Appenxix 3. U–Pb age. U–Pb 年代.
Table A1. Sample KRH.　試料KRH.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (3) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| KRH_001 | 0.46 | 461 | 259 | 0.58 | 101.58 ± 1.80 | 0.0456 ± 0.0053 | 63.1 ± 1.1 | | |
| KRH_002 | 1.26 | 242 | 147 | 0.62 | 107.69 ± 2.43 | 0.0383 ± 0.0070 | 59.6 ± 1.3 | | |
| KRH_003 | 0.00 | 232 | 100 | 0.44 | 25.94 ± 0.39 | 0.0520 ± 0.0019 | 243.9 ± 3.6 | | |
| KRH_004 | 0.46 | 251 | 184 | 0.75 | 97.80 ± 2.34 | 0.0537 ± 0.0071 | 65.6 ± 1.6 | | |
| KRH_005 | 0.00 | 334 | 321 | 0.99 | 99.57 ± 1.65 | 0.0524 ± 0.0030 | 64.4 ± 1.1 | | |
| KRH_006 | 2.02 | 217 | 88 | 0.42 | 103.11 ± 2.61 | 0.0342 ± 0.0071 | 62.2 ± 1.6 | | |
| KRH_007 | 0.43 | 257 | 194 | 0.77 | 96.51 ± 2.06 | 0.0454 ± 0.0068 | 66.5 ± 1.4 | | |
| KRH_008 | 0.31 | 189 | 115 | 0.62 | 68.07 ± 1.45 | 0.0521 ± 0.0063 | 94.0 ± 2.0 | | |
| KRH_009 | 1.43 | 280 | 218 | 0.80 | 106.48 ± 2.89 | 0.0516 ± 0.0081 | 60.3 ± 1.6 | | |
| KRH_010 | 0.34 | 305 | 220 | 0.74 | 103.56 ± 2.10 | 0.0523 ± 0.0069 | 61.9 ± 1.3 | | |
| KRH_011 | 0.89 | 221 | 158 | 0.73 | 104.49 ± 2.50 | 0.0343 ± 0.0077 | 61.4 ± 1.5 | | |
| KRH_012 | 0.00 | 251 | 131 | 0.53 | 100.41 ± 2.09 | 0.0497 ± 0.0042 | 63.9 ± 1.3 | | |
| KRH_013 | 0.08 | 339 | 221 | 0.67 | 100.94 ± 1.99 | 0.0441 ± 0.0059 | 63.6 ± 1.2 | | |
| KRH_014 | 0.17 | 373 | 159 | 0.44 | 104.65 ± 1.87 | 0.0462 ± 0.0047 | 61.3 ± 1.1 | | |
| KRH_015 | 0.00 | 234 | 177 | 0.78 | 106.09 ± 2.20 | 0.0535 ± 0.0041 | 60.5 ± 1.2 | | |
| KRH_016 | 0.08 | 197 | 147 | 0.77 | 93.91 ± 2.48 | 0.0473 ± 0.0090 | 68.3 ± 1.8 | | |
| KRH_017 | 0.96 | 249 | 200 | 0.82 | 100.49 ± 2.46 | 0.0452 ± 0.0086 | 63.8 ± 1.6 | | |
| KRH_018 | 0.00 | 244 | 189 | 0.79 | 98.05 ± 2.03 | 0.0521 ± 0.0039 | 65.4 ± 1.3 | | |
| KRH_019 | 0.71 | 153 | 69 | 0.46 | 96.23 ± 3.03 | 0.0503 ± 0.0091 | 66.6 ± 2.1 | | |
| KRH_020 | 1.09 | 203 | 190 | 0.96 | 97.89 ± 2.81 | 0.0400 ± 0.0112 | 65.5 ± 1.9 | | |
| KRH_021 | 0.00 | 245 | 234 | 0.98 | 100.31 ± 2.22 | 0.0502 ± 0.0038 | 63.9 ± 1.4 | | |
| KRH_022 | 0.00 | 309 | 212 | 0.71 | 99.33 ± 1.91 | 0.0442 ± 0.0029 | 64.6 ± 1.2 | | |
| KRH_023 | 0.67 | 254 | 142 | 0.58 | 99.95 ± 2.27 | 0.0432 ± 0.0076 | 64.2 ± 1.5 | | |
