223.5   | 156.7   | 1.43 | 0.3254                            | 0.0852 | 0.3361                           | 0.0790 | 0.0075                           | 0.0009 | 3596                              | 462 | 294                              | 60 | 48                               | 6  |
| DR1104-24            | 86.51                | 1731.6  | 2094.4  | 0.83 | 0.0505                            | 0.0032 | 0.0584                           | 0.0033 | 0.0087                           | 0.0002 | 217                               | 98  | 58                               | 3  | 56                               | 1  |
| DR1104-25            | 35.15                | 651.8   | 1271.7  | 0.51 | 0.0482                            | 0.0035 | 0.0541                           | 0.0035 | 0.0083                           | 0.0002 | 106                               | 95  | 53                               | 3  | 53                               | 1  |
| DR1104-26            | 39.85                | 626.9   | 2254.7  | 0.28 | 0.0479                            | 0.0027 | 0.0656                           | 0.0037 | 0.0101                           | 0.0002 | 93                                | 91  | 64                               | 4  | 65                               | 1  |
| DR1104-27            | 20.87                | 508.9   | 382.5   | 1.33 | 0.0704                            | 0.0148 | 0.0852                           | 0.0154 | 0.0078                           | 0.0004 | 1182                              | 405 | 83                               | 14 | 50                               | 2  |
| DR1104-28            | 54.76                | 742.7   | 730.3   | 1.02 | 0.0502                            | 0.0031 | 0.0907                           | 0.0050 | 0.0136                           | 0.0003 | 205                               | 89  | 88                               | 5  | 87                               | 2  |
| DR1104-29            | 55.35                | 1125.8  | 5037.3  | 0.22 | 0.0544                            | 0.0030 | 0.0338                           | 0.0017 | 0.0050                           | 0.0002 | 388                               | 50  | 34                               | 2  | 32                               | 1  |
| DR1104-30            | 23.49                | 445.7   | 600.8   | 0.74 | 0.0461                            | 0.0042 | 0.0557                           | 0.0048 | 0.0088                           | 0.0003 | -                                 | 198 | 55                               | 5  | 56                               | 2  |
| DR1104-31            | 99.91                | 993.2   | 1101.3  | 0.90 | 0.0507                            | 0.0032 | 0.1184                           | 0.0068 | 0.0177                           | 0.0004 | 225                               | 93  | 114                              | 6  | 113                              | 2  |
| DR1104-32            | 270.71               | 609.1   | 255.5   | 2.38 | 0.0609                            | 0.0038 | 0.7978                           | 0.0508 | 0.0962                           | 0.0019 | 635                               | 104 | 596                              | 29 | 592                              | 11 |
| DR1104-33            | 270.01               | 264.9   | 266.1   | 1.00 | 0.0786                            | 0.0033 | 2.0819                           | 0.0841 | 0.1922                           | 0.0027 | 1162                              | 57  | 1143                             | 28 | 1133                             | 15 |
| DR1104-34            | 8.09                 | 85.2    | 154.2   | 0.55 | 0.0534                            | 0.0193 | 0.0568                           | 0.0201 | 0.0077                           | 0.0006 | 344                               | 648 | 56                               | 19 | 50                               | 4  |
| DR1104-35            | 14.93                | 422.6   | 992.3   | 0.43 | 0.0410                            | 0.0061 | 0.0355                           | 0.0015 | 0.0055                           | 0.0003 | -233                              | 63  | 35                               | 1  | 35                               | 2  |
| DR1104-36            | 49.46                | 479.2   | 502.3   | 0.95 | 0.0529                            | 0.0049 | 0.0984                           | 0.0084 | 0.0148                           | 0.0005 | 325                               | 137 | 95                               | 8  | 95                               | 3  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |         |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|---------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th      | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| DR1104-37     | 57.02                | 5444.4  | 1232.4 | 4.42 | 0.1023                            | 0.0185 | 0.0178                           | 0.0007 | 0.0020                           | 0.0001 | 1667                              | 41  | 18                               | 1  | 13                               | 1  |
| DR1104-38     | 38.96                | 499.2   | 970.5  | 0.51 | 0.0504                            | 0.0042 | 0.0869                           | 0.0069 | 0.0132                           | 0.0003 | 215                               | 134 | 85                               | 6  | 84                               | 2  |
| DR1104-39     | 213.07               | 3329.5  | 6583.0 | 0.51 | 0.0487                            | 0.0025 | 0.0633                           | 0.0032 | 0.0094                           | 0.0001 | 131                               | 118 | 62                               | 3  | 61                               | 1  |
| DR1104-40     | 30.01                | 586.0   | 745.4  | 0.79 | 0.0487                            | 0.0051 | 0.0603                           | 0.0055 | 0.0092                           | 0.0003 | 133                               | 145 | 59                               | 5  | 59                               | 2  |
| DR1104-41     | 30.68                | 427.0   | 412.8  | 1.03 | 0.0960                            | 0.0086 | 0.1678                           | 0.0103 | 0.0136                           | 0.0004 | 1549                              | 72  | 158                              | 9  | 87                               | 2  |
| DR1104-42     | 29.98                | 482.4   | 478.2  | 1.01 | 0.0833                            | 0.0077 | 0.1387                           | 0.0088 | 0.0122                           | 0.0004 | 1277                              | 75  | 132                              | 8  | 78                               | 2  |
| DR1104-43     | 47.16                | 612.1   | 694.8  | 0.88 | 0.0513                            | 0.0041 | 0.0847                           | 0.0054 | 0.0126                           | 0.0004 | 252                               | 92  | 83                               | 5  | 81                               | 2  |
| DR1104-44     | 34.54                | 645.4   | 1187.9 | 0.54 | 0.0540                            | 0.0043 | 0.0617                           | 0.0047 | 0.0084                           | 0.0002 | 371                               | 133 | 61                               | 5  | 54                               | 1  |
| DR1104-45     | 32.90                | 437.2   | 2372.4 | 0.18 | 0.0472                            | 0.0028 | 0.0613                           | 0.0036 | 0.0094                           | 0.0002 | 57                                | 99  | 60                               | 3  | 60                               | 1  |
| DR1104-46     | 51.62                | 868.3   | 532.5  | 1.63 | 0.0485                            | 0.0039 | 0.0834                           | 0.0050 | 0.0127                           | 0.0004 | 124                               | 82  | 81                               | 5  | 81                               | 2  |
| DR1104-47     | 13.82                | 272.7   | 551.7  | 0.49 | 0.0808                            | 0.0124 | 0.0953                           | 0.0142 | 0.0086                           | 0.0003 | 1246                              | 323 | 92                               | 13 | 55                               | 2  |
| DR1104-48     | 59.60                | 1089.2  | 1823.5 | 0.60 | 0.0491                            | 0.0030 | 0.0630                           | 0.0037 | 0.0095                           | 0.0002 | 154                               | 98  | 62                               | 4  | 61                               | 1  |
| DR1104-49     | 9.57                 | 486.4   | 602.9  | 0.81 | 0.0461                            | 0.0042 | 0.0185                           | 0.0012 | 0.0029                           | 0.0002 | -                                 | 198 | 19                               | 1  | 19                               | 1  |
| DR1104-50     | 20.87                | 388.7   | 900.3  | 0.43 | 0.0461                            | 0.0046 | 0.0513                           | 0.0050 | 0.0081                           | 0.0002 | -                                 | 209 | 51                               | 5  | 52                               | 1  |
| DR1104-51     | 26.39                | 1789.1  | 2188.1 | 0.82 | 0.0491                            | 0.0030 | 0.0165                           | 0.0005 | 0.0026                           | 0.0001 | 151                               | 38  | 17                               | 1  | 17                               | 1  |
| DR1104-52     | 256.92               | 29305.8 | 5780.9 | 5.07 | 0.0483                            | 0.0033 | 0.0129                           | 0.0009 | 0.0020                           | 0.0000 | 114                               | 114 | 13                               | 1  | 13                               | 0  |
| DR1104-53     | 10.60                | 195.4   | 509.9  | 0.38 | 0.0461                            | 0.0056 | 0.0501                           | 0.0056 | 0.0079                           | 0.0004 | -                                 | 241 | 50                               | 5  | 51                               | 2  |
| DR1104-54     | 58.11                | 1031.1  | 1190.8 | 0.87 | 0.0483                            | 0.0031 | 0.0665                           | 0.0043 | 0.0101                           | 0.0002 | 112                               | 104 | 65                               | 4  | 65                               | 1  |
| DR1104-55     | 58.58                | 761.5   | 2097.0 | 0.36 | 0.0498                            | 0.0042 | 0.0744                           | 0.0060 | 0.0109                           | 0.0003 | 184                               | 191 | 73                               | 6  | 70                               | 2  |
| DR1104-56     | 34.79                | 720.2   | 974.8  | 0.74 | 0.0480                            | 0.0035 | 0.0573                           | 0.0042 | 0.0085                           | 0.0002 | 97                                | 114 | 57                               | 4  | 55                               | 1  |
| DR1104-57     | 62.75                | 1307.8  | 1716.5 | 0.76 | 0.0481                            | 0.0029 | 0.0571                           | 0.0033 | 0.0087                           | 0.0002 | 104                               | 95  | 56                               | 3  | 56                               | 1  |
| DR1104-58     | 26.29                | 529.7   | 706.7  | 0.75 | 0.0796                            | 0.0101 | 0.0913                           | 0.0112 | 0.0083                           | 0.0003 | 1188                              | 263 | 89                               | 10 | 53                               | 2  |
| DR1104-59     | 23.45                | 447.4   | 836.0  | 0.54 | 0.0843                            | 0.0084 | 0.1024                           | 0.0099 | 0.0088                           | 0.0002 | 1299                              | 204 | 99                               | 9  | 57                               | 1  |
| DR1104-60     | 64.34                | 931.5   | 1281.3 | 0.73 | 0.0765                            | 0.0053 | 0.1288                           | 0.0083 | 0.0128                           | 0.0002 | 1108                              | 98  | 123                              | 7  | 82                               | 2  |
| DR1104-61     | 6.16                 | 550.5   | 236.8  | 2.32 | 0.2060                            | 0.0813 | 0.0686                           | 0.0258 | 0.0024                           | 0.0003 | 2875                              | 935 | 67                               | 25 | 16                               | 2  |
| DR1104-62     | 221.09               | 1682.0  | 3315.1 | 0.51 | 0.0491                            | 0.0017 | 0.1542                           | 0.0052 | 0.0228                           | 0.0003 | 153                               | 53  | 146                              | 5  | 145                              | 2  |
| DR1104-63     | 62.37                | 1221.4  | 1694.5 | 0.72 | 0.0467                            | 0.0031 | 0.0567                           | 0.0039 | 0.0086                           | 0.0002 | 35                                | 113 | 56                               | 4  | 55                               | 1  |
| DR1104-64     | 42.26                | 212.4   | 251.1  | 0.85 | 0.0908                            | 0.0106 | 0.1164                           | 0.0244 | 0.0093                           | 0.0005 | 1442                              | 463 | 412                              | 22 | 60                               | 3  |
| DR1104-65     | 11.36                | 197.6   | 550.2  | 0.36 | 0.0461                            | 0.0032 | 0.0525                           | 0.0031 | 0.0083                           | 0.0003 | -                                 | 151 | 52                               | 3  | 53                               | 2  |
| DR1104-66     | 13.68                | 238.4   | 691.7  | 0.34 | 0.0606                            | 0.0063 | 0.0735                           | 0.0073 | 0.0088                           | 0.0003 | 625                               | 232 | 72                               | 7  | 56                               | 2  |
| DR1104-67     | 87.53                | 1261.0  | 1524.6 | 0.83 | 0.0469                            | 0.0027 | 0.0849                           | 0.0051 | 0.0129                           | 0.0002 | 42                                | 98  | 83                               | 5  | 83                               | 1  |
| DR1104-68     | 38.15                | 533.2   | 541.5  | 0.98 | 0.0936                            | 0.0083 | 0.1556                           | 0.0111 | 0.0131                           | 0.0004 | 1500                              | 94  | 147                              | 10 | 84                               | 2  |
| DR1104-69     | 176.90               | 187.7   | 234.0  | 0.80 | 0.0799                            | 0.0032 | 1.8080                           | 0.0708 | 0.1640                           | 0.0027 | 1193                              | 51  | 1048                             | 26 | 979                              | 15 |
| DR1104-70     | 84.25                | 1624.5  | 1436.1 | 1.13 | 0.0487                            | 0.0032 | 0.0626                           | 0.0042 | 0.0094                           | 0.0002 | 134                               | 114 | 62                               | 4  | 60                               | 1  |
| DR1104-71     | 11.16                | 875.8   | 871.7  | 1.00 | 0.0762                            | 0.0169 | 0.0214                           | 0.0046 | 0.0020                           | 0.0001 | 1099                              | 492 | 21                               | 5  | 13                               | 1  |
| DR1104-72     | 26.59                | 496.5   | 577.1  | 0.86 | 0.0461                            | 0.0059 | 0.0508                           | 0.0063 | 0.0080                           | 0.0003 | -                                 | 241 | 50                               | 6  | 51                               | 2  |
| DR1104-73     | 68.87                | 1490.7  | 1762.0 | 0.85 | 0.0485                            | 0.0034 | 0.0598                           | 0.0040 | 0.0091                           | 0.0002 | 123                               | 109 | 59                               | 4  | 59                               | 1  |

**Table DR2 (Continued)**

| Analysis Spot        | Concentrations (ppm) |        |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |  |
|----------------------|----------------------|--------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|--|
|                      | Pb                   | Th     | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |  |
| DR1104-74            | 28.66                | 783.8  | 978.5  | 0.80 | 0.0510                            | 0.0047 | 0.0444                           | 0.0047 | 0.0068                           | 0.0002 | 238                               | 176 | 44                               | 5  | 44                               | 1  |  |
| DR1104-75            | 74.00                | 833.4  | 3221.6 | 0.26 | 0.0481                            | 0.0026 | 0.0800                           | 0.0041 | 0.0122                           | 0.0002 | 103                               | 88  | 78                               | 4  | 78                               | 1  |  |
| DR1104-76            | 40.95                | 806.7  | 1171.2 | 0.69 | 0.0474                            | 0.0030 | 0.0542                           | 0.0037 | 0.0083                           | 0.0002 | 69                                | 105 | 54                               | 4  | 54                               | 1  |  |
| DR1104-77            | 13.58                | 272.2  | 494.2  | 0.55 | 0.0461                            | 0.0036 | 0.0503                           | 0.0036 | 0.0079                           | 0.0003 | -                                 | 174 | 50                               | 3  | 51                               | 2  |  |
| DR1104-78            | 20.37                | 199.9  | 1103.4 | 0.18 | 0.0472                            | 0.0044 | 0.0617                           | 0.0056 | 0.0095                           | 0.0002 | 58                                | 207 | 61                               | 5  | 61                               | 1  |  |
| DR1104-79            | 615.07               | 933.9  | 7552.5 | 0.12 | 0.0555                            | 0.0017 | 0.4586                           | 0.0129 | 0.0599                           | 0.0008 | 434                               | 70  | 383                              | 9  | 375                              | 5  |  |
| DR1104-80            | 65.60                | 1059.2 | 934.3  | 1.13 | 0.0503                            | 0.0034 | 0.0882                           | 0.0056 | 0.0129                           | 0.0003 | 210                               | 108 | 86                               | 5  | 83                               | 2  |  |
| DR1104-81            | 17.80                | 356.4  | 444.1  | 0.80 | 0.0521                            | 0.0058 | 0.0558                           | 0.0038 | 0.0085                           | 0.0004 | 291                               | 81  | 55                               | 4  | 54                               | 2  |  |
| DR1104-82            | 98.20                | 1022.3 | 2325.5 | 0.44 | 0.0480                            | 0.0028 | 0.0865                           | 0.0043 | 0.0131                           | 0.0003 | 101                               | 71  | 84                               | 4  | 84                               | 2  |  |
| <b>Sample DR1114</b> |                      |        |        |      |                                   |        |                                  |        |                                  |        |                                   |     |                                  |    |                                  |    |  |
| DR1114-01            | 81.96                | 1779.8 | 6537.2 | 0.27 | 0.0462                            | 0.0026 | 0.0410                           | 0.0024 | 0.0064                           | 0.0001 | 6                                 | 97  | 41                               | 2  | 41                               | 1  |  |
| DR1114-02            | 19.22                | 234.7  | 377.5  | 0.62 | 0.0469                            | 0.0054 | 0.0611                           | 0.0022 | 0.0092                           | 0.0003 | 44                                | 37  | 60                               | 2  | 59                               | 2  |  |
| DR1114-03            | 182.15               | 1298.5 | 2340.9 | 0.55 | 0.0494                            | 0.0023 | 0.1593                           | 0.0071 | 0.0235                           | 0.0003 | 165                               | 83  | 150                              | 6  | 149                              | 2  |  |
| DR1114-04            | 14.74                | 473.1  | 259.4  | 1.82 | 0.0461                            | 0.0118 | 0.0171                           | 0.0043 | 0.0027                           | 0.0001 | -                                 | 417 | 17                               | 4  | 17                               | 1  |  |
| DR1114-05            | 33.33                | 618.6  | 967.2  | 0.64 | 0.0506                            | 0.0050 | 0.0647                           | 0.0063 | 0.0099                           | 0.0003 | 222                               | 165 | 64                               | 6  | 63                               | 2  |  |
| DR1114-06            | 163.98               | 1284.3 | 1371.1 | 0.94 | 0.0490                            | 0.0025 | 0.1615                           | 0.0089 | 0.0237                           | 0.0004 | 145                               | 95  | 152                              | 8  | 151                              | 2  |  |
| DR1114-07            | 15.14                | 315.4  | 319.4  | 0.99 | 0.0691                            | 0.0083 | 0.0694                           | 0.0041 | 0.0101                           | 0.0004 | 903                               | 62  | 68                               | 4  | 64                               | 3  |  |
| DR1114-08            | 45.75                | 2836.0 | 1659.5 | 1.71 | 0.0461                            | 0.0039 | 0.0099                           | 0.0007 | 0.0016                           | 0.0001 | -                                 | 186 | 10                               | 1  | 10                               | 0  |  |
| DR1114-09            | 91.67                | 1344.6 | 1393.1 | 0.97 | 0.0473                            | 0.0032 | 0.0876                           | 0.0059 | 0.0133                           | 0.0003 | 65                                | 107 | 85                               | 5  | 85                               | 2  |  |
| DR1114-10            | 34.98                | 314.5  | 333.8  | 0.94 | 0.0495                            | 0.0043 | 0.1327                           | 0.0113 | 0.0195                           | 0.0005 | 172                               | 143 | 127                              | 10 | 124                              | 3  |  |
| DR1114-11            | 94.21                | 813.7  | 692.8  | 1.17 | 0.0525                            | 0.0042 | 0.1618                           | 0.0119 | 0.0229                           | 0.0005 | 307                               | 130 | 152                              | 10 | 146                              | 3  |  |
| DR1114-12            | 30.85                | 767.0  | 638.5  | 1.20 | 0.0562                            | 0.0104 | 0.0506                           | 0.0073 | 0.0077                           | 0.0002 | 461                               | 271 | 50                               | 7  | 49                               | 1  |  |
| DR1114-13            | 49.49                | 509.7  | 373.6  | 1.36 | 0.0548                            | 0.0072 | 0.1407                           | 0.0151 | 0.0205                           | 0.0007 | 402                               | 184 | 134                              | 13 | 131                              | 4  |  |
| DR1114-14            | 69.87                | 951.7  | 1150.7 | 0.83 | 0.0500                            | 0.0041 | 0.0903                           | 0.0071 | 0.0135                           | 0.0003 | 197                               | 143 | 88                               | 7  | 86                               | 2  |  |
| DR1114-15            | 57.81                | 550.3  | 581.9  | 0.95 | 0.0525                            | 0.0033 | 0.1348                           | 0.0086 | 0.0189                           | 0.0004 | 309                               | 108 | 128                              | 8  | 120                              | 2  |  |
| DR1114-16            | 14.71                | 340.8  | 220.1  | 1.55 | 0.0461                            | 0.0156 | 0.0393                           | 0.0128 | 0.0062                           | 0.0006 | -                                 | 547 | 39                               | 12 | 40                               | 4  |  |
| DR1114-17            | 23.60                | 2669.6 | 1844.5 | 1.45 | 0.0485                            | 0.0035 | 0.0128                           | 0.0007 | 0.0018                           | 0.0001 | 125                               | 61  | 13                               | 1  | 11                               | 0  |  |
| DR1114-18            | 207.08               | 185.8  | 291.6  | 0.64 | 0.0810                            | 0.0032 | 2.2318                           | 0.0845 | 0.2004                           | 0.0027 | 1222                              | 53  | 1191                             | 27 | 1177                             | 14 |  |
| DR1114-19            | 45.28                | 474.8  | 501.9  | 0.95 | 0.0492                            | 0.0044 | 0.1347                           | 0.0112 | 0.0200                           | 0.0005 | 157                               | 141 | 128                              | 10 | 128                              | 3  |  |
| DR1114-20            | 56.18                | 419.7  | 657.3  | 0.64 | 0.0489                            | 0.0034 | 0.1653                           | 0.0118 | 0.0244                           | 0.0005 | 141                               | 124 | 155                              | 10 | 155                              | 3  |  |
| DR1114-21            | 37.74                | 840.7  | 1029.1 | 0.82 | 0.0501                            | 0.0035 | 0.0598                           | 0.0039 | 0.0091                           | 0.0002 | 202                               | 108 | 59                               | 4  | 58                               | 1  |  |
| DR1114-22            | 28.20                | 2266.5 | 7021.8 | 0.32 | 0.0463                            | 0.0039 | 0.0130                           | 0.0011 | 0.0020                           | 0.0001 | 12                                | 140 | 13                               | 1  | 13                               | 0  |  |
| DR1114-23            | 57.59                | 1260.9 | 1440.5 | 0.88 | 0.0488                            | 0.0036 | 0.0544                           | 0.0039 | 0.0084                           | 0.0002 | 138                               | 122 | 54                               | 4  | 54                               | 1  |  |
| DR1114-24            | 54.05                | 778.1  | 1406.1 | 0.55 | 0.0493                            | 0.0033 | 0.0794                           | 0.0051 | 0.0119                           | 0.0002 | 162                               | 113 | 78                               | 5  | 76                               | 1  |  |
| DR1114-25            | 67.37                | 1004.5 | 1197.5 | 0.84 | 0.0483                            | 0.0033 | 0.0918                           | 0.0058 | 0.0138                           | 0.0002 | 112                               | 109 | 89                               | 5  | 88                               | 1  |  |
| DR1114-26            | 46.46                | 552.4  | 294.1  | 4.88 | 0.0699                            | 0.0245 | 0.0551                           | 0.0189 | 0.0057                           | 0.0005 | 925                               | 734 | 54                               | 18 | 37                               | 3  |  |
| DR1114-27            | 116.68               | 2519.0 | 2447.6 | 1.03 | 0.0507                            | 0.0029 | 0.0611                           | 0.0035 | 0.0087                           | 0.0002 | 227                               | 98  | 60                               | 3  | 56                               | 1  |  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |         |        | Th/U | Isotopic ratios                   |        |                                  |        |                                  |        | Isotopic ages (Ma)                |     |                                  |    |                                  |    |
|---------------|----------------------|---------|--------|------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|--------|-----------------------------------|-----|----------------------------------|----|----------------------------------|----|
|               | Pb                   | Th      | U      |      | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ     | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ  | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| DR1114-28     | 30.51                | 570.8   | 969.2  | 0.59 | 0.0462                            | 0.0036 | 0.0602                           | 0.0049 | 0.0092                           | 0.0002 | 5                                 | 134 | 59                               | 5  | 59                               | 1  |
| DR1114-29     | 21.75                | 456.8   | 586.5  | 0.78 | 0.0526                            | 0.0078 | 0.0534                           | 0.0068 | 0.0081                           | 0.0003 | 313                               | 230 | 53                               | 7  | 52                               | 2  |
| DR1114-30     | 249.34               | 263.6   | 428.3  | 0.62 | 0.0750                            | 0.0031 | 1.8575                           | 0.0734 | 0.1777                           | 0.0021 | 1069                              | 61  | 1066                             | 26 | 1055                             | 11 |
| DR1114-31     | 15.12                | 413.0   | 280.2  | 1.47 | 0.0572                            | 0.0114 | 0.0469                           | 0.0017 | 0.0072                           | 0.0004 | 501                               | 60  | 47                               | 2  | 46                               | 2  |
| DR1114-32     | 40.31                | 811.3   | 1095.8 | 0.74 | 0.0479                            | 0.0042 | 0.0671                           | 0.0062 | 0.0100                           | 0.0002 | 95                                | 164 | 66                               | 6  | 64                               | 1  |
| DR1114-33     | 45.71                | 2314.0  | 536.5  | 4.31 | 0.0572                            | 0.0077 | 0.0313                           | 0.0011 | 0.0047                           | 0.0002 | 500                               | 49  | 31                               | 1  | 30                               | 1  |
| DR1114-34     | 75.52                | 1018.6  | 891.4  | 1.14 | 0.0468                            | 0.0037 | 0.0915                           | 0.0077 | 0.0139                           | 0.0004 | 38                                | 134 | 89                               | 7  | 89                               | 2  |
| DR1114-35     | 124.06               | 1930.1  | 2046.2 | 0.94 | 0.0484                            | 0.0028 | 0.0872                           | 0.0049 | 0.0132                           | 0.0002 | 119                               | 98  | 85                               | 5  | 84                               | 1  |
| DR1114-36     | 105.19               | 2209.4  | 2225.0 | 0.99 | 0.0484                            | 0.0032 | 0.0585                           | 0.0039 | 0.0089                           | 0.0002 | 117                               | 117 | 58                               | 4  | 57                               | 1  |
| DR1114-37     | 25.97                | 587.4   | 662.7  | 0.89 | 0.0520                            | 0.0055 | 0.0510                           | 0.0053 | 0.0077                           | 0.0002 | 284                               | 182 | 51                               | 5  | 49                               | 1  |
| DR1114-38     | 52.61                | 766.6   | 944.3  | 0.81 | 0.0495                            | 0.0048 | 0.0863                           | 0.0079 | 0.0129                           | 0.0003 | 173                               | 165 | 84                               | 7  | 83                               | 2  |
| DR1114-39     | 96.40                | 1471.3  | 1609.9 | 0.91 | 0.0532                            | 0.0041 | 0.0947                           | 0.0068 | 0.0134                           | 0.0003 | 335                               | 131 | 92                               | 6  | 86                               | 2  |
| DR1114-40     | 24.61                | 466.3   | 736.0  | 0.63 | 0.0523                            | 0.0039 | 0.0660                           | 0.0048 | 0.0098                           | 0.0002 | 298                               | 123 | 65                               | 5  | 63                               | 1  |
| DR1114-41     | 45.81                | 1337.2  | 479.4  | 2.79 | 0.0626                            | 0.0097 | 0.0562                           | 0.0022 | 0.0072                           | 0.0003 | 695                               | 44  | 56                               | 2  | 46                               | 2  |
| DR1114-42     | 11.93                | 260.6   | 397.8  | 0.66 | 0.0535                            | 0.0065 | 0.0644                           | 0.0041 | 0.0094                           | 0.0004 | 351                               | 73  | 63                               | 4  | 60                               | 3  |
| DR1114-43     | 82.95                | 1174.1  | 1330.3 | 0.88 | 0.0491                            | 0.0037 | 0.0910                           | 0.0066 | 0.0138                           | 0.0003 | 154                               | 128 | 88                               | 6  | 88                               | 2  |
| DR1114-44     | 48.33                | 473.2   | 589.0  | 0.80 | 0.0505                            | 0.0034 | 0.1303                           | 0.0086 | 0.0193                           | 0.0004 | 220                               | 111 | 124                              | 8  | 123                              | 3  |
| DR1114-45     | 26.10                | 497.7   | 496.1  | 1.00 | 0.0562                            | 0.0085 | 0.0690                           | 0.0083 | 0.0097                           | 0.0004 | 458                               | 202 | 68                               | 8  | 62                               | 2  |
| DR1114-46     | 46.70                | 688.1   | 897.6  | 0.77 | 0.0503                            | 0.0043 | 0.0872                           | 0.0074 | 0.0129                           | 0.0003 | 209                               | 151 | 85                               | 7  | 83                               | 2  |
| DR1114-47     | 249.21               | 454.2   | 1112.3 | 0.41 | 0.0642                            | 0.0022 | 0.5945                           | 0.0207 | 0.0669                           | 0.0009 | 747                               | 51  | 474                              | 13 | 418                              | 5  |
| DR1114-48     | 28.19                | 492.6   | 613.4  | 0.80 | 0.0507                            | 0.0049 | 0.0662                           | 0.0051 | 0.0100                           | 0.0003 | 229                               | 124 | 65                               | 5  | 64                               | 2  |
| DR1114-49     | 233.35               | 4306.6  | 5488.8 | 0.78 | 0.0475                            | 0.0022 | 0.0638                           | 0.0029 | 0.0098                           | 0.0001 | 72                                | 80  | 63                               | 3  | 63                               | 1  |
| DR1114-50     | 54.78                | 742.4   | 440.5  | 1.69 | 0.0461                            | 0.0031 | 0.0730                           | 0.0044 | 0.0115                           | 0.0003 | -                                 | 148 | 72                               | 4  | 74                               | 2  |
| DR1114-51     | 30.53                | 1966.5  | 3527.8 | 0.56 | 0.0540                            | 0.0065 | 0.0118                           | 0.0011 | 0.0018                           | 0.0001 | 370                               | 158 | 12                               | 1  | 12                               | 0  |
| DR1114-52     | 38.78                | 769.2   | 1173.2 | 0.66 | 0.0495                            | 0.0038 | 0.0596                           | 0.0047 | 0.0091                           | 0.0002 | 170                               | 134 | 59                               | 4  | 58                               | 1  |
| DR1114-53     | 44.95                | 1038.8  | 1812.1 | 0.57 | 0.0480                            | 0.0032 | 0.0504                           | 0.0034 | 0.0077                           | 0.0001 | 101                               | 114 | 50                               | 3  | 49                               | 1  |
| DR1114-54     | 113.98               | 13702.0 | 4997.3 | 2.74 | 0.0499                            | 0.0039 | 0.0118                           | 0.0009 | 0.0018                           | 0.0000 | 189                               | 123 | 12                               | 1  | 11                               | 0  |
| DR1114-55     | 45.81                | 685.9   | 571.5  | 1.20 | 0.0558                            | 0.0074 | 0.0893                           | 0.0103 | 0.0133                           | 0.0003 | 444                               | 212 | 87                               | 10 | 85                               | 2  |
| DR1114-56     | 516.57               | 7868.2  | 6857.2 | 1.15 | 0.0466                            | 0.0021 | 0.0852                           | 0.0043 | 0.0129                           | 0.0002 | 26                                | 82  | 83                               | 4  | 82                               | 1  |
| DR1114-57     | 381.82               | 2916.4  | 4414.1 | 0.66 | 0.0491                            | 0.0017 | 0.1585                           | 0.0053 | 0.0232                           | 0.0003 | 150                               | 58  | 149                              | 5  | 148                              | 2  |
| DR1114-58     | 92.29                | 1211.2  | 1414.1 | 0.86 | 0.0476                            | 0.0037 | 0.0892                           | 0.0068 | 0.0135                           | 0.0002 | 79                                | 135 | 87                               | 6  | 87                               | 2  |
| DR1114-59     | 104.97               | 2460.3  | 2292.0 | 1.07 | 0.0487                            | 0.0032 | 0.0532                           | 0.0037 | 0.0081                           | 0.0002 | 131                               | 119 | 53                               | 4  | 52                               | 1  |
| DR1114-60     | 70.73                | 831.7   | 972.3  | 0.86 | 0.0484                            | 0.0048 | 0.0904                           | 0.0091 | 0.0137                           | 0.0003 | 120                               | 181 | 88                               | 8  | 88                               | 2  |
| DR1114-61     | 56.26                | 1105.2  | 1506.7 | 0.73 | 0.0493                            | 0.0041 | 0.0589                           | 0.0044 | 0.0090                           | 0.0002 | 163                               | 134 | 58                               | 4  | 57                               | 1  |
| DR1114-62     | 36.08                | 746.8   | 877.8  | 0.85 | 0.0499                            | 0.0043 | 0.0609                           | 0.0048 | 0.0092                           | 0.0002 | 191                               | 130 | 60                               | 5  | 59                               | 1  |
| DR1114-63     | 49.39                | 6098.7  | 4457.7 | 1.37 | 0.0488                            | 0.0058 | 0.0094                           | 0.0010 | 0.0015                           | 0.0001 | 139                               | 167 | 10                               | 1  | 10                               | 0  |
| DR1114-64     | 43.82                | 1072.3  | 917.3  | 1.17 | 0.0562                            | 0.0072 | 0.0509                           | 0.0046 | 0.0077                           | 0.0002 | 459                               | 151 | 50                               | 4  | 49                               | 1  |

**Table DR2 (Continued)**

| Analysis Spot | Concentrations (ppm) |        |         |      | Th/U   | Isotopic ratios                   |        |                                  |        |                                  |      | Isotopic ages (Ma)                |      |                                  |      |                                  |    |
|---------------|----------------------|--------|---------|------|--------|-----------------------------------|--------|----------------------------------|--------|----------------------------------|------|-----------------------------------|------|----------------------------------|------|----------------------------------|----|
|               | Pb                   | Th     | U       |      |        | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ     | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ     | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ   | $^{207}\text{Pb}/^{206}\text{Pb}$ | 1σ   | $^{207}\text{Pb}/^{235}\text{U}$ | 1σ   | $^{206}\text{Pb}/^{238}\text{U}$ | 1σ |
| DR1114-65     | 37.63                | 724.4  | 708.5   | 1.02 | 0.0485 | 0.0035                            | 0.0715 | 0.0045                           | 0.0108 | 0.0003                           | 125  | 94                                | 70   | 4                                | 69   | 2                                |    |
| DR1114-66     | 28.04                | 361.9  | 558.2   | 0.65 | 0.0542 | 0.0055                            | 0.0796 | 0.0072                           | 0.0117 | 0.0004                           | 378  | 140                               | 78   | 7                                | 75   | 3                                |    |
| DR1114-67     | 27.02                | 477.7  | 737.6   | 0.65 | 0.0504 | 0.0055                            | 0.0645 | 0.0079                           | 0.0098 | 0.0003                           | 212  | 209                               | 63   | 7                                | 63   | 2                                |    |
| DR1114-68     | 28.95                | 554.3  | 572.2   | 0.97 | 0.0473 | 0.0037                            | 0.0624 | 0.0057                           | 0.0097 | 0.0003                           | 64   | 150                               | 61   | 5                                | 62   | 2                                |    |
| DR1114-69     | 26.54                | 584.4  | 581.4   | 1.01 | 0.0485 | 0.0041                            | 0.0552 | 0.0044                           | 0.0084 | 0.0003                           | 123  | 122                               | 55   | 4                                | 54   | 2                                |    |
| DR1114-70     | 28.70                | 504.4  | 418.6   | 1.21 | 0.0535 | 0.0030                            | 0.0700 | 0.0029                           | 0.0107 | 0.0004                           | 349  | 44                                | 69   | 3                                | 68   | 2                                |    |
| DR1114-71     | 219.38               | 4215.6 | 4021.6  | 1.05 | 0.0475 | 0.0027                            | 0.0658 | 0.0035                           | 0.0101 | 0.0001                           | 76   | 92                                | 65   | 3                                | 65   | 1                                |    |
| DR1114-72     | 24.45                | 271.0  | 384.0   | 0.71 | 0.0586 | 0.0088                            | 0.0675 | 0.0025                           | 0.0095 | 0.0005                           | 553  | 56                                | 66   | 2                                | 61   | 3                                |    |
| DR1114-73     | 26.63                | 380.9  | 336.2   | 1.13 | 0.0461 | 0.0034                            | 0.0494 | 0.0030                           | 0.0078 | 0.0003                           | -    | 163                               | 49   | 3                                | 50   | 2                                |    |
| DR1114-74     | 372.39               | 375.9  | 498.3   | 0.75 | 0.0773 | 0.0024                            | 2.0184 | 0.0653                           | 0.1890 | 0.0021                           | 1128 | 47                                | 1122 | 22                               | 1116 | 11                               |    |
| DR1114-75     | 211.89               | 1997.3 | 3098.4  | 0.64 | 0.0486 | 0.0021                            | 0.1229 | 0.0054                           | 0.0182 | 0.0003                           | 130  | 75                                | 118  | 5                                | 117  | 2                                |    |
| DR1114-76     | 36.39                | 807.7  | 657.7   | 1.23 | 0.0463 | 0.0087                            | 0.0495 | 0.0091                           | 0.0078 | 0.0003                           | 15   | 321                               | 49   | 9                                | 50   | 2                                |    |
| DR1114-77     | 110.43               | 1480.9 | 3281.8  | 0.45 | 0.0479 | 0.0026                            | 0.0731 | 0.0040                           | 0.0112 | 0.0002                           | 95   | 94                                | 72   | 4                                | 72   | 1                                |    |
| DR1114-78     | 23.70                | 501.0  | 611.9   | 0.82 | 0.0495 | 0.0038                            | 0.0696 | 0.0059                           | 0.0105 | 0.0003                           | 170  | 138                               | 68   | 6                                | 67   | 2                                |    |
| DR1114-79     | 40.95                | 612.6  | 801.6   | 0.76 | 0.0487 | 0.0034                            | 0.0710 | 0.0049                           | 0.0106 | 0.0003                           | 135  | 107                               | 70   | 5                                | 68   | 2                                |    |
| DR1114-80     | 126.65               | 1800.6 | 2111.3  | 0.85 | 0.0477 | 0.0031                            | 0.0892 | 0.0056                           | 0.0136 | 0.0002                           | 85   | 111                               | 87   | 5                                | 87   | 1                                |    |
| DR1114-81     | 40.85                | 240.1  | 498.1   | 1.21 | 0.0786 | 0.0224                            | 0.0812 | 0.0223                           | 0.0075 | 0.0006                           | 4463 | 640                               | 79   | 21                               | 48   | 4                                |    |
| DR1114-82     | 50.95                | 996.5  | 1074.8  | 0.93 | 0.0519 | 0.0054                            | 0.0527 | 0.0046                           | 0.0080 | 0.0002                           | 281  | 156                               | 52   | 4                                | 52   | 1                                |    |
| DR1114-83     | 178.77               | 181.9  | 313.8   | 0.58 | 0.0729 | 0.0031                            | 1.6525 | 0.0666                           | 0.1646 | 0.0022                           | 1011 | 60                                | 991  | 25                               | 982  | 12                               |    |
| DR1114-84     | 38.00                | 628.4  | 660.7   | 0.95 | 0.0484 | 0.0060                            | 0.0504 | 0.0063                           | 0.0078 | 0.0002                           | 118  | 231                               | 50   | 6                                | 50   | 1                                |    |
| DR1114-85     | 64.83                | 642.7  | 550.2   | 1.17 | 0.0496 | 0.0045                            | 0.1350 | 0.0115                           | 0.0202 | 0.0005                           | 178  | 146                               | 129  | 10                               | 129  | 3                                |    |
| DR1114-86     | 38.59                | 2087.5 | 10240.0 | 0.20 | 0.0464 | 0.0038                            | 0.0116 | 0.0009                           | 0.0019 | 0.0000                           | 20   | 124                               | 12   | 1                                | 12   | 0                                |    |
| DR1114-87     | 103.66               | 2573.2 | 1170.8  | 2.20 | 0.0508 | 0.0050                            | 0.0507 | 0.0047                           | 0.0077 | 0.0002                           | 230  | 151                               | 50   | 5                                | 49   | 2                                |    |
| DR1114-88     | 10.31                | 221.2  | 242.6   | 0.91 | 0.0461 | 0.0063                            | 0.0574 | 0.0068                           | 0.0090 | 0.0006                           | -    | 252                               | 57   | 7                                | 58   | 4                                |    |
| DR1114-89     | 10.70                | 165.8  | 234.2   | 0.71 | 0.0461 | 0.0040                            | 0.0497 | 0.0032                           | 0.0078 | 0.0005                           | -    | 190                               | 49   | 3                                | 50   | 3                                |    |
| DR1114-90     | 105.42               | 1550.5 | 1612.5  | 0.96 | 0.0482 | 0.0030                            | 0.0865 | 0.0055                           | 0.0130 | 0.0003                           | 110  | 104                               | 84   | 5                                | 83   | 2                                |    |
| DR1114-91     | 19.39                | 275.9  | 309.2   | 0.89 | 0.0702 | 0.0156                            | 0.0710 | 0.0029                           | 0.0094 | 0.0005                           | 934  | 44                                | 70   | 3                                | 60   | 3                                |    |
| DR1114-92     | 28.52                | 819.7  | 1691.4  | 0.48 | 0.0490 | 0.0038                            | 0.0458 | 0.0036                           | 0.0067 | 0.0002                           | 149  | 129                               | 45   | 3                                | 43   | 1                                |    |
| DR1114-93     | 18.96                | 302.3  | 295.6   | 1.02 | 0.0525 | 0.0084                            | 0.0893 | 0.0122                           | 0.0135 | 0.0004                           | 308  | 249                               | 87   | 11                               | 86   | 3                                |    |
| DR1114-94     | 32.73                | 612.0  | 622.2   | 0.98 | 0.0511 | 0.0073                            | 0.0518 | 0.0061                           | 0.0078 | 0.0003                           | 245  | 205                               | 51   | 6                                | 50   | 2                                |    |
| DR1114-95     | 17.27                | 1555.4 | 1417.9  | 1.10 | 0.0622 | 0.0174                            | 0.0122 | 0.0030                           | 0.0016 | 0.0001                           | 680  | 434                               | 12   | 3                                | 11   | 1                                |    |
| DR1114-96     | 434.37               | 482.6  | 185.5   | 2.60 | 0.0794 | 0.0035                            | 2.1895 | 0.0983                           | 0.1992 | 0.0031                           | 1183 | 64                                | 1178 | 31                               | 1171 | 17                               |    |
| DR1114-97     | 584.80               | 2813.5 | 4876.2  | 0.58 | 0.0580 | 0.0056                            | 0.1471 | 0.0141                           | 0.0184 | 0.0002                           | 530  | 220                               | 139  | 13                               | 118  | 2                                |    |
| DR1114-98     | 77.53                | 1472.0 | 1138.4  | 1.29 | 0.0491 | 0.0037                            | 0.0664 | 0.0049                           | 0.0100 | 0.0002                           | 153  | 126                               | 65   | 5                                | 64   | 1                                |    |
| DR1114-99     | 38.31                | 378.7  | 372.6   | 1.02 | 0.0515 | 0.0050                            | 0.1361 | 0.0102                           | 0.0203 | 0.0005                           | 262  | 123                               | 130  | 9                                | 129  | 3                                |    |
| DR1114-100    | 72.70                | 741.8  | 844.7   | 0.88 | 0.0470 | 0.0033                            | 0.1187 | 0.0085                           | 0.0177 | 0.0004                           | 51   | 119                               | 114  | 8                                | 113  | 2                                |    |
| DR1114-101    | 48.58                | 900.2  | 1022.3  | 0.88 | 0.0511 | 0.0040                            | 0.0651 | 0.0047                           | 0.0095 | 0.0002                           | 246  | 123                               | 64   | 5                                | 61   | 1                                |    |

