Table S2. Hf isotope composition of zircons for basement granitoids from the Qiongdongnan Basin.

| Spot No. | 176Yb/177Hf | 2σ | 176Lu/177Hf | 2σ | 176Hf/177Hf | 2σ | U-Pb age | εHf(t) | TDM1(Ma) | TDM2(Ma) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Q2 |
| 2-1 | 0.028255 | 0.000740 | 0.000709 | 0.000016 | 0.281250 | 0.000032 | 2434.3 | -0.5  | 2772  | 2976  |
| 2-2 | 0.053271 | 0.001988 | 0.001186 | 0.000037 | 0.282662 | 0.000032 | 259.4 | 1.6  | 841  | 1180  |
| 2-3 | 0.011148 | 0.000214 | 0.000329 | 0.000007 | 0.282834 | 0.000028 | 251.4 | 7.6  | 583  | 789  |
| 2-4 | 0.017784 | 0.000390 | 0.000554 | 0.000016 | 0.282856 | 0.000021 | 250.6 | 8.4  | 556  | 742  |
| 2-5 | 0.049040 | 0.001486 | 0.001125 | 0.000024 | 0.281234 | 0.000028 | 2538.6 | 0.6  | 2824  | 2991  |
| 2-6 | 0.022406 | 0.000308 | 0.000495 | 0.000009 | 0.281289 | 0.000021 | 2518.8 | 3.2  | 2704  | 2818  |
| 2-7 | 0.044837 | 0.002080 | 0.001144 | 0.000051 | 0.282805 | 0.000029 | 261.9 | 6.7  | 637  | 856  |
| 2-8 | 0.028444 | 0.000584 | 0.000710 | 0.000018 | 0.282786 | 0.000020 | 254.6 | 6.0  | 656  | 898  |
| 2-9 | 0.026465 | 0.000656 | 0.000691 | 0.000012 | 0.282838 | 0.000025 | 256.2 | 7.9  | 582  | 780  |
| 2-10 | 0.059308 | 0.003340 | 0.001273 | 0.000066 | 0.282619 | 0.000026 | 257.3 | 0.0  | 903  | 1278  |
| 2-11 | 0.023755 | 0.000788 | 0.000608 | 0.000014 | 0.281306 | 0.000024 | 2532.6 | 3.9  | 2690  | 2786  |
| 2-12 | 0.041087 | 0.000434 | 0.001047 | 0.000007 | 0.282896 | 0.000024 | 270 | 10.1  | 505  | 644  |
| 2-13 | 0.027527 | 0.000968 | 0.000779 | 0.000023 | 0.281305 | 0.000027 | 2429.5 | 1.3  | 2703  | 2867  |
| 2-14 | 0.028559 | 0.001274 | 0.000771 | 0.000032 | 0.282938 | 0.000024 | 252.9 | 11.3  | 443  | 557  |
| 2-15 | 0.027084 | 0.000500 | 0.000703 | 0.000013 | 0.281304 | 0.000024 | 2468.7 | 2.2  | 2699  | 2838  |
| 2-18 | 0.022103 | 0.000350 | 0.000593 | 0.000006 | 0.282827 | 0.000026 | 247.3 | 7.3  | 597  | 810  |
| 2-20 | 0.025669 | 0.000732 | 0.000642 | 0.000017 | 0.281253 | 0.000024 | 2166.6 | -6.3  | 2764  | 3127  |
| 2-21 | 0.027251 | 0.000562 | 0.000818 | 0.000016 | 0.282911 | 0.000022 | 248.2 | 10.2  | 481  | 621  |
| 2-22 | 0.024037 | 0.000212 | 0.000596 | 0.000009 | 0.282835 | 0.000024 | 247.2 | 7.6  | 585  | 791  |
| 2-24 | 0.056638 | 0.001054 | 0.001295 | 0.000016 | 0.282802 | 0.000029 | 263 | 6.6  | 643  | 863  |
| 2-25 | 0.031413 | 0.001012 | 0.000793 | 0.000027 | 0.282744 | 0.000022 | 259.9 | 4.6  | 717  | 992  |
| 2-26 | 0.031088 | 0.001018 | 0.000894 | 0.000025 | 0.282804 | 0.000026 | 248.1 | 6.4  | 634  | 864  |
| 2-27 | 0.025751 | 0.000542 | 0.000665 | 0.000017 | 0.281286 | 0.000026 | 2274 | -4.3  | 2721  | 3035  |