| KRH_024 | 0.00 | 283 | 285 | 1.03 | 96.94 ± 2.07 | 0.0498 ± 0.0037 | 66.2 ± 1.4 | | |
| KRH_025 | 0.00 | 270 | 208 | 0.79 | 98.59 ± 2.17 | 0.0448 ± 0.0030 | 65.1 ± 1.4 | | |
| KRH_026 | 0.64 | 355 | 276 | 0.80 | 102.97 ± 2.08 | 0.0424 ± 0.0064 | 62.3 ± 1.3 | | |
| KRH_027 | 0.72 | 251 | 161 | 0.66 | 94.73 ± 2.33 | 0.0449 ± 0.0071 | 67.7 ± 1.7 | | |
| KRH_028 | 1.11 | 125 | 76 | 0.63 | 99.19 ± 2.94 | 0.0457 ± 0.0101 | 64.7 ± 1.9 | | |
| KRH_029 | 0.48 | 227 | 177 | 0.80 | 96.57 ± 2.18 | 0.0439 ± 0.0074 | 66.4 ± 1.5 | | |
| KRH_030 | 0.77 | 306 | 221 | 0.74 | 101.74 ± 2.24 | 0.0363 ± 0.0067 | 63.1 ± 1.4 | | |
| KRH_031 | 1.06 | 306 | 270 | 0.91 | 105.72 ± 2.54 | 0.0348 ± 0.0077 | 60.7 ± 1.5 | | |
| KRH_032 | 0.55 | 373 | 205 | 0.56 | 102.80 ± 2.13 | 0.0446 ± 0.0058 | 62.4 ± 1.3 | | |
| KRH_033 | 0.02 | 241 | 180 | 0.77 | 98.20 ± 2.14 | 0.0493 ± 0.0077 | 65.3 ± 1.4 | | |
| KRH_034 | 0.00 | 245 | 169 | 0.71 | 102.72 ± 2.49 | 0.0434 ± 0.0034 | 62.5 ± 1.5 | | |
| KRH_035 | 1.23 | 255 | 184 | 0.74 | 104.30 ± 2.71 | 0.0383 ± 0.0059 | 61.5 ± 1.6 | | |
| KRH_036 | 0.00 | 272 | 210 | 0.79 | 99.56 ± 1.97 | 0.0465 ± 0.0066 | 64.4 ± 1.3 | | |
| KRH_037 | 0.48 | 284 | 222 | 0.80 | 98.63 ± 2.49 | 0.0459 ± 0.0080 | 65.0 ± 1.6 | | |
| KRH_038 | 0.33 | 343 | 202 | 0.60 | 101.61 ± 2.20 | 0.0394 ± 0.0059 | 63.1 ± 1.4 | | |
| KRH_039 | 0.10 | 421 | 248 | 0.60 | 99.33 ± 1.89 | 0.0501 ± 0.0056 | 64.6 ± 1.2 | | |
| KRH_040 | 0.63 | 277 | 180 | 0.66 | 91.22 ± 1.84 | 0.0396 ± 0.0059 | 70.3 ± 1.4 | | |
| KRH_041 | 0.45 | 309 | 232 | 0.77 | 102.58 ± 2.31 | 0.0484 ± 0.0072 | 62.5 ± 1.4 | | |
| KRH_042 | 1.40 | 226 | 150 | 0.68 | 99.91 ± 2.65 | 0.0394 ± 0.0088 | 64.2 ± 1.7 | | |
| KRH_043 | 4.62 | 169 | 126 | 0.76 | 102.71 ± 2.92 | 0.0306 ± 0.0122 | 62.5 ± 1.8 | | |
| KRH_044 | 0.23 | 345 | 197 | 0.59 | 101.24 ± 2.31 | 0.0499 ± 0.0061 | 63.4 ± 1.4 | | |
| KRH_045 | 1.15 | 244 | 162 | 0.68 | 97.58 ± 2.51 | 0.0485 ± 0.0080 | 65.7 ± 1.7 | | |
| KRH_046 | 0.88 | 316 | 178 | 0.58 | 99.37 ± 2.18 | 0.0424 ± 0.0058 | 64.5 ± 1.4 | | |
| KRH_047 | 0.18 | 210 | 120 | 0.59 | 97.17 ± 2.61 | 0.0472 ± 0.0087 | 66.0 ± 1.8 | | |
| KRH_048 | 0.00 | 192 | 132 | 0.71 | 96.38 ± 2.16 | 0.0502 ± 0.0040 | 66.5 ± 1.5 | | |