**Table DR3** Trace element and Ti-in-zircon temperatures for zircons in Tibetan ultrapotassic rocks.

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |      |       |      |      |      |      |      |      |      |       |      |       |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|----------------------|----------|---------------------|-------|------|-------|------|------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|----------------------------------|--------|------|-----|
|                      |          | Ti                  | Y     | Nb   | La    | Ce   | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho   | Er    | Tm    | Yb    | Lu    | Hf    | Ta                               |        |      |     |
| <b>Sample 08YR05</b> |          |                     |       |      |       |      |      |      |      |      |      |      |       |      |       |       |       |       |       |                                  |        |      |     |
| 08YR05-01            | 25       | 9.06                | 387.4 | 0.70 | 0.01  | 4.00 | 0.07 | 0.63 | 1.25 | 0.42 | 7.7  | 2.46 | 30.7  | 12.3 | 64.8  | 14.5  | 154.0 | 30.2  | 10465 | 0.19                             | 1.54   | 0.13 | 732 |
| 08YR05-02            | 30       | 13.8                | 480.1 | 2.22 | 0.001 | 2.36 | 0.02 | 0.50 | 2.64 | 0.16 | 20.0 | 6.17 | 58.2  | 15.9 | 57.9  | 9.6   | 75.3  | 11.8  | 14750 | 1.23                             | 7.38   | 0.50 | 770 |
| 08YR05-03            | 46       | 5.78                | 1111  | 3.22 | n.d.  | 18.6 | 0.07 | 2.15 | 4.15 | 0.78 | 24.6 | 8.33 | 102.5 | 37.7 | 178.8 | 39.0  | 377.7 | 73.8  | 11053 | 1.40                             | 0.40   | 0.18 | 695 |
| 08YR05-04            | 23       | 16.4                | 60.1  | 0.30 | 0.02  | 6.92 | 0.21 | 3.06 | 4.12 | 0.48 | 8.96 | 1.46 | 9.07  | 2.06 | 6.40  | 1.07  | 7.90  | 1.24  | 12557 | 0.08                             | 36.2   | 0.75 | 786 |
| 08YR05-05            | 59       | 3.49                | 2734  | 16.7 | n.d.  | 39.9 | 0.05 | 1.14 | 4.91 | 1.10 | 39.9 | 16.4 | 228.5 | 93.0 | 467.4 | 104.0 | 997.5 | 189.5 | 14021 | 5.43                             | 1.28   | 0.15 | 656 |
| 08YR05-06            | 23       | 17.4                | 102.2 | 0.29 | 0.03  | 16.6 | 0.33 | 5.22 | 6.21 | 1.11 | 13.1 | 2.29 | 15.6  | 3.63 | 10.8  | 1.68  | 12.50 | 1.81  | 12526 | 0.10                             | 38.7   | 0.81 | 792 |
| 08YR05-07            | 17       | 11.0                | 226.9 | 1.17 | 0.03  | 4.87 | 0.18 | 2.72 | 4.20 | 0.69 | 13.1 | 2.91 | 27.0  | 7.80 | 32.0  | 5.86  | 53.6  | 9.43  | 10899 | 0.50                             | 6.21   | 0.33 | 750 |
| 08YR05-08            | 23       | 10.1                | 1177  | 3.88 | 0.05  | 4.09 | 0.07 | 1.13 | 3.59 | 0.56 | 25.2 | 9.18 | 113.1 | 40.6 | 187.2 | 39.4  | 368.9 | 70.4  | 13223 | 1.92                             | 6.56   | 0.20 | 742 |
| 08YR05-09            | 28       | 12.8                | 243.4 | 0.37 | n.d.  | 8.43 | 0.06 | 1.34 | 2.74 | 0.86 | 14.5 | 3.66 | 32.1  | 8.13 | 24.9  | 3.85  | 28.0  | 3.86  | 10746 | 0.32                             | 2.48   | 0.74 | 763 |
| 08YR05-10            | 23       | 16.3                | 80.8  | 0.26 | 0.02  | 12.1 | 0.31 | 4.45 | 5.07 | 0.71 | 11.5 | 1.96 | 13.1  | 2.69 | 7.25  | 1.13  | 8.43  | 1.26  | 12254 | 0.12                             | 59.0   | 1.01 | 786 |
| 08YR05-11            | 23       | 16.8                | 137.5 | 0.47 | 0.01  | 7.72 | 0.22 | 2.87 | 4.47 | 0.52 | 10.1 | 2.20 | 17.7  | 4.65 | 17.4  | 3.15  | 26.6  | 4.25  | 11698 | 0.23                             | 11.9   | 0.43 | 788 |
| 08YR05-12            | 59       | 3.54                | 447.3 | 0.94 | 0.04  | 14.8 | 0.06 | 0.69 | 1.35 | 0.54 | 7.67 | 2.71 | 34.9  | 14.2 | 76.5  | 18.4  | 203.6 | 44.3  | 11445 | 1.10                             | 2.34   | 0.11 | 657 |
| 08YR05-13            | 24       | 17.5                | 90.1  | 0.34 | 0.05  | 16.2 | 0.50 | 6.83 | 7.37 | 0.91 | 13.9 | 2.45 | 15.6  | 3.00 | 8.04  | 1.14  | 7.55  | 1.12  | 11958 | 0.15                             | 83.1   | 1.34 | 793 |
| 08YR05-14            | 23       | 15.1                | 68.5  | 0.20 | 0.03  | 10.6 | 0.26 | 4.04 | 4.52 | 0.60 | 9.23 | 1.75 | 10.6  | 2.22 | 6.57  | 0.96  | 6.45  | 1.01  | 11520 | 0.11                             | 69.2   | 1.07 | 779 |
| 08YR05-15            | 28       | 17.7                | 147.4 | 0.25 | 0.02  | 4.37 | 0.13 | 2.30 | 3.59 | 0.52 | 11.0 | 2.29 | 18.8  | 4.98 | 17.8  | 3.11  | 25.4  | 3.95  | 10022 | 0.07                             | 4.18   | 0.48 | 794 |
| 08YR05-16            | 93       | 18.1                | 945.6 | 0.69 | 15.1  | 52.6 | 4.92 | 23.9 | 10.6 | 1.62 | 32.4 | 8.90 | 97.9  | 32.8 | 144.0 | 28.9  | 263.7 | 45.2  | 9519  | 0.36                             | 0.61   | 0.24 | 796 |
| 08YR05-17            | 22       | 16.8                | 97.1  | 0.24 | 0.05  | 15.8 | 0.63 | 9.16 | 8.28 | 1.12 | 15.8 | 2.47 | 16.4  | 3.08 | 9.46  | 1.43  | 10.5  | 1.50  | 10929 | 0.10                             | 46.3   | 1.02 | 788 |
| 08YR05-18            | 21       | 7.27                | 118.5 | 0.97 | 0.002 | 3.53 | 0.08 | 1.44 | 2.76 | 0.45 | 9.77 | 2.08 | 16.9  | 3.97 | 12.6  | 1.95  | 14.2  | 2.06  | 9907  | 0.50                             | 19.4   | 0.77 | 714 |
| 08YR05-19            | 24       | 18.3                | 127.8 | 0.26 | 23.89 | 71.0 | 6.54 | 35.1 | 14.5 | 1.93 | 21.0 | 3.39 | 22.3  | 4.40 | 12.8  | 1.81  | 14.2  | 2.02  | 11807 | 0.10                             | 38.9   | 1.02 | 797 |
| 08YR05-20            | 103      | 24.7                | 850.7 | 1.45 | 0.18  | 19.3 | 0.08 | 1.27 | 2.62 | 0.30 | 17.6 | 5.82 | 74.5  | 27.9 | 134.4 | 28.8  | 267.2 | 46.5  | 12458 | 0.88                             | 0.95   | 0.18 | 827 |
| 08YR05-21            | 25       | 16.3                | 225.1 | 0.65 | 0.01  | 21.5 | 0.21 | 2.20 | 2.56 | 0.99 | 8.10 | 1.87 | 20.6  | 7.0  | 35.5  | 8.2   | 89.8  | 18.9  | 8398  | 0.14                             | 1.08   | 0.15 | 786 |
| 08YR05-22            | 87       | 7.90                | 941.0 | 1.06 | 0.48  | 22.2 | 0.35 | 4.18 | 5.87 | 1.17 | 26.2 | 8.14 | 94.2  | 32.6 | 149.7 | 30.2  | 276.2 | 47.3  | 9381  | 0.57                             | 0.74   | 0.22 | 721 |
| 08YR05-23            | 25       | 33.5                | 111.5 | 0.38 | 1.88  | 21.1 | 1.14 | 12.6 | 10.9 | 1.67 | 18.7 | 3.06 | 18.7  | 3.64 | 10.9  | 1.54  | 12.5  | 1.93  | 10980 | 0.08                             | 41.7   | 0.97 | 860 |
| 08YR05-24            | 25       | 20.0                | 176.9 | 0.35 | 0.10  | 28.7 | 1.16 | 14.4 | 13.1 | 2.64 | 25.1 | 4.14 | 28.8  | 6.15 | 18.7  | 2.94  | 21.8  | 3.05  | 11387 | 0.14                             | 25.9   | 0.86 | 806 |
| 08YR05-25            | 55       | 5.82                | 346.8 | 1.38 | n.d.  | 4.73 | 0.01 | 0.24 | 0.62 | 0.48 | 5.8  | 2.05 | 27.9  | 11.1 | 59.8  | 14.2  | 152.5 | 31.5  | 10408 | 0.83                             | 2.87   | 0.12 | 696 |
| 08YR05-26            | 45       | 6.66                | 1250  | 4.00 | 0.01  | 10.3 | 0.01 | 0.28 | 1.36 | 0.15 | 11.8 | 5.75 | 92.5  | 42.3 | 245.4 | 59.8  | 630.3 | 128.7 | 16615 | 8.42                             | 1.63   | 0.10 | 707 |
| 08YR05-27            | 74       | 3.89                | 9.5   | 0.10 | 0.01  | 0.27 | n.d. | 0.03 | 0.05 | 0.03 | 0.2  | 0.05 | 0.9   | 0.29 | 1.73  | 0.41  | 4.59  | 0.76  | 9437  | 0.06                             | 54.3   | 0.12 | 664 |
| 08YR05-28            | 104      | 18.6                | 872.0 | 1.28 | n.d.  | 23.8 | 0.10 | 1.82 | 4.02 | 0.46 | 22.1 | 7.16 | 85.1  | 30.3 | 141.0 | 28.6  | 261.3 | 44.7  | 11036 | 0.73                             | 1.03   | 0.21 | 799 |
| 08YR05-29            | 434      | 8.55                | 160.9 | 0.57 | 0.005 | 8.66 | 0.02 | 0.49 | 1.07 | 0.74 | 4.3  | 1.31 | 14.8  | 4.87 | 24.05 | 5.36  | 57.5  | 11.1  | 8755  | 0.18                             | 1.90   | 0.17 | 727 |
| 08YR05-30            | 75       | 4.45                | 1172  | 4.74 | 0.04  | 33.3 | 0.10 | 1.87 | 4.23 | 1.11 | 23.2 | 7.88 | 102.0 | 39.2 | 197.7 | 44.7  | 448.5 | 86.2  | 9916  | 1.64                             | 0.50   | 0.15 | 674 |
| 08YR05-31            | 24       | 13.1                | 49.6  | 0.25 | 0.03  | 12.5 | 0.20 | 2.85 | 3.19 | 0.51 | 7.2  | 1.24 | 8.1   | 1.60 | 4.81  | 0.71  | 5.48  | 0.74  | 11087 | 0.09                             | 95.7   | 0.96 | 766 |
| 08YR05-32            | 23       | 16.7                | 91.8  | 0.31 | 0.04  | 15.0 | 0.54 | 7.20 | 7.64 | 1.15 | 14.7 | 2.39 | 15.4  | 3.01 | 8.75  | 1.35  | 10.1  | 1.48  | 10232 | 0.08                             | 50.4   | 0.99 | 788 |
| 08YR05-33            | 82       | 23.4                | 494.7 | 1.05 | 0.04  | 17.9 | 0.09 | 1.24 | 2.85 | 0.66 | 13.3 | 4.03 | 48.3  | 17.2 | 80.5  | 16.7  | 162.9 | 29.3  | 9432  | 0.42                             | 0.7    | 0.19 | 822 |
| 08YR05-34            | 100      | 12.7                | 703.8 | 1.14 | n.d.  | 16.2 | 0.06 | 0.95 | 2.37 | 0.29 | 14.4 | 5.05 | 61.9  | 23.4 | 115.1 | 24.4  | 226.7 | 40.7  | 11094 | 0.60                             | 0.82   | 0.18 | 762 |
| 08YR05-35            | 24       | 16.3                | 70.0  | 0.23 | 0.01  | 11.9 | 0.31 | 4.32 | 4.50 | 0.64 | 10.3 | 1.83 | 12.0  | 2.39 | 6.93  | 1.03  | 7.47  | 1.06  | 11270 | 0.10                             | 66.2   | 1.04 | 786 |
| 08YR05-36            | 91       | 18.0                | 517.8 | 1.17 | 1.70  | 24.8 | 0.50 | 3.12 | 2.88 | 0.48 | 12.7 | 4.10 | 49.4  | 17.5 | 85.6  | 18.2  | 170.3 | 30.4  | 9674  | 0.55                             | 0.91   | 0.19 | 796 |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |      |       |      |      |       |       |      |      |       |       |       |       |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|----------------------|----------|---------------------|-------|------|-------|------|------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------------|--------|------|-----|
|                      |          | Ti                  | Y     | Nb   | La    | Ce   | Pr   | Nd    | Sm    | Eu   | Gd   | Tb    | Dy    | Ho    | Er    | Tm    | Yb    | Lu    | Hf    | Ta                               |        |      |     |
| 08YR05-37            | 23       | 12.4                | 50.0  | 0.26 | 2.49  | 19.8 | 0.84 | 5.35  | 3.61  | 0.59 | 6.6  | 1.28  | 8.41  | 1.65  | 5.03  | 0.69  | 5.71  | 0.81  | 10680 | 0.12                             | 95.8   | 0.96 | 761 |
| 08YR05-38            | 81       | 9.32                | 2582  | 8.14 | 0.17  | 64.8 | 0.53 | 8.03  | 16.1  | 5.30 | 75.0 | 22.67 | 256.3 | 88.6  | 409.8 | 83.2  | 791.8 | 143.5 | 9982  | 1.91                             | 0.21   | 0.21 | 735 |
| 08YR05-39            | 211      | 9.87                | 814.8 | 2.84 | 0.01  | 14.4 | 0.05 | 0.80  | 1.86  | 0.49 | 11.3 | 4.73  | 66.5  | 27.0  | 150.1 | 34.5  | 357.2 | 65.6  | 12296 | 1.58                             | 1.60   | 0.12 | 740 |
| 08YR05-40            | 23       | 5.96                | 98.5  | 0.98 | 0.04  | 2.31 | 0.08 | 1.21  | 4.06  | 0.42 | 16.2 | 2.99  | 17.5  | 3.42  | 10.0  | 1.36  | 10.7  | 1.70  | 11481 | 1.11                             | 39.4   | 1.07 | 697 |
| 08YR05-41            | 92       | 17.9                | 403.7 | 0.89 | 0.01  | 12.8 | 0.04 | 0.77  | 1.92  | 0.38 | 9.5  | 3.07  | 37.1  | 13.6  | 65.5  | 13.8  | 134.7 | 25.1  | 9138  | 0.42                             | 0.68   | 0.18 | 795 |
| 08YR05-42            | 58       | 5.66                | 303.3 | 0.78 | 0.89  | 12.0 | 0.31 | 1.63  | 1.78  | 0.47 | 7.2  | 2.30  | 26.9  | 9.69  | 48.4  | 10.9  | 115.6 | 24.1  | 10669 | 0.71                             | 2.58   | 0.15 | 693 |
| 08YR05-43            | 24       | 17.9                | 105.0 | 0.23 | 0.06  | 15.6 | 0.71 | 9.95  | 9.13  | 1.27 | 17.2 | 2.83  | 17.9  | 3.56  | 10.4  | 1.62  | 12.3  | 1.85  | 11150 | 0.09                             | 43.0   | 0.94 | 795 |
| 08YR05-44            | 91       | 13.1                | 449.0 | 1.59 | 0.003 | 21.4 | 0.03 | 0.61  | 1.40  | 0.28 | 9.6  | 3.02  | 39.5  | 15.0  | 75.4  | 16.1  | 154.5 | 28.6  | 10466 | 0.71                             | 1.48   | 0.17 | 765 |
| 08YR05-45            | 3134     | 10.1                | 716.0 | 2.11 | 0.04  | 39.9 | 0.14 | 2.35  | 3.66  | 1.27 | 18.6 | 5.98  | 68.0  | 24.3  | 118.8 | 24.1  | 225.6 | 41.7  | 9091  | 0.60                             | 0.55   | 0.20 | 742 |
| 08YR05-46            | 124      | 6.23                | 751.7 | 2.71 | 0.01  | 4.81 | 0.04 | 0.63  | 2.26  | 0.30 | 13.3 | 4.98  | 64.1  | 25.3  | 129.9 | 27.7  | 279.7 | 54.2  | 10454 | 1.19                             | 1.23   | 0.15 | 701 |
| 08YR05-47            | 22       | 19.3                | 518.6 | 1.15 | 0.04  | 26.0 | 0.59 | 9.18  | 12.2  | 3.65 | 30.7 | 7.19  | 63.4  | 17.7  | 74.8  | 14.2  | 124.2 | 20.4  | 9795  | 0.38                             | 2.38   | 0.33 | 802 |
| 08YR05-48            | 38       | 9.54                | 100.5 | 1.07 | 0.05  | 2.41 | 0.05 | 1.08  | 3.36  | 0.33 | 10.1 | 1.73  | 11.6  | 3.2   | 14.9  | 3.3   | 34.1  | 7.0   | 11868 | 0.95                             | 20.3   | 0.22 | 737 |
| 08YR05-49            | 21       | 14.7                | 41.2  | 0.30 | 0.04  | 8.00 | 0.14 | 1.72  | 1.68  | 0.27 | 3.71 | 0.69  | 5.61  | 1.32  | 4.74  | 0.77  | 6.58  | 1.07  | 10066 | 0.09                             | 38.5   | 0.55 | 776 |
| 08YR05-50            | 22       | 6.62                | 413.3 | 1.59 | 0.02  | 2.42 | 0.03 | 0.66  | 2.27  | 0.41 | 13.5 | 4.03  | 42.5  | 13.4  | 58.2  | 11.3  | 103.7 | 20.2  | 11903 | 1.24                             | 10.6   | 0.27 | 706 |
| 08YR05-51            | 22       | 17.0                | 129.4 | 0.31 | 0.22  | 21.8 | 0.86 | 11.5  | 10.8  | 1.80 | 20.3 | 3.25  | 21.3  | 4.49  | 13.1  | 1.96  | 14.5  | 2.35  | 10573 | 0.10                             | 34.6   | 0.96 | 790 |
| 08YR05-52            | 25       | 19.2                | 357.8 | 0.49 | 0.07  | 25.4 | 0.39 | 5.85  | 8.79  | 2.54 | 23.4 | 5.04  | 44.2  | 12.4  | 48.6  | 8.6   | 72.0  | 11.7  | 9244  | 0.15                             | 2.83   | 0.40 | 802 |
| 08YR05-53            | 25       | 17.4                | 98.4  | 0.17 | 0.04  | 13.3 | 0.54 | 8.06  | 6.83  | 1.19 | 13.9 | 2.46  | 15.8  | 3.19  | 10.0  | 1.43  | 10.7  | 1.61  | 11428 | 0.09                             | 49.1   | 0.96 | 792 |
| 08YR05-54            | 23       | 20.2                | 334.0 | 0.69 | 6.92  | 48.6 | 3.83 | 21.8  | 7.66  | 0.89 | 14.9 | 3.40  | 33.2  | 10.7  | 48.7  | 9.8   | 95.7  | 18.0  | 9136  | 0.18                             | 1.93   | 0.23 | 807 |
| 08YR05-55            | 46       | 11.5                | 3875  | 40.6 | 0.05  | 4.95 | 0.03 | 0.69  | 3.27  | 0.06 | 37.3 | 19.8  | 309.9 | 128.9 | 655.3 | 131.3 | 1174  | 201.9 | 14224 | 29.1                             | 5.96   | 0.17 | 753 |
| 08YR05-56            | 21       | 6.04                | 296.7 | 1.70 | 0.01  | 2.69 | 0.06 | 0.66  | 1.41  | 0.12 | 8.32 | 2.67  | 28.2  | 9.40  | 42.0  | 7.82  | 72.9  | 13.0  | 11690 | 1.70                             | 12.5   | 0.25 | 698 |
| 08YR05-57            | 823      | 5.92                | 976.7 | 1.64 | 0.01  | 15.2 | 0.08 | 1.80  | 3.61  | 0.61 | 20.0 | 7.08  | 90.5  | 34.6  | 173.3 | 35.1  | 335.5 | 62.3  | 10215 | 0.70                             | 0.36   | 0.18 | 697 |
| 08YR05-58            | 93       | 20.7                | 558.4 | 0.95 | n.d.  | 14.5 | 0.07 | 1.82  | 3.11  | 0.52 | 14.5 | 4.60  | 54.4  | 19.2  | 93.3  | 18.4  | 170.9 | 31.9  | 9360  | 0.45                             | 0.86   | 0.21 | 809 |
| 08YR05-59            | 25       | 19.0                | 200.0 | 0.53 | 0.48  | 42.0 | 1.42 | 16.9  | 14.2  | 3.08 | 25.5 | 4.50  | 30.6  | 6.67  | 21.9  | 3.30  | 24.7  | 3.86  | 11438 | 0.16                             | 18.8   | 0.80 | 800 |
| 08YR05-60            | 89       | 14.5                | 468.1 | 1.51 | 0.10  | 18.8 | 0.08 | 1.26  | 2.28  | 0.39 | 9.8  | 3.47  | 41.7  | 15.5  | 79.0  | 17.1  | 171.0 | 33.2  | 12224 | 1.08                             | 2.14   | 0.16 | 775 |
| <b>Sample 10YR06</b> |          |                     |       |      |       |      |      |       |       |      |      |       |       |       |       |       |       |       |       |                                  |        |      |     |
| 10YR06-01            | 96       | 21.1                | 1487  | 0.59 | 0.01  | 18.0 | 0.43 | 6.26  | 9.78  | 1.27 | 43.6 | 12.5  | 145.5 | 48.7  | 212.2 | 39.9  | 398.1 | 63.0  | 10095 | 0.42                             | 0.52   | 0.24 | 811 |
| 10YR06-02            | 26       | 15.7                | 489.9 | 0.40 | 0.02  | 12.4 | 0.67 | 10.63 | 11.73 | 1.32 | 27.7 | 6.06  | 52.5  | 14.7  | 55.4  | 10.1  | 95.6  | 14.1  | 9990  | 0.13                             | 1.89   | 0.36 | 782 |
| 10YR06-03            | 20       | 14.0                | 43.82 | 0.21 | 0.01  | 4.17 | 0.07 | 1.34  | 1.84  | 0.29 | 4.25 | 0.74  | 5.63  | 1.17  | 4.06  | 0.54  | 4.98  | 0.64  | 10827 | 0.08                             | 31.9   | 0.73 | 771 |
| 10YR06-04            | 23       | 2.36                | 513.1 | 1.64 | n.d.  | 3.68 | 0.01 | 0.27  | 0.66  | 0.36 | 5.38 | 2.12  | 32.1  | 13.6  | 78.4  | 19.9  | 266.3 | 57.7  | 12691 | 1.01                             | 9.22   | 0.08 | 628 |
| 10YR06-05            | 105      | 12.6                | 516.6 | 0.81 | 0.01  | 11.0 | 0.04 | 0.61  | 1.56  | 0.14 | 8.22 | 2.89  | 38.4  | 14.6  | 71.7  | 15.2  | 169.3 | 28.6  | 12162 | 0.57                             | 0.92   | 0.15 | 762 |
| 10YR06-06            | 116      | 6.41                | 1214  | 1.89 | 0.004 | 30.2 | 0.07 | 1.27  | 3.91  | 0.36 | 20.7 | 7.44  | 96.4  | 36.4  | 184.9 | 40.1  | 441.0 | 75.7  | 14972 | 1.61                             | 3.76   | 0.14 | 703 |
| 10YR06-07            | 23       | 2.44                | 377.2 | 1.26 | 0.01  | 1.97 | 0.04 | 0.42  | 2.15  | 0.24 | 13.2 | 3.76  | 38.1  | 10.6  | 42.2  | 7.9   | 80.8  | 13.3  | 11720 | 0.99                             | 12.5   | 0.31 | 630 |
| 10YR06-08            | 98       | 13.1                | 681.7 | 0.91 | 0.004 | 13.6 | 0.03 | 0.71  | 1.50  | 0.22 | 10.7 | 3.86  | 51.6  | 19.4  | 95.7  | 20.0  | 219.7 | 37.4  | 11566 | 0.49                             | 0.66   | 0.15 | 765 |
| 10YR06-09            | 102      | 14.6                | 1433  | 0.59 | 0.02  | 21.2 | 0.26 | 5.35  | 9.88  | 1.18 | 42.5 | 12.2  | 138.8 | 46.1  | 203.5 | 38.7  | 386.5 | 61.0  | 10542 | 0.43                             | 0.65   | 0.23 | 775 |
| 10YR06-10            | 99       | 13.9                | 762.8 | 0.64 | n.d.  | 15.3 | 0.03 | 1.16  | 2.55  | 0.40 | 15.3 | 5.05  | 63.0  | 22.7  | 103.2 | 20.6  | 211.2 | 34.7  | 11020 | 0.34                             | 0.78   | 0.19 | 771 |
| 10YR06-11            | 58       | 6.37                | 1059  | 2.56 | 0.03  | 22.9 | 0.04 | 0.71  | 1.53  | 1.06 | 12.1 | 4.86  | 72.8  | 30.7  | 171.4 | 41.0  | 521.0 | 106.2 | 8659  | 1.24                             | 0.81   | 0.09 | 703 |
| 10YR06-12            | 24       | 8.56                | 205.8 | 0.35 | 0.004 | 18.1 | 0.07 | 0.61  | 1.46  | 0.40 | 4.94 | 1.58  | 16.9  | 5.65  | 26.8  | 5.60  | 64.8  | 10.8  | 10663 | 0.11                             | 1.41   | 0.17 | 727 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma)   | Trace element (ppm) |      |     |             |     |             |     |      |     |      |     |      |       |      |      |      |      | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|------------|---------------------|------|-----|-------------|-----|-------------|-----|------|-----|------|-----|------|-------|------|------|------|------|-------|----------------------------------|--------|------|-----|
|               |            | Ti                  | Y    | Nb  | La          | Ce  | Pr          | Nd  | Sm   | Eu  | Gd   | Tb  | Dy   | Ho    | Er   | Tm   | Yb   | Lu   | Hf    | Ta                               |        |      |     |
| 10YR06-13     | <b>24</b>  | 14.7                | 286. | 0.9 | 0.04        | 13. | 0.16        | 2.0 | 3.57 | 0.3 | 11.4 | 2.7 | 28.9 | 8.25  | 33.4 | 6.18 | 62.9 | 9.58 | 10271 | 0.30                             | 3.46   | 0.30 | 776 |
| 10YR06-14     | <b>87</b>  | 15.3                | 517. | 1.1 | 0.03        | 20. | 0.05        | 0.8 | 1.69 | 0.3 | 10.5 | 3.3 | 41.8 | 15.1  | 70.7 | 14.9 | 160. | 26.9 | 10330 | 0.54                             | 1.10   | 0.17 | 780 |
| 10YR06-15     | <b>61</b>  | 1.44                | 92.8 | 0.3 | 0.01        | 3.4 | <i>n.d.</i> | 0.0 | 0.10 | 0.0 | 0.57 | 0.2 | 4.80 | 2.35  | 15.5 | 4.33 | 65.1 | 15.0 | 13432 | 0.37                             | 2.59   | 0.05 | 595 |
| 10YR06-16     | <b>25</b>  | 12.1                | 226. | 0.4 | 0.03        | 25. | 0.08        | 1.1 | 2.14 | 0.6 | 7.61 | 1.7 | 20.5 | 6.55  | 30.1 | 6.09 | 66.3 | 11.1 | 9613  | 0.15                             | 1.49   | 0.20 | 758 |
| 10YR06-17     | <b>135</b> | 10.8                | 398. | 0.5 | 0.01        | 8.0 | 0.02        | 0.5 | 0.82 | 0.2 | 4.95 | 1.8 | 26.8 | 11.1  | 60.9 | 14.5 | 181. | 36.2 | 9892  | 0.51                             | 0.64   | 0.10 | 747 |
| 10YR06-18     | <b>97</b>  | 16.6                | 807. | 1.1 | 0.06        | 20. | 0.09        | 1.4 | 2.87 | 0.3 | 17.5 | 5.5 | 67.7 | 24.2  | 114. | 23.1 | 241. | 39.7 | 11531 | 0.64                             | 1.15   | 0.18 | 787 |
| 10YR06-19     | <b>50</b>  | 4.01                | 565. | 1.5 | 0.01        | 3.4 | 0.04        | 0.7 | 1.90 | 0.1 | 12.1 | 4.0 | 50.7 | 17.0  | 76.6 | 15.1 | 154. | 25.1 | 11380 | 0.91                             | 1.49   | 0.21 | 666 |
| 10YR06-20     | <b>97</b>  | 11.6                | 1601 | 0.7 | 0.03        | 22. | 0.42        | 6.1 | 10.5 | 1.0 | 44.9 | 13. | 154. | 51.2  | 230. | 44.3 | 442. | 69.5 | 10898 | 0.53                             | 0.75   | 0.23 | 754 |
| 10YR06-21     | <b>61</b>  | 1.94                | 434. | 1.6 | 0.01        | 16. | 0.03        | 0.5 | 0.81 | 0.2 | 5.32 | 2.0 | 28.4 | 11.4  | 62.3 | 15.2 | 191. | 37.0 | 11598 | 1.13                             | 0.73   | 0.10 | 615 |
| 10YR06-22     | <b>445</b> | 6.42                | 291. | 1.8 | 0.01        | 2.2 | 0.06        | 0.6 | 1.74 | 0.0 | 11.7 | 3.4 | 32.7 | 8.71  | 30.0 | 4.89 | 44.4 | 6.60 | 12513 | 1.39                             | 19.2   | 0.48 | 703 |
| 10YR06-23     | <b>20</b>  | 14.63               | 208. | 0.3 | 0.66        | 21. | 0.36        | 3.6 | 4.11 | 1.4 | 11.7 | 2.4 | 22.1 | 6.32  | 24.8 | 4.42 | 46.5 | 7.18 | 8928  | 0.08                             | 3.81   | 0.31 | 776 |
| 10YR06-24     | <b>89</b>  | 8.25                | 393. | 1.1 | 0.02        | 18. | 0.06        | 0.4 | 1.54 | 0.3 | 7.25 | 2.5 | 30.8 | 11.2  | 54.8 | 11.8 | 130. | 22.3 | 10521 | 0.58                             | 1.16   | 0.15 | 724 |
| 10YR06-25     | <b>81</b>  | 3.45                | 567. | 0.7 | 0.02        | 14. | 0.12        | 1.6 | 2.80 | 0.6 | 13.5 | 3.9 | 47.0 | 16.7  | 77.2 | 15.7 | 166. | 27.9 | 9644  | 0.38                             | 0.88   | 0.18 | 655 |
| 10YR06-26     | <b>46</b>  | 7.37                | 27.5 | 0.4 | 0.02        | 1.5 | 0.06        | 0.4 | 0.55 | 0.2 | 1.85 | 0.4 | 2.95 | 0.74  | 2.36 | 0.43 | 3.43 | 0.55 | 12625 | 0.28                             | 67.6   | 0.56 | 715 |
| 10YR06-27     | <b>26</b>  | 6.20                | 518. | 0.9 | 0.01        | 4.0 | 0.03        | 0.4 | 1.56 | 0.2 | 9.82 | 3.3 | 44.4 | 15.8  | 71.6 | 14.4 | 147. | 24.0 | 12350 | 0.82                             | 4.68   | 0.20 | 701 |
| 10YR06-28     | <b>100</b> | 22.2                | 1531 | 0.6 | 0.08        | 19. | 0.49        | 7.2 | 9.78 | 1.1 | 42.9 | 12. | 146. | 48.7  | 214. | 39.6 | 385. | 60.4 | 9773  | 0.59                             | 0.65   | 0.25 | 816 |
| 10YR06-29     | <b>24</b>  | 9.65                | 73.4 | 0.2 | <i>n.d.</i> | 11. | 0.01        | 0.4 | 0.76 | 0.2 | 2.07 | 0.5 | 6.19 | 2.02  | 9.61 | 2.07 | 24.9 | 4.67 | 9882  | 0.04                             | 4.47   | 0.16 | 738 |
| 10YR06-30     | <b>99</b>  | 9.02                | 805. | 1.2 | 0.01        | 22. | 0.03        | 1.0 | 2.66 | 0.2 | 15.3 | 4.9 | 62.9 | 23.4  | 114. | 23.4 | 248. | 41.0 | 12345 | 0.79                             | 1.72   | 0.16 | 732 |
| 10YR06-31     | <b>86</b>  | 5.31                | 431. | 1.3 | 0.03        | 19. | 0.03        | 0.4 | 1.25 | 0.2 | 7.36 | 2.4 | 32.2 | 12.3  | 62.0 | 14.2 | 163. | 28.9 | 11394 | 0.73                             | 1.07   | 0.13 | 688 |
| 10YR06-32     | <b>100</b> | 14.6                | 579. | 0.3 | 0.01        | 8.7 | 0.02        | 0.5 | 1.82 | 0.2 | 10.1 | 3.2 | 45.6 | 16.9  | 81.9 | 17.6 | 183. | 31.0 | 10509 | 0.23                             | 0.51   | 0.16 | 775 |
| 10YR06-33     | <b>35</b>  | 7.25                | 184. | 0.3 | 0.02        | 1.9 | 0.07        | 1.1 | 2.72 | 0.4 | 9.96 | 2.5 | 21.5 | 5.21  | 16.9 | 2.54 | 20.4 | 2.57 | 11500 | 0.36                             | 12.5   | 0.69 | 713 |
| 10YR06-34     | <b>24</b>  | 13.8                | 444. | 1.8 | 0.00        | 25. | 0.08        | 1.3 | 2.73 | 0.7 | 10.9 | 3.2 | 37.8 | 12.8  | 57.6 | 12.0 | 131. | 21.4 | 9938  | 0.68                             | 1.95   | 0.19 | 770 |
| 10YR06-35     | <b>19</b>  | 6.19                | 317. | 1.2 | <i>n.d.</i> | 5.1 | 0.06        | 0.8 | 2.60 | 0.4 | 12.7 | 3.1 | 30.8 | 9.47  | 38.5 | 6.96 | 64.0 | 9.55 | 11569 | 0.85                             | 6.9    | 0.31 | 701 |
| 10YR06-36     | <b>469</b> | 9.13                | 203. | 2.0 | 0.03        | 0.9 | 0.00        | 0.0 | 0.12 | 0.0 | 2.06 | 1.0 | 14.5 | 5.61  | 26.8 | 5.96 | 66.4 | 11.7 | 10354 | 1.30                             | 9.49   | 0.14 | 733 |
| 10YR06-37     | <b>64</b>  | 20.9                | 3286 | 13. | 0.29        | 32. | 0.29        | 6.0 | 12.2 | 0.2 | 73.3 | 25. | 337. | 119.1 | 526. | 98.2 | 960. | 140. | 8863  | 4.77                             | 0.63   | 0.23 | 810 |
| 10YR06-38     | <b>74</b>  | 5.65                | 594. | 0.8 | 0.04        | 13. | 0.04        | 0.6 | 1.78 | 0.1 | 9.01 | 3.4 | 47.3 | 17.3  | 84.9 | 18.3 | 190. | 32.2 | 11606 | 0.68                             | 2.06   | 0.16 | 693 |
| 10YR06-39     | <b>22</b>  | 9.61                | 181. | 0.4 | 0.01        | 24. | 0.06        | 0.8 | 1.35 | 0.4 | 5.99 | 1.3 | 15.6 | 5.32  | 24.2 | 4.93 | 56.1 | 9.13 | 9889  | 0.18                             | 1.90   | 0.18 | 737 |
| 10YR06-40     | <b>96</b>  | 20.8                | 1430 | 0.5 | 0.10        | 17. | 1.03        | 8.3 | 10.8 | 1.5 | 43.2 | 12. | 140. | 46.6  | 204. | 39.0 | 387. | 61.5 | 9536  | 0.45                             | 0.54   | 0.24 | 810 |
| 10YR06-41     | <b>96</b>  | 22.0                | 1231 | 0.5 | 0.07        | 15. | 0.42        | 6.2 | 8.84 | 1.2 | 36.2 | 10. | 122. | 40.0  | 174. | 33.7 | 333. | 52.2 | 9976  | 0.34                             | 0.43   | 0.24 | 815 |
| 10YR06-42     | <b>18</b>  | 5.54                | 503. | 1.1 | <i>n.d.</i> | 18. | 0.07        | 0.5 | 2.95 | 0.3 | 11.9 | 4.0 | 45.9 | 15.6  | 71.9 | 15.0 | 166. | 28.9 | 12212 | 0.41                             | 1.40   | 0.18 | 692 |
| 10YR06-43     | <b>102</b> | 14.5                | 702. | 0.7 | 0.00        | 12. | 0.04        | 0.7 | 1.90 | 0.3 | 12.1 | 4.3 | 55.4 | 20.5  | 97.6 | 19.6 | 212. | 35.9 | 10348 | 0.42                             | 0.55   | 0.17 | 774 |
| 10YR06-44     | <b>89</b>  | 7.69                | 323. | 1.0 | 0.00        | 16. | 0.01        | 0.5 | 0.90 | 0.2 | 5.09 | 1.8 | 24.4 | 9.28  | 46.7 | 10.6 | 122. | 21.5 | 11460 | 0.64                             | 1.76   | 0.13 | 718 |
| 10YR06-45     | <b>22</b>  | 9.91                | 145. | 0.3 | 0.02        | 20. | 0.08        | 0.3 | 0.86 | 0.3 | 3.75 | 0.9 | 11.0 | 4.05  | 20.0 | 4.31 | 48.4 | 8.56 | 9459  | 0.15                             | 1.50   | 0.15 | 740 |
| 10YR06-46     | <b>107</b> | 13.0                | 868. | 0.9 | 0.02        | 16. | 0.07        | 1.5 | 3.20 | 0.2 | 17.1 | 5.5 | 71.6 | 25.5  | 121. | 24.3 | 253. | 41.7 | 11646 | 0.62                             | 0.95   | 0.18 | 765 |
| 10YR06-47     | <b>26</b>  | 15.4                | 279. | 0.3 | 0.04        | 17. | 0.51        | 7.0 | 6.96 | 1.3 | 17.2 | 3.3 | 30.9 | 8.05  | 30.6 | 5.25 | 50.4 | 7.18 | 9875  | 0.12                             | 3.22   | 0.40 | 780 |
| 10YR06-48     | <b>86</b>  | 15.2                | 493. | 0.9 | 0.02        | 16. | 0.07        | 1.0 | 2.12 | 0.5 | 11.2 | 3.5 | 42.2 | 14.6  | 68.2 | 13.7 | 152. | 25.8 | 9548  | 0.44                             | 0.96   | 0.18 | 779 |
| 10YR06-49     | <b>43</b>  | 5.83                | 823. | 1.0 | 0.01        | 21. | 0.09        | 2.2 | 5.56 | 1.1 | 30.0 | 7.6 | 85.4 | 26.0  | 106. | 19.3 | 190. | 30.3 | 10685 | 0.36                             | 0.35   | 0.29 | 696 |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |      |             |      |       |      |      |      |      |       |       |      |       |      |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|----------------------|----------|---------------------|-------|------|-------------|------|-------|------|------|------|------|-------|-------|------|-------|------|-------|-------|-------|----------------------------------|--------|------|-----|
|                      |          | Ti                  | Y     | Nb   | La          | Ce   | Pr    | Nd   | Sm   | Eu   | Gd   | Tb    | Dy    | Ho   | Er    | Tm   | Yb    | Lu    | Hf    | Ta                               |        |      |     |
| 10YR06-50            | 50       | 8.02                | 613.3 | 4.91 | 0.004       | 1.72 | 0.004 | 0.14 | 1.90 | 0.15 | 15.2 | 5.30  | 61.2  | 17.2 | 65.7  | 11.4 | 104.9 | 15.7  | 13760 | 2.93                             | 12.9   | 0.38 | 722 |
| 10YR06-51            | 150      | 7.06                | 440.6 | 1.06 | 0.03        | 11.7 | 0.05  | 0.17 | 1.01 | 0.25 | 5.36 | 2.07  | 29.3  | 12.0 | 66.6  | 15.9 | 201.9 | 40.2  | 11095 | 0.80                             | 1.45   | 0.09 | 711 |
| 10YR06-52            | 26       | 15.1                | 109.3 | 0.15 | 0.08        | 23.6 | 0.61  | 7.65 | 7.52 | 1.19 | 14.0 | 2.48  | 15.6  | 3.10 | 8.83  | 1.33 | 10.8  | 1.59  | 11436 | 0.08                             | 53.1   | 0.94 | 778 |
| 10YR06-53            | 85       | 13.7                | 432.5 | 0.74 | 0.03        | 13.4 | 0.07  | 0.82 | 1.98 | 0.41 | 9.74 | 2.92  | 36.8  | 12.7 | 59.8  | 12.2 | 133.8 | 23.0  | 9368  | 0.34                             | 0.77   | 0.18 | 770 |
| 10YR06-54            | 24       | 12.6                | 391.8 | 0.51 | 0.06        | 11.1 | 0.40  | 6.59 | 7.94 | 1.13 | 21.9 | 4.63  | 42.6  | 12.0 | 45.9  | 8.05 | 80.3  | 11.9  | 10208 | 0.11                             | 1.87   | 0.34 | 762 |
| 10YR06-55            | 25       | 8.63                | 1230  | 3.22 | 0.02        | 30.0 | 0.13  | 1.73 | 4.63 | 0.24 | 29.0 | 10.4  | 126.5 | 35.8 | 123.9 | 18.9 | 155.8 | 19.9  | 14403 | 1.18                             | 8.37   | 0.53 | 728 |
| 10YR06-56            | 26       | 13.2                | 69.6  | 0.39 | 0.04        | 12.1 | 0.31  | 3.96 | 4.38 | 0.61 | 9.09 | 1.42  | 9.66  | 2.06 | 5.87  | 0.87 | 7.29  | 1.08  | 12155 | 0.13                             | 107.8  | 0.86 | 766 |
| 10YR06-57            | 24       | 24.5                | 335.0 | 0.56 | 0.09        | 23.7 | 0.60  | 6.58 | 6.21 | 1.57 | 13.4 | 3.11  | 30.9  | 8.92 | 41.0  | 8.16 | 93.0  | 16.9  | 9854  | 0.15                             | 3.08   | 0.22 | 826 |
| 10YR06-58            | 37       | 8.21                | 211.9 | 0.30 | <i>n.d.</i> | 0.69 | 0.04  | 0.37 | 1.61 | 0.21 | 11.7 | 3.39  | 29.3  | 6.27 | 19.5  | 3.08 | 27.6  | 3.94  | 12835 | 0.45                             | 35.6   | 0.69 | 724 |
| 10YR06-59            | 82       | 13.0                | 417.9 | 0.85 | 0.03        | 15.9 | 0.02  | 0.65 | 1.34 | 0.25 | 8.15 | 2.89  | 34.9  | 12.2 | 58.3  | 12.6 | 140.6 | 23.5  | 10257 | 0.47                             | 0.88   | 0.16 | 765 |
| 10YR06-60            | 60       | 3.74                | 505.9 | 1.38 | 0.004       | 24.3 | 0.05  | 1.08 | 1.69 | 0.63 | 8.40 | 2.57  | 35.7  | 13.7 | 75.2  | 17.6 | 228.2 | 45.3  | 9934  | 1.18                             | 1.60   | 0.10 | 661 |
| <b>Sample 10XB10</b> |          |                     |       |      |             |      |       |      |      |      |      |       |       |      |       |      |       |       |       |                                  |        |      |     |
| 10XB10-01            | 45       | 2.16                | 821.9 | 2.94 | 0.01        | 6.26 | 0.01  | 0.09 | 0.63 | 0.51 | 7.99 | 3.24  | 51.4  | 21.6 | 122.3 | 28.0 | 347.7 | 68.9  | 13130 | 1.48                             | 0.59   | 0.39 | 622 |
| 10XB10-02            | 88       | 14.1                | 397.9 | 1.00 | <i>n.d.</i> | 17.2 | 0.03  | 0.75 | 1.26 | 0.29 | 7.24 | 2.46  | 29.7  | 10.7 | 54.5  | 11.4 | 132.2 | 23.4  | 10576 | 0.43                             | 0.97   | 0.38 | 772 |
| 10XB10-03            | 45       | 1.75                | 777.4 | 3.26 | <i>n.d.</i> | 6.18 | 0.01  | 0.16 | 0.72 | 0.41 | 7.94 | 3.24  | 49.5  | 20.5 | 114.6 | 26.4 | 330.5 | 65.3  | 12928 | 1.92                             | 0.51   | 0.17 | 608 |
| 10XB10-04            | 51       | 2.36                | 764.2 | 2.92 | 0.02        | 6.33 | 0.01  | 0.08 | 0.60 | 0.37 | 6.71 | 3.03  | 48.0  | 20.3 | 114.8 | 26.8 | 332.7 | 65.4  | 12525 | 1.07                             | 0.69   | 0.33 | 628 |
| 10XB10-05            | 87       | 16.3                | 802.8 | 0.90 | 0.29        | 17.3 | 0.39  | 4.02 | 4.74 | 0.88 | 21.3 | 6.13  | 69.5  | 23.3 | 105.5 | 19.6 | 214.0 | 35.5  | 9695  | 0.40                             | 0.75   | 0.64 | 786 |
| 10XB10-06            | 98       | 3.44                | 844.2 | 1.45 | 1.02        | 14.4 | 0.43  | 1.86 | 1.30 | 0.41 | 11.6 | 4.01  | 59.8  | 23.7 | 128.6 | 29.0 | 343.6 | 66.2  | 10631 | 0.70                             | 0.54   | 0.15 | 655 |
| 10XB10-07            | 110      | 4.33                | 1929  | 5.88 | 4.52        | 32.2 | 1.14  | 5.04 | 4.28 | 0.90 | 25.6 | 9.34  | 135.3 | 53.2 | 284.5 | 60.8 | 682.6 | 125.3 | 11164 | 1.69                             | 0.70   | 0.14 | 672 |
| 10XB10-08            | 135      | 2.36                | 692.5 | 2.34 | 3.57        | 22.5 | 0.90  | 4.10 | 1.82 | 0.37 | 7.97 | 2.99  | 44.8  | 17.7 | 102.8 | 25.0 | 324.3 | 67.1  | 11529 | 1.21                             | 0.78   | 0.09 | 628 |
| 10XB10-09            | 85       | 14.3                | 382.1 | 0.95 | 0.03        | 13.1 | 0.02  | 0.59 | 1.18 | 0.24 | 6.52 | 2.41  | 29.7  | 10.3 | 51.1  | 11.0 | 121.0 | 20.8  | 10319 | 0.36                             | 1.04   | 0.10 | 773 |
| 10XB10-10            | 43       | 1.64                | 452.8 | 2.56 | 0.002       | 6.51 | 0.02  | 0.12 | 0.45 | 0.35 | 4.90 | 1.90  | 27.5  | 11.7 | 65.0  | 14.8 | 191.0 | 36.3  | 14536 | 0.96                             | 0.75   | 0.10 | 604 |
| 10XB10-11            | 143      | 2.62                | 1219  | 3.82 | 0.30        | 35.5 | 0.11  | 1.53 | 2.20 | 0.84 | 15.8 | 5.43  | 77.4  | 32.6 | 181.8 | 41.0 | 521.1 | 100.4 | 11504 | 1.65                             | 0.92   | 0.10 | 635 |
| 10XB10-12            | 47       | 1.59                | 975.7 | 2.98 | 0.004       | 8.31 | 0.04  | 0.20 | 0.98 | 0.58 | 9.14 | 4.10  | 61.0  | 25.5 | 142.8 | 33.4 | 407.8 | 78.6  | 12005 | 0.98                             | 0.66   | 0.09 | 601 |
| 10XB10-13            | 23       | 22.9                | 2437  | 14.1 | 0.02        | 30.4 | 0.05  | 0.71 | 4.52 | 2.88 | 37.6 | 13.79 | 174.8 | 62.7 | 305.7 | 61.7 | 674.0 | 111.6 | 14737 | 3.42                             | 8.70   | 0.09 | 819 |
| 10XB10-14            | 57       | 6.06                | 686.6 | 1.21 | 0.01        | 18.0 | 0.07  | 1.18 | 3.08 | 1.06 | 14.5 | 4.19  | 51.6  | 18.5 | 95.3  | 20.1 | 233.8 | 43.7  | 9260  | 0.50                             | 0.39   | 0.09 | 699 |
| 10XB10-15            | 132      | 2.20                | 724.6 | 1.27 | 0.02        | 9.37 | 0.05  | 0.88 | 1.51 | 0.39 | 10.0 | 3.60  | 53.0  | 20.0 | 104.6 | 23.4 | 277.6 | 50.7  | 10543 | 0.57                             | 0.38   | 0.09 | 623 |
| 10XB10-16            | 119      | 3.61                | 1689  | 2.04 | <i>n.d.</i> | 16.6 | 0.14  | 2.23 | 4.98 | 1.59 | 28.7 | 9.43  | 131.0 | 50.8 | 251.1 | 50.5 | 550.0 | 96.8  | 8312  | 0.63                             | 0.32   | 0.10 | 659 |
| 10XB10-17            | 84       | 12.8                | 397.2 | 0.85 | 0.13        | 11.9 | 0.07  | 0.66 | 1.77 | 0.34 | 8.37 | 2.31  | 29.4  | 10.9 | 55.0  | 11.8 | 129.0 | 22.2  | 10629 | 0.57                             | 0.97   | 0.10 | 763 |
| 10XB10-18            | 88       | 21.8                | 616.5 | 1.58 | 0.08        | 21.7 | 0.11  | 1.71 | 3.13 | 0.29 | 14.9 | 4.39  | 53.1  | 18.4 | 80.7  | 15.8 | 171.8 | 27.4  | 11023 | 0.75                             | 2.00   | 0.10 | 814 |
| 10XB10-19            | 93       | 11.2                | 431.7 | 1.09 | 0.02        | 15.1 | 0.06  | 0.63 | 1.67 | 0.51 | 7.42 | 2.66  | 32.6  | 12.6 | 58.8  | 12.7 | 143.6 | 23.9  | 10711 | 0.42                             | 0.84   | 0.10 | 751 |
| 10XB10-20            | 129      | 6.33                | 1271  | 2.97 | 0.16        | 19.1 | 0.11  | 1.70 | 2.59 | 0.73 | 17.5 | 6.19  | 87.9  | 35.4 | 185.1 | 40.7 | 485.4 | 90.3  | 10353 | 1.11                             | 0.63   | 0.09 | 702 |
| 10XB10-21            | 89       | 11.5                | 458.5 | 1.05 | 27.6        | 81.1 | 8.17  | 36.8 | 7.80 | 0.74 | 13.9 | 3.34  | 35.9  | 12.9 | 62.2  | 12.9 | 146.3 | 24.3  | 10438 | 0.43                             | 1.01   | 0.13 | 754 |
| 10XB10-22            | 88       | 11.5                | 415.2 | 1.02 | 7.29        | 30.1 | 1.30  | 5.71 | 2.35 | 0.40 | 8.56 | 2.52  | 32.1  | 12.0 | 57.6  | 11.8 | 135.0 | 22.8  | 10315 | 0.48                             | 1.10   | 0.09 | 754 |
| 10XB10-23            | 45       | 2.17                | 806.7 | 3.48 | 0.05        | 6.52 | 0.01  | 0.23 | 1.07 | 0.44 | 7.69 | 3.52  | 53.1  | 21.6 | 119.3 | 27.6 | 338.8 | 66.3  | 12712 | 1.92                             | 0.52   | 0.10 | 622 |
| 10XB10-24            | 133      | 4.56                | 1211  | 3.17 | 0.06        | 30.5 | 0.08  | 1.09 | 2.25 | 0.76 | 14.4 | 5.36  | 78.5  | 32.3 | 178.2 | 40.7 | 508.5 | 100.3 | 10684 | 1.42                             | 1.09   | 0.10 | 676 |
| 10XB10-25            | 90       | 10.6                | 1092  | 0.80 | 0.002       | 15.7 | 0.12  | 2.78 | 5.82 | 1.19 | 27.7 | 8.00  | 92.9  | 31.6 | 141.8 | 27.1 | 290.9 | 46.8  | 10545 | 0.32                             | 0.48   | 0.09 | 746 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |       |      |       |       |        |      |      |      |       |      |       |       |       |      |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|----------|---------------------|-------|------|-------|-------|--------|------|------|------|-------|------|-------|-------|-------|------|-------|-------|-------|-------|----------------------------------|--------|------|-----|
|               |          | Ti                  | Y     | Nb   | La    | Ce    | Pr     | Nd   | Sm   | Eu   | Gd    | Tb   | Dy    | Ho    | Er    | Tm   | Yb    | Lu    | Hf    | Ta    |                                  |        |      |     |
| 10XB10-26     | 90       | 17.0                | 448.7 | 0.98 | 0.02  | 11.8  | 0.05   | 0.64 | 1.52 | 0.25 | 8.18  | 2.63 | 34.4  | 12.5  | 59.0  | 12.5 | 141.8 | 24.3  | 9813  | 0.46  | 0.88                             | 0.09   | 790  |     |
| 10XB10-27     | 87       | 12.9                | 453.1 | 2.03 | 0.02  | 25.5  | 0.05   | 1.06 | 1.44 | 0.24 | 8.45  | 2.56 | 32.8  | 12.2  | 61.4  | 13.3 | 158.3 | 27.6  | 12552 | 1.37  | 3.27                             | 0.14   | 764  |     |
| 10XB10-28     | 90       | 12.2                | 465.5 | 0.81 | 0.03  | 14.5  | 0.06   | 1.28 | 2.37 | 0.36 | 10.8  | 3.16 | 38.9  | 13.4  | 63.2  | 12.8 | 141.4 | 24.3  | 9784  | 0.33  | 0.82                             | 0.12   | 759  |     |
| 10XB10-29     | 123      | 136.1               | 922.3 | 1.50 | 0.32  | 12.0  | 0.11   | 0.94 | 1.84 | 0.57 | 10.7  | 3.79 | 56.8  | 23.8  | 136.0 | 33.2 | 420.4 | 82.8  | 10026 | 0.81  | 0.79                             | 0.12   | 103  |     |
| 10XB10-30     | 74       | 4.68                | 493.5 | 0.81 | 0.08  | 15.0  | 0.13   | 1.03 | 1.99 | 0.36 | 9.68  | 3.12 | 38.9  | 13.6  | 66.5  | 13.8 | 152.3 | 24.9  | 10394 | 0.40  | 1.06                             | 0.17   | 678  |     |
| 10XB10-31     | 121      | 5.82                | 929.1 | 2.01 | 0.01  | 15.3  | 0.06   | 1.24 | 2.07 | 0.68 | 13.8  | 4.69 | 66.3  | 26.5  | 139.4 | 29.6 | 355.3 | 65.1  | 9753  | 0.72  | 0.73                             | 0.12   | 696  |     |
| 10XB10-32     | 48       | 2.53                | 834.0 | 3.17 | 0.05  | 7.08  | 0.02   | 0.14 | 0.83 | 0.42 | 7.71  | 3.59 | 52.3  | 21.8  | 124.5 | 28.7 | 365.3 | 68.6  | 12261 | 1.01  | 0.67                             | 0.18   | 633  |     |
| 10XB10-33     | 49       | 0.84                | 820.4 | 3.18 | 0.01  | 6.53  | 0.0001 | 0.22 | 0.87 | 0.43 | 7.81  | 3.25 | 52.0  | 22.0  | 121.8 | 29.0 | 359.8 | 68.6  | 12663 | 1.07  | 0.67                             | 0.13   | 562  |     |
| 10XB10-34     | 82       | 6.47                | 386.0 | 1.18 | 0.01  | 19.3  | 0.03   | 0.58 | 1.38 | 0.32 | 6.16  | 2.12 | 28.9  | 10.4  | 54.6  | 12.2 | 142.0 | 24.9  | 12270 | 0.66  | 1.60                             | 0.13   | 704  |     |
| 10XB10-35     | 84       | 8.15                | 354.2 | 1.00 | n.d.  |       | 14.5   | 0.05 | 0.75 | 1.18 | 0.23  | 6.07 | 2.28  | 28.1  | 9.58  | 48.9 | 10.5  | 121.6 | 21.3  | 11417 | 0.50                             | 1.43   | 0.12 | 723 |
| 10XB10-36     | 89       | 9.38                | 561.9 | 0.83 | n.d.  |       | 15.1   | 0.06 | 1.45 | 2.50 | 0.63  | 12.4 | 3.78  | 47.2  | 15.9  | 76.9 | 15.3  | 169.4 | 28.1  | 9808  | 0.42                             | 0.70   | 0.13 | 735 |
| 10XB10-37     | 45       | 2.19                | 935.7 | 4.23 | 0.02  | 8.05  | 0.02   | 0.19 | 1.01 | 0.60 | 9.9   | 3.84 | 60.6  | 24.8  | 140.5 | 32.5 | 414.5 | 79.7  | 12790 | 2.07  | 0.56                             | 0.15   | 623  |     |
| 10XB10-38     | 24       | 86.5                | 2011  | 5.17 | 2.21  | 121.0 | 2.59   | 34.2 | 41.4 | 12.9 | 108.8 | 22.4 | 199.8 | 53.8  | 217.0 | 39.2 | 397.6 | 61.1  | 8720  | 0.82  | 3.97                             | 0.15   | 974  |     |
| 10XB10-39     | 58       | 8.00                | 498.4 | 0.92 | 0.03  | 8.87  | 0.06   | 0.95 | 1.61 | 0.88 | 8.8   | 2.69 | 34.3  | 14.0  | 70.8  | 15.1 | 183.6 | 34.4  | 9040  | 0.24  | 0.43                             | 0.16   | 722  |     |
| 10XB10-40     | 22       | 20.6                | 4165  | 12.0 | 1.69  | 304.2 | 4.52   | 74.5 | 99.8 | 31.5 | 248.7 | 50.0 | 421.9 | 110.4 | 418.6 | 72.8 | 720.8 | 105.2 | 10271 | 1.18  | 5.72                             | 0.16   | 809  |     |
| 10XB10-41     | 45       | 2.50                | 956.4 | 3.46 | 0.02  | 9.96  | 0.05   | 0.55 | 1.53 | 0.61 | 10.2  | 4.01 | 60.9  | 25.1  | 143.8 | 33.6 | 419.8 | 79.7  | 13199 | 1.04  | 0.71                             | 0.16   | 632  |     |
| 10XB10-42     | 84       | 14.3                | 381.9 | 0.74 | 0.11  | 13.2  | 0.08   | 0.99 | 1.69 | 0.39 | 8.30  | 2.50 | 31.4  | 10.9  | 52.1  | 10.9 | 124.4 | 20.1  | 10006 | 0.33  | 0.93                             | 0.18   | 774  |     |
| 10XB10-43     | 47       | 1.19                | 1034  | 3.48 | 0.02  | 9.36  | 0.02   | 0.33 | 1.21 | 0.67 | 10.0  | 4.37 | 65.4  | 26.9  | 153.7 | 35.9 | 442.6 | 83.0  | 12177 | 1.07  | 0.65                             | 0.16   | 583  |     |
| 10XB10-44     | 129      | 7.10                | 1031  | 2.93 | 0.19  | 16.6  | 0.12   | 1.14 | 1.73 | 0.54 | 12.7  | 4.63 | 68.7  | 28.4  | 155.5 | 34.2 | 419.1 | 76.6  | 11695 | 1.25  | 0.93                             | 0.21   | 712  |     |
| 10XB10-45     | 46       | 2.32                | 833.6 | 3.19 | 0.06  | 6.94  | 0.02   | 0.24 | 0.82 | 0.44 | 8.05  | 3.42 | 53.0  | 22.0  | 126.1 | 29.4 | 369.3 | 70.6  | 12774 | 1.10  | 0.67                             | 0.13   | 627  |     |
| 10XB10-46     | 87       | 15.4                | 494.5 | 0.82 | 0.03  | 12.8  | 0.08   | 1.19 | 2.53 | 0.73 | 11.9  | 3.47 | 40.9  | 14.4  | 66.8  | 13.1 | 149.2 | 25.0  | 9667  | 0.29  | 0.72                             | 0.18   | 780  |     |
| 10XB10-47     | 76       | 7.91                | 479.4 | 0.61 | 0.03  | 13.3  | 0.05   | 1.10 | 2.70 | 0.59 | 11.5  | 3.25 | 40.0  | 13.8  | 64.7  | 13.1 | 145.8 | 24.3  | 10116 | 0.30  | 0.63                             | 0.12   | 721  |     |
| 10XB10-48     | 21       | 12.3                | 1885  | 20.6 | 0.22  | 240.5 | 1.06   | 17.9 | 30.4 | 10.7 | 97.8  | 20.9 | 186.4 | 49.3  | 186.9 | 31.3 | 306.6 | 47.2  | 15466 | 1.52  | 35.0                             | 0.18   | 759  |     |
| 10XB10-49     | 39       | 1.28                | 1331  | 2.57 | 0.01  | 11.6  | 0.03   | 0.46 | 2.91 | 1.22 | 18.9  | 7.14 | 97.8  | 36.8  | 187.9 | 40.4 | 463.4 | 84.3  | 13510 | 1.13  | 0.69                             | 0.16   | 588  |     |
| 10XB10-50     | 45       | 2.50                | 954.2 | 4.27 | 0.03  | 8.52  | 0.004  | 0.25 | 1.04 | 0.67 | 9.1   | 3.86 | 59.8  | 25.2  | 141.4 | 34.0 | 420.5 | 83.5  | 12872 | 2.12  | 0.55                             | 0.15   | 632  |     |
| 10XB10-51     | 80       | 6.98                | 675.0 | 1.59 | 1.78  | 28.4  | 0.48   | 1.92 | 2.53 | 0.88 | 10.8  | 3.66 | 48.1  | 17.6  | 92.4  | 21.1 | 254.3 | 48.9  | 10287 | 0.81  | 1.16                             | 0.20   | 710  |     |
| 10XB10-52     | 89       | 20.7                | 393.7 | 0.69 | 0.06  | 12.0  | 0.05   | 0.77 | 1.42 | 0.42 | 7.15  | 2.50 | 31.4  | 11.0  | 52.8  | 10.9 | 122.0 | 20.9  | 9641  | 0.37  | 0.78                             | 0.15   | 809  |     |
| 10XB10-53     | 46       | 2.03                | 884.1 | 3.12 | 0.12  | 7.63  | 0.05   | 0.34 | 0.76 | 0.42 | 7.95  | 3.66 | 56.0  | 23.6  | 133.5 | 30.9 | 381.4 | 74.0  | 12813 | 1.13  | 0.66                             | 0.10   | 618  |     |
| 10XB10-54     | 92       | 10.1                | 842.6 | 1.16 | 0.06  | 20.0  | 0.14   | 2.60 | 3.73 | 0.65 | 18.5  | 5.62 | 69.4  | 23.9  | 115.1 | 22.7 | 247.6 | 41.3  | 10053 | 0.57  | 0.81                             | 0.16   | 742  |     |
| 10XB10-55     | 87       | 7.10                | 303.3 | 1.08 | 0.003 | 15.7  | 0.03   | 0.40 | 1.09 | 0.22 | 4.35  | 1.59 | 21.2  | 8.14  | 43.1  | 9.6  | 116.7 | 21.2  | 13283 | 0.77  | 2.96                             | 0.18   | 712  |     |
| 10XB10-56     | 91       | 9.43                | 440.2 | 0.75 | n.d.  |       | 13.2   | 0.07 | 0.78 | 2.07 | 0.46  | 9.28 | 2.83  | 36.1  | 12.3  | 61.3 | 12.2  | 134.2 | 22.8  | 9808  | 0.29                             | 0.93   | 0.17 | 736 |
| 10XB10-57     | 136      | 1.78                | 854.7 | 3.62 | 0.01  | 8.76  | 0.01   | 0.21 | 0.78 | 0.27 | 8.59  | 3.41 | 52.4  | 22.9  | 130.8 | 29.2 | 357.9 | 69.1  | 11652 | 1.75  | 1.37                             | 0.12   | 609  |     |
| 10XB10-58     | 92       | 16.0                | 397.9 | 0.81 | 0.02  | 13.6  | 0.05   | 0.99 | 1.84 | 0.34 | 7.92  | 2.52 | 31.0  | 11.4  | 54.7  | 11.4 | 128.7 | 22.5  | 10112 | 0.39  | 0.80                             | 0.18   | 784  |     |
| 10XB10-59     | 77       | 6.60                | 388.9 | 1.28 | n.d.  |       | 17.3   | 0.05 | 0.61 | 1.16 | 0.44  | 6.28 | 2.20  | 28.4  | 10.7  | 53.5 | 11.7  | 146.4 | 26.8  | 10481 | 0.70                             | 0.77   | 0.21 | 706 |
| 10XB10-60     | 88       | 4.46                | 258.4 | 0.94 | 0.03  | 12.1  | 0.02   | 0.32 | 0.67 | 0.19 | 3.60  | 1.30 | 17.2  | 6.88  | 37.3  | 8.41 | 108.5 | 19.6  | 11521 | 0.58  | 2.02                             | 0.16   | 675  |     |
| 10XB10-61     | 89       | 2.84                | 530.0 | 1.30 | 2.59  | 20.6  | 0.52   | 2.63 | 1.57 | 0.26 | 7.57  | 2.58 | 37.3  | 14.2  | 76.3  | 17.2 | 208.0 | 37.0  | 12014 | 0.89  | 1.15                             | 0.18   | 641  |     |
| 10XB10-62     | 87       | 5.37                | 571.5 | 0.89 | 0.17  | 18.1  | 0.10   | 1.35 | 2.79 | 0.49 | 12.8  | 3.80 | 47.4  | 16.1  | 77.8  | 15.4 | 174.4 | 29.7  | 10298 | 0.48  | 0.76                             | 0.17   | 689  |     |