| 2-28 | 0.047117 | 0.001542 | 0.001413 | 0.000045 | 0.282885 | 0.000024 | 246.2 | 9.2  | 526  | 687  |
| 2-29 | 0.028389 | 0.001584 | 0.000742 | 0.000033 | 0.282811 | 0.000025 | 246.3 | 6.7  | 621  | 847  |
| 2-30 | 0.018559 | 0.001564 | 0.000459 | 0.000039 | 0.282872 | 0.000024 | 248 | 8.9  | 532  | 706  |
| 2-31 | 0.019613 | 0.000508 | 0.000458 | 0.000010 | 0.281273 | 0.000026 | 2516.6 | 2.7  | 2723  | 2850  |
| Q9 |
| 9-1 | 0.068499 | 0.001194 | 0.001736 | 0.000027 | 0.282885 | 0.000028 | 123.2 | 6.6  | 531  | 759  |
| 9-2 | 0.052947 | 0.001086 | 0.001383 | 0.000024 | 0.282915 | 0.000026 | 121 | 7.6  | 483  | 692  |
| 9-3 | 0.055819 | 0.000836 | 0.001400 | 0.000013 | 0.282857 | 0.000026 | 122.3 | 5.6  | 566  | 821  |
| 9-4 | 0.090265 | 0.003380 | 0.002243 | 0.000082 | 0.282965 | 0.000036 | 123.2 | 9.4  | 421  | 581  |
| 9-5 | 0.050800 | 0.000826 | 0.001291 | 0.000019 | 0.282915 | 0.000029 | 121.4 | 7.6  | 482  | 691  |
| 9-7 | 0.076063 | 0.001224 | 0.002183 | 0.000058 | 0.282861 | 0.000037 | 120.5 | 5.6  | 573  | 817  |
| 9-8 | 0.048366 | 0.001136 | 0.001228 | 0.000021 | 0.282885 | 0.000030 | 120.7 | 6.5  | 525  | 760  |
| 9-10 | 0.052665 | 0.000984 | 0.001325 | 0.000034 | 0.282843 | 0.000027 | 121 | 5.1  | 585  | 854  |
| 9-11 | 0.055045 | 0.000580 | 0.001380 | 0.000006 | 0.282875 | 0.000030 | 123 | 6.2  | 540  | 781  |
| 9-12 | 0.043125 | 0.000456 | 0.001098 | 0.000017 | 0.282918 | 0.000028 | 122.2 | 7.7  | 476  | 683  |
| 9-13 | 0.053711 | 0.000796 | 0.001344 | 0.000013 | 0.282868 | 0.000029 | 120.8 | 5.9  | 550  | 797  |
| 9-14 | 0.043148 | 0.001284 | 0.001094 | 0.000026 | 0.282925 | 0.000024 | 120.3 | 8.0  | 465  | 667  |
| 9-15 | 0.055129 | 0.000748 | 0.001383 | 0.000019 | 0.282955 | 0.000030 | 121 | 9.0  | 426  | 601  |
| 9-16 | 0.065215 | 0.002320 | 0.001556 | 0.000050 | 0.282837 | 0.000026 | 120 | 4.8  | 598  | 870  |
| 9-17 | 0.059298 | 0.000510 | 0.001487 | 0.000019 | 0.282852 | 0.000027 | 122 | 5.4  | 575  | 833  |
| 9-18 | 0.046101 | 0.000600 | 0.001183 | 0.000011 | 0.282874 | 0.000026 | 119.5 | 6.1  | 539  | 784  |
| 9-19 | 0.069360 | 0.004380 | 0.001618 | 0.000079 | 0.282912 | 0.000037 | 116.8 | 7.4  | 490  | 702  |
| 9-20 | 0.137805 | 0.003840 | 0.003147 | 0.000097 | 0.282874 | 0.000046 | 120.5 | 6.0  | 569  | 794  |
| 9-21 | 0.066326 | 0.000930 | 0.001644 | 0.000016 | 0.282836 | 0.000032 | 119.1 | 4.7  | 600  | 872  |
| 9-22 | 0.062171 | 0.001050 | 0.001550 | 0.000027 | 0.282902 | 0.000031 | 121.2 | 7.1  | 505  | 723  |
| 9-23 | 0.063479 | 0.001088 | 0.001556 | 0.000034 | 0.282832 | 0.000029 | 119.2 | 4.6  | 604  | 880  |
| 9-24 | 0.055109 | 0.001372 | 0.001427 | 0.000027 | 0.282919 | 0.000033 | 120.3 | 7.7  | 478  | 683  |