| KRH_049 | 0.63 | 277 | 186 | 0.69 | 100.63 ± 2.32 | 0.0431 ± 0.0074 | 63.7 ± 1.5 | | |
| KRH_050 | 1.25 | 171 | 115 | 0.69 | 96.64 ± 2.76 | 0.0374 ± 0.0088 | 66.4 ± 1.9 | | |
| KRH_051 | 0.00 | 185 | 121 | 0.67 | 93.88 ± 2.44 | 0.0426 ± 0.0038 | 68.3 ± 1.8 | | |
| KRH_052 | 0.00 | 409 | 272 | 0.68 | 98.54 ± 2.09 | 0.0465 ± 0.0026 | 65.1 ± 1.4 | | |
| KRH_053 | 0.00 | 221 | 138 | 0.64 | 81.64 ± 1.76 | 0.0481 ± 0.0038 | 78.5 ± 1.7 | | |
| KRH_054 | 0.89 | 193 | 142 | 0.76 | 100.42 ± 3.00 | 0.0462 ± 0.0095 | 63.9 ± 1.9 | | |
| KRH_055 | 0.00 | 253 | 162 | 0.66 | 100.16 ± 2.38 | 0.0483 ± 0.0038 | 64.0 ± 1.5 | | |
| KRH_056# | 0.00 | 191 | 127 | 0.68 | 97.50 ± 2.23 | 0.0570 ± 0.0047 | 65.8 ± 1.5 | | |
| KRH_057 | 0.66 | 238 | 200 | 0.86 | 98.94 ± 2.44 | 0.0539 ± 0.0100 | 64.8 ± 1.6 | | |
| KRH_058 | 0.05 | 180 | 128 | 0.73 | 101.17 ± 2.37 | 0.0513 ± 0.0076 | 63.4 ± 1.5 | | |
| KRH_059 | 0.00 | 312 | 168 | 0.55 | 95.74 ± 1.90 | 0.0453 ± 0.0030 | 67.0 ± 1.3 | | |
| KRH_060 | 0.47 | 267 | 235 | 0.90 | 95.76 ± 2.35 | 0.0475 ± 0.0083 | 67.0 ± 1.6 | | |
| KRH_061 | 0.00 | 253 | 146 | 0.59 | 97.67 ± 2.34 | 0.0442 ± 0.0037 | 65.7 ± 1.6 | | |
| KRH_062 | 0.26 | 231 | 151 | 0.67 | 96.16 ± 2.53 | 0.0448 ± 0.0074 | 66.7 ± 1.7 | | |
| KRH_063 | 0.00 | 305 | 290 | 0.98 | 96.34 ± 2.07 | 0.0448 ± 0.0032 | 66.6 ± 1.4 | | |
| KRH_064 | 0.06 | 251 | 171 | 0.70 | 96.67 ± 2.50 | 0.0519 ± 0.0066 | 66.3 ± 1.7 | | |
| KRH_065 | 0.00 | 256 | 133 | 0.53 | 97.98 ± 2.14 | 0.0547 ± 0.0039 | 65.5 ± 1.4 | | |
| KRH_066 | 2.30 | 255 | 159 | 0.64 | 100.41 ± 2.25 | 0.0516 ± 0.0081 | 63.9 ± 1.4 | | |
| KRH_067 | 1.09 | 170 | 117 | 0.71 | 98.56 ± 2.99 | 0.0420 ± 0.0109 | 65.1 ± 2.0 | | |
| KRH_068 | 0.00 | 243 | 184 | 0.78 | 100.45 ± 2.64 | 0.0469 ± 0.0044 | 63.9 ± 1.7 | | |
| KRH_069 | 0.00 | 279 | 172 | 0.63 | 98.58 ± 2.04 | 0.0458 ± 0.0037 | 65.1 ± 1.3 | | |
| KRH_070 | 0.00 | 388 | 211 | 0.56 | 89.99 ± 1.75 | 0.0477 ± 0.0031 | 71.2 ± 1.4 | | |
| KRH_071 | 0.00 | 334 | 193 | 0.59 | 100.17 ± 2.31 | 0.0481 ± 0.0033 | 64.0 ± 1.5 | | |
| KRH_072 | 0.00 | 257 | 185 | 0.74 | 98.98 ± 2.15 | 0.0547 ± 0.0041 | 64.8 ± 1.4 | | |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.
"#" with labels mean the data are discordant.
(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance
(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A2. Sample MJK. 試料MJK.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| MJK_001 | 2.57 | 112 | 76 | 0.69 | 91.14 ± 3.40 | 0.0502 ± 0.0154 | 70.3 ± 2.6 | | |
| MJK_002 | 0.00 | 266 | 101 | 0.39 | 25.25 ± 0.40 | 0.0497 ± 0.0025 | 250.4 ± 3.9 | | |
| MJK_003 | 0.00 | 159 | 197 | 1.27 | 29.43 ± 0.62 | 0.0472 ± 0.0037 | 215.4 ± 4.5 | | |
| MJK_004 | 0.00 | 245 | 131 | 0.55 | 64.44 ± 1.70 | 0.0559 ± 0.0042 | 99.3 ± 2.6 | | |
| MJK_005 | 0.00 | 80 | 60 | 0.78 | 89.75 ± 4.06 | 0.0559 ± 0.0117 | 71.4 ± 3.2 | | |
| MJK_006 | 0.15 | 447 | 334 | 0.77 | 64.34 ± 1.41 | 0.0533 ± 0.0064 | 99.4 ± 2.2 | | |
| MJK_007 | 2.15 | 317 | 177 | 0.57 | 89.99 ± 2.62 | 0.0322 ± 0.0081 | 71.2 ± 2.1 | | |
| MJK_008 | 0.25 | 355 | 197 | 0.57 | 77.18 ± 1.86 | 0.0510 ± 0.0069 | 83.0 ± 2.0 | | |
| MJK_009 | 1.06 | 1021 | 1004 | 1.01 | 85.69 ± 1.66 | 0.0429 ± 0.0066 | 74.8 ± 1.4 | | |
| MJK_010 | 0.00 | 279 | 192 | 0.71 | 66.38 ± 1.82 | 0.0416 ± 0.0040 | 96.4 ± 2.6 | | |
| MJK_011 | 0.13 | 1071 | 279 | 0.27 | 78.17 ± 1.25 | 0.0462 ± 0.0030 | 81.9 ± 1.3 | | |
| MJK_012 | 0.00 | 122 | 83 | 0.70 | 94.25 ± 4.09 | 0.0389 ± 0.0068 | 68.0 ± 2.9 | | |
| MJK_013 | 0.00 | 338 | 130 | 0.39 | 67.21 ± 1.53 | 0.0425 ± 0.0035 | 95.2 ± 2.2 | | |
| MJK_014 | 0.00 | 190 | 131 | 0.71 | 88.83 ± 3.15 | 0.0514 ± 0.0065 | 72.2 ± 2.5 | | |
| MJK_015 | 0.00 | 299 | 310 | 1.06 | 12.55 ± 0.21 | 0.0544 ± 0.0016 | 494.1 ± 7.9 | | |
| MJK_016 | 0.88 | 446 | 482 | 1.11 | 94.47 ± 2.71 | 0.0375 ± 0.0092 | 67.9 ± 1.9 | | |
| MJK_017