**Table DR3 (Continued)**

| Analysis Spot         | Age (Ma) | Trace element (ppm) |       |      |       |       |      |      |      |      |       |      |       |       |       |      |       |       |       | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |     |
|-----------------------|----------|---------------------|-------|------|-------|-------|------|------|------|------|-------|------|-------|-------|-------|------|-------|-------|-------|------|----------------------------------|--------|-----|
|                       |          | Ti                  | Y     | Nb   | La    | Ce    | Pr   | Nd   | Sm   | Eu   | Gd    | Tb   | Dy    | Ho    | Er    | Tm   | Yb    | Lu    | Hf    | Ta   |                                  |        |     |
| 10XB10-63             | 50       | 1.85                | 794.7 | 4.31 | 0.003 | 10.7  | 0.02 | 0.35 | 1.03 | 0.55 | 7.57  | 3.53 | 51.5  | 20.8  | 115.9 | 26.0 | 318.9 | 58.8  | 12463 | 1.89 | 1.04                             | 0.18   | 612 |
| 10XB10-64             | 87       | 18.6                | 466.2 | 1.06 | 0.01  | 14.5  | 0.04 | 0.90 | 2.23 | 0.41 | 9.79  | 3.11 | 37.5  | 13.2  | 63.9  | 13.3 | 150.6 | 25.4  | 9304  | 0.42 | 0.68                             | 0.16   | 798 |
| 10XB10-65             | 59       | 3.27                | 267.8 | 0.94 | n.d.  | 14.0  | 0.03 | 0.48 | 0.64 | 0.47 | 4.39  | 1.53 | 20.1  | 7.19  | 38.0  | 8.20 | 112.2 | 21.3  | 9754  | 0.50 | 0.77                             | 0.15   | 651 |
| 10XB10-66             | 48       | 2.11                | 1560  | 2.83 | 0.03  | 11.1  | 0.04 | 0.59 | 3.35 | 1.60 | 22.4  | 8.74 | 113.8 | 42.9  | 220.8 | 47.4 | 548.2 | 99.5  | 13364 | 1.56 | 0.60                             | 0.11   | 621 |
| 10XB10-67             | 76       | 4.27                | 498.4 | 0.97 | 0.01  | 13.1  | 0.05 | 1.35 | 2.46 | 0.76 | 8.93  | 2.98 | 36.7  | 13.5  | 69.2  | 15.2 | 182.2 | 34.0  | 8677  | 0.36 | 0.32                             | 0.13   | 671 |
| 10XB10-68             | 47       | 1.81                | 865.9 | 3.43 | 0.005 | 7.65  | 0.02 | 0.13 | 1.02 | 0.51 | 8.57  | 3.62 | 57.1  | 23.2  | 126.8 | 30.0 | 381.4 | 75.7  | 12360 | 2.02 | 0.52                             | 0.13   | 610 |
| 10XB10-69             | 86       | 12.9                | 483.0 | 1.02 | 3.62  | 27.8  | 1.18 | 6.05 | 2.89 | 0.39 | 10.1  | 3.21 | 38.8  | 13.4  | 67.5  | 14.3 | 159.5 | 25.9  | 10244 | 0.49 | 1.09                             | 0.14   | 764 |
| 10XB10-70             | 101      | 7.77                | 371.2 | 1.05 | n.d.  | 16.0  | 0.03 | 0.45 | 0.79 | 0.28 | 6.23  | 2.05 | 26.9  | 10.2  | 53.1  | 11.8 | 133.0 | 25.0  | 11597 | 0.68 | 1.71                             | 0.15   | 719 |
| 10XB10-71             | 89       | 7.93                | 500.7 | 1.02 | 1.59  | 21.9  | 0.41 | 1.88 | 2.20 | 0.32 | 10.3  | 3.21 | 40.9  | 14.4  | 67.1  | 14.3 | 150.6 | 26.1  | 10584 | 0.43 | 1.11                             | 0.12   | 721 |
| 10XB10-72             | 112      | 4.43                | 376.9 | 0.49 | 0.01  | 3.72  | 0.03 | 0.27 | 1.10 | 0.33 | 5.83  | 2.06 | 29.7  | 11.5  | 59.0  | 12.4 | 139.6 | 24.7  | 8702  | 0.16 | 0.26                             | 0.09   | 674 |
| 10XB10-73             | 75       | 4.75                | 239.8 | 0.63 | 0.004 | 8.97  | 0.02 | 0.48 | 1.00 | 0.43 | 4.77  | 1.40 | 18.1  | 6.52  | 33.2  | 7.3  | 95.6  | 17.5  | 9184  | 0.28 | 0.57                             | 0.12   | 680 |
| 10XB10-74             | 85       | 5.13                | 914.8 | 1.11 | 0.02  | 20.5  | 0.22 | 4.24 | 4.98 | 1.73 | 21.8  | 6.01 | 71.6  | 25.8  | 123.2 | 25.8 | 296.9 | 53.4  | 9265  | 0.51 | 0.46                             | 0.11   | 685 |
| 10XB10-75             | 49       | 3.04                | 866.9 | 3.96 | n.d.  | 8.31  | 0.01 | 0.19 | 1.08 | 0.61 | 7.76  | 3.67 | 56.6  | 22.9  | 129.3 | 30.2 | 385.1 | 73.9  | 11594 | 1.83 | 0.53                             | 0.12   | 646 |
| 10XB10-76             | 51       | 1.61                | 904.0 | 4.13 | 0.05  | 8.59  | 0.01 | 0.35 | 1.16 | 0.55 | 8.87  | 3.97 | 58.4  | 24.5  | 135.0 | 31.1 | 407.4 | 77.7  | 12200 | 1.88 | 0.53                             | 0.10   | 603 |
| 10XB10-77             | 24       | 10.4                | 4785  | 4.90 | 0.09  | 71.2  | 1.00 | 20.8 | 55.1 | 24.3 | 273.2 | 61.4 | 522.1 | 128.6 | 419.1 | 60.3 | 526.4 | 75.3  | 7816  | 0.34 | 44.2                             | 0.09   | 745 |
| 10XB10-78             | 25       | 1.34                | 1228  | 6.16 | n.d.  | 3.93  | 0.01 | 0.16 | 1.43 | 0.58 | 13.5  | 6.08 | 89.8  | 33.8  | 172.2 | 35.3 | 385.5 | 66.7  | 17397 | 1.62 | 8.79                             | 0.10   | 590 |
| 10XB10-79             | 85       | 20.2                | 480.9 | 0.65 | n.d.  | 12.1  | 0.06 | 0.77 | 1.85 | 0.49 | 9.2   | 3.27 | 39.5  | 13.4  | 65.0  | 12.9 | 141.4 | 23.8  | 10212 | 0.43 | 0.79                             | 0.10   | 807 |
| <b>Sample SLP1101</b> |          |                     |       |      |       |       |      |      |      |      |       |      |       |       |       |      |       |       |       |      |                                  |        |     |
| SLP1101-01            | 59       | 4.97                | 1277  | 1.19 | 0.003 | 36.1  | 0.15 | 3.81 | 6.43 | 1.57 | 30.3  | 9.32 | 109.2 | 38.6  | 182.2 | 37.9 | 407.5 | 76.5  | 10676 | 0.65 | 0.37                             | 0.17   | 683 |
| SLP1101-02            | 54       | 3.03                | 1600  | 6.40 | 0.24  | 23.7  | 0.08 | 1.33 | 2.98 | 0.26 | 20.5  | 8.07 | 116.1 | 47.5  | 249.3 | 56.5 | 637.7 | 119.9 | 12852 | 3.32 | 1.17                             | 0.12   | 646 |
| SLP1101-03            | 34       | 12.0                | 1605  | 2.44 | 0.02  | 4.12  | 0.04 | 0.93 | 2.16 | 0.55 | 20.3  | 8.90 | 121.9 | 48.4  | 245.9 | 52.8 | 573.7 | 106.8 | 13154 | 2.00 | 2.29                             | 0.14   | 758 |
| SLP1101-04            | 78       | 3.38                | 1288  | 2.87 | n.d.  | 18.9  | 0.05 | 0.97 | 3.48 | 0.59 | 21.9  | 8.09 | 109.7 | 39.7  | 190.3 | 39.4 | 415.6 | 74.2  | 12833 | 1.64 | 0.94                             | 0.17   | 654 |
| SLP1101-05            | 43       | 5.85                | 560   | 1.03 | n.d.  | 17.8  | n.d. | 0.41 | 0.93 | 0.19 | 7.62  | 3.01 | 38.2  | 16.0  | 85.7  | 20.4 | 232.0 | 46.1  | 12638 | 0.70 | 0.37                             | 0.11   | 696 |
| SLP1101-06            | 29       | 37.9                | 941.8 | 1.16 | 0.22  | 6.81  | 0.26 | 1.66 | 2.00 | 0.46 | 9.67  | 4.63 | 70.5  | 28.4  | 140.3 | 31.7 | 328.9 | 60.3  | 14852 | 1.53 | 1.08                             | 0.14   | 873 |
| SLP1101-07            | 150      | 3.95                | 3389  | 2.29 | 0.001 | 1.00  | 0.07 | 0.77 | 4.12 | 0.03 | 38.4  | 19.7 | 284.8 | 95.7  | 396.9 | 72.1 | 638.5 | 88.4  | 14550 | 1.82 | 1.79                             | 0.29   | 665 |
| SLP1101-08            | 45       | 3.44                | 1303  | 7.40 | 0.01  | 24.8  | 0.04 | 0.55 | 1.63 | 0.28 | 12.2  | 5.77 | 87.1  | 37.0  | 207.1 | 50.1 | 585.7 | 114.2 | 15405 | 5.28 | 1.91                             | 0.10   | 655 |
| SLP1101-09            | 39       | 8.96                | 1293  | 1.90 | 0.04  | 10.1  | 0.07 | 1.55 | 4.75 | 0.63 | 33.8  | 11.5 | 127.3 | 40.6  | 163.4 | 29.3 | 272.8 | 43.3  | 14184 | 1.44 | 0.80                             | 0.30   | 731 |
| SLP1101-10            | 23       | 10.3                | 193.1 | 0.76 | 0.05  | 10.0  | 0.10 | 1.73 | 5.19 | 1.02 | 15.3  | 3.19 | 25.3  | 6.16  | 19.5  | 3.14 | 26.7  | 4.06  | 11366 | 0.22 | 3.80                             | 0.62   | 743 |
| SLP1101-11            | 499      | 12.10               | 1059  | 3.83 | n.d.  | 37.2  | 0.07 | 1.75 | 3.58 | 0.67 | 19.2  | 7.01 | 90.6  | 32.1  | 161.1 | 37.2 | 445.9 | 83.0  | 11210 | 2.15 | 1.27                             | 0.13   | 758 |
| SLP1101-12            | 149      | 6.09                | 1216  | 3.77 | 0.04  | 26.9  | 0.11 | 0.91 | 3.96 | 0.53 | 20.5  | 7.44 | 98.4  | 37.3  | 183.6 | 39.2 | 401.3 | 70.5  | 11034 | 2.04 | 0.92                             | 0.16   | 699 |
| SLP1101-13            | 46       | 66.1                | 1264  | 2.43 | 3.77  | 29.3  | 1.29 | 7.99 | 6.20 | 0.61 | 26.7  | 8.42 | 105.1 | 38.3  | 182.4 | 38.4 | 395.5 | 70.9  | 10271 | 0.90 | 0.60                             | 0.17   | 940 |
| SLP1101-14            | 55       | 2.92                | 713.4 | 2.30 | n.d.  | 13.3  | 0.04 | 0.54 | 1.10 | 0.39 | 10.9  | 4.20 | 57.9  | 22.6  | 110.0 | 24.2 | 255.1 | 48.1  | 11654 | 0.88 | 0.56                             | 0.15   | 643 |
| SLP1101-15            | 78       | 7.64                | 885.3 | 4.61 | 0.02  | 7.52  | 0.02 | 0.42 | 1.13 | 0.05 | 9.27  | 3.99 | 61.2  | 23.7  | 122.1 | 27.6 | 303.4 | 56.6  | 13500 | 3.68 | 7.08                             | 0.13   | 718 |
| SLP1101-16            | 47       | 5.72                | 1769  | 15.1 | 0.09  | 117.4 | 0.13 | 1.25 | 1.50 | 0.54 | 11.4  | 4.83 | 80.7  | 41.2  | 273.5 | 78.1 | 1126  | 269.8 | 13431 | 3.27 | 2.42                             | 0.05   | 694 |
| SLP1101-17            | 35       | 16.76               | 277.4 | 0.27 | 0.02  | 4.49  | 0.01 | 1.19 | 4.10 | 0.84 | 18.6  | 5.34 | 42.7  | 8.79  | 24.1  | 3.08 | 20.8  | 3.07  | 14831 | 0.10 | 4.37                             | 1.33   | 788 |
| SLP1101-18            | 81       | 3.95                | 1526  | 5.01 | 0.02  | 12.7  | 0.02 | 1.69 | 5.21 | 0.68 | 29.8  | 10.6 | 129.7 | 47.0  | 218.8 | 45.2 | 462.4 | 82.2  | 14441 | 2.57 | 2.39                             | 0.18   | 665 |
| SLP1101-19            | 153      | 3.81                | 1262  | 7.86 | 4.80  | 31.2  | 1.19 | 5.74 | 3.01 | 1.27 | 15.6  | 6.01 | 87.3  | 36.8  | 198.5 | 48.4 | 566.4 | 110.0 | 11802 | 2.34 | 0.71                             | 0.10   | 663 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |       |      |       |      |       |      |      |      |      |       |       |       |       |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|----------|---------------------|-------|------|-------|------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------------|--------|------|-----|
|               |          | Ti                  | Y     | Nb   | La    | Ce   | Pr    | Nd   | Sm   | Eu   | Gd   | Tb    | Dy    | Ho    | Er    | Tm    | Yb    | Lu    | Hf    | Ta                               |        |      |     |
| SLP1101-20    | 110      | 6.82                | 1334  | 1.96 | n.d.  | 10.8 | 0.03  | 0.98 | 3.06 | 0.42 | 18.9 | 7.49  | 102.4 | 41.1  | 210.2 | 45.5  | 504.7 | 95.4  | 10420 | 0.74                             | 0.30   | 0.13 | 708 |
| SLP1101-21    | 62       | 37.1                | 4029  | 16.8 | 1.87  | 42.4 | 0.67  | 5.81 | 12.4 | 0.26 | 83.7 | 30.0  | 376.5 | 132.8 | 582.8 | 110.8 | 1038  | 169.0 | 8957  | 4.18                             | 1.06   | 0.24 | 871 |
| SLP1101-22    | 35       | 17.7                | 869.7 | 7.10 | 0.65  | 54.2 | 0.30  | 2.48 | 2.69 | 0.57 | 12.3 | 4.09  | 55.0  | 24.6  | 138.7 | 33.6  | 403.9 | 84.3  | 11619 | 2.43                             | 6.14   | 0.09 | 794 |
| SLP1101-23    | 1094     | 2.66                | 2338  | 3.53 | 0.06  | 13.3 | 0.33  | 7.62 | 13.2 | 1.36 | 59.7 | 19.7  | 233.5 | 77.4  | 329.5 | 61.7  | 559.3 | 84.5  | 9802  | 1.48                             | 0.16   | 0.27 | 637 |
| SLP1101-24    | 145      | 4.43                | 1259  | 5.27 | 0.02  | 22.3 | 0.08  | 1.31 | 1.98 | 1.05 | 16.1 | 6.51  | 91.3  | 36.8  | 194.6 | 46.5  | 543.0 | 107.0 | 11928 | 1.77                             | 0.77   | 0.11 | 674 |
| SLP1101-25    | 36       | 12.3                | 175.5 | 0.50 | 0.05  | 2.80 | 0.09  | 0.69 | 1.79 | 0.32 | 7.11 | 1.84  | 17.1  | 5.50  | 23.6  | 4.56  | 45.9  | 7.97  | 10523 | 0.47                             | 2.80   | 0.24 | 759 |
| SLP1101-26    | 720      | 3.78                | 1246  | 3.13 | n.d.  | 66.5 | 0.07  | 1.25 | 3.70 | 0.66 | 21.3 | 6.97  | 93.1  | 37.5  | 191.6 | 42.4  | 458.7 | 88.2  | 7284  | 0.68                             | 0.20   | 0.13 | 662 |
| SLP1101-27    | 143      | 4.89                | 997.5 | 3.92 | 0.24  | 27.4 | 0.07  | 2.01 | 2.41 | 1.11 | 16.2 | 5.47  | 74.1  | 29.1  | 154.2 | 36.3  | 423.2 | 83.7  | 12379 | 1.63                             | 0.98   | 0.11 | 682 |
| SLP1101-28    | 45       | 4.79                | 1295  | 9.93 | 0.23  | 86.6 | 0.11  | 0.53 | 1.63 | 0.36 | 10.5 | 4.44  | 64.8  | 30.5  | 193.8 | 56.3  | 792.1 | 180.5 | 13593 | 2.94                             | 2.31   | 0.05 | 680 |
| SLP1101-29    | 576      | 18.9                | 343.5 | 0.63 | n.d.  | 1.42 | 0.09  | 1.38 | 3.51 | 0.05 | 16.4 | 4.79  | 41.6  | 11.1  | 41.4  | 7.41  | 68.9  | 11.0  | 13726 | 0.22                             | 2.65   | 0.39 | 800 |
| SLP1101-30    | 58       | 19.1                | 2486  | 3.36 | 0.002 | 4.60 | 0.05  | 1.02 | 4.29 | 0.37 | 32.1 | 13.7  | 188.9 | 75.5  | 378.8 | 84.3  | 928.9 | 174.6 | 13606 | 2.74                             | 3.22   | 0.13 | 801 |
| SLP1101-31    | 54       | 3.41                | 2656  | 13.4 | 1.48  | 31.4 | 0.29  | 2.38 | 4.41 | 0.27 | 33.4 | 13.46 | 197.9 | 80.3  | 408.2 | 90.2  | 963.1 | 174.9 | 12681 | 5.60                             | 1.81   | 0.13 | 654 |
| SLP1101-32    | 153      | 18.2                | 814.5 | 1.12 | 0.15  | 2.43 | 0.04  | 0.30 | 0.53 | 0.15 | 7.05 | 3.50  | 58.8  | 23.6  | 119.5 | 27.0  | 285.4 | 51.7  | 13520 | 1.26                             | 2.56   | 0.13 | 797 |
| SLP1101-33    | 158      | 3.45                | 914.3 | 4.02 | 0.15  | 25.1 | 0.05  | 0.99 | 1.88 | 0.96 | 13.4 | 4.69  | 66.0  | 26.7  | 144.3 | 33.8  | 397.4 | 79.3  | 11711 | 1.64                             | 0.87   | 0.11 | 655 |
| SLP1101-34    | 91       | 5.80                | 1657  | 6.62 | 0.45  | 61.9 | 0.15  | 2.80 | 3.83 | 1.15 | 24.3 | 9.25  | 126.5 | 49.4  | 253.5 | 56.3  | 622.8 | 115.4 | 11380 | 2.38                             | 0.60   | 0.13 | 695 |
| SLP1101-35    | 48       | 3.28                | 719.2 | 6.96 | n.d.  | 14.2 | 0.00  | 0.37 | 0.88 | 0.11 | 6.86 | 3.29  | 49.1  | 20.8  | 115.2 | 27.0  | 322.0 | 63.5  | 13339 | 6.03                             | 1.46   | 0.10 | 652 |
| SLP1101-36    | 48       | 4.63                | 1384  | 5.75 | 0.01  | 67.2 | 0.09  | 1.97 | 3.68 | 0.97 | 21.7 | 8.18  | 105.9 | 40.9  | 205.3 | 46.5  | 499.5 | 89.5  | 11491 | 2.37                             | 1.25   | 0.14 | 678 |
| SLP1101-37    | 107      | 8.83                | 1417  | 1.93 | n.d.  | 11.2 | 0.04  | 1.19 | 2.95 | 0.72 | 20.8 | 7.69  | 111.1 | 45.0  | 220.3 | 47.3  | 502.4 | 91.5  | 9904  | 0.71                             | 0.33   | 0.14 | 730 |
| SLP1101-38    | 79       | 6.87                | 1307  | 6.83 | n.d.  | 53.6 | 0.13  | 1.16 | 3.36 | 0.65 | 18.0 | 6.88  | 97.3  | 39.1  | 195.8 | 44.0  | 472.3 | 86.6  | 11768 | 2.25                             | 0.65   | 0.13 | 709 |
| SLP1101-39    | 84       | 14.2                | 1970  | 6.07 | 0.29  | 26.8 | 0.07  | 1.95 | 4.07 | 0.56 | 27.7 | 10.34 | 144.4 | 58.0  | 295.8 | 67.9  | 751.3 | 140.0 | 12544 | 3.32                             | 1.19   | 0.12 | 772 |
| SLP1101-40    | 59       | 13.3                | 2768  | 16.3 | 2.72  | 84.6 | 1.07  | 7.56 | 7.33 | 0.75 | 42.6 | 15.9  | 216.5 | 84.9  | 411.8 | 88.2  | 920.2 | 158.8 | 11872 | 5.13                             | 1.01   | 0.15 | 767 |
| SLP1101-41    | 825      | 10.2                | 842.1 | 5.49 | 0.06  | 9.70 | 0.11  | 1.47 | 2.56 | 0.20 | 16.7 | 5.45  | 73.7  | 26.9  | 124.7 | 25.9  | 262.8 | 45.4  | 12647 | 2.24                             | 1.00   | 0.18 | 742 |
| SLP1101-42    | 37       | 3.72                | 306.1 | 2.12 | 0.02  | 28.5 | 0.01  | 1.23 | 1.62 | 0.40 | 5.7  | 1.89  | 23.1  | 8.27  | 42.5  | 9.95  | 119.9 | 24.9  | 13443 | 0.92                             | 11.1   | 0.12 | 661 |
| SLP1101-43    | 60       | 2.27                | 1431  | 8.25 | 0.06  | 20.1 | 0.02  | 1.66 | 3.33 | 0.41 | 22.5 | 8.81  | 121.6 | 46.4  | 218.9 | 45.2  | 462.5 | 81.6  | 10705 | 2.54                             | 1.06   | 0.17 | 626 |
| SLP1101-44    | 690      | 18.4                | 1331  | 0.99 | n.d.  | 2.39 | 0.03  | 1.10 | 3.57 | 0.18 | 19.8 | 7.95  | 110.3 | 41.7  | 204.9 | 42.7  | 446.3 | 77.1  | 14411 | 0.78                             | 1.24   | 0.16 | 798 |
| SLP1101-45    | 30       | 11.6                | 227.6 | 0.59 | 0.05  | 6.69 | 0.09  | 2.07 | 3.97 | 0.28 | 13.3 | 3.05  | 28.6  | 6.87  | 23.9  | 4.04  | 31.8  | 5.02  | 13215 | 0.18                             | 4.07   | 0.58 | 754 |
| SLP1101-46    | 29       | 8.36                | 158.0 | 0.34 | 0.04  | 7.65 | 0.10  | 1.66 | 3.46 | 0.47 | 11.6 | 2.77  | 20.6  | 4.91  | 15.6  | 2.39  | 19.8  | 3.01  | 11966 | 0.06                             | 5.71   | 0.68 | 725 |
| SLP1101-47    | 39       | 3.63                | 385.7 | 2.35 | 0.04  | 28.0 | 0.003 | 0.90 | 2.31 | 0.60 | 11.5 | 3.22  | 36.0  | 11.8  | 52.5  | 10.8  | 114.1 | 20.2  | 12362 | 1.13                             | 3.24   | 0.20 | 659 |
| SLP1101-48    | 38       | 8.37                | 1183  | 2.58 | n.d.  | 49.5 | 0.43  | 8.49 | 14.4 | 2.66 | 47.1 | 12.1  | 117.6 | 37.1  | 153.9 | 31.2  | 306.7 | 52.9  | 12028 | 1.70                             | 2.78   | 0.25 | 726 |
| SLP1101-49    | 28       | 10.7                | 1059  | 1.30 | 0.01  | 11.4 | 0.23  | 3.19 | 3.63 | 2.15 | 21.1 | 6.67  | 82.8  | 30.3  | 145.4 | 32.2  | 353.4 | 69.3  | 7385  | 0.69                             | 0.34   | 0.15 | 747 |
| SLP1101-50    | 104      | 4.60                | 1266  | 2.08 | 0.39  | 14.0 | 0.18  | 1.86 | 2.16 | 0.57 | 18.4 | 6.97  | 94.6  | 39.7  | 196.5 | 41.9  | 433.9 | 80.2  | 10855 | 0.83                             | 0.49   | 0.14 | 677 |
| SLP1101-51    | 59       | 10.8                | 272.5 | 0.98 | 0.03  | 8.38 | 0.13  | 1.74 | 4.76 | 0.35 | 17.7 | 4.09  | 32.8  | 8.22  | 30.4  | 4.98  | 44.4  | 6.96  | 14532 | 0.28                             | 2.56   | 0.48 | 748 |
| SLP1101-52    | 56       | 3.16                | 991.7 | 2.45 | n.d.  | 23.8 | 0.05  | 1.09 | 2.65 | 0.53 | 14.3 | 5.18  | 71.1  | 29.6  | 151.5 | 34.7  | 382.9 | 74.8  | 11784 | 0.96                             | 0.26   | 0.12 | 649 |
| SLP1101-53    | 18       | 28.4                | 108.2 | 1.36 | n.d.  | 35.0 | 0.21  | 2.58 | 2.97 | 0.90 | 6.88 | 1.72  | 12.0  | 3.34  | 11.4  | 1.69  | 15.4  | 2.13  | 13192 | 0.51                             | 13.2   | 0.51 | 842 |
| SLP1101-54    | 53       | 2.57                | 278.0 | 0.47 | n.d.  | 11.9 | n.d.  | 0.01 | 0.39 | 0.18 | 2.30 | 0.89  | 13.6  | 6.87  | 45.6  | 12.7  | 167.0 | 37.6  | 10310 | 0.26                             | 2.66   | 0.05 | 634 |
| SLP1101-55    | 33       | 12.3                | 132.4 | 0.32 | 0.04  | 3.57 | 0.12  | 2.65 | 4.61 | 0.89 | 16.6 | 2.71  | 19.5  | 4.17  | 11.0  | 1.66  | 13.2  | 1.95  | 12290 | 0.13                             | 54.9   | 0.96 | 759 |
| SLP1101-56    | 143      | 6.74                | 2172  | 1.33 | 0.04  | 1.32 | 0.08  | 2.29 | 3.80 | 0.00 | 28.3 | 12.5  | 170.5 | 66.5  | 333.2 | 69.5  | 697.6 | 120.9 | 13251 | 0.85                             | 0.35   | 0.16 | 707 |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |     |
|----------------------|----------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|----------------------------------|--------|-----|
|                      |          | Ti                  | Y    | Nb   | La   | Ce   | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy   | Ho   | Er   | Tm   | Yb   | Lu   | Hf    | Ta   |                                  |        |     |
| SLP1101-57           | 17       | 28.1                | 1017 | 1.58 | 1.03 | 100. | 3.40 | 50.1 | 65.7 | 12.6 | 133. | 23.1 | 160. | 33.3 | 95.4 | 14.2 | 106. | 15.7 | 8428  | 0.34 | 7.76                             | 0.98   | 841 |
| SLP1101-58           | 414      | 84.5                | 1260 | 9.68 | 1.36 | 14.4 | 0.49 | 3.64 | 5.29 | 0.35 | 28.4 | 9.84 | 117. | 42.0 | 185. | 35.4 | 335. | 54.5 | 12247 | 3.97 | 0.57                             | 0.23   | 971 |
| SLP1101-59           | 78       | 3.77                | 586. | 3.21 | 0.00 | 19.6 | n.d. | 0.26 | 1.36 | 0.12 | 8.92 | 3.30 | 44.4 | 17.7 | 85.0 | 19.9 | 211. | 42.6 | 14113 | 2.16 | 2.68                             | 0.14   | 662 |
| SLP1101-60           | 48       | 6.03                | 1143 | 3.56 | 1.64 | 26.0 | 0.72 | 4.40 | 3.16 | 0.37 | 14.1 | 5.85 | 79.5 | 33.3 | 177. | 41.8 | 474. | 91.6 | 12069 | 1.83 | 0.96                             | 0.11   | 698 |
| SLP1101-61           | 56       | 4.39                | 1157 | 4.88 | 0.05 | 28.7 | 0.03 | 0.45 | 2.34 | 0.40 | 14.5 | 5.98 | 86.1 | 34.4 | 176. | 39.1 | 413. | 79.3 | 13799 | 2.06 | 0.68                             | 0.14   | 673 |
| SLP1101-62           | 36       | 5.38                | 394. | 0.43 | 0.01 | 6.82 | 0.04 | 0.69 | 1.27 | 0.58 | 6.74 | 2.38 | 29.2 | 11.4 | 58.3 | 13.7 | 150. | 30.1 | 9080  | 0.22 | 0.27                             | 0.13   | 689 |
| SLP1101-63           | 37       | 14.5                | 1085 | 1.45 | 0.01 | 1.44 | 0.02 | 0.27 | 0.37 | 0.18 | 6.08 | 3.77 | 67.8 | 31.1 | 188. | 47.0 | 542. | 105. | 14421 | 3.20 | 1.58                             | 0.08   | 775 |
| SLP1101-64           | 681      | 13.0                | 353. | 1.83 | n.d. | 45.1 | 0.17 | 2.15 | 2.81 | 0.94 | 13.3 | 3.35 | 34.4 | 11.2 | 48.0 | 9.41 | 93.7 | 16.4 | 10246 | 0.60 | 0.87                             | 0.24   | 765 |
| SLP1101-65           | 20       | 9.68                | 377. | 0.64 | 0.01 | 7.29 | 0.06 | 0.43 | 0.88 | 0.46 | 5.72 | 2.10 | 26.8 | 11.0 | 57.6 | 13.4 | 148. | 30.5 | 9175  | 0.30 | 0.32                             | 0.12   | 738 |
| SLP1101-66           | 136      | 14.8                | 3539 | 3.14 | n.d. | 3.03 | 0.11 | 1.84 | 7.02 | 1.81 | 64.6 | 25.5 | 310. | 103. | 444. | 88.1 | 869. | 150. | 12592 | 1.02 | 2.11                             | 0.23   | 777 |
| SLP1101-67           | 105      | 5.66                | 3940 | 3.60 | 0.27 | 20.5 | 0.48 | 7.24 | 15.1 | 2.27 | 80.5 | 28.8 | 353. | 129. | 586. | 113. | 1104 | 192. | 11255 | 1.41 | 0.40                             | 0.21   | 693 |
| SLP1101-68           | 17       | 30.6                | 115. | 0.17 | 0.05 | 4.65 | 0.38 | 3.72 | 5.92 | 1.12 | 14.7 | 2.43 | 18.0 | 3.49 | 10.8 | 1.35 | 10.7 | 1.46 | 10369 | 0.02 | 14.6                             | 1.09   | 850 |
| SLP1101-69           | 36       | 11.4                | 590. | 0.45 | 0.05 | 7.12 | 0.17 | 2.14 | 2.32 | 1.05 | 11.5 | 4.14 | 46.5 | 16.9 | 85.6 | 19.2 | 209. | 42.6 | 8136  | 0.35 | 0.28                             | 0.14   | 753 |
| SLP1101-70           | 1247     | 21.1                | 1328 | 2.35 | 0.03 | 8.13 | 0.08 | 0.68 | 2.95 | 0.23 | 20.5 | 8.28 | 109. | 41.2 | 189. | 37.7 | 371. | 65.9 | 13075 | 1.69 | 2.36                             | 0.19   | 811 |
| SLP1101-71           | 18       | 29.7                | 785. | 2.28 | 0.07 | 68.3 | 0.70 | 10.1 | 16.0 | 7.45 | 56.6 | 11.8 | 92.3 | 22.8 | 80.4 | 13.5 | 126. | 21.5 | 7565  | 0.45 | 2.85                             | 0.47   | 847 |
| SLP1101-72           | 56       | 5.17                | 976. | 0.94 | 0.06 | 14.7 | 0.13 | 3.02 | 5.35 | 1.50 | 23.3 | 7.29 | 88.3 | 30.7 | 140. | 28.1 | 281. | 46.6 | 7643  | 0.49 | 0.44                             | 0.20   | 686 |
| SLP1101-73           | 55       | 1.60                | 245. | 0.54 | n.d. | 11.2 | 0.04 | 0.32 | 0.25 | 0.14 | 2.03 | 0.87 | 13.0 | 6.03 | 39.5 | 10.6 | 140. | 31.9 | 9690  | 0.14 | 2.36                             | 0.06   | 602 |
| SLP1101-74           | 137      | 6.02                | 1959 | 1.18 | 0.00 | 1.59 | 0.03 | 1.23 | 3.62 | 0.14 | 25.8 | 10.3 | 148. | 60.8 | 305. | 64.0 | 655. | 112. | 12107 | 0.85 | 0.35                             | 0.15   | 698 |
| SLP1101-75           | 61       | 4.90                | 923. | 3.45 | 0.02 | 21.7 | 0.03 | 1.05 | 1.90 | 0.39 | 15.0 | 5.13 | 65.7 | 26.9 | 140. | 30.8 | 337. | 64.5 | 12040 | 1.35 | 0.74                             | 0.13   | 682 |
| SLP1101-76           | 107      | 1.74                | 1377 | 6.51 | 0.02 | 93.0 | 0.33 | 4.09 | 7.20 | 1.97 | 35.7 | 9.97 | 114. | 41.0 | 186. | 39.5 | 421. | 78.9 | 12047 | 1.42 | 2.18                             | 0.18   | 607 |
| SLP1101-77           | 54       | 9.95                | 1166 | 2.10 | 0.00 | 21.4 | 0.17 | 2.49 | 7.09 | 0.53 | 39.2 | 11.1 | 113. | 37.0 | 162. | 30.6 | 289. | 48.9 | 11870 | 1.02 | 0.92                             | 0.25   | 740 |
| SLP1101-78           | 106      | 31.7                | 249. | 1.64 | 0.82 | 14.4 | 0.10 | 0.81 | 1.23 | 0.26 | 6.30 | 1.85 | 21.2 | 7.10 | 35.2 | 7.86 | 83.6 | 16.3 | 11936 | 0.90 | 3.26                             | 0.16   | 854 |
| SLP1101-79           | 86       | 6.58                | 727. | 1.02 | 0.03 | 5.98 | 0.08 | 1.07 | 2.57 | 0.61 | 15.6 | 5.15 | 64.3 | 22.9 | 107. | 21.1 | 215. | 39.5 | 9683  | 0.60 | 0.64                             | 0.19   | 706 |
| SLP1101-80           | 18       | 14.0                | 68.9 | 0.26 | 0.05 | 10.4 | 0.15 | 2.23 | 2.66 | 0.57 | 5.89 | 1.16 | 8.62 | 1.93 | 6.68 | 1.02 | 7.97 | 1.28 | 11227 | 0.03 | 16.2                             | 0.70   | 771 |
| SLP1101-81           | 56       | 2.22                | 926. | 2.58 | 0.04 | 19.1 | 0.05 | 0.85 | 2.20 | 0.49 | 15.9 | 5.69 | 72.5 | 28.2 | 135. | 28.6 | 301. | 54.6 | 12976 | 1.18 | 0.46                             | 0.16   | 624 |
| <b>Sample ZB1102</b> |          |                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |      |                                  |        |     |
| ZB1102-01            | 16       | 5.21                | 1389 | 4.18 | 0.66 | 56.4 | 0.28 | 2.92 | 6.26 | 2.35 | 29.5 | 9.70 | 111. | 40.8 | 193. | 41.3 | 455. | 84.7 | 12344 | 1.02 | 2.12                             | 0.16   | 687 |
| ZB1102-02            | 15       | 30.7                | 287. | 1.69 | 0.02 | 11.5 | 0.08 | 1.44 | 2.77 | 0.88 | 10.2 | 2.62 | 28.1 | 8.60 | 35.1 | 7.11 | 78.2 | 13.0 | 9742  | 0.92 | 9.63                             | 0.23   | 850 |
| ZB1102-03            | 15       | 1.75                | 723. | 2.96 | 0.04 | 33.7 | 0.04 | 0.74 | 2.07 | 0.74 | 11.9 | 4.05 | 50.0 | 19.1 | 100. | 23.0 | 284. | 57.7 | 13199 | 1.01 | 5.12                             | 0.11   | 608 |
| ZB1102-04            | 15       | 2.00                | 459. | 1.34 | 0.03 | 31.7 | 0.04 | 0.50 | 2.05 | 0.62 | 9.8  | 2.84 | 35.8 | 12.6 | 62.9 | 14.1 | 165. | 32.7 | 12309 | 0.55 | 4.39                             | 0.14   | 617 |
| ZB1102-05            | 331      | 12.7                | 834. | 4.12 | 0.01 | 10.6 | 0.18 | 2.29 | 4.25 | 0.23 | 17.1 | 6.07 | 76.9 | 26.4 | 121. | 24.5 | 247. | 41.3 | 8029  | 2.34 | 0.76                             | 0.20   | 762 |
| ZB1102-06            | 48       | 17.5                | 929. | 1.46 | 0.01 | 21.2 | 0.05 | 1.50 | 3.59 | 0.74 | 18.1 | 6.24 | 72.5 | 28.3 | 135. | 28.7 | 317. | 56.7 | 10571 | 0.63 | 0.72                             | 0.15   | 792 |
| ZB1102-07            | 53       | 2.12                | 671. | 1.69 | 0.01 | 8.76 | 0.09 | 0.51 | 1.80 | 0.28 | 11.8 | 4.06 | 50.6 | 21.0 | 104. | 22.6 | 246. | 43.6 | 11432 | 0.75 | 0.59                             | 0.13   | 621 |
| ZB1102-08            | 47       | 31.7                | 314. | 1.38 | 0.85 | 24.8 | 0.26 | 1.48 | 1.69 | 0.26 | 9.05 | 2.53 | 28.4 | 9.02 | 44.6 | 9.95 | 106. | 19.7 | 11001 | 0.78 | 3.58                             | 0.17   | 854 |
| ZB1102-09            | 16       | 6.32                | 602. | 2.34 | n.d. | 42.8 | 0.10 | 2.10 | 3.68 | 1.48 | 15.4 | 4.34 | 47.4 | 16.0 | 78.6 | 16.7 | 193. | 35.4 | 11042 | 0.84 | 4.23                             | 0.16   | 702 |
| ZB1102-10            | 107      | 17.1                | 1724 | 2.65 | 0.09 | 29.7 | 0.11 | 2.87 | 4.96 | 1.78 | 31.4 | 11.0 | 147. | 55.3 | 255. | 52.9 | 527. | 92.3 | 10110 | 0.82 | 0.28                             | 0.18   | 791 |
| ZB1102-11            | 55       | 6.82                | 1163 | 1.91 | 0.00 | 9.73 | 0.15 | 2.33 | 3.81 | 0.90 | 24.4 | 7.58 | 95.0 | 38.1 | 178. | 38.0 | 385. | 69.4 | 9639  | 0.60 | 0.32                             | 0.16   | 708 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma)    | Trace element (ppm) |       |      |             |      |      |      |      |      |      |      |       |       |       |       |        |       |       | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |     |
|---------------|-------------|---------------------|-------|------|-------------|------|------|------|------|------|------|------|-------|-------|-------|-------|--------|-------|-------|------|----------------------------------|--------|-----|
|               |             | Ti                  | Y     | Nb   | La          | Ce   | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho    | Er    | Tm    | Yb     | Lu    | Hf    | Ta   |                                  |        |     |
| ZB1102-12     | <b>106</b>  | 0.49                | 1821  | 5.62 | 0.76        | 26.9 | 0.47 | 3.62 | 3.66 | 0.94 | 24.9 | 9.12 | 132.5 | 54.5  | 283.2 | 62.3  | 691.0  | 129.0 | 12568 | 2.39 | 0.73                             | 0.12   | 531 |
| ZB1102-13     | <b>1601</b> | 1.71                | 460.3 | 26.5 | 0.04        | 3.31 | 0.06 | 0.37 | 0.62 | 0.06 | 4.49 | 1.80 | 30.7  | 13.6  | 75.3  | 17.6  | 196.9  | 36.7  | 19403 | 13.1 | 1.21                             | 0.10   | 606 |
| ZB1102-14     | <b>35</b>   | 7.03                | 4074  | 22.4 | 0.72        | 8.22 | 0.49 | 4.76 | 5.94 | 0.91 | 53.1 | 23.7 | 334.0 | 125.4 | 608.3 | 129.7 | 1359   | 224.7 | 15527 | 10.4 | 4.19                             | 0.16   | 711 |
| ZB1102-15     | <b>16</b>   | 3.77                | 343.9 | 0.80 | 1.47        | 30.2 | 0.43 | 1.70 | 1.85 | 0.84 | 8.52 | 2.25 | 25.0  | 9.25  | 48.1  | 10.9  | 133.8  | 28.9  | 12618 | 0.34 | 6.52                             | 0.12   | 662 |
| ZB1102-16     | <b>58</b>   | 3.94                | 952.4 | 1.84 | <i>n.d.</i> | 10.3 | 0.02 | 0.69 | 1.90 | 0.25 | 16.4 | 5.54 | 74.8  | 29.8  | 146.4 | 31.3  | 334.5  | 59.8  | 10080 | 1.10 | 0.44                             | 0.15   | 665 |
| ZB1102-17     | <b>16</b>   | 2.77                | 728.7 | 2.00 | 3.22        | 46.7 | 0.87 | 5.26 | 3.11 | 1.33 | 13.8 | 4.37 | 54.2  | 20.8  | 104.0 | 23.3  | 267.7  | 50.6  | 11721 | 0.99 | 1.20                             | 0.13   | 639 |
| ZB1102-18     | <b>100</b>  | 13.4                | 766.7 | 1.17 | 4.35        | 24.9 | 1.34 | 6.46 | 3.01 | 0.49 | 12.9 | 4.70 | 59.9  | 22.8  | 112.0 | 24.3  | 263.5  | 47.5  | 10330 | 0.65 | 0.39                             | 0.15   | 767 |
| ZB1102-19     | <b>47</b>   | 2.09                | 532.3 | 2.84 | 0.38        | 43.2 | 0.09 | 0.93 | 1.35 | 0.41 | 6.3  | 2.58 | 33.8  | 13.7  | 76.5  | 20.0  | 262.2  | 61.6  | 13162 | 1.42 | 5.45                             | 0.08   | 620 |
| ZB1102-20     | <b>45</b>   | 6.60                | 1193  | 3.68 | 2.18        | 42.0 | 0.59 | 3.03 | 3.65 | 0.55 | 17.4 | 6.17 | 85.8  | 33.0  | 176.9 | 41.3  | 489.7  | 91.8  | 11870 | 2.22 | 1.39                             | 0.11   | 706 |
| ZB1102-21     | <b>457</b>  | 5.30                | 1536  | 0.76 | 0.03        | 0.62 | 0.05 | 0.66 | 2.17 | 0.11 | 22.8 | 9.52 | 130.4 | 45.0  | 206.7 | 42.1  | 440.2  | 75.2  | 13687 | 0.79 | 1.27                             | 0.19   | 688 |
| ZB1102-22     | <b>24</b>   | 16.2                | 1032  | 3.06 | 0.29        | 64.8 | 0.46 | 7.00 | 11.7 | 3.38 | 41.3 | 9.78 | 101.6 | 30.3  | 132.4 | 24.7  | 252.6  | 41.6  | 10279 | 1.46 | 3.06                             | 0.26   | 785 |
| ZB1102-23     | <b>49</b>   | 4.12                | 1013  | 2.95 | 0.99        | 27.4 | 0.32 | 2.22 | 1.99 | 0.57 | 13.0 | 5.23 | 71.2  | 30.2  | 154.2 | 36.7  | 421.1  | 79.0  | 11224 | 1.13 | 0.79                             | 0.11   | 669 |
| ZB1102-24     | <b>352</b>  | 5.22                | 1397  | 3.34 | 0.44        | 30.1 | 0.25 | 2.53 | 4.44 | 0.94 | 26.9 | 9.73 | 121.4 | 45.7  | 212.8 | 41.9  | 426.5  | 75.8  | 11556 | 1.14 | 0.45                             | 0.18   | 687 |
| ZB1102-25     | <b>17</b>   | 1.01                | 774.0 | 2.28 | 0.03        | 30.0 | 0.03 | 1.32 | 2.87 | 1.26 | 13.2 | 4.11 | 54.3  | 21.1  | 108.8 | 24.8  | 310.5  | 66.7  | 13112 | 0.68 | 4.80                             | 0.11   | 573 |
| ZB1102-26     | <b>51</b>   | 1.99                | 1941  | 17.7 | 0.75        | 30.9 | 0.28 | 2.76 | 3.51 | 0.08 | 25.8 | 9.87 | 139.0 | 55.8  | 294.7 | 64.8  | 744.4  | 133.3 | 14646 | 7.28 | 1.31                             | 0.12   | 617 |
| ZB1102-27     | <b>61</b>   | 7.07                | 1320  | 1.77 | 1.56        | 8.31 | 0.46 | 3.34 | 3.23 | 0.91 | 20.2 | 7.28 | 99.7  | 40.6  | 206.1 | 44.1  | 493.5  | 92.8  | 9870  | 1.11 | 0.67                             | 0.13   | 711 |
| ZB1102-28     | <b>54</b>   | 4.24                | 2566  | 6.11 | 0.01        | 33.0 | 0.16 | 2.42 | 6.12 | 1.32 | 41.1 | 15.3 | 206.1 | 79.9  | 381.3 | 79.5  | 859.8  | 151.3 | 12360 | 2.35 | 0.52                             | 0.16   | 671 |
| ZB1102-29     | <b>15</b>   | 11.9                | 1137  | 5.57 | 0.29        | 66.5 | 0.43 | 6.57 | 11.4 | 1.65 | 43.8 | 11.0 | 113.1 | 34.6  | 142.3 | 26.9  | 261.6  | 44.2  | 11556 | 2.19 | 4.43                             | 0.28   | 757 |
| ZB1102-30     | <b>53</b>   | 11.2                | 997.4 | 1.63 | 0.01        | 27.0 | 0.07 | 1.26 | 3.62 | 0.56 | 17.3 | 6.11 | 78.3  | 30.3  | 144.4 | 31.2  | 340.0  | 60.8  | 11290 | 0.90 | 0.66                             | 0.15   | 751 |
| ZB1102-31     | <b>48</b>   | 4.01                | 1089  | 3.44 | 1.49        | 29.4 | 0.47 | 2.73 | 2.43 | 0.27 | 16.5 | 6.04 | 80.6  | 31.9  | 167.4 | 38.0  | 423.0  | 77.8  | 12949 | 1.98 | 1.44                             | 0.12   | 667 |
| ZB1102-32     | <b>82</b>   | 9.23                | 484.0 | 1.09 | <i>n.d.</i> | 19.5 | 0.07 | 0.73 | 1.59 | 0.47 | 9.13 | 2.86 | 37.2  | 14.1  | 73.0  | 16.1  | 194.0  | 36.6  | 11663 | 0.63 | 0.96                             | 0.12   | 734 |
| ZB1102-33     | <b>51</b>   | 10.2                | 629.8 | 1.25 | <i>n.d.</i> | 20.0 | 0.05 | 0.69 | 2.05 | 0.35 | 11.2 | 3.77 | 46.3  | 17.8  | 89.7  | 20.2  | 240.0  | 44.7  | 13285 | 1.21 | 2.19                             | 0.13   | 742 |
| ZB1102-34     | <b>51</b>   | 7.62                | 1444  | 2.93 | 0.01        | 20.4 | 0.14 | 1.90 | 4.61 | 1.26 | 27.1 | 8.28 | 118.5 | 44.0  | 214.1 | 45.5  | 474.9  | 85.6  | 8442  | 1.03 | 0.92                             | 0.16   | 718 |
| ZB1102-35     | <b>462</b>  | 7.62                | 3235  | 1.04 | 0.005       | 0.88 | 0.03 | 0.83 | 3.79 | 0.06 | 33.3 | 16.8 | 246.1 | 97.7  | 483.3 | 100.1 | 1016   | 166.7 | 13375 | 0.83 | 0.56                             | 0.16   | 718 |
| ZB1102-36     | <b>55</b>   | 2.98                | 1539  | 9.51 | 10.15       | 45.3 | 4.28 | 22.0 | 6.47 | 0.26 | 23.9 | 8.57 | 115.6 | 47.1  | 237.4 | 54.0  | 589.8  | 108.1 | 15902 | 3.79 | 0.71                             | 0.13   | 645 |
| ZB1102-37     | <b>21</b>   | 2.23                | 1016  | 3.34 | 0.03        | 40.8 | 0.07 | 1.31 | 2.77 | 1.11 | 19.3 | 6.10 | 78.5  | 28.6  | 142.4 | 31.8  | 366.2  | 71.4  | 13035 | 1.15 | 3.20                             | 0.14   | 624 |
| ZB1102-38     | <b>24</b>   | 1.87                | 576.7 | 2.35 | <i>n.d.</i> | 27.6 | 0.03 | 0.57 | 1.50 | 0.67 | 8.1  | 2.59 | 36.6  | 14.9  | 84.9  | 20.5  | 264.8  | 59.8  | 12880 | 0.77 | 8.56                             | 0.09   | 612 |
| ZB1102-39     | <b>16</b>   | 6.13                | 705.9 | 1.15 | 0.05        | 17.0 | 0.03 | 0.27 | 1.19 | 0.51 | 8.8  | 3.22 | 45.3  | 18.4  | 103.1 | 24.8  | 338.1  | 73.6  | 14574 | 0.34 | 2.69                             | 0.09   | 700 |
| ZB1102-40     | <b>411</b>  | 8.99                | 4307  | 1.72 | 0.47        | 3.89 | 0.94 | 11.3 | 16.8 | 4.24 | 64.0 | 22.9 | 324.8 | 127.3 | 636.4 | 135.9 | 1389   | 231.5 | 14511 | 1.08 | 0.51                             | 0.15   | 732 |
| ZB1102-41     | <b>23</b>   | 2.31                | 2641  | 9.06 | 0.01        | 39.9 | 0.06 | 1.21 | 3.95 | 1.22 | 34.0 | 14.6 | 212.3 | 81.8  | 397.5 | 83.8  | 892.8  | 155.1 | 12433 | 3.11 | 2.36                             | 0.15   | 627 |
| ZB1102-42     | <b>53</b>   | 6.74                | 1317  | 1.08 | <i>n.d.</i> | 8.45 | 0.10 | 1.76 | 3.62 | 0.95 | 19.6 | 7.03 | 98.0  | 38.8  | 201.1 | 43.9  | 500.1  | 93.7  | 9223  | 0.48 | 0.46                             | 0.13   | 707 |
| ZB1102-43     | <b>24</b>   | 4.14                | 719.3 | 1.81 | 0.05        | 56.3 | 0.10 | 1.91 | 2.15 | 1.05 | 13.1 | 4.02 | 52.0  | 19.2  | 99.0  | 22.7  | 276.1  | 57.6  | 10124 | 0.39 | 2.17                             | 0.12   | 669 |
| ZB1102-44     | <b>42</b>   | 3.69                | 3949  | 63.5 | 0.004       | 62.6 | 0.07 | 1.20 | 4.30 | 0.06 | 33.9 | 16.7 | 255.7 | 105.5 | 583.9 | 135.5 | 1512   | 263.3 | 20213 | 36.5 | 5.92                             | 0.11   | 660 |
| ZB1102-45     | <b>111</b>  | 1.52                | 1618  | 4.50 | 0.67        | 18.3 | 0.29 | 1.63 | 2.71 | 0.34 | 19.3 | 8.23 | 119.2 | 49.1  | 253.2 | 55.5  | 615.2  | 115.4 | 11643 | 2.58 | 1.01                             | 0.13   | 599 |
| ZB1102-46     | <b>64</b>   | 4.89                | 5703  | 40.0 | 0.15        | 34.2 | 0.21 | 2.34 | 10.4 | 0.06 | 90.2 | 34.7 | 478.6 | 182.8 | 847.9 | 168.2 | 1676.6 | 278.7 | 12881 | 7.61 | 0.90                             | 0.19   | 682 |
| ZB1102-47     | <b>54</b>   | 8.20                | 774.8 | 0.90 | 0.01        | 10.0 | 0.08 | 2.20 | 2.90 | 0.78 | 16.8 | 5.41 | 68.3  | 25.1  | 116.8 | 23.1  | 247.1  | 45.6  | 8485  | 0.41 | 0.49                             | 0.18   | 724 |
| ZB1102-48     | <b>51</b>   | 3.84                | 1071  | 3.11 | 0.07        | 25.8 | 0.04 | 0.76 | 2.37 | 0.29 | 14.6 | 5.34 | 79.2  | 31.3  | 163.1 | 38.0  | 432.2  | 80.8  | 12778 | 1.89 | 0.96                             | 0.12   | 663 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma)    | Trace element (ppm) |       |      |             |      |       |      |      |      |       |      |       |       |       |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|-------------|---------------------|-------|------|-------------|------|-------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|----------------------------------|--------|------|-----|
|               |             | Ti                  | Y     | Nb   | La          | Ce   | Pr    | Nd   | Sm   | Eu   | Gd    | Tb   | Dy    | Ho    | Er    | Tm    | Yb    | Lu    | Hf    | Ta                               |        |      |     |
| ZB1102-49     | <b>112</b>  | 19.47               | 1053  | 0.92 | <i>n.d.</i> | 11.9 | 0.05  | 1.90 | 3.34 | 0.67 | 18.9  | 6.82 | 83.9  | 32.6  | 155.3 | 32.5  | 340.8 | 62.8  | 10901 | 0.37                             | 0.17   | 0.16 | 803 |
| ZB1102-50     | <b>113</b>  | 6.42                | 2162  | 4.76 | 0.01        | 16.9 | 0.08  | 1.28 | 3.19 | 1.00 | 26.3  | 10.7 | 158.2 | 66.9  | 337.3 | 74.5  | 805.4 | 150.7 | 9394  | 1.74                             | 0.64   | 0.13 | 703 |
| ZB1102-51     | <b>15</b>   | 20.6                | 296.5 | 0.61 | 0.21        | 37.4 | 1.37  | 15.3 | 14.3 | 4.88 | 24.0  | 4.59 | 35.7  | 9.34  | 32.3  | 5.25  | 50.6  | 8.14  | 7581  | 0.12                             | 3.64   | 0.46 | 809 |
| ZB1102-52     | <b>1949</b> | 11.9                | 1253  | 1.40 | 0.02        | 8.61 | 0.32  | 5.13 | 9.37 | 0.67 | 36.6  | 10.4 | 122.3 | 39.3  | 170.2 | 32.4  | 318.0 | 54.1  | 10075 | 0.63                             | 0.94   | 0.25 | 756 |
| ZB1102-53     | <b>51</b>   | 13.8                | 967.6 | 1.59 | 0.67        | 19.4 | 0.11  | 2.65 | 4.15 | 0.94 | 22.9  | 7.21 | 80.6  | 29.2  | 134.6 | 29.1  | 304.6 | 55.8  | 9481  | 0.54                             | 0.61   | 0.17 | 770 |
| ZB1102-54     | <b>2474</b> | 21.6                | 1533  | 1.42 | 0.50        | 5.79 | 0.20  | 2.64 | 5.75 | 0.37 | 35.2  | 11.1 | 136.2 | 49.1  | 221.9 | 43.2  | 428.3 | 74.2  | 11294 | 0.64                             | 0.67   | 0.21 | 814 |
| ZB1102-55     | <b>465</b>  | 5.49                | 1303  | 1.91 | <i>n.d.</i> | 12.5 | 0.08  | 1.04 | 3.47 | 0.37 | 23.0  | 8.21 | 111.1 | 42.3  | 196.5 | 39.8  | 402.7 | 69.6  | 11997 | 0.91                             | 0.64   | 0.18 | 691 |
| ZB1102-56     | <b>17</b>   | 1.84                | 665.1 | 1.18 | 0.30        | 30.9 | 0.18  | 1.86 | 2.26 | 0.87 | 13.4  | 3.50 | 42.3  | 16.7  | 92.9  | 22.7  | 294.4 | 66.4  | 13765 | 0.29                             | 3.43   | 0.09 | 611 |
| ZB1102-57     | <b>514</b>  | 5.19                | 461.9 | 4.15 | 0.01        | 39.9 | 0.04  | 0.94 | 1.68 | 0.50 | 7.4   | 2.72 | 33.2  | 12.8  | 66.9  | 16.3  | 190.9 | 38.6  | 12296 | 1.45                             | 1.58   | 0.11 | 686 |
| ZB1102-58     | <b>44</b>   | 2.11                | 130.8 | 0.41 | <i>n.d.</i> | 5.39 | 0.04  | 0.39 | 0.44 | 0.07 | 1.8   | 0.78 | 8.35  | 3.47  | 19.6  | 5.2   | 72.5  | 19.2  | 15941 | 0.15                             | 5.68   | 0.07 | 621 |
| ZB1102-59     | <b>802</b>  | 4.37                | 976.7 | 7.41 | <i>n.d.</i> | 21.6 | 0.02  | 0.34 | 1.18 | 0.13 | 8.4   | 3.89 | 58.6  | 27.3  | 154.1 | 38.5  | 454.6 | 85.1  | 15757 | 6.42                             | 2.30   | 0.08 | 673 |
| ZB1102-60     | <b>46</b>   | 17.3                | 727.9 | 1.17 | 0.85        | 22.2 | 0.27  | 2.15 | 2.29 | 0.55 | 13.0  | 4.51 | 57.5  | 22.6  | 108.7 | 23.1  | 245.4 | 45.8  | 11499 | 0.54                             | 0.55   | 0.15 | 792 |
| ZB1102-61     | <b>55</b>   | 5.40                | 1239  | 4.15 | 0.04        | 22.2 | 0.06  | 1.10 | 2.54 | 0.27 | 17.9  | 6.78 | 95.1  | 38.0  | 188.6 | 43.1  | 472.8 | 86.6  | 12801 | 2.29                             | 0.98   | 0.13 | 689 |
| ZB1102-62     | <b>16</b>   | 7.24                | 1093  | 6.34 | 3.89        | 66.0 | 1.22  | 6.83 | 5.91 | 1.66 | 27.3  | 8.03 | 93.9  | 31.5  | 151.9 | 32.5  | 359.1 | 69.5  | 13145 | 2.16                             | 6.46   | 0.17 | 713 |
| ZB1102-63     | <b>48</b>   | 14.7                | 745.6 | 0.99 | 0.34        | 16.2 | 0.16  | 2.38 | 2.41 | 0.36 | 12.9  | 4.99 | 56.3  | 23.2  | 108.9 | 22.7  | 242.0 | 45.7  | 11219 | 0.58                             | 0.65   | 0.15 | 776 |
| ZB1102-64     | <b>54</b>   | 11.0                | 2644  | 2.68 | 0.01        | 12.1 | 0.11  | 2.91 | 6.11 | 1.57 | 40.7  | 14.9 | 203.3 | 80.7  | 408.4 | 84.5  | 888.4 | 161.5 | 8779  | 0.69                             | 0.33   | 0.15 | 749 |
| ZB1102-65     | <b>116</b>  | 46.2                | 650.0 | 1.34 | 3.02        | 16.1 | 0.58  | 3.64 | 1.49 | 0.37 | 8.6   | 3.05 | 44.2  | 18.6  | 102.4 | 25.3  | 298.9 | 60.9  | 11457 | 0.72                             | 0.75   | 0.10 | 896 |
| ZB1102-66     | <b>48</b>   | 23.7                | 1828  | 1.10 | 31.1        | 90.5 | 9.10  | 43.8 | 16.3 | 1.64 | 51.1  | 14.7 | 168.3 | 56.6  | 246.9 | 47.8  | 467.7 | 82.9  | 9444  | 0.65                             | 0.55   | 0.23 | 823 |