| 9-25 | 0.083356 | 0.005040 | 0.001924 | 0.000108 | 0.282866 | 0.000036 | 120.5 | 5.8  | 562  | 806  |
| 9-26 | 0.067093 | 0.001534 | 0.001669 | 0.000027 | 0.282807 | 0.000030 | 121.1 | 3.8  | 643  | 937  |
| 9-27 | 0.042943 | 0.000286 | 0.001094 | 0.000004 | 0.282917 | 0.000030 | 119.1 | 7.7  | 477  | 687  |
| 9-28 | 0.057914 | 0.000462 | 0.001442 | 0.000020 | 0.282814 | 0.000026 | 119.3 | 4.0  | 629  | 921  |
| 9-29 | 0.040032 | 0.000700 | 0.000995 | 0.000009 | 0.282833 | 0.000027 | 119 | 4.7  | 595  | 876  |
| 9-30 | 0.064594 | 0.000672 | 0.001586 | 0.000022 | 0.282922 | 0.000029 | 120.1 | 7.8  | 475  | 676  |
| 9-31 | 0.099532 | 0.005300 | 0.002320 | 0.000114 | 0.282832 | 0.000034 | 119.1 | 4.5  | 618  | 886  |
| Q12 |
| 12-1 | 0.042029 | 0.001176 | 0.000968 | 0.000031 | 0.282455 | 0.000027 | 273.5 | -5.4  | 1126  | 1632  |
| 12-2 | 0.060344 | 0.003380 | 0.001276 | 0.000064 | 0.282484 | 0.000026 | 275 | -4.4  | 1095  | 1570  |
| 12-3 | 0.071769 | 0.003740 | 0.001561 | 0.000072 | 0.282481 | 0.000026 | 270.1 | -4.6  | 1107  | 1583  |
| 12-4 | 0.036492 | 0.000764 | 0.000831 | 0.000013 | 0.282512 | 0.000022 | 273.8 | -3.4  | 1044  | 1504  |
| 12-5 | 0.028681 | 0.000414 | 0.000676 | 0.000007 | 0.282463 | 0.000023 | 269.3 | -5.1  | 1108  | 1615  |
| 12-7 | 0.062545 | 0.002140 | 0.001468 | 0.000058 | 0.282467 | 0.000028 | 271.1 | -5.1  | 1125  | 1613  |
| 12-8 | 0.049550 | 0.002060 | 0.001059 | 0.000051 | 0.282461 | 0.000030 | 269.5 | -5.3  | 1121  | 1622  |
| 12-9 | 0.045243 | 0.000886 | 0.000999 | 0.000020 | 0.282424 | 0.000021 | 268.1 | -6.6  | 1171  | 1706  |
| 12-13 | 0.035830 | 0.001028 | 0.000775 | 0.000019 | 0.282480 | 0.000023 | 269.8 | -4.5  | 1086  | 1576  |
| 12-14 | 0.062845 | 0.000844 | 0.001367 | 0.000018 | 0.282454 | 0.000026 | 267.4 | -5.6  | 1140  | 1642  |
| 12-15 | 0.047549 | 0.001126 | 0.001025 | 0.000025 | 0.282472 | 0.000031 | 270.3 | -4.9  | 1105  | 1597  |
| 12-16 | 0.029768 | 0.000181 | 0.000689 | 0.000004 | 0.282491 | 0.000021 | 270.9 | -4.1  | 1069  | 1551  |
| 12-18 | 0.050548 | 0.000606 | 0.001041 | 0.000016 | 0.282498 | 0.000022 | 269.8 | -3.9  | 1068  | 1539  |
| 12-19 | 0.026472 | 0.001110 | 0.000600 | 0.000020 | 0.282470 | 0.000021 | 272.6 | -4.8  | 1096  | 1596  |
| 12-20 | 0.055874 | 0.000978 | 0.001220 | 0.000016 | 0.282422 | 0.000025 | 273.2 | -6.6  | 1182  | 1710  |
| 12-22 | 0.079825 | 0.001260 | 0.001697 | 0.000016 | 0.282507 | 0.000028 | 268.8 | -3.8  | 1074  | 1527  |
| 12-23 | 0.046456 | 0.000696 | 0.001014 | 0.000016 | 0.282448 | 0.000025 | 270.6 | -5.7  | 1138  | 1650  |
| 12-24 | 0.036125 | 0.002140 | 0.000796 | 0.000048 | 0.282484 | 0.000025 | 269.2 | -4.4  | 1081  | 1568  |
