***Supplement S1***

*V.A. Zaika, A. A. Sorokin,,* “Age and Sources of the Galam Terrane Metasedimentary Rocks in the Mongol–Okhotsk Fold Belt: Results from U–Pb ages and Lu-Hf Isotope Data from Detrital Zircons,”

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**Table S1**. Data from U‒Th‒Pb and LA-ICP-MS analysis of zircon samples from metasedimentary rocks of the Galam Terrane.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Analysis | Th, ppm | | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| ***Sample V-126: a metasiltstone of the Akrinda Formation*** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | V-126 Spot 1 | 35 | 56 | | 9959 | 1.6 | 16.2900 | 1.6 | 0.9034 | 2.3 | 0.1068 | 1.6 | 0.70 | 654.0 | 9.8 | 653.6 | 10.9 | 651.9 | 34.8 | 654 | 19 | 0.33 | \*\* |
| 2 | V-126 Spot 2 | 170 | 88 | | 21223 | 0.5 | 13.5039 | 1.2 | 1.7713 | 1.6 | 0.1736 | 1.0 | 0.64 | 1031.7 | 9.7 | 1035.0 | 10.3 | 1042.0 | 24.6 | 1033 | 18 | -0.99 | \*\* |
| 3 | V-126 Spot 3 | 106 | 240 | | 126554 | 2.3 | 8.5584 | 0.7 | 5.4144 | 1.3 | 0.3362 | 1.1 | 0.85 | 1868.5 | 18.1 | 1887.1 | 11.3 | 1907.7 | 12.7 | 1894 | 21 | -2.06 | \*\* |
| 4 | V-126 Spot 4 | 63 | 178 | | 23602 | 2.8 | 11.6643 | 0.8 | 2.6108 | 1.8 | 0.2210 | 1.6 | 0.90 | 1287.0 | 19.0 | 1303.7 | 13.3 | 1331.3 | 15.3 | 1314 | 24 | -3.33 | \*\* |
| 5 | V-126 Spot 5 | 76 | 129 | | 33207 | 1.7 | 8.5344 | 0.7 | 5.4235 | 1.6 | 0.3358 | 1.4 | 0.89 | 1866.6 | 22.6 | 1888.6 | 13.4 | 1912.7 | 12.6 | 1901 | 22 | -2.41 | \*\* |
| 6 | V-126 Spot 6 | 173 | 251 | | 226386 | 1.4 | 5.4434 | 1.0 | 12.9827 | 1.5 | 0.5128 | 1.2 | 0.77 | 2668.4 | 25.2 | 2678.4 | 14.2 | 2685.9 | 16.0 | 2681 | 27 | -0.65 | \*\* |
| 7 | V-126 Spot 7 | 78 | 174 | | 13922 | 2.2 | 18.7161 | 1.1 | 0.3892 | 1.8 | 0.0528 | 1.5 | 0.81 | 332.0 | 4.8 | 333.8 | 5.2 | 346.1 | 24.3 | 332 | 9.4 | -4.08 | \*\* |
| 8 | V-126 Spot 8 | 40 | 64 | | 75012 | 1.6 | 8.5771 | 1.0 | 5.4998 | 2.1 | 0.3423 | 1.8 | 0.86 | 1897.6 | 29.0 | 1900.6 | 17.6 | 1903.8 | 18.8 | 1902 | 32 | -0.32 | \*\* |
| 9 | V-126 Spot 9 | 83 | 256 | | 37644 | 3.1 | 6.5891 | 1.0 | 8.5240 | 1.7 | 0.4075 | 1.4 | 0.80 | 2203.6 | 25.3 | 2288.5 | 15.3 | 2365.2 | 17.1 | — | — | — | — |
| 10 | V-126 Spot 10 | 71 | 138 | | 39951 | 2.0 | 17.0536 | 1.0 | 0.6764 | 1.6 | 0.0837 | 1.3 | 0.79 | 518.1 | 6.3 | 524.6 | 6.6 | 552.7 | 21.3 | 513 | 12 | -6.26 | \*\* |
| 11 | V-126 Spot 11 | 68 | 128 | | 4495 | 1.9 | 17.2568 | 1.1 | 0.7377 | 1.7 | 0.0924 | 1.2 | 0.73 | 569.5 | 6.6 | 561.0 | 7.1 | 526.9 | 24.8 | 566 | 13 | 8.09 | \*\* |
| 12 | V-126 Spot 12 | 82 | 92 | | 36479 | 1.1 | 8.3040 | 1.0 | 5.9490 | 1.6 | 0.3584 | 1.2 | 0.77 | 1974.8 | 20.9 | 1968.4 | 14.0 | 1961.7 | 18.4 | 1968 | 28 | 0.67 | \*\* |
| 13 | V-126 Spot 13 | 335 | 461 | | 36690 | 1.4 | 18.4998 | 0.9 | 0.4240 | 2.0 | 0.0569 | 1.8 | 0.89 | 356.8 | 6.1 | 358.9 | 6.0 | 372.3 | 20.6 | 358 | 12 | -4.16 | \*\* |
| 14 | V-126 Spot 14 | 48 | 165 | | 56448 | 3.5 | 8.0956 | 0.9 | 6.1313 | 1.8 | 0.3602 | 1.6 | 0.87 | 1982.9 | 26.8 | 1994.7 | 15.7 | 2007.0 | 15.5 | 2001 | 27 | -1.20 | \*\* |
| 15 | V-126 Spot 15 | 73 | 121 | | 26180 | 1.7 | 18.0415 | 1.2 | 0.5491 | 1.7 | 0.0719 | 1.2 | 0.72 | 447.5 | 5.3 | 444.4 | 6.2 | 428.5 | 26.7 | 447 | 10 | 4.43 | \*\* |
| 16 | V-126 Spot 16 | 39 | 68 | | 11626 | 1.7 | 18.2545 | 1.5 | 0.4545 | 2.2 | 0.0602 | 1.6 | 0.73 | 376.8 | 5.9 | 380.4 | 7.0 | 402.3 | 33.5 | 378 | 12 | -6.33 | \*\* |
| 17 | V-126 Spot 17 | 59 | 81 | | 11656 | 1.4 | 8.4927 | 0.9 | 5.5494 | 1.7 | 0.3420 | 1.4 | 0.83 | 1896.1 | 22.5 | 1908.3 | 14.2 | 1921.5 | 16.7 | 1912 | 27 | -1.32 | \*\* |
| 18 | V-126 Spot 18 | 67 | 80 | | 35488 | 1.2 | 14.2660 | 1.1 | 1.4197 | 1.8 | 0.1470 | 1.4 | 0.78 | 883.9 | 11.4 | 897.2 | 10.5 | 930.3 | 22.6 | 893 | 21 | -4.99 | \*\* |
| 19 | V-126 Spot 19 | 38 | 56 | | 4429 | 1.5 | 18.9329 | 1.5 | 0.4400 | 2.2 | 0.0604 | 1.6 | 0.71 | 378.3 | 5.7 | 370.2 | 6.8 | 320.0 | 35.2 | 376 | 11 | 18.21 | \*\* |
| 20 | V-126 Spot 20 | 63 | 134 | | 161785 | 2.1 | 8.1839 | 0.9 | 6.0918 | 1.3 | 0.3617 | 1.0 | 0.72 | 1990.4 | 16.5 | 1989.1 | 11.6 | 1987.7 | 16.3 | 1989 | 23 | 0.14 | \*\* |
| 21 | V-126 Spot 21 | 67 | 123 | | 39488 | 1.8 | 17.3699 | 1.2 | 0.6575 | 2.0 | 0.0829 | 1.6 | 0.78 | 513.2 | 7.7 | 513.1 | 8.0 | 512.5 | 27.2 | 513 | 15 | 0.14 | \*\* |
| 22 | V-126 Spot 22 | 0 | 92 | | 3714 | 271.6 | 17.5130 | 2.2 | 0.7792 | 2.5 | 0.0990 | 1.2 | 0.46 | 608.6 | 6.7 | 585.0 | 11.2 | 494.5 | 49.6 | 606 | 13 | 23.08 | \*\* |
| 23 | V-126 Spot 23 | 47 | 167 | | 191018 | 3.6 | 16.8254 | 1.5 | 0.5878 | 2.0 | 0.0718 | 1.3 | 0.67 | 446.7 | 5.8 | 469.4 | 7.6 | 582.1 | 32.5 | — | — | — | — |
| 24 | V-126 Spot 24 | 87 | 87 | | 46247 | 1.0 | 7.9724 | 1.2 | 6.5509 | 2.0 | 0.3789 | 1.6 | 0.82 | 2071.4 | 28.9 | 2052.8 | 17.6 | 2034.1 | 20.5 | 2047 | 34 | 1.83 | \*\* |
| 25 | V-126 Spot 25 | 127 | 119 | | 7237 | 0.9 | 19.1355 | 1.5 | 0.3759 | 2.1 | 0.0522 | 1.5 | 0.70 | 328.0 | 4.7 | 324.0 | 5.8 | 295.8 | 34.4 | 327 | 9.3 | 10.90 | \*\* |
| 26 | V-126 Spot 26 | 97 | 247 | | 10604 | 2.5 | 16.8898 | 0.9 | 0.7892 | 1.4 | 0.0967 | 1.1 | 0.79 | 595.2 | 6.5 | 590.7 | 6.5 | 573.8 | 19.3 | 593 | 12 | 3.73 | \*\* |
| 27 | V-126 Spot 27 | 137 | 217 | | 6407 | 1.6 | 18.6665 | 1.5 | 0.4245 | 2.2 | 0.0575 | 1.7 | 0.75 | 360.4 | 5.9 | 359.3 | 6.8 | 352.1 | 33.3 | 360 | 12 | 2.35 | \*\* |
| 28 | V-126 Spot 28 | 97 | 227 | | 41559 | 2.3 | 8.8622 | 1.1 | 5.3566 | 1.8 | 0.3444 | 1.5 | 0.82 | 1908.0 | 24.7 | 1877.9 | 15.7 | 1844.8 | 19.3 | 1869 | 30 | 3.43 | \*\* |
| 29 | V-126 Spot 29 | 83 | 133 | | 27411 | 1.6 | 15.0114 | 1.2 | 1.2275 | 1.6 | 0.1337 | 1.0 | 0.65 | 808.9 | 7.7 | 813.2 | 8.7 | 824.9 | 24.9 | 810 | 15 | -1.94 | \*\* |
| 30 | V-126 Spot 30 | 212 | 542 | | 230126 | 2.6 | 8.3925 | 1.0 | 5.7213 | 1.5 | 0.3484 | 1.2 | 0.79 | 1926.9 | 20.3 | 1934.6 | 13.4 | 1942.8 | 17.0 | 1936 | 26 | -0.82 | \*\* |
| 31 | V-126 Spot 31 | 78 | 99 | | 4381 | 1.3 | 18.3073 | 1.1 | 0.6155 | 1.8 | 0.0818 | 1.4 | 0.79 | 506.6 | 6.9 | 487.0 | 6.9 | 395.8 | 24.5 | — | — | — | — |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 32 | V-126 Spot 32 | 107 | 364 | 195915 | 3.4 | 8.4408 | 1.1 | 5.8564 | 1.9 | 0.3587 | 1.5 | 0.79 | 1975.9 | 25.1 | 1954.8 | 16.2 | 1932.5 | 20.5 | 1950 | 32 | 2.25 | \*\* |
| 33 | V-126 Spot 33 | 96 | 99 | 5238 | 1.0 | 18.1650 | 2.0 | 0.5978 | 2.5 | 0.0788 | 1.6 | 0.62 | 488.9 | 7.4 | 475.9 | 9.7 | 413.3 | 44.7 | 486 | 15 | 18.30 | \*\* |
| 34 | V-126 Spot 34 | 214 | 243 | 8777 | 1.1 | 15.3681 | 1.6 | 1.1215 | 2.1 | 0.1251 | 1.4 | 0.67 | 759.6 | 10.2 | 763.7 | 11.3 | 775.7 | 32.7 | 761 | 19 | -2.07 | \*\* |
| 35 | V-126 Spot 35 | 156 | 186 | 276911 | 1.2 | 14.0879 | 1.0 | 1.5062 | 2.0 | 0.1540 | 1.7 | 0.86 | 923.1 | 14.7 | 932.9 | 12.2 | 956.0 | 21.1 | 934 | 24 | -3.44 | \*\* |
| 36 | V-126 Spot 36 | 152 | 232 | 23375 | 1.5 | 15.2422 | 1.3 | 1.1998 | 2.0 | 0.1327 | 1.6 | 0.77 | 803.2 | 11.9 | 800.5 | 11.3 | 792.9 | 27.1 | 802 | 22 | 1.29 | \*\* |
| 37 | V-126 Spot 37 | 106 | 84 | 85275 | 0.8 | 8.4899 | 1.2 | 5.6187 | 2.0 | 0.3461 | 1.6 | 0.81 | 1916.0 | 26.3 | 1919.0 | 17.0 | 1922.1 | 20.9 | 1920 | 33 | -0.32 | \*\* |
| 38 | V-126 Spot 38 | 72 | 375 | 21241 | 5.2 | 17.8419 | 0.9 | 0.6564 | 1.8 | 0.0850 | 1.5 | 0.85 | 525.8 | 7.6 | 512.4 | 7.1 | 453.3 | 20.7 | 516 | 14 | 15.98 | \*\* |
| 39 | V-126 Spot 39 | 96 | 249 | 49514 | 2.6 | 8.4227 | 1.0 | 5.8185 | 1.7 | 0.3556 | 1.4 | 0.82 | 1961.2 | 23.3 | 1949.2 | 14.6 | 1936.4 | 17.5 | 1945 | 28 | 1.28 | \*\* |
| 40 | V-126 Spot 40 | 19 | 38 | 4634 | 2.1 | 19.2055 | 2.3 | 0.3970 | 2.8 | 0.0553 | 1.6 | 0.56 | 347.1 | 5.2 | 339.5 | 8.0 | 287.4 | 52.9 | 346 | 10 | 20.77 | \*\* |
| 41 | V-126 Spot 41 | 109 | 156 | 15943 | 1.4 | 15.0938 | 0.9 | 1.2183 | 1.7 | 0.1334 | 1.5 | 0.85 | 807.4 | 11.1 | 809.0 | 9.5 | 813.5 | 18.7 | 809 | 19 | -0.75 | \*\* |
| 42 | V-126 Spot 42 | 101 | 123 | 30809 | 1.2 | 8.8479 | 0.8 | 5.2015 | 1.3 | 0.3339 | 1.0 | 0.76 | 1857.4 | 15.6 | 1852.9 | 10.9 | 1847.8 | 15.2 | 1853 | 22 | 0.52 | \*\* |
| 43 | V-126 Spot 43 | 60 | 198 | 105848 | 3.3 | 10.8292 | 1.3 | 3.1947 | 2.1 | 0.2510 | 1.6 | 0.76 | 1443.8 | 20.3 | 1455.9 | 15.9 | 1473.6 | 25.3 | 1455 | 32 | -2.02 | \*\* |
| 44 | V-126 Spot 44 | 83 | 291 | 132055 | 3.5 | 8.7484 | 1.0 | 5.1174 | 1.8 | 0.3248 | 1.5 | 0.83 | 1813.3 | 23.6 | 1839.0 | 15.2 | 1868.2 | 17.8 | 1848 | 29 | -2.94 | \*\* |
| 45 | V-126 Spot 45 | 85 | 191 | 1458730  52 | 2.2 | 14.1677 | 1.0 | 1.4876 | 1.7 | 0.1529 | 1.3 | 0.79 | 917.3 | 11.1 | 925.3 | 10.1 | 944.5 | 21.0 | 923 | 20 | -2.87 | \*\* |
| 46 | V-126 Spot 46 | 130 | 231 | 17677 | 1.8 | 17.2054 | 1.2 | 0.7222 | 1.8 | 0.0902 | 1.4 | 0.78 | 556.5 | 7.6 | 552.0 | 7.8 | 533.4 | 25.4 | 555 | 15 | 4.34 | \*\* |
| 47 | V-126 Spot 47 | 89 | 142 | 499981 | 1.6 | 18.1371 | 1.0 | 0.4301 | 1.8 | 0.0566 | 1.5 | 0.81 | 354.9 | 5.0 | 363.3 | 5.5 | 416.7 | 23.2 | 357 | 9.9 | -14.83 | \*\* |
| 48 | V-126 Spot 48 | 61 | 83 | 1750 | 1.4 | 12.5001 | 5.1 | 0.5980 | 5.4 | 0.0542 | 1.6 | 0.31 | 340.5 | 5.5 | 476.0 | 20.4 | 1196.1 | 101.0 | — | — | — | — |
| 49 | V-126 Spot 49 | 65 | 78 | 3124 | 1.2 | 20.0440 | 1.7 | 0.3906 | 2.7 | 0.0568 | 2.0 | 0.76 | 356.2 | 7.0 | 334.8 | 7.6 | 188.8 | 40.4 | — | — | — | — |
| 50 | V-126 Spot 50 | 65 | 84 | 5936 | 1.3 | 19.1989 | 1.5 | 0.4099 | 2.1 | 0.0571 | 1.5 | 0.70 | 358.0 | 5.2 | 348.8 | 6.3 | 288.2 | 35.0 | 356 | 10 | 24.21 | \*\* |
| 51 | V-126 Spot 51 | 74 | 131 | 30857 | 1.8 | 16.7042 | 1.1 | 0.8076 | 1.7 | 0.0979 | 1.3 | 0.78 | 602.0 | 7.7 | 601.1 | 7.8 | 597.8 | 23.1 | 602 | 15 | 0.71 | \*\* |
| 52 | V-126 Spot 52 | 146 | 292 | 286581 | 2.0 | 8.2886 | 0.9 | 5.8872 | 1.8 | 0.3541 | 1.5 | 0.86 | 1954.0 | 25.6 | 1959.3 | 15.2 | 1965.0 | 15.7 | 1962 | 27 | -0.56 | \*\* |
| 53 | V-126 Spot 53 | 78 | 116 | 31162 | 1.5 | 14.1196 | 1.1 | 1.4623 | 1.7 | 0.1498 | 1.2 | 0.74 | 899.9 | 10.3 | 915.0 | 10.0 | 951.4 | 23.1 | 908 | 19 | -5.41 | \*\* |
| 54 | V-126 Spot 54 | 118 | 220 | 179060 | 1.9 | 18.2067 | 1.2 | 0.4591 | 1.8 | 0.0606 | 1.3 | 0.75 | 379.5 | 4.9 | 383.6 | 5.7 | 408.2 | 26.3 | 380 | 9.8 | -7.01 | \*\* |
| 55 | V-126 Spot 55 | 74 | 185 | 35437 | 2.5 | 8.6570 | 0.8 | 5.4410 | 1.9 | 0.3418 | 1.6 | 0.89 | 1895.2 | 27.1 | 1891.3 | 15.9 | 1887.1 | 15.3 | 1889 | 27 | 0.43 | \*\* |
| 56 | V-126 Spot 56 | 34 | 76 | 34688 | 2.3 | 8.8185 | 0.9 | 5.0295 | 1.7 | 0.3218 | 1.5 | 0.86 | 1798.6 | 23.0 | 1824.3 | 14.5 | 1853.8 | 15.9 | 1836 | 26 | -2.98 | \*\* |
| 57 | V-126 Spot 57 | 139 | 130 | 48851 | 0.9 | 8.1487 | 1.1 | 5.8934 | 1.8 | 0.3485 | 1.4 | 0.80 | 1927.2 | 23.7 | 1960.3 | 15.5 | 1995.3 | 19.0 | 1968 | 30 | -3.41 | \*\* |
| 58 | V-126 Spot 58 | 16 | 40 | 5628 | 2.5 | 8.2889 | 1.1 | 6.0481 | 1.5 | 0.3638 | 1.0 | 0.70 | 1999.9 | 17.9 | 1982.8 | 12.9 | 1965.0 | 18.9 | 1983 | 26 | 1.78 | \*\* |
| 59 | V-126 Spot 59 | 163 | 202 | 8093 | 1.2 | 17.9032 | 1.4 | 0.6091 | 1.9 | 0.0791 | 1.3 | 0.69 | 490.9 | 6.2 | 483.0 | 7.3 | 445.7 | 30.8 | 489 | 12 | 10.15 | \*\* |
| 60 | V-126 Spot 60 | 29 | 81 | 24403 | 2.8 | 8.5788 | 1.1 | 5.4423 | 1.7 | 0.3388 | 1.3 | 0.78 | 1880.7 | 21.1 | 1891.5 | 14.3 | 1903.4 | 18.9 | 1893 | 28 | -1.19 | \*\* |
| 61 | V-126 Spot 61 | 123 | 65 | 14534 | 0.5 | 7.9038 | 1.0 | 6.4903 | 1.7 | 0.3722 | 1.4 | 0.82 | 2039.8 | 24.3 | 2044.6 | 15.0 | 2049.4 | 17.4 | 2046 | 29 | -0.47 | \*\* |
| 62 | V-126 Spot 62 | 36 | 58 | 40059 | 1.6 | 8.2833 | 1.0 | 5.8737 | 1.7 | 0.3530 | 1.3 | 0.78 | 1949.0 | 21.7 | 1957.4 | 14.3 | 1966.2 | 18.4 | 1959 | 28 | -0.87 | \*\* |
| 63 | V-126 Spot 63 | 18 | 87 | 20706 | 4.9 | 8.7020 | 0.9 | 5.1875 | 1.6 | 0.3275 | 1.3 | 0.81 | 1826.5 | 20.0 | 1850.6 | 13.2 | 1877.8 | 16.6 | 1856 | 26 | -2.73 | \*\* |