| ZB1102-67     | <b>50</b>   | 2.91                | 1257  | 6.08 | 0.14        | 32.9 | 0.10  | 1.38 | 2.54 | 0.28 | 18.7  | 7.16 | 95.8  | 37.8  | 190.5 | 40.9  | 445.2 | 81.0  | 12714 | 2.34                             | 1.74   | 0.14 | 643 |
| ZB1102-68     | <b>49</b>   | 13.7                | 3893  | 8.58 | 0.05        | 81.5 | 0.52  | 9.16 | 24.0 | 6.92 | 103.8 | 31.3 | 355.9 | 122.4 | 542.2 | 109.7 | 1135  | 201.0 | 7967  | 2.45                             | 1.39   | 0.20 | 769 |
| ZB1102-69     | <b>104</b>  | 6.12                | 207.6 | 0.37 | <i>n.d.</i> | 5.28 | 0.004 | 0.19 | 0.11 | 0.20 | 2.5   | 0.89 | 14.1  | 5.71  | 33.5  | 8.74  | 110.4 | 25.3  | 12505 | 0.40                             | 1.46   | 0.08 | 700 |
| ZB1102-70     | <b>24</b>   | 3.53                | 356.0 | 1.14 | <i>n.d.</i> | 37.8 | 0.05  | 0.89 | 0.87 | 0.66 | 7.0   | 2.03 | 24.0  | 9.26  | 49.7  | 11.5  | 146.2 | 32.4  | 10751 | 0.30                             | 3.02   | 0.11 | 657 |
| ZB1102-71     | <b>449</b>  | 9.50                | 4311  | 1.81 | <i>n.d.</i> | 0.69 | 0.07  | 0.75 | 3.87 | 0.07 | 36.3  | 18.6 | 304.7 | 130.2 | 672.2 | 146.6 | 1492  | 253.6 | 13880 | 1.48                             | 0.47   | 0.13 | 736 |
| ZB1102-72     | <b>925</b>  | 20.6                | 2687  | 1.25 | 0.08        | 27.9 | 0.42  | 6.61 | 13.8 | 9.59 | 68.5  | 21.5 | 250.5 | 87.7  | 385.0 | 72.5  | 719.7 | 124.8 | 6973  | 0.23                             | 0.09   | 0.23 | 809 |
| ZB1102-73     | <b>18</b>   | 4.98                | 976.0 | 2.04 | 0.01        | 33.5 | 0.08  | 1.45 | 2.61 | 1.19 | 15.2  | 5.49 | 70.4  | 28.1  | 140.8 | 31.7  | 364.7 | 72.5  | 12559 | 0.55                             | 1.69   | 0.13 | 683 |
| ZB1102-74     | <b>109</b>  | 4.51                | 1771  | 3.82 | 0.04        | 13.7 | 0.07  | 1.61 | 3.76 | 0.79 | 26.9  | 10.4 | 147.3 | 57.8  | 272.9 | 55.7  | 593.5 | 104.3 | 10360 | 1.25                             | 0.42   | 0.16 | 676 |
| ZB1102-75     | <b>45</b>   | 15.8                | 1612  | 2.17 | 0.03        | 41.0 | 0.37  | 5.76 | 9.51 | 1.64 | 35.8  | 11.0 | 136.6 | 49.4  | 225.9 | 48.5  | 511.7 | 90.6  | 10801 | 1.18                             | 0.83   | 0.17 | 783 |
| ZB1102-76     | <b>16</b>   | 27.2                | 291.5 | 2.02 | <i>n.d.</i> | 18.7 | 0.07  | 1.15 | 2.45 | 0.64 | 9.20  | 2.79 | 29.2  | 8.29  | 37.4  | 6.86  | 74.0  | 12.8  | 9500  | 0.81                             | 4.77   | 0.26 | 837 |
| ZB1102-77     | <b>1551</b> | 9.13                | 2404  | 2.44 | 1.63        | 17.9 | 1.13  | 9.96 | 12.6 | 0.91 | 57.8  | 18.5 | 228.0 | 77.3  | 341.2 | 65.8  | 633.1 | 104.6 | 12028 | 1.50                             | 0.79   | 0.23 | 733 |
| ZB1102-78     | <b>39</b>   | 2.01                | 1268  | 19.7 | <i>n.d.</i> | 32.2 | 0.03  | 0.30 | 1.62 | 0.07 | 12.6  | 5.60 | 82.4  | 34.4  | 190.7 | 45.5  | 506.3 | 91.1  | 16221 | 14.4                             | 6.13   | 0.11 | 617 |
| ZB1102-79     | <b>45</b>   | 10.3                | 466.1 | 1.60 | 0.01        | 19.9 | 0.02  | 0.73 | 1.20 | 0.23 | 8.8   | 2.49 | 35.7  | 13.7  | 68.0  | 15.7  | 181.4 | 34.5  | 12991 | 0.88                             | 1.71   | 0.13 | 744 |
| ZB1102-80     | <b>1072</b> | 4.12                | 484.2 | 1.98 | <i>n.d.</i> | 16.0 | 0.02  | 0.46 | 1.08 | 0.19 | 6.6   | 2.56 | 35.7  | 13.8  | 70.5  | 16.0  | 175.2 | 30.9  | 11277 | 1.90                             | 1.89   | 0.13 | 669 |
| ZB1102-81     | <b>114</b>  | 4.31                | 2532  | 2.67 | 0.02        | 12.4 | 0.17  | 3.30 | 7.15 | 1.30 | 46.6  | 16.9 | 218.6 | 81.6  | 382.6 | 77.2  | 788.6 | 140.9 | 9940  | 1.05                             | 0.66   | 0.18 | 672 |
| ZB1102-82     | <b>17</b>   | 3.64                | 634.7 | 1.68 | <i>n.d.</i> | 29.8 | 0.02  | 1.03 | 2.26 | 0.85 | 12.5  | 3.82 | 46.4  | 17.6  | 87.5  | 21.3  | 242.2 | 47.7  | 12415 | 0.90                             | 1.96   | 0.12 | 659 |
| ZB1102-83     | <b>23</b>   | 5.58                | 1105  | 3.50 | 0.05        | 41.3 | 0.09  | 1.17 | 1.64 | 1.00 | 13.1  | 4.68 | 69.1  | 29.0  | 166.1 | 40.6  | 505.5 | 105.2 | 11624 | 1.06                             | 1.75   | 0.09 | 692 |
| ZB1102-84     | <b>113</b>  | 18.1                | 832.1 | 1.26 | <i>n.d.</i> | 10.3 | 0.08  | 1.71 | 2.30 | 0.62 | 15.5  | 5.91 | 76.0  | 26.9  | 124.1 | 24.3  | 253.5 | 44.9  | 10824 | 0.67                             | 0.45   | 0.19 | 796 |
| ZB1102-85     | <b>146</b>  | 3.14                | 1400  | 3.14 | 0.16        | 4.16 | 0.09  | 1.32 | 2.45 | 0.13 | 16.2  | 7.71 | 112.5 | 43.9  | 218.1 | 46.1  | 481.4 | 81.5  | 13229 | 3.54                             | 1.91   | 0.15 | 648 |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |      |             |      |             |      |      |      |      |      |      |      |      |      |      |      | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|----------------------|----------|---------------------|-------|------|-------------|------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------------------|--------|------|-----|
|                      |          | Ti                  | Y     | Nb   | La          | Ce   | Pr          | Nd   | Sm   | Eu   | Gd   | Tb   | Dy   | Ho   | Er   | Tm   | Yb   | Lu   | Hf   | Ta                               |        |      |     |
| ZB1102-86            | 41       | 13.2                | 1024  | 1.38 | 0.06        | 15.6 | 0.13        | 1.91 | 3.11 | 0.62 | 14.8 | 5.99 | 79.4 | 31.2 | 156. | 34.1 | 366. | 64.8 | 1413 | 1.53                             | 1.40   | 0.14 | 766 |
| ZB1102-87            | 51       | 2.92                | 766.4 | 1.76 | 0.01        | 9.89 | 0.04        | 0.99 | 2.02 | 0.39 | 14.2 | 4.95 | 65.5 | 24.9 | 117. | 24.4 | 243. | 43.9 | 1056 | 0.59                             | 0.38   | 0.17 | 643 |
| ZB1102-88            | 57       | 13.9                | 1296  | 0.73 | 0.33        | 26.0 | 0.31        | 4.73 | 7.20 | 2.99 | 36.9 | 10.2 | 123. | 41.6 | 192. | 39.1 | 400. | 73.4 | 7882 | 0.32                             | 0.13   | 0.20 | 770 |
| ZB1102-89            | 117      | 139.0               | 1186  | 2.61 | 0.12        | 13.4 | 0.09        | 0.68 | 2.78 | 0.70 | 17.1 | 6.61 | 87.2 | 36.9 | 186. | 41.0 | 473. | 89.7 | 1004 | 0.82                             | 0.30   | 0.12 | 104 |
| ZB1102-90            | 59       | 3.84                | 935.7 | 2.08 | <i>n.d.</i> | 12.0 | 0.07        | 0.63 | 1.77 | 0.28 | 14.1 | 5.49 | 75.1 | 28.8 | 144. | 30.9 | 325. | 58.8 | 1033 | 0.97                             | 0.55   | 0.15 | 663 |
| ZB1102-91            | 38       | 4.30                | 851.3 | 2.31 | <i>n.d.</i> | 30.6 | 0.03        | 0.83 | 2.16 | 0.53 | 12.9 | 4.50 | 63.0 | 24.6 | 129. | 29.8 | 349. | 65.4 | 1260 | 1.30                             | 1.11   | 0.12 | 672 |
| ZB1102-92            | 885      | 13.1                | 347.5 | 0.62 | 0.15        | 10.2 | 0.14        | 1.03 | 1.76 | 1.02 | 6.1  | 2.29 | 26.8 | 10.3 | 51.0 | 11.9 | 136. | 26.3 | 7592 | 0.52                             | 7.05   | 0.13 | 766 |
| ZB1102-93            | 56       | 1.23                | 3588  | 37.4 | 0.06        | 17.1 | 0.02        | 0.75 | 3.79 | 0.07 | 38.1 | 16.9 | 264. | 108. | 559. | 119. | 1267 | 225. | 1586 | 17.1                             | 1.64   | 0.14 | 585 |
| ZB1102-94            | 51       | 4.43                | 1181  | 3.84 | 43.7        | 133. | 12.8        | 54.4 | 13.4 | 1.25 | 26.7 | 7.47 | 90.5 | 34.6 | 184. | 42.0 | 486. | 92.8 | 1097 | 1.62                             | 0.85   | 0.12 | 674 |
| ZB1102-95            | 46       | 4.78                | 1177  | 5.02 | 4.37        | 56.7 | 1.27        | 5.83 | 3.59 | 0.55 | 16.8 | 6.23 | 85.9 | 34.3 | 178. | 41.4 | 451. | 81.9 | 1295 | 2.56                             | 1.34   | 0.12 | 680 |
| ZB1102-96            | 35       | 2.19                | 1004  | 10.5 | 0.01        | 56.5 | 0.07        | 0.89 | 1.62 | 0.32 | 11.6 | 3.99 | 60.8 | 25.4 | 149. | 38.3 | 480. | 100. | 1366 | 5.92                             | 6.59   | 0.08 | 623 |
| <b>Sample ZB1106</b> |          |                     |       |      |             |      |             |      |      |      |      |      |      |      |      |      |      |      |      |                                  |        |      |     |
| ZB1106-01            | 16       | 1.77                | 1346  | 5.03 | 0.03        | 23.4 | 0.04        | 0.22 | 1.18 | 0.72 | 11.4 | 4.57 | 72.0 | 35.4 | 214. | 58.1 | 760. | 155. | 1346 | 1.33                             | 1.89   | 0.06 | 609 |
| ZB1106-02            | 16       | 11.2                | 677.7 | 2.42 | <i>n.d.</i> | 31.4 | 0.12        | 2.97 | 5.66 | 2.18 | 22.4 | 5.83 | 61.3 | 21.0 | 91.8 | 19.3 | 197. | 34.2 | 9183 | 0.96                             | 2.22   | 0.20 | 751 |
| ZB1106-03            | 56       | 3.11                | 1485  | 4.30 | 0.02        | 21.8 | 0.05        | 1.04 | 3.74 | 0.49 | 20.4 | 8.04 | 111. | 45.2 | 228. | 51.5 | 571. | 101. | 1105 | 1.97                             | 0.97   | 0.13 | 648 |
| ZB1106-04            | 16       | 10.3                | 484.5 | 1.43 | 0.02        | 21.8 | 0.09        | 2.08 | 4.11 | 1.64 | 17.4 | 4.13 | 47.1 | 14.6 | 67.3 | 13.6 | 145. | 24.5 | 9118 | 0.65                             | 1.93   | 0.21 | 744 |
| ZB1106-05            | 44       | 3.62                | 795.5 | 5.22 | 2.29        | 52.6 | 0.53        | 2.42 | 2.62 | 0.56 | 11.6 | 4.55 | 58.5 | 21.4 | 114. | 27.7 | 322. | 62.1 | 1335 | 2.99                             | 4.51   | 0.12 | 659 |
| ZB1106-06            | 51       | 2.15                | 356.9 | 0.23 | 0.005       | 2.98 | 0.04        | 0.50 | 1.05 | 0.52 | 5.1  | 1.84 | 26.6 | 11.1 | 56.0 | 13.3 | 166. | 34.4 | 9696 | 0.14                             | 1.27   | 0.10 | 622 |
| ZB1106-07            | 56       | 1.33                | 1549  | 10.2 | <i>n.d.</i> | 8.26 | <i>n.d.</i> | 0.28 | 2.11 | 0.08 | 15.5 | 6.72 | 108. | 47.0 | 252. | 58.2 | 664. | 123. | 1335 | 12.7                             | 1.40   | 0.11 | 590 |
| ZB1106-08            | 46       | 3.47                | 415.1 | 2.45 | 0.08        | 34.8 | 0.09        | 0.62 | 1.10 | 0.26 | 5.7  | 1.90 | 26.7 | 11.2 | 63.9 | 16.6 | 220. | 48.3 | 1321 | 1.38                             | 5.25   | 0.08 | 656 |
| ZB1106-09            | 62       | 2.07                | 3068  | 22.7 | 0.87        | 35.4 | 0.47        | 4.93 | 8.64 | 0.20 | 62.7 | 22.5 | 290. | 105. | 468. | 89.6 | 853. | 137. | 1067 | 6.13                             | 1.37   | 0.22 | 619 |
| ZB1106-10            | 63       | 4.04                | 2084  | 5.92 | <i>n.d.</i> | 30.6 | 0.14        | 1.40 | 4.80 | 0.82 | 26.5 | 10.6 | 152. | 63.7 | 331. | 75.8 | 842. | 153. | 9708 | 1.76                             | 0.35   | 0.12 | 667 |
| ZB1106-11            | 23       | 17.9                | 4275  | 29.4 | 0.45        | 471. | 4.56        | 79.5 | 110. | 26.7 | 274. | 60.0 | 524. | 137. | 499. | 87.1 | 776. | 108. | 1007 | 7.04                             | 4.81   | 0.44 | 795 |
| ZB1106-12            | 15       | 8.66                | 2023  | 3.09 | 0.12        | 51.6 | 0.93        | 12.2 | 23.7 | 10.0 | 91.4 | 22.0 | 215. | 63.7 | 260. | 52.0 | 508. | 79.8 | 9777 | 0.99                             | 1.48   | 0.27 | 728 |
| ZB1106-13            | 153      | 5.84                | 1008  | 5.99 | 0.03        | 51.5 | 0.16        | 1.97 | 3.86 | 1.03 | 22.9 | 6.98 | 84.4 | 32.0 | 147. | 31.1 | 332. | 58.3 | 1074 | 2.37                             | 1.35   | 0.16 | 696 |
| ZB1106-14            | 18       | 4.20                | 3176  | 20.4 | 0.24        | 493. | 1.04        | 19.2 | 39.7 | 12.5 | 134. | 33.8 | 344. | 101. | 393. | 74.9 | 704. | 104. | 8307 | 5.10                             | 5.31   | 0.32 | 670 |
| ZB1106-15            | 107      | 5.88                | 1072  | 1.44 | 0.07        | 10.8 | 0.07        | 0.83 | 2.27 | 0.40 | 16.2 | 5.79 | 82.7 | 33.2 | 165. | 36.1 | 377. | 67.7 | 1107 | 0.69                             | 0.36   | 0.14 | 696 |
| ZB1106-16            | 15       | 13.3                | 510.0 | 1.69 | 0.01        | 25.5 | 0.09        | 1.53 | 5.07 | 1.87 | 16.3 | 4.53 | 48.9 | 15.9 | 69.7 | 14.6 | 151. | 25.9 | 9620 | 0.63                             | 2.49   | 0.21 | 767 |
| ZB1106-17            | 84       | 3.64                | 825.0 | 2.89 | 0.49        | 27.0 | 0.16        | 1.34 | 2.52 | 0.65 | 12.9 | 4.93 | 64.1 | 24.8 | 122. | 27.7 | 307. | 58.8 | 1284 | 1.38                             | 1.32   | 0.14 | 659 |
| ZB1106-18            | 47       | 9.48                | 1107  | 4.77 | 0.79        | 72.4 | 0.39        | 3.52 | 5.42 | 0.89 | 26.0 | 7.68 | 96.7 | 33.2 | 159. | 33.3 | 366. | 63.3 | 1072 | 2.40                             | 1.79   | 0.17 | 736 |
| ZB1106-19            | 18       | 4.09                | 870.2 | 1.20 | <i>n.d.</i> | 26.1 | 0.11        | 2.54 | 4.73 | 1.72 | 19.3 | 5.48 | 68.5 | 24.3 | 122. | 28.0 | 333. | 63.6 | 1199 | 0.60                             | 1.96   | 0.13 | 668 |
| ZB1106-20            | 110      | 5.45                | 1182  | 1.21 | 2.28        | 15.8 | 0.86        | 4.62 | 2.90 | 0.81 | 17.1 | 5.99 | 82.5 | 35.6 | 181. | 42.6 | 478. | 90.5 | 1178 | 0.75                             | 0.42   | 0.11 | 690 |
| ZB1106-21            | 352      | 5.73                | 738.3 | 1.43 | 0.002       | 15.3 | 0.08        | 0.59 | 1.42 | 0.68 | 12.0 | 3.97 | 52.6 | 21.5 | 113. | 27.6 | 331. | 69.0 | 1006 | 0.60                             | 0.62   | 0.10 | 694 |
| ZB1106-22            | 45       | 3.17                | 1283  | 12.9 | 0.12        | 81.4 | 0.05        | 0.86 | 1.51 | 0.26 | 8.2  | 3.38 | 55.9 | 26.9 | 189. | 58.8 | 840. | 199. | 1559 | 3.80                             | 4.65   | 0.04 | 649 |
| ZB1106-23            | 15       | 35.9                | 484.9 | 3.10 | 0.02        | 18.0 | 0.25        | 3.91 | 6.24 | 1.81 | 18.7 | 4.64 | 45.7 | 14.2 | 63.0 | 13.5 | 140. | 24.6 | 9300 | 1.42                             | 5.23   | 0.21 | 867 |
| ZB1106-24            | 59       | 2.36                | 908.8 | 1.52 | 0.01        | 13.3 | 0.06        | 1.13 | 2.27 | 0.22 | 17.6 | 5.74 | 77.5 | 29.9 | 140. | 29.0 | 298. | 53.2 | 1034 | 0.71                             | 0.45   | 0.17 | 628 |
| ZB1106-25            | 58       | 2.32                | 924.4 | 1.70 | 7.47        | 29.6 | 2.18        | 10.5 | 4.37 | 0.46 | 14.2 | 4.87 | 68.3 | 27.9 | 140. | 32.7 | 357. | 66.4 | 1140 | 0.88                             | 0.64   | 0.12 | 627 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma)   | Trace element (ppm) |       |       |             |       |       |       |      |      |      |      |       |      |       |      |       |       |       | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |     |
|---------------|------------|---------------------|-------|-------|-------------|-------|-------|-------|------|------|------|------|-------|------|-------|------|-------|-------|-------|------|----------------------------------|--------|-----|
|               |            | Ti                  | Y     | Nb    | La          | Ce    | Pr    | Nd    | Sm   | Eu   | Gd   | Tb   | Dy    | Ho   | Er    | Tm   | Yb    | Lu    | Hf    | Ta   |                                  |        |     |
| ZB1106-26     | <b>65</b>  | 1.83                | 1843  | 11.5  | 0.002       | 12.6  | 0.03  | 0.75  | 3.08 | 0.10 | 23.3 | 9.96 | 147.3 | 57.8 | 291.3 | 61.6 | 650.0 | 111.6 | 13035 | 5.62 | 1.30                             | 0.15   | 611 |
| ZB1106-27     | <b>130</b> | 7.96                | 1411  | 2.78  | 0.03        | 16.9  | 0.20  | 2.47  | 5.25 | 1.02 | 27.9 | 9.55 | 126.2 | 46.3 | 218.9 | 44.6 | 450.4 | 77.5  | 10385 | 1.25 | 0.45                             | 0.18   | 721 |
| ZB1106-28     | <b>74</b>  | 2.72                | 2196  | 28.7  | <i>n.d.</i> | 28.0  | 0.03  | 0.48  | 2.60 | 0.26 | 22.8 | 10.8 | 161.6 | 67.0 | 351.5 | 78.6 | 852.3 | 153.9 | 15685 | 9.10 | 1.05                             | 0.12   | 638 |
| ZB1106-29     | <b>64</b>  | 3.36                | 1698  | 7.07  | <i>n.d.</i> | 15.6  | 0.04  | 1.04  | 2.30 | 0.35 | 20.0 | 7.59 | 119.0 | 50.5 | 270.9 | 61.0 | 691.9 | 126.5 | 11822 | 2.87 | 0.62                             | 0.11   | 653 |
| ZB1106-30     | <b>92</b>  | 2.13                | 653.0 | 2.78  | 0.07        | 29.6  | 0.08  | 0.56  | 0.70 | 0.43 | 8.6  | 3.15 | 45.7  | 19.0 | 105.2 | 24.8 | 297.4 | 57.0  | 12776 | 1.47 | 0.72                             | 0.10   | 621 |
| ZB1106-31     | <b>880</b> | 5.06                | 802.8 | 3.84  | <i>n.d.</i> | 6.25  | 0.05  | 1.26  | 2.50 | 0.10 | 14.7 | 5.39 | 69.5  | 26.3 | 126.4 | 26.1 | 266.0 | 50.0  | 10272 | 2.16 | 2.13                             | 0.17   | 684 |
| ZB1106-32     | <b>51</b>  | 1.47                | 865.2 | 5.67  | 25.2        | 116.6 | 5.74  | 25.08 | 5.66 | 0.79 | 12.5 | 3.51 | 49.3  | 21.1 | 128.1 | 36.6 | 506.9 | 119.1 | 13441 | 2.15 | 3.65                             | 0.06   | 596 |
| ZB1106-33     | <b>24</b>  | 6.26                | 719.2 | 1.12  | 0.40        | 33.5  | 0.43  | 5.53  | 6.65 | 1.92 | 21.9 | 5.68 | 59.2  | 20.8 | 98.8  | 22.4 | 253.5 | 49.9  | 10859 | 0.40 | 1.74                             | 0.15   | 701 |
| ZB1106-34     | <b>59</b>  | 2.93                | 1247  | 4.14  | <i>n.d.</i> | 15.9  | 0.07  | 1.64  | 3.84 | 0.49 | 22.0 | 8.13 | 107.9 | 39.2 | 182.4 | 38.2 | 392.5 | 68.7  | 9643  | 1.72 | 1.06                             | 0.18   | 644 |
| ZB1106-35     | <b>55</b>  | 7.64                | 841.3 | 1.59  | <i>n.d.</i> | 9.52  | 0.06  | 0.81  | 1.44 | 0.24 | 13.2 | 4.53 | 64.1  | 26.0 | 130.6 | 29.5 | 307.4 | 55.1  | 9070  | 0.76 | 0.55                             | 0.14   | 718 |
| ZB1106-36     | <b>17</b>  | 8.64                | 864.3 | 3.39  | 0.05        | 47.8  | 0.16  | 2.42  | 4.29 | 1.62 | 20.7 | 5.90 | 68.6  | 24.5 | 116.4 | 25.4 | 280.3 | 53.2  | 9872  | 0.82 | 2.59                             | 0.16   | 728 |
| ZB1106-37     | <b>54</b>  | <i>n.d.</i>         | 1496  | 10.51 | 0.02        | 28.4  | 0.10  | 1.43  | 3.21 | 0.24 | 20.1 | 8.60 | 115.6 | 46.0 | 230.1 | 51.1 | 545.9 | 98.4  | 12296 | 3.93 | 1.00                             | 0.14   | -   |
| ZB1106-38     | <b>19</b>  | 26.0                | 667.1 | 2.31  | 0.05        | 21.8  | 0.05  | 2.53  | 6.53 | 2.13 | 22.9 | 5.48 | 59.4  | 20.2 | 87.6  | 18.5 | 187.9 | 33.8  | 8585  | 0.67 | 1.76                             | 0.21   | 832 |
| ZB1106-39     | <b>18</b>  | 3.44                | 433.5 | 1.66  | 1.28        | 26.0  | 0.46  | 2.21  | 2.07 | 0.54 | 7.4  | 2.36 | 30.4  | 12.0 | 61.8  | 15.0 | 186.3 | 38.3  | 13037 | 0.74 | 4.39                             | 0.11   | 655 |
| ZB1106-40     | <b>48</b>  | 2.44                | 777.4 | 5.08  | 0.16        | 56.9  | 0.16  | 1.47  | 2.20 | 0.56 | 10.3 | 3.65 | 49.6  | 20.5 | 116.3 | 29.9 | 383.0 | 85.0  | 13004 | 2.09 | 3.83                             | 0.08   | 630 |
| ZB1106-41     | <b>48</b>  | 13.4                | 876.6 | 1.50  | 0.02        | 16.9  | 0.05  | 1.03  | 3.15 | 0.42 | 16.8 | 6.12 | 74.2  | 27.1 | 127.3 | 27.3 | 283.9 | 50.3  | 10802 | 0.83 | 0.59                             | 0.17   | 768 |
| ZB1106-42     | <b>17</b>  | 12.4                | 499.4 | 1.80  | <i>n.d.</i> | 19.7  | 0.08  | 2.21  | 4.33 | 1.52 | 16.3 | 4.25 | 45.9  | 14.4 | 66.0  | 14.2 | 147.8 | 27.4  | 10273 | 0.79 | 2.09                             | 0.20   | 760 |
| ZB1106-43     | <b>116</b> | 5.95                | 1370  | 2.99  | <i>n.d.</i> | 14.2  | 0.01  | 1.44  | 3.68 | 0.53 | 20.9 | 7.99 | 107.0 | 43.5 | 214.2 | 45.0 | 474.8 | 84.3  | 10044 | 1.20 | 0.61                             | 0.15   | 697 |
| ZB1106-44     | <b>25</b>  | 2.13                | 160.8 | 0.43  | 0.04        | 7.31  | 0.04  | 0.41  | 0.29 | 0.30 | 2.2  | 0.72 | 9.38  | 3.96 | 23.7  | 6.35 | 85.0  | 19.9  | 14095 | 0.11 | 4.54                             | 0.07   | 621 |
| ZB1106-45     | <b>113</b> | 1.54                | 914.0 | 1.67  | 2.53        | 17.9  | 0.67  | 3.96  | 2.48 | 0.15 | 12.7 | 4.81 | 67.2  | 27.2 | 142.4 | 31.9 | 348.9 | 64.7  | 11247 | 1.20 | 0.72                             | 0.12   | 599 |
| ZB1106-46     | <b>50</b>  | 9.39                | 1363  | 2.71  | <i>n.d.</i> | 85.2  | 0.20  | 2.49  | 5.70 | 2.05 | 28.6 | 9.08 | 113.7 | 42.4 | 201.8 | 42.4 | 442.0 | 80.5  | 8504  | 0.92 | 0.53                             | 0.17   | 735 |
| ZB1106-47     | <b>48</b>  | 15.0                | 1560  | 4.31  | 0.94        | 111.1 | 0.34  | 6.08  | 9.65 | 1.39 | 40.1 | 12.1 | 140.6 | 48.5 | 215.3 | 42.9 | 427.9 | 73.9  | 8994  | 1.83 | 1.32                             | 0.21   | 778 |
| ZB1106-48     | <b>46</b>  | 21.1                | 801.4 | 1.84  | 0.001       | 26.7  | 0.09  | 2.01  | 3.65 | 0.56 | 18.3 | 6.00 | 67.0  | 23.7 | 114.2 | 25.7 | 276.5 | 52.1  | 9503  | 1.00 | 0.90                             | 0.16   | 811 |
| ZB1106-49     | <b>951</b> | 10.1                | 1034  | 1.41  | 0.003       | 5.47  | 0.05  | 0.93  | 3.07 | 0.14 | 17.4 | 6.80 | 88.0  | 33.5 | 153.8 | 31.4 | 312.6 | 52.4  | 12588 | 1.04 | 1.01                             | 0.18   | 742 |
| ZB1106-50     | <b>120</b> | 2.17                | 1295  | 2.40  | 0.04        | 11.0  | 0.03  | 0.53  | 2.15 | 0.18 | 15.3 | 6.39 | 92.1  | 39.4 | 204.1 | 46.0 | 486.8 | 90.6  | 10828 | 1.58 | 0.80                             | 0.12   | 622 |
| ZB1106-51     | <b>14</b>  | 19.9                | 258.7 | 1.37  | 0.02        | 14.4  | 0.07  | 1.12  | 3.02 | 0.79 | 9.66 | 2.21 | 24.9  | 7.40 | 32.6  | 6.89 | 71.2  | 13.1  | 10941 | 0.70 | 4.01                             | 0.23   | 805 |
| ZB1106-52     | <b>56</b>  | 2.31                | 1314  | 6.70  | 29.1        | 91.8  | 10.1  | 49.8  | 13.2 | 0.53 | 28.6 | 7.94 | 99.6  | 39.8 | 200.9 | 44.3 | 481.8 | 88.4  | 12201 | 2.66 | 0.99                             | 0.13   | 627 |
| ZB1106-53     | <b>49</b>  | 14.4                | 1177  | 2.03  | 0.42        | 35.3  | 0.15  | 2.46  | 5.10 | 0.77 | 22.1 | 7.41 | 95.0  | 36.1 | 172.0 | 37.6 | 392.9 | 69.8  | 11067 | 1.01 | 0.73                             | 0.16   | 774 |
| ZB1106-54     | <b>55</b>  | 20.8                | 1250  | 1.77  | 0.63        | 15.6  | 0.37  | 3.90  | 6.58 | 1.36 | 29.0 | 9.33 | 112.3 | 40.6 | 181.6 | 37.5 | 376.8 | 67.2  | 8613  | 0.70 | 0.39                             | 0.19   | 810 |
| ZB1106-55     | <b>115</b> | 9.59                | 1034  | 1.22  | 0.03        | 9.05  | 0.03  | 0.81  | 2.28 | 0.49 | 14.6 | 5.81 | 77.2  | 31.8 | 159.5 | 35.4 | 380.3 | 70.4  | 10217 | 0.57 | 0.33                             | 0.13   | 737 |
| ZB1106-56     | <b>57</b>  | 1.77                | 2350  | 13.9  | <i>n.d.</i> | 25.5  | 0.08  | 1.50  | 6.20 | 0.52 | 44.1 | 15.7 | 207.8 | 77.4 | 350.6 | 69.2 | 658.9 | 108.8 | 11032 | 4.12 | 1.11                             | 0.20   | 609 |
| ZB1106-57     | <b>40</b>  | 5.57                | 1493  | 12.8  | 12.9        | 109.3 | 2.66  | 10.3  | 4.99 | 0.68 | 22.0 | 7.61 | 96.0  | 39.7 | 221.6 | 55.8 | 691.3 | 145.9 | 13381 | 6.43 | 5.86                             | 0.09   | 692 |
| ZB1106-58     | <b>55</b>  | 5.05                | 1073  | 1.96  | 0.24        | 15.8  | 0.14  | 1.28  | 3.29 | 0.41 | 14.3 | 5.95 | 81.2  | 32.6 | 167.0 | 36.7 | 395.0 | 70.8  | 11577 | 0.98 | 0.71                             | 0.13   | 684 |
| ZB1106-59     | <b>50</b>  | 3.62                | 1344  | 3.39  | <i>n.d.</i> | 26.5  | 0.08  | 1.09  | 2.95 | 0.53 | 18.7 | 6.00 | 88.5  | 38.6 | 210.8 | 50.7 | 596.5 | 118.0 | 11544 | 1.86 | 0.89                             | 0.10   | 659 |
| ZB1106-60     | <b>54</b>  | 2.90                | 940.8 | 3.26  | 15.6        | 57.8  | 4.36  | 20.3  | 5.11 | 0.58 | 15.1 | 5.07 | 66.2  | 27.8 | 147.0 | 35.2 | 403.3 | 77.5  | 11868 | 1.49 | 0.94                             | 0.11   | 643 |
| ZB1106-61     | <b>127</b> | 5.93                | 657.3 | 1.08  | 0.03        | 10.2  | 0.003 | 0.68  | 1.42 | 0.34 | 8.8  | 3.34 | 50.3  | 20.5 | 103.0 | 22.8 | 249.2 | 48.0  | 11226 | 0.56 | 0.33                             | 0.13   | 697 |
| ZB1106-62     | <b>117</b> | 0.11                | 1254  | 2.91  | 0.36        | 10.9  | 0.11  | 1.09  | 2.27 | 0.33 | 14.7 | 5.91 | 86.7  | 37.4 | 199.7 | 46.4 | 520.3 | 101.1 | 10758 | 1.58 | 0.59                             | 0.11   | 458 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |       |      |       |       |      |      |      |      |      |      |       |       |       |       | U/Yb   | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |      |      |     |
|---------------|----------|---------------------|-------|------|-------|-------|------|------|------|------|------|------|-------|-------|-------|-------|--------|----------------------------------|--------|------|------|------|-----|
|               |          | Ti                  | Y     | Nb   | La    | Ce    | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho    | Er    | Tm    | Yb     | Lu                               | Hf     | Ta   |      |      |     |
| ZB1106-63     | 21       | 3.38                | 2598  | 22.7 | 0.02  | 44.1  | 0.01 | 0.90 | 4.67 | 0.95 | 35.2 | 14.8 | 204.9 | 79.0  | 393.4 | 88.1  | 925.7  | 158.3                            | 15289  | 12.2 | 6.61 | 0.14 | 654 |
| ZB1106-64     | 17       | 14.8                | 3346  | 23.3 | 0.65  | 264.5 | 0.70 | 11.3 | 24.0 | 7.11 | 95.6 | 27.1 | 303.9 | 103.9 | 458.2 | 93.6  | 963.5  | 163.7                            | 10133  | 4.76 | 3.73 | 0.20 | 777 |
| ZB1106-65     | 16       | 12.9                | 551.5 | 1.82 | 0.05  | 26.7  | 0.13 | 2.12 | 5.52 | 1.96 | 19.8 | 4.87 | 50.8  | 16.9  | 73.8  | 15.2  | 154.8  | 26.8                             | 9343   | 0.74 | 2.40 | 0.21 | 764 |
| ZB1106-66     | 49       | 14.0                | 759.1 | 1.09 | 0.002 | 15.8  | 0.01 | 1.31 | 3.18 | 0.40 | 15.1 | 4.99 | 64.6  | 23.4  | 113.2 | 24.1  | 249.3  | 45.1                             | 9948   | 0.65 | 0.55 | 0.17 | 771 |
| ZB1106-67     | 50       | 18.7                | 1869  | 3.73 | 0.03  | 58.1  | 0.26 | 4.25 | 7.69 | 0.91 | 37.5 | 13.0 | 156.5 | 56.7  | 255.2 | 54.1  | 559.3  | 94.7                             | 11227  | 1.78 | 1.15 | 0.18 | 799 |
| ZB1106-68     | 58       | 10.3                | 1623  | 2.94 | 0.58  | 18.1  | 0.17 | 1.84 | 5.05 | 0.69 | 27.2 | 9.25 | 126.9 | 51.2  | 250.2 | 52.4  | 556.5  | 99.8                             | 10093  | 1.10 | 0.46 | 0.15 | 743 |
| ZB1106-69     | 88       | 11.3                | 726.8 | 1.62 | n.d.  | 20.8  | 0.14 | 1.46 | 2.23 | 0.96 | 13.9 | 4.51 | 57.2  | 22.1  | 108.3 | 25.1  | 262.4  | 49.2                             | 9670   | 0.63 | 0.32 | 0.14 | 752 |
| ZB1106-70     | 116      | 2.16                | 980.6 | 2.43 | 12.7  | 44.5  | 2.93 | 12.8 | 4.59 | 0.34 | 13.6 | 4.76 | 65.2  | 27.7  | 154.3 | 38.6  | 446.9  | 90.4                             | 11775  | 1.84 | 1.22 | 0.09 | 622 |
| ZB1106-71     | 46       | 7.64                | 891.2 | 2.24 | n.d.  | 31.0  | 0.05 | 0.61 | 2.71 | 0.57 | 12.6 | 4.90 | 62.8  | 25.4  | 133.3 | 31.2  | 353.7  | 68.0                             | 11532  | 1.42 | 1.33 | 0.12 | 718 |
| ZB1106-72     | 56       | 2.45                | 706.8 | 1.13 | 0.07  | 11.0  | 0.05 | 1.01 | 2.15 | 0.33 | 13.8 | 4.82 | 58.7  | 22.4  | 113.1 | 23.0  | 238.4  | 43.0                             | 9392   | 0.45 | 0.46 | 0.16 | 631 |
| ZB1106-73     | 51       | 8.13                | 986.9 | 2.95 | 2.30  | 44.6  | 0.38 | 2.02 | 2.91 | 0.51 | 17.9 | 5.50 | 75.8  | 29.3  | 148.9 | 33.6  | 369.3  | 69.4                             | 10738  | 1.37 | 0.84 | 0.13 | 723 |
| ZB1106-74     | 16       | 12.0                | 707.9 | 3.32 | 0.20  | 43.9  | 0.21 | 2.60 | 5.26 | 1.90 | 18.5 | 5.24 | 57.2  | 20.1  | 92.9  | 20.2  | 215.4  | 38.9                             | 10196  | 0.74 | 3.79 | 0.17 | 757 |
| ZB1106-75     | 112      | n.d.                | 1514  | 1.20 | 0.13  | 9.77  | 0.08 | 2.04 | 5.36 | 0.82 | 31.6 | 10.5 | 129.4 | 49.0  | 220.9 | 44.5  | 439.8  | 73.9                             | 11085  | 0.63 | 0.43 | 0.19 | -   |
| ZB1106-76     | 42       | 14.4                | 771.4 | 2.50 | 0.03  | 42.0  | 0.07 | 2.64 | 5.28 | 1.41 | 18.6 | 5.73 | 70.1  | 24.9  | 111.0 | 23.4  | 240.6  | 44.1                             | 9150   | 1.13 | 1.90 | 0.19 | 774 |
| ZB1106-77     | 538      | 11.4                | 365.1 | 2.24 | n.d.  | 15.9  | 0.05 | 1.25 | 2.00 | 0.11 | 8.7  | 2.84 | 33.4  | 12.0  | 51.3  | 10.2  | 103.0  | 17.7                             | 11750  | 0.92 | 2.56 | 0.21 | 753 |
| ZB1106-78     | 61       | 4.12                | 1349  | 4.13 | n.d.  | 12.3  | 0.15 | 1.75 | 3.93 | 0.56 | 27.4 | 9.10 | 119.5 | 45.1  | 206.2 | 41.9  | 411.8  | 70.3                             | 11765  | 1.29 | 0.77 | 0.19 | 669 |
| ZB1106-79     | 52       | 1.56                | 2867  | 5.01 | n.d.  | 17.0  | 0.08 | 2.47 | 7.20 | 0.48 | 55.2 | 19.5 | 251.2 | 94.8  | 431.1 | 86.0  | 826.4  | 138.4                            | 12001  | 1.92 | 0.72 | 0.20 | 600 |
| ZB1106-80     | 16       | 13.4                | 603.3 | 2.34 | n.d.  | 26.8  | 0.07 | 1.89 | 5.13 | 2.07 | 21.0 | 5.26 | 55.6  | 18.4  | 81.6  | 16.3  | 172.6  | 31.0                             | 9064   | 0.79 | 2.39 | 0.21 | 767 |
| ZB1106-81     | 118      | 16.7                | 697.1 | 0.68 | 0.08  | 3.87  | 0.05 | 1.29 | 2.46 | 0.60 | 14.6 | 5.04 | 62.6  | 22.3  | 108.2 | 22.1  | 224.7  | 39.2                             | 8593   | 0.40 | 0.32 | 0.18 | 788 |
| ZB1106-82     | 112      | 2.77                | 4010  | 22.5 | 0.09  | 18.8  | 0.10 | 1.18 | 4.85 | 0.41 | 50.6 | 22.1 | 317.7 | 129.6 | 604.8 | 126.3 | 1262   | 216.6                            | 14128  | 7.84 | 1.50 | 0.16 | 640 |
| ZB1106-83     | 51       | 16.0                | 922.8 | 0.79 | 0.06  | 15.1  | 0.12 | 1.66 | 2.79 | 0.39 | 17.3 | 5.79 | 72.1  | 27.5  | 134.5 | 28.0  | 295.3  | 53.9                             | 11543  | 0.58 | 0.78 | 0.16 | 784 |
| ZB1106-84     | 58       | 6.63                | 3854  | 34.5 | 3.94  | 32.7  | 1.93 | 12.2 | 9.71 | 0.15 | 58.3 | 22.1 | 311.1 | 121.9 | 578.4 | 120.1 | 1201.8 | 204.4                            | 15730  | 11.4 | 2.12 | 0.17 | 706 |
| ZB1106-85     | 108      | 3.03                | 986.4 | 2.42 | 0.04  | 21.1  | 0.01 | 0.59 | 2.04 | 0.45 | 13.3 | 4.82 | 67.1  | 28.4  | 150.0 | 35.8  | 407.8  | 77.8                             | 11331  | 1.24 | 0.69 | 0.11 | 646 |
| ZB1106-86     | 46       | 12.8                | 990.9 | 1.49 | 0.01  | 20.7  | 0.11 | 1.67 | 3.46 | 0.78 | 18.3 | 5.98 | 76.6  | 29.7  | 146.4 | 31.8  | 351.8  | 65.2                             | 9809   | 0.65 | 0.46 | 0.14 | 763 |
| ZB1106-87     | 44       | 11.4                | 1816  | 8.72 | 0.05  | 84.7  | 0.25 | 3.50 | 8.17 | 2.29 | 36.5 | 12.1 | 144.7 | 54.6  | 253.9 | 55.2  | 582.9  | 104.5                            | 11174  | 3.94 | 2.35 | 0.16 | 752 |
| ZB1106-88     | 14       | 12.1                | 601.3 | 2.22 | n.d.  | 33.1  | 0.21 | 2.67 | 5.10 | 2.04 | 20.5 | 5.39 | 57.3  | 18.6  | 75.7  | 15.9  | 157.5  | 27.0                             | 9430   | 0.84 | 3.36 | 0.24 | 758 |
| ZB1106-89     | 50       | 5.48                | 2445  | 1.88 | 0.12  | 18.9  | 0.60 | 8.38 | 15.2 | 3.59 | 69.3 | 19.3 | 227.5 | 80.7  | 353.8 | 69.3  | 683.3  | 117.1                            | 9298   | 0.72 | 0.34 | 0.22 | 691 |
| ZB1106-90     | 23       | 3.20                | 842.9 | 2.83 | 0.43  | 57.5  | 0.21 | 2.11 | 3.29 | 1.42 | 15.3 | 4.68 | 61.1  | 22.8  | 119.6 | 29.0  | 331.9  | 68.9                             | 11314  | 0.81 | 3.01 | 0.12 | 650 |
| ZB1106-91     | 142      | 10.8                | 1064  | 1.22 | 0.03  | 15.6  | 0.03 | 1.31 | 2.76 | 0.72 | 17.4 | 6.11 | 81.0  | 32.8  | 166.9 | 37.0  | 398.5  | 74.5                             | 10606  | 0.64 | 0.27 | 0.13 | 747 |
| ZB1106-92     | 15       | 6.79                | 607.6 | 2.94 | 0.08  | 48.9  | 0.14 | 2.22 | 3.26 | 1.52 | 14.2 | 3.61 | 44.6  | 16.4  | 78.8  | 17.9  | 203.4  | 37.7                             | 10593  | 0.70 | 4.77 | 0.14 | 708 |
| ZB1106-93     | 49       | 14.7                | 857.1 | 0.98 | 0.003 | 15.5  | 0.11 | 1.70 | 3.16 | 0.89 | 18.2 | 5.88 | 69.2  | 24.7  | 123.6 | 25.9  | 289.0  | 52.6                             | 10001  | 0.76 | 0.39 | 0.16 | 776 |
| ZB1106-94     | 85       | 84.1                | 497.9 | 1.53 | 0.31  | 10.6  | 0.27 | 1.42 | 2.90 | 0.31 | 12.1 | 3.63 | 43.2  | 15.3  | 68.6  | 14.1  | 142.1  | 25.4                             | 10771  | 0.49 | 0.93 | 0.20 | 970 |
| ZB1106-95     | 48       | 11.2                | 1083  | 2.19 | 0.04  | 32.8  | 0.04 | 1.28 | 3.88 | 0.78 | 19.2 | 6.69 | 85.0  | 31.8  | 161.6 | 34.8  | 375.2  | 69.3                             | 10494  | 1.01 | 0.78 | 0.15 | 751 |
| ZB1106-96     | 110      | 5.09                | 839.3 | 1.68 | 0.10  | 15.9  | 0.08 | 0.84 | 1.52 | 0.35 | 10.1 | 4.26 | 59.0  | 24.4  | 130.8 | 30.2  | 354.7  | 68.0                             | 10855  | 0.89 | 0.58 | 0.11 | 685 |
| ZB1106-97     | 466      | 7.48                | 1964  | 2.13 | 0.24  | 9.65  | 0.17 | 2.32 | 5.37 | 0.80 | 38.9 | 14.2 | 179.7 | 62.5  | 270.7 | 53.0  | 515.6  | 85.1                             | 12008  | 1.28 | 0.67 | 0.23 | 716 |
| ZB1106-98     | 15       | 17.0                | 631.2 | 2.30 | 0.05  | 26.4  | 0.19 | 2.71 | 5.13 | 2.11 | 21.0 | 5.69 | 55.9  | 18.6  | 83.5  | 16.8  | 178.0  | 31.2                             | 9158   | 0.75 | 2.12 | 0.20 | 790 |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |      |      |       |      |      |      |      |      |      |       |       |       |       |        |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|----------------------|----------|---------------------|-------|------|------|-------|------|------|------|------|------|------|-------|-------|-------|-------|--------|-------|-------|----------------------------------|--------|------|-----|
|                      |          | Ti                  | Y     | Nb   | La   | Ce    | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho    | Er    | Tm    | Yb     | Lu    | Hf    | Ta                               |        |      |     |
| <b>Sample DR1104</b> |          |                     |       |      |      |       |      |      |      |      |      |      |       |       |       |       |        |       |       |                                  |        |      |     |
| DR1104-01            | 45       | 16.8                | 943.2 | 2.59 | 0.02 | 27.1  | 0.21 | 4.28 | 7.04 | 1.49 | 28.5 | 8.64 | 92.5  | 30.6  | 130.7 | 25.6  | 253.3  | 43.6  | 10698 | 1.01                             | 1.40   | 0.24 | 789 |
| DR1104-02            | 84       | 17.4                | 1070  | 1.84 | 0.41 | 36.8  | 0.11 | 2.99 | 4.71 | 1.90 | 25.4 | 7.31 | 88.9  | 33.5  | 160.7 | 34.1  | 369.1  | 69.6  | 10142 | 0.69                             | 0.32   | 0.16 | 792 |
| DR1104-03            | 145      | 6.51                | 574.0 | 1.15 | n.d. | 17.3  | 0.02 | 0.65 | 1.59 | 0.41 | 7.2  | 2.98 | 40.7  | 16.5  | 89.2  | 21.2  | 245.9  | 49.4  | 12447 | 0.85                             | 1.40   | 0.11 | 705 |
| DR1104-04            | 26       | 2.92                | 5134  | 15.4 | 0.32 | 2.49  | 0.56 | 4.85 | 7.33 | 0.59 | 56.6 | 28.5 | 415.1 | 155.1 | 771.7 | 170.8 | 1765   | 295.7 | 17818 | 15.7                             | 8.30   | 0.15 | 643 |
| DR1104-05            | 33       | 18.0                | 745.3 | 1.53 | 0.59 | 25.7  | 0.26 | 1.48 | 2.26 | 0.57 | 14.0 | 4.40 | 58.6  | 22.5  | 112.5 | 23.7  | 255.0  | 48.1  | 13029 | 0.58                             | 0.44   | 0.15 | 795 |
| DR1104-06            | 38       | 9.96                | 2459  | 13.4 | 1.12 | 161.7 | 0.61 | 8.46 | 13.8 | 3.43 | 61.1 | 18.9 | 219.6 | 75.8  | 351.4 | 70.9  | 735.9  | 129.1 | 10122 | 4.63                             | 3.60   | 0.19 | 741 |
| DR1104-07            | 66       | 44.3                | 2120  | 28.7 | 7.83 | 103.3 | 1.95 | 10.9 | 12.6 | 3.58 | 55.0 | 16.7 | 190.4 | 64.1  | 284.2 | 56.7  | 560.5  | 96.4  | 11963 | 9.26                             | 5.38   | 0.22 | 891 |
| DR1104-08            | 49       | 6.44                | 558.2 | 2.68 | n.d. | 23.6  | 0.04 | 0.47 | 1.48 | 0.14 | 9.0  | 2.94 | 40.3  | 16.2  | 84.9  | 19.4  | 215.8  | 42.0  | 11700 | 0.94                             | 0.47   | 0.12 | 704 |
| DR1104-09            | 56       | 4.92                | 844.8 | 5.95 | 0.01 | 19.3  | 0.02 | 0.73 | 2.25 | 0.03 | 14.8 | 5.36 | 67.3  | 25.5  | 133.9 | 29.2  | 318.1  | 59.7  | 10848 | 2.86                             | 1.09   | 0.14 | 682 |
| DR1104-10            | 103      | 9.16                | 4388  | 15.6 | 0.37 | 23.3  | 0.14 | 1.48 | 4.63 | 0.20 | 49.0 | 20.0 | 305.3 | 128.5 | 668.1 | 148.4 | 1597.5 | 293.7 | 14512 | 9.20                             | 1.93   | 0.12 | 733 |
| DR1104-11            | 26       | 22.9                | 474.4 | 1.31 | 0.02 | 21.5  | 0.09 | 0.95 | 1.48 | 0.23 | 11.4 | 3.54 | 44.0  | 15.2  | 66.9  | 13.8  | 136.7  | 25.2  | 12903 | 0.41                             | 0.67   | 0.21 | 820 |
| DR1104-12            | 43       | 10.4                | 1374  | 4.47 | 6.91 | 72.0  | 2.23 | 13.7 | 6.55 | 0.90 | 27.3 | 9.35 | 109.1 | 40.6  | 202.4 | 44.0  | 477.9  | 89.1  | 14315 | 3.38                             | 2.26   | 0.15 | 744 |
| DR1104-13            | 38       | 6.50                | 1181  | 5.02 | n.d. | 20.2  | 0.01 | 0.24 | 1.84 | 1.38 | 13.5 | 5.76 | 82.2  | 33.6  | 182.9 | 43.4  | 511.2  | 101.6 | 16262 | 2.59                             | 0.70   | 0.10 | 704 |
| DR1104-14            | 102      | 6.75                | 1935  | 7.41 | 3.48 | 30.3  | 0.79 | 4.24 | 4.75 | 0.57 | 29.2 | 10.7 | 153.5 | 59.8  | 300.9 | 66.1  | 693.8  | 127.8 | 11443 | 2.58                             | 1.15   | 0.14 | 708 |
| DR1104-15            | 85       | 3.01                | 552.6 | 4.14 | 0.15 | 33.2  | 0.05 | 0.37 | 0.78 | 0.25 | 5.5  | 2.19 | 32.1  | 14.9  | 84.0  | 22.0  | 290.3  | 66.6  | 14904 | 1.61                             | 1.53   | 0.07 | 646 |
| DR1104-16            | 53       | 2.97                | 1577  | 1.33 | 0.01 | 23.7  | 0.21 | 6.55 | 12.0 | 0.07 | 54.4 | 14.8 | 155.9 | 55.0  | 242.5 | 51.9  | 536.0  | 101.4 | 8646  | 0.48                             | 0.40   | 0.19 | 644 |
| DR1104-17            | 57       | 9.79                | 1911  | 9.94 | 0.04 | 43.5  | 0.26 | 5.63 | 7.74 | 2.51 | 39.8 | 13.5 | 164.0 | 58.6  | 280.1 | 57.0  | 592.9  | 104.4 | 11795 | 3.08                             | 0.73   | 0.18 | 739 |
| DR1104-18            | 58       | 1.99                | 790.7 | 1.95 | 0.03 | 18.0  | 0.16 | 3.28 | 4.87 | 0.01 | 22.1 | 5.85 | 73.2  | 25.9  | 116.6 | 24.4  | 255.8  | 48.6  | 8056  | 0.83                             | 0.54   | 0.19 | 616 |
| DR1104-19            | 123      | 5.78                | 1529  | 4.88 | n.d. | 13.5  | 0.10 | 1.48 | 4.15 | 0.75 | 29.4 | 10.2 | 133.0 | 50.4  | 228.1 | 47.0  | 461.7  | 81.2  | 10300 | 1.75                             | 0.98   | 0.19 | 695 |
| DR1104-20            | 54       | 12.9                | 661.2 | 1.66 | 0.02 | 14.7  | 0.08 | 1.00 | 2.57 | 0.44 | 12.6 | 4.15 | 52.7  | 19.3  | 96.3  | 20.4  | 222.3  | 41.7  | 10013 | 0.65                             | 0.34   | 0.15 | 764 |
| DR1104-21            | 44       | 8.23                | 991.6 | 4.82 | 41.6 | 143.5 | 11.0 | 47.9 | 11.9 | 0.96 | 25.1 | 6.75 | 81.0  | 29.4  | 142.2 | 32.3  | 355.9  | 63.9  | 13934 | 3.63                             | 3.30   | 0.15 | 724 |
| DR1104-22            | 835      | 11.4                | 710.0 | 0.89 | 0.01 | 13.8  | 0.12 | 1.18 | 3.02 | 1.07 | 14.2 | 4.72 | 58.0  | 21.9  | 108.9 | 23.6  | 262.1  | 52.0  | 8863  | 0.27                             | 0.42   | 0.14 | 753 |
| DR1104-23            | 48       | 11.8                | 612.0 | 1.30 | 0.03 | 16.9  | 0.04 | 1.01 | 2.16 | 0.36 | 12.2 | 3.80 | 45.9  | 19.1  | 91.6  | 19.4  | 202.3  | 38.2  | 11245 | 0.51                             | 0.27   | 0.15 | 756 |
| DR1104-24            | 56       | 3.41                | 2201  | 13.0 | 0.03 | 39.8  | 0.19 | 3.14 | 7.57 | 0.30 | 45.2 | 15.5 | 198.1 | 72.2  | 324.8 | 63.6  | 616.8  | 104.8 | 8587  | 3.75                             | 1.17   | 0.21 | 655 |
| DR1104-25            | 53       | 9.39                | 1080  | 5.68 | 0.08 | 23.2  | 0.12 | 2.26 | 4.72 | 1.60 | 26.8 | 8.16 | 94.7  | 32.3  | 153.1 | 34.4  | 378.0  | 70.8  | 14106 | 3.64                             | 1.17   | 0.16 | 735 |
| DR1104-26            | 65       | 7.78                | 1016  | 9.37 | 0.02 | 21.7  | 0.03 | 0.33 | 2.47 | 0.10 | 13.0 | 5.83 | 75.9  | 30.9  | 159.6 | 35.9  | 393.6  | 75.5  | 15572 | 5.23                             | 2.01   | 0.13 | 719 |
| DR1104-27            | 50       | 4.85                | 737.7 | 0.19 | 0.08 | 5.40  | 0.25 | 2.65 | 3.56 | 1.75 | 16.4 | 4.77 | 58.0  | 21.0  | 106.8 | 24.5  | 281.4  | 56.2  | 6402  | 0.12                             | 0.46   | 0.13 | 681 |
| DR1104-28            | 87       | 12.1                | 1255  | 1.44 | 0.01 | 23.9  | 0.12 | 2.73 | 4.96 | 0.94 | 22.4 | 7.99 | 101.3 | 38.4  | 186.0 | 39.8  | 425.3  | 81.5  | 10132 | 1.17                             | 0.59   | 0.15 | 758 |
| DR1104-29            | 32       | 9.45                | 1030  | 12.3 | 0.02 | 18.9  | 0.07 | 0.60 | 1.67 | 0.24 | 9.2  | 4.16 | 64.0  | 29.0  | 169.6 | 45.8  | 583.4  | 122.5 | 14514 | 12.6                             | 3.03   | 0.07 | 736 |
| DR1104-30            | 56       | 3.22                | 1327  | 1.42 | 0.03 | 21.8  | 0.39 | 8.59 | 12.1 | 0.12 | 43.9 | 11.7 | 129.0 | 45.3  | 200.7 | 42.5  | 438.2  | 83.3  | 7700  | 0.64                             | 0.47   | 0.19 | 650 |
| DR1104-31            | 113      | 5.87                | 1128  | 2.33 | 0.02 | 19.2  | 0.05 | 1.03 | 2.15 | 0.51 | 13.2 | 5.76 | 77.7  | 33.2  | 176.7 | 40.7  | 468.5  | 95.1  | 10943 | 1.02                             | 0.81   | 0.11 | 696 |
| DR1104-32            | 592      | 15.2                | 454.7 | 1.78 | 1.25 | 81.1  | 1.54 | 17.4 | 15.0 | 4.68 | 35.1 | 7.14 | 55.7  | 14.5  | 52.4  | 9.2   | 82.7   | 12.8  | 9329  | 0.51                             | 1.05   | 0.44 | 779 |
| DR1104-33            | 1162     | 11.3                | 659.7 | 2.25 | 0.03 | 24.1  | 0.04 | 0.91 | 1.96 | 0.51 | 10.2 | 4.24 | 53.7  | 20.2  | 105.5 | 23.8  | 263.0  | 47.9  | 11898 | 1.17                             | 0.35   | 0.13 | 752 |
| DR1104-34            | 50       | 14.9                | 468.9 | 0.58 | 0.09 | 6.67  | 0.03 | 1.26 | 1.83 | 0.14 | 11.8 | 3.13 | 39.5  | 15.1  | 70.7  | 15.6  | 161.1  | 30.5  | 8088  | 0.31                             | 0.33   | 0.16 | 777 |
| DR1104-35            | 35       | 19.5                | 608.9 | 4.52 | n.d. | 17.6  | 0.03 | 1.20 | 1.32 | 0.68 | 9.7  | 3.43 | 45.9  | 18.2  | 89.0  | 21.8  | 253.9  | 48.2  | 14025 | 2.42                             | 1.36   | 0.12 | 803 |