| 12-26 | 0.056452 | 0.001602 | 0.001196 | 0.000029 | 0.282471 | 0.000024 | 270.4 | -4.9  | 1111  | 1601  |
| 12-28 | 0.053063 | 0.001286 | 0.001146 | 0.000028 | 0.282444 | 0.000036 | 263.2 | -6.0  | 1148  | 1665  |
| 12-29 | 0.053398 | 0.001754 | 0.001205 | 0.000045 | 0.282464 | 0.000032 | 264.8 | -5.3  | 1121  | 1620  |
| 12-30 | 0.031935 | 0.000798 | 0.000705 | 0.000020 | 0.282474 | 0.000025 | 268.8 | -4.8  | 1093  | 1590  |
| Q18 |
| 18-1 | 0.048659 | 0.003020 | 0.001395 | 0.000067 | 0.282527 | 0.000037 | 236.6 | -3.7  | 1037  | 1497  |
| 18-2 | 0.065539 | 0.001608 | 0.001875 | 0.000043 | 0.282508 | 0.000030 | 236.1 | -4.5  | 1079  | 1546  |
| 18-3 | 0.044109 | 0.000834 | 0.001196 | 0.000026 | 0.282560 | 0.000028 | 237.8 | -2.5  | 986  | 1422  |
| 18-4 | 0.046675 | 0.001402 | 0.001305 | 0.000033 | 0.282537 | 0.000023 | 237.2 | -3.3  | 1021  | 1475  |
| 18-5 | 0.035448 | 0.000638 | 0.001041 | 0.000022 | 0.282573 | 0.000026 | 238.7 | -2.0  | 963  | 1391  |
| 18-6 | 0.058103 | 0.001492 | 0.001664 | 0.000048 | 0.282532 | 0.000028 | 237 | -3.5  | 1038  | 1489  |
| 18-7 | 0.056525 | 0.001440 | 0.001603 | 0.000036 | 0.282541 | 0.000029 | 239 | -3.2  | 1023  | 1467  |
| 18-8 | 0.050479 | 0.001336 | 0.001362 | 0.000025 | 0.282528 | 0.000030 | 236.3 | -3.6  | 1035  | 1494  |
| 18-9 | 0.036535 | 0.000980 | 0.001066 | 0.000027 | 0.282572 | 0.000028 | 236.4 | -2.1  | 966  | 1395  |
| 18-10 | 0.039517 | 0.001694 | 0.001090 | 0.000045 | 0.282506 | 0.000032 | 236.5 | -4.4  | 1059  | 1542  |
| 18-11 | 0.038433 | 0.001006 | 0.001040 | 0.000032 | 0.282504 | 0.000032 | 237 | -4.4  | 1060  | 1546  |
| 18-12 | 0.058287 | 0.002420 | 0.001656 | 0.000055 | 0.282529 | 0.000031 | 237.8 | -3.6  | 1042  | 1494  |
| 18-13 | 0.038984 | 0.001094 | 0.001098 | 0.000025 | 0.282550 | 0.000028 | 236.3 | -2.8  | 997  | 1443  |
| 18-14 | 0.044980 | 0.002840 | 0.001230 | 0.000064 | 0.282514 | 0.000026 | 237.8 | -4.1  | 1051  | 1524  |
| 18-15 | 0.045724 | 0.001156 | 0.001248 | 0.000023 | 0.282455 | 0.000030 | 237.8 | -6.2  | 1135  | 1656  |
| 18-16 | 0.046254 | 0.000466 | 0.001281 | 0.000010 | 0.282578 | 0.000028 | 238.9 | -1.8  | 963  | 1382  |
| 18-17 | 0.051503 | 0.001366 | 0.001528 | 0.000036 | 0.282535 | 0.000038 | 239.3 | -3.4  | 1030  | 1480  |
| 18-18 | 0.047823 | 0.001222 | 0.001333 | 0.000030 | 0.282541 | 0.000031 | 237.7 | -3.2  | 1016  | 1466  |
| 18-19 | 0.047525 | 0.000324 | 0.001361 | 0.000012 | 0.282583 | 0.000026 | 236.6 | -1.7  | 957  | 1372  |
| 18-20 | 0.036072 | 0.001602 | 0.001036 | 0.000049 | 0.282579 | 0.000030 | 237.1 | -1.8  | 954  | 1377  |
| 18-21 | 0.044830 | 0.001488 | 0.001275 | 0.000038 | 0.282556 | 0.000029 | 239.9 | -2.6  | 993  | 1429  |