| 64 | V-126 Spot 64 | 132 | 145 | 11890 | 1.1 | 18.5356 | 1.4 | 0.3922 | 2.1 | 0.0528 | 1.6 | 0.77 | 331.4 | 5.3 | 336.0 | 6.1 | 368.0 | 30.6 | 332 | 10 | -9.94 | \*\* |
| 65 | V-126 Spot 65 | 56 | 93 | 47485 | 1.7 | 8.5283 | 0.8 | 5.4622 | 1.6 | 0.3380 | 1.3 | 0.84 | 1877.0 | 21.6 | 1894.7 | 13.5 | 1914.0 | 15.2 | 1902 | 25 | -1.93 | \*\* |
| 66 | V-126 Spot 66 | 24 | 268 | 39306 | 11.4 | 10.9865 | 1.3 | 2.5788 | 2.6 | 0.2056 | 2.3 | 0.87 | 1205.2 | 25.1 | 1294.6 | 19.3 | 1446.2 | 25.1 | — | — | — | — |
| 67 | V-126 Spot 67 | 48 | 61 | 4875 | 1.3 | 19.0066 | 1.7 | 0.4020 | 2.3 | 0.0554 | 1.6 | 0.67 | 347.8 | 5.3 | 343.1 | 6.7 | 311.2 | 38.8 | 347 | 10 | 11.77 | \*\* |
| 68 | V-126 Spot 68 | 63 | 82 | 80427 | 1.3 | 6.2349 | 0.9 | 10.4464 | 1.8 | 0.4726 | 1.5 | 0.85 | 2494.9 | 31.1 | 2475.2 | 16.4 | 2459.0 | 15.7 | 2467 | 29 | 1.46 | \*\* |
| 69 | V-126 Spot 69 | 35 | 74 | 91006 | 2.1 | 15.1393 | 1.1 | 1.2086 | 1.9 | 0.1328 | 1.6 | 0.83 | 803.6 | 12.1 | 804.5 | 10.7 | 807.1 | 22.5 | 804 | 21 | -0.44 | \*\* |
| 70 | V-126 Spot 70 | 22 | 60 | 92521 | 2.7 | 5.7321 | 1.1 | 11.3994 | 1.7 | 0.4741 | 1.4 | 0.80 | 2501.6 | 28.8 | 2556.4 | 16.3 | 2600.1 | 17.6 | 2573 | 30 | -3.79 | \*\* |
| 71 | V-126 Spot 71 | 118 | 275 | 69335 | 2.3 | 8.2798 | 0.9 | 6.0576 | 1.4 | 0.3639 | 1.1 | 0.77 | 2000.7 | 18.1 | 1984.2 | 12.0 | 1966.9 | 15.8 | 1982 | 24 | 1.72 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 72 | V-126 Spot 72 | 140 | 165 | 37361 | 1.2 | 5.9974 | 1.0 | 10.7516 | 1.6 | 0.4679 | 1.3 | 0.80 | 2474.2 | 26.9 | 2501.9 | 15.1 | 2524.4 | 16.2 | 2511 | 28 | -1.99 | \*\* |
| 73 | V-126 Spot 73 | 133 | 267 | 57866 | 2.0 | 18.6606 | 1.3 | 0.3996 | 1.9 | 0.0541 | 1.4 | 0.74 | 339.7 | 4.5 | 341.4 | 5.4 | 352.8 | 28.4 | 340 | 9 | -3.73 | \*\* |
| 74 | V-126 Spot 75 | 19 | 66 | 50403 | 3.5 | 8.3827 | 0.9 | 5.8561 | 1.8 | 0.3562 | 1.6 | 0.88 | 1964.1 | 27.3 | 1954.8 | 15.9 | 1944.9 | 15.6 | 1950 | 27 | 0.99 | \*\* |
| 75 | V-126 Spot 76 | 209 | 384 | 377098 | 1.8 | 6.6034 | 0.9 | 9.2780 | 1.5 | 0.4445 | 1.2 | 0.80 | 2370.9 | 23.7 | 2365.8 | 13.8 | 2361.5 | 15.6 | 2364 | 26 | 0.40 | \*\* |
| 76 | V-126 Spot 77 | 191 | 292 | 9481 | 1.5 | 18.6498 | 1.1 | 0.4834 | 1.7 | 0.0654 | 1.3 | 0.76 | 408.5 | 5.0 | 400.4 | 5.5 | 354.1 | 24.5 | 406 | 9.7 | 15.36 | \*\* |
| 77 | V-126 Spot 78 | 266 | 444 | 247318 | 1.7 | 8.8331 | 0.7 | 5.1474 | 1.5 | 0.3299 | 1.3 | 0.87 | 1837.9 | 20.3 | 1844.0 | 12.4 | 1850.8 | 12.7 | 1847 | 22 | -0.69 | \*\* |
| 78 | V-126 Spot 79 | 123 | 133 | 13931 | 1.1 | 18.5335 | 1.1 | 0.3952 | 1.9 | 0.0531 | 1.6 | 0.82 | 333.8 | 5.1 | 338.2 | 5.5 | 368.2 | 24.3 | 335 | 10 | -9.35 | \*\* |
| 79 | V-126 Spot 80 | 146 | 83 | 40342 | 0.6 | 5.0829 | 0.8 | 14.7607 | 1.9 | 0.5444 | 1.7 | 0.91 | 2801.8 | 38.4 | 2799.9 | 17.6 | 2798.6 | 12.4 | 2799 | 24 | 0.11 | \*\* |
| 80 | V-126 Spot 82 | 23 | 29 | 7996 | 1.3 | 15.1000 | 1.4 | 1.2394 | 2.2 | 0.1358 | 1.6 | 0.74 | 820.8 | 12.4 | 818.6 | 12.1 | 812.6 | 30.2 | 820 | 23 | 1.01 | \*\* |
| 81 | V-126 Spot 83 | 74 | 163 | 12403 | 2.2 | 18.3511 | 1.4 | 0.4858 | 2.0 | 0.0647 | 1.5 | 0.74 | 404.1 | 5.8 | 402.1 | 6.6 | 390.5 | 30.4 | 404 | 11 | 3.49 | \*\* |
| 82 | V-126 Spot 84 | 47 | 801 | 57531 | 17.2 | 15.2813 | 1.2 | 1.1618 | 2.0 | 0.1288 | 1.6 | 0.82 | 781.1 | 12.1 | 782.8 | 11.0 | 787.6 | 24.5 | 782 | 22 | -0.82 | \*\* |
| 83 | V-126 Spot 85 | 217 | 635 | 19660 | 2.9 | 18.6311 | 0.9 | 0.4602 | 1.9 | 0.0622 | 1.7 | 0.88 | 389.1 | 6.3 | 384.4 | 6.1 | 356.4 | 20.0 | 386 | 12 | 9.17 | \*\* |
| 84 | V-126 Spot 86 | 104 | 216 | 29156 | 2.1 | 16.6500 | 1.1 | 0.7995 | 1.7 | 0.0966 | 1.3 | 0.76 | 594.4 | 7.1 | 596.6 | 7.5 | 604.8 | 23.2 | 595 | 14 | -1.72 | \*\* |
| 85 | V-126 Spot 87 | 63 | 100 | 100301 | 1.6 | 8.2437 | 0.8 | 5.9564 | 1.5 | 0.3563 | 1.3 | 0.86 | 1964.5 | 22.0 | 1969.5 | 13.1 | 1974.7 | 13.6 | 1972 | 23 | -0.52 | \*\* |
| 86 | V-126 Spot 88 | 318 | 337 | 23011 | 1.1 | 15.2549 | 1.0 | 1.2067 | 1.5 | 0.1336 | 1.1 | 0.74 | 808.2 | 8.3 | 803.7 | 8.1 | 791.2 | 20.6 | 806 | 15 | 2.15 | \*\* |
| 87 | V-126 Spot 89 | 345 | 378 | 93777 | 1.1 | 5.0858 | 0.9 | 14.8474 | 1.7 | 0.5479 | 1.4 | 0.85 | 2816.4 | 33.1 | 2805.5 | 16.2 | 2797.7 | 14.5 | 2801 | 27 | 0.67 | \*\* |
| 88 | V-126 Spot 90 | 30 | 94 | 10252 | 3.1 | 16.1101 | 1.2 | 0.9770 | 1.8 | 0.1142 | 1.4 | 0.74 | 697.1 | 9.0 | 692.1 | 9.2 | 675.7 | 26.2 | 695 | 17 | 3.18 | \*\* |
| 89 | V-126 Spot 91 | 35 | 65 | 58394 | 1.9 | 8.6005 | 1.0 | 5.3874 | 1.7 | 0.3362 | 1.4 | 0.82 | 1868.3 | 22.1 | 1882.9 | 14.3 | 1898.9 | 17.2 | 1887 | 27 | -1.61 | \*\* |
| 90 | V-126 Spot 92 | 23 | 103 | 28049 | 4.5 | 7.3682 | 1.0 | 7.1922 | 1.6 | 0.3845 | 1.3 | 0.79 | 2097.3 | 23.1 | 2135.5 | 14.5 | 2172.5 | 17.3 | 2145 | 28 | -3.46 | \*\* |
| 91 | V-126 Spot 93 | 73 | 148 | 539477 | 2.0 | 5.3285 | 1.2 | 13.6435 | 1.9 | 0.5275 | 1.5 | 0.77 | 2730.9 | 32.5 | 2725.3 | 18.0 | 2721.1 | 20.0 | 2724 | 34 | 0.36 | \*\* |
| 92 | V-126 Spot 94 | 225 | 760 | 15420 | 3.4 | 10.8579 | 1.5 | 1.3700 | 2.5 | 0.1079 | 2.0 | 0.80 | 660.7 | 12.7 | 876.2 | 14.9 | 1468.6 | 29.1 | — | — | — | — |
| 93 | V-126 Spot 95 | 94 | 90 | 2583 | 1.0 | 20.4749 | 1.5 | 0.3546 | 2.2 | 0.0527 | 1.6 | 0.73 | 331.0 | 5.1 | 308.2 | 5.8 | 139.2 | 34.9 | — | — | — | — |
| 94 | V-126 Spot 96 | 101 | 138 | 8431 | 1.4 | 19.3082 | 2.1 | 0.3798 | 2.5 | 0.0532 | 1.5 | 0.59 | 334.2 | 4.9 | 326.9 | 7.1 | 275.2 | 47.3 | 333 | 9.7 | 21.45 | \*\* |
| 95 | V-126 Spot 97 | 156 | 166 | 4632 | 1.1 | 19.4781 | 2.1 | 0.3656 | 2.6 | 0.0517 | 1.6 | 0.62 | 324.7 | 5.1 | 316.4 | 7.2 | 255.1 | 47.7 | 324 | 10 | 27.29 | \*\* |
| 96 | V-126 Spot 98 | 79 | 109 | 45775 | 1.4 | 16.5641 | 1.6 | 0.7711 | 2.1 | 0.0927 | 1.3 | 0.64 | 571.3 | 7.2 | 580.4 | 9.1 | 616.0 | 34.2 | 573 | 14 | -7.24 | \*\* |
| 97 | V-126 Spot 99 | 26 | 61 | 7363 | 2.4 | 15.4774 | 1.8 | 1.1610 | 2.2 | 0.1304 | 1.4 | 0.61 | 790.1 | 10.0 | 782.4 | 12.2 | 760.7 | 37.3 | 788 | 19 | 3.85 | \*\* |
| 98 | V-126 Spot 100 | 20 | 106 | 97754 | 5.2 | 8.7369 | 1.2 | 5.2284 | 1.9 | 0.3314 | 1.4 | 0.75 | 1845.4 | 22.3 | 1857.3 | 15.9 | 1870.6 | 22.4 | 1858 | 32 | -1.34 | \*\* |
| 99 | V-126 Spot 101 | 365 | 890 | 129027 | 2.4 | 17.3153 | 1.0 | 0.6524 | 1.8 | 0.0820 | 1.4 | 0.82 | 507.9 | 7.1 | 510.0 | 7.0 | 519.4 | 22.0 | 509 | 13 | -2.22 | \*\* |
| 100 | V-126 Spot 102 | 48 | 53 | 107340 | 1.1 | 5.2993 | 0.9 | 12.7781 | 1.8 | 0.4913 | 1.6 | 0.87 | 2576.4 | 33.8 | 2663.4 | 17.2 | 2730.2 | 14.6 | — | — | — | — |
| 101 | V-126 Spot 103 | 132 | 267 | 97233 | 2.0 | 7.6060 | 0.9 | 6.6289 | 1.9 | 0.3658 | 1.7 | 0.87 | 2009.8 | 28.9 | 2063.2 | 16.9 | 2117.0 | 16.3 | 2091 | 28 | -5.06 | \*\* |
| 102 | V-126 Spot 104 | 47 | 64 | 2389 | 1.4 | 21.1406 | 6.5 | 0.3440 | 6.6 | 0.0528 | 1.2 | 0.18 | 331.5 | 3.9 | 300.2 | 17.2 | 63.5 | 155.3 | 331 | 7.9 | 421.96 | \*\* |
| 103 | V-126 Spot 105 | 317 | 513 | 150191 | 1.6 | 8.3632 | 1.0 | 5.8045 | 1.8 | 0.3522 | 1.6 | 0.86 | 1945.2 | 26.5 | 1947.1 | 16.0 | 1949.0 | 17.1 | 1948 | 29 | -0.19 | \*\* |
| 104 | V-126 Spot 106 | 37 | 37 | 14882 | 1.0 | 8.3293 | 1.1 | 5.5551 | 1.7 | 0.3357 | 1.3 | 0.74 | 1866.1 | 20.3 | 1909.2 | 14.6 | 1956.3 | 20.5 | 1910 | 29 | -4.61 | \*\* |
| 105 | V-126 Spot 107 | 75 | 95 | 4795 | 1.3 | 17.7671 | 2.4 | 0.7079 | 2.7 | 0.0913 | 1.3 | 0.48 | 562.9 | 6.9 | 543.5 | 11.3 | 462.6 | 52.1 | 561 | 14 | 21.68 | \*\* |
| 106 | V-126 Spot 108 | 49 | 80 | 285605 | 1.6 | 8.1694 | 1.0 | 6.1232 | 1.9 | 0.3630 | 1.6 | 0.86 | 1996.2 | 27.5 | 1993.6 | 16.3 | 1990.8 | 17.0 | 1992 | 29 | 0.27 | \*\* |
| 107 | V-126 Spot 109 | 25 | 54 | 22081 | 2.2 | 17.2158 | 2.1 | 0.6476 | 2.6 | 0.0809 | 1.4 | 0.57 | 501.4 | 7.0 | 507.0 | 10.2 | 532.1 | 46.1 | 502 | 14 | -5.76 | \*\* |
| 108 | V-126 Spot 110 | 77 | 94 | 15870 | 1.2 | 14.3064 | 1.2 | 1.4017 | 1.9 | 0.1455 | 1.6 | 0.80 | 875.7 | 12.7 | 889.7 | 11.5 | 924.5 | 23.9 | 886 | 23 | -5.28 | \*\* |
| 109 | V-126 Spot 111 | 133 | 158 | 1534314 | 1.2 | 8.1443 | 1.2 | 5.9587 | 2.0 | 0.3521 | 1.6 | 0.80 | 1944.7 | 26.3 | 1969.8 | 17.1 | 1996.3 | 21.0 | 1976 | 33 | -2.58 | \*\* |
| 110 | V-126 Spot 112 | 10 | 32 | 6172 | 3.0 | 8.1821 | 0.9 | 6.2596 | 1.9 | 0.3716 | 1.6 | 0.87 | 2037.0 | 28.3 | 2012.8 | 16.3 | 1988.1 | 16.4 | 2001 | 29 | 2.46 | \*\* |
| 111 | V-126 Spot 113 | 51 | 117 | 14973 | 2.3 | 17.0353 | 1.7 | 0.7739 | 2.3 | 0.0957 | 1.7 | 0.70 | 588.9 | 9.3 | 582.0 | 10.4 | 555.1 | 36.4 | 587 | 18 | 6.09 | \*\* |
| 112 | V-126 Spot 114 | 51 | 145 | 164608 | 2.9 | 8.2997 | 0.9 | 5.9885 | 1.6 | 0.3606 | 1.3 | 0.81 | 1985.2 | 22.3 | 1974.2 | 14.0 | 1962.6 | 16.9 | 1971 | 27 | 1.15 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | | |
| No | | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 113 | | V-126 Spot 115 | 31 | 216 | 23831 | 6.9 | 15.8744 | 0.9 | 0.9912 | 1.6 | 0.1142 | 1.3 | 0.84 | 696.9 | 8.9 | 699.3 | 8.1 | 707.1 | 18.7 | 699 | 16 | -1.45 | \*\* |
| 114 | | V-126 Spot 116 | 29 | 49 | 4727 | 1.7 | 8.9692 | 1.2 | 4.6346 | 2.0 | 0.3016 | 1.6 | 0.80 | 1699.3 | 23.6 | 1755.5 | 16.5 | 1823.1 | 21.5 | — | — | — | — |
| 115 | | V-126 Spot 117 | 28 | 81 | 5564 | 2.9 | 16.9745 | 1.6 | 0.7546 | 2.3 | 0.0929 | 1.6 | 0.72 | 572.9 | 9.0 | 570.9 | 9.9 | 562.9 | 34.3 | 572 | 17 | 1.78 | \*\* |
| 116 | | V-126 Spot 118 | 61 | 108 | 14344 | 1.8 | 14.4355 | 1.1 | 1.3500 | 1.7 | 0.1414 | 1.3 | 0.77 | 852.6 | 10.5 | 867.6 | 10.0 | 906.0 | 22.4 | 862 | 19 | -5.89 | \*\* |
| 117 | | V-126 Spot 119 | 32 | 51 | 34892 | 1.6 | 8.7536 | 1.3 | 5.1215 | 2.0 | 0.3253 | 1.6 | 0.78 | 1815.5 | 25.1 | 1839.7 | 17.2 | 1867.1 | 22.7 | 1844 | 34 | -2.76 | \*\* |
| 118 | | V-126 Spot 120 | 55 | 91 | 10015 | 1.6 | 14.6097 | 1.6 | 1.3520 | 2.2 | 0.1433 | 1.5 | 0.70 | 863.4 | 12.4 | 868.4 | 12.8 | 881.3 | 32.3 | 866 | 23 | -2.03 | \*\* |
| 119 | | V-126 Spot 121 | 42 | 121 | 23522 | 2.9 | 8.8303 | 1.1 | 5.1593 | 1.7 | 0.3306 | 1.3 | 0.77 | 1841.1 | 21.3 | 1845.9 | 14.7 | 1851.4 | 20.1 | 1846 | 29 | -0.55 | \*\* |
| 120 | | V-126 Spot 122 | 56 | 78 | 30070 | 1.4 | 18.2630 | 1.4 | 0.4432 | 2.1 | 0.0587 | 1.6 | 0.75 | 367.9 | 5.5 | 372.5 | 6.4 | 401.3 | 30.5 | 369 | 11 | -8.31 | \*\* |
| 121 | | V-126 Spot 123 | 125 | 188 | 5843 | 1.5 | 19.2267 | 1.3 | 0.4084 | 1.7 | 0.0570 | 1.1 | 0.64 | 357.2 | 3.8 | 347.7 | 5.0 | 284.9 | 30.2 | 355.6 | 7.5 | 25.36 |  |
| 122 | | V-126 Spot 124 | 29 | 66 | 45671 | 2.3 | 8.6950 | 0.9 | 5.3711 | 1.5 | 0.3389 | 1.2 | 0.80 | 1881.2 | 19.2 | 1880.3 | 12.6 | 1879.2 | 15.9 | 1880 | 25 | 0.10 | \*\* |
| 123 | | V-126 Spot 125 | 128 | 641 | 138539 | 5.0 | 13.7084 | 0.8 | 1.6475 | 2.1 | 0.1639 | 2.0 | 0.93 | 978.2 | 17.9 | 988.6 | 13.5 | 1011.6 | 16.3 | 996 | 24 | -3.30 | \*\* |
| 124 | | V-126 Spot 126 | 70 | 111 | 3008 | 1.6 | 20.3375 | 2.3 | 0.3596 | 2.7 | 0.0531 | 1.6 | 0.57 | 333.4 | 5.1 | 312.0 | 7.4 | 155.0 | 52.8 | — | — | — | — |
| 125 | | V-126 Spot 127 | 113 | 256 | 19547 | 2.3 | 18.6277 | 1.1 | 0.4338 | 1.7 | 0.0586 | 1.3 | 0.77 | 367.3 | 4.6 | 365.9 | 5.2 | 356.8 | 24.3 | 367 | 9.1 | 2.95 | \*\* |
| 126 | | V-126 Spot 128 | 139 | 65 | 17790 | 0.5 | 8.5936 | 1.0 | 5.3610 | 2.1 | 0.3343 | 1.8 | 0.87 | 1859.1 | 29.3 | 1878.6 | 17.8 | 1900.3 | 18.3 | 1889 | 31 | -2.17 | \*\* |
| 127 | | V-126 Spot 129 | 207 | 452 | 40945 | 2.2 | 8.6639 | 0.8 | 4.1989 | 1.7 | 0.2640 | 1.4 | 0.87 | 1510.1 | 19.3 | 1673.8 | 13.6 | 1885.7 | 15.0 | — | — | — | — |
| 128 | | V-126 Spot 130 | 37 | 80 | 54549 | 2.2 | 8.6606 | 1.1 | 5.4157 | 1.7 | 0.3403 | 1.3 | 0.78 | 1888.2 | 21.7 | 1887.3 | 14.6 | 1886.4 | 19.1 | 1887 | 29 | 0.10 | \*\* |