**Table DR3 (Continued)**

| Analysis Spot          | Age (Ma) | Trace element (ppm) |       |      |             |       |      |       |      |      |       |      |       |       |       |       |       |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |      |
|------------------------|----------|---------------------|-------|------|-------------|-------|------|-------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|----------------------------------|--------|------|------|
|                        |          | Ti                  | Y     | Nb   | La          | Ce    | Pr   | Nd    | Sm   | Eu   | Gd    | Tb   | Dy    | Ho    | Er    | Tm    | Yb    | Lu    | Hf    | Ta                               |        |      |      |
| DR1104-36 <sup>‡</sup> | 95       | 804.3               | 1178  | 4.12 | 53.0        | 88.4  | 5.86 | 21.0  | 6.52 | 1.44 | 29.7  | 9.03 | 103.9 | 38.4  | 175.7 | 36.8  | 367.9 | 70.4  | 9567  | 0.98                             | 0.48   | 0.18 | 1363 |
| DR1104-37              | 13       | 28.3                | 1589  | 3.51 | 0.80        | 178.0 | 3.96 | 59.2  | 59.2 | 19.1 | 125.1 | 25.2 | 199.4 | 53.7  | 191.4 | 34.0  | 297.6 | 47.9  | 9337  | 1.17                             | 1.43   | 0.43 | 841  |
| DR1104-38              | 84       | 4.69                | 704.7 | 3.76 | 0.15        | 9.93  | 0.03 | 0.38  | 1.24 | 0.19 | 10.3  | 4.15 | 54.3  | 22.7  | 110.0 | 24.2  | 250.5 | 46.4  | 13156 | 2.03                             | 1.34   | 0.14 | 679  |
| DR1104-39              | 61       | 2.65                | 4079  | 42.1 | 0.24        | 17.9  | 0.18 | 1.60  | 5.42 | 0.21 | 53.2  | 22.3 | 323.3 | 128.7 | 624.3 | 128.6 | 1275  | 221.3 | 15692 | 15.5                             | 1.87   | 0.16 | 636  |
| DR1104-40              | 59       | 3.25                | 1030  | 2.71 | <i>n.d.</i> | 13.0  | 0.05 | 1.18  | 2.03 | 0.34 | 18.2  | 6.22 | 80.0  | 32.2  | 157.6 | 34.1  | 356.7 | 64.0  | 11736 | 1.15                             | 0.72   | 0.15 | 651  |
| DR1104-41              | 87       | 5.51                | 916.8 | 1.94 | 0.02        | 35.9  | 0.10 | 3.34  | 5.14 | 1.56 | 21.4  | 6.93 | 78.9  | 28.7  | 132.7 | 28.4  | 296.1 | 53.6  | 11803 | 0.92                             | 0.48   | 0.17 | 691  |
| DR1104-42              | 78       | 7.19                | 1139  | 3.26 | 0.02        | 46.3  | 0.12 | 1.86  | 4.76 | 1.37 | 21.0  | 7.60 | 92.1  | 35.7  | 171.9 | 36.2  | 383.2 | 72.5  | 10689 | 1.28                             | 0.43   | 0.16 | 713  |
| DR1104-43              | 81       | 5.51                | 1044  | 4.64 | 0.22        | 48.4  | 0.06 | 1.07  | 2.47 | 0.62 | 16.2  | 6.04 | 77.4  | 32.2  | 159.5 | 35.5  | 391.5 | 74.2  | 12093 | 1.81                             | 0.61   | 0.13 | 691  |
| DR1104-44              | 54       | 3.00                | 1242  | 5.77 | 0.01        | 33.1  | 0.13 | 3.15  | 6.43 | 0.06 | 28.6  | 9.19 | 109.3 | 41.4  | 198.0 | 44.4  | 471.6 | 90.6  | 9308  | 2.07                             | 0.86   | 0.15 | 645  |
| DR1104-45              | 60       | 5.64                | 786.2 | 3.92 | 0.01        | 18.9  | 0.02 | 0.30  | 0.91 | 0.13 | 6.9   | 3.55 | 50.7  | 23.3  | 127.1 | 31.8  | 364.3 | 73.0  | 14068 | 3.35                             | 2.27   | 0.09 | 693  |
| DR1104-46              | 81       | 12.8                | 1951  | 2.72 | 0.06        | 65.0  | 0.32 | 7.39  | 12.5 | 3.68 | 49.9  | 14.9 | 174.2 | 60.2  | 272.3 | 56.4  | 572.0 | 100.6 | 9482  | 0.72                             | 0.32   | 0.20 | 763  |
| DR1104-47              | 55       | 4.53                | 883.4 | 2.60 | <i>n.d.</i> | 18.5  | 0.12 | 2.75  | 5.01 | 0.00 | 24.1  | 6.93 | 79.7  | 29.7  | 138.6 | 30.9  | 335.0 | 67.6  | 7928  | 1.44                             | 0.56   | 0.15 | 676  |
| DR1104-48              | 61       | <i>n.d.</i>         | 2379  | 4.53 | 1.38        | 17.5  | 0.61 | 3.70  | 4.86 | 0.41 | 39.0  | 14.6 | 186.3 | 74.6  | 360.1 | 75.7  | 756.9 | 132.7 | 12390 | 1.85                             | 0.84   | 0.16 | -    |
| DR1104-49              | 19       | 5.39                | 265.1 | 1.68 | 0.02        | 14.8  | 0.05 | 1.05  | 2.89 | 0.65 | 15.2  | 3.49 | 28.4  | 7.37  | 26.1  | 4.83  | 45.4  | 8.20  | 14962 | 0.73                             | 4.60   | 0.41 | 689  |
| DR1104-50              | 52       | 3.66                | 836.9 | 3.19 | 0.01        | 23.1  | 0.05 | 1.62  | 2.03 | 0.09 | 15.7  | 5.26 | 67.9  | 26.5  | 127.7 | 27.2  | 288.8 | 52.4  | 9776  | 1.66                             | 1.07   | 0.15 | 660  |
| DR1104-51              | 17       | 1.20                | 336.4 | 0.72 | 0.01        | 24.7  | 0.02 | 0.28  | 0.96 | 0.32 | 4.45  | 1.59 | 19.1  | 8.44  | 48.3  | 12.1  | 158.2 | 36.2  | 14229 | 0.25                             | 4.80   | 0.08 | 584  |
| DR1104-52              | 13       | 12.9                | 1492  | 12.0 | 6.95        | 538.5 | 3.70 | 34.9  | 26.0 | 8.21 | 60.0  | 13.0 | 125.4 | 40.2  | 167.3 | 33.5  | 338.2 | 54.4  | 10300 | 1.67                             | 6.15   | 0.24 | 764  |
| DR1104-53              | 51       | 3.84                | 564.0 | 1.48 | <i>n.d.</i> | 15.0  | 0.04 | 0.54  | 1.75 | 0.17 | 10.2  | 3.27 | 44.2  | 16.9  | 86.3  | 19.3  | 209.1 | 40.7  | 9818  | 0.96                             | 0.83   | 0.14 | 663  |
| DR1104-54              | 65       | 6.20                | 1601  | 5.00 | 14.1        | 89.3  | 4.90 | 25.6  | 11.3 | 1.23 | 31.1  | 9.95 | 123.3 | 48.1  | 240.3 | 52.4  | 572.8 | 106.2 | 10191 | 2.20                             | 0.72   | 0.14 | 701  |
| DR1104-55              | 70       | 2.58                | 1410  | 7.26 | 0.01        | 14.4  | 0.03 | 0.45  | 1.57 | 0.39 | 14.7  | 7.02 | 103.4 | 42.5  | 221.2 | 49.3  | 542.8 | 99.5  | 13890 | 5.22                             | 1.35   | 0.12 | 634  |
| DR1104-56              | 55       | 4.49                | 2062  | 1.92 | 0.04        | 28.8  | 0.71 | 10.51 | 16.7 | 0.09 | 64.4  | 16.9 | 194.7 | 67.9  | 312.8 | 66.1  | 679.9 | 127.6 | 8584  | 1.06                             | 0.49   | 0.19 | 675  |
| DR1104-57              | 56       | 3.50                | 2253  | 8.56 | 0.03        | 60.0  | 0.48 | 8.76  | 13.4 | 0.07 | 61.8  | 17.9 | 200.1 | 73.1  | 342.4 | 73.8  | 786.0 | 145.3 | 8634  | 2.60                             | 0.75   | 0.17 | 656  |
| DR1104-58              | 53       | 7.99                | 1040  | 2.82 | 0.02        | 24.7  | 0.14 | 3.07  | 5.57 | 0.04 | 27.9  | 8.11 | 95.2  | 34.4  | 154.6 | 32.3  | 345.0 | 63.6  | 7764  | 1.23                             | 0.70   | 0.18 | 722  |
| DR1104-59              | 57       | 5.51                | 1033  | 3.73 | <i>n.d.</i> | 24.6  | 0.10 | 2.36  | 5.75 | 0.10 | 26.5  | 7.88 | 91.0  | 33.2  | 161.5 | 35.6  | 388.4 | 75.0  | 8814  | 1.91                             | 0.74   | 0.15 | 691  |
| DR1104-60              | 82       | 2.04                | 636.2 | 3.05 | <i>n.d.</i> | 35.6  | 0.02 | 0.45  | 1.05 | 0.44 | 6.5   | 2.37 | 36.0  | 16.1  | 97.7  | 26.0  | 342.6 | 78.6  | 13523 | 1.31                             | 1.30   | 0.07 | 618  |
| DR1104-61              | 16       | 7.73                | 232.2 | 1.05 | <i>n.d.</i> | 21.8  | 0.08 | 1.69  | 3.38 | 0.75 | 14.8  | 3.56 | 27.2  | 7.02  | 24.5  | 3.74  | 33.3  | 5.69  | 13222 | 0.28                             | 2.45   | 0.53 | 719  |
| DR1104-62              | 145      | 3.97                | 1197  | 7.28 | <i>n.d.</i> | 35.3  | 0.01 | 0.54  | 1.74 | 0.40 | 12.1  | 4.84 | 72.2  | 32.8  | 181.5 | 44.6  | 539.2 | 108.7 | 12545 | 3.04                             | 2.14   | 0.09 | 666  |
| DR1104-63              | 55       | 1.41                | 2896  | 3.92 | 0.04        | 34.6  | 0.60 | 12.1  | 16.3 | 0.08 | 77.7  | 21.8 | 259.6 | 93.8  | 443.5 | 91.7  | 959.8 | 174.5 | 9081  | 1.66                             | 0.61   | 0.18 | 594  |
| DR1104-64              | 60       | 5.65                | 395.2 | 0.83 | 0.02        | 10.6  | 0.06 | 1.16  | 1.26 | 0.22 | 6.2   | 2.23 | 29.3  | 12.0  | 61.1  | 13.3  | 153.0 | 30.8  | 11467 | 0.46                             | 0.56   | 0.12 | 693  |
| DR1104-65              | 53       | 3.67                | 608.1 | 1.85 | 0.66        | 15.1  | 0.03 | 0.73  | 2.46 | 0.10 | 10.5  | 3.55 | 48.5  | 18.0  | 93.8  | 21.0  | 232.1 | 44.3  | 9941  | 1.10                             | 0.81   | 0.14 | 660  |
| DR1104-66              | 56       | 2.48                | 614.5 | 3.74 | 0.005       | 16.5  | 0.03 | 0.58  | 1.79 | 0.02 | 9.8   | 3.31 | 46.8  | 18.6  | 97.0  | 22.3  | 251.2 | 46.0  | 10599 | 1.96                             | 0.94   | 0.12 | 632  |
| DR1104-67              | 83       | 1.78                | 504.4 | 2.28 | 0.04        | 38.7  | 0.05 | 0.57  | 0.91 | 0.30 | 5.8   | 1.91 | 27.1  | 12.3  | 75.1  | 19.9  | 273.4 | 64.6  | 14006 | 0.98                             | 1.93   | 0.06 | 609  |
| DR1104-68              | 84       | 4.44                | 1152  | 3.54 | 0.47        | 52.1  | 0.23 | 2.50  | 4.06 | 1.44 | 20.6  | 7.18 | 93.0  | 34.8  | 175.0 | 36.5  | 397.4 | 74.0  | 11100 | 1.50                             | 0.47   | 0.15 | 674  |
| DR1104-69              | 979      | 4.66                | 587.9 | 0.42 | 0.04        | 3.61  | 0.08 | 1.18  | 1.93 | 0.66 | 11.4  | 3.93 | 49.5  | 18.6  | 88.3  | 19.1  | 196.6 | 34.8  | 10029 | 0.18                             | 0.41   | 0.16 | 678  |
| DR1104-70              | 60       | 4.23                | 2392  | 6.07 | 0.01        | 27.9  | 0.08 | 2.80  | 5.78 | 1.11 | 46.8  | 15.8 | 209.9 | 77.8  | 354.8 | 72.3  | 692.7 | 122.1 | 9132  | 1.63                             | 0.72   | 0.20 | 671  |
| DR1104-71              | 13       | 19.7                | 69.0  | 1.84 | 0.01        | 32.2  | 0.23 | 3.44  | 4.59 | 1.27 | 11.1  | 1.68 | 10.9  | 2.27  | 6.25  | 0.86  | 6.58  | 0.82  | 13043 | 0.81                             | 45.6   | 1.07 | 804  |