| 18-22 | 0.052112 | 0.002260 | 0.001494 | 0.000070 | 0.282609 | 0.000028 | 239.4 | -0.8  | 923  | 1314  |
| 18-23 | 0.043743 | 0.001594 | 0.001181 | 0.000031 | 0.282501 | 0.000025 | 240 | -4.5  | 1068  | 1552  |
| 18-24 | 0.032663 | 0.000968 | 0.000933 | 0.000023 | 0.282549 | 0.000027 | 238.4 | -2.8  | 994  | 1442  |
| 18-26 | 0.056633 | 0.001320 | 0.001608 | 0.000033 | 0.282524 | 0.000033 | 239.4 | -3.8  | 1047  | 1504  |
| 18-27 | 0.044438 | 0.001144 | 0.001312 | 0.000035 | 0.282489 | 0.000036 | 239.1 | -5.0  | 1089  | 1580  |
| 18-28 | 0.037044 | 0.000846 | 0.001066 | 0.000018 | 0.282526 | 0.000032 | 239.4 | -3.6  | 1030  | 1495  |
| 18-29 | 0.052146 | 0.004420 | 0.001553 | 0.000127 | 0.282509 | 0.000036 | 236.3 | -4.4  | 1068  | 1540  |
| 18-30 | 0.058467 | 0.001772 | 0.001486 | 0.000042 | 0.282435 | 0.000032 | 238.4 | -6.9  | 1171  | 1704  |
| 18-31 | 0.037309 | 0.000986 | 0.001063 | 0.000027 | 0.282593 | 0.000030 | 238.7 | -1.3  | 936  | 1346  |
| 18-32 | 0.044781 | 0.000772 | 0.001301 | 0.000019 | 0.282548 | 0.000027 | 238.2 | -2.9  | 1005  | 1448  |
| 18-33 | 0.037231 | 0.001340 | 0.001072 | 0.000037 | 0.282539 | 0.000032 | 238.3 | -3.2  | 1012  | 1466  |
| Q1 |
| 1-1 | 0.078033 | 0.003280 | 0.001983 | 0.000090 | 0.282687 | 0.000029 | 229.3  | 1.7  | 823  | 1149  |
| 1-2 | 0.020867 | 0.000582 | 0.000541 | 0.000013 | 0.281190 | 0.000024 | 2708.1  | 3.9  | 2841  | 2922  |
| 1-3 | 0.032163 | 0.000678 | 0.000838 | 0.000012 | 0.282639 | 0.000024 | 228.5  | 0.2  | 866  | 1247  |
| 1-4 | 0.038720 | 0.000462 | 0.000998 | 0.000008 | 0.282631 | 0.000026 | 229.5  | -0.1  | 880  | 1265  |
| 1-5 | 0.048082 | 0.000614 | 0.001226 | 0.000020 | 0.282652 | 0.000025 | 226.4  | 0.6  | 855  | 1221  |
| 1-6 | 0.066030 | 0.003300 | 0.001653 | 0.000085 | 0.282637 | 0.000028 | 229.7  | 0.0  | 887  | 1258  |
| 1-7 | 0.041028 | 0.002200 | 0.001038 | 0.000046 | 0.282614 | 0.000026 | 228.3  | -0.7  | 905  | 1304  |
| 1-8 | 0.049305 | 0.000690 | 0.001250 | 0.000014 | 0.282675 | 0.000025 | 229.4  | 1.4  | 824  | 1170  |
| 1-9 | 0.036380 | 0.001830 | 0.000930 | 0.000033 | 0.282648 | 0.000028 | 226.4  | 0.4  | 855  | 1229  |
| 1-10 | 0.072389 | 0.001178 | 0.001853 | 0.000040 | 0.282753 | 0.000029 | 229.1  | 4.1  | 724  | 999  |
| 1-11 | 0.046427 | 0.000586 | 0.001200 | 0.000020 | 0.282657 | 0.000028 | 228.4  | 0.8  | 848  | 1209  |
| 1-12 | 0.086098 | 0.001722 | 0.002273 | 0.000035 | 0.282731 | 0.000045 | 228.8  | 3.2  | 765  | 1053  |
| 1-13 | 0.054688 | 0.002700 | 0.001376 | 0.000068 | 0.282659 | 0.000028 | 229.3  | 0.8  | 850  | 1206  |
| 1-14 | 0.060412 | 0.003300 | 0.001471 | 0.000078 | 0.282638 | 0.000028 | 227.6  | 0.0  | 882  | 1256  |