| ***Sample V-131: a metasandstone of the Onnotek Formation*** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | V-131 Spot 1 | | 333 | 297 | 62432 | 0.9 | 15.2410 | 0.9 | 1.1966 | 1.5 | 0.1323 | 1.2 | 0.79 | 801.1 | 8.9 | 799.0 | 8.2 | 793.1 | 19.1 | 800 | 16 | 1.01 | \*\* |
| 2 | V-131 Spot 2 | | 99 | 447 | 21509 | 4.5 | 6.6070 | 1.1 | 7.9293 | 2.5 | 0.3801 | 2.2 | 0.90 | 2076.9 | 39.5 | 2223.0 | 22.3 | 2360.5 | 18.4 | — | — | — | — |
| 3 | V-131 Spot 3 | | 105 | 294 | 74592 | 2.8 | 8.2470 | 0.9 | 6.0514 | 1.5 | 0.3621 | 1.3 | 0.83 | 1992.2 | 21.8 | 1983.3 | 13.3 | 1974.0 | 15.2 | 1980 | 25 | 0.92 | \*\* |
| 4 | V-131 Spot 4 | | 23 | 85 | 3545 | 3.7 | 19.5597 | 2.1 | 0.4643 | 2.6 | 0.0659 | 1.4 | 0.56 | 411.4 | 5.7 | 387.2 | 8.2 | 245.5 | 48.6 | — | — | — | — |
| 5 | V-131 Spot 5 | | 120 | 108 | 5483 | 0.9 | 19.3236 | 2.1 | 0.4289 | 2.7 | 0.0601 | 1.6 | 0.60 | 376.5 | 5.9 | 362.4 | 8.2 | 273.4 | 48.9 | 374 | 12 | 37.72 | \*\* |
| 6 | V-131 Spot 6 | | 87 | 185 | 8438 | 2.1 | 18.9876 | 1.4 | 0.4533 | 1.9 | 0.0624 | 1.3 | 0.70 | 390.5 | 5.0 | 379.6 | 6.0 | 313.5 | 31.2 | 388 | 9.9 | 24.57 | \*\* |
| 7 | V-131 Spot 7 | | 1338 | 2784 | 1417801 | 2.1 | 17.7785 | 1.1 | 0.5589 | 1.9 | 0.0721 | 1.5 | 0.80 | 448.8 | 6.4 | 450.8 | 6.8 | 461.2 | 24.6 | 450 | 12 | -2.68 | \*\* |
| 8 | V-131 Spot 8 | | 68 | 206 | 35372 | 3.0 | 5.7988 | 0.7 | 11.8446 | 1.4 | 0.4984 | 1.2 | 0.86 | 2606.8 | 24.9 | 2592.2 | 12.7 | 2580.8 | 11.6 | 2586 | 22 | 1.01 | \*\* |
| 9 | V-131 Spot 9 | | 51 | 126 | 36166 | 2.5 | 15.0465 | 0.8 | 1.2044 | 1.6 | 0.1315 | 1.4 | 0.87 | 796.4 | 10.7 | 802.6 | 9.1 | 820.0 | 16.9 | 803 | 18 | -2.88 | \*\* |
| 10 | V-131 Spot 10 | | 62 | 192 | 321845 | 3.1 | 8.6257 | 0.9 | 5.3719 | 1.4 | 0.3362 | 1.1 | 0.78 | 1868.4 | 18.0 | 1880.4 | 12.2 | 1893.6 | 16.0 | 1882 | 24 | -1.33 | \*\* |
| 11 | V-131 Spot 11 | | 40 | 52 | 24690 | 1.3 | 8.4979 | 0.9 | 5.7350 | 1.6 | 0.3536 | 1.3 | 0.83 | 1951.8 | 22.3 | 1936.7 | 13.8 | 1920.4 | 16.0 | 1931 | 26 | 1.64 | \*\* |
| 12 | V-131 Spot 12 | | 54 | 470 | 25346 | 8.7 | 18.7475 | 1.0 | 0.4442 | 1.8 | 0.0604 | 1.4 | 0.82 | 378.2 | 5.3 | 373.2 | 5.5 | 342.3 | 22.6 | 376 | 10 | 10.47 | \*\* |
| 13 | V-131 Spot 13 | | 368 | 1339 | 1661684 | 3.6 | 5.6828 | 0.7 | 12.0863 | 1.5 | 0.4984 | 1.3 | 0.86 | 2606.8 | 26.9 | 2611.1 | 13.7 | 2614.5 | 12.4 | 2613 | 23 | -0.30 | \*\* |
| 14 | V-131 Spot 14 | | 88 | 88 | 49522 | 1.0 | 8.6919 | 0.9 | 5.4106 | 1.6 | 0.3412 | 1.3 | 0.83 | 1892.6 | 21.8 | 1886.5 | 13.7 | 1879.9 | 15.9 | 1884 | 26 | 0.68 | \*\* |
| 15 | V-131 Spot 15 | | 175 | 458 | 4487856 | 2.6 | 6.4143 | 0.9 | 9.7610 | 1.6 | 0.4543 | 1.3 | 0.84 | 2414.3 | 26.5 | 2412.5 | 14.5 | 2410.9 | 14.6 | 2412 | 26 | 0.14 | \*\* |
| 16 | V-131 Spot 16 | | 100 | 329 | 39938 | 3.3 | 8.1970 | 1.1 | 6.0547 | 1.9 | 0.3601 | 1.5 | 0.82 | 1982.7 | 26.2 | 1983.8 | 16.4 | 1984.8 | 19.2 | 1984 | 31 | -0.11 | \*\* |
| 17 | V-131 Spot 17 | | 216 | 212 | 30728 | 1.0 | 18.1342 | 1.1 | 0.4665 | 1.7 | 0.0614 | 1.4 | 0.78 | 384.0 | 5.0 | 388.7 | 5.6 | 417.1 | 24.4 | 385.2 | 9.9 | -7.94 | \*\* |
| 18 | V-131 Spot 18 | | 68 | 112 | 38735 | 1.7 | 8.2246 | 0.8 | 6.0729 | 1.4 | 0.3624 | 1.2 | 0.85 | 1993.6 | 21.0 | 1986.4 | 12.6 | 1978.8 | 13.7 | 1983 | 23 | 0.75 | \*\* |
| 19 | V-131 Spot 19 | | 107 | 138 | 15304 | 1.3 | 13.4698 | 1.2 | 1.5001 | 2.0 | 0.1466 | 1.6 | 0.79 | 882.0 | 13.1 | 930.4 | 12.2 | 1047.1 | 24.7 | — | — | — | — |
| 20 | V-131 Spot 20 | | 121 | 115 | 104705 | 1.0 | 5.6028 | 1.1 | 12.6489 | 1.6 | 0.5142 | 1.2 | 0.76 | 2674.6 | 27.0 | 2653.9 | 15.2 | 2638.1 | 17.5 | 2649 | 30 | 1.38 | \*\* |
| 21 | V-131 Spot 21 | | 255 | 475 | 711093 | 1.9 | 6.2375 | 0.8 | 10.5519 | 1.8 | 0.4776 | 1.6 | 0.88 | 2516.6 | 32.8 | 2484.5 | 16.5 | 2458.3 | 14.1 | 2468 | 27 | 2.37 | \*\* |
| 22 | V-131 Spot 22 | | 36 | 81 | 349361 | 2.3 | 8.7997 | 1.0 | 5.3699 | 1.8 | 0.3429 | 1.5 | 0.84 | 1900.4 | 25.1 | 1880.1 | 15.6 | 1857.6 | 17.8 | 1872 | 29 | 2.31 | \*\* |
| 23 | V-131 Spot 23 | | 38 | 70 | 139081 | 1.8 | 8.6485 | 0.9 | 5.5921 | 1.4 | 0.3509 | 1.0 | 0.75 | 1939.0 | 17.3 | 1914.9 | 11.8 | 1888.9 | 16.3 | 1913 | 24 | 2.65 | \*\* |
| 24 | V-131 Spot 24 | | 132 | 384 | 116030 | 2.9 | 8.7265 | 1.0 | 5.1649 | 1.7 | 0.3270 | 1.3 | 0.79 | 1824.0 | 20.9 | 1846.8 | 14.1 | 1872.7 | 18.1 | 1851 | 28 | -2.60 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 25 | V-131 Spot 25 | 247 | 530 | 129033 | 2.1 | 8.6229 | 1.0 | 5.5175 | 2.0 | 0.3452 | 1.7 | 0.86 | 1911.7 | 28.0 | 1903.3 | 17.0 | 1894.2 | 18.2 | 1900 | 31 | 0.92 | \*\* |
| 26 | V-131 Spot 27 | 569 | 522 | 18365 | 0.9 | 17.6694 | 1.0 | 0.6095 | 1.8 | 0.0781 | 1.6 | 0.85 | 485.0 | 7.3 | 483.2 | 7.1 | 474.8 | 21.4 | 484 | 14 | 2.14 | \*\* |
| 27 | V-131 Spot 28 | 269 | 581 | 202398 | 2.2 | 6.2238 | 0.7 | 9.0906 | 1.9 | 0.4105 | 1.8 | 0.92 | 2217.3 | 33.4 | 2347.2 | 17.6 | 2462.0 | 12.4 | — | — | — | — |
| 28 | V-131 Spot 29 | 24 | 246 | 138683 | 10.0 | 8.5341 | 0.9 | 5.6017 | 1.8 | 0.3469 | 1.5 | 0.85 | 1919.6 | 25.1 | 1916.4 | 15.2 | 1912.8 | 16.5 | 1915 | 28 | 0.36 | \*\* |
| 29 | V-131 Spot 31 | 31 | 44 | 15910 | 1.4 | 8.6843 | 1.2 | 5.6118 | 1.9 | 0.3536 | 1.5 | 0.79 | 1951.8 | 25.6 | 1917.9 | 16.5 | 1881.4 | 21.0 | 1910 | 33 | 3.74 | \*\* |
| 30 | V-131 Spot 32 | 58 | 61 | 15808 | 1.1 | 8.6539 | 1.1 | 5.5243 | 1.8 | 0.3469 | 1.4 | 0.79 | 1919.7 | 23.2 | 1904.4 | 15.2 | 1887.8 | 19.6 | 1901 | 30 | 1.69 | \*\* |
| 31 | V-131 Spot 33 | 70 | 65 | 12337 | 0.9 | 8.5297 | 0.8 | 5.6790 | 1.6 | 0.3515 | 1.3 | 0.86 | 1941.6 | 22.6 | 1928.2 | 13.6 | 1913.7 | 14.6 | 1922 | 25 | 1.46 | \*\* |
| 32 | V-131 Spot 34 | 28 | 65 | 36568 | 2.4 | 5.5959 | 0.8 | 12.3714 | 1.3 | 0.5023 | 1.0 | 0.80 | 2623.7 | 21.6 | 2633.0 | 11.8 | 2640.1 | 12.6 | 2636 | 22 | -0.62 | \*\* |
| 33 | V-131 Spot 35 | 245 | 675 | 155923 | 2.8 | 5.7116 | 0.8 | 11.5305 | 1.6 | 0.4778 | 1.4 | 0.86 | 2517.9 | 28.2 | 2567.1 | 14.7 | 2606.1 | 13.5 | 2589 | 25 | -3.38 | \*\* |
| 34 | V-131 Spot 36 | 131 | 292 | 53448 | 2.2 | 5.6157 | 0.9 | 11.8175 | 1.6 | 0.4815 | 1.4 | 0.84 | 2533.9 | 28.3 | 2590.1 | 15.0 | 2634.3 | 14.4 | 2613 | 26 | -3.81 | \*\* |
| 35 | V-131 Spot 37 | 81 | 172 | 9274 | 2.1 | 17.4684 | 1.3 | 0.6220 | 2.1 | 0.0788 | 1.6 | 0.77 | 489.2 | 7.5 | 491.1 | 8.1 | 500.1 | 29.0 | 490 | 15 | -2.18 | \*\* |
| 36 | V-131 Spot 38 | 131 | 278 | 59838 | 2.1 | 6.4438 | 1.1 | 9.2125 | 1.7 | 0.4307 | 1.3 | 0.79 | 2309.0 | 25.9 | 2359.4 | 15.6 | 2403.1 | 17.9 | 2372 | 30 | -3.92 | \*\* |
| 37 | V-131 Spot 39 | 50 | 81 | 13229 | 1.6 | 18.2653 | 1.9 | 0.4654 | 2.3 | 0.0617 | 1.4 | 0.60 | 385.8 | 5.2 | 388.0 | 7.5 | 401.0 | 41.5 | 386 | 10 | -3.78 | \*\* |
| 38 | V-131 Spot 40 | 46 | 127 | 9769 | 2.8 | 18.7880 | 1.8 | 0.4703 | 2.3 | 0.0641 | 1.5 | 0.64 | 400.5 | 5.6 | 391.4 | 7.4 | 337.4 | 39.8 | 399 | 11 | 18.71 | \*\* |
| 39 | V-131 Spot 41 | 168 | 605 | 61110 | 3.6 | 8.9020 | 0.9 | 4.9663 | 1.9 | 0.3208 | 1.7 | 0.89 | 1793.6 | 26.3 | 1813.6 | 15.9 | 1836.7 | 15.4 | 1826 | 27 | -2.35 | \*\* |
| 40 | V-131 Spot 42 | 107 | 258 | 47795 | 2.4 | 5.5931 | 1.0 | 11.8655 | 1.9 | 0.4815 | 1.6 | 0.83 | 2533.9 | 33.0 | 2593.8 | 17.7 | 2641.0 | 17.3 | 2618 | 31 | -4.05 | \*\* |
| 41 | V-131 Spot 43 | 145 | 396 | 48790 | 2.7 | 15.3811 | 0.8 | 1.1597 | 1.6 | 0.1294 | 1.3 | 0.85 | 784.6 | 9.9 | 781.8 | 8.6 | 773.9 | 17.7 | 782 | 17 | 1.38 | \*\* |
| 42 | V-131 Spot 44 | 44 | 45 | 72677 | 1.0 | 8.6280 | 1.0 | 5.6121 | 1.9 | 0.3513 | 1.5 | 0.83 | 1941.0 | 25.9 | 1918.0 | 16.0 | 1893.2 | 18.4 | 1909 | 30 | 2.53 | \*\* |
| 43 | V-131 Spot 46 | 168 | 377 | 5671 | 2.2 | 16.4474 | 1.2 | 0.7782 | 2.0 | 0.0929 | 1.6 | 0.82 | 572.5 | 9.0 | 584.4 | 8.9 | 631.3 | 24.9 | 579 | 17 | -9.31 | \*\* |
| 44 | V-131 Spot 47 | 68 | 702 | 286641 | 10.4 | 8.4909 | 0.8 | 5.4879 | 1.6 | 0.3381 | 1.4 | 0.87 | 1877.5 | 22.8 | 1898.7 | 13.8 | 1921.9 | 14.1 | 1909 | 24 | -2.31 | \*\* |
| 45 | V-131 Spot 48 | 402 | 717 | 176021 | 1.8 | 8.7622 | 1.0 | 5.1770 | 2.0 | 0.3291 | 1.7 | 0.86 | 1834.2 | 26.9 | 1848.8 | 16.7 | 1865.3 | 18.2 | 1855 | 30 | -1.67 | \*\* |
| 46 | V-131 Spot 49 | 557 | 1780 | 67375 | 3.2 | 6.8901 | 0.8 | 6.8060 | 1.8 | 0.3403 | 1.7 | 0.90 | 1887.9 | 27.0 | 2086.5 | 16.2 | 2288.6 | 13.5 | — | — | — | — |
| 47 | V-131 Spot 50 | 78 | 188 | 184730 | 2.4 | 5.8930 | 0.8 | 11.5124 | 1.7 | 0.4923 | 1.5 | 0.88 | 2580.4 | 31.1 | 2565.6 | 15.6 | 2553.9 | 13.4 | 2558 | 25 | 1.04 | \*\* |
| 48 | V-131 Spot 51 | 64 | 70 | 33609 | 1.1 | 8.6566 | 1.0 | 5.5491 | 1.6 | 0.3485 | 1.3 | 0.79 | 1927.6 | 21.5 | 1908.2 | 14.1 | 1887.2 | 18.2 | 1904 | 28 | 2.14 | \*\* |
| 49 | V-131 Spot 53 | 121 | 438 | 94059 | 3.6 | 8.9163 | 1.0 | 4.8605 | 1.8 | 0.3145 | 1.5 | 0.83 | 1762.6 | 22.8 | 1795.4 | 14.9 | 1833.8 | 17.8 | 1807 | 28 | -3.88 | \*\* |
| 50 | V-131 Spot 54 | 90 | 103 | 13854 | 1.1 | 18.5498 | 1.6 | 0.4589 | 2.0 | 0.0618 | 1.2 | 0.59 | 386.3 | 4.5 | 383.5 | 6.5 | 366.2 | 37.2 | 386 | 8.9 | 5.48 | \*\* |
| 51 | V-131 Spot 55 | 28 | 40 | 304565 | 1.4 | 6.1054 | 0.9 | 10.4975 | 1.5 | 0.4650 | 1.2 | 0.82 | 2461.8 | 25.4 | 2479.7 | 14.1 | 2494.4 | 14.8 | 2486 | 26 | -1.31 | \*\* |
| 52 | V-131 Spot 56 | 58 | 85 | 27697 | 1.5 | 6.0758 | 1.0 | 10.3605 | 1.6 | 0.4567 | 1.2 | 0.78 | 2425.2 | 24.7 | 2467.5 | 14.5 | 2502.6 | 16.4 | 2478 | 28 | -3.09 | \*\* |
| 53 | V-131 Spot 57 | 51 | 115 | 33358 | 2.3 | 8.0027 | 0.8 | 6.2757 | 1.5 | 0.3644 | 1.3 | 0.86 | 2003.0 | 22.2 | 2015.1 | 13.2 | 2027.4 | 13.6 | 2021 | 24 | -1.20 | \*\* |
| 54 | V-131 Spot 58 | 45 | 102 | 21902 | 2.3 | 5.4627 | 1.0 | 13.2409 | 1.8 | 0.5248 | 1.5 | 0.83 | 2719.6 | 32.7 | 2697.0 | 16.8 | 2680.1 | 16.4 | 2688 | 30 | 1.48 | \*\* |
| 55 | V-131 Spot 60 | 132 | 375 | 45433 | 2.8 | 18.5110 | 1.0 | 0.4613 | 1.7 | 0.0620 | 1.4 | 0.80 | 387.5 | 5.2 | 385.2 | 5.5 | 371.0 | 23.2 | 387 | 10 | 4.47 | \*\* |
| 56 | V-131 Spot 61 | 45 | 45 | 21111 | 1.0 | 8.5282 | 1.2 | 5.6457 | 1.8 | 0.3494 | 1.3 | 0.74 | 1931.5 | 22.4 | 1923.1 | 15.6 | 1914.0 | 21.7 | 1923 | 31 | 0.91 | \*\* |
| 57 | V-131 Spot 62 | 112 | 236 | 100758 | 2.1 | 5.9565 | 0.9 | 10.8200 | 1.7 | 0.4676 | 1.4 | 0.85 | 2473.2 | 29.8 | 2507.8 | 15.9 | 2535.9 | 15.2 | 2523 | 27 | -2.47 | \*\* |
| 58 | V-131 Spot 63 | 142 | 321 | 30123 | 2.3 | 8.8614 | 0.8 | 4.6898 | 1.6 | 0.3015 | 1.4 | 0.85 | 1698.9 | 20.4 | 1765.4 | 13.5 | 1845.0 | 15.3 | — | — | — | — |
| 59 | V-131 Spot 64 | 49 | 248 | 9697 | 5.0 | 17.3317 | 1.4 | 0.7628 | 2.0 | 0.0959 | 1.4 | 0.69 | 590.5 | 7.8 | 575.6 | 8.7 | 517.3 | 31.5 | 586 | 15 | 14.15 | \*\* |
| 60 | V-131 Spot 65 | 85 | 135 | 39715 | 1.6 | 5.3779 | 0.8 | 12.9204 | 1.6 | 0.5042 | 1.3 | 0.85 | 2631.7 | 29.0 | 2673.9 | 15.0 | 2705.9 | 14.0 | 2691 | 26 | -2.74 | \*\* |
| 61 | V-131 Spot 66 | 111 | 133 | 443561 | 1.2 | 8.5960 | 1.0 | 5.7616 | 1.7 | 0.3594 | 1.4 | 0.81 | 1979.1 | 23.8 | 1940.7 | 14.9 | 1899.8 | 18.1 | 1929 | 29 | 4.18 | \*\* |
| 62 | V-131 Spot 67 | 129 | 285 | 81230 | 2.2 | 8.9206 | 0.9 | 5.1961 | 1.3 | 0.3363 | 0.9 | 0.72 | 1869.0 | 14.6 | 1852.0 | 10.7 | 1832.9 | 15.7 | 1852 | 21 | 1.97 | \*\* |
| 63 | V-131 Spot 68 | 126 | 125 | 67409 | 1.0 | 8.5800 | 1.0 | 5.4164 | 1.5 | 0.3372 | 1.1 | 0.76 | 1873.2 | 18.3 | 1887.5 | 12.7 | 1903.2 | 17.3 | 1889 | 25 | -1.57 | \*\* |
| 64 | V-131 Spot 69 | 192 | 854 | 240242 | 4.4 | 8.7372 | 0.7 | 4.1381 | 1.7 | 0.2623 | 1.5 | 0.90 | 1501.8 | 20.3 | 1661.9 | 13.8 | 1870.5 | 13.5 | — | — | — | — |
| 65 | V-131 Spot 70 | 141 | 385 | 49545 | 2.7 | 5.6138 | 0.9 | 12.4937 | 1.6 | 0.5089 | 1.4 | 0.84 | 2651.9 | 29.4 | 2642.3 | 15.1 | 2634.8 | 14.3 | 2638 | 26 | 0.65 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 66 | V-131 Spot 72 | 28 | 61 | 4675 | 2.2 | 18.9568 | 1.8 | 0.4667 | 2.2 | 0.0642 | 1.2 | 0.57 | 401.1 | 4.8 | 388.9 | 7.1 | 317.1 | 41.0 | 399.6 | 9.6 | 26.48 | \*\* |