**Table DR3 (Continued)**

| Analysis Spot        | Age (Ma) | Trace element (ppm) |       |       |      |       |      |       |      |      |      |      |       |      |       |      |       |       |       | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |
|----------------------|----------|---------------------|-------|-------|------|-------|------|-------|------|------|------|------|-------|------|-------|------|-------|-------|-------|------|----------------------------------|--------|------|
|                      |          | Ti                  | Y     | Nb    | La   | Ce    | Pr   | Nd    | Sm   | Eu   | Gd   | Tb   | Dy    | Ho   | Er    | Tm   | Yb    | Lu    | Hf    | Ta   |                                  |        |      |
| DR1104-72            | 51       | 10.5                | 730.7 | 2.82  | n.d. | 32.3  | 0.03 | 0.56  | 2.55 | 0.27 | 13.6 | 4.47 | 57.1  | 22.3 | 109.1 | 23.1 | 243.7 | 44.6  | 14264 | 1.37 | 0.82                             | 0.15   | 745  |
| DR1104-73            | 59       | 4.09                | 2956  | 5.77  | 0.04 | 49.6  | 0.78 | 12.7  | 18.4 | 0.10 | 82.6 | 23.0 | 271.7 | 97.5 | 450.8 | 91.8 | 981.8 | 179.7 | 8605  | 2.00 | 0.62                             | 0.18   | 668  |
| DR1104-74            | 44       | 6.76                | 1352  | 5.25  | n.d. | 45.4  | 0.03 | 1.22  | 3.36 | 0.52 | 21.1 | 8.00 | 106.2 | 40.9 | 201.0 | 43.6 | 463.6 | 85.3  | 15834 | 2.43 | 0.74                             | 0.15   | 708  |
| DR1104-75            | 78       | 2.27                | 1318  | 5.85  | 0.01 | 12.2  | 0.02 | 0.45  | 1.50 | 0.16 | 15.1 | 6.44 | 96.9  | 38.3 | 200.0 | 44.7 | 470.7 | 83.4  | 15125 | 4.72 | 2.40                             | 0.13   | 626  |
| DR1104-76            | 54       | 5.30                | 1213  | 3.79  | 0.01 | 35.2  | 0.16 | 4.41  | 7.95 | 0.05 | 32.5 | 9.48 | 109.5 | 40.1 | 188.5 | 40.9 | 448.8 | 84.4  | 8453  | 1.68 | 0.89                             | 0.16   | 688  |
| DR1104-77            | 51       | 5.73                | 688.0 | 1.66  | n.d. | 19.8  | 0.10 | 2.39  | 4.85 | 0.07 | 19.0 | 5.88 | 64.1  | 22.5 | 108.2 | 23.9 | 259.7 | 50.6  | 8203  | 0.65 | 0.65                             | 0.16   | 694  |
| DR1104-78            | 61       | 16.0                | 791.9 | 2.36  | 0.19 | 9.78  | 0.08 | 0.46  | 0.86 | 0.21 | 9.6  | 4.10 | 57.7  | 23.8 | 124.5 | 28.5 | 323.6 | 60.0  | 13090 | 2.54 | 1.18                             | 0.12   | 784  |
| DR1104-79            | 375      | 47.8                | 1335  | 7.09  | 0.41 | 5.58  | 0.14 | 1.62  | 4.40 | 0.26 | 30.5 | 11.1 | 127.7 | 40.8 | 164.1 | 29.5 | 287.9 | 48.2  | 14421 | 4.42 | 9.29                             | 0.29   | 900  |
| DR1104-80            | 83       | 8.00                | 750.6 | 1.11  | 0.01 | 25.1  | 0.06 | 1.69  | 3.47 | 0.98 | 17.6 | 5.26 | 65.7  | 23.0 | 105.7 | 22.5 | 234.4 | 41.8  | 11583 | 0.81 | 1.37                             | 0.18   | 722  |
| DR1104-81            | 54       | 3.60                | 1272  | 1.24  | n.d. | 20.2  | 0.20 | 3.85  | 9.15 | 0.08 | 40.6 | 11.3 | 124.3 | 43.4 | 185.8 | 38.2 | 392.7 | 74.0  | 8092  | 0.69 | 0.39                             | 0.21   | 659  |
| DR1104-82            | 84       | 5.35                | 1307  | 7.21  | 0.07 | 28.1  | 0.06 | 0.59  | 2.32 | 0.61 | 14.5 | 5.88 | 85.1  | 36.2 | 200.7 | 48.7 | 563.2 | 113.0 | 13638 | 5.05 | 1.44                             | 0.10   | 689  |
| <b>Sample DR1114</b> |          |                     |       |       |      |       |      |       |      |      |      |      |       |      |       |      |       |       |       |      |                                  |        |      |
| DR1114-01            | 41       | 5.45                | 847.1 | 13.2  | 0.12 | 58.8  | 0.06 | 0.50  | 1.00 | 0.19 | 5.7  | 2.20 | 35.7  | 18.2 | 129.2 | 41.8 | 623.7 | 151.3 | 13089 | 4.42 | 3.66                             | 0.04   | 690  |
| DR1114-02            | 59       | 4.10                | 699.1 | 2.63  | 0.03 | 7.33  | 0.05 | 0.31  | 1.77 | 0.11 | 12.2 | 4.55 | 62.8  | 23.2 | 107.9 | 23.0 | 228.5 | 40.5  | 10455 | 1.00 | 0.57                             | 0.18   | 668  |
| DR1114-03            | 149      | 4.65                | 733.6 | 3.22  | 0.03 | 27.7  | 0.07 | 0.35  | 1.39 | 0.40 | 8.81 | 3.22 | 45.7  | 20.2 | 110.4 | 27.4 | 323.6 | 65.2  | 10976 | 1.77 | 2.49                             | 0.09   | 678  |
| DR1114-04*           | 17       | 182962              | 282.5 | 630.4 | 58.8 | 276.6 | 47.3 | 267.1 | 78.3 | 16.0 | 72.9 | 12.1 | 74.0  | 12.2 | 29.8  | 4.12 | 25.1  | 2.35  | 16    | 61.3 | 10.7                             | 1.92   | 6522 |
| DR1114-05            | 63       | 1.35                | 1118  | 3.18  | 0.02 | 5.83  | 0.05 | 1.08  | 3.31 | 0.03 | 21.0 | 7.40 | 99.3  | 36.8 | 170.5 | 35.1 | 350.7 | 59.8  | 11923 | 1.27 | 0.95                             | 0.18   | 591  |
| DR1114-06            | 151      | 4.35                | 739.0 | 3.58  | n.d. | 31.4  | 0.04 | 0.80  | 1.80 | 0.66 | 11.2 | 4.15 | 53.8  | 20.8 | 110.5 | 25.7 | 283.4 | 54.3  | 10726 | 1.54 | 1.66                             | 0.12   | 673  |
| DR1114-07            | 64       | 8.27                | 449.7 | 0.56  | 0.01 | 10.4  | 0.03 | 1.64  | 2.01 | 0.76 | 6.8  | 2.06 | 29.6  | 12.3 | 69.9  | 17.3 | 227.4 | 48.2  | 8096  | 0.39 | 0.48                             | 0.08   | 725  |
| DR1114-08            | 10       | 20.2                | 514.7 | 1.87  | 0.59 | 54.1  | 0.28 | 4.06  | 6.50 | 1.67 | 20.3 | 4.99 | 50.8  | 15.4 | 65.2  | 13.0 | 127.9 | 21.2  | 9678  | 0.57 | 4.48                             | 0.26   | 807  |
| DR1114-09            | 85       | 3.89                | 1122  | 2.44  | 2.10 | 49.8  | 0.51 | 2.68  | 3.57 | 1.00 | 18.3 | 6.04 | 78.2  | 31.4 | 162.7 | 39.4 | 464.8 | 93.7  | 12671 | 1.00 | 1.04                             | 0.11   | 664  |
| DR1114-10            | 124      | 7.53                | 1063  | 2.64  | 8.69 | 33.1  | 2.79 | 14.57 | 5.41 | 0.86 | 23.0 | 7.46 | 94.6  | 34.9 | 160.2 | 33.2 | 335.1 | 58.4  | 9877  | 0.99 | 0.35                             | 0.18   | 717  |
| DR1114-11            | 146      | 5.68                | 686.7 | 0.49  | 0.00 | 14.3  | 0.14 | 3.09  | 3.81 | 1.36 | 14.7 | 4.52 | 54.4  | 20.2 | 97.1  | 22.9 | 268.9 | 51.9  | 9527  | 0.41 | 0.88                             | 0.13   | 694  |
| DR1114-12            | 49       | 16.3                | 677.2 | 1.61  | n.d. | 22.7  | 0.07 | 1.12  | 2.93 | 0.41 | 16.3 | 4.82 | 58.8  | 20.6 | 97.9  | 22.3 | 238.3 | 42.0  | 10334 | 0.73 | 0.92                             | 0.16   | 786  |
| DR1114-13            | 131      | 8.78                | 1503  | 1.90  | 0.04 | 13.7  | 0.24 | 3.88  | 6.76 | 1.57 | 36.7 | 11.2 | 145.0 | 49.9 | 222.7 | 43.8 | 429.8 | 72.5  | 9404  | 0.66 | 0.30                             | 0.22   | 730  |
| DR1114-14            | 86       | 4.02                | 995.3 | 5.13  | n.d. | 43.5  | 0.06 | 1.09  | 2.15 | 0.45 | 11.4 | 4.41 | 62.4  | 26.6 | 151.5 | 37.8 | 460.5 | 93.1  | 12737 | 1.74 | 0.87                             | 0.09   | 667  |
| DR1114-15            | 120      | 5.51                | 795.8 | 1.55  | n.d. | 15.1  | 0.02 | 0.86  | 2.36 | 0.57 | 13.4 | 4.76 | 64.5  | 24.6 | 120.6 | 26.5 | 280.9 | 51.1  | 11241 | 0.78 | 0.71                             | 0.15   | 691  |
| DR1114-16            | 40       | 5.46                | 698.4 | 1.92  | n.d. | 28.8  | 0.01 | 0.72  | 1.27 | 0.44 | 10.9 | 4.31 | 57.1  | 20.5 | 105.5 | 22.6 | 247.7 | 45.6  | 13171 | 0.79 | 0.31                             | 0.15   | 690  |
| DR1114-17            | 11       | 11.2                | 520.4 | 1.82  | 0.04 | 53.1  | 0.16 | 2.87  | 4.91 | 1.76 | 19.1 | 4.71 | 48.4  | 15.3 | 65.0  | 13.3 | 139.0 | 24.3  | 10207 | 0.71 | 4.55                             | 0.23   | 751  |
| DR1114-18            | 1222     | 13.6                | 496.0 | 1.31  | 0.03 | 6.71  | 0.04 | 0.71  | 1.97 | 0.20 | 8.5  | 3.32 | 42.9  | 15.9 | 72.8  | 15.0 | 158.0 | 27.4  | 10884 | 0.71 | 0.63                             | 0.18   | 769  |
| DR1114-19            | 128      | 5.09                | 925.2 | 1.55  | 0.02 | 13.5  | 0.06 | 1.62  | 2.74 | 0.59 | 14.3 | 5.73 | 71.7  | 27.8 | 137.6 | 30.8 | 333.4 | 61.4  | 11363 | 0.84 | 0.52                             | 0.14   | 685  |
| DR1114-20            | 155      | 6.65                | 443.0 | 0.88  | 0.90 | 15.3  | 0.24 | 1.68  | 1.10 | 0.45 | 5.5  | 2.23 | 30.9  | 12.4 | 66.8  | 16.6 | 198.3 | 39.5  | 10701 | 0.66 | 1.14                             | 0.10   | 706  |
| DR1114-21            | 58       | 3.02                | 1427  | 4.39  | 0.01 | 14.5  | 0.08 | 1.68  | 4.12 | 0.78 | 26.2 | 9.78 | 123.1 | 47.5 | 216.2 | 42.7 | 420.5 | 69.6  | 9600  | 1.61 | 0.84                             | 0.19   | 646  |
| DR1114-22            | 13       | 1.16                | 397.9 | 2.40  | n.d. | 26.5  | 0.02 | 0.68  | 1.33 | 0.55 | 6.5  | 1.96 | 25.1  | 9.74 | 55.3  | 14.0 | 178.8 | 39.6  | 14440 | 0.65 | 13.7                             | 0.09   | 581  |
| DR1114-23            | 54       | 6.13                | 1354  | 5.31  | 4.86 | 51.8  | 1.28 | 6.73  | 4.59 | 0.51 | 22.3 | 7.97 | 104.8 | 40.4 | 205.6 | 46.3 | 512.2 | 94.6  | 11353 | 2.65 | 0.98                             | 0.13   | 700  |
| DR1114-24            | 76       | 3.25                | 1063  | 6.89  | n.d. | 17.8  | n.d. | 0.43  | 1.77 | 0.35 | 14.4 | 5.88 | 81.4  | 32.5 | 160.1 | 34.9 | 373.8 | 66.1  | 13173 | 3.73 | 1.31                             | 0.14   | 651  |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |       |      |      |       |      |      |      |      |      |      |       |       |       |       |        |       | U/Yb  | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|----------|---------------------|-------|------|------|-------|------|------|------|------|------|------|-------|-------|-------|-------|--------|-------|-------|----------------------------------|--------|------|-----|
|               |          | Ti                  | Y     | Nb   | La   | Ce    | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho    | Er    | Tm    | Yb     | Lu    | Hf    | Ta                               |        |      |     |
| DR1114-25     | 88       | 3.93                | 1011  | 5.65 | 0.47 | 51.1  | 0.12 | 1.43 | 1.99 | 0.65 | 14.3 | 5.12 | 71.8  | 28.0  | 154.3 | 36.2  | 412.7  | 79.1  | 12188 | 2.20                             | 1.00   | 0.11 | 665 |
| DR1114-26     | 37       | 21.2                | 1204  | 3.07 | n.d. | 60.8  | 0.35 | 4.70 | 7.29 | 2.45 | 30.3 | 8.95 | 100.5 | 37.4  | 176.9 | 36.4  | 383.4  | 67.7  | 7773  | 0.98                             | 0.26   | 0.17 | 812 |
| DR1114-27     | 56       | 2.72                | 1611  | 4.62 | 25.4 | 86.2  | 6.49 | 29.0 | 8.88 | 0.38 | 25.1 | 8.86 | 117.1 | 46.2  | 241.8 | 56.7  | 633.0  | 117.7 | 12165 | 2.67                             | 1.40   | 0.12 | 638 |
| DR1114-28     | 59       | 3.13                | 1344  | 5.37 | 0.03 | 11.8  | 0.04 | 0.52 | 1.67 | 0.25 | 18.4 | 6.98 | 100.4 | 41.6  | 212.5 | 47.0  | 521.4  | 95.4  | 11578 | 2.07                             | 0.64   | 0.12 | 648 |
| DR1114-29     | 52       | 4.11                | 1222  | 4.81 | n.d. | 40.1  | 0.04 | 0.82 | 2.16 | 0.56 | 15.6 | 6.35 | 87.1  | 35.9  | 187.0 | 43.3  | 479.4  | 91.0  | 11154 | 1.98                             | 0.42   | 0.12 | 668 |
| DR1114-30     | 1069     | 10.3                | 537.8 | 2.73 | 0.05 | 13.3  | 0.07 | 0.51 | 1.90 | 0.06 | 10.0 | 3.35 | 42.6  | 16.8  | 80.7  | 18.0  | 184.6  | 32.8  | 10925 | 1.32                             | 0.80   | 0.15 | 743 |
| DR1114-31     | 46       | 7.13                | 1167  | 1.73 | 0.02 | 38.5  | 0.26 | 3.39 | 5.12 | 2.46 | 32.1 | 9.37 | 106.9 | 37.8  | 168.5 | 35.7  | 357.9  | 65.3  | 8286  | 0.71                             | 0.27   | 0.19 | 712 |
| DR1114-32     | 64       | 3.04                | 1607  | 1.99 | 6.86 | 32.0  | 2.74 | 14.0 | 6.79 | 0.43 | 30.0 | 10.0 | 132.4 | 49.4  | 240.6 | 50.9  | 530.7  | 93.7  | 11309 | 1.16                             | 0.72   | 0.16 | 646 |
| DR1114-33     | 30       | 16.6                | 869.0 | 1.68 | 0.08 | 37.3  | 0.32 | 5.70 | 8.24 | 1.13 | 27.2 | 7.25 | 78.4  | 26.3  | 112.8 | 22.5  | 218.2  | 36.0  | 10887 | 0.62                             | 0.85   | 0.23 | 788 |
| DR1114-34     | 89       | 6.10                | 984.2 | 4.06 | 19.5 | 101.6 | 6.05 | 28.8 | 6.95 | 1.39 | 20.9 | 5.93 | 76.3  | 29.3  | 145.8 | 33.2  | 356.7  | 66.5  | 10972 | 1.51                             | 0.88   | 0.14 | 699 |
| DR1114-35     | 84       | 2.01                | 668.9 | 3.03 | 0.16 | 45.0  | 0.09 | 0.81 | 1.66 | 0.51 | 8.9  | 3.04 | 44.0  | 17.8  | 97.6  | 25.0  | 309.8  | 67.2  | 13065 | 1.31                             | 2.29   | 0.09 | 617 |
| DR1114-36     | 57       | 2.22                | 2858  | 12.1 | 0.80 | 30.5  | 0.41 | 3.96 | 8.15 | 1.44 | 56.8 | 20.5 | 260.1 | 95.4  | 421.8 | 83.1  | 804.7  | 133.9 | 10276 | 3.48                             | 0.96   | 0.21 | 624 |
| DR1114-37     | 49       | 4.15                | 909.6 | 3.53 | 13.3 | 68.4  | 3.49 | 15.5 | 5.47 | 0.79 | 18.8 | 6.00 | 75.8  | 27.1  | 137.5 | 28.2  | 303.7  | 55.4  | 10792 | 1.44                             | 0.76   | 0.16 | 669 |
| DR1114-38     | 83       | 1.32                | 691.9 | 2.37 | 1.07 | 38.5  | 0.19 | 1.08 | 1.82 | 0.67 | 10.6 | 3.98 | 47.5  | 19.7  | 103.7 | 25.5  | 308.6  | 64.0  | 13944 | 0.94                             | 1.06   | 0.10 | 589 |
| DR1114-39     | 86       | 4.59                | 812.0 | 3.80 | 0.45 | 50.3  | 0.15 | 1.48 | 2.50 | 0.65 | 12.4 | 4.33 | 57.7  | 22.9  | 121.1 | 28.0  | 334.3  | 66.8  | 12713 | 1.56                             | 1.67   | 0.11 | 677 |
| DR1114-40     | 63       | 2.54                | 1385  | 4.56 | 0.02 | 10.3  | 0.07 | 1.69 | 3.97 | 0.43 | 23.8 | 8.34 | 117.9 | 44.7  | 211.2 | 44.5  | 458.1  | 81.5  | 9888  | 1.35                             | 0.55   | 0.17 | 633 |
| DR1114-41     | 46       | 13.7                | 688.7 | 1.46 | n.d. | 25.6  | 0.20 | 2.63 | 3.95 | 0.50 | 16.5 | 4.76 | 55.2  | 20.1  | 92.4  | 19.7  | 202.0  | 35.8  | 12240 | 0.53                             | 0.82   | 0.18 | 769 |
| DR1114-42     | 60       | 1.74                | 773.1 | 1.84 | 0.02 | 8.24  | 0.07 | 1.18 | 2.45 | 0.37 | 15.4 | 5.08 | 66.3  | 24.5  | 117.4 | 24.8  | 253.8  | 46.3  | 10844 | 0.83                             | 0.54   | 0.17 | 607 |
| DR1114-43     | 88       | 3.12                | 647.6 | 3.07 | 2.52 | 47.8  | 0.70 | 2.38 | 1.35 | 0.54 | 8.2  | 2.92 | 39.4  | 16.7  | 95.2  | 24.2  | 300.4  | 65.1  | 12739 | 1.21                             | 1.53   | 0.09 | 648 |
| DR1114-44     | 123      | 7.52                | 859.9 | 1.95 | 0.01 | 14.5  | 0.02 | 0.72 | 2.57 | 0.50 | 15.6 | 5.50 | 72.2  | 28.0  | 130.1 | 27.8  | 288.0  | 49.9  | 11516 | 0.77                             | 0.70   | 0.16 | 717 |
| DR1114-45     | 62       | 5.68                | 915.0 | 1.74 | 0.24 | 13.8  | 0.09 | 1.61 | 3.57 | 0.62 | 21.1 | 6.51 | 80.6  | 29.2  | 137.4 | 27.4  | 280.3  | 48.7  | 10045 | 0.67                             | 0.61   | 0.19 | 694 |
| DR1114-46     | 83       | 4.60                | 733.1 | 3.36 | n.d. | 38.2  | 0.05 | 0.81 | 1.71 | 0.62 | 8.8  | 3.69 | 51.2  | 20.4  | 111.6 | 25.6  | 296.5  | 58.4  | 12651 | 1.56                             | 1.05   | 0.11 | 677 |
| DR1114-47     | 418      | 12.4                | 1581  | 2.63 | 0.00 | 9.69  | 0.06 | 1.21 | 3.96 | 0.77 | 24.3 | 9.70 | 129.6 | 49.5  | 242.1 | 52.5  | 548.7  | 96.8  | 11149 | 1.53                             | 0.72   | 0.15 | 761 |
| DR1114-48     | 64       | 5.40                | 892.2 | 2.38 | 0.04 | 11.1  | 0.06 | 1.06 | 2.79 | 0.35 | 15.1 | 5.50 | 73.8  | 27.7  | 139.3 | 28.8  | 304.9  | 54.0  | 10366 | 0.96                             | 0.69   | 0.16 | 690 |
| DR1114-49     | 63       | 2.03                | 4552  | 23.4 | n.d. | 22.1  | 0.10 | 1.97 | 7.79 | 0.38 | 70.6 | 27.5 | 376.7 | 147.7 | 679.0 | 139.6 | 1361.2 | 222.2 | 11396 | 6.84                             | 1.44   | 0.18 | 618 |
| DR1114-50     | 74       | 12.3                | 1131  | 1.12 | 0.07 | 20.8  | 0.34 | 4.40 | 6.76 | 2.95 | 33.4 | 9.16 | 102.9 | 34.7  | 155.6 | 31.4  | 332.6  | 56.0  | 8864  | 0.38                             | 0.45   | 0.20 | 760 |
| DR1114-51     | 12       | 7.78                | 259.8 | 1.18 | n.d. | 36.4  | 0.04 | 1.25 | 1.49 | 0.62 | 6.9  | 1.79 | 18.7  | 6.7   | 32.3  | 8.2   | 95.9   | 20.8  | 10630 | 0.33                             | 12.6   | 0.13 | 719 |
| DR1114-52     | 58       | 4.21                | 1606  | 8.40 | 0.94 | 20.5  | 0.24 | 0.31 | 3.58 | 0.21 | 25.1 | 9.69 | 132.1 | 52.3  | 247.7 | 53.9  | 548.1  | 93.0  | 11616 | 3.17                             | 0.74   | 0.16 | 670 |
| DR1114-53     | 49       | 3.47                | 1036  | 6.79 | 37.1 | 122.8 | 14.4 | 71.4 | 19.2 | 0.39 | 32.3 | 8.23 | 94.4  | 33.3  | 156.5 | 32.9  | 344.7  | 58.6  | 12717 | 3.19                             | 1.88   | 0.18 | 656 |
| DR1114-54     | 11       | 22.2                | 1490  | 5.41 | 0.20 | 184.7 | 0.88 | 14.5 | 21.6 | 6.09 | 72.8 | 16.9 | 154.8 | 43.5  | 173.6 | 33.5  | 329.1  | 55.0  | 8428  | 1.30                             | 5.31   | 0.31 | 816 |
| DR1114-55     | 85       | 4.83                | 1453  | 1.97 | 0.04 | 54.4  | 0.12 | 1.68 | 5.47 | 1.44 | 28.1 | 9.55 | 123.4 | 46.6  | 215.6 | 45.3  | 455.0  | 76.8  | 11057 | 1.04                             | 0.43   | 0.18 | 681 |
| DR1114-56     | 82       | 5.76                | 1679  | 12.1 | 0.19 | 78.3  | 0.18 | 2.33 | 5.95 | 1.88 | 32.1 | 11.0 | 132.9 | 48.6  | 233.2 | 51.5  | 558.1  | 99.6  | 11225 | 4.22                             | 4.33   | 0.15 | 695 |
| DR1114-57     | 148      | 5.72                | 1750  | 7.97 | 0.67 | 56.5  | 0.57 | 4.14 | 4.60 | 1.53 | 27.3 | 9.89 | 129.9 | 51.2  | 261.9 | 60.4  | 676.1  | 125.2 | 11378 | 3.39                             | 2.28   | 0.12 | 694 |
| DR1114-58     | 87       | 5.22                | 702.7 | 3.55 | 53.0 | 127.2 | 6.97 | 24.5 | 4.07 | 0.84 | 9.6  | 3.21 | 43.0  | 18.5  | 104.9 | 28.2  | 360.0  | 80.2  | 12469 | 1.33                             | 1.41   | 0.08 | 687 |
| DR1114-59     | 52       | 2.94                | 1731  | 11.6 | 2.13 | 78.1  | 0.27 | 1.73 | 2.84 | 0.48 | 24.0 | 8.83 | 124.7 | 50.3  | 260.8 | 60.2  | 651.9  | 117.1 | 13129 | 4.14                             | 1.23   | 0.12 | 644 |
| DR1114-60     | 88       | 4.50                | 531.6 | 3.15 | 0.07 | 34.0  | n.d. | 0.48 | 0.91 | 0.45 | 6.5  | 2.35 | 34.2  | 14.2  | 80.4  | 20.0  | 242.9  | 48.2  | 12282 | 1.35                             | 1.39   | 0.09 | 675 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |      |     |      |      |     |     |     |     |      |     |      |      |      |      |       |      | U/Yb | Dy <sub>n</sub> /Yb <sub>n</sub> | T (°C) |      |     |
|---------------|----------|---------------------|------|-----|------|------|-----|-----|-----|-----|------|-----|------|------|------|------|-------|------|------|----------------------------------|--------|------|-----|
|               |          | Ti                  | Y    | Nb  | La   | Ce   | Pr  | Nd  | Sm  | Eu  | Gd   | Tb  | Dy   | Ho   | Er   | Tm   | Yb    | Lu   | Hf   | Ta                               |        |      |     |
| DR1114-61     | 57       | 3.53                | 1320 | 4.2 | 1.1  | 16.5 | 0.4 | 2.1 | 3.1 | 0.2 | 19.0 | 7.1 | 101. | 39.8 | 203. | 44.7 | 489.9 | 86.3 | 1095 | 2.2                              | 1.06   | 0.13 | 657 |
| DR1114-62     | 59       | 2.70                | 1558 | 2.6 | 0.0  | 16.0 | 0.0 | 1.3 | 3.3 | 0.9 | 21.9 | 7.8 | 114. | 48.0 | 243. | 55.1 | 609.5 | 112. | 9285 | 0.8                              | 0.49   | 0.12 | 638 |
| DR1114-63     | 9.5      | 5.94                | 1604 | 13. | 15.  | 132. | 5.3 | 27. | 12. | 1.2 | 43.0 | 13. | 147. | 50.8 | 220. | 43.6 | 428.5 | 72.2 | 1154 | 4.2                              | 3.68   | 0.22 | 697 |
| DR1114-64     | 49       | 23.0                | 963. | 1.6 | 0.0  | 17.6 | 0.2 | 4.0 | 5.9 | 0.5 | 23.0 | 7.5 | 87.7 | 30.3 | 137. | 29.1 | 293.5 | 51.2 | 9761 | 0.9                              | 1.07   | 0.19 | 820 |
| DR1114-65     | 69       | 4.80                | 1203 | 2.6 | 4.3  | 27.7 | 1.2 | 6.8 | 5.0 | 0.7 | 22.0 | 7.3 | 99.8 | 38.6 | 187. | 39.5 | 410.2 | 72.5 | 9617 | 0.8                              | 0.60   | 0.16 | 680 |
| DR1114-66     | 75       | 4.68                | 619. | 2.1 | 0.0  | 8.85 | 0.0 | 0.5 | 2.4 | 0.2 | 10.1 | 3.3 | 50.3 | 19.7 | 97.7 | 21.0 | 220.8 | 40.7 | 1028 | 0.9                              | 0.87   | 0.15 | 678 |
| DR1114-67     | 63       | 4.31                | 1057 | 2.2 | 0.4  | 11.7 | 0.1 | 2.3 | 3.2 | 0.2 | 16.8 | 6.3 | 87.2 | 34.5 | 164. | 35.5 | 359.4 | 63.9 | 1042 | 1.0                              | 0.71   | 0.16 | 672 |
| DR1114-68     | 62       | 6.36                | 1128 | 2.1 | n.d. | 10.7 | 0.0 | 1.3 | 3.2 | 0.7 | 20.0 | 7.0 | 95.7 | 37.4 | 173. | 35.5 | 365.2 | 62.6 | 8586 | 0.8                              | 0.53   | 0.17 | 703 |
| DR1114-69     | 54       | 4.66                | 1029 | 2.9 | 38.  | 125. | 10. | 47. | 9.9 | 1.0 | 20.6 | 6.4 | 81.9 | 31.8 | 155. | 35.9 | 393.4 | 71.9 | 1115 | 1.3                              | 0.53   | 0.14 | 678 |
| DR1114-70     | 68       | 7.34                | 1008 | 1.6 | 34.  | 95.9 | 10. | 44. | 10. | 1.1 | 26.3 | 7.1 | 87.4 | 32.0 | 156. | 31.9 | 327.7 | 58.0 | 9024 | 0.7                              | 0.45   | 0.17 | 715 |
| DR1114-71     | 65       | 1.07                | 5424 | 29. | 0.0  | 104. | 0.1 | 5.0 | 16. | 0.6 | 114. | 40. | 501. | 178. | 779. | 148. | 1369. | 217. | 6974 | 5.2                              | 1.03   | 0.24 | 576 |
| DR1114-72     | 61       | 20.4                | 802. | 2.3 | 1.4  | 21.2 | 0.5 | 3.2 | 3.9 | 0.6 | 19.8 | 6.0 | 73.7 | 25.8 | 117. | 23.7 | 249.6 | 43.2 | 9683 | 0.9                              | 0.53   | 0.19 | 808 |
| DR1114-73     | 50       | 19.1                | 675. | 1.3 | n.d. | 19.6 | 0.0 | 0.9 | 2.1 | 0.4 | 11.8 | 4.1 | 56.0 | 20.7 | 99.8 | 21.4 | 228.1 | 41.0 | 1007 | 0.6                              | 0.51   | 0.16 | 801 |
| DR1114-74     | 112      | 602.                | 1210 | 7.8 | 0.0  | 7.69 | 0.1 | 1.1 | 3.4 | 0.6 | 23.7 | 8.6 | 109. | 40.4 | 183. | 35.5 | 344.9 | 57.1 | 8831 | 2.9                              | 0.62   | 0.21 | 130 |
| DR1114-75     | 117      | 25.6                | 3200 | 12. | 0.1  | 12.0 | 0.0 | 2.0 | 6.3 | 0.6 | 52.7 | 20. | 277. | 107. | 499. | 97.8 | 950.8 | 162. | 1209 | 4.0                              | 1.15   | 0.19 | 831 |
| DR1114-76     | 50       | 18.3                | 848. | 1.6 | n.d. | 21.3 | 0.1 | 2.6 | 4.4 | 0.6 | 18.9 | 6.3 | 70.7 | 26.2 | 121. | 26.1 | 278.0 | 49.6 | 9960 | 0.8                              | 0.81   | 0.17 | 797 |
| DR1114-77     | 72       | 0.80                | 2221 | 21. | 1.7  | 15.5 | 0.9 | 6.7 | 5.5 | 0.1 | 31.9 | 12. | 177. | 70.0 | 343. | 73.0 | 750.1 | 129. | 1500 | 8.8                              | 1.55   | 0.15 | 559 |
| DR1114-78     | 67       | 4.13                | 906. | 2.0 | 0.0  | 13.8 | 0.0 | 1.3 | 2.9 | 0.5 | 20.3 | 6.4 | 80.0 | 30.0 | 140. | 29.5 | 297.0 | 53.1 | 9735 | 0.7                              | 0.70   | 0.17 | 669 |
| DR1114-79     | 68       | 3.99                | 987. | 2.1 | n.d. | 17.7 | 0.0 | 1.0 | 3.0 | 0.4 | 15.5 | 5.5 | 77.5 | 30.3 | 153. | 34.5 | 372.1 | 70.0 | 9946 | 0.9                              | 0.74   | 0.14 | 666 |
| DR1114-80     | 87       | 2.51                | 634. | 3.0 | 0.0  | 44.0 | 0.1 | 1.1 | 1.7 | 0.5 | 8.8  | 2.9 | 41.9 | 17.6 | 93.1 | 23.5 | 293.5 | 66.0 | 1276 | 1.2                              | 2.49   | 0.09 | 633 |
| DR1114-81     | 48       | 13.6                | 778. | 2.3 | n.d. | 22.6 | 0.0 | 0.6 | 2.5 | 0.2 | 14.2 | 4.8 | 61.8 | 24.6 | 119. | 26.0 | 275.9 | 50.1 | 1148 | 0.9                              | 0.25   | 0.15 | 769 |
| DR1114-82     | 52       | 3.54                | 825. | 1.6 | 0.9  | 27.4 | 0.2 | 2.0 | 1.9 | 0.6 | 12.1 | 4.2 | 60.6 | 24.3 | 129. | 30.2 | 348.3 | 66.4 | 1090 | 1.1                              | 1.06   | 0.11 | 657 |
| DR1114-83     | 982      | 6.66                | 2718 | 4.4 | 0.0  | 7.08 | 0.3 | 5.5 | 10. | 2.3 | 64.9 | 21. | 261. | 92.3 | 390. | 71.1 | 659.7 | 104. | 8154 | 1.9                              | 0.16   | 0.26 | 706 |
| DR1114-84     | 50       | 3.69                | 1264 | 4.3 | n.d. | 49.1 | 0.0 | 1.4 | 2.8 | 0.8 | 17.8 | 6.7 | 95.5 | 38.0 | 197. | 43.2 | 470.9 | 87.4 | 1162 | 1.7                              | 0.49   | 0.13 | 660 |
| DR1114-85     | 129      | 9.89                | 924. | 1.6 | 0.4  | 20.7 | 0.2 | 2.0 | 3.3 | 0.5 | 16.2 | 6.0 | 78.0 | 29.5 | 139. | 29.1 | 299.5 | 52.3 | 1141 | 0.9                              | 0.63   | 0.17 | 740 |
| DR1114-86     | 12       | 7.95                | 475. | 3.6 | 0.0  | 41.1 | 0.0 | 0.9 | 1.5 | 0.5 | 6.9  | 2.1 | 27.2 | 11.7 | 66.1 | 17.4 | 251.9 | 58.9 | 1406 | 1.2                              | 14.3   | 0.07 | 721 |
| DR1114-87     | 49       | 9.52                | 1903 | 5.6 | 0.0  | 130. | 0.3 | 5.1 | 8.8 | 3.1 | 45.3 | 14. | 172. | 61.6 | 276. | 56.4 | 569.6 | 99.0 | 1027 | 1.6                              | 0.71   | 0.20 | 737 |
| DR1114-88     | 58       | 5.70                | 700. | 0.9 | 0.0  | 10.4 | 0.0 | 1.7 | 2.9 | 0.4 | 16.3 | 5.4 | 64.3 | 24.1 | 111. | 21.8 | 225.3 | 39.9 | 9691 | 0.3                              | 0.37   | 0.19 | 694 |
| DR1114-89     | 50       | 10.2                | 635. | 1.0 | 0.0  | 15.3 | 0.0 | 0.6 | 1.8 | 0.8 | 9.4  | 3.5 | 51.9 | 19.7 | 98.3 | 21.9 | 237.4 | 43.6 | 9729 | 0.5                              | 0.34   | 0.14 | 742 |
| DR1114-90     | 83       | 5.16                | 998. | 7.2 | 0.1  | 59.4 | 0.0 | 0.8 | 1.9 | 0.4 | 12.6 | 4.4 | 63.9 | 27.9 | 149. | 36.9 | 441.4 | 87.1 | 1292 | 2.1                              | 1.27   | 0.09 | 686 |
| DR1114-91     | 60       | 3.43                | 801. | 1.2 | n.d. | 10.8 | 0.1 | 1.1 | 3.1 | 0.2 | 16.5 | 5.5 | 72.8 | 26.9 | 124. | 25.6 | 257.2 | 45.6 | 1005 | 0.5                              | 0.41   | 0.18 | 655 |
| DR1114-92     | 43       | 17.7                | 1027 | 7.8 | 0.7  | 17.3 | 0.1 | 1.2 | 1.3 | 0.0 | 12.7 | 5.0 | 74.3 | 30.5 | 163. | 37.2 | 431.0 | 81.8 | 1217 | 5.1                              | 1.36   | 0.11 | 794 |
| DR1114-93     | 86       | 7.46                | 665. | 1.4 | 0.0  | 39.9 | 0.0 | 1.7 | 2.3 | 1.0 | 14.8 | 4.7 | 56.7 | 21.0 | 100. | 21.1 | 228.3 | 41.7 | 1028 | 0.7                              | 0.44   | 0.16 | 716 |
| DR1114-94     | 50       | 3.83                | 934. | 3.4 | 0.0  | 42.5 | 0.1 | 1.6 | 3.3 | 0.7 | 19.2 | 6.3 | 78.4 | 28.8 | 140. | 30.7 | 316.2 | 56.7 | 1037 | 1.2                              | 0.68   | 0.16 | 663 |
| DR1114-95     | 11       | 10.6                | 316. | 1.2 | 0.2  | 38.9 | 0.0 | 1.4 | 2.9 | 0.8 | 9.2  | 2.2 | 25.8 | 8.8  | 42.0 | 9.1  | 99.4  | 19.0 | 1084 | 0.3                              | 4.89   | 0.17 | 746 |
| DR1114-96     | 118      | 24.6                | 931. | 2.0 | 0.0  | 11.1 | 0.0 | 1.6 | 3.3 | 0.5 | 20.2 | 6.7 | 85.1 | 31.3 | 142. | 28.7 | 287.7 | 49.2 | 1132 | 0.8                              | 0.22   | 0.19 | 827 |

**Table DR3 (Continued)**

| Analysis Spot | Age (Ma) | Trace element (ppm) |       |      |      |      |      |      |      |      |      |      |       |      |       |      |       |       |       | U/Yb | Dy <sub>N</sub> /Yb <sub>N</sub> | T (°C) |     |
|---------------|----------|---------------------|-------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|-------|-------|------|----------------------------------|--------|-----|
|               |          | Ti                  | Y     | Nb   | La   | Ce   | Pr   | Nd   | Sm   | Eu   | Gd   | Tb   | Dy    | Ho   | Er    | Tm   | Yb    | Lu    | Hf    | Ta   |                                  |        |     |
| DR1114-97     | 118      | 13.0                | 1647  | 6.69 | 5.03 | 58.9 | 3.84 | 21.3 | 16.0 | 4.63 | 37.8 | 12.9 | 139.6 | 46.6 | 229.6 | 52.9 | 602.8 | 114.9 | 12668 | 2.74 | 2.86                             | 0.15   | 764 |
| DR1114-98     | 64       | 6.94                | 1162  | 2.56 | 5.07 | 33.3 | 1.55 | 7.86 | 5.03 | 0.88 | 22.9 | 7.51 | 97.1  | 36.4 | 178.1 | 37.3 | 397.8 | 72.2  | 9695  | 1.16 | 0.99                             | 0.16   | 710 |
| DR1114-99     | 129      | 13.2                | 880.5 | 1.32 | 0.01 | 17.1 | 0.05 | 1.34 | 3.25 | 0.67 | 17.2 | 5.87 | 76.7  | 27.3 | 128.7 | 26.6 | 277.6 | 47.9  | 10238 | 0.87 | 0.46                             | 0.18   | 766 |
| DR1114-100    | 113      | 3.97                | 1158  | 2.21 | 0.08 | 15.1 | 0.05 | 0.96 | 2.67 | 0.36 | 14.9 | 6.10 | 84.9  | 36.1 | 181.5 | 41.0 | 444.0 | 83.6  | 10994 | 1.14 | 0.66                             | 0.12   | 666 |
| DR1114-101    | 61       | 2.29                | 1739  | 4.65 | 0.14 | 19.4 | 0.14 | 2.38 | 5.63 | 0.81 | 33.4 | 11.9 | 161.3 | 59.5 | 273.0 | 53.1 | 517.4 | 88.0  | 10474 | 1.56 | 0.68                             | 0.20   | 626 |

- Zircon trace element was calibrated by using USGS reference glasses (BCR-2G and BIR-1G) as multiple-calibration standards with applying <sup>29</sup>Si as internal standard ([Liu et al., 2010](#)).

- # Ti-rich conclusion was founded.

- For zircon younger than 1000 Ma, <sup>206</sup>Pb/<sup>238</sup>U ages were used, and <sup>207</sup>Pb/<sup>206</sup>Pb ages were used for zircon older than 1000 Ma.

- Dy<sub>N</sub>, and Yb<sub>N</sub> were normalized by [Boytan \(1984\)](#).

- Zircon crystallization temperatures were calculated by using Ti-in-zircon thermometry ([Watson et al., 2006](#)).

**Table DR4** Hafnium isotopic compositions for zircons in Tibetan ultrapotassic rocks.

| Analysis spot        | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{c}}$ (Ma) | $f\text{Lu/Hf}$ |  |
|----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|---------------------------|---------------------------|----------------------|---------------------------------|-----------------|--|
|                      |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |                           |                           |                      |                                 |                 |  |
| <b>Sample 08YR05</b> |          |                                   |                                   |                                   |               |                                      |                           |                           |                      |                                 |                 |  |
| 08YR05-02            | 30       | 0.002815                          | 0.000093                          | 0.282860                          | 0.000034      | 0.282860                             | 2.7                       | 3.3                       | 542                  | 868                             | -1.00           |  |
| 08YR05-05            | 59       | 0.061208                          | 0.002440                          | 0.282852                          | 0.000048      | 0.282849                             | 2.4                       | 3.6                       | 590                  | 876                             | -0.93           |  |
| 08YR05-08            | 23       | 0.011312                          | 0.000421                          | 0.282686                          | 0.000050      | 0.282685                             | -3.5                      | -3.0                      | 790                  | 1268                            | -0.99           |  |
| 08YR05-12            | 59       | 0.012750                          | 0.000589                          | 0.282836                          | 0.000037      | 0.282835                             | 1.8                       | 3.1                       | 584                  | 907                             | -0.98           |  |
| 08YR05-13            | 24       | 0.000536                          | 0.000016                          | 0.282479                          | 0.000027      | 0.282479                             | -10.8                     | -10.3                     | 1065                 | 1732                            | -1.00           |  |
| 08YR05-16            | 93       | 0.012903                          | 0.000507                          | 0.282832                          | 0.000031      | 0.282831                             | 1.6                       | 3.7                       | 588                  | 895                             | -0.98           |  |
| 08YR05-17            | 22       | 0.000653                          | 0.000018                          | 0.282441                          | 0.000025      | 0.282441                             | -12.2                     | -11.7                     | 1118                 | 1819                            | -1.00           |  |
| 08YR05-19            | 24       | 0.001049                          | 0.000029                          | 0.282469                          | 0.000028      | 0.282469                             | -11.2                     | -10.6                     | 1080                 | 1755                            | -1.00           |  |
| 08YR05-20            | 103      | 0.014405                          | 0.000546                          | 0.282485                          | 0.000029      | 0.282484                             | -10.6                     | -8.4                      | 1072                 | 1671                            | -0.98           |  |
| 08YR05-22            | 87       | 0.014963                          | 0.000574                          | 0.282863                          | 0.000033      | 0.282862                             | 2.8                       | 4.7                       | 545                  | 828                             | -0.98           |  |
| 08YR05-25            | 55       | 0.009917                          | 0.000423                          | 0.282468                          | 0.000077      | 0.282468                             | -11.2                     | -10.0                     | 1092                 | 1738                            | -0.99           |  |
| 08YR05-26            | 45       | 0.025995                          | 0.001176                          | 0.282736                          | 0.000028      | 0.282735                             | -1.7                      | -0.8                      | 735                  | 1142                            | -0.97           |  |
| 08YR05-27            | 74       | 0.005095                          | 0.000188                          | 0.282147                          | 0.000036      | 0.282147                             | -22.6                     | -20.9                     | 1524                 | 2442                            | -0.99           |  |
| 08YR05-28            | 104      | 0.015403                          | 0.000564                          | 0.282705                          | 0.000049      | 0.282703                             | -2.8                      | -0.6                      | 767                  | 1176                            | -0.98           |  |
| 08YR05-29            | 434      | 0.005390                          | 0.000209                          | 0.281861                          | 0.000041      | 0.281859                             | -32.7                     | -23.1                     | 1914                 | 2849                            | -0.99           |  |
| 08YR05-30            | 75       | 0.029990                          | 0.001285                          | 0.282725                          | 0.000049      | 0.282723                             | -2.1                      | -0.5                      | 752                  | 1149                            | -0.96           |  |
| 08YR05-31            | 24       | 0.000838                          | 0.000023                          | 0.282414                          | 0.000039      | 0.282414                             | -13.1                     | -12.6                     | 1154                 | 1877                            | -1.00           |  |
| 08YR05-32            | 23       | 0.000670                          | 0.000018                          | 0.282422                          | 0.000048      | 0.282422                             | -12.8                     | -12.3                     | 1143                 | 1860                            | -1.00           |  |
| 08YR05-34            | 100      | 0.012966                          | 0.000504                          | 0.282540                          | 0.000029      | 0.282539                             | -8.7                      | -6.5                      | 995                  | 1549                            | -0.98           |  |
| 08YR05-36            | 91       | 0.011851                          | 0.000441                          | 0.282805                          | 0.000043      | 0.282804                             | 0.7                       | 2.7                       | 625                  | 957                             | -0.99           |  |
| 08YR05-42            | 58       | 0.004117                          | 0.000173                          | 0.282465                          | 0.000025      | 0.282465                             | -11.3                     | -10.0                     | 1088                 | 1741                            | -0.99           |  |
| 08YR05-43            | 24       | 0.000908                          | 0.000028                          | 0.282500                          | 0.000027      | 0.282500                             | -10.1                     | -9.5                      | 1037                 | 1685                            | -1.00           |  |
| 08YR05-46            | 124      | 0.017376                          | 0.000761                          | 0.282418                          | 0.000036      | 0.282416                             | -13.0                     | -10.3                     | 1171                 | 1808                            | -0.98           |  |
| 08YR05-48            | 38       | 0.005826                          | 0.000232                          | 0.282487                          | 0.000026      | 0.282486                             | -10.6                     | -9.7                      | 1061                 | 1706                            | -0.99           |  |
| 08YR05-50            | 22       | 0.005456                          | 0.000188                          | 0.282173                          | 0.000045      | 0.282173                             | -21.6                     | -21.2                     | 1489                 | 2417                            | -0.99           |  |
| 08YR05-51            | 22       | 0.000781                          | 0.000021                          | 0.282393                          | 0.000030      | 0.282393                             | -13.9                     | -13.4                     | 1183                 | 1926                            | -1.00           |  |
| 08YR05-53            | 25       | 0.000921                          | 0.000029                          | 0.282481                          | 0.000030      | 0.282481                             | -10.8                     | -10.2                     | 1063                 | 1727                            | -1.00           |  |
| 08YR05-55            | 46       | 0.023711                          | 0.000909                          | 0.282479                          | 0.000036      | 0.282479                             | -10.8                     | -9.8                      | 1090                 | 1719                            | -0.97           |  |
| 08YR05-56            | 21       | 0.003071                          | 0.000105                          | 0.282683                          | 0.000024      | 0.282683                             | -3.6                      | -3.2                      | 788                  | 1276                            | -1.00           |  |
| 08YR05-57            | 823      | 0.013134                          | 0.000534                          | 0.282095                          | 0.000044      | 0.282087                             | -24.4                     | -6.3                      | 1609                 | 2095                            | -0.98           |  |
| 08YR05-58            | 93       | 0.011716                          | 0.000450                          | 0.282858                          | 0.000037      | 0.282857                             | 2.6                       | 4.6                       | 550                  | 835                             | -0.99           |  |
| 08YR05-60            | 89       | 0.008388                          | 0.000348                          | 0.282485                          | 0.000032      | 0.282484                             | -10.6                     | -8.7                      | 1067                 | 1679                            | -0.99           |  |
| <b>Sample 10YR06</b> |          |                                   |                                   |                                   |               |                                      |                           |                           |                      |                                 |                 |  |
| 10YR06-01            | 96       | 0.032327                          | 0.000797                          | 0.282722                          | 0.000038      | 0.282721                             | -2.2                      | -0.1                      | 746                  | 1141                            | -0.98           |  |
| 10YR06-02            | 26       | 0.007777                          | 0.000179                          | 0.282676                          | 0.000041      | 0.282676                             | -3.8                      | -3.3                      | 798                  | 1288                            | -0.99           |  |
| 10YR06-03            | 20       | 0.000292                          | 0.000006                          | 0.282631                          | 0.000033      | 0.282631                             | -5.4                      | -5.0                      | 856                  | 1392                            | -1.00           |  |
| 10YR06-04            | 23       | 0.016451                          | 0.000548                          | 0.282675                          | 0.000034      | 0.282674                             | -3.9                      | -3.4                      | 808                  | 1293                            | -0.98           |  |
| 10YR06-05            | 105      | 0.013486                          | 0.000352                          | 0.282731                          | 0.000034      | 0.282730                             | -1.9                      | 0.4                       | 726                  | 1115                            | -0.99           |  |
| 10YR06-06            | 116      | 0.020304                          | 0.000522                          | 0.282754                          | 0.000032      | 0.282753                             | -1.1                      | 1.5                       | 696                  | 1056                            | -0.98           |  |
| 10YR06-07            | 23       | 0.004424                          | 0.000109                          | 0.282652                          | 0.000033      | 0.282652                             | -4.7                      | -4.2                      | 831                  | 1344                            | -1.00           |  |
| 10YR06-08            | 98       | 0.017857                          | 0.000462                          | 0.282725                          | 0.000034      | 0.282724                             | -2.1                      | 0.0                       | 736                  | 1133                            | -0.99           |  |
| 10YR06-09            | 102      | 0.036627                          | 0.001071                          | 0.282818                          | 0.000037      | 0.282816                             | 1.2                       | 3.4                       | 616                  | 922                             | -0.97           |  |
| 10YR06-10            | 99       | 0.023129                          | 0.000581                          | 0.282762                          | 0.000045      | 0.282760                             | -0.8                      | 1.3                       | 687                  | 1050                            | -0.98           |  |
| 10YR06-11            | 58       | 0.046786                          | 0.001519                          | 0.282911                          | 0.000043      | 0.282909                             | 4.4                       | 5.7                       | 491                  | 740                             | -0.95           |  |
| 10YR06-13            | 24       | 0.009256                          | 0.000211                          | 0.282681                          | 0.000033      | 0.282681                             | -3.7                      | -3.1                      | 792                  | 1278                            | -0.99           |  |
| 10YR06-14            | 87       | 0.012987                          | 0.000335                          | 0.282784                          | 0.000039      | 0.282783                             | -0.1                      | 1.9                       | 652                  | 1007                            | -0.99           |  |
| 10YR06-15            | 61       | 0.019202                          | 0.000575                          | 0.282922                          | 0.000042      | 0.282922                             | 4.9                       | 6.2                       | 462                  | 709                             | -0.98           |  |
| 10YR06-16            | 25       | 0.005680                          | 0.000145                          | 0.282641                          | 0.000032      | 0.282640                             | -5.1                      | -4.6                      | 847                  | 1368                            | -1.00           |  |
| 10YR06-17            | 135      | 0.023090                          | 0.000659                          | 0.282394                          | 0.000035      | 0.282392                             | -13.8                     | -10.9                     | 1202                 | 1855                            | -0.98           |  |
| 10YR06-18            | 97       | 0.026603                          | 0.000654                          | 0.282729                          | 0.000038      | 0.282727                             | -2.0                      | 0.1                       | 735                  | 1126                            | -0.98           |  |
| 10YR06-19            | 50       | 0.012101                          | 0.000297                          | 0.282836                          | 0.000034      | 0.282835                             | 1.8                       | 2.9                       | 579                  | 912                             | -0.99           |  |
| 10YR06-20            | 97       | 0.036306                          | 0.000889                          | 0.282754                          | 0.000041      | 0.282752                             | -1.1                      | 1.0                       | 704                  | 1070                            | -0.97           |  |
| 10YR06-21            | 61       | 0.009336                          | 0.000288                          | 0.282840                          | 0.000037      | 0.282840                             | 2.0                       | 3.3                       | 573                  | 895                             | -0.99           |  |
| 10YR06-22            | 445      | 0.012397                          | 0.000321                          | 0.281472                          | 0.000039      | 0.281469                             | -46.4                     | -36.7                     | 2445                 | 3700                            | -0.99           |  |
| 10YR06-23            | 20       | 0.006085                          | 0.000146                          | 0.282605                          | 0.000033      | 0.282605                             | -6.3                      | -5.9                      | 895                  | 1450                            | -1.00           |  |
| 10YR06-24            | 89       | 0.009636                          | 0.000257                          | 0.282779                          | 0.000035      | 0.282779                             | -0.2                      | 1.8                       | 657                  | 1014                            | -0.99           |  |
| 10YR06-25            | 81       | 0.012344                          | 0.000325                          | 0.282767                          | 0.000033      | 0.282766                             | -0.6                      | 1.1                       | 675                  | 1048                            | -0.99           |  |
| 10YR06-26            | 46       | 0.000127                          | 0.000003                          | 0.282583                          | 0.000035      | 0.282583                             | -7.1                      | -6.1                      | 922                  | 1483                            | -1.00           |  |

**Table DR4 (Continued)**

| Analysis spot        | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^c$ (Ma) | fLu/Hf |
|----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|------------------------|--------|
|                      |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                        |        |
| 10YR06-27            | 26       | 0.012038                          | 0.000300                          | 0.282933                          | 0.000031      | 0.282933                             | 5.2   | 5.8                       | 444                       | 707                  | -0.99                  |        |
| 10YR06-28            | 100      | 0.036800                          | 0.000877                          | 0.282720                          | 0.000034      | 0.282718                             | -2.3  | -0.1                      | 752                       | 1145                 | -0.97                  |        |
| 10YR06-30            | 99       | 0.018611                          | 0.000465                          | 0.282736                          | 0.000034      | 0.282736                             | -1.7  | 0.4                       | 720                       | 1106                 | -0.99                  |        |
| 10YR06-31            | 86       | 0.011731                          | 0.000310                          | 0.282761                          | 0.000039      | 0.282760                             | -0.9  | 1.0                       | 684                       | 1059                 | -0.99                  |        |
| 10YR06-32            | 100      | 0.040494                          | 0.000993                          | 0.282745                          | 0.000042      | 0.282743                             | -1.4  | 0.7                       | 718                       | 1089                 | -0.97                  |        |
| 10YR06-33            | 35       | 0.001352                          | 0.000027                          | 0.282671                          | 0.000042      | 0.282671                             | -4.0  | -3.3                      | 802                       | 1293                 | -1.00                  |        |
| 10YR06-34            | 24       | 0.015652                          | 0.000381                          | 0.282597                          | 0.000034      | 0.282596                             | -6.7  | -6.1                      | 913                       | 1468                 | -0.99                  |        |
| 10YR06-35            | 19       | 0.038569                          | 0.001133                          | 0.282643                          | 0.000038      | 0.282642                             | -5.0  | -4.6                      | 866                       | 1368                 | -0.97                  |        |
| 10YR06-36            | 46       | 0.017800                          | 0.000473                          | 0.282851                          | 0.000033      | 0.282851                             | 2.3   | 3.4                       | 560                       | 879                  | -0.99                  |        |
| 10YR06-37            | 64       | 0.066454                          | 0.001552                          | 0.282878                          | 0.000056      | 0.282876                             | 3.3   | 4.6                       | 539                       | 812                  | -0.95                  |        |
| 10YR06-38            | 74       | 0.025183                          | 0.000618                          | 0.282814                          | 0.000035      | 0.282813                             | 1.0   | 2.6                       | 615                       | 948                  | -0.98                  |        |
| 10YR06-39            | 22       | 0.005996                          | 0.000153                          | 0.282629                          | 0.000031      | 0.282629                             | -5.5  | -5.0                      | 862                       | 1396                 | -1.00                  |        |
| 10YR06-40            | 96       | 0.037125                          | 0.000898                          | 0.282744                          | 0.000045      | 0.282742                             | -1.5  | 0.6                       | 718                       | 1094                 | -0.97                  |        |
| 10YR06-41            | 96       | 0.024303                          | 0.000595                          | 0.282738                          | 0.000036      | 0.282736                             | -1.7  | 0.4                       | 721                       | 1106                 | -0.98                  |        |
| 10YR06-42            | 18       | 0.015042                          | 0.000390                          | 0.282746                          | 0.000037      | 0.282746                             | -1.4  | -1.0                      | 705                       | 1135                 | -0.99                  |        |
| 10YR06-43            | 102      | 0.022951                          | 0.000562                          | 0.282747                          | 0.000036      | 0.282746                             | -1.3  | 0.9                       | 708                       | 1081                 | -0.98                  |        |
| 10YR06-44            | 89       | 0.013470                          | 0.000357                          | 0.282810                          | 0.000029      | 0.282810                             | 0.9   | 2.9                       | 615                       | 945                  | -0.99                  |        |
| 10YR06-45            | 22       | 0.006194                          | 0.000165                          | 0.282667                          | 0.000034      | 0.282667                             | -4.2  | -3.7                      | 811                       | 1311                 | -1.00                  |        |
| 10YR06-46            | 107      | 0.020647                          | 0.000507                          | 0.282737                          | 0.000032      | 0.282736                             | -1.7  | 0.7                       | 720                       | 1099                 | -0.98                  |        |
| 10YR06-47            | 26       | 0.001879                          | 0.000042                          | 0.282554                          | 0.000030      | 0.282554                             | -8.2  | -7.6                      | 964                       | 1563                 | -1.00                  |        |
| 10YR06-48            | 86       | 0.010329                          | 0.000273                          | 0.282830                          | 0.000034      | 0.282830                             | 1.6   | 3.5                       | 586                       | 901                  | -0.99                  |        |
| 10YR06-49            | 43       | 0.015275                          | 0.000363                          | 0.282804                          | 0.000031      | 0.282804                             | 0.7   | 1.6                       | 625                       | 989                  | -0.99                  |        |
| 10YR06-50            | 50       | 0.008212                          | 0.000180                          | 0.282788                          | 0.000032      | 0.282788                             | 0.1   | 1.2                       | 644                       | 1021                 | -0.99                  |        |
| 10YR06-51            | 150      | 0.046037                          | 0.001342                          | 0.282432                          | 0.000039      | 0.282428                             | -12.5 | -9.3                      | 1170                      | 1766                 | -0.96                  |        |
| 10YR06-52            | 26       | 0.001298                          | 0.000027                          | 0.282475                          | 0.000038      | 0.282475                             | -10.9 | -10.4                     | 1070                      | 1739                 | -1.00                  |        |
| 10YR06-53            | 85       | 0.018027                          | 0.000442                          | 0.282811                          | 0.000035      | 0.282811                             | 0.9   | 2.8                       | 615                       | 945                  | -0.99                  |        |
| 10YR06-54            | 24       | 0.006775                          | 0.000156                          | 0.282707                          | 0.000037      | 0.282707                             | -2.8  | -2.2                      | 755                       | 1219                 | -1.00                  |        |
| 10YR06-55            | 25       | 0.012661                          | 0.000254                          | 0.282712                          | 0.000032      | 0.282711                             | -2.6  | -2.0                      | 751                       | 1208                 | -0.99                  |        |
| 10YR06-56            | 26       | 0.000485                          | 0.000011                          | 0.282495                          | 0.000035      | 0.282495                             | -10.3 | -9.7                      | 1044                      | 1695                 | -1.00                  |        |
| 10YR06-57            | 24       | 0.010041                          | 0.000264                          | 0.282609                          | 0.000035      | 0.282609                             | -6.2  | -5.7                      | 893                       | 1441                 | -0.99                  |        |
| 10YR06-58            | 37       | 0.006437                          | 0.000140                          | 0.282627                          | 0.000035      | 0.282627                             | -5.6  | -4.8                      | 865                       | 1392                 | -1.00                  |        |
| 10YR06-59            | 82       | 0.015564                          | 0.000389                          | 0.282810                          | 0.000033      | 0.282809                             | 0.9   | 2.7                       | 617                       | 950                  | -0.99                  |        |
| 10YR06-60            | 60       | 0.030799                          | 0.000918                          | 0.282818                          | 0.000037      | 0.282817                             | 1.2   | 2.5                       | 613                       | 947                  | -0.97                  |        |
| <b>Sample 10XB10</b> |          |                                   |                                   |                                   |               |                                      |       |                           |                           |                      |                        |        |
| 10XB10-01            | 45       | 0.028831                          | 0.000903                          | 0.282663                          | 0.000032      | 0.282662                             | -4.3  | -3.3                      | 832                       | 1306                 | -0.97                  |        |
| 10XB10-03            | 45       | 0.026837                          | 0.000842                          | 0.282681                          | 0.000031      | 0.282680                             | -3.7  | -2.7                      | 805                       | 1266                 | -0.97                  |        |
| 10XB10-05            | 87       | 0.019134                          | 0.000511                          | 0.282829                          | 0.000036      | 0.282828                             | 1.6   | 3.5                       | 592                       | 904                  | -0.98                  |        |
| 10XB10-06            | 98       | 0.052538                          | 0.001538                          | 0.282620                          | 0.000035      | 0.282617                             | -5.8  | -3.7                      | 907                       | 1374                 | -0.95                  |        |
| 10XB10-08            | 135      | 0.047008                          | 0.001471                          | 0.282642                          | 0.000032      | 0.282638                             | -5.1  | -2.2                      | 875                       | 1303                 | -0.96                  |        |
| 10XB10-10            | 43       | 0.014390                          | 0.000449                          | 0.282664                          | 0.000027      | 0.282664                             | -4.3  | -3.3                      | 820                       | 1304                 | -0.99                  |        |
| 10XB10-12            | 47       | 0.035292                          | 0.001106                          | 0.282693                          | 0.000032      | 0.282692                             | -3.2  | -2.2                      | 794                       | 1237                 | -0.97                  |        |
| 10XB10-13            | 23       | 0.046251                          | 0.001242                          | 0.282638                          | 0.000032      | 0.282638                             | -5.2  | -4.7                      | 875                       | 1376                 | -0.96                  |        |
| 10XB10-14            | 57       | 0.030113                          | 0.000917                          | 0.282682                          | 0.000039      | 0.282681                             | -3.7  | -2.4                      | 806                       | 1257                 | -0.97                  |        |
| 10XB10-15            | 132      | 0.074484                          | 0.002186                          | 0.282612                          | 0.000043      | 0.282607                             | -6.1  | -3.4                      | 935                       | 1376                 | -0.93                  |        |
| 10XB10-16            | 119      | 0.045452                          | 0.001413                          | 0.282546                          | 0.000042      | 0.282542                             | -8.5  | -5.9                      | 1011                      | 1529                 | -0.96                  |        |
| 10XB10-17            | 84       | 0.009769                          | 0.000280                          | 0.282830                          | 0.000033      | 0.282830                             | 1.6   | 3.4                       | 587                       | 903                  | -0.99                  |        |
| 10XB10-19            | 93       | 0.015423                          | 0.000431                          | 0.282820                          | 0.000033      | 0.282820                             | 1.3   | 3.3                       | 603                       | 920                  | -0.99                  |        |
| 10XB10-20            | 129      | 0.049428                          | 0.001451                          | 0.282541                          | 0.000032      | 0.282537                             | -8.6  | -5.9                      | 1018                      | 1534                 | -0.96                  |        |
| 10XB10-21            | 89       | 0.017532                          | 0.000492                          | 0.282777                          | 0.000032      | 0.282776                             | -0.3  | 1.7                       | 664                       | 1021                 | -0.99                  |        |
| 10XB10-22            | 88       | 0.014698                          | 0.000414                          | 0.282822                          | 0.000035      | 0.282821                             | 1.3   | 3.2                       | 601                       | 920                  | -0.99                  |        |
| 10XB10-23            | 45       | 0.024779                          | 0.000792                          | 0.282686                          | 0.000031      | 0.282686                             | -3.5  | -2.5                      | 797                       | 1253                 | -0.98                  |        |
| 10XB10-24            | 133      | 0.056105                          | 0.001784                          | 0.282637                          | 0.000034      | 0.282632                             | -5.2  | -2.4                      | 890                       | 1318                 | -0.95                  |        |
| 10XB10-25            | 90       | 0.030087                          | 0.000806                          | 0.282802                          | 0.000038      | 0.282801                             | 0.6   | 2.6                       | 634                       | 964                  | -0.98                  |        |
| 10XB10-26            | 90       | 0.014337                          | 0.000406                          | 0.282865                          | 0.000035      | 0.282865                             | 2.8   | 4.8                       | 539                       | 820                  | -0.99                  |        |
| 10XB10-27            | 87       | 0.015294                          | 0.000425                          | 0.282823                          | 0.000036      | 0.282823                             | 1.4   | 3.3                       | 599                       | 917                  | -0.99                  |        |
| 10XB10-28            | 90       | 0.010890                          | 0.000311                          | 0.282813                          | 0.000028      | 0.282812                             | 1.0   | 3.0                       | 612                       | 939                  | -0.99                  |        |
| 10XB10-29            | 123      | 0.025441                          | 0.000819                          | 0.282576                          | 0.000036      | 0.282574                             | -7.4  | -4.7                      | 952                       | 1455                 | -0.98                  |        |
| 10XB10-30            | 74       | 0.013208                          | 0.000374                          | 0.282855                          | 0.000038      | 0.282854                             | 2.5   | 4.1                       | 554                       | 854                  | -0.99                  |        |
| 10XB10-31            | 121      | 0.021687                          | 0.000686                          | 0.282566                          | 0.000038      | 0.282565                             | -7.7  | -5.1                      | 963                       | 1478                 | -0.98                  |        |