| 1-15 | 0.058429 | 0.001700 | 0.001460 | 0.000045 | 0.282604 | 0.000031 | 229.3  | -1.1  | 929  | 1329  |
| 1-16 | 0.044162 | 0.001212 | 0.001132 | 0.000029 | 0.282648 | 0.000030 | 228.6  | 0.4  | 860  | 1230  |
| 1-18 | 0.045293 | 0.000760 | 0.001158 | 0.000015 | 0.282658 | 0.000030 | 228.7  | 0.8  | 845  | 1205  |
| 1-19 | 0.053894 | 0.001894 | 0.001315 | 0.000035 | 0.282593 | 0.000035 | 227.6  | -1.6  | 942  | 1355  |
| 1-20 | 0.056365 | 0.000332 | 0.001448 | 0.000011 | 0.282646 | 0.000033 | 229.6  | 0.4  | 870  | 1236  |
| 1-21 | 0.048143 | 0.000776 | 0.001274 | 0.000020 | 0.282708 | 0.000032 | 228.1  | 2.6  | 777  | 1095  |
| 1-22 | 0.053503 | 0.001498 | 0.001399 | 0.000036 | 0.282618 | 0.000029 | 228.4  | -0.6  | 908  | 1299  |
| 1-23 | 0.039306 | 0.000922 | 0.001024 | 0.000024 | 0.282652 | 0.000028 | 228.7  | 0.6  | 851  | 1219  |
| 1-24 | 0.041858 | 0.000328 | 0.001116 | 0.000012 | 0.282673 | 0.000026 | 228.9  | 1.3  | 824  | 1173  |
| 1-25 | 0.068424 | 0.002120 | 0.001729 | 0.000063 | 0.282671 | 0.000031 | 229.4  | 1.2  | 840  | 1182  |
| 1-26 | 0.080807 | 0.003440 | 0.002089 | 0.000077 | 0.282644 | 0.000028 | 230.9  | 0.2  | 888  | 1247  |
| 1-27 | 0.048089 | 0.000526 | 0.001237 | 0.000022 | 0.282587 | 0.000030 | 229.9  | -1.7  | 948  | 1365  |
| 1-28 | 0.043248 | 0.001672 | 0.001107 | 0.000034 | 0.282650 | 0.000027 | 230.8  | 0.6  | 855  | 1222  |
| 1-30 | 0.021936 | 0.000932 | 0.000668 | 0.000023 | 0.281225 | 0.000022 | 2558.5  | 1.5  | 2803  | 2951  |
| 1-31 | 0.053599 | 0.001274 | 0.001363 | 0.000026 | 0.282716 | 0.000028 | 229.7  | 2.8  | 768  | 1078  |
| Q5 |
| 5-2 | 0.043845 | 0.001302 | 0.001019 | 0.000029 | 0.282482 | 0.000029 | 258.7 | -4.8  | 1091  | 1582  |
| 5-6 | 0.039948 | 0.001192 | 0.001104 | 0.000028 | 0.282574 | 0.000027 | 248.2 | -1.7  | 963  | 1383  |
| 5-8 | 0.042725 | 0.000902 | 0.001058 | 0.000020 | 0.282469 | 0.000023 | 254 | -5.3  | 1110  | 1614  |
| 5-9 | 0.037577 | 0.000584 | 0.001020 | 0.000010 | 0.282585 | 0.000025 | 241.5 | -1.5  | 946  | 1362  |
| 5-10 | 0.044656 | 0.001832 | 0.001139 | 0.000046 | 0.282524 | 0.000024 | 245.7 | -3.6  | 1035  | 1497  |
| 5-13 | 0.040295 | 0.001214 | 0.000970 | 0.000025 | 0.282444 | 0.000032 | 253.5 | -6.2  | 1142  | 1669  |
| 5-14 | 0.078515 | 0.002740 | 0.002043 | 0.000070 | 0.282673 | 0.000030 | 242.3 | 1.5  | 845  | 1175  |
| 5-17 | 0.039642 | 0.001106 | 0.001082 | 0.000035 | 0.282522 | 0.000025 | 241.6 | -3.7  | 1035  | 1502  |
| 5-18 | 0.024416 | 0.000198 | 0.000665 | 0.000008 | 0.282586 | 0.000027 | 237.6 | -1.5  | 936  | 1359  |
| 5-19 | 0.013063 | 0.000326 | 0.000357 | 0.000008 | 0.282548 | 0.000025 | 236.2 | -2.8  | 980  | 1440  |