| 67 | V-131 Spot 73 | 33 | 86 | 56364 | 2.6 | 8.0941 | 1.0 | 6.2191 | 1.9 | 0.3652 | 1.6 | 0.86 | 2007.0 | 28.4 | 2007.1 | 16.8 | 2007.3 | 17.4 | 2007 | 30 | -0.02 | \*\* |
| 68 | V-131 Spot 74 | 131 | 149 | 9076 | 1.1 | 5.6526 | 1.0 | 11.8109 | 1.8 | 0.4844 | 1.5 | 0.81 | 2546.5 | 30.9 | 2589.5 | 16.9 | 2623.4 | 17.5 | 2604 | 31 | -2.93 | \*\* |
| 69 | V-131 Spot 75 | 25 | 40 | 28398 | 1.6 | 8.2080 | 1.2 | 6.1870 | 1.8 | 0.3685 | 1.3 | 0.74 | 2022.2 | 22.6 | 2002.6 | 15.4 | 1982.4 | 21.2 | 2001 | 31 | 2.01 | \*\* |
| 70 | V-131 Spot 76 | 169 | 206 | 2263026 | 1.2 | 8.4690 | 0.7 | 5.6202 | 1.2 | 0.3454 | 1.0 | 0.81 | 1912.4 | 15.9 | 1919.2 | 10.3 | 1926.5 | 12.6 | 1921 | 20 | -0.73 | \*\* |
| 71 | V-131 Spot 77 | 19 | 381 | 43303 | 19.8 | 8.5603 | 0.9 | 5.6050 | 1.6 | 0.3481 | 1.4 | 0.84 | 1925.7 | 23.1 | 1916.9 | 14.2 | 1907.3 | 16.0 | 1913 | 27 | 0.97 | \*\* |
| 72 | V-131 Spot 78 | 174 | 554 | 152840 | 3.2 | 8.6907 | 0.9 | 5.0498 | 1.7 | 0.3184 | 1.4 | 0.84 | 1782.1 | 22.1 | 1827.7 | 14.3 | 1880.1 | 16.4 | — | — | — | — |
| 73 | V-131 Spot 79 | 297 | 407 | 302835 | 1.4 | 18.2938 | 1.1 | 0.4737 | 1.7 | 0.0629 | 1.3 | 0.75 | 393.1 | 4.9 | 393.7 | 5.6 | 397.5 | 25.6 | 393.2 | 9.6 | -1.11 | \*\* |
| 74 | V-131 Spot 80 | 75 | 81 | 2846601 | 1.1 | 3.2011 | 0.9 | 32.3653 | 1.6 | 0.7517 | 1.3 | 0.82 | 3613.9 | 36.7 | 3561.5 | 15.8 | 3532.1 | 14.1 | 3544 | 27 | 2.32 | \*\* |
| 75 | V-131 Spot 81 | 51 | 91 | 31111 | 1.8 | 8.5942 | 1.0 | 5.5336 | 1.7 | 0.3451 | 1.4 | 0.82 | 1911.0 | 23.6 | 1905.8 | 14.9 | 1900.2 | 17.7 | 1904 | 29 | 0.57 | \*\* |
| 76 | V-131 Spot 82 | 50 | 248 | 43707 | 5.0 | 8.2676 | 0.8 | 6.0496 | 1.5 | 0.3629 | 1.3 | 0.84 | 1995.9 | 21.7 | 1983.0 | 13.2 | 1969.6 | 14.8 | 1978 | 25 | 1.34 | \*\* |
| 77 | V-131 Spot 83 | 74 | 172 | 70774 | 2.3 | 8.7740 | 0.9 | 4.9879 | 1.8 | 0.3175 | 1.6 | 0.85 | 1777.7 | 24.3 | 1817.3 | 15.5 | 1862.9 | 17.1 | 1834 | 28 | -4.57 | \*\* |
| 78 | V-131 Spot 84 | 81 | 154 | 80881 | 1.9 | 8.3195 | 0.9 | 5.8804 | 1.8 | 0.3550 | 1.5 | 0.86 | 1958.3 | 25.9 | 1958.3 | 15.6 | 1958.4 | 16.6 | 1958 | 28 | -0.01 | \*\* |
| 79 | V-131 Spot 85 | 110 | 170 | 79598 | 1.5 | 8.4976 | 0.9 | 5.4781 | 1.2 | 0.3378 | 0.8 | 0.66 | 1875.9 | 13.0 | 1897.2 | 10.4 | 1920.5 | 16.2 | 1893 | 21 | -2.32 | \*\* |
| 80 | V-131 Spot 86 | 59 | 340 | 49719 | 5.7 | 6.8321 | 0.9 | 8.0233 | 1.9 | 0.3977 | 1.7 | 0.87 | 2158.6 | 31.2 | 2233.6 | 17.6 | 2303.2 | 16.2 | — | — | — | — |
| 81 | V-131 Spot 87 | 103 | 178 | 6319 | 1.7 | 18.4978 | 1.1 | 0.5326 | 1.5 | 0.0715 | 1.0 | 0.68 | 445.1 | 4.5 | 433.5 | 5.4 | 372.6 | 25.4 | 442.5 | 8.8 | 19.47 | \*\* |
| 82 | V-131 Spot 88 | 59 | 128 | 37952 | 2.2 | 8.7600 | 1.2 | 5.3681 | 1.9 | 0.3412 | 1.5 | 0.79 | 1892.5 | 24.1 | 1879.8 | 16.0 | 1865.8 | 20.8 | 1877 | 32 | 1.43 | \*\* |
| 83 | V-131 Spot 89 | 35 | 48 | 2432 | 1.4 | 19.0218 | 2.2 | 0.5117 | 2.6 | 0.0706 | 1.2 | 0.49 | 439.9 | 5.3 | 419.6 | 8.8 | 309.3 | 51.0 | 438 | 10 | 42.21 | \*\* |
| 84 | V-131 Spot 90 | 199 | 729 | 117679 | 3.7 | 17.6079 | 1.1 | 0.6329 | 1.8 | 0.0809 | 1.5 | 0.82 | 501.2 | 7.3 | 497.9 | 7.3 | 482.6 | 23.3 | 500 | 14 | 3.87 | \*\* |
| 85 | V-131 Spot 91 | 3338 | 1079 | 3740 | 0.3 | 15.1339 | 2.6 | 0.6923 | 3.1 | 0.0760 | 1.7 | 0.55 | 472.3 | 7.8 | 534.2 | 13.0 | 807.9 | 54.7 | — | — | — | — |
| 86 | V-131 Spot 92 | 20 | 764 | 156147 | 39.1 | 8.5622 | 0.9 | 5.3937 | 1.8 | 0.3351 | 1.5 | 0.85 | 1863.0 | 24.3 | 1883.9 | 15.1 | 1906.9 | 16.7 | 1893 | 28 | -2.30 | \*\* |
| 87 | V-131 Spot 93 | 55 | 135 | 15267 | 2.5 | 8.3701 | 1.0 | 5.7221 | 1.5 | 0.3475 | 1.1 | 0.76 | 1922.7 | 19.1 | 1934.7 | 13.0 | 1947.6 | 17.5 | 1936 | 26 | -1.28 | \*\* |
| 88 | V-131 Spot 94 | 99 | 155 | 34228 | 1.6 | 8.5571 | 1.0 | 5.5561 | 1.5 | 0.3450 | 1.2 | 0.75 | 1910.5 | 19.1 | 1909.3 | 13.2 | 1908.0 | 18.1 | 1909 | 26 | 0.13 | \*\* |
| 89 | V-131 Spot 95 | 40 | 54 | 5547 | 1.4 | 16.1398 | 2.4 | 0.5552 | 3.0 | 0.0650 | 1.8 | 0.60 | 406.1 | 7.0 | 448.4 | 10.8 | 671.8 | 51.2 | — | — | — | — |
| 90 | V-131 Spot 96 | 115 | 192 | 33551 | 1.7 | 16.2656 | 1.0 | 0.8700 | 1.5 | 0.1027 | 1.2 | 0.76 | 630.1 | 7.0 | 635.6 | 7.3 | 655.1 | 21.5 | 632 | 13 | -3.82 | \*\* |
| 91 | V-131 Spot 97 | 35 | 231 | 28462 | 6.7 | 5.8833 | 0.9 | 10.9101 | 1.6 | 0.4657 | 1.3 | 0.82 | 2464.8 | 26.2 | 2515.5 | 14.6 | 2556.6 | 15.2 | 2533 | 27 | -3.59 | \*\* |
| 92 | V-131 Spot 100 | 23 | 33 | 56129 | 1.4 | 8.6763 | 1.1 | 5.5160 | 1.7 | 0.3473 | 1.3 | 0.76 | 1921.5 | 21.5 | 1903.1 | 14.7 | 1883.1 | 20.1 | 1901 | 29 | 2.04 | \*\* |
| 93 | V-131 Spot 101 | 47 | 71 | 4939 | 1.5 | 19.1684 | 1.6 | 0.4551 | 2.3 | 0.0633 | 1.6 | 0.70 | 395.6 | 6.1 | 380.8 | 7.3 | 291.9 | 37.5 | 392 | 12 | 35.55 | \*\* |
| 94 | V-131 Spot 102 | 38 | 101 | 23018 | 2.6 | 8.1785 | 0.9 | 6.0902 | 1.7 | 0.3614 | 1.4 | 0.85 | 1988.8 | 24.1 | 1988.8 | 14.4 | 1988.8 | 15.3 | 1989 | 26 | 0.00 | \*\* |
| 95 | V-131 Spot 103 | 87 | 229 | 16465 | 2.6 | 17.4575 | 1.0 | 0.6524 | 1.7 | 0.0826 | 1.3 | 0.78 | 511.8 | 6.4 | 509.9 | 6.7 | 501.5 | 22.7 | 511 | 12 | 2.07 | \*\* |
| 96 | V-131 Spot 104 | 161 | 210 | 31950 | 1.3 | 8.4680 | 0.9 | 5.7509 | 1.7 | 0.3534 | 1.4 | 0.85 | 1950.6 | 23.7 | 1939.1 | 14.4 | 1926.7 | 15.9 | 1934 | 27 | 1.24 | \*\* |
| 97 | V-131 Spot 105 | 19 | 79 | 29657 | 4.2 | 5.4229 | 0.8 | 13.0586 | 1.5 | 0.5138 | 1.2 | 0.82 | 2672.9 | 26.8 | 2683.9 | 14.0 | 2692.1 | 13.9 | 2688 | 25 | -0.71 | \*\* |
| 98 | V-131 Spot 106 | 253 | 500 | 42401 | 2.0 | 18.2689 | 0.9 | 0.4574 | 1.8 | 0.0606 | 1.6 | 0.87 | 379.4 | 5.7 | 382.4 | 5.7 | 400.5 | 19.9 | 381 | 11 | -5.26 | \*\* |
| 99 | V-131 Spot 107 | 292 | 362 | 63900 | 1.2 | 18.2101 | 1.1 | 0.4839 | 1.6 | 0.0639 | 1.2 | 0.72 | 399.5 | 4.5 | 400.8 | 5.3 | 407.7 | 24.6 | 399.8 | 8.8 | -2.01 | \*\* |
| 100 | V-131 Spot 109 | 56 | 49 | 12968 | 0.9 | 8.6385 | 0.9 | 5.5647 | 1.7 | 0.3488 | 1.5 | 0.85 | 1928.8 | 24.6 | 1910.6 | 15.0 | 1891.0 | 16.8 | 1903 | 28 | 2.00 | \*\* |
| 101 | V-131 Spot 110 | 162 | 238 | 164681 | 1.5 | 5.4457 | 0.9 | 12.7498 | 1.7 | 0.5038 | 1.4 | 0.85 | 2630.0 | 31.0 | 2661.3 | 16.0 | 2685.2 | 15.0 | 2674 | 27 | -2.05 | \*\* |
| 102 | V-131 Spot 111 | 481 | 661 | 87919 | 1.4 | 8.6185 | 0.9 | 5.4027 | 1.8 | 0.3379 | 1.6 | 0.86 | 1876.3 | 25.3 | 1885.3 | 15.4 | 1895.1 | 16.2 | 1890 | 28 | -0.99 | \*\* |
| 103 | V-131 Spot 112 | 256 | 338 | 34991 | 1.3 | 17.6156 | 1.1 | 0.6132 | 2.0 | 0.0784 | 1.6 | 0.83 | 486.4 | 7.7 | 485.6 | 7.6 | 481.6 | 24.4 | 486 | 15 | 1.01 | \*\* |
| 104 | V-131 Spot 113 | 68 | 108 | 63622 | 1.6 | 8.6553 | 1.2 | 5.4056 | 2.0 | 0.3395 | 1.6 | 0.80 | 1884.2 | 26.3 | 1885.7 | 17.2 | 1887.5 | 21.7 | 1886 | 34 | -0.18 | \*\* |
| 105 | V-131 Spot 114 | 24 | 18 | 15651 | 0.8 | 8.5408 | 1.2 | 5.7404 | 1.8 | 0.3557 | 1.4 | 0.76 | 1961.9 | 23.0 | 1937.5 | 15.5 | 1911.4 | 20.9 | 1934 | 31 | 2.64 | \*\* |
| 106 | V-131 Spot 115 | 73 | 202 | 218242 | 2.7 | 8.4402 | 0.7 | 5.6727 | 1.4 | 0.3474 | 1.2 | 0.85 | 1922.2 | 19.2 | 1927.2 | 11.7 | 1932.6 | 12.6 | 1929 | 21 | -0.54 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 107 | V-131 Spot 116 | 91 | 72 | 11773 | 0.8 | 8.7110 | 1.0 | 5.5682 | 1.8 | 0.3519 | 1.5 | 0.84 | 1943.9 | 25.9 | 1911.2 | 15.9 | 1875.9 | 18.3 | 1899 | 30 | 3.62 | \*\* |
| 108 | V-131 Spot 117 | 11 | 425 | 78874 | 37.4 | 8.5478 | 0.9 | 5.5962 | 1.6 | 0.3471 | 1.3 | 0.80 | 1920.7 | 20.9 | 1915.5 | 13.5 | 1909.9 | 16.7 | 1914 | 26 | 0.56 | \*\* |
| 109 | V-131 Spot 119 | 171 | 264 | 290191 | 1.5 | 8.2067 | 0.9 | 5.9262 | 1.6 | 0.3529 | 1.3 | 0.82 | 1948.4 | 21.3 | 1965.1 | 13.5 | 1982.7 | 15.9 | 1970 | 26 | -1.73 | \*\* |
| 110 | V-131 Spot 120 | 42 | 120 | 6142 | 2.9 | 18.8304 | 1.4 | 0.5270 | 1.9 | 0.0720 | 1.2 | 0.65 | 448.2 | 5.2 | 429.8 | 6.5 | 332.3 | 32.3 | — | — | — | — |
| 111 | V-131 Spot 121 | 35 | 52 | 10104 | 1.5 | 8.7669 | 1.0 | 5.5380 | 1.4 | 0.3523 | 1.0 | 0.73 | 1945.5 | 17.6 | 1906.5 | 12.4 | 1864.4 | 17.7 | 1905 | 25 | 4.35 | \*\* |
| 112 | V-131 Spot 122 | 55 | 342 | 7331 | 6.2 | 17.1512 | 2.6 | 0.4766 | 2.9 | 0.0593 | 1.4 | 0.46 | 371.5 | 4.9 | 395.8 | 9.6 | 540.3 | 56.9 | 372 | 9.8 | -31.25 | \*\* |
| 113 | V-131 Spot 123 | 123 | 546 | 875150 | 4.4 | 5.3726 | 0.8 | 11.9832 | 1.6 | 0.4671 | 1.4 | 0.86 | 2471.0 | 28.7 | 2603.1 | 15.2 | 2707.5 | 13.7 | — | — | — | — |
| 114 | V-131 Spot 124 | 38 | 38 | 45054 | 1.0 | 8.6192 | 1.2 | 5.7523 | 1.7 | 0.3598 | 1.2 | 0.72 | 1981.0 | 20.6 | 1939.3 | 14.5 | 1895.0 | 20.8 | 1938 | 29 | 4.54 | \*\* |
| 115 | V-131 Spot 125 | 10 | 442 | 293678 | 42.3 | 8.7097 | 0.8 | 5.3060 | 1.6 | 0.3353 | 1.4 | 0.87 | 1864.1 | 22.0 | 1869.8 | 13.4 | 1876.2 | 14.1 | 1873 | 24 | -0.64 | \*\* |
| 116 | V-131 Spot 126 | 172 | 272 | 42377 | 1.6 | 6.8827 | 1.0 | 8.4860 | 1.7 | 0.4238 | 1.4 | 0.82 | 2277.7 | 26.7 | 2284.4 | 15.3 | 2290.5 | 16.4 | 2287 | 28 | -0.56 | \*\* |
| 117 | V-131 Spot 127 | 56 | 182 | 62889 | 3.2 | 8.6146 | 1.0 | 5.3172 | 1.6 | 0.3324 | 1.2 | 0.78 | 1849.8 | 19.9 | 1871.6 | 13.5 | 1895.9 | 17.6 | 1875 | 27 | -2.43 | \*\* |
| 118 | V-131 Spot 128 | 86 | 118 | 27781 | 1.4 | 8.5048 | 0.8 | 5.5102 | 1.4 | 0.3400 | 1.1 | 0.81 | 1886.8 | 18.1 | 1902.2 | 11.8 | 1919.0 | 14.5 | 1906 | 23 | -1.68 | \*\* |
| 119 | V-131 Spot 129 | 64 | 890 | 142220 | 13.9 | 8.3022 | 0.8 | 5.3418 | 1.6 | 0.3218 | 1.4 | 0.86 | 1798.5 | 21.4 | 1875.6 | 13.5 | 1962.1 | 14.3 | — | — | — | — |
| 120 | V-131 Spot 130 | 164 | 834 | 249570 | 5.1 | 8.2272 | 0.9 | 5.3318 | 1.7 | 0.3183 | 1.5 | 0.86 | 1781.3 | 23.3 | 1874.0 | 14.9 | 1978.3 | 15.7 | — | — | — | — |
| ***Sample V-118: a metasandstone of the Ir-Galam Formation*** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | V-118 Spot 1 | 31 | 85 | 158416 | 2.7 | 6.1907 | 1.0 | 10.3198 | 1.8 | 0.4636 | 1.5 | 0.82 | 2455.2 | 29.9 | 2463.9 | 16.6 | 2471.0 | 17.4 | 2467 | 30 | -0.64 | \*\* |
| 2 | V-118 Spot 2 | 87 | 92 | 80283 | 1.1 | 8.5955 | 0.9 | 5.4167 | 1.8 | 0.3378 | 1.6 | 0.89 | 1876.2 | 26.6 | 1887.5 | 15.8 | 1899.9 | 15.4 | 1894 | 27 | -1.25 | \*\* |
| 3 | V-118 Spot 3 | 48 | 136 | 61588 | 2.8 | 8.3968 | 1.0 | 5.9942 | 1.5 | 0.3652 | 1.1 | 0.76 | 2006.8 | 19.6 | 1975.0 | 13.1 | 1941.9 | 17.6 | 1971 | 26 | 3.34 | \*\* |
| 4 | V-118 Spot 4 | 168 | 327 | 22499 | 1.9 | 18.1112 | 1.0 | 0.5138 | 1.9 | 0.0675 | 1.6 | 0.83 | 421.2 | 6.4 | 421.0 | 6.5 | 419.9 | 23.2 | 421 | 12 | 0.31 | \*\* |
| 5 | V-118 Spot 5 | 223 | 633 | 175235 | 2.8 | 11.1718 | 0.9 | 1.4017 | 1.7 | 0.1136 | 1.5 | 0.85 | 693.7 | 9.6 | 889.6 | 10.2 | 1414.3 | 17.5 | — | — | — | — |
| 6 | V-118 Spot 6 | 588 | 521 | 341243 | 0.9 | 17.8218 | 0.8 | 0.5383 | 1.8 | 0.0696 | 1.6 | 0.90 | 433.8 | 6.8 | 437.3 | 6.4 | 455.8 | 17.7 | 437 | 13 | -4.82 | \*\* |
| 7 | V-118 Spot 7 | 95 | 97 | 33736 | 1.0 | 8.6963 | 0.9 | 5.5001 | 1.8 | 0.3470 | 1.5 | 0.85 | 1920.5 | 24.9 | 1900.6 | 15.1 | 1879.0 | 16.6 | 1892 | 28 | 2.21 | \*\* |
| 8 | V-118 Spot 8 | 163 | 42 | 2073832 | 0.3 | 8.4195 | 0.9 | 5.6124 | 1.5 | 0.3429 | 1.1 | 0.78 | 1900.4 | 18.9 | 1918.0 | 12.7 | 1937.0 | 16.4 | 1921 | 25 | -1.89 | \*\* |
| 9 | V-118 Spot 9 | 40 | 863 | 1030756 | 21.5 | 5.9181 | 1.1 | 10.5814 | 2.0 | 0.4544 | 1.7 | 0.82 | 2414.7 | 33.3 | 2487.1 | 18.7 | 2546.8 | 19.2 | — | — | — | — |
| 10 | V-118 Spot 11 | 26 | 113 | 81503 | 4.3 | 8.0732 | 1.0 | 6.1473 | 1.5 | 0.3601 | 1.1 | 0.74 | 1982.6 | 18.8 | 1997.0 | 13.1 | 2011.9 | 18.0 | 1998 | 26 | -1.45 | \*\* |
| 11 | V-118 Spot 12 | 23 | 59 | 33107 | 2.6 | 8.4471 | 1.0 | 5.6427 | 1.8 | 0.3458 | 1.6 | 0.85 | 1914.7 | 25.7 | 1922.6 | 15.8 | 1931.2 | 17.6 | 1926 | 29 | -0.85 | \*\* |