**Table DR4 (Continued)**

| Analysis spot         | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{c}}$ (Ma) | fLu/Hf |
|-----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|---------------------------------|--------|
|                       |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                                 |        |
| 10XB10-32             | 48       | 0.029597                          | 0.000950                          | 0.282687                          | 0.000031      | 0.282686                             | -3.5  | -2.4                      | 800                       | 1252                 | -0.97                           |        |
| 10XB10-33             | 49       | 0.030514                          | 0.000972                          | 0.282694                          | 0.000031      | 0.282693                             | -3.2  | -2.2                      | 790                       | 1234                 | -0.97                           |        |
| 10XB10-34             | 82       | 0.015605                          | 0.000445                          | 0.282803                          | 0.000033      | 0.282802                             | 0.6   | 2.4                       | 627                       | 967                  | -0.99                           |        |
| 10XB10-37             | 45       | 0.031715                          | 0.001041                          | 0.282722                          | 0.000037      | 0.282721                             | -2.2  | -1.3                      | 751                       | 1173                 | -0.97                           |        |
| 10XB10-38             | 24       | 0.047727                          | 0.001232                          | 0.282498                          | 0.000040      | 0.282497                             | -10.2 | -9.6                      | 1073                      | 1691                 | -0.96                           |        |
| 10XB10-39             | 58       | 0.022609                          | 0.000733                          | 0.282738                          | 0.000036      | 0.282737                             | -1.7  | -0.4                      | 724                       | 1130                 | -0.98                           |        |
| 10XB10-40             | 22       | 0.063968                          | 0.001616                          | 0.282591                          | 0.000043      | 0.282590                             | -6.9  | -6.4                      | 951                       | 1484                 | -0.95                           |        |
| 10XB10-41             | 45       | 0.032402                          | 0.001058                          | 0.282703                          | 0.000035      | 0.282702                             | -2.9  | -1.9                      | 779                       | 1216                 | -0.97                           |        |
| 10XB10-43             | 47       | 0.035645                          | 0.001158                          | 0.282700                          | 0.000029      | 0.282699                             | -3.0  | -2.0                      | 785                       | 1223                 | -0.97                           |        |
| 10XB10-45             | 46       | 0.028430                          | 0.000947                          | 0.282702                          | 0.000035      | 0.282701                             | -2.9  | -2.0                      | 778                       | 1219                 | -0.97                           |        |
| 10XB10-47             | 76       | 0.011991                          | 0.000352                          | 0.282800                          | 0.000032      | 0.282799                             | 0.5   | 2.2                       | 630                       | 977                  | -0.99                           |        |
| 10XB10-48             | 21       | 0.020948                          | 0.000566                          | 0.282424                          | 0.000030      | 0.282423                             | -12.8 | -12.3                     | 1157                      | 1859                 | -0.98                           |        |
| 10XB10-49             | 39       | 0.034711                          | 0.001074                          | 0.282680                          | 0.000032      | 0.282679                             | -3.7  | -2.9                      | 811                       | 1272                 | -0.97                           |        |
| 10XB10-50             | 45       | 0.032811                          | 0.001113                          | 0.282680                          | 0.000036      | 0.282679                             | -3.7  | -2.7                      | 812                       | 1268                 | -0.97                           |        |
| 10XB10-51             | 80       | 0.016144                          | 0.000549                          | 0.282807                          | 0.000040      | 0.282806                             | 0.8   | 2.5                       | 623                       | 958                  | -0.98                           |        |
| 10XB10-52             | 89       | 0.013228                          | 0.000446                          | 0.282794                          | 0.000048      | 0.282793                             | 0.3   | 2.3                       | 640                       | 983                  | -0.99                           |        |
| 10XB10-53             | 46       | 0.035294                          | 0.001138                          | 0.282671                          | 0.000035      | 0.282670                             | -4.0  | -3.0                      | 826                       | 1288                 | -0.97                           |        |
| 10XB10-54             | 92       | 0.034328                          | 0.000989                          | 0.282811                          | 0.000038      | 0.282809                             | 0.9   | 2.9                       | 625                       | 944                  | -0.97                           |        |
| 10XB10-55             | 87       | 0.008939                          | 0.000281                          | 0.282814                          | 0.000036      | 0.282814                             | 1.0   | 3.0                       | 608                       | 937                  | -0.99                           |        |
| 10XB10-56             | 91       | 0.009556                          | 0.000287                          | 0.282826                          | 0.000034      | 0.282826                             | 1.5   | 3.5                       | 592                       | 908                  | -0.99                           |        |
| 10XB10-57             | 136      | 0.067027                          | 0.002145                          | 0.282574                          | 0.000040      | 0.282569                             | -7.5  | -4.6                      | 989                       | 1459                 | -0.94                           |        |
| 10XB10-59             | 77       | 0.013915                          | 0.000457                          | 0.282806                          | 0.000032      | 0.282805                             | 0.7   | 2.4                       | 624                       | 964                  | -0.99                           |        |
| 10XB10-61             | 89       | 0.015054                          | 0.000485                          | 0.282829                          | 0.000036      | 0.282828                             | 1.6   | 3.5                       | 591                       | 903                  | -0.99                           |        |
| 10XB10-62             | 87       | 0.020000                          | 0.000579                          | 0.282815                          | 0.000035      | 0.282814                             | 1.1   | 3.0                       | 613                       | 937                  | -0.98                           |        |
| 10XB10-63             | 50       | 0.025394                          | 0.000808                          | 0.282676                          | 0.000035      | 0.282675                             | -3.9  | -2.8                      | 812                       | 1274                 | -0.98                           |        |
| 10XB10-65             | 59       | 0.015318                          | 0.000529                          | 0.282811                          | 0.000037      | 0.282811                             | 0.9   | 2.2                       | 617                       | 962                  | -0.98                           |        |
| 10XB10-66             | 48       | 0.040851                          | 0.001299                          | 0.282702                          | 0.000033      | 0.282701                             | -2.9  | -1.9                      | 785                       | 1218                 | -0.96                           |        |
| 10XB10-68             | 47       | 0.032239                          | 0.001106                          | 0.282696                          | 0.000034      | 0.282695                             | -3.1  | -2.1                      | 790                       | 1231                 | -0.97                           |        |
| 10XB10-72             | 112      | 0.025941                          | 0.000828                          | 0.282547                          | 0.000041      | 0.282545                             | -8.4  | -6.0                      | 993                       | 1527                 | -0.98                           |        |
| 10XB10-75             | 49       | 0.031398                          | 0.001066                          | 0.282699                          | 0.000032      | 0.282698                             | -3.0  | -2.0                      | 785                       | 1223                 | -0.97                           |        |
| 10XB10-76             | 51       | 0.028300                          | 0.000948                          | 0.282691                          | 0.000033      | 0.282690                             | -3.3  | -2.2                      | 794                       | 1240                 | -0.97                           |        |
| 10XB10-77             | 24       | 0.069534                          | 0.001706                          | 0.282578                          | 0.000042      | 0.282578                             | -7.3  | -6.8                      | 972                       | 1511                 | -0.95                           |        |
| 10XB10-78             | 25       | 0.020414                          | 0.000556                          | 0.282640                          | 0.000030      | 0.282640                             | -5.1  | -4.6                      | 857                       | 1370                 | -0.98                           |        |
| 10XB10-79             | 85       | 0.014122                          | 0.000396                          | 0.282835                          | 0.000035      | 0.282835                             | 1.8   | 3.7                       | 581                       | 891                  | -0.99                           |        |
| <b>Sample SLP1101</b> |          |                                   |                                   |                                   |               |                                      |       |                           |                           |                      |                                 |        |
| SLP1101-01            | 59       | 0.035681                          | 0.001007                          | 0.282745                          | 0.000024      | 0.282744                             | -1.4  | -0.1                      | 719                       | 1114                 | -0.97                           |        |
| SLP1101-02            | 54       | 0.048185                          | 0.001386                          | 0.282898                          | 0.000027      | 0.282897                             | 4.0   | 5.1                       | 507                       | 771                  | -0.96                           |        |
| SLP1101-03            | 34       | 0.042903                          | 0.001161                          | 0.282693                          | 0.000031      | 0.282693                             | -3.2  | -2.5                      | 795                       | 1245                 | -0.97                           |        |
| SLP1101-04            | 78       | 0.063710                          | 0.001589                          | 0.282712                          | 0.000029      | 0.282710                             | -2.6  | -0.9                      | 777                       | 1178                 | -0.95                           |        |
| SLP1101-05            | 43       | 0.024877                          | 0.000696                          | 0.282795                          | 0.000027      | 0.282795                             | 0.4   | 1.3                       | 642                       | 1009                 | -0.98                           |        |
| SLP1101-06            | 29       | 0.025194                          | 0.000701                          | 0.282085                          | 0.000026      | 0.282085                             | -24.7 | -24.1                     | 1630                      | 2609                 | -0.98                           |        |
| SLP1101-07            | 150      | 0.079282                          | 0.001531                          | 0.282471                          | 0.000028      | 0.282467                             | -11.1 | -7.9                      | 1119                      | 1678                 | -0.95                           |        |
| SLP1101-08            | 45       | 0.058588                          | 0.001639                          | 0.282859                          | 0.000028      | 0.282857                             | 2.6   | 3.6                       | 567                       | 865                  | -0.95                           |        |
| SLP1101-09            | 39       | 0.023332                          | 0.000546                          | 0.282381                          | 0.000034      | 0.282380                             | -14.3 | -13.4                     | 1216                      | 1944                 | -0.98                           |        |
| SLP1101-10            | 23       | 0.003405                          | 0.000065                          | 0.282740                          | 0.000028      | 0.282740                             | -1.6  | -1.1                      | 708                       | 1145                 | -1.00                           |        |
| SLP1101-12            | 149      | 0.046549                          | 0.001184                          | 0.282463                          | 0.000031      | 0.282460                             | -11.4 | -8.2                      | 1121                      | 1695                 | -0.96                           |        |
| SLP1101-13            | 46       | 0.026029                          | 0.000689                          | 0.282887                          | 0.000033      | 0.282886                             | 3.6   | 4.6                       | 513                       | 799                  | -0.98                           |        |
| SLP1101-14            | 55       | 0.106539                          | 0.002637                          | 0.282906                          | 0.000041      | 0.282903                             | 4.3   | 5.4                       | 513                       | 755                  | -0.92                           |        |
| SLP1101-15            | 78       | 0.019008                          | 0.000485                          | 0.282584                          | 0.000025      | 0.282584                             | -7.1  | -5.4                      | 932                       | 1462                 | -0.99                           |        |
| SLP1101-16            | 47       | 0.046658                          | 0.001638                          | 0.282839                          | 0.000025      | 0.282837                             | 1.9   | 2.9                       | 596                       | 910                  | -0.95                           |        |
| SLP1101-17            | 35       | 0.033962                          | 0.000865                          | 0.281906                          | 0.000032      | 0.281905                             | -31.1 | -30.3                     | 1884                      | 3002                 | -0.97                           |        |
| SLP1101-18            | 81       | 0.027143                          | 0.000734                          | 0.282534                          | 0.000026      | 0.282533                             | -8.9  | -7.1                      | 1009                      | 1575                 | -0.98                           |        |
| SLP1101-19            | 153      | 0.064284                          | 0.001928                          | 0.282461                          | 0.000031      | 0.282456                             | -11.4 | -8.2                      | 1146                      | 1701                 | -0.94                           |        |
| SLP1101-20            | 110      | 0.061151                          | 0.001881                          | 0.282836                          | 0.000028      | 0.282832                             | 1.8   | 4.1                       | 604                       | 882                  | -0.94                           |        |
| SLP1101-21            | 62       | 0.101883                          | 0.002487                          | 0.282791                          | 0.000039      | 0.282789                             | 0.2   | 1.5                       | 680                       | 1011                 | -0.93                           |        |
| SLP1101-22            | 35       | 0.021494                          | 0.000660                          | 0.282554                          | 0.000026      | 0.282554                             | -8.2  | -7.4                      | 978                       | 1557                 | -0.98                           |        |
| SLP1101-23            | 1094     | 0.060815                          | 0.001369                          | 0.282349                          | 0.000029      | 0.282321                             | -15.4 | 8.1                       | 1288                      | 1401                 | -0.96                           |        |
| SLP1101-24            | 145      | 0.047777                          | 0.001342                          | 0.282437                          | 0.000025      | 0.282433                             | -12.3 | -9.2                      | 1162                      | 1757                 | -0.96                           |        |
| SLP1101-25            | 36       | 0.004911                          | 0.000112                          | 0.282800                          | 0.000029      | 0.282800                             | 0.5   | 1.3                       | 626                       | 1001                 | -1.00                           |        |

**Table DR4 (Continued)**

| Analysis spot        | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{c}}$ (Ma) | fLu/Hf |  |
|----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|---------------------------------|--------|--|
|                      |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                                 |        |  |
| SLP1101-26           | 720      | 0.061433                          | 0.001756                          | 0.282281                          | 0.000032      | 0.282258                             | -17.8 | -2.6                      | 1397                      | 1781                 | -0.95                           |        |  |
| SLP1101-27           | 143      | 0.057565                          | 0.001794                          | 0.282503                          | 0.000042      | 0.282498                             | -10.0 | -7.0                      | 1082                      | 1613                 | -0.95                           |        |  |
| SLP1101-28           | 45       | 0.051424                          | 0.002039                          | 0.282819                          | 0.000042      | 0.282817                             | 1.2   | 2.1                       | 631                       | 957                  | -0.94                           |        |  |
| SLP1101-29           | 576      | 0.004943                          | 0.000119                          | 0.282146                          | 0.000021      | 0.282145                             | -22.6 | -9.8                      | 1522                      | 2124                 | -1.00                           |        |  |
| SLP1101-30           | 58       | 0.045475                          | 0.001261                          | 0.282603                          | 0.000037      | 0.282601                             | -6.5  | -5.2                      | 926                       | 1436                 | -0.96                           |        |  |
| SLP1101-31           | 54       | 0.087737                          | 0.002620                          | 0.282924                          | 0.000035      | 0.282921                             | 4.9   | 6.0                       | 486                       | 716                  | -0.92                           |        |  |
| SLP1101-32           | 153      | 0.055830                          | 0.001416                          | 0.282262                          | 0.000029      | 0.282258                             | -18.5 | -15.3                     | 1412                      | 2144                 | -0.96                           |        |  |
| SLP1101-33           | 158      | 0.049221                          | 0.001348                          | 0.282427                          | 0.000037      | 0.282423                             | -12.6 | -9.3                      | 1176                      | 1771                 | -0.96                           |        |  |
| SLP1101-34           | 91       | 0.046828                          | 0.001256                          | 0.282934                          | 0.000025      | 0.282932                             | 5.3   | 7.2                       | 453                       | 666                  | -0.96                           |        |  |
| SLP1101-35           | 48       | 0.065225                          | 0.002042                          | 0.282882                          | 0.000036      | 0.282880                             | 3.4   | 4.4                       | 540                       | 813                  | -0.94                           |        |  |
| SLP1101-36           | 48       | 0.056026                          | 0.001488                          | 0.282848                          | 0.000029      | 0.282847                             | 2.2   | 3.3                       | 580                       | 887                  | -0.96                           |        |  |
| SLP1101-37           | 107      | 0.043707                          | 0.001325                          | 0.282822                          | 0.000035      | 0.282819                             | 1.3   | 3.6                       | 615                       | 913                  | -0.96                           |        |  |
| SLP1101-38           | 79       | 0.046298                          | 0.001255                          | 0.282770                          | 0.000028      | 0.282768                             | -0.5  | 1.2                       | 687                       | 1045                 | -0.96                           |        |  |
| SLP1101-39           | 84       | 0.072455                          | 0.002320                          | 0.282800                          | 0.000045      | 0.282797                             | 0.5   | 2.3                       | 663                       | 978                  | -0.93                           |        |  |
| SLP1101-40           | 59       | 0.083813                          | 0.002239                          | 0.282866                          | 0.000028      | 0.282864                             | 2.9   | 4.1                       | 565                       | 842                  | -0.93                           |        |  |
| SLP1101-42           | 37       | 0.013422                          | 0.000399                          | 0.282491                          | 0.000029      | 0.282491                             | -10.4 | -9.6                      | 1059                      | 1697                 | -0.99                           |        |  |
| SLP1101-43           | 60       | 0.082563                          | 0.002159                          | 0.282867                          | 0.000033      | 0.282865                             | 2.9   | 4.2                       | 562                       | 839                  | -0.94                           |        |  |
| SLP1101-45           | 30       | 0.023598                          | 0.000636                          | 0.282469                          | 0.000029      | 0.282469                             | -11.2 | -10.5                     | 1097                      | 1752                 | -0.98                           |        |  |
| SLP1101-46           | 29       | 0.002483                          | 0.000061                          | 0.282635                          | 0.000023      | 0.282635                             | -5.3  | -4.7                      | 852                       | 1378                 | -1.00                           |        |  |
| SLP1101-47           | 39       | 0.016963                          | 0.000465                          | 0.282490                          | 0.000024      | 0.282489                             | -10.4 | -9.6                      | 1063                      | 1699                 | -0.99                           |        |  |
| SLP1101-48           | 38       | 0.018350                          | 0.000496                          | 0.282466                          | 0.000025      | 0.282465                             | -11.3 | -10.5                     | 1097                      | 1754                 | -0.99                           |        |  |
| SLP1101-49           | 28       | 0.018376                          | 0.000554                          | 0.282802                          | 0.000029      | 0.282801                             | 0.6   | 1.2                       | 631                       | 1003                 | -0.98                           |        |  |
| SLP1101-50           | 104      | 0.048131                          | 0.001305                          | 0.282858                          | 0.000029      | 0.282856                             | 2.6   | 4.8                       | 562                       | 831                  | -0.96                           |        |  |
| SLP1101-51           | 59       | 0.004710                          | 0.000126                          | 0.282570                          | 0.000021      | 0.282570                             | -7.6  | -6.3                      | 943                       | 1504                 | -1.00                           |        |  |
| SLP1101-52           | 56       | 0.037421                          | 0.001062                          | 0.282603                          | 0.000032      | 0.282602                             | -6.4  | -5.2                      | 920                       | 1434                 | -0.97                           |        |  |
| SLP1101-53           | 18       | 0.004825                          | 0.000115                          | 0.282494                          | 0.000026      | 0.282493                             | -10.3 | -9.9                      | 1048                      | 1703                 | -1.00                           |        |  |
| SLP1101-54           | 53       | 0.020323                          | 0.000650                          | 0.282882                          | 0.000026      | 0.282881                             | 3.4   | 4.6                       | 520                       | 807                  | -0.98                           |        |  |
| SLP1101-55           | 33       | 0.001075                          | 0.000020                          | 0.282569                          | 0.000023      | 0.282569                             | -7.6  | -6.9                      | 942                       | 1524                 | -1.00                           |        |  |
| SLP1101-56           | 143      | 0.055969                          | 0.001490                          | 0.282354                          | 0.000030      | 0.282350                             | -15.3 | -12.2                     | 1285                      | 1945                 | -0.96                           |        |  |
| SLP1101-57           | 17       | 0.009631                          | 0.000188                          | 0.282610                          | 0.000028      | 0.282610                             | -6.2  | -5.8                      | 890                       | 1442                 | -0.99                           |        |  |
| SLP1101-58           | 414      | 0.035152                          | 0.001006                          | 0.282420                          | 0.000033      | 0.282412                             | -12.9 | -4.0                      | 1176                      | 1631                 | -0.97                           |        |  |
| SLP1101-59           | 78       | 0.021830                          | 0.000697                          | 0.282686                          | 0.000021      | 0.282685                             | -3.5  | -1.8                      | 795                       | 1233                 | -0.98                           |        |  |
| SLP1101-60           | 48       | 0.039725                          | 0.001151                          | 0.282920                          | 0.000037      | 0.282919                             | 4.8   | 5.8                       | 472                       | 723                  | -0.97                           |        |  |
| SLP1101-61           | 56       | 0.031023                          | 0.000836                          | 0.282812                          | 0.000027      | 0.282811                             | 1.0   | 2.2                       | 621                       | 963                  | -0.98                           |        |  |
| SLP1101-62           | 36       | 0.017269                          | 0.000506                          | 0.282802                          | 0.000028      | 0.282802                             | 0.6   | 1.4                       | 630                       | 998                  | -0.98                           |        |  |
| SLP1101-63           | 37       | 0.035787                          | 0.000995                          | 0.282152                          | 0.000029      | 0.282151                             | -22.4 | -21.6                     | 1550                      | 2457                 | -0.97                           |        |  |
| SLP1101-64           | 681      | 0.009969                          | 0.000250                          | 0.281800                          | 0.000027      | 0.281797                             | -34.8 | -19.8                     | 1998                      | 2828                 | -0.99                           |        |  |
| SLP1101-65           | 20       | 0.015674                          | 0.000470                          | 0.282805                          | 0.000029      | 0.282804                             | 0.7   | 1.1                       | 625                       | 1001                 | -0.99                           |        |  |
| SLP1101-66           | 136      | 0.043828                          | 0.001280                          | 0.282415                          | 0.000055      | 0.282412                             | -13.1 | -10.2                     | 1191                      | 1811                 | -0.96                           |        |  |
| SLP1101-67           | 105      | 0.122929                          | 0.003729                          | 0.282813                          | 0.000057      | 0.282806                             | 1.0   | 3.1                       | 671                       | 945                  | -0.89                           |        |  |
| SLP1101-68           | 17       | 0.001063                          | 0.000018                          | 0.282603                          | 0.000023      | 0.282603                             | -6.5  | -6.1                      | 896                       | 1459                 | -1.00                           |        |  |
| SLP1101-69           | 36       | 0.025711                          | 0.000816                          | 0.282802                          | 0.000033      | 0.282801                             | 0.6   | 1.4                       | 635                       | 999                  | -0.98                           |        |  |
| SLP1101-71           | 18       | 0.014134                          | 0.000340                          | 0.282552                          | 0.000026      | 0.282552                             | -8.2  | -7.8                      | 973                       | 1572                 | -0.99                           |        |  |
| SLP1101-72           | 56       | 0.039182                          | 0.001067                          | 0.282746                          | 0.000030      | 0.282745                             | -1.4  | -0.2                      | 718                       | 1112                 | -0.97                           |        |  |
| SLP1101-73           | 55       | 0.033845                          | 0.001082                          | 0.282858                          | 0.000030      | 0.282857                             | 2.6   | 3.8                       | 560                       | 860                  | -0.97                           |        |  |
| SLP1101-74           | 137      | 0.034158                          | 0.000840                          | 0.282324                          | 0.000026      | 0.282322                             | -16.3 | -13.3                     | 1304                      | 2011                 | -0.97                           |        |  |
| SLP1101-75           | 61       | 0.029100                          | 0.000847                          | 0.282635                          | 0.000027      | 0.282634                             | -5.3  | -4.0                      | 870                       | 1359                 | -0.97                           |        |  |
| SLP1101-77           | 54       | 0.028276                          | 0.000773                          | 0.282515                          | 0.000035      | 0.282514                             | -9.5  | -8.4                      | 1036                      | 1634                 | -0.98                           |        |  |
| SLP1101-79           | 86       | 0.030494                          | 0.000870                          | 0.282721                          | 0.000029      | 0.282719                             | -2.3  | -0.4                      | 750                       | 1152                 | -0.97                           |        |  |
| SLP1101-80           | 18       | 0.000984                          | 0.000021                          | 0.282530                          | 0.000022      | 0.282530                             | -9.0  | -8.6                      | 995                       | 1621                 | -1.00                           |        |  |
| SLP1101-81           | 56       | 0.022940                          | 0.000715                          | 0.282650                          | 0.000024      | 0.282650                             | -4.8  | -3.5                      | 846                       | 1328                 | -0.98                           |        |  |
| <b>Sample ZB1102</b> |          |                                   |                                   |                                   |               |                                      |       |                           |                           |                      |                                 |        |  |
| ZB1102-01            | 16       | 0.044397                          | 0.001549                          | 0.282670                          | 0.000024      | 0.282669                             | -4.1  | -3.7                      | 837                       | 1309                 | -0.95                           |        |  |
| ZB1102-02            | 15       | 0.014911                          | 0.000453                          | 0.282537                          | 0.000028      | 0.282537                             | -8.8  | -8.4                      | 997                       | 1607                 | -0.99                           |        |  |
| ZB1102-03            | 15       | 0.024867                          | 0.000839                          | 0.282597                          | 0.000024      | 0.282597                             | -6.6  | -6.3                      | 923                       | 1472                 | -0.98                           |        |  |
| ZB1102-04            | 15       | 0.016290                          | 0.000564                          | 0.282640                          | 0.000023      | 0.282640                             | -5.1  | -4.8                      | 857                       | 1377                 | -0.98                           |        |  |
| ZB1102-05            | 331      | 0.035739                          | 0.001036                          | 0.282454                          | 0.000034      | 0.282447                             | -11.7 | -4.6                      | 1129                      | 1606                 | -0.97                           |        |  |
| ZB1102-06            | 48       | 0.031398                          | 0.000952                          | 0.282855                          | 0.000021      | 0.282854                             | 2.5   | 3.5                       | 563                       | 872                  | -0.97                           |        |  |
| ZB1102-08            | 47       | 0.012603                          | 0.000380                          | 0.282754                          | 0.000032      | 0.282753                             | -1.1  | -0.1                      | 695                       | 1099                 | -0.99                           |        |  |

**Table DR4 (Continued)**

| Analysis spot | Age (Ma)    | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^c$ (Ma) | $f_{\text{Lu/Hf}}$ |
|---------------|-------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|------------------------|--------------------|
|               |             | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                        |                    |
| ZB1102-09     | <b>16</b>   | 0.021136                          | 0.000674                          | 0.282588                          | 0.000027      | 0.282588                             | -7.0  | -6.6                      | 932                       | 1493                 | -0.98                  |                    |
| ZB1102-11     | <b>55</b>   | 0.049552                          | 0.001474                          | 0.282655                          | 0.000027      | 0.282654                             | -4.6  | -3.4                      | 856                       | 1319                 | -0.96                  |                    |
| ZB1102-12     | <b>106</b>  | 0.073182                          | 0.002410                          | 0.282473                          | 0.000032      | 0.282468                             | -11.0 | -8.9                      | 1144                      | 1704                 | -0.93                  |                    |
| ZB1102-13     | <b>1601</b> | 0.029206                          | 0.000806                          | 0.282081                          | 0.000044      | 0.282057                             | -24.9 | 10.3                      | 1639                      | 1663                 | -0.98                  |                    |
| ZB1102-15     | <b>16</b>   | 0.033321                          | 0.001093                          | 0.282556                          | 0.000030      | 0.282556                             | -8.1  | -7.7                      | 987                       | 1564                 | -0.97                  |                    |
| ZB1102-16     | <b>58</b>   | 0.029691                          | 0.000923                          | 0.282767                          | 0.000027      | 0.282766                             | -0.6  | 0.6                       | 685                       | 1063                 | -0.97                  |                    |
| ZB1102-17     | <b>16</b>   | 0.022336                          | 0.000733                          | 0.282661                          | 0.000026      | 0.282661                             | -4.4  | -4.0                      | 831                       | 1328                 | -0.98                  |                    |
| ZB1102-19     | <b>47</b>   | 0.023861                          | 0.000908                          | 0.282676                          | 0.000023      | 0.282676                             | -3.8  | -2.8                      | 813                       | 1275                 | -0.97                  |                    |
| ZB1102-20     | <b>45</b>   | 0.046354                          | 0.001523                          | 0.282903                          | 0.000028      | 0.282901                             | 4.2   | 5.1                       | 502                       | 766                  | -0.95                  |                    |
| ZB1102-21     | <b>457</b>  | 0.054409                          | 0.001645                          | 0.282229                          | 0.000028      | 0.282215                             | -19.6 | -10.0                     | 1467                      | 2044                 | -0.95                  |                    |
| ZB1102-22     | <b>24</b>   | 0.029173                          | 0.000851                          | 0.282522                          | 0.000028      | 0.282522                             | -9.3  | -8.8                      | 1028                      | 1636                 | -0.97                  |                    |
| ZB1102-23     | <b>49</b>   | 0.059437                          | 0.001972                          | 0.282829                          | 0.000033      | 0.282827                             | 1.6   | 2.6                       | 615                       | 931                  | -0.94                  |                    |
| ZB1102-24     | <b>352</b>  | 0.047586                          | 0.001409                          | 0.282561                          | 0.000025      | 0.282552                             | -7.9  | -0.4                      | 988                       | 1358                 | -0.96                  |                    |
| ZB1102-25     | <b>17</b>   | 0.031319                          | 0.001217                          | 0.282597                          | 0.000037      | 0.282596                             | -6.7  | -6.3                      | 933                       | 1474                 | -0.96                  |                    |
| ZB1102-26     | <b>51</b>   | 0.056818                          | 0.001920                          | 0.282778                          | 0.000024      | 0.282777                             | -0.2  | 0.8                       | 688                       | 1045                 | -0.94                  |                    |
| ZB1102-27     | <b>61</b>   | 0.047136                          | 0.001503                          | 0.282725                          | 0.000027      | 0.282724                             | -2.1  | -0.8                      | 756                       | 1158                 | -0.96                  |                    |
| ZB1102-28     | <b>54</b>   | 0.083249                          | 0.002530                          | 0.282750                          | 0.000029      | 0.282747                             | -1.2  | -0.1                      | 742                       | 1109                 | -0.92                  |                    |
| ZB1102-29     | <b>15</b>   | 0.042492                          | 0.001226                          | 0.282544                          | 0.000032      | 0.282543                             | -8.5  | -8.2                      | 1008                      | 1594                 | -0.96                  |                    |
| ZB1102-30     | <b>53</b>   | 0.045657                          | 0.001500                          | 0.282835                          | 0.000048      | 0.282833                             | 1.8   | 2.9                       | 600                       | 915                  | -0.96                  |                    |
| ZB1102-31     | <b>48</b>   | 0.030475                          | 0.000963                          | 0.282764                          | 0.000020      | 0.282763                             | -0.7  | 0.3                       | 691                       | 1077                 | -0.97                  |                    |
| ZB1102-33     | <b>51</b>   | 0.021664                          | 0.000718                          | 0.282868                          | 0.000026      | 0.282868                             | 2.9   | 4.1                       | 540                       | 838                  | -0.98                  |                    |
| ZB1102-34     | <b>51</b>   | 0.058222                          | 0.001730                          | 0.282881                          | 0.000028      | 0.282880                             | 3.4   | 4.5                       | 536                       | 811                  | -0.95                  |                    |
| ZB1102-35     | <b>462</b>  | 0.067006                          | 0.001941                          | 0.282423                          | 0.000028      | 0.282406                             | -12.8 | -3.1                      | 1202                      | 1616                 | -0.94                  |                    |
| ZB1102-36     | <b>55</b>   | 0.051005                          | 0.001747                          | 0.282614                          | 0.000040      | 0.282612                             | -6.0  | -4.9                      | 921                       | 1412                 | -0.95                  |                    |
| ZB1102-37     | <b>21</b>   | 0.056319                          | 0.001926                          | 0.282698                          | 0.000025      | 0.282698                             | -3.1  | -2.6                      | 804                       | 1242                 | -0.94                  |                    |
| ZB1102-38     | <b>24</b>   | 0.044958                          | 0.001336                          | 0.282756                          | 0.000026      | 0.282755                             | -1.0  | -0.5                      | 709                       | 1110                 | -0.96                  |                    |
| ZB1102-39     | <b>16</b>   | 0.033030                          | 0.001328                          | 0.282589                          | 0.000027      | 0.282589                             | -6.9  | -6.6                      | 946                       | 1491                 | -0.96                  |                    |
| ZB1102-40     | <b>411</b>  | 0.076790                          | 0.002557                          | 0.282481                          | 0.000070      | 0.282462                             | -10.7 | -2.3                      | 1136                      | 1523                 | -0.92                  |                    |
| ZB1102-41     | <b>23</b>   | 0.050784                          | 0.001672                          | 0.282624                          | 0.000026      | 0.282623                             | -5.7  | -5.2                      | 905                       | 1408                 | -0.95                  |                    |
| ZB1102-44     | <b>42</b>   | 0.095988                          | 0.002863                          | 0.282887                          | 0.000025      | 0.282885                             | 3.6   | 4.5                       | 544                       | 806                  | -0.91                  |                    |
| ZB1102-45     | <b>111</b>  | 0.077378                          | 0.002434                          | 0.282655                          | 0.000028      | 0.282650                             | -4.6  | -2.3                      | 879                       | 1293                 | -0.93                  |                    |
| ZB1102-46     | <b>64</b>   | 0.133542                          | 0.003780                          | 0.282841                          | 0.000031      | 0.282837                             | 2.0   | 3.2                       | 629                       | 901                  | -0.89                  |                    |
| ZB1102-48     | <b>51</b>   | 0.034235                          | 0.001070                          | 0.282753                          | 0.000024      | 0.282752                             | -1.1  | -0.1                      | 709                       | 1101                 | -0.97                  |                    |
| ZB1102-50     | <b>113</b>  | 0.082305                          | 0.002596                          | 0.282728                          | 0.000030      | 0.282722                             | -2.0  | 0.3                       | 776                       | 1128                 | -0.92                  |                    |
| ZB1102-51     | <b>15</b>   | 0.013489                          | 0.000478                          | 0.282554                          | 0.000027      | 0.282554                             | -8.2  | -7.8                      | 974                       | 1569                 | -0.99                  |                    |
| ZB1102-52     | <b>1949</b> | 0.034389                          | 0.000992                          | 0.281559                          | 0.000034      | 0.281522                             | -43.4 | -0.6                      | 2369                      | 2620                 | -0.97                  |                    |
| ZB1102-54     | <b>2474</b> | 0.061423                          | 0.001672                          | 0.281193                          | 0.000042      | 0.281114                             | -56.3 | -2.9                      | 2919                      | 3173                 | -0.95                  |                    |
| ZB1102-55     | <b>465</b>  | 0.042399                          | 0.001190                          | 0.282354                          | 0.000020      | 0.282343                             | -15.3 | -5.3                      | 1275                      | 1754                 | -0.96                  |                    |
| ZB1102-56     | <b>17</b>   | 0.026600                          | 0.001017                          | 0.282572                          | 0.000021      | 0.282571                             | -7.5  | -7.2                      | 963                       | 1529                 | -0.97                  |                    |
| ZB1102-57     | <b>514</b>  | 0.027367                          | 0.000859                          | 0.281935                          | 0.000027      | 0.281927                             | -30.0 | -18.9                     | 1844                      | 2648                 | -0.97                  |                    |
| ZB1102-58     | <b>44</b>   | 0.020760                          | 0.000706                          | 0.282896                          | 0.000024      | 0.282895                             | 3.9   | 4.9                       | 501                       | 780                  | -0.98                  |                    |
| ZB1102-59     | <b>802</b>  | 0.031595                          | 0.001019                          | 0.282503                          | 0.000023      | 0.282487                             | -10.0 | 7.4                       | 1060                      | 1215                 | -0.97                  |                    |
| ZB1102-60     | <b>46</b>   | 0.039783                          | 0.001212                          | 0.282896                          | 0.000030      | 0.282894                             | 3.9   | 4.9                       | 508                       | 781                  | -0.96                  |                    |
| ZB1102-62     | <b>16</b>   | 0.035790                          | 0.001119                          | 0.282603                          | 0.000029      | 0.282603                             | -6.4  | -6.1                      | 921                       | 1459                 | -0.97                  |                    |
| ZB1102-63     | <b>48</b>   | 0.024513                          | 0.000754                          | 0.282862                          | 0.000021      | 0.282861                             | 2.7   | 3.8                       | 550                       | 855                  | -0.98                  |                    |
| ZB1102-64     | <b>54</b>   | 0.068012                          | 0.001975                          | 0.282708                          | 0.000026      | 0.282706                             | -2.7  | -1.6                      | 791                       | 1201                 | -0.94                  |                    |
| ZB1102-67     | <b>50</b>   | 0.050140                          | 0.001487                          | 0.282905                          | 0.000026      | 0.282903                             | 4.2   | 5.3                       | 499                       | 758                  | -0.96                  |                    |
| ZB1102-68     | <b>49</b>   | 0.253975                          | 0.007219                          | 0.282881                          | 0.000041      | 0.282874                             | 3.4   | 4.3                       | 630                       | 826                  | -0.79                  |                    |
| ZB1102-69     | <b>104</b>  | 0.022762                          | 0.000689                          | 0.282614                          | 0.000021      | 0.282612                             | -6.1  | -3.8                      | 896                       | 1381                 | -0.98                  |                    |
| ZB1102-70     | <b>24</b>   | 0.021272                          | 0.000708                          | 0.282677                          | 0.000029      | 0.282677                             | -3.8  | -3.3                      | 808                       | 1287                 | -0.98                  |                    |
| ZB1102-71     | <b>449</b>  | 0.073048                          | 0.002208                          | 0.282468                          | 0.000032      | 0.282450                             | -11.2 | -1.9                      | 1145                      | 1526                 | -0.93                  |                    |
| ZB1102-72     | <b>925</b>  | 0.097417                          | 0.002723                          | 0.282504                          | 0.000028      | 0.282456                             | -9.9  | 9.1                       | 1109                      | 1205                 | -0.92                  |                    |
| ZB1102-73     | <b>18</b>   | 0.030559                          | 0.000962                          | 0.282607                          | 0.000020      | 0.282607                             | -6.3  | -5.9                      | 912                       | 1449                 | -0.97                  |                    |
| ZB1102-74     | <b>109</b>  | 0.082659                          | 0.002361                          | 0.282623                          | 0.000025      | 0.282619                             | -5.7  | -3.5                      | 923                       | 1364                 | -0.93                  |                    |
| ZB1102-75     | <b>45</b>   | 0.044240                          | 0.001362                          | 0.282821                          | 0.000023      | 0.282820                             | 1.3   | 2.2                       | 616                       | 949                  | -0.96                  |                    |
| ZB1102-76     | <b>16</b>   | 0.008393                          | 0.000240                          | 0.282599                          | 0.000026      | 0.282599                             | -6.6  | -6.2                      | 905                       | 1467                 | -0.99                  |                    |
| ZB1102-77     | <b>1551</b> | 0.066157                          | 0.001789                          | 0.281896                          | 0.000039      | 0.281843                             | -31.4 | 1.6                       | 1946                      | 2169                 | -0.95                  |                    |
| ZB1102-78     | <b>39</b>   | 0.052495                          | 0.001402                          | 0.282490                          | 0.000028      | 0.282489                             | -10.4 | -9.6                      | 1089                      | 1700                 | -0.96                  |                    |
| ZB1102-79     | <b>45</b>   | 0.017983                          | 0.000567                          | 0.282884                          | 0.000025      | 0.282884                             | 3.5   | 4.5                       | 515                       | 805                  | -0.98                  |                    |

**Table DR4 (Continued)**

| Analysis spot        | Age (Ma)    | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^c$ (Ma) | fLu/Hf |
|----------------------|-------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|------------------------|--------|
|                      |             | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                        |        |
| ZB1102-80            | <b>1072</b> | 0.019503                          | 0.000624                          | 0.282076                          | 0.000025      | 0.282063                             | -25.1 | -1.5                      | 1639                      | 1988                 | -0.98                  |        |
| ZB1102-81            | <b>114</b>  | 0.058356                          | 0.001695                          | 0.282605                          | 0.000028      | 0.282602                             | -6.4  | -4.0                      | 933                       | 1399                 | -0.95                  |        |
| ZB1102-82            | <b>17</b>   | 0.018948                          | 0.000583                          | 0.282676                          | 0.000025      | 0.282676                             | -3.9  | -3.5                      | 807                       | 1294                 | -0.98                  |        |
| ZB1102-83            | <b>23</b>   | 0.047216                          | 0.001544                          | 0.282653                          | 0.000025      | 0.282653                             | -4.7  | -4.2                      | 860                       | 1342                 | -0.95                  |        |
| ZB1102-84            | <b>113</b>  | 0.040345                          | 0.001141                          | 0.282374                          | 0.000026      | 0.282371                             | -14.5 | -12.1                     | 1245                      | 1916                 | -0.97                  |        |
| ZB1102-85            | <b>146</b>  | 0.050978                          | 0.001432                          | 0.282457                          | 0.000031      | 0.282454                             | -11.6 | -8.5                      | 1136                      | 1711                 | -0.96                  |        |
| ZB1102-86            | <b>41</b>   | 0.055015                          | 0.001506                          | 0.282388                          | 0.000023      | 0.282387                             | -14.0 | -13.2                     | 1237                      | 1928                 | -0.96                  |        |
| ZB1102-87            | <b>51</b>   | 0.021036                          | 0.000607                          | 0.282645                          | 0.000025      | 0.282645                             | -4.9  | -3.8                      | 850                       | 1342                 | -0.98                  |        |
| ZB1102-89            | <b>117</b>  | 0.048434                          | 0.001513                          | 0.282646                          | 0.000028      | 0.282643                             | -4.9  | -2.4                      | 870                       | 1305                 | -0.95                  |        |
| ZB1102-91            | <b>38</b>   | 0.039578                          | 0.001321                          | 0.282896                          | 0.000025      | 0.282895                             | 3.9   | 4.7                       | 510                       | 786                  | -0.96                  |        |
| ZB1102-92            | <b>885</b>  | 0.020821                          | 0.000632                          | 0.281796                          | 0.000032      | 0.281786                             | -35.0 | -15.6                     | 2023                      | 2722                 | -0.98                  |        |
| ZB1102-93            | <b>56</b>   | 0.047849                          | 0.001367                          | 0.282717                          | 0.000027      | 0.282716                             | -2.4  | -1.2                      | 765                       | 1178                 | -0.96                  |        |
| ZB1102-94            | <b>51</b>   | 0.048646                          | 0.001501                          | 0.282838                          | 0.000026      | 0.282837                             | 1.9   | 3.0                       | 595                       | 909                  | -0.96                  |        |
| ZB1102-95            | <b>46</b>   | 0.045253                          | 0.001324                          | 0.282798                          | 0.000027      | 0.282796                             | 0.4   | 1.4                       | 650                       | 1003                 | -0.96                  |        |
| ZB1102-96            | <b>35</b>   | 0.042107                          | 0.001333                          | 0.282636                          | 0.000023      | 0.282635                             | -5.3  | -4.5                      | 880                       | 1374                 | -0.96                  |        |
| <b>Sample ZB1106</b> |             |                                   |                                   |                                   |               |                                      |       |                           |                           |                      |                        |        |
| ZB1106-01            | <b>16</b>   | 0.037445                          | 0.001074                          | 0.282474                          | 0.000028      | 0.282474                             | -11.0 | -10.6                     | 1102                      | 1748                 | -0.97                  |        |
| ZB1106-02            | <b>16</b>   | 0.017278                          | 0.000476                          | 0.282583                          | 0.000026      | 0.282583                             | -7.1  | -6.8                      | 933                       | 1503                 | -0.99                  |        |
| ZB1106-03            | <b>56</b>   | 0.037174                          | 0.001067                          | 0.282874                          | 0.000022      | 0.282873                             | 3.2   | 4.4                       | 536                       | 822                  | -0.97                  |        |
| ZB1106-04            | <b>16</b>   | 0.021698                          | 0.000608                          | 0.282567                          | 0.000028      | 0.282567                             | -7.7  | -7.4                      | 960                       | 1540                 | -0.98                  |        |
| ZB1106-05            | <b>44</b>   | 0.024386                          | 0.000710                          | 0.282603                          | 0.000028      | 0.282603                             | -6.4  | -5.5                      | 911                       | 1441                 | -0.98                  |        |
| ZB1106-07            | <b>56</b>   | 0.063325                          | 0.001763                          | 0.282856                          | 0.000030      | 0.282854                             | 2.5   | 3.7                       | 573                       | 866                  | -0.95                  |        |
| ZB1106-08            | <b>46</b>   | 0.017709                          | 0.000632                          | 0.282686                          | 0.000024      | 0.282685                             | -3.5  | -2.5                      | 794                       | 1254                 | -0.98                  |        |
| ZB1106-09            | <b>62</b>   | 0.072807                          | 0.001795                          | 0.282732                          | 0.000027      | 0.282730                             | -1.9  | -0.6                      | 753                       | 1144                 | -0.95                  |        |
| ZB1106-10            | <b>63</b>   | 0.058440                          | 0.001622                          | 0.282923                          | 0.000028      | 0.282921                             | 4.9   | 6.2                       | 475                       | 710                  | -0.95                  |        |
| ZB1106-11            | <b>23</b>   | 0.063383                          | 0.001421                          | 0.282600                          | 0.000026      | 0.282599                             | -6.6  | -6.1                      | 934                       | 1463                 | -0.96                  |        |
| ZB1106-12            | <b>15</b>   | 0.040286                          | 0.001066                          | 0.282633                          | 0.000027      | 0.282632                             | -5.4  | -5.1                      | 878                       | 1393                 | -0.97                  |        |
| ZB1106-13            | <b>153</b>  | 0.051650                          | 0.001443                          | 0.282688                          | 0.000027      | 0.282684                             | -3.4  | -0.2                      | 809                       | 1189                 | -0.96                  |        |
| ZB1106-14            | <b>18</b>   | 0.023145                          | 0.000621                          | 0.282311                          | 0.000025      | 0.282310                             | -16.8 | -16.4                     | 1316                      | 2113                 | -0.98                  |        |
| ZB1106-15            | <b>107</b>  | 0.042200                          | 0.001177                          | 0.282787                          | 0.000025      | 0.282785                             | 0.1   | 2.4                       | 662                       | 990                  | -0.96                  |        |
| ZB1106-16            | <b>15</b>   | 0.018845                          | 0.000491                          | 0.282585                          | 0.000028      | 0.282585                             | -7.1  | -6.7                      | 931                       | 1499                 | -0.99                  |        |
| ZB1106-17            | <b>84</b>   | 0.029703                          | 0.000860                          | 0.282928                          | 0.000027      | 0.282927                             | 5.1   | 6.9                       | 457                       | 682                  | -0.97                  |        |
| ZB1106-18            | <b>47</b>   | 0.032163                          | 0.000893                          | 0.282710                          | 0.000026      | 0.282710                             | -2.6  | -1.6                      | 765                       | 1198                 | -0.97                  |        |
| ZB1106-19            | <b>18</b>   | 0.036379                          | 0.000977                          | 0.282632                          | 0.000026      | 0.282632                             | -5.4  | -5.0                      | 877                       | 1392                 | -0.97                  |        |
| ZB1106-20            | <b>110</b>  | 0.045649                          | 0.001304                          | 0.282861                          | 0.000026      | 0.282858                             | 2.7   | 5.0                       | 559                       | 822                  | -0.96                  |        |
| ZB1106-21            | <b>352</b>  | 0.024350                          | 0.000777                          | 0.282855                          | 0.000027      | 0.282850                             | 2.5   | 10.2                      | 559                       | 685                  | -0.98                  |        |
| ZB1106-22            | <b>45</b>   | 0.076201                          | 0.002693                          | 0.282740                          | 0.000028      | 0.282738                             | -1.6  | -0.7                      | 760                       | 1137                 | -0.92                  |        |
| ZB1106-23            | <b>15</b>   | 0.018422                          | 0.000491                          | 0.282588                          | 0.000024      | 0.282587                             | -7.0  | -6.6                      | 928                       | 1494                 | -0.99                  |        |
| ZB1106-24            | <b>59</b>   | 0.036752                          | 0.001026                          | 0.282821                          | 0.000028      | 0.282820                             | 1.3   | 2.6                       | 611                       | 941                  | -0.97                  |        |
| ZB1106-25            | <b>58</b>   | 0.034908                          | 0.000992                          | 0.282769                          | 0.000027      | 0.282768                             | -0.6  | 0.7                       | 684                       | 1059                 | -0.97                  |        |
| ZB1106-26            | <b>65</b>   | 0.057201                          | 0.001537                          | 0.282720                          | 0.000028      | 0.282718                             | -2.3  | -0.9                      | 764                       | 1167                 | -0.95                  |        |
| ZB1106-27            | <b>130</b>  | 0.035679                          | 0.000951                          | 0.282443                          | 0.000028      | 0.282440                             | -12.1 | -9.3                      | 1143                      | 1751                 | -0.97                  |        |
| ZB1106-28            | <b>74</b>   | 0.038073                          | 0.001078                          | 0.282757                          | 0.000025      | 0.282756                             | -1.0  | 0.6                       | 703                       | 1077                 | -0.97                  |        |
| ZB1106-29            | <b>64</b>   | 0.045974                          | 0.001299                          | 0.282897                          | 0.000026      | 0.282895                             | 4.0   | 5.3                       | 508                       | 768                  | -0.96                  |        |
| ZB1106-31            | <b>880</b>  | 0.022704                          | 0.000705                          | 0.282415                          | 0.000027      | 0.282403                             | -13.1 | 6.2                       | 1174                      | 1354                 | -0.98                  |        |
| ZB1106-32            | <b>51</b>   | 0.046119                          | 0.001771                          | 0.282808                          | 0.000028      | 0.282806                             | 0.8   | 1.9                       | 642                       | 977                  | -0.95                  |        |
| ZB1106-33            | <b>24</b>   | 0.027498                          | 0.000792                          | 0.282689                          | 0.000024      | 0.282688                             | -3.4  | -2.9                      | 794                       | 1261                 | -0.98                  |        |
| ZB1106-35            | <b>55</b>   | 0.046727                          | 0.001470                          | 0.282831                          | 0.000043      | 0.282829                             | 1.6   | 2.8                       | 604                       | 923                  | -0.96                  |        |
| ZB1106-36            | <b>17</b>   | 0.029740                          | 0.000883                          | 0.282564                          | 0.000029      | 0.282564                             | -7.8  | -7.5                      | 971                       | 1547                 | -0.97                  |        |
| ZB1106-37            | <b>54</b>   | 0.066833                          | 0.001815                          | 0.282820                          | 0.000025      | 0.282818                             | 1.2   | 2.4                       | 626                       | 948                  | -0.95                  |        |
| ZB1106-38            | <b>19</b>   | 0.026524                          | 0.000730                          | 0.282579                          | 0.000025      | 0.282579                             | -7.3  | -6.9                      | 946                       | 1511                 | -0.98                  |        |
| ZB1106-39            | <b>18</b>   | 0.021675                          | 0.000654                          | 0.282561                          | 0.000026      | 0.282560                             | -7.9  | -7.5                      | 969                       | 1553                 | -0.98                  |        |
| ZB1106-40            | <b>48</b>   | 0.052591                          | 0.001549                          | 0.282723                          | 0.000028      | 0.282722                             | -2.2  | -1.2                      | 760                       | 1170                 | -0.95                  |        |
| ZB1106-41            | <b>48</b>   | 0.026430                          | 0.000703                          | 0.282902                          | 0.000025      | 0.282901                             | 4.1   | 5.2                       | 493                       | 764                  | -0.98                  |        |
| ZB1106-42            | <b>17</b>   | 0.015361                          | 0.000416                          | 0.282605                          | 0.000027      | 0.282605                             | -6.4  | -6.0                      | 902                       | 1454                 | -0.99                  |        |
| ZB1106-43            | <b>116</b>  | 0.063926                          | 0.001805                          | 0.282574                          | 0.000029      | 0.282570                             | -7.5  | -5.0                      | 981                       | 1470                 | -0.95                  |        |
| ZB1106-44            | <b>25</b>   | 0.013317                          | 0.000434                          | 0.282599                          | 0.000024      | 0.282599                             | -6.6  | -6.0                      | 911                       | 1462                 | -0.99                  |        |
| ZB1106-45            | <b>113</b>  | 0.032674                          | 0.000953                          | 0.282778                          | 0.000027      | 0.282776                             | -0.3  | 2.2                       | 671                       | 1007                 | -0.97                  |        |
| ZB1106-46            | <b>50</b>   | 0.075298                          | 0.002116                          | 0.282877                          | 0.000053      | 0.282875                             | 3.3   | 4.3                       | 547                       | 822                  | -0.94                  |        |