| 5-20 | 0.036080 | 0.002340 | 0.001024 | 0.000062 | 0.282712 | 0.000029 | 258.4 | -4.3  | 1087  | 1556  |
| 5-23 | 0.021382 | 0.000830 | 0.000532 | 0.000019 | 0.282382 | 0.000024 | 243.9 | -8.5  | 1215  | 1809  |
| 5-24 | 0.038408 | 0.000888 | 0.001045 | 0.000023 | 0.282578 | 0.000025 | 248.9 | -1.6  | 956  | 1373  |
| 5-25 | 0.034395 | 0.000920 | 0.000905 | 0.000023 | 0.282575 | 0.000028 | 241.7 | -1.8  | 957  | 1383  |
| 5-26 | 0.032434 | 0.000510 | 0.000900 | 0.000014 | 0.282561 | 0.000024 | 242 | -2.3  | 976  | 1414  |
| 5-27 | 0.072280 | 0.001780 | 0.001893 | 0.000051 | 0.282505 | 0.000030 | 237.5 | -4.5  | 1084  | 1552  |
| 5-28 | 0.050565 | 0.000904 | 0.001312 | 0.000022 | 0.282674 | 0.000028 | 239.8 | 1.6  | 826  | 1165  |
| 5-30 | 0.039397 | 0.000480 | 0.001034 | 0.000006 | 0.282403 | 0.000029 | 248.4 | -7.8  | 1201  | 1763  |
| Q6 |
| 6-1 | 0.039016 | 0.001636 | 0.001081 | 0.000038 | 0.282623 | 0.000027 | 240.1 | -0.2  | 893  | 1277  |
| 6-2 | 0.044940 | 0.002180 | 0.001205 | 0.000050 | 0.282671 | 0.000026 | 242 | 1.6  | 828  | 1169  |
| 6-3 | 0.029685 | 0.000264 | 0.000840 | 0.000007 | 0.282716 | 0.000021 | 240 | 3.2  | 757  | 1066  |
| 6-4 | 0.022209 | 0.001314 | 0.000639 | 0.000040 | 0.282753 | 0.000020 | 241.3 | 4.5  | 702  | 981  |
| 6-5 | 0.041888 | 0.001746 | 0.001116 | 0.000042 | 0.282716 | 0.000026 | 236.7 | 3.0  | 762  | 1070  |
| 6-6 | 0.039859 | 0.003380 | 0.001078 | 0.000093 | 0.282603 | 0.000026 | 240.9 | -0.9  | 921  | 1322  |
| 6-7 | 0.034542 | 0.000678 | 0.000979 | 0.000024 | 0.282735 | 0.000027 | 239.4 | 3.8  | 733  | 1025  |
| 6-8 | 0.051407 | 0.001394 | 0.001327 | 0.000031 | 0.282745 | 0.000024 | 237.8 | 4.0  | 726  | 1008  |
| 6-9 | 0.037492 | 0.000468 | 0.000970 | 0.000007 | 0.282635 | 0.000027 | 240.2 | 0.3  | 874  | 1249  |
| 6-10 | 0.052015 | 0.001858 | 0.001377 | 0.000036 | 0.282559 | 0.000034 | 241.3 | -2.4  | 991  | 1423  |
| 6-11 | 0.061766 | 0.003120 | 0.001544 | 0.000069 | 0.282517 | 0.000034 | 239.9 | -4.0  | 1056  | 1519  |
| 6-12 | 0.038850 | 0.000344 | 0.001035 | 0.000018 | 0.282316 | 0.000041 | 237.9 | -11.1  | 1324  | 1965  |
| 6-13 | 0.036376 | 0.000568 | 0.001059 | 0.000032 | 0.282675 | 0.000025 | 238.9 | 1.6  | 820  | 1162  |
| 6-14 | 0.039441 | 0.000534 | 0.001075 | 0.000009 | 0.282609 | 0.000025 | 233.5 | -0.8  | 914  | 1314  |
| 6-15 | 0.039801 | 0.000866 | 0.001091 | 0.000025 | 0.282709 | 0.000025 | 236.8 | 2.8  | 772  | 1087  |
| 6-16 | 0.047113 | 0.002080 | 0.001273 | 0.000053 | 0.282639 | 0.000024 | 239.6 | 0.3  | 876  | 1244  |
| 6-17 | 0.030453 | 0.001234 | 0.000784 | 0.000026 | 0.282687 | 0.000024 | 241 | 2.2  | 797  | 1131  |