| 12 | V-118 Spot 13 | 290 | 961 | 71542 | 3.3 | 8.3944 | 0.8 | 4.7327 | 1.9 | 0.2883 | 1.7 | 0.91 | 1632.8 | 24.7 | 1773.0 | 15.8 | 1942.4 | 14.1 | — | — | — | — |
| 13 | V-118 Spot 14 | 77 | 224 | 25174 | 2.9 | 18.5027 | 1.1 | 0.4688 | 1.8 | 0.0629 | 1.4 | 0.80 | 393.5 | 5.4 | 390.4 | 5.7 | 372.0 | 23.7 | 392 | 10 | 5.79 | \*\* |
| 14 | V-118 Spot 15 | 56 | 152 | 64746 | 2.7 | 8.7846 | 1.0 | 5.3276 | 1.7 | 0.3396 | 1.3 | 0.80 | 1884.6 | 21.9 | 1873.3 | 14.3 | 1860.7 | 18.1 | 1871 | 28 | 1.29 | \*\* |
| 15 | V-118 Spot 17 | 36 | 89 | 72475 | 2.5 | 8.6613 | 1.1 | 5.4414 | 1.9 | 0.3420 | 1.6 | 0.83 | 1896.1 | 26.2 | 1891.4 | 16.5 | 1886.2 | 19.4 | 1890 | 31 | 0.53 | \*\* |
| 16 | V-118 Spot 19 | 40 | 78 | 29176 | 2.0 | 8.6909 | 1.1 | 5.2242 | 1.8 | 0.3294 | 1.5 | 0.81 | 1835.7 | 23.4 | 1856.6 | 15.4 | 1880.1 | 19.1 | 1862 | 30 | -2.36 | \*\* |
| 17 | V-118 Spot 20 | 56 | 110 | 250661 | 2.0 | 8.1514 | 1.1 | 6.1891 | 1.7 | 0.3661 | 1.3 | 0.76 | 2010.8 | 22.2 | 2002.9 | 14.8 | 1994.8 | 19.6 | 2002 | 29 | 0.80 | \*\* |
| 18 | V-118 Spot 21 | 70 | 140 | 57479 | 2.0 | 8.7091 | 1.1 | 5.3004 | 2.2 | 0.3349 | 1.9 | 0.87 | 1862.3 | 31.2 | 1868.9 | 18.9 | 1876.3 | 19.5 | 1872 | 33 | -0.75 | \*\* |
| 19 | V-118 Spot 22 | 30 | 39 | 62253 | 1.3 | 8.6731 | 0.9 | 5.4150 | 1.6 | 0.3408 | 1.3 | 0.83 | 1890.4 | 22.0 | 1887.2 | 13.9 | 1883.8 | 16.3 | 1886 | 26 | 0.35 | \*\* |
| 20 | V-118 Spot 23 | 35 | 34 | 22297 | 1.0 | 8.8689 | 0.9 | 5.1268 | 1.7 | 0.3299 | 1.4 | 0.83 | 1838.0 | 22.3 | 1840.6 | 14.3 | 1843.5 | 17.2 | 1841 | 27 | -0.30 | \*\* |
| 21 | V-118 Spot 24 | 169 | 358 | 61573 | 2.1 | 18.1821 | 1.0 | 0.5054 | 1.5 | 0.0667 | 1.1 | 0.74 | 416.1 | 4.6 | 415.3 | 5.3 | 411.2 | 23.3 | 415.9 | 9 | 1.18 | \*\* |
| 22 | V-118 Spot 25 | 26 | 58 | 17359 | 2.2 | 8.6035 | 0.9 | 5.4776 | 1.8 | 0.3419 | 1.5 | 0.85 | 1896.0 | 25.1 | 1897.1 | 15.4 | 1898.3 | 16.8 | 1898 | 28 | -0.12 | \*\* |
| 23 | V-118 Spot 26 | 104 | 131 | 19602 | 1.3 | 17.3145 | 1.3 | 0.6608 | 2.0 | 0.0830 | 1.5 | 0.75 | 514.1 | 7.4 | 515.1 | 8.1 | 519.5 | 29.2 | 514 | 14 | -1.04 | \*\* |
| 24 | V-118 Spot 27 | 181 | 251 | 63090 | 1.4 | 18.0428 | 1.2 | 0.5027 | 1.8 | 0.0658 | 1.4 | 0.77 | 410.9 | 5.6 | 413.5 | 6.2 | 428.4 | 26.0 | 412 | 11 | -4.08 | \*\* |
| 25 | V-118 Spot 28 | 104 | 293 | 200196 | 2.8 | 9.0064 | 0.9 | 4.4686 | 1.8 | 0.2920 | 1.5 | 0.85 | 1651.6 | 22.0 | 1725.2 | 14.7 | 1815.6 | 16.7 | — | — | — | — |
| 26 | V-118 Spot 29 | 389 | 511 | 31075 | 1.3 | 18.1200 | 1.0 | 0.4770 | 1.7 | 0.0627 | 1.4 | 0.82 | 392.1 | 5.3 | 396.0 | 5.6 | 418.8 | 21.8 | 393 | 10 | -6.38 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 27 | V-118 Spot 30 | 577 | 1960 | 197058 | 3.4 | 18.0927 | 1.0 | 0.5092 | 1.9 | 0.0669 | 1.6 | 0.86 | 417.2 | 6.6 | 417.9 | 6.5 | 422.2 | 21.8 | 418 | 13 | -1.19 | \*\* |
| 28 | V-118 Spot 31 | 212 | 649 | 373710 | 3.1 | 7.8389 | 0.8 | 6.4216 | 1.8 | 0.3652 | 1.6 | 0.89 | 2007.0 | 27.3 | 2035.2 | 15.5 | 2064.0 | 13.9 | 2052 | 25 | -2.76 | \*\* |
| 29 | V-118 Spot 32 | 89 | 137 | 31314 | 1.5 | 17.8890 | 1.4 | 0.5278 | 2.1 | 0.0685 | 1.6 | 0.76 | 427.1 | 6.7 | 430.3 | 7.5 | 447.4 | 30.7 | 428 | 13 | -4.54 | \*\* |
| 30 | V-118 Spot 33 | 81 | 132 | 84470 | 1.6 | 8.5803 | 1.0 | 5.2686 | 2.0 | 0.3280 | 1.7 | 0.85 | 1828.7 | 26.7 | 1863.8 | 16.7 | 1903.1 | 18.3 | 1879 | 30 | -3.91 | \*\* |
| 31 | V-118 Spot 34 | 94 | 194 | 424551 | 2.1 | 7.6339 | 1.0 | 6.8908 | 1.8 | 0.3817 | 1.6 | 0.86 | 2084.2 | 28.2 | 2097.5 | 16.4 | 2110.6 | 16.7 | 2104 | 29 | -1.25 | \*\* |
| 32 | V-118 Spot 35 | 19 | 63 | 30865 | 3.3 | 9.0298 | 1.0 | 4.5915 | 1.7 | 0.3008 | 1.3 | 0.80 | 1695.4 | 20.1 | 1747.7 | 14.1 | 1810.9 | 18.6 | — | — | — | — |
| 33 | V-118 Spot 36 | 41 | 104 | 134127 | 2.6 | 8.2350 | 1.0 | 6.1208 | 1.8 | 0.3657 | 1.5 | 0.84 | 2009.3 | 25.9 | 1993.2 | 15.6 | 1976.6 | 17.3 | 1987 | 29 | 1.65 | \*\* |
| 34 | V-118 Spot 37 | 109 | 210 | 196479 | 1.9 | 8.8243 | 0.9 | 5.3563 | 1.4 | 0.3430 | 1.0 | 0.75 | 1900.9 | 17.0 | 1877.9 | 11.7 | 1852.6 | 16.3 | 1876 | 24 | 2.61 | \*\* |
| 35 | V-118 Spot 38 | 78 | 154 | 32352 | 2.0 | 18.0952 | 1.4 | 0.4896 | 2.1 | 0.0643 | 1.6 | 0.76 | 401.6 | 6.2 | 404.7 | 7.0 | 421.9 | 30.8 | 402 | 12 | -4.80 | \*\* |
| 36 | V-118 Spot 39 | 86 | 252 | 74810 | 2.9 | 8.6013 | 1.1 | 5.2845 | 1.8 | 0.3298 | 1.5 | 0.81 | 1837.4 | 23.4 | 1866.4 | 15.5 | 1898.7 | 19.1 | 1874 | 30 | -3.23 | \*\* |
| 37 | V-118 Spot 40 | 148 | 973 | 119587 | 6.6 | 18.2151 | 0.7 | 0.5045 | 1.8 | 0.0667 | 1.6 | 0.91 | 416.1 | 6.5 | 414.8 | 6.0 | 407.1 | 16.6 | 415 | 12 | 2.21 | \*\* |
| 38 | V-118 Spot 41 | 226 | 219 | 82337 | 1.0 | 6.0824 | 1.0 | 10.5791 | 1.8 | 0.4669 | 1.4 | 0.81 | 2469.9 | 29.0 | 2486.9 | 16.3 | 2500.8 | 17.4 | 2492 | 30 | -1.23 | \*\* |
| 39 | V-118 Spot 42 | 516 | 1077 | 596774 | 2.1 | 8.5388 | 1.1 | 5.3327 | 2.2 | 0.3304 | 2.0 | 0.88 | 1840.3 | 31.3 | 1874.1 | 19.0 | 1911.8 | 18.9 | 1893 | 32 | -3.74 | \*\* |
| 40 | V-118 Spot 43 | 54 | 276 | 17981 | 5.1 | 18.5685 | 1.2 | 0.4496 | 1.8 | 0.0606 | 1.4 | 0.77 | 379.2 | 5.2 | 377.0 | 5.8 | 364.0 | 26.6 | 379 | 10 | 4.17 | \*\* |
| 41 | V-118 Spot 44 | 143 | 324 | 270224 | 2.3 | 8.1564 | 1.0 | 5.9707 | 1.8 | 0.3534 | 1.5 | 0.84 | 1950.6 | 25.9 | 1971.6 | 15.9 | 1993.7 | 17.7 | 1980 | 29 | -2.16 | \*\* |
| 42 | V-118 Spot 46 | 18 | 39 | 11401 | 2.2 | 18.6313 | 2.2 | 0.4518 | 2.7 | 0.0611 | 1.5 | 0.56 | 382.2 | 5.6 | 378.6 | 8.5 | 356.4 | 50.0 | 382 | 11 | 7.25 | \*\* |
| 43 | V-118 Spot 47 | 67 | 310 | 876850 | 4.6 | 8.5734 | 1.0 | 5.6572 | 1.6 | 0.3519 | 1.3 | 0.78 | 1943.8 | 21.3 | 1924.9 | 14.0 | 1904.6 | 18.0 | 1921 | 28 | 2.06 | \*\* |
| 44 | V-118 Spot 48 | 34 | 193 | 78148 | 5.8 | 18.5142 | 1.2 | 0.4578 | 1.9 | 0.0615 | 1.5 | 0.78 | 384.8 | 5.6 | 382.8 | 6.1 | 370.6 | 27.1 | 384 | 11 | 3.83 | \*\* |
| 45 | V-118 Spot 49 | 213 | 226 | 16887 | 1.1 | 18.4426 | 1.3 | 0.4461 | 1.8 | 0.0597 | 1.2 | 0.68 | 373.8 | 4.4 | 374.5 | 5.6 | 379.3 | 29.4 | 374 | 8.7 | -1.45 | \*\* |
| 46 | V-118 Spot 50 | 65 | 185 | 300946 | 2.8 | 8.8142 | 0.9 | 5.3971 | 1.6 | 0.3452 | 1.4 | 0.85 | 1911.5 | 23.2 | 1884.4 | 14.1 | 1854.6 | 15.4 | 1873 | 26 | 3.07 | \*\* |
| 47 | V-118 Spot 52 | 41 | 93 | 6211 | 2.2 | 19.0010 | 2.6 | 0.4363 | 3.0 | 0.0601 | 1.4 | 0.48 | 376.5 | 5.2 | 367.6 | 9.2 | 311.8 | 59.3 | 376 | 10 | 20.75 | \*\* |
| 48 | V-118 Spot 53 | 125 | 235 | 228418 | 1.9 | 8.6755 | 1.0 | 5.3119 | 1.7 | 0.3344 | 1.4 | 0.81 | 1859.5 | 22.6 | 1870.8 | 14.7 | 1883.3 | 18.1 | 1874 | 29 | -1.26 | \*\* |
| 49 | V-118 Spot 54 | 28 | 40 | 102165 | 1.4 | 8.5982 | 1.2 | 5.4857 | 1.8 | 0.3422 | 1.4 | 0.75 | 1897.4 | 22.3 | 1898.4 | 15.6 | 1899.4 | 21.8 | 1898 | 31 | -0.10 | \*\* |
| 50 | V-118 Spot 55 | 64 | 115 | 123959 | 1.8 | 5.3798 | 0.9 | 13.3760 | 1.8 | 0.5221 | 1.5 | 0.85 | 2708.2 | 33.1 | 2706.6 | 16.5 | 2705.3 | 15.0 | 2706 | 28 | 0.11 | \*\* |
| 51 | V-118 Spot 56 | 59 | 238 | 59737 | 4.0 | 8.5396 | 1.0 | 5.4882 | 1.6 | 0.3401 | 1.3 | 0.78 | 1887.0 | 20.5 | 1898.7 | 13.7 | 1911.6 | 17.8 | 1901 | 27 | -1.29 | \*\* |
| 52 | V-118 Spot 57 | 32 | 84 | 82063 | 2.7 | 8.4611 | 1.4 | 5.6639 | 2.3 | 0.3477 | 1.8 | 0.80 | 1923.7 | 30.5 | 1925.9 | 19.9 | 1928.2 | 25.0 | 1926 | 39 | -0.23 | \*\* |
| 53 | V-118 Spot 58 | 52 | 232 | 323033 | 4.5 | 8.1967 | 0.9 | 5.8048 | 1.7 | 0.3452 | 1.5 | 0.85 | 1911.8 | 24.5 | 1947.1 | 15.1 | 1984.9 | 16.6 | 1961 | 28 | -3.68 | \*\* |
| 54 | V-118 Spot 59 | 22 | 48 | 48538 | 2.2 | 8.6363 | 1.0 | 5.5729 | 1.7 | 0.3492 | 1.4 | 0.81 | 1930.9 | 23.1 | 1911.9 | 14.7 | 1891.4 | 18.1 | 1907 | 29 | 2.09 | \*\* |
| 55 | V-118 Spot 60 | 34 | 55 | 183982 | 1.6 | 7.9608 | 0.8 | 6.5491 | 1.6 | 0.3783 | 1.4 | 0.88 | 2068.3 | 24.2 | 2052.5 | 13.8 | 2036.7 | 13.3 | 2044 | 24 | 1.55 | \*\* |
| 56 | V-118 Spot 61 | 61 | 97 | 222590 | 1.6 | 8.4508 | 1.0 | 5.5793 | 1.9 | 0.3421 | 1.5 | 0.83 | 1896.8 | 25.1 | 1912.9 | 16.0 | 1930.4 | 18.7 | 1918 | 30 | -1.74 | \*\* |
| 57 | V-118 Spot 62 | 67 | 68 | 60092 | 1.0 | 8.0827 | 1.3 | 5.9444 | 2.2 | 0.3486 | 1.8 | 0.81 | 1928.0 | 29.4 | 1967.7 | 18.9 | 2009.8 | 22.6 | 1979 | 38 | -4.07 | \*\* |
| 58 | V-118 Spot 63 | 50 | 105 | 55089 | 2.1 | 8.1798 | 1.0 | 6.0795 | 1.8 | 0.3608 | 1.6 | 0.84 | 1986.1 | 26.5 | 1987.3 | 16.1 | 1988.6 | 17.8 | 1988 | 30 | -0.13 | \*\* |
| 59 | V-118 Spot 64 | 63 | 377 | 425300 | 6.0 | 5.8849 | 0.8 | 11.0874 | 1.3 | 0.4734 | 1.0 | 0.80 | 2498.6 | 20.8 | 2530.5 | 11.8 | 2556.2 | 12.8 | 2540 | 22 | -2.25 | \*\* |
| 60 | V-118 Spot 65 | 139 | 27 | 1195 | 0.2 | 5.5827 | 1.4 | 1.6970 | 2.1 | 0.0687 | 1.5 | 0.74 | 428.6 | 6.3 | 1007.4 | 13.2 | 2644.1 | 23.1 | — | — | — | — |
| 61 | V-118 Spot 66 | 105 | 186 | 196959 | 1.8 | 16.6193 | 1.2 | 0.7675 | 1.9 | 0.0925 | 1.5 | 0.80 | 570.6 | 8.4 | 578.3 | 8.6 | 608.8 | 25.4 | 574 | 16 | -6.27 | \*\* |
| 62 | V-118 Spot 67 | 80 | 111 | 76224 | 1.4 | 8.5065 | 0.9 | 5.6413 | 2.0 | 0.3482 | 1.7 | 0.89 | 1925.9 | 29.0 | 1922.4 | 17.0 | 1918.6 | 16.4 | 1920 | 29 | 0.38 | \*\* |
| 63 | V-118 Spot 68 | 132 | 278 | 313225 | 2.1 | 5.2173 | 0.8 | 13.6495 | 1.4 | 0.5167 | 1.1 | 0.79 | 2685.2 | 23.7 | 2725.7 | 13.0 | 2755.8 | 13.9 | 2737 | 24 | -2.56 | \*\* |
| 64 | V-118 Spot 69 | 102 | 339 | 77849 | 3.3 | 14.4099 | 1.1 | 1.3661 | 1.8 | 0.1428 | 1.5 | 0.79 | 860.7 | 11.7 | 874.5 | 10.7 | 909.6 | 23.0 | 870 | 21 | -5.38 | \*\* |
| 65 | V-118 Spot 70 | 33 | 98 | 278223 | 2.9 | 7.9788 | 1.0 | 6.2367 | 1.8 | 0.3611 | 1.5 | 0.83 | 1987.2 | 26.3 | 2009.6 | 16.2 | 2032.7 | 18.0 | 2018 | 30 | -2.24 | \*\* |
| 66 | V-118 Spot 71 | 38 | 217 | 38414 | 5.7 | 18.5731 | 1.0 | 0.4455 | 1.7 | 0.0600 | 1.4 | 0.81 | 375.8 | 5.1 | 374.1 | 5.4 | 363.4 | 22.4 | 375 | 9.9 | 3.42 | \*\* |
| 67 | V-118 Spot 72 | 237 | 568 | 3372497 | 2.4 | 6.4713 | 0.9 | 8.9624 | 1.9 | 0.4208 | 1.7 | 0.89 | 2264.2 | 32.5 | 2334.2 | 17.4 | 2395.9 | 14.6 | — | — | — | — |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| **206Pb/207Pb** | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 68 | V-118 Spot 73 | 152 | 196 | 407049 | 1.3 | 5.7665 | 0.9 | 11.6476 | 1.8 | 0.4873 | 1.6 | 0.85 | 2559.2 | 32.8 | 2576.5 | 17.0 | 2590.1 | 15.8 | 2584 | 29 | -1.20 | \*\* |
| 69 | V-118 Spot 74 | 73 | 142 | 83957 | 2.0 | 18.3234 | 2.3 | 0.4828 | 4.7 | 0.0642 | 4.1 | 0.88 | 401.0 | 16.0 | 400.0 | 15.5 | 393.9 | 50.6 | 400 | 30 | 1.82 | \*\* |
| 70 | V-118 Spot 75 | 136 | 239 | 183075 | 1.8 | 8.6968 | 1.0 | 5.3612 | 1.7 | 0.3383 | 1.4 | 0.82 | 1878.5 | 23.0 | 1878.7 | 14.8 | 1878.8 | 18.1 | 1879 | 29 | -0.02 | \*\* |
| 71 | V-118 Spot 76 | 190 | 333 | 55543 | 1.8 | 8.2457 | 0.9 | 6.1040 | 1.6 | 0.3652 | 1.3 | 0.84 | 2006.8 | 22.5 | 1990.8 | 13.6 | 1974.3 | 15.3 | 1985 | 26 | 1.64 | \*\* |
| 72 | V-118 Spot 78 | 230 | 283 | 24466 | 1.2 | 18.6076 | 1.1 | 0.4632 | 1.8 | 0.0625 | 1.5 | 0.81 | 391.0 | 5.6 | 386.5 | 5.9 | 359.2 | 23.9 | 389 | 11 | 8.85 | \*\* |
| 73 | V-118 Spot 79 | 65 | 74 | 26009 | 1.1 | 18.4602 | 1.1 | 0.4578 | 1.8 | 0.0613 | 1.3 | 0.75 | 383.7 | 4.9 | 382.7 | 5.6 | 377.1 | 25.8 | 383 | 9.7 | 1.73 | \*\* |
| 74 | V-118 Spot 80 | 116 | 318 | 78629 | 2.7 | 7.5645 | 1.1 | 7.1715 | 2.0 | 0.3936 | 1.6 | 0.84 | 2139.6 | 29.9 | 2133.0 | 17.5 | 2126.6 | 18.7 | 2130 | 32 | 0.61 | \*\* |
| 75 | V-118 Spot 81 | 127 | 365 | 701986 | 2.9 | 6.5538 | 0.9 | 9.2308 | 1.6 | 0.4390 | 1.3 | 0.80 | 2346.0 | 24.6 | 2361.2 | 14.3 | 2374.3 | 16.0 | 2366 | 27 | -1.19 | \*\* |
| 76 | V-118 Spot 82 | 305 | 174 | 57779 | 0.6 | 18.5825 | 1.3 | 0.4635 | 2.1 | 0.0625 | 1.7 | 0.81 | 390.8 | 6.6 | 386.7 | 6.9 | 362.3 | 28.4 | 389 | 13 | 7.87 | \*\* |
| 77 | V-118 Spot 83 | 57 | 156 | 14497 | 2.7 | 18.4347 | 1.1 | 0.4485 | 1.7 | 0.0600 | 1.3 | 0.76 | 375.6 | 4.7 | 376.3 | 5.4 | 380.3 | 24.8 | 376 | 9.3 | -1.22 | \*\* |
| 78 | V-118 Spot 84 | 123 | 280 | 1412361 | 2.3 | 8.6242 | 0.9 | 5.2171 | 1.6 | 0.3265 | 1.4 | 0.82 | 1821.2 | 21.5 | 1855.4 | 14.1 | 1893.9 | 16.9 | 1866 | 27 | -3.84 | \*\* |
| 79 | V-118 Spot 85 | 107 | 189 | 319939 | 1.8 | 8.9010 | 1.3 | 5.3031 | 2.0 | 0.3425 | 1.5 | 0.76 | 1898.7 | 24.4 | 1869.4 | 16.8 | 1836.9 | 23.2 | 1866 | 34 | 3.36 | \*\* |
| 80 | V-118 Spot 86 | 73 | 134 | 85259 | 1.8 | 4.3231 | 0.9 | 19.2703 | 1.6 | 0.6045 | 1.4 | 0.82 | 3047.8 | 32.8 | 3055.4 | 15.9 | 3060.5 | 15.0 | 3058 | 28 | -0.41 | \*\* |
| 81 | V-118 Spot 87 | 12 | 9 | 25007 | 0.8 | 8.6722 | 1.2 | 5.4833 | 2.0 | 0.3450 | 1.6 | 0.79 | 1910.8 | 26.2 | 1898.0 | 17.2 | 1884.0 | 22.1 | 1895 | 34 | 1.43 | \*\* |
| 82 | V-118 Spot 88 | 46 | 62 | 38721 | 1.3 | 8.6754 | 1.0 | 5.4899 | 1.8 | 0.3456 | 1.5 | 0.84 | 1913.4 | 25.6 | 1899.0 | 15.8 | 1883.3 | 18.1 | 1894 | 30 | 1.60 | \*\* |
| 83 | V-118 Spot 89 | 37 | 39 | 19992 | 1.1 | 8.5867 | 1.0 | 5.3663 | 1.7 | 0.3343 | 1.4 | 0.81 | 1859.4 | 22.0 | 1879.5 | 14.4 | 1901.8 | 17.8 | 1885 | 28 | -2.23 | \*\* |
| 84 | V-118 Spot 90 | 25 | 28 | 2439 | 1.1 | 18.9758 | 2.8 | 0.4411 | 3.2 | 0.0607 | 1.6 | 0.48 | 380.1 | 5.7 | 371.0 | 10.1 | 314.9 | 64.8 | 379 | 11 | 20.72 | \*\* |
| 85 | V-118 Spot 91 | 150 | 51 | 20545 | 0.3 | 6.0402 | 1.0 | 10.4848 | 1.6 | 0.4595 | 1.3 | 0.80 | 2437.4 | 26.2 | 2478.6 | 14.9 | 2512.5 | 16.1 | 2491 | 28 | -2.99 | \*\* |
| 86 | V-118 Spot 92 | 50 | 230 | 71556 | 4.6 | 8.4350 | 1.0 | 5.5752 | 1.7 | 0.3412 | 1.3 | 0.79 | 1892.5 | 21.6 | 1912.3 | 14.3 | 1933.7 | 18.1 | 1916 | 28 | -2.13 | \*\* |
| 87 | V-118 Spot 93 | 93 | 105 | 231529 | 1.1 | 11.4613 | 4.8 | 1.3116 | 5.0 | 0.1091 | 1.4 | 0.28 | 667.4 | 8.8 | 850.8 | 28.6 | 1365.2 | 91.8 | — | — | — | — |
| 88 | V-118 Spot 94 | 67 | 264 | 351960 | 3.9 | 6.7591 | 1.0 | 8.3248 | 1.7 | 0.4083 | 1.4 | 0.81 | 2207.0 | 25.6 | 2267.0 | 15.3 | 2321.6 | 16.9 | — | — | — | — |
| 89 | V-118 Spot 95 | 33 | 73 | 28655 | 2.2 | 8.7313 | 1.3 | 5.2428 | 2.2 | 0.3321 | 1.7 | 0.80 | 1848.8 | 28.1 | 1859.6 | 18.7 | 1871.7 | 24.0 | 1862 | 37 | -1.23 | \*\* |
| 90 | V-118 Spot 96 | 41 | 70 | 10261 | 1.7 | 18.7259 | 1.9 | 0.4382 | 2.4 | 0.0595 | 1.4 | 0.60 | 372.8 | 5.2 | 369.0 | 7.4 | 344.9 | 43.2 | 372 | 10 | 8.08 | \*\* |
| 91 | V-118 Spot 97 | 40 | 78 | 70135 | 2.0 | 8.6688 | 1.2 | 5.5003 | 2.0 | 0.3460 | 1.6 | 0.79 | 1915.3 | 26.6 | 1900.6 | 17.4 | 1884.7 | 22.2 | 1897 | 34 | 1.63 | \*\* |
| 92 | V-118 Spot 98 | 54 | 159 | 122456 | 2.9 | 6.7935 | 1.0 | 8.1147 | 1.6 | 0.4000 | 1.3 | 0.81 | 2169.0 | 24.5 | 2243.9 | 14.9 | 2312.9 | 16.5 | — | — | — | — |
| 93 | V-118 Spot 99 | 20 | 290 | 30338 | 14.5 | 15.8732 | 1.1 | 0.9351 | 2.2 | 0.1077 | 1.9 | 0.87 | 659.3 | 12.2 | 670.3 | 11.0 | 707.3 | 23.8 | 669 | 22 | -6.78 | \*\* |
| 94 | V-118 Spot 100 | 28 | 49 | 84843 | 1.8 | 8.5971 | 1.3 | 5.5327 | 2.1 | 0.3451 | 1.6 | 0.77 | 1911.3 | 26.3 | 1905.7 | 17.8 | 1899.6 | 23.8 | 1905 | 35 | 0.61 | \*\* |
| 95 | V-118 Spot 101 | 51 | 76 | 205207 | 1.5 | 8.6065 | 1.0 | 5.4399 | 1.8 | 0.3397 | 1.5 | 0.83 | 1885.3 | 24.1 | 1891.2 | 15.2 | 1897.6 | 17.8 | 1893 | 29 | -0.65 | \*\* |
| 96 | V-118 Spot 102 | 98 | 157 | 19452 | 1.6 | 18.1300 | 1.5 | 0.4637 | 2.3 | 0.0610 | 1.7 | 0.76 | 381.7 | 6.3 | 386.8 | 7.3 | 417.6 | 33.1 | 383 | 13 | -8.61 | \*\* |
| 97 | V-118 Spot 103 | 95 | 180 | 40463 | 1.9 | 8.9196 | 1.0 | 5.1329 | 1.6 | 0.3322 | 1.2 | 0.77 | 1849.0 | 20.1 | 1841.6 | 13.7 | 1833.1 | 18.6 | 1841 | 27 | 0.87 | \*\* |
| 98 | V-118 Spot 104 | 62 | 60 | 130277 | 1.0 | 17.7787 | 1.4 | 0.4694 | 2.3 | 0.0606 | 1.8 | 0.77 | 379.0 | 6.5 | 390.8 | 7.4 | 461.1 | 32.0 | 381 | 13 | -17.81 | \*\* |
| 99 | V-118 Spot 105 | 89 | 172 | 165713 | 1.9 | 8.7683 | 1.0 | 5.1908 | 1.7 | 0.3302 | 1.4 | 0.82 | 1839.6 | 21.9 | 1851.1 | 14.3 | 1864.1 | 17.5 | 1854 | 28 | -1.31 | \*\* |
| 100 | V-118 Spot 106 | 82 | 145 | 77957 | 1.8 | 17.5848 | 1.3 | 0.4692 | 2.0 | 0.0599 | 1.5 | 0.77 | 374.8 | 5.6 | 390.6 | 6.4 | 485.4 | 28.0 | — | — | — | — |
| 101 | V-118 Spot 107 | 38 | 71 | 6280 | 1.9 | 18.7706 | 2.1 | 0.4450 | 2.7 | 0.0606 | 1.7 | 0.64 | 379.3 | 6.2 | 373.8 | 8.3 | 339.5 | 46.4 | 379 | 12 | 11.72 | \*\* |
| 102 | V-118 Spot 108 | 271 | 521 | 204449 | 1.9 | 18.1201 | 1.0 | 0.4923 | 2.1 | 0.0647 | 1.8 | 0.87 | 404.3 | 7.1 | 406.4 | 7.0 | 418.8 | 23.4 | 405 | 14 | -3.48 | \*\* |
| 103 | V-118 Spot 109 | 415 | 397 | 29205 | 1.0 | 18.4938 | 1.1 | 0.4371 | 1.7 | 0.0587 | 1.3 | 0.77 | 367.4 | 4.6 | 368.2 | 5.1 | 373.1 | 23.7 | 367.6 | 9 | -1.51 | \*\* |
| 104 | V-118 Spot 110 | 52 | 109 | 122879 | 2.1 | 15.1742 | 1.1 | 1.2031 | 1.9 | 0.1325 | 1.5 | 0.83 | 801.9 | 11.7 | 802.0 | 10.4 | 802.3 | 22.2 | 802 | 21 | -0.05 | \*\* |
| 105 | V-118 Spot 111 | 80 | 86 | 152620 | 1.1 | 18.4030 | 1.3 | 0.4470 | 2.0 | 0.0597 | 1.5 | 0.74 | 373.7 | 5.3 | 375.1 | 6.2 | 384.1 | 30.0 | 374 | 10 | -2.72 | \*\* |
| 106 | V-118 Spot 112 | 121 | 341 | 91030 | 2.8 | 6.0290 | 1.1 | 8.7849 | 1.8 | 0.3843 | 1.4 | 0.80 | 2096.3 | 25.4 | 2315.9 | 16.1 | 2515.6 | 17.7 | — | — | — | — |
| 107 | V-118 Spot 113 | 35 | 38 | 19866 | 1.1 | 8.7278 | 0.9 | 5.3322 | 1.7 | 0.3377 | 1.4 | 0.85 | 1875.5 | 23.0 | 1874.0 | 14.2 | 1872.4 | 15.7 | 1873 | 26 | 0.16 | \*\* |
| 108 | V-118 Spot 114 | 13 | 35 | 17343 | 2.6 | 8.6725 | 1.3 | 5.4904 | 1.8 | 0.3455 | 1.2 | 0.69 | 1913.0 | 20.2 | 1899.1 | 15.2 | 1883.9 | 23.2 | 1900 | 30 | 1.55 | \*\* |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 109 | V-118 Spot 115 | 105 | 289 | 221832 | 2.8 | 5.9489 | 1.2 | 10.7276 | 2.3 | 0.4630 | 1.9 | 0.84 | 2453.0 | 39.0 | 2499.8 | 21.0 | 2538.1 | 20.4 | 2520 | 36 | -3.35 | \*\* |
| 110 | V-118 Spot 116 | 22 | 868 | 6317737 | 38.9 | 6.1747 | 0.8 | 9.5516 | 1.5 | 0.4279 | 1.3 | 0.85 | 2296.4 | 24.5 | 2392.5 | 13.7 | 2475.4 | 13.3 | — | — | — | — |
| 111 | V-118 Spot 117 | 65 | 178 | 1671098 | 2.7 | 8.7461 | 1.1 | 5.0764 | 1.8 | 0.3222 | 1.4 | 0.80 | 1800.2 | 22.6 | 1832.2 | 15.3 | 1868.7 | 19.6 | 1839 | 30 | -3.66 | \*\* |
| 112 | V-118 Spot 118 | 74 | 250 | 62012 | 3.4 | 17.5031 | 0.9 | 0.6389 | 1.7 | 0.0811 | 1.5 | 0.85 | 502.9 | 7.1 | 501.6 | 6.8 | 495.7 | 20.0 | 502 | 13 | 1.45 | \*\* |
| 113 | V-118 Spot 119 | 238 | 205 | 19628 | 0.9 | 18.6495 | 1.0 | 0.4466 | 2.0 | 0.0604 | 1.7 | 0.86 | 378.2 | 6.3 | 374.9 | 6.3 | 354.1 | 23.1 | 376 | 12 | 6.80 | \*\* |
| 114 | V-118 Spot 120 | 67 | 147 | 88494 | 2.2 | 5.7058 | 1.1 | 11.6098 | 1.7 | 0.4807 | 1.3 | 0.78 | 2530.1 | 27.8 | 2573.5 | 15.8 | 2607.8 | 17.6 | 2585 | 30 | -2.98 | \*\* |
| 115 | V-118 Spot 121 | 94 | 183 | 717796 | 2.0 | 16.6394 | 1.2 | 0.7664 | 1.7 | 0.0925 | 1.3 | 0.73 | 570.5 | 6.9 | 577.7 | 7.7 | 606.2 | 25.6 | 573 | 13 | -5.88 | \*\* |
| 116 | V-118 Spot 122 | 60 | 78 | 93032 | 1.3 | 8.7966 | 1.2 | 5.4056 | 1.8 | 0.3450 | 1.4 | 0.75 | 1910.8 | 22.5 | 1885.7 | 15.5 | 1858.3 | 21.4 | 1883 | 31 | 2.83 | \*\* |
| 117 | V-118 Spot 123 | 209 | 486 | 499268 | 2.3 | 5.7645 | 1.1 | 12.0914 | 2.1 | 0.5057 | 1.7 | 0.84 | 2638.4 | 37.5 | 2611.5 | 19.3 | 2590.7 | 18.5 | 2600 | 34 | 1.84 | \*\* |
| 118 | V-118 Spot 124 | 105 | 186 | 19779 | 1.8 | 18.3381 | 1.1 | 0.4726 | 1.8 | 0.0629 | 1.4 | 0.78 | 393.1 | 5.2 | 393.0 | 5.7 | 392.1 | 24.7 | 393 | 10 | 0.28 | \*\* |
| 119 | V-118 Spot 125 | 76 | 344 | 235254 | 4.5 | 8.2573 | 0.8 | 6.1466 | 1.8 | 0.3683 | 1.5 | 0.88 | 2021.2 | 26.8 | 1996.9 | 15.4 | 1971.8 | 15.0 | 1984 | 27 | 2.51 | \*\* |
| 120 | V-118 Spot 126 | 103 | 261 | 38244 | 2.5 | 7.9841 | 1.0 | 6.3629 | 1.8 | 0.3686 | 1.5 | 0.82 | 2022.9 | 25.3 | 2027.2 | 15.6 | 2031.5 | 18.1 | 2009 | 30 | -0.43 | \*\* |
| 121 | V-118 Spot 127 | 56 | 54 | 54111 | 1.0 | 8.6209 | 0.9 | 5.0221 | 1.6 | 0.3141 | 1.3 | 0.81 | 1761.1 | 19.5 | 1823.1 | 13.2 | 1894.6 | 16.3 | — | — | — | — |
| 122 | V-118 Spot 128 | 115 | 137 | 123701 | 1.2 | 5.2368 | 1.0 | 14.5805 | 2.4 | 0.5540 | 2.2 | 0.92 | 2841.9 | 50.6 | 2788.3 | 22.8 | 2749.7 | 15.7 | 2759 | 31 | 3.35 | \*\* |
| 123 | V-118 Spot 129 | 127 | 307 | 1712123 | 2.4 | 8.8860 | 1.1 | 5.0925 | 1.8 | 0.3283 | 1.4 | 0.78 | 1830.3 | 22.4 | 1834.9 | 15.2 | 1840.0 | 20.2 | 1836 | 30 | -0.52 | \*\* |
| 124 | V-118 Spot 130 | 12 | 16 | 8752 | 1.3 | 7.8286 | 1.2 | 6.8653 | 1.8 | 0.3900 | 1.3 | 0.74 | 2122.7 | 24.2 | 2094.2 | 15.9 | 2066.3 | 21.2 | 2091 | 32 | 2.73 | \*\* |
| ***Sample V-138: a metasandstone of the Dzhalyak Formation*** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | V-138 S1 Spot 1 | 39 | 72 | 63697 | 1.8 | 8.4737 | 0.8 | 5.5735 | 1.5 | 0.3391 | 1.3 | 0.84 | 1882.5 | 21.1 | 1912.0 | 13.3 | 1944.1 | 15.0 | 1923 | 25 | -3.17 | \*\* |
| 2 | V-138 Spot 1 | 171 | 692 | 28811 | 4.1 | 8.5880 | 0.7 | 5.3479 | 1.0 | 0.3326 | 0.7 | 0.63 | 1851.1 | 10.6 | 1876.6 | 8.9 | 1905.6 | 14.5 | 1869 | 17 | -2.86 | \*\* |
| 3 | V-138 Spot 2 | 135 | 228 | 25779 | 1.7 | 8.5840 | 0.7 | 5.3516 | 1.0 | 0.3329 | 0.6 | 0.63 | 1852.3 | 10.1 | 1877.1 | 8.5 | 1905.6 | 14.0 | 1869 | 17 | -2.80 | \*\* |
| 4 | V-138 S1 Spot 2 | 299 | 566 | 1272134 | 1.9 | 8.3733 | 0.8 | 5.6956 | 1.2 | 0.3419 | 0.9 | 0.71 | 1895.9 | 14.0 | 1930.7 | 10.4 | 1968.3 | 15.1 | — | — | — | — |
| 5 | V-138 S1 Spot 3 | 302 | 1457 | 899936 | 4.8 | 9.8550 | 0.7 | 4.2577 | 1.2 | 0.3009 | 1.0 | 0.83 | 1695.9 | 14.9 | 1685.2 | 10.0 | 1671.9 | 12.6 | 1682 | 19 | 1.43 | \*\* |
| 6 | V-138 Spot 3 | 146 | 899 | 143430 | 6.2 | 6.7543 | 0.6 | 8.4951 | 0.8 | 0.4145 | 0.6 | 0.71 | 2235.4 | 11.2 | 2285.4 | 7.6 | 2331.1 | 10.0 | — | — | — | — |
| 7 | V-138 S1 Spot 4 | 104 | 336 | 65069 | 3.2 | 8.2147 | 0.6 | 6.2827 | 1.2 | 0.3707 | 1.0 | 0.84 | 2032.7 | 17.4 | 2016.0 | 10.4 | 1999.0 | 11.4 | 2010 | 20 | 1.69 | \*\* |
| 8 | V-138 Spot 4 | 256 | 547 | 60483 | 2.1 | 8.4983 | 0.6 | 5.5475 | 0.9 | 0.3410 | 0.6 | 0.71 | 1891.5 | 10.1 | 1908.0 | 7.5 | 1926.8 | 11.0 | 1907 | 15 | -1.83 | \*\* |
| 9 | V-138 S1 Spot 5 | 52 | 82 | 69646 | 1.6 | 8.6659 | 0.7 | 5.4980 | 1.2 | 0.3424 | 1.0 | 0.81 | 1898.1 | 16.5 | 1900.3 | 10.7 | 1902.6 | 13.1 | 1901 | 21 | -0.24 | \*\* |
| 10 | V-138 Spot 5 | 98 | 229 | 28161 | 2.3 | 8.5374 | 0.6 | 5.4287 | 1.0 | 0.3360 | 0.7 | 0.73 | 1867.3 | 11.4 | 1889.4 | 8.3 | 1914.6 | 11.9 | 1889 | 17 | -2.47 | \*\* |
| 11 | V-138 S1 Spot 6 | 139 | 358 | 273403 | 2.6 | 8.7088 | 0.6 | 5.3724 | 1.2 | 0.3353 | 1.0 | 0.84 | 1863.9 | 15.8 | 1880.5 | 10.0 | 1898.8 | 11.4 | 1886 | 19 | -1.84 | \*\* |
| 12 | V-138 Spot 6 | 126 | 230 | 26884 | 1.8 | 8.5451 | 0.8 | 5.3359 | 1.2 | 0.3306 | 0.8 | 0.67 | 1841.2 | 12.4 | 1874.6 | 10.0 | 1912.6 | 15.6 | — | — | — | — |
| 13 | V-138 S1 Spot 7 | 46 | 76 | 21959 | 1.7 | 8.7153 | 0.8 | 5.5023 | 1.4 | 0.3453 | 1.1 | 0.80 | 1912.2 | 18.4 | 1901.0 | 12.0 | 1888.6 | 15.1 | 1898 | 24 | 1.25 | \*\* |
| 14 | V-138 Spot 8 | 88 | 288 | 43073 | 3.3 | 8.6226 | 0.7 | 5.4333 | 1.0 | 0.3385 | 0.7 | 0.71 | 1879.3 | 11.2 | 1890.1 | 8.3 | 1902.8 | 12.3 | 1889 | 17 | -1.23 | \*\* |
| 15 | V-138 S1 Spot 8 | 121 | 217 | 84509 | 1.8 | 8.2238 | 0.8 | 6.3794 | 1.3 | 0.3763 | 1.0 | 0.79 | 2058.8 | 18.3 | 2029.4 | 11.5 | 1999.7 | 14.2 | 2023 | 23 | 2.96 | \*\* |
| 16 | V-138 S1 Spot 9 | 35 | 122 | 72381 | 3.5 | 8.6975 | 0.7 | 5.5962 | 1.1 | 0.3493 | 0.9 | 0.77 | 1931.1 | 14.2 | 1915.5 | 9.5 | 1898.7 | 12.6 | 1913 | 19 | 1.70 | \*\* |
| 17 | V-138 Spot 9 | 37 | 679 | 12961 | 18.6 | 8.4790 | 0.7 | 5.5029 | 1.0 | 0.3392 | 0.7 | 0.71 | 1882.6 | 11.8 | 1901.0 | 8.7 | 1921.9 | 12.8 | 1900 | 18 | -2.04 | \*\* |
| 18 | V-138 Spot 10 | 59 | 72 | 3405 | 1.2 | 8.3729 | 1.5 | 5.3500 | 2.8 | 0.3338 | 0.9 | 0.30 | 1856.7 | 13.8 | 1876.9 | 24.1 | 1900.0 | 48.3 | 1860 | 27 | -2.28 | \*\* |
| 19 | V-138 Spot 11 | 382 | 398 | 22317 | 1.0 | 14.9588 | 0.8 | 1.2048 | 1.2 | 0.1313 | 0.6 | 0.50 | 795.4 | 4.3 | 802.8 | 6.5 | 824.3 | 21.2 | 796.5 | 8.6 | -3.51 | \*\* |
| 20 | V-138 S1 Spot 12 | 159 | 461 | 25827 | 2.9 | 17.4589 | 1.0 | 0.6621 | 1.5 | 0.0836 | 1.1 | 0.75 | 517.8 | 5.7 | 515.9 | 6.2 | 507.8 | 22.3 | 517 | 11 | 1.97 | \*\* |
| 21 | V-138 Spot 12 | 92 | 174 | 27584 | 1.9 | 8.2339 | 0.7 | 5.9400 | 1.0 | 0.3547 | 0.6 | 0.65 | 1957.2 | 10.7 | 1967.1 | 8.4 | 1978.3 | 13.0 | 1965 | 17 | -1.06 | \*\* |
| 22 | V-138 Spot 13 | 74 | 223 | 21906 | 3.0 | 8.7298 | 0.7 | 5.2537 | 1.0 | 0.3333 | 0.7 | 0.66 | 1854.1 | 10.6 | 1861.4 | 8.5 | 1870.2 | 13.6 | 1860 | 17 | -0.86 | \*\* |
| 23 | V-138 S1 Spot 13 | 53 | 512 | 92174 | 9.6 | 8.6752 | 0.6 | 5.8106 | 1.2 | 0.3616 | 1.0 | 0.84 | 1990.0 | 17.2 | 1948.0 | 10.4 | 1903.6 | 11.7 | — | — | — | — |
| 24 | V-138 S1 Spot 14 | 79 | 116 | 259586 | 1.5 | 8.5949 | 0.5 | 5.6167 | 1.4 | 0.3461 | 1.3 | 0.92 | 1915.8 | 21.3 | 1918.7 | 12.1 | 1921.8 | 9.9 | 1921 | 18 | -0.31 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 25 | V-138 Spot 14 | 175 | 333 | 62657 | 1.9 | 5.7770 | 0.6 | 11.3085 | 0.9 | 0.4727 | 0.6 | 0.71 | 2495.3 | 12.8 | 2548.9 | 8.1 | 2592.5 | 10.1 | — | — | — | — |
| 26 | V-138 S1 Spot 15 | 100 | 74 | 58303 | 0.7 | 8.7533 | 0.8 | 5.3936 | 1.5 | 0.3390 | 1.3 | 0.86 | 1881.8 | 20.5 | 1883.8 | 12.6 | 1886.1 | 13.6 | 1885 | 23 | -0.23 | \*\* |
| 27 | V-138 Spot 15 | 128 | 81 | 11409 | 0.6 | 8.1558 | 1.0 | 5.8496 | 1.6 | 0.3481 | 0.8 | 0.52 | 1925.6 | 13.5 | 1953.8 | 13.4 | 1984.6 | 23.5 | 1939 | 24 | -2.97 | \*\* |
| 28 | V-138 Spot 16 | 228 | 320 | 8580 | 1.4 | 16.7425 | 1.4 | 0.6624 | 2.5 | 0.0825 | 0.8 | 0.30 | 511.0 | 3.7 | 516.1 | 10.0 | 539.8 | 51.5 | 511.1 | 7.4 | -5.34 | \*\* |
| 29 | V-138 S1 Spot 16 | 313 | 361 | 240242 | 1.2 | 5.9741 | 0.7 | 11.2859 | 1.5 | 0.4833 | 1.3 | 0.87 | 2541.5 | 27.1 | 2547.0 | 13.9 | 2551.5 | 12.5 | 2550 | 23 | -0.39 | \*\* |
| 30 | V-138 Spot 17 | 308 | 289 | 9019 | 0.9 | 17.1102 | 1.4 | 0.6150 | 2.7 | 0.0782 | 0.6 | 0.21 | 485.4 | 2.7 | 486.7 | 10.6 | 493.7 | 58.8 | 485.5 | 5.5 | -1.68 | \*\* |
| 31 | V-138 S1 Spot 17 | 78 | 229 | 106247 | 2.9 | 8.3864 | 0.6 | 6.0034 | 1.2 | 0.3611 | 1.0 | 0.84 | 1987.6 | 16.6 | 1976.3 | 10.0 | 1964.6 | 11.0 | 1972 | 19 | 1.17 | \*\* |
| 32 | V-138 S1 Spot 18 | 86 | 92 | 63371 | 1.1 | 8.5558 | 0.7 | 5.7093 | 1.3 | 0.3507 | 1.1 | 0.82 | 1937.7 | 17.9 | 1932.8 | 11.3 | 1927.5 | 13.4 | 1931 | 22 | 0.53 | \*\* |
| 33 | V-138 Spot 18 | 510 | 814 | 107920 | 1.6 | 8.2685 | 0.6 | 5.7775 | 0.8 | 0.3456 | 0.6 | 0.72 | 1913.7 | 9.8 | 1943.0 | 7.1 | 1975.2 | 10.1 | — | — | — | — |
| 34 | V-138 Spot 19 | 187 | 708 | 79207 | 3.8 | 8.7141 | 0.9 | 5.1115 | 1.3 | 0.3223 | 0.9 | 0.71 | 1801.2 | 14.1 | 1838.0 | 10.7 | 1880.8 | 15.9 | — | — | — | — |
| 35 | V-138 S1 Spot 19 | 96 | 304 | 365539 | 3.2 | 8.1286 | 0.6 | 6.6072 | 1.1 | 0.3850 | 1.0 | 0.84 | 2099.6 | 17.2 | 2060.3 | 10.0 | 2021.2 | 10.9 | — | — | — | — |
| 36 | V-138 Spot 20 | 185 | 157 | 23191 | 0.8 | 8.4591 | 0.7 | 5.6160 | 1.0 | 0.3450 | 0.7 | 0.65 | 1910.5 | 11.1 | 1918.6 | 8.9 | 1928.0 | 14.0 | 1917 | 18 | -0.91 | \*\* |
| 37 | V-138 S1 Spot 20 | 81 | 226 | 71122 | 2.8 | 8.5511 | 0.9 | 5.4914 | 1.3 | 0.3371 | 0.9 | 0.72 | 1872.5 | 14.8 | 1899.2 | 10.9 | 1928.6 | 15.9 | 1898 | 22 | -2.91 | \*\* |
| 38 | V-138 Spot 21 | 139 | 209 | 27195 | 1.5 | 8.2813 | 0.6 | 5.8113 | 0.9 | 0.3492 | 0.6 | 0.65 | 1930.7 | 9.7 | 1948.1 | 7.7 | 1967.4 | 12.1 | 1944 | 15 | -1.87 | \*\* |
| 39 | V-138 S1 Spot 22 | 57 | 129 | 79897 | 2.3 | 8.5119 | 0.7 | 5.6192 | 1.1 | 0.3431 | 0.9 | 0.80 | 1901.4 | 15.0 | 1919.0 | 9.8 | 1938.2 | 12.1 | 1923 | 19 | -1.90 | \*\* |
| 40 | V-138 Spot 22 | 192 | 158 | 19788 | 0.8 | 8.6117 | 0.7 | 5.3472 | 1.0 | 0.3347 | 0.7 | 0.66 | 1861.2 | 10.9 | 1876.4 | 8.8 | 1894.2 | 14.0 | 1873 | 17 | -1.74 | \*\* |
| 41 | V-138 Spot 23 | 68 | 117 | 16442 | 1.7 | 8.1206 | 0.7 | 6.0739 | 1.0 | 0.3592 | 0.6 | 0.62 | 1978.3 | 10.8 | 1986.5 | 8.9 | 1995.8 | 14.1 | 1984 | 17 | -0.88 | \*\* |
| 42 | V-138 S1 Spot 23 | 74 | 135 | 1937505 | 1.8 | 8.1542 | 0.8 | 6.1204 | 1.4 | 0.3575 | 1.2 | 0.84 | 1970.2 | 20.4 | 1993.2 | 12.5 | 2017.1 | 13.8 | 2002 | 23 | -2.33 | \*\* |
| 43 | V-138 S1 Spot 24 | 94 | 195 | 37552 | 2.1 | 8.4612 | 0.8 | 5.6557 | 1.3 | 0.3439 | 1.0 | 0.78 | 1905.2 | 16.0 | 1924.6 | 10.8 | 1945.6 | 14.2 | 1927 | 22 | -2.07 | \*\* |
| 44 | V-138 Spot 24 | 202 | 291 | 35691 | 1.4 | 8.4696 | 0.6 | 5.5238 | 0.9 | 0.3398 | 0.6 | 0.66 | 1885.7 | 10.1 | 1904.3 | 8.1 | 1925.4 | 12.7 | 1900 | 16 | -2.06 | \*\* |
| 45 | V-138 S1 Spot 25 | 86 | 181 | 118136 | 2.1 | 8.7241 | 0.8 | 5.5434 | 1.5 | 0.3468 | 1.2 | 0.85 | 1919.3 | 20.4 | 1907.3 | 12.5 | 1894.3 | 13.8 | 1902 | 23 | 1.32 | \*\* |
| 46 | V-138 Spot 25 | 427 | 428 | 28758 | 1.0 | 7.7695 | 0.6 | 6.5879 | 0.9 | 0.3719 | 0.6 | 0.68 | 2038.4 | 11.1 | 2057.7 | 8.2 | 2077.9 | 11.9 | 2056 | 17 | -1.90 | \*\* |
| 47 | V-138 Spot 26 | 198 | 797 | 92051 | 4.0 | 8.4911 | 0.6 | 5.6543 | 0.9 | 0.3480 | 0.6 | 0.71 | 1925.2 | 10.1 | 1924.4 | 7.4 | 1924.3 | 10.9 | 1924 | 15 | 0.05 | \*\* |
| 48 | V-138 S1 Spot 26 | 86 | 214 | 1886350 | 2.5 | 8.7141 | 0.9 | 5.5580 | 1.3 | 0.3470 | 1.0 | 0.71 | 1920.2 | 15.9 | 1909.6 | 11.5 | 1898.2 | 16.9 | 1910 | 23 | 1.16 | \*\* |
| 49 | V-138 Spot 27 | 206 | 410 | 53131 | 2.0 | 8.5588 | 0.6 | 5.4129 | 0.9 | 0.3362 | 0.6 | 0.70 | 1868.1 | 10.1 | 1886.9 | 7.6 | 1908.4 | 11.4 | 1885 | 15 | -2.11 | \*\* |
| 50 | V-138 Spot 28 | 43 | 117 | 15478 | 2.7 | 8.6131 | 0.8 | 5.3614 | 1.1 | 0.3371 | 0.7 | 0.65 | 1872.8 | 11.4 | 1878.7 | 9.3 | 1886.0 | 14.9 | 1877 | 18 | -0.70 | \*\* |
| 51 | V-138 S1 Spot 28 | 218 | 228 | 62950 | 1.0 | 6.0769 | 0.7 | 10.7920 | 1.2 | 0.4704 | 1.0 | 0.81 | 2485.2 | 20.8 | 2505.4 | 11.6 | 2521.8 | 12.3 | 2512 | 22 | -1.45 | \*\* |
| 52 | V-138 S1 Spot 29 | 87 | 269 | 76968 | 3.1 | 7.7596 | 0.6 | 6.8549 | 1.2 | 0.3813 | 1.0 | 0.84 | 2082.2 | 17.2 | 2092.8 | 10.2 | 2103.4 | 11.0 | 2097 | 19 | -1.01 | \*\* |
| 53 | V-138 Spot 29 | 83 | 193 | 28217 | 2.3 | 8.5818 | 0.6 | 5.3747 | 0.9 | 0.3358 | 0.6 | 0.63 | 1866.4 | 9.7 | 1880.8 | 8.1 | 1897.5 | 13.2 | 1877 | 16 | -1.64 | \*\* |
| 54 | V-138 Spot 30 | 112 | 268 | 36197 | 2.4 | 8.1490 | 0.7 | 6.0423 | 1.1 | 0.3581 | 0.7 | 0.68 | 1973.1 | 12.3 | 1982.0 | 9.3 | 1992.0 | 13.8 | 1981 | 19 | -0.95 | \*\* |
| 55 | V-138 S1 Spot 30 | 159 | 310 | 8196 | 1.9 | 13.7600 | 1.9 | 0.8378 | 2.3 | 0.0845 | 1.1 | 0.50 | 523.2 | 5.7 | 617.9 | 10.4 | 982.2 | 39.7 | — | — | — | — |
| 56 | V-138 Spot 31 | 282 | 496 | 14019 | 1.8 | 17.5324 | 0.9 | 0.6334 | 1.7 | 0.0820 | 0.7 | 0.38 | 508.1 | 3.2 | 498.2 | 6.8 | 454.0 | 35.2 | 507.6 | 6.4 | 11.93 | \*\* |
| 57 | V-138 Spot 32 | 188 | 588 | 92146 | 3.1 | 5.5545 | 0.7 | 11.9802 | 1.0 | 0.4828 | 0.8 | 0.76 | 2539.6 | 16.3 | 2602.9 | 9.5 | 2653.2 | 10.9 | — | — | — | — |
| 58 | V-138 Spot 33 | 217 | 256 | 13245 | 1.2 | 8.7351 | 0.6 | 5.0981 | 1.1 | 0.3258 | 0.6 | 0.56 | 1818.1 | 9.6 | 1835.8 | 9.2 | 1856.7 | 16.2 | 1828 | 17 | -2.08 | \*\* |
| 59 | V-138 Spot 34 | 93 | 171 | 20596 | 1.8 | 8.1768 | 0.7 | 5.9672 | 1.0 | 0.3561 | 0.7 | 0.68 | 1963.4 | 12.0 | 1971.1 | 9.0 | 1979.9 | 13.4 | 1970 | 18 | -0.83 | \*\* |
| 60 | V-138 Spot 35 | 115 | 264 | 37916 | 2.3 | 8.6013 | 0.7 | 5.3715 | 1.0 | 0.3364 | 0.7 | 0.67 | 1869.3 | 10.7 | 1880.3 | 8.4 | 1893.3 | 13.1 | 1878 | 17 | -1.27 | \*\* |
| 61 | V-138 Spot 36 | 541 | 764 | 16161 | 1.4 | 8.1247 | 0.7 | 5.3563 | 1.6 | 0.3180 | 1.4 | 0.89 | 1780.1 | 21.8 | 1877.9 | 13.5 | 1988.7 | 13.1 | — | — | — | — |
| 62 | V-138 Spot 37 | 59 | 136 | 11939 | 2.3 | 8.5729 | 0.7 | 5.3864 | 1.1 | 0.3384 | 0.7 | 0.63 | 1879.2 | 11.4 | 1882.7 | 9.4 | 1887.3 | 15.3 | 1882 | 18 | -0.43 | \*\* |
| 63 | V-138 Spot 39 | 244 | 429 | 15491 | 1.8 | 8.0936 | 0.7 | 6.1377 | 1.0 | 0.3626 | 0.7 | 0.70 | 1994.6 | 12.3 | 1995.6 | 8.9 | 1997.5 | 12.9 | 1996 | 18 | -0.14 | \*\* |
| 64 | V-138 Spot 40 | 52 | 88 | 12954 | 1.7 | 8.5933 | 0.8 | 5.5218 | 1.0 | 0.3471 | 0.6 | 0.58 | 1920.6 | 9.7 | 1904.0 | 8.6 | 1886.8 | 14.6 | 1910 | 16 | 1.79 | \*\* |
| 65 | V-138 Spot 41 | 149 | 223 | 32815 | 1.5 | 7.6022 | 0.6 | 7.0976 | 0.9 | 0.3923 | 0.7 | 0.70 | 2133.6 | 11.9 | 2123.7 | 8.4 | 2114.9 | 11.8 | 2124 | 17 | 0.88 | \*\* |

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| Tabl.S1 (continued) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 66 | V-138 Spot 42 | 115 | 188 | 21202 | 1.6 | 8.5660 | 0.9 | 5.4894 | 1.2 | 0.3427 | 0.8 | 0.68 | 1899.8 | 13.5 | 1898.9 | 10.4 | 1898.8 | 16.0 | 1899 | 21 | 0.05 | \*\* |
| 67 | V-138 Spot 43 | 148 | 228 | 24991 | 1.5 | 8.6110 | 0.7 | 5.4784 | 0.9 | 0.3436 | 0.6 | 0.70 | 1903.8 | 10.7 | 1897.2 | 8.0 | 1890.8 | 11.9 | 1898 | 16 | 0.68 | \*\* |
| 68 | V-138 Spot 45 | 89 | 123 | 14564 | 1.4 | 8.5351 | 0.9 | 5.6237 | 1.3 | 0.3507 | 0.8 | 0.62 | 1937.7 | 13.5 | 1919.7 | 11.2 | 1901.1 | 18.3 | 1924 | 22 | 1.92 | \*\* |
| 69 | V-138 Spot 46 | 140 | 349 | 58935 | 2.5 | 6.0657 | 0.6 | 10.8989 | 0.9 | 0.4798 | 0.6 | 0.72 | 2526.3 | 13.5 | 2514.5 | 8.4 | 2505.8 | 10.6 | 2514 | 17 | 0.82 | \*\* |
| 70 | V-138 Spot 47 | 199 | 338 | 39273 | 1.7 | 7.9842 | 0.7 | 6.3346 | 1.0 | 0.3676 | 0.7 | 0.69 | 2018.0 | 12.2 | 2023.3 | 8.9 | 2029.4 | 12.9 | 2023 | 18 | -0.56 | \*\* |
| 71 | V-138 Spot 48 | 126 | 270 | 28679 | 2.1 | 8.7135 | 0.6 | 5.3542 | 0.9 | 0.3395 | 0.6 | 0.64 | 1884.4 | 9.7 | 1877.6 | 7.9 | 1870.7 | 12.8 | 1879 | 16 | 0.73 | \*\* |
| 72 | V-138 Spot 49 | 570 | 1036 | 38844 | 1.8 | 17.4065 | 0.8 | 0.6647 | 1.1 | 0.0843 | 0.6 | 0.59 | 521.9 | 3.2 | 517.5 | 4.3 | 499.2 | 19.0 | 521.2 | 6.3 | 4.55 | \*\* |
| 73 | V-138 Spot 50 | 95 | 133 | 16946 | 1.4 | 8.6188 | 0.7 | 5.4859 | 0.9 | 0.3443 | 0.5 | 0.57 | 1907.3 | 8.9 | 1898.4 | 8.0 | 1889.4 | 13.7 | 1902 | 15 | 0.95 | \*\* |
| 74 | V-138 Spot 51 | 115 | 241 | 35732 | 2.1 | 8.1100 | 0.9 | 6.1809 | 1.3 | 0.3636 | 0.9 | 0.70 | 1999.3 | 15.6 | 2001.7 | 11.4 | 2005.0 | 16.5 | 2002 | 23 | -0.29 | \*\* |
| 75 | V-138 Spot 52 | 159 | 217 | 28158 | 1.4 | 8.5734 | 0.7 | 5.5573 | 1.0 | 0.3455 | 0.7 | 0.68 | 1912.9 | 10.9 | 1909.5 | 8.3 | 1906.6 | 12.8 | 1910 | 17 | 0.33 | \*\* |
| 76 | V-138 Spot 53 | 60 | 96 | 15772 | 1.6 | 8.4022 | 0.8 | 5.8048 | 1.2 | 0.3536 | 0.7 | 0.62 | 1951.9 | 12.3 | 1947.1 | 10.2 | 1942.8 | 16.4 | 1948 | 20 | 0.47 | \*\* |
| 77 | V-138 Spot 54 | 277 | 364 | 50629 | 1.3 | 8.5460 | 0.7 | 5.5360 | 0.9 | 0.3414 | 0.6 | 0.69 | 1893.2 | 10.6 | 1906.2 | 8.1 | 1921.2 | 12.2 | 1905 | 16 | -1.45 | \*\* |
| 78 | V-138 Spot 55 | 128 | 288 | 34741 | 2.2 | 8.2301 | 0.6 | 6.0110 | 0.9 | 0.3573 | 0.6 | 0.70 | 1969.2 | 10.9 | 1977.4 | 8.0 | 1986.8 | 11.8 | 1977 | 16 | -0.89 | \*\* |
| 79 | V-138 Spot 56 | 34 | 1277 | 144549 | 37.4 | 5.3557 | 0.6 | 12.7014 | 1.0 | 0.4899 | 0.8 | 0.80 | 2570.3 | 17.4 | 2657.8 | 9.6 | 2725.7 | 10.0 | — | — | — | — |
| 80 | V-138 Spot 57 | 83 | 236 | 29905 | 2.9 | 7.5961 | 0.6 | 7.2410 | 0.9 | 0.3965 | 0.6 | 0.71 | 2153.0 | 11.8 | 2141.6 | 8.2 | 2131.4 | 11.3 | 2142 | 17 | 1.02 | \*\* |
| 81 | V-138 Spot 58 | 144 | 1481 | 19431 | 10.3 | 6.6478 | 0.7 | 8.8099 | 1.0 | 0.4235 | 0.7 | 0.66 | 2276.2 | 12.9 | 2318.5 | 9.2 | 2356.8 | 12.9 | — | — | — | — |
| 82 | V-138 Spot 60 | 114 | 218 | 24814 | 1.9 | 8.3109 | 0.6 | 6.0448 | 0.8 | 0.3633 | 0.6 | 0.66 | 1997.7 | 9.5 | 1982.3 | 7.3 | 1967.1 | 11.3 | 1985 | 15 | 1.55 | \*\* |
| 83 | V-138 Spot 62 | 274 | 378 | 72095 | 1.4 | 6.1136 | 0.7 | 10.8966 | 1.0 | 0.4792 | 0.7 | 0.72 | 2523.6 | 14.4 | 2514.3 | 8.9 | 2507.6 | 11.1 | 2513 | 18 | 0.64 | \*\* |
| 84 | V-138 Spot 63 | 70 | 92 | 12935 | 1.3 | 8.6636 | 0.8 | 5.5159 | 1.0 | 0.3477 | 0.6 | 0.61 | 1923.8 | 10.6 | 1903.1 | 9.0 | 1881.3 | 14.8 | 1909 | 17 | 2.26 | \*\* |
| 85 | V-138 Spot 64 | 220 | 326 | 27750 | 1.5 | 8.5819 | 0.6 | 5.5097 | 0.9 | 0.3424 | 0.6 | 0.69 | 1898.2 | 10.3 | 1902.1 | 7.7 | 1907.2 | 11.6 | 1902 | 16 | -0.47 | \*\* |
| 86 | V-138 Spot 65 | 351 | 587 | 56290 | 1.7 | 8.0688 | 0.6 | 6.1722 | 0.8 | 0.3598 | 0.6 | 0.72 | 1981.3 | 10.4 | 2000.5 | 7.3 | 2021.2 | 10.2 | 2000 | 15 | -1.97 | \*\* |
| 87 | V-138 Spot 66 | 59 | 85 | 9381 | 1.4 | 8.5653 | 0.8 | 5.4801 | 1.1 | 0.3427 | 0.6 | 0.51 | 1899.6 | 9.6 | 1897.5 | 9.7 | 1895.9 | 17.5 | 1899 | 17 | 0.19 | \*\* |
| 88 | V-138 Spot 67 | 146 | 173 | 24191 | 1.2 | 8.6164 | 0.6 | 5.5788 | 0.9 | 0.3483 | 0.6 | 0.68 | 1926.5 | 9.7 | 1912.8 | 7.5 | 1898.8 | 11.5 | 1915 | 15 | 1.46 | \*\* |
| 89 | V-138 Spot 68 | 291 | 199 | 24532 | 0.7 | 8.6022 | 0.6 | 5.6960 | 1.0 | 0.3550 | 0.7 | 0.69 | 1958.5 | 11.2 | 1930.8 | 8.3 | 1901.9 | 12.4 | — | — | — | — |
| 90 | V-138 Spot 69 | 141 | 173 | 17839 | 1.2 | 8.2004 | 0.7 | 6.0438 | 1.0 | 0.3595 | 0.7 | 0.67 | 1979.8 | 11.4 | 1982.2 | 8.7 | 1985.5 | 13.2 | 1982 | 17 | -0.29 | \*\* |
| 91 | V-138 Spot 70 | 45 | 2489 | 247816 | 55.5 | 5.6417 | 0.7 | 11.6984 | 1.3 | 0.4759 | 1.1 | 0.83 | 2509.5 | 22.8 | 2580.6 | 12.3 | 2637.6 | 12.0 | — | — | — | — |
| 92 | V-138 Spot 71 | 417 | 268 | 38017 | 0.6 | 8.5399 | 0.9 | 5.6395 | 1.2 | 0.3482 | 0.9 | 0.70 | 1926.2 | 14.3 | 1922.2 | 10.6 | 1918.6 | 15.7 | 1922 | 21 | 0.40 | \*\* |
| 93 | V-138 Spot 72 | 97 | 144 | 16551 | 1.5 | 8.5534 | 0.7 | 5.6007 | 1.2 | 0.3478 | 0.6 | 0.55 | 1923.9 | 10.7 | 1916.2 | 10.1 | 1908.7 | 17.6 | 1920 | 18 | 0.80 | \*\* |
| 94 | V-138 Spot 73 | 271 | 327 | 66931 | 1.2 | 6.1553 | 0.7 | 10.7919 | 1.0 | 0.4798 | 0.7 | 0.73 | 2526.5 | 15.3 | 2505.4 | 9.3 | 2489.0 | 11.6 | 2503 | 19 | 1.50 | \*\* |
| 95 | V-138 Spot 74 | 370 | 499 | 83269 | 1.3 | 5.4942 | 0.7 | 12.3724 | 1.1 | 0.4929 | 0.8 | 0.73 | 2583.2 | 16.3 | 2633.1 | 9.9 | 2672.3 | 11.9 | — | — | — | — |
| 96 | V-138 Spot 75 | 32 | 103 | 15077 | 3.2 | 8.1174 | 0.6 | 6.1795 | 0.9 | 0.3661 | 0.5 | 0.59 | 2010.8 | 8.8 | 2001.6 | 7.5 | 1992.8 | 12.4 | 2005 | 14 | 0.91 | \*\* |
| 97 | V-138 Spot 76 | 309 | 74 | 9800 | 0.2 | 6.1197 | 0.6 | 10.8146 | 0.9 | 0.4833 | 0.6 | 0.60 | 2541.5 | 11.8 | 2507.3 | 8.7 | 2480.5 | 12.7 | — | — | — | — |
| 98 | V-138 Spot 77 | 48 | 97 | 13682 | 2.0 | 8.6319 | 0.8 | 5.4326 | 1.1 | 0.3427 | 0.7 | 0.60 | 1899.5 | 10.8 | 1890.0 | 9.4 | 1880.4 | 15.7 | 1893 | 18 | 1.02 | \*\* |
| 99 | V-138 Spot 78 | 956 | 765 | 42641 | 0.8 | 14.5572 | 0.7 | 1.3750 | 1.1 | 0.1457 | 0.7 | 0.64 | 876.9 | 5.6 | 878.3 | 6.3 | 882.6 | 17.0 | 877 | 11 | -0.65 | \*\* |
| 100 | V-138 Spot 79 | 92 | 223 | 30766 | 2.4 | 7.6203 | 0.6 | 7.1092 | 0.9 | 0.3942 | 0.6 | 0.71 | 2142.4 | 11.2 | 2125.2 | 7.7 | 2109.3 | 10.8 | 2125 | 16 | 1.57 | \*\* |
| 101 | V-138 Spot 80 | 141 | 235 | 30974 | 1.7 | 8.2332 | 0.6 | 5.9637 | 0.8 | 0.3574 | 0.6 | 0.68 | 1969.9 | 9.7 | 1970.6 | 7.3 | 1972.0 | 11.1 | 1970 | 15 | -0.10 | \*\* |
| 102 | V-138 Spot 81 | 308 | 289 | 40064 | 0.9 | 8.5442 | 0.7 | 5.5090 | 1.0 | 0.3424 | 0.7 | 0.68 | 1898.2 | 11.1 | 1902.0 | 8.5 | 1906.9 | 13.0 | 1901 | 17 | -0.45 | \*\* |
| 103 | V-138 Spot 82 | 258 | 406 | 47957 | 1.6 | 8.2269 | 0.7 | 5.8763 | 1.0 | 0.3515 | 0.7 | 0.71 | 1941.6 | 11.9 | 1957.7 | 8.6 | 1975.6 | 12.4 | 1957 | 17 | -1.72 | \*\* |
| 104 | V-138 Spot 83 | 85 | 224 | 11863 | 2.6 | 8.5556 | 0.8 | 5.4295 | 1.3 | 0.3398 | 0.7 | 0.57 | 1885.8 | 12.1 | 1889.5 | 11.1 | 1894.3 | 19.2 | 1888 | 21 | -0.45 | \*\* |
| 105 | V-138 Spot 84 | 126 | 177 | 14929 | 1.4 | 8.6156 | 1.0 | 5.4397 | 1.5 | 0.3417 | 0.9 | 0.62 | 1895.0 | 15.2 | 1891.1 | 12.8 | 1887.6 | 21.2 | 1892 | 25 | 0.39 | \*\* |
| 106 | V-138 Spot 85 | 143 | 284 | 22309 | 2.0 | 5.9552 | 0.6 | 10.9516 | 0.9 | 0.4734 | 0.6 | 0.68 | 2498.6 | 12.2 | 2519.0 | 8.0 | 2536.2 | 10.6 | 2519 | 16 | -1.48 | \*\* |

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| Tabl.S1 (the end) | | | | | | | | | | | | | | | | | | | | | | |
| No | Analysis | Th, ppm | U, ppm | 206 204  Pb/  Pb | U/Th | Isotope ratios\* | | | | | | | Ages, Ma | | | | | | | | D | \* |
| 206Pb/207Pb | ±1  s,  % | 207Pb/235U | ±1s,  % | 206Pb/238  U | ±1s,  % | Rho | 206Pb/238  U | ±1s | 207Pb/235  U | ±1s | 207Pb/206  U | ±1s | CA | ±2s |
| 107 | V-138 Spot 86 | 331 | 929 | 14625 | 2.8 | 7.9835 | 0.6 | 6.1592 | 0.9 | 0.3584 | 0.6 | 0.71 | 1974.4 | 10.7 | 1998.7 | 7.7 | 2024.6 | 11.0 | 1988 | 16 | -2.48 | \*\* |
| 108 | V-138 Spot 87 | 112 | 193 | 27394 | 1.7 | 8.2401 | 0.7 | 6.0569 | 1.1 | 0.3626 | 0.7 | 0.67 | 1994.3 | 12.2 | 1984.1 | 9.3 | 1974.2 | 14.1 | 1985 | 19 | 1.02 | \*\* |
| 109 | V-138 Spot 88 | 227 | 92 | 14036 | 0.4 | 8.0342 | 0.9 | 6.2627 | 1.3 | 0.3663 | 0.8 | 0.60 | 2011.9 | 13.1 | 2013.3 | 11.1 | 2015.4 | 18.1 | 2013 | 21 | -0.18 | \*\* |
| 110 | V-138 Spot 90 | 64 | 109 | 10603 | 1.7 | 8.5670 | 0.8 | 5.4520 | 1.3 | 0.3407 | 0.7 | 0.53 | 1889.9 | 11.1 | 1893.1 | 10.9 | 1897.3 | 19.4 | 1892 | 19 | -0.39 | \*\* |
| 111 | V-138 Spot 91 | 109 | 174 | 6721 | 1.6 | 9.4865 | 0.8 | 4.0054 | 2.3 | 0.2795 | 1.0 | 0.45 | 1589.0 | 14.2 | 1635.3 | 18.3 | 1696.1 | 37.2 | 1601 | 27 | -6.31 | \*\* |
| 112 | V-138 Spot 93 | 180 | 123 | 14429 | 0.7 | 8.5535 | 0.9 | 5.4430 | 1.2 | 0.3390 | 0.8 | 0.64 | 1882.0 | 12.8 | 1891.7 | 10.5 | 1903.0 | 16.9 | 1889 | 21 | -1.10 | \*\* |
| 113 | V-138 Spot 95 | 295 | 477 | 65886 | 1.6 | 8.1726 | 0.7 | 6.0595 | 1.0 | 0.3583 | 0.7 | 0.72 | 1974.3 | 11.9 | 1984.4 | 8.4 | 1995.7 | 12.0 | 1984 | 17 | -1.07 | \*\* |
| 114 | V-138 Spot 96 | 133 | 158 | 3833 | 1.2 | 16.2806 | 1.8 | 0.7598 | 4.3 | 0.0952 | 0.7 | 0.16 | 586.4 | 3.8 | 573.9 | 18.7 | 525.4 | 92.1 | 586.3 | 7.6 | 11.60 | \*\* |
| 115 | V-138 Spot 97 | 113 | 209 | 8075 | 1.8 | 8.5060 | 0.8 | 5.4215 | 1.5 | 0.3379 | 0.7 | 0.46 | 1876.7 | 11.0 | 1888.3 | 12.5 | 1901.8 | 23.3 | 1881 | 20 | -1.32 | \*\* |
| 116 | V-138 Spot 98 | 90 | 340 | 32417 | 3.8 | 7.9948 | 0.6 | 6.0414 | 0.8 | 0.3496 | 0.6 | 0.72 | 1932.6 | 10.1 | 1981.8 | 7.3 | 2034.4 | 10.3 | — | — | — | — |
| 117 | V-138 Spot 99 | 185 | 204 | 23426 | 1.1 | 6.1314 | 0.7 | 10.3570 | 1.0 | 0.4593 | 0.7 | 0.67 | 2436.6 | 13.3 | 2467.2 | 9.1 | 2493.3 | 12.4 | 2466 | 19 | -2.27 | \*\* |
| 118 | V-138 Spot 100 | 88 | 1801 | 99607 | 20.5 | 8.3640 | 0.8 | 5.4537 | 1.3 | 0.3292 | 1.0 | 0.80 | 1834.7 | 16.7 | 1893.3 | 11.2 | 1959.1 | 13.8 | — | — | — | — |
| 119 | V-138 Spot 101 | 120 | 187 | 24937 | 1.6 | 8.6177 | 0.6 | 5.3008 | 0.9 | 0.3309 | 0.6 | 0.64 | 1842.6 | 9.1 | 1869.0 | 7.6 | 1899.2 | 12.4 | — | — | — | — |
| 120 | V-138 Spot 103 | 62 | 176 | 24955 | 2.8 | 7.6611 | 0.7 | 6.9577 | 1.0 | 0.3864 | 0.6 | 0.66 | 2106.0 | 11.6 | 2106.1 | 8.7 | 2106.9 | 12.8 | 2106 | 17 | -0.04 | \*\* |
| 121 | V-138 Spot 104 | 217 | 278 | 45285 | 1.3 | 7.9328 | 0.7 | 6.4419 | 1.0 | 0.3694 | 0.7 | 0.71 | 2026.4 | 12.1 | 2038.0 | 8.6 | 2050.5 | 12.2 | 2038 | 18 | -1.18 | \*\* |
| 122 | V-138 Spot 105 | 322 | 497 | 73567 | 1.5 | 8.2962 | 0.7 | 5.8324 | 0.9 | 0.3494 | 0.7 | 0.71 | 1931.9 | 10.9 | 1951.2 | 8.0 | 1972.5 | 11.6 | 1950 | 16 | -2.06 | \*\* |
| 123 | V-138 Spot 106 | 69 | 124 | 7793 | 1.8 | 8.4806 | 0.9 | 5.4723 | 1.5 | 0.3396 | 0.6 | 0.43 | 1884.8 | 10.6 | 1896.3 | 13.0 | 1909.6 | 24.6 | 1888 | 20 | -1.30 | \*\* |
| 124 | V-138 Spot 107 | 243 | 210 | 6555 | 0.9 | 16.5200 | 1.7 | 0.6247 | 2.5 | 0.0772 | 0.8 | 0.31 | 479.6 | 3.6 | 492.8 | 9.7 | 555.2 | 51.4 | 479.9 | 7.1 | -13.62 | \*\* |
| 125 | V-138 Spot 108 | 270 | 289 | 24900 | 1.1 | 5.4973 | 0.7 | 11.9557 | 1.1 | 0.4758 | 0.8 | 0.75 | 2509.1 | 16.8 | 2600.9 | 10.1 | 2673.9 | 11.9 | — | — | — | — |
| 126 | V-138 Spot 109 | 54 | 1934 | 244300 | 35.5 | 8.4767 | 9.3 | 5.9744 | 13.  2 | 0.3661 | 9.3 | 0.71 | 2011.2 | 161.  0 | 1972.1 | 115.  0 | 1932.1 | 167.1 | 1972 | 230 | 4.09 | \*\* |
| 127 | V-138 Spot 111 | 336 | 400 | 60941 | 1.2 | 8.4293 | 0.7 | 5.6084 | 1.0 | 0.3423 | 0.7 | 0.70 | 1897.6 | 11.2 | 1917.4 | 8.4 | 1939.7 | 12.5 | 1951 | 17 | -2.17 | \*\* |
| 128 | V-138 Spot 112 | 292 | 1001 | 21680 | 3.4 | 6.4385 | 0.7 | 8.5963 | 1.0 | 0.4015 | 0.7 | 0.72 | 2175.9 | 13.6 | 2296.2 | 9.3 | 2405.7 | 12.0 | — | — | — | — |
| 129 | V-138 Spot 113 | 986 | 652 | 10136 | 0.7 | 8.0733 | 0.7 | 5.9144 | 1.3 | 0.3490 | 0.7 | 0.57 | 1929.9 | 12.0 | 1963.3 | 10.9 | 1999.5 | 18.3 | 1950 | 20 | -3.48 | \*\* |
| 130 | V-138 Spot 114 | 132 | 277 | 36908 | 2.1 | 8.5459 | 0.7 | 5.4155 | 1.0 | 0.3365 | 0.7 | 0.69 | 1869.8 | 10.8 | 1887.3 | 8.3 | 1907.4 | 12.5 | 1885 | 17 | -1.97 | \*\* |
| 131 | V-138 Spot 115 | 1737 | 1098 | 61695 | 0.6 | 8.5852 | 0.7 | 5.3387 | 1.1 | 0.3328 | 0.7 | 0.70 | 1852.2 | 11.9 | 1875.1 | 9.1 | 1901.3 | 13.6 | 1873 | 18 | -2.58 | \*\* |
| 132 | V-138 Spot 116 | 50 | 145 | 18304 | 2.9 | 8.5720 | 0.7 | 5.5017 | 1.1 | 0.3440 | 0.6 | 0.58 | 1905.9 | 10.4 | 1900.9 | 9.2 | 1896.1 | 15.7 | 1903 | 17 | 0.52 | \*\* |
| 133 | V-138 Spot 117 | 207 | 219 | 22249 | 1.1 | 8.5165 | 0.7 | 5.5320 | 1.1 | 0.3433 | 0.7 | 0.64 | 1902.3 | 11.6 | 1905.6 | 9.5 | 1909.9 | 15.2 | 1905 | 19 | -0.39 | \*\* |
| 134 | V-138 Spot 118 | 442 | 1126 | 114639 | 2.5 | 8.1637 | 0.6 | 6.0461 | 0.9 | 0.3577 | 0.6 | 0.71 | 1971.3 | 10.6 | 1982.5 | 7.6 | 1995.0 | 10.8 | 1982 | 15 | -1.19 | \*\* |
| 135 | V-138 Spot 120 | 90 | 113 | 14923 | 1.3 | 8.4077 | 0.7 | 5.6219 | 1.1 | 0.3440 | 0.6 | 0.57 | 1906.1 | 10.1 | 1919.5 | 9.2 | 1934.7 | 15.7 | 1914 | 17 | -1.48 | \*\* |
| 136 | V-138 Spot 121 | 217 | 854 | 91825 | 3.9 | 8.5058 | 0.6 | 5.4186 | 0.9 | 0.3338 | 0.6 | 0.71 | 1856.7 | 10.0 | 1887.8 | 7.5 | 1922.9 | 11.1 | — | — | — | — |
| 137 | V-138 Spot 122 | 252 | 386 | 52356 | 1.5 | 8.0232 | 0.7 | 6.2919 | 1.0 | 0.3661 | 0.7 | 0.71 | 2011.0 | 11.9 | 2017.3 | 8.5 | 2024.5 | 12.1 | 2017 | 17 | -0.67 | \*\* |
| 138 | V-138 Spot 123 | 63 | 243 | 11855 | 3.9 | 15.0865 | 1.4 | 1.1864 | 2.4 | 0.1320 | 1.1 | 0.47 | 799.0 | 8.4 | 794.3 | 13.2 | 782.0 | 44.3 | 798 | 17 | 2.18 | \*\* |
| 139 | V-138 Spot 124 | 278 | 595 | 79687 | 2.1 | 8.8453 | 0.6 | 5.1858 | 0.8 | 0.3329 | 0.6 | 0.70 | 1852.4 | 9.0 | 1850.3 | 6.7 | 1848.7 | 10.2 | 1851 | 14 | 0.20 | \*\* |
| 140 | V-138 Spot 125 | 594 | 944 | 138421 | 1.6 | 8.2801 | 0.7 | 6.1222 | 1.0 | 0.3676 | 0.7 | 0.71 | 2018.3 | 12.2 | 1993.4 | 8.6 | 1968.5 | 12.4 | 1994 | 17 | 2.53 | \*\* |
| 141 | V-138 Spot 126 | 104 | 209 | 27145 | 2.0 | 8.5913 | 0.7 | 5.6190 | 0.9 | 0.3513 | 0.7 | 0.71 | 1940.9 | 11.3 | 1919.0 | 8.2 | 1896.2 | 12.0 | 1920 | 17 | 2.35 | \*\* |
| 142 | V-138 Spot 127 | 62 | 205 | 26001 | 3.3 | 8.2483 | 0.5 | 5.9999 | 0.8 | 0.3601 | 0.5 | 0.62 | 1982.9 | 9.0 | 1975.8 | 7.4 | 1969.2 | 11.8 | 1978 | 14 | 0.69 | \*\* |
| 143 | V-138 Spot 128 | 291 | 509 | 15860 | 1.8 | 8.4066 | 0.5 | 4.5960 | 0.8 | 0.2820 | 0.6 | 0.75 | 1601.4 | 9.0 | 1748.5 | 7.0 | 1930.0 | 9.9 | — | — | — | — |
| 144 | V-138 Spot 129 | 104 | 177 | 11026 | 1.7 | 15.2243 | 1.3 | 1.2205 | 1.5 | 0.1374 | 0.6 | 0.39 | 829.8 | 4.6 | 810.0 | 8.5 | 756.9 | 29.6 | 827 | 9.1 | 9.64 | \*\* |
| 145 | V-138 Spot 130 | 65 | 95 | 10391 | 1.5 | 8.5145 | 0.8 | 5.4555 | 1.2 | 0.3403 | 0.7 | 0.57 | 1888.3 | 11.5 | 1893.6 | 10.6 | 1900.2 | 18.2 | 1891 | 20 | -0.63 | \*\* |

Note.\* ‒ Isotope ratios corrected for common Pb; \*\* ‒ ages used in; Rho ‒ correlation coefficient between the errors of the 207Pb/235U–206Pb/238U ratios; CA ‒ Concordia age [36]; D ‒ discordance.