**Table DR4 (Continued)**

| Analysis spot        | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{c}}$ (Ma) | fLu/Hf |  |
|----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|---------------------------|---------------------------|----------------------|---------------------------------|--------|--|
|                      |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |                           |                           |                      |                                 |        |  |
| ZB1106-47            | 48       | 0.053138                          | 0.001471                          | 0.282771                          | 0.000029      | 0.282770                             | -0.5                      | 0.5                       | 690                  | 1063                            | -0.96  |  |
| ZB1106-48            | 46       | 0.030157                          | 0.000868                          | 0.282824                          | 0.000030      | 0.282823                             | 1.4                       | 2.4                       | 605                  | 942                             | -0.97  |  |
| ZB1106-49            | 951      | 0.029912                          | 0.000781                          | 0.282150                          | 0.000028      | 0.282137                             | -22.4                     | -1.7                      | 1543                 | 1903                            | -0.98  |  |
| ZB1106-50            | 120      | 0.062379                          | 0.001773                          | 0.282833                          | 0.000027      | 0.282829                             | 1.7                       | 4.2                       | 606                  | 881                             | -0.95  |  |
| ZB1106-51            | 14       | 0.011383                          | 0.000281                          | 0.282573                          | 0.000026      | 0.282573                             | -7.5                      | -7.2                      | 943                  | 1528                            | -0.99  |  |
| ZB1106-52            | 56       | 0.062292                          | 0.001815                          | 0.282764                          | 0.000025      | 0.282762                             | -0.7                      | 0.4                       | 706                  | 1073                            | -0.95  |  |
| ZB1106-53            | 49       | 0.039064                          | 0.001062                          | 0.282906                          | 0.000023      | 0.282905                             | 4.3                       | 5.3                       | 491                  | 754                             | -0.97  |  |
| ZB1106-54            | 55       | 0.040786                          | 0.001162                          | 0.282606                          | 0.000033      | 0.282605                             | -6.3                      | -5.1                      | 918                  | 1429                            | -0.97  |  |
| ZB1106-55            | 115      | 0.052740                          | 0.001434                          | 0.282872                          | 0.000027      | 0.282869                             | 3.1                       | 5.5                       | 545                  | 795                             | -0.96  |  |
| ZB1106-56            | 57       | 0.069947                          | 0.001841                          | 0.282786                          | 0.000026      | 0.282784                             | 0.0                       | 1.2                       | 675                  | 1023                            | -0.95  |  |
| ZB1106-57            | 40       | 0.034983                          | 0.000986                          | 0.282496                          | 0.000023      | 0.282495                             | -10.2                     | -9.4                      | 1069                 | 1686                            | -0.97  |  |
| ZB1106-58            | 55       | 0.032868                          | 0.000922                          | 0.282757                          | 0.000027      | 0.282756                             | -1.0                      | 0.2                       | 700                  | 1088                            | -0.97  |  |
| ZB1106-59            | 50       | 0.054251                          | 0.001549                          | 0.282785                          | 0.000026      | 0.282783                             | -0.0                      | 1.1                       | 672                  | 1030                            | -0.95  |  |
| ZB1106-60            | 54       | 0.042211                          | 0.001233                          | 0.282837                          | 0.000027      | 0.282836                             | 1.8                       | 3.0                       | 592                  | 909                             | -0.96  |  |
| ZB1106-61            | 127      | 0.034178                          | 0.001006                          | 0.282425                          | 0.000028      | 0.282422                             | -12.7                     | -10.0                     | 1169                 | 1793                            | -0.97  |  |
| ZB1106-62            | 117      | 0.098356                          | 0.002708                          | 0.282655                          | 0.000036      | 0.282649                             | -4.6                      | -2.2                      | 886                  | 1290                            | -0.92  |  |
| ZB1106-63            | 21       | 0.064264                          | 0.001863                          | 0.282630                          | 0.000030      | 0.282629                             | -5.5                      | -5.1                      | 901                  | 1397                            | -0.94  |  |
| ZB1106-64            | 17       | 0.119313                          | 0.003307                          | 0.282669                          | 0.000045      | 0.282668                             | -4.1                      | -3.8                      | 880                  | 1313                            | -0.90  |  |
| ZB1106-65            | 16       | 0.022487                          | 0.000598                          | 0.282583                          | 0.000030      | 0.282583                             | -7.1                      | -6.8                      | 936                  | 1503                            | -0.98  |  |
| ZB1106-66            | 49       | 0.024526                          | 0.000698                          | 0.282864                          | 0.000025      | 0.282863                             | 2.8                       | 3.9                       | 546                  | 850                             | -0.98  |  |
| ZB1106-67            | 50       | 0.062536                          | 0.001829                          | 0.282881                          | 0.000030      | 0.282880                             | 3.4                       | 4.5                       | 537                  | 812                             | -0.95  |  |
| ZB1106-68            | 58       | 0.051215                          | 0.001438                          | 0.282761                          | 0.000024      | 0.282760                             | -0.8                      | 0.4                       | 704                  | 1078                            | -0.96  |  |
| ZB1106-69            | 88       | 0.042882                          | 0.001197                          | 0.282595                          | 0.000032      | 0.282593                             | -6.7                      | -4.8                      | 935                  | 1434                            | -0.96  |  |
| ZB1106-70            | 116      | 0.048655                          | 0.001444                          | 0.282420                          | 0.000026      | 0.282417                             | -12.9                     | -10.4                     | 1189                 | 1811                            | -0.96  |  |
| ZB1106-71            | 46       | 0.033785                          | 0.001060                          | 0.282896                          | 0.000028      | 0.282895                             | 3.9                       | 4.9                       | 506                  | 780                             | -0.97  |  |
| ZB1106-72            | 56       | 0.022097                          | 0.000624                          | 0.282769                          | 0.000030      | 0.282768                             | -0.6                      | 0.6                       | 678                  | 1061                            | -0.98  |  |
| ZB1106-73            | 51       | 0.051404                          | 0.001479                          | 0.282862                          | 0.000031      | 0.282860                             | 2.7                       | 3.8                       | 560                  | 855                             | -0.96  |  |
| ZB1106-74            | 16       | 0.029192                          | 0.000875                          | 0.282571                          | 0.000027      | 0.282571                             | -7.6                      | -7.2                      | 960                  | 1531                            | -0.97  |  |
| ZB1106-75            | 112      | 0.042341                          | 0.001183                          | 0.282456                          | 0.000027      | 0.282453                             | -11.7                     | -9.3                      | 1131                 | 1734                            | -0.96  |  |
| ZB1106-76            | 42       | 0.075088                          | 0.001938                          | 0.282808                          | 0.000029      | 0.282807                             | 0.8                       | 1.7                       | 645                  | 982                             | -0.94  |  |
| ZB1106-77            | 538      | 0.012949                          | 0.000376                          | 0.282179                          | 0.000025      | 0.282175                             | -21.4                     | -9.6                      | 1488                 | 2082                            | -0.99  |  |
| ZB1106-78            | 61       | 0.036893                          | 0.001008                          | 0.282594                          | 0.000029      | 0.282592                             | -6.8                      | -5.5                      | 932                  | 1453                            | -0.97  |  |
| ZB1106-79            | 52       | 0.062804                          | 0.001665                          | 0.282766                          | 0.000029      | 0.282764                             | -0.7                      | 0.4                       | 702                  | 1072                            | -0.95  |  |
| ZB1106-80            | 16       | 0.033570                          | 0.000973                          | 0.282596                          | 0.000026      | 0.282596                             | -6.7                      | -6.3                      | 927                  | 1474                            | -0.97  |  |
| ZB1106-82            | 112      | 0.088133                          | 0.002472                          | 0.282512                          | 0.000029      | 0.282507                             | -9.6                      | -7.3                      | 1089                 | 1613                            | -0.93  |  |
| ZB1106-83            | 51       | 0.030379                          | 0.000986                          | 0.283044                          | 0.000033      | 0.283043                             | 9.2                       | 10.3                      | 294                  | 439                             | -0.97  |  |
| ZB1106-84            | 58       | 0.075653                          | 0.002083                          | 0.282738                          | 0.000024      | 0.282735                             | -1.7                      | -0.5                      | 750                  | 1133                            | -0.94  |  |
| ZB1106-85            | 108      | 0.031635                          | 0.001034                          | 0.282628                          | 0.000027      | 0.282626                             | -5.6                      | -3.2                      | 884                  | 1348                            | -0.97  |  |
| ZB1106-86            | 46       | 0.040336                          | 0.001250                          | 0.282889                          | 0.000030      | 0.282888                             | 3.7                       | 4.7                       | 518                  | 795                             | -0.96  |  |
| ZB1106-87            | 44       | 0.060630                          | 0.001895                          | 0.282680                          | 0.000042      | 0.282679                             | -3.7                      | -2.8                      | 830                  | 1271                            | -0.94  |  |
| ZB1106-88            | 14       | 0.019290                          | 0.000538                          | 0.282576                          | 0.000025      | 0.282576                             | -7.4                      | -7.1                      | 945                  | 1521                            | -0.98  |  |
| ZB1106-89            | 50       | 0.059856                          | 0.001661                          | 0.282779                          | 0.000028      | 0.282778                             | -0.2                      | 0.9                       | 682                  | 1042                            | -0.95  |  |
| ZB1106-90            | 23       | 0.037531                          | 0.001228                          | 0.282620                          | 0.000027      | 0.282620                             | -5.8                      | -5.3                      | 900                  | 1417                            | -0.96  |  |
| ZB1106-91            | 142      | 0.043716                          | 0.001352                          | 0.282450                          | 0.000032      | 0.282447                             | -11.8                     | -8.8                      | 1144                 | 1729                            | -0.96  |  |
| ZB1106-92            | 15       | 0.037546                          | 0.001259                          | 0.282543                          | 0.000042      | 0.282543                             | -8.6                      | -8.2                      | 1010                 | 1594                            | -0.96  |  |
| ZB1106-93            | 49       | 0.030811                          | 0.000938                          | 0.282806                          | 0.000025      | 0.282805                             | 0.7                       | 1.8                       | 631                  | 982                             | -0.97  |  |
| ZB1106-95            | 48       | 0.030674                          | 0.000905                          | 0.282893                          | 0.000027      | 0.282892                             | 3.8                       | 4.9                       | 507                  | 784                             | -0.97  |  |
| ZB1106-96            | 110      | 0.046085                          | 0.001409                          | 0.282659                          | 0.000026      | 0.282656                             | -4.5                      | -2.1                      | 850                  | 1280                            | -0.96  |  |
| ZB1106-97            | 466      | 0.044556                          | 0.001212                          | 0.282423                          | 0.000028      | 0.282412                             | -12.8                     | -2.8                      | 1179                 | 1599                            | -0.96  |  |
| ZB1106-98            | 15       | 0.031206                          | 0.000959                          | 0.282567                          | 0.000028      | 0.282567                             | -7.7                      | -7.4                      | 968                  | 1540                            | -0.97  |  |
| <b>Sample DR1104</b> |          |                                   |                                   |                                   |               |                                      |                           |                           |                      |                                 |        |  |
| DR1104-01            | 45       | 0.015685                          | 0.000442                          | 0.282672                          | 0.000028      | 0.282671                             | -4.0                      | -3.0                      | 810                  | 1286                            | -0.99  |  |
| DR1104-02            | 84       | 0.033996                          | 0.001038                          | 0.282604                          | 0.000024      | 0.282602                             | -6.4                      | -4.6                      | 919                  | 1417                            | -0.97  |  |
| DR1104-03            | 145      | 0.021121                          | 0.000707                          | 0.282197                          | 0.000024      | 0.282195                             | -20.8                     | -17.7                     | 1476                 | 2290                            | -0.98  |  |
| DR1104-04            | 26       | 0.014523                          | 0.000489                          | 0.282313                          | 0.000017      | 0.282313                             | -16.7                     | -16.1                     | 1308                 | 2102                            | -0.99  |  |
| DR1104-05            | 33       | 0.031276                          | 0.000908                          | 0.282654                          | 0.000025      | 0.282654                             | -4.6                      | -3.9                      | 844                  | 1333                            | -0.97  |  |
| DR1104-06            | 38       | 0.045717                          | 0.001615                          | 0.282761                          | 0.000031      | 0.282760                             | -0.9                      | -0.1                      | 708                  | 1091                            | -0.95  |  |
| DR1104-07            | 66       | 0.047395                          | 0.001348                          | 0.282640                          | 0.000026      | 0.282638                             | -5.1                      | -3.7                      | 875                  | 1348                            | -0.96  |  |
| DR1104-09            | 56       | 0.028217                          | 0.000950                          | 0.282789                          | 0.000039      | 0.282788                             | 0.2                       | 1.4                       | 655                  | 1015                            | -0.97  |  |

**Table DR4 (Continued)**

| Analysis spot        | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^c$ (Ma) | fLu/Hf |
|----------------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|---------------------------|---------------------------|----------------------|------------------------|--------|
|                      |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |                           |                           |                      |                        |        |
| DR1104-10            | 103      | 0.111396                          | 0.003534                          | 0.282621                          | 0.000042      | 0.282614                             | -5.8                      | -3.8                      | 958                  | 1378                   | -0.89  |
| DR1104-11            | 26       | 0.026908                          | 0.000809                          | 0.282702                          | 0.000026      | 0.282701                             | -2.9                      | -2.4                      | 776                  | 1231                   | -0.98  |
| DR1104-12            | 43       | 0.029861                          | 0.000902                          | 0.282546                          | 0.000026      | 0.282545                             | -8.5                      | -7.5                      | 996                  | 1571                   | -0.97  |
| DR1104-13            | 38       | 0.027197                          | 0.000893                          | 0.282714                          | 0.000024      | 0.282714                             | -2.5                      | -1.7                      | 760                  | 1195                   | -0.97  |
| DR1104-14            | 102      | 0.048280                          | 0.001446                          | 0.282570                          | 0.000024      | 0.282567                             | -7.6                      | -5.4                      | 976                  | 1484                   | -0.96  |
| DR1104-15            | 85       | 0.071030                          | 0.002044                          | 0.282605                          | 0.000025      | 0.282602                             | -6.4                      | -4.6                      | 942                  | 1418                   | -0.94  |
| DR1104-17            | 57       | 0.050667                          | 0.001445                          | 0.282571                          | 0.000021      | 0.282570                             | -7.6                      | -6.3                      | 975                  | 1507                   | -0.96  |
| DR1104-19            | 123      | 0.068140                          | 0.001969                          | 0.282462                          | 0.000025      | 0.282457                             | -11.4                     | -8.9                      | 1147                 | 1718                   | -0.94  |
| DR1104-21            | 44       | 0.029690                          | 0.000879                          | 0.282539                          | 0.000024      | 0.282538                             | -8.7                      | -7.8                      | 1006                 | 1587                   | -0.97  |
| DR1104-22            | 835      | 0.052504                          | 0.001575                          | 0.282638                          | 0.000049      | 0.282613                             | -5.2                      | 12.6                      | 883                  | 911                    | -0.95  |
| DR1104-24            | 56       | 0.064758                          | 0.001783                          | 0.282740                          | 0.000034      | 0.282738                             | -1.6                      | -0.4                      | 741                  | 1129                   | -0.95  |
| DR1104-25            | 53       | 0.032452                          | 0.001046                          | 0.282677                          | 0.000028      | 0.282676                             | -3.8                      | -2.7                      | 815                  | 1270                   | -0.97  |
| DR1104-26            | 65       | 0.042321                          | 0.001263                          | 0.282629                          | 0.000023      | 0.282628                             | -5.5                      | -4.1                      | 888                  | 1372                   | -0.96  |
| DR1104-28            | 87       | 0.051432                          | 0.001514                          | 0.282859                          | 0.000024      | 0.282857                             | 2.6                       | 4.5                       | 565                  | 840                    | -0.95  |
| DR1104-29            | 32       | 0.049078                          | 0.001495                          | 0.282714                          | 0.000027      | 0.282713                             | -2.5                      | -1.8                      | 772                  | 1200                   | -0.96  |
| DR1104-30            | 56       | 0.036243                          | 0.001107                          | 0.282736                          | 0.000030      | 0.282735                             | -1.7                      | -0.5                      | 733                  | 1135                   | -0.97  |
| DR1104-31            | 113      | 0.038685                          | 0.001241                          | 0.282611                          | 0.000023      | 0.282608                             | -6.2                      | -3.7                      | 914                  | 1385                   | -0.96  |
| DR1104-32            | 592      | 0.008914                          | 0.000249                          | 0.281604                          | 0.000026      | 0.281601                             | -41.8                     | -28.7                     | 2262                 | 3315                   | -0.99  |
| DR1104-33            | 1162     | 0.023103                          | 0.000692                          | 0.282092                          | 0.000022      | 0.282077                             | -24.5                     | 1.0                       | 1620                 | 1900                   | -0.98  |
| DR1104-35            | 35       | 0.012084                          | 0.000345                          | 0.282672                          | 0.000033      | 0.282672                             | -4.0                      | -3.2                      | 807                  | 1290                   | -0.99  |
| DR1104-36            | 95       | 0.027226                          | 0.000833                          | 0.282463                          | 0.000028      | 0.282462                             | -11.4                     | -9.3                      | 1110                 | 1725                   | -0.98  |
| DR1104-37            | 13       | 0.032065                          | 0.000817                          | 0.282405                          | 0.000027      | 0.282404                             | -13.4                     | -13.2                     | 1191                 | 1906                   | -0.98  |
| DR1104-38            | 84       | 0.032078                          | 0.000976                          | 0.282442                          | 0.000024      | 0.282440                             | -12.1                     | -10.3                     | 1145                 | 1781                   | -0.97  |
| DR1104-39            | 61       | 0.051973                          | 0.001427                          | 0.282646                          | 0.000024      | 0.282644                             | -4.9                      | -3.6                      | 868                  | 1337                   | -0.96  |
| DR1104-40            | 59       | 0.035195                          | 0.001050                          | 0.282662                          | 0.000026      | 0.282661                             | -4.4                      | -3.1                      | 837                  | 1301                   | -0.97  |
| DR1104-43            | 81       | 0.045049                          | 0.001422                          | 0.282599                          | 0.000027      | 0.282596                             | -6.6                      | -4.9                      | 935                  | 1432                   | -0.96  |
| DR1104-44            | 54       | 0.043509                          | 0.001312                          | 0.282753                          | 0.000028      | 0.282752                             | -1.1                      | 0.0                       | 713                  | 1098                   | -0.96  |
| DR1104-45            | 60       | 0.041448                          | 0.001294                          | 0.282181                          | 0.000025      | 0.282179                             | -21.4                     | -20.1                     | 1522                 | 2379                   | -0.96  |
| DR1104-46            | 81       | 0.046266                          | 0.001311                          | 0.282599                          | 0.000026      | 0.282597                             | -6.6                      | -4.8                      | 932                  | 1430                   | -0.96  |
| DR1104-48            | 61       | 0.044466                          | 0.001268                          | 0.282683                          | 0.000023      | 0.282682                             | -3.6                      | -2.3                      | 812                  | 1252                   | -0.96  |
| DR1104-49            | 19       | 0.003397                          | 0.000104                          | 0.282671                          | 0.000021      | 0.282671                             | -4.0                      | -3.6                      | 804                  | 1303                   | -1.00  |
| DR1104-50            | 52       | 0.022624                          | 0.000685                          | 0.282718                          | 0.000025      | 0.282717                             | -2.4                      | -1.2                      | 751                  | 1178                   | -0.98  |
| DR1104-51            | 17       | 0.019488                          | 0.000626                          | 0.282649                          | 0.000024      | 0.282649                             | -4.8                      | -4.4                      | 845                  | 1355                   | -0.98  |
| DR1104-52            | 13       | 0.034644                          | 0.000954                          | 0.282362                          | 0.000020      | 0.282362                             | -15.0                     | -14.7                     | 1255                 | 2002                   | -0.97  |
| DR1104-53            | 51       | 0.031452                          | 0.000917                          | 0.282722                          | 0.000023      | 0.282722                             | -2.2                      | -1.1                      | 749                  | 1169                   | -0.97  |
| DR1104-54            | 65       | 0.050809                          | 0.001583                          | 0.282701                          | 0.000031      | 0.282699                             | -3.0                      | -1.6                      | 793                  | 1211                   | -0.95  |
| DR1104-55            | 70       | 0.047355                          | 0.001500                          | 0.282445                          | 0.000029      | 0.282443                             | -12.0                     | -10.6                     | 1157                 | 1784                   | -0.96  |
| DR1104-56            | 55       | 0.054202                          | 0.001635                          | 0.282754                          | 0.000030      | 0.282752                             | -1.1                      | 0.1                       | 718                  | 1097                   | -0.95  |
| DR1104-57            | 56       | 0.091150                          | 0.002714                          | 0.282785                          | 0.000026      | 0.282782                             | -0.0                      | 1.1                       | 694                  | 1029                   | -0.92  |
| DR1104-62            | 145      | 0.036375                          | 0.001389                          | 0.282336                          | 0.000030      | 0.282332                             | -15.9                     | -12.8                     | 1307                 | 1984                   | -0.96  |
| DR1104-63            | 55       | 0.103187                          | 0.003020                          | 0.282748                          | 0.000034      | 0.282745                             | -1.3                      | -0.2                      | 754                  | 1114                   | -0.91  |
| DR1104-65            | 53       | 0.027088                          | 0.000818                          | 0.282745                          | 0.000025      | 0.282744                             | -1.4                      | -0.3                      | 715                  | 1116                   | -0.98  |
| DR1104-67            | 83       | 0.024555                          | 0.000856                          | 0.282583                          | 0.000023      | 0.282581                             | -7.2                      | -5.4                      | 944                  | 1464                   | -0.97  |
| DR1104-69            | 979      | 0.042290                          | 0.001180                          | 0.282083                          | 0.000026      | 0.282061                             | -24.8                     | -3.7                      | 1654                 | 2053                   | -0.96  |
| DR1104-70            | 60       | 0.070966                          | 0.002110                          | 0.282913                          | 0.000029      | 0.282910                             | 4.5                       | 5.8                       | 495                  | 736                    | -0.94  |
| DR1104-71            | 13       | 0.003962                          | 0.000115                          | 0.282625                          | 0.000021      | 0.282625                             | -5.6                      | -5.4                      | 867                  | 1410                   | -1.00  |
| DR1104-72            | 51       | 0.016155                          | 0.000470                          | 0.282609                          | 0.000024      | 0.282609                             | -6.2                      | -5.1                      | 897                  | 1423                   | -0.99  |
| DR1104-73            | 59       | 0.077574                          | 0.002320                          | 0.282777                          | 0.000031      | 0.282775                             | -0.3                      | 0.9                       | 697                  | 1044                   | -0.93  |
| DR1104-74            | 44       | 0.029942                          | 0.000886                          | 0.282472                          | 0.000021      | 0.282471                             | -11.1                     | -10.1                     | 1099                 | 1736                   | -0.97  |
| DR1104-75            | 78       | 0.035046                          | 0.000996                          | 0.282362                          | 0.000020      | 0.282360                             | -15.0                     | -13.3                     | 1257                 | 1964                   | -0.97  |
| DR1104-76            | 54       | 0.038299                          | 0.001165                          | 0.282737                          | 0.000027      | 0.282736                             | -1.7                      | -0.5                      | 733                  | 1135                   | -0.97  |
| DR1104-77            | 51       | 0.025437                          | 0.000767                          | 0.282723                          | 0.000027      | 0.282722                             | -2.2                      | -1.1                      | 745                  | 1167                   | -0.98  |
| DR1104-78            | 61       | 0.023086                          | 0.000665                          | 0.282051                          | 0.000027      | 0.282050                             | -26.0                     | -24.6                     | 1676                 | 2665                   | -0.98  |
| DR1104-79            | 375      | 0.020929                          | 0.000520                          | 0.281931                          | 0.000022      | 0.281927                             | -30.2                     | -22.0                     | 1834                 | 2737                   | -0.98  |
| DR1104-80            | 83       | 0.021157                          | 0.000601                          | 0.282739                          | 0.000025      | 0.282738                             | -1.6                      | 0.2                       | 720                  | 1112                   | -0.98  |
| DR1104-81            | 54       | 0.037551                          | 0.001118                          | 0.282797                          | 0.000031      | 0.282796                             | 0.4                       | 1.6                       | 647                  | 999                    | -0.97  |
| DR1104-82            | 84       | 0.033741                          | 0.001067                          | 0.282637                          | 0.000022      | 0.282636                             | -5.2                      | -3.4                      | 872                  | 1341                   | -0.97  |
| <b>Sample DR1114</b> |          |                                   |                                   |                                   |               |                                      |                           |                           |                      |                        |        |
| DR1114-01            | 41       | 0.042756                          | 0.001597                          | 0.282757                          | 0.000025      | 0.282756                             | -1.0                      | -0.1                      | 713                  | 1098                   | -0.95  |

**Table DR4 (Continued)**

| Analysis spot | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{c}}$ (Ma) | fLu/Hf |
|---------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|---------------------------------|--------|
|               |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                                 |        |
| DR1114-02     | 59       | 0.072878                          | 0.001939                          | 0.282695                          | 0.000031      | 0.282693                             | -3.2  | -1.9                      | 809                       | 1228                 | -0.94                           |        |
| DR1114-03     | 149      | 0.029520                          | 0.000910                          | 0.282364                          | 0.000029      | 0.282362                             | -14.9 | -11.7                     | 1250                      | 1914                 | -0.97                           |        |
| DR1114-04     | 17       | 0.081658                          | 0.001858                          | 0.282744                          | 0.000254      | 0.282743                             | -1.5  | -1.1                      | 737                       | 1142                 | -0.94                           |        |
| DR1114-05     | 63       | 0.027208                          | 0.000736                          | 0.282571                          | 0.000031      | 0.282570                             | -7.6  | -6.2                      | 957                       | 1502                 | -0.98                           |        |
| DR1114-06     | 151      | 0.022148                          | 0.000638                          | 0.282294                          | 0.000026      | 0.282292                             | -17.4 | -14.1                     | 1339                      | 2069                 | -0.98                           |        |
| DR1114-07     | 64       | 0.016436                          | 0.000272                          | 0.282711                          | 0.000026      | 0.282711                             | -2.6  | -1.2                      | 757                       | 1185                 | -0.98                           |        |
| DR1114-08     | 10       | 0.016766                          | 0.000783                          | 0.282451                          | 0.000028      | 0.282451                             | -11.8 | -11.6                     | 1116                      | 1804                 | -0.99                           |        |
| DR1114-09     | 85       | 0.038510                          | 0.000441                          | 0.282606                          | 0.000028      | 0.282604                             | -6.3  | -4.5                      | 918                       | 1412                 | -0.97                           |        |
| DR1114-10     | 124      | 0.034106                          | 0.000943                          | 0.282372                          | 0.000028      | 0.282370                             | -14.6 | -11.9                     | 1241                      | 1912                 | -0.97                           |        |
| DR1114-11     | 146      | 0.021695                          | 0.000665                          | 0.282303                          | 0.000021      | 0.282301                             | -17.0 | -13.9                     | 1328                      | 2052                 | -0.98                           |        |
| DR1114-12     | 49       | 0.022305                          | 0.000636                          | 0.282744                          | 0.000026      | 0.282744                             | -1.4  | -0.4                      | 713                       | 1120                 | -0.98                           |        |
| DR1114-13     | 131      | 0.052871                          | 0.001313                          | 0.282387                          | 0.000029      | 0.282384                             | -14.1 | -11.3                     | 1232                      | 1876                 | -0.96                           |        |
| DR1114-14     | 86       | 0.025901                          | 0.000796                          | 0.282595                          | 0.000028      | 0.282594                             | -6.7  | -4.8                      | 924                       | 1434                 | -0.98                           |        |
| DR1114-15     | 120      | 0.024287                          | 0.000699                          | 0.282374                          | 0.000025      | 0.282373                             | -14.5 | -11.9                     | 1230                      | 1909                 | -0.98                           |        |
| DR1114-16     | 40       | 0.037484                          | 0.001075                          | 0.282685                          | 0.000026      | 0.282684                             | -3.6  | -2.7                      | 805                       | 1261                 | -0.97                           |        |
| DR1114-17     | 11       | 0.015470                          | 0.000401                          | 0.282452                          | 0.000025      | 0.282452                             | -11.8 | -11.5                     | 1113                      | 1801                 | -0.99                           |        |
| DR1114-18     | 1222     | 0.014319                          | 0.000394                          | 0.281875                          | 0.000023      | 0.281866                             | -32.2 | -5.1                      | 1903                      | 2329                 | -0.99                           |        |
| DR1114-19     | 128      | 0.033840                          | 0.000939                          | 0.282388                          | 0.000026      | 0.282386                             | -14.0 | -11.3                     | 1219                      | 1875                 | -0.97                           |        |
| DR1114-20     | 155      | 0.014516                          | 0.000468                          | 0.282203                          | 0.000027      | 0.282202                             | -20.6 | -17.2                     | 1458                      | 2268                 | -0.99                           |        |
| DR1114-21     | 58       | 0.048347                          | 0.001284                          | 0.282677                          | 0.000029      | 0.282676                             | -3.8  | -2.6                      | 820                       | 1268                 | -0.96                           |        |
| DR1114-22     | 13       | 0.019134                          | 0.000683                          | 0.282584                          | 0.000026      | 0.282584                             | -7.1  | -6.8                      | 937                       | 1503                 | -0.98                           |        |
| DR1114-23     | 54       | 0.041836                          | 0.001176                          | 0.282648                          | 0.000031      | 0.282647                             | -4.8  | -3.7                      | 859                       | 1335                 | -0.96                           |        |
| DR1114-24     | 76       | 0.031447                          | 0.000902                          | 0.282440                          | 0.000029      | 0.282438                             | -12.2 | -10.6                     | 1145                      | 1790                 | -0.97                           |        |
| DR1114-25     | 88       | 0.040827                          | 0.001220                          | 0.282607                          | 0.000028      | 0.282605                             | -6.3  | -4.4                      | 918                       | 1408                 | -0.96                           |        |
| DR1114-27     | 56       | 0.066955                          | 0.001934                          | 0.282777                          | 0.000028      | 0.282775                             | -0.3  | 0.9                       | 691                       | 1046                 | -0.94                           |        |
| DR1114-28     | 59       | 0.039365                          | 0.001129                          | 0.282644                          | 0.000028      | 0.282643                             | -5.0  | -3.7                      | 863                       | 1340                 | -0.97                           |        |
| DR1114-29     | 52       | 0.059892                          | 0.001742                          | 0.282834                          | 0.000033      | 0.282832                             | 1.7   | 2.8                       | 605                       | 918                  | -0.95                           |        |
| DR1114-30     | 1069     | 0.017724                          | 0.000498                          | 0.282099                          | 0.000025      | 0.282089                             | -24.3 | -0.7                      | 1603                      | 1934                 | -0.99                           |        |
| DR1114-31     | 46       | 0.041053                          | 0.001157                          | 0.282623                          | 0.000028      | 0.282622                             | -5.7  | -4.7                      | 894                       | 1396                 | -0.97                           |        |
| DR1114-32     | 64       | 0.047565                          | 0.001418                          | 0.282657                          | 0.000029      | 0.282656                             | -4.5  | -3.2                      | 852                       | 1309                 | -0.96                           |        |
| DR1114-34     | 89       | 0.033685                          | 0.000951                          | 0.282610                          | 0.000025      | 0.282608                             | -6.2  | -4.3                      | 908                       | 1399                 | -0.97                           |        |
| DR1114-35     | 84       | 0.028966                          | 0.001008                          | 0.282598                          | 0.000024      | 0.282596                             | -6.6  | -4.8                      | 926                       | 1430                 | -0.97                           |        |
| DR1114-36     | 57       | 0.063547                          | 0.001718                          | 0.282640                          | 0.000033      | 0.282639                             | -5.1  | -3.9                      | 883                       | 1352                 | -0.95                           |        |
| DR1114-37     | 49       | 0.024690                          | 0.000717                          | 0.282656                          | 0.000025      | 0.282655                             | -4.6  | -3.5                      | 838                       | 1319                 | -0.98                           |        |
| DR1114-38     | 83       | 0.032511                          | 0.000944                          | 0.282599                          | 0.000031      | 0.282597                             | -6.6  | -4.8                      | 923                       | 1429                 | -0.97                           |        |
| DR1114-39     | 86       | 0.029811                          | 0.000889                          | 0.282603                          | 0.000025      | 0.282602                             | -6.4  | -4.6                      | 915                       | 1416                 | -0.97                           |        |
| DR1114-40     | 63       | 0.043181                          | 0.001083                          | 0.283101                          | 0.000135      | 0.283100                             | 11.2  | 12.5                      | 213                       | 303                  | -0.97                           |        |
| DR1114-41     | 46       | 0.016394                          | 0.000443                          | 0.282613                          | 0.000021      | 0.282613                             | -6.1  | -5.1                      | 892                       | 1418                 | -0.99                           |        |
| DR1114-42     | 60       | 0.052660                          | 0.001520                          | 0.282713                          | 0.000029      | 0.282711                             | -2.5  | -1.3                      | 774                       | 1186                 | -0.95                           |        |
| DR1114-43     | 88       | 0.029173                          | 0.000981                          | 0.282601                          | 0.000025      | 0.282599                             | -6.5  | -4.6                      | 921                       | 1421                 | -0.97                           |        |
| DR1114-44     | 123      | 0.025885                          | 0.000734                          | 0.282437                          | 0.000024      | 0.282436                             | -12.3 | -9.6                      | 1143                      | 1766                 | -0.98                           |        |
| DR1114-45     | 62       | 0.032739                          | 0.000971                          | 0.282657                          | 0.000032      | 0.282656                             | -4.5  | -3.2                      | 842                       | 1310                 | -0.97                           |        |
| DR1114-46     | 83       | 0.027696                          | 0.000880                          | 0.282642                          | 0.000025      | 0.282641                             | -5.1  | -3.3                      | 861                       | 1330                 | -0.97                           |        |
| DR1114-47     | 418      | 0.057465                          | 0.001717                          | 0.282402                          | 0.000032      | 0.282388                             | -13.6 | -4.7                      | 1225                      | 1683                 | -0.95                           |        |
| DR1114-48     | 64       | 0.049995                          | 0.001618                          | 0.282658                          | 0.000037      | 0.282656                             | -4.5  | -3.1                      | 855                       | 1308                 | -0.95                           |        |
| DR1114-49     | 63       | 0.110284                          | 0.003117                          | 0.282705                          | 0.000035      | 0.282702                             | -2.8  | -1.6                      | 820                       | 1206                 | -0.91                           |        |
| DR1114-50     | 74       | 0.023355                          | 0.000726                          | 0.282691                          | 0.000029      | 0.282690                             | -3.3  | -1.7                      | 789                       | 1226                 | -0.98                           |        |
| DR1114-51     | 12       | 0.007863                          | 0.000265                          | 0.282491                          | 0.000021      | 0.282491                             | -10.4 | -10.1                     | 1055                      | 1713                 | -0.99                           |        |
| DR1114-52     | 58       | 0.063820                          | 0.001844                          | 0.282776                          | 0.000028      | 0.282774                             | -0.3  | 0.9                       | 690                       | 1046                 | -0.95                           |        |
| DR1114-53     | 49       | 0.043455                          | 0.001023                          | 0.282697                          | 0.000026      | 0.282696                             | -3.1  | -2.1                      | 787                       | 1228                 | -0.97                           |        |
| DR1114-54     | 11       | 0.048331                          | 0.001352                          | 0.282609                          | 0.000033      | 0.282609                             | -6.2  | -6.0                      | 918                       | 1448                 | -0.96                           |        |
| DR1114-55     | 85       | 0.040084                          | 0.001125                          | 0.282600                          | 0.000031      | 0.282598                             | -6.5  | -4.7                      | 926                       | 1425                 | -0.97                           |        |
| DR1114-56     | 82       | 0.073915                          | 0.002467                          | 0.282564                          | 0.000033      | 0.282560                             | -7.8  | -6.1                      | 1013                      | 1513                 | -0.93                           |        |
| DR1114-57     | 148      | 0.045939                          | 0.001540                          | 0.282377                          | 0.000035      | 0.282372                             | -14.4 | -11.3                     | 1254                      | 1892                 | -0.95                           |        |
| DR1114-58     | 87       | 0.035448                          | 0.001128                          | 0.282653                          | 0.000027      | 0.282652                             | -4.7  | -2.8                      | 851                       | 1304                 | -0.97                           |        |
| DR1114-59     | 52       | 0.046116                          | 0.001343                          | 0.282820                          | 0.000021      | 0.282819                             | 1.2   | 2.3                       | 618                       | 949                  | -0.96                           |        |
| DR1114-60     | 88       | 0.016005                          | 0.000513                          | 0.282642                          | 0.000025      | 0.282641                             | -5.1  | -3.1                      | 853                       | 1327                 | -0.98                           |        |
| DR1114-61     | 57       | 0.040895                          | 0.001202                          | 0.282762                          | 0.000027      | 0.282760                             | -0.8  | 0.4                       | 698                       | 1077                 | -0.96                           |        |
| DR1114-62     | 59       | 0.062159                          | 0.001865                          | 0.282808                          | 0.000030      | 0.282806                             | 0.8   | 2.0                       | 645                       | 974                  | -0.94                           |        |

**Table DR4 (Continued)**

| Analysis spot | Age (Ma) | Isotopic ratios                   |                                   |                                   |               |                                      |       | $\epsilon_{\text{Hf}}(0)$ | $\epsilon_{\text{Hf}}(t)$ | $T_{\text{DM}}$ (Ma) | $T_{\text{DM}}^{\text{C}}$ (Ma) | $f_{\text{Lu/Hf}}$ |
|---------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------|--------------------------------------|-------|---------------------------|---------------------------|----------------------|---------------------------------|--------------------|
|               |          | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\pm 2\sigma$ | $^{176}\text{Hf}/^{177}\text{Hf}(t)$ |       |                           |                           |                      |                                 |                    |
| DR1114-63     | 10       | 0.032365                          | 0.000913                          | 0.282656                          | 0.000027      | 0.282656                             | -4.6  | -4.4                      | 842                       | 1343                 | -0.97                           |                    |
| DR1114-64     | 49       | 0.025758                          | 0.000762                          | 0.282759                          | 0.000027      | 0.282759                             | -0.9  | 0.2                       | 694                       | 1086                 | -0.98                           |                    |
| DR1114-65     | 69       | 0.054834                          | 0.001688                          | 0.282666                          | 0.000038      | 0.282663                             | -4.2  | -2.8                      | 846                       | 1288                 | -0.95                           |                    |
| DR1114-66     | 75       | 0.026827                          | 0.000797                          | 0.282691                          | 0.000027      | 0.282690                             | -3.3  | -1.7                      | 791                       | 1226                 | -0.98                           |                    |
| DR1114-67     | 63       | 0.031922                          | 0.000925                          | 0.282657                          | 0.000025      | 0.282656                             | -4.5  | -3.2                      | 841                       | 1310                 | -0.97                           |                    |
| DR1114-68     | 62       | 0.063851                          | 0.001787                          | 0.282636                          | 0.000031      | 0.282633                             | -5.3  | -4.0                      | 891                       | 1361                 | -0.95                           |                    |
| DR1114-69     | 54       | 0.040949                          | 0.001236                          | 0.282878                          | 0.000024      | 0.282877                             | 3.3   | 4.4                       | 534                       | 816                  | -0.96                           |                    |
| DR1114-70     | 68       | 0.037161                          | 0.001123                          | 0.282658                          | 0.000026      | 0.282657                             | -4.5  | -3.0                      | 843                       | 1304                 | -0.97                           |                    |
| DR1114-71     | 65       | 0.189183                          | 0.004986                          | 0.282840                          | 0.000044      | 0.282834                             | 1.9   | 3.2                       | 654                       | 907                  | -0.85                           |                    |
| DR1114-72     | 61       | 0.040404                          | 0.001161                          | 0.282703                          | 0.000030      | 0.282701                             | -2.9  | -1.6                      | 782                       | 1208                 | -0.97                           |                    |
| DR1114-73     | 50       | 0.028596                          | 0.000840                          | 0.282899                          | 0.000027      | 0.282899                             | 4.0   | 5.1                       | 498                       | 769                  | -0.97                           |                    |
| DR1114-74     | 1128     | 0.053102                          | 0.001430                          | 0.282349                          | 0.000029      | 0.282319                             | -15.4 | 8.8                       | 1289                      | 1383                 | -0.96                           |                    |
| DR1114-75     | 117      | 0.048815                          | 0.001460                          | 0.282531                          | 0.000027      | 0.282528                             | -9.0  | -6.5                      | 1033                      | 1563                 | -0.96                           |                    |
| DR1114-76     | 50       | 0.023875                          | 0.000705                          | 0.282770                          | 0.000026      | 0.282770                             | -0.5  | 0.6                       | 677                       | 1061                 | -0.98                           |                    |
| DR1114-77     | 72       | 0.082627                          | 0.002091                          | 0.282776                          | 0.000053      | 0.282773                             | -0.3  | 1.2                       | 695                       | 1039                 | -0.94                           |                    |
| DR1114-78     | 67       | 0.040558                          | 0.001195                          | 0.282699                          | 0.000029      | 0.282698                             | -3.0  | -1.6                      | 787                       | 1213                 | -0.96                           |                    |
| DR1114-79     | 68       | 0.028366                          | 0.000856                          | 0.282706                          | 0.000027      | 0.282705                             | -2.8  | -1.3                      | 770                       | 1195                 | -0.97                           |                    |
| DR1114-80     | 87       | 0.019855                          | 0.000704                          | 0.282635                          | 0.000024      | 0.282634                             | -5.3  | -3.4                      | 866                       | 1342                 | -0.98                           |                    |
| DR1114-82     | 52       | 0.036043                          | 0.001141                          | 0.282804                          | 0.000031      | 0.282803                             | 0.7   | 1.8                       | 637                       | 984                  | -0.97                           |                    |
| DR1114-83     | 982      | 0.046226                          | 0.001220                          | 0.282531                          | 0.000041      | 0.282508                             | -9.0  | 12.2                      | 1026                      | 1053                 | -0.96                           |                    |
| DR1114-84     | 50       | 0.033570                          | 0.001022                          | 0.282882                          | 0.000030      | 0.282881                             | 3.4   | 4.5                       | 524                       | 808                  | -0.97                           |                    |
| DR1114-85     | 129      | 0.026961                          | 0.000790                          | 0.282409                          | 0.000027      | 0.282407                             | -13.3 | -10.5                     | 1185                      | 1826                 | -0.98                           |                    |
| DR1114-86     | 12       | 0.018899                          | 0.000719                          | 0.282582                          | 0.000026      | 0.282582                             | -7.2  | -6.9                      | 941                       | 1509                 | -0.98                           |                    |
| DR1114-87     | 49       | 0.054982                          | 0.001577                          | 0.282655                          | 0.000030      | 0.282654                             | -4.6  | -3.6                      | 858                       | 1323                 | -0.95                           |                    |
| DR1114-88     | 58       | 0.028290                          | 0.000890                          | 0.282699                          | 0.000032      | 0.282698                             | -3.0  | -1.8                      | 781                       | 1217                 | -0.97                           |                    |
| DR1114-89     | 50       | 0.033584                          | 0.001126                          | 0.282865                          | 0.000035      | 0.282864                             | 2.8   | 3.9                       | 551                       | 848                  | -0.97                           |                    |
| DR1114-90     | 83       | 0.030226                          | 0.001056                          | 0.282666                          | 0.000037      | 0.282665                             | -4.2  | -2.4                      | 831                       | 1277                 | -0.97                           |                    |
| DR1114-91     | 60       | 0.044066                          | 0.001363                          | 0.282697                          | 0.000034      | 0.282695                             | -3.1  | -1.9                      | 794                       | 1223                 | -0.96                           |                    |
| DR1114-92     | 43       | 0.025240                          | 0.000782                          | 0.282664                          | 0.000025      | 0.282664                             | -4.3  | -3.3                      | 827                       | 1304                 | -0.98                           |                    |
| DR1114-93     | 86       | 0.031013                          | 0.000932                          | 0.282642                          | 0.000027      | 0.282640                             | -5.1  | -3.2                      | 862                       | 1330                 | -0.97                           |                    |
| DR1114-94     | 50       | 0.028186                          | 0.000857                          | 0.282655                          | 0.000028      | 0.282654                             | -4.6  | -3.5                      | 843                       | 1322                 | -0.97                           |                    |
| DR1114-95     | 11       | 0.008291                          | 0.000251                          | 0.282516                          | 0.000028      | 0.282516                             | -9.5  | -9.3                      | 1021                      | 1658                 | -0.99                           |                    |
| DR1114-96     | 1183     | 0.022941                          | 0.000643                          | 0.282151                          | 0.000026      | 0.282137                             | -22.4 | 3.6                       | 1536                      | 1753                 | -0.98                           |                    |
| DR1114-97     | 118      | 0.080355                          | 0.002616                          | 0.282283                          | 0.000030      | 0.282277                             | -17.8 | -15.4                     | 1429                      | 2124                 | -0.92                           |                    |
| DR1114-98     | 64       | 0.036485                          | 0.001098                          | 0.282672                          | 0.000029      | 0.282671                             | -4.0  | -2.6                      | 823                       | 1274                 | -0.97                           |                    |
| DR1114-99     | 129      | 0.036081                          | 0.001105                          | 0.282477                          | 0.000030      | 0.282474                             | -10.9 | -8.1                      | 1099                      | 1675                 | -0.97                           |                    |
| DR1114-100    | 113      | 0.049292                          | 0.001590                          | 0.282577                          | 0.000024      | 0.282574                             | -7.4  | -5.0                      | 970                       | 1462                 | -0.95                           |                    |
| DR1114-101    | 61       | 0.051648                          | 0.001436                          | 0.282692                          | 0.000020      | 0.282690                             | -3.3  | -2.0                      | 803                       | 1234                 | -0.96                           |                    |

$$\epsilon_{\text{Hf}}(0) = \left[ \frac{(^{176}\text{Hf}/^{177}\text{Hf})_{\text{Sample}}}{(^{176}\text{Hf}/^{177}\text{Hf})_{\text{CHUR}}} - 1 \right] \times 10^4.$$

$$\epsilon_{\text{Hf}}(t) = \left[ \frac{(^{176}\text{Hf}/^{177}\text{Hf})_{\text{Sample}} - (^{176}\text{Lu}/^{177}\text{Hf})_{\text{Sample}} \times (e^{\lambda t} - 1)}{(^{176}\text{Hf}/^{177}\text{Hf})_{\text{CHUR}} - (^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}} \times (e^{\lambda t} - 1)} - 1 \right] \times 10^4.$$

$$T_{\text{DM}} = 1/\lambda \times \ln \left\{ 1 + \frac{(^{176}\text{Hf}/^{177}\text{Hf})_{\text{Sample}} - (^{176}\text{Hf}/^{177}\text{Hf})_{\text{DM}}}{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{Sample}} - (^{176}\text{Lu}/^{177}\text{Hf})_{\text{DM}}} \right\}.$$

$$T_{\text{DM}}^{\text{C}} = T_{\text{DM}} - (T_{\text{DM}} - t) \times \frac{(f_{\text{MC}} - f_{\text{Sample}})}{(f_{\text{MC}} - f_{\text{DM}})}.$$

$$f_{\text{sample}} = \frac{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{Sample}}}{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}} - 1; \quad f_{\text{MC}} = \frac{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{MC}}}{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}} - 1; \quad f_{\text{DM}} = \frac{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{DM}}}{(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}} - 1.$$

$\lambda = 1.867 \times 10^{-11} \text{ yr}^{-1}$  (Söderlund et al., 2004);  $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}} = 0.0336$ ,  $(^{176}\text{Hf}/^{177}\text{Hf})_{\text{CHUR}} = 0.282785$  (Bouvier et al., 2008);  $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{DM}} = 0.0384$ ,  $(^{176}\text{Hf}/^{177}\text{Hf})_{\text{DM}} = 0.28325$ ,  $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{MC}} = 0.015$  (Griffin et al., 2000, 2002).

$t$  = crystallization time of zircon.  $^{206}\text{Pb}/^{238}\text{U}$  and  $^{207}\text{Pb}/^{206}\text{Pb}$  ages were used for zircons younger than 1000 Ma and older than 1000 Ma, respectively.

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