| 6-18 | 0.036293 | 0.001738 | 0.000998 | 0.000064 | 0.282682 | 0.000024 | 240.9 | 1.9  | 809  | 1145  |
| 6-19 | 0.029338 | 0.000366 | 0.000844 | 0.000007 | 0.282709 | 0.000024 | 238.4 | 2.9  | 767  | 1083  |
| 6-20 | 0.054924 | 0.001140 | 0.001354 | 0.000026 | 0.282609 | 0.000024 | 239.7 | -0.7  | 920  | 1313  |
| 6-21 | 0.043894 | 0.002780 | 0.001141 | 0.000069 | 0.282689 | 0.000028 | 239.1 | 2.1  | 801  | 1130  |
| 6-22 | 0.032335 | 0.001066 | 0.000898 | 0.000025 | 0.282698 | 0.000026 | 239.7 | 2.5  | 783  | 1107  |
| 6-23 | 0.064505 | 0.002240 | 0.001639 | 0.000054 | 0.282692 | 0.000024 | 238.5 | 2.2  | 807  | 1128  |
| 6-24 | 0.029339 | 0.000534 | 0.000830 | 0.000013 | 0.282771 | 0.000024 | 238.9 | 5.1  | 679  | 942  |
| 6-25 | 0.090561 | 0.002060 | 0.002197 | 0.000055 | 0.282582 | 0.000031 | 239.3 | -1.8  | 981  | 1382  |
| 6-26 | 0.042485 | 0.000368 | 0.001155 | 0.000011 | 0.282715 | 0.000026 | 239.4 | 3.1  | 764  | 1071  |
| 6-27 | 0.038031 | 0.000874 | 0.001037 | 0.000026 | 0.282676 | 0.000024 | 240.2 | 1.7  | 818  | 1158  |
| 6-28 | 0.041156 | 0.001344 | 0.001108 | 0.000033 | 0.282719 | 0.000024 | 238.5 | 3.2  | 758  | 1063  |
| 6-29 | 0.059124 | 0.002400 | 0.001478 | 0.000051 | 0.282617 | 0.000031 | 240.8 | -0.4  | 911  | 1294  |
| 6-30 | 0.060180 | 0.002280 | 0.001533 | 0.000047 | 0.282470 | 0.000033 | 242.4 | -5.6  | 1122  | 1622  |
| 6-31 | 0.043274 | 0.001428 | 0.001174 | 0.000046 | 0.282615 | 0.000026 | 239.5 | -0.5  | 907  | 1298  |
| 6-32 | 0.046918 | 0.001520 | 0.001268 | 0.000036 | 0.282692 | 0.000025 | 237.1 | 2.2  | 800  | 1127  |
| 6-33 | 0.047718 | 0.001156 | 0.001273 | 0.000029 | 0.282706 | 0.000025 | 236.9 | 2.7  | 780  | 1095  |
|  |  |  |  |  |  |  |  |  |  |  |

εHf(t) = 10,000 × {[(176Hf/177Hf)S − (176Lu/177Hf)S × (eλt − 1)] / [(176Hf/177Hf)CHUR,0 − (176Lu/177Hf) CHUR × (eλt − 1)] − 1}.

TDM1 = 1/λ × ln{1 + [(176Hf/177Hf)S − (176Hf/177Hf) DM] /[(176Lu/177Hf)S − (176Lu/177Hf)DM]}.

TDM2 =TDM1 − (TDM1 − *t*) × [(f*cc* − f*s*)/(f*cc* − fDM)].

fLu/Hf = (176Lu/177Hf)S/(176Lu/177Hf) CHUR − 1.

Where, λ = 1.867 × 10−11/a (Soderlund et al., 2004); (176Lu/177Hf)S and (176Hf/177Hf)S are the measured values of the samples; (176Lu/177Hf)CHUR = 0.0332, (176Hf/177Hf)CHUR,0 =0.282772, (176Lu/177Hf)DM = 0.0384 and (176Hf/177Hf)DM = 0.28325 (Blichert-Toft and Albarede, 1997; Griffin et al., 2000); (176Lu/177Hf)mean crust = 0.015 (Griffin et al., 2002).

f*cc* = [(176Lu/177Hf)mean crust/(176Lu/177Hf) CHUR] − 1;

fs = (176Lu/177Hf)S/(176Lu/177Hf) CHUR-1;

fDM = [(176Lu/177Hf)DM/(176Lu/177Hf) CHUR] − 1.

*t* = crystallization time of zircon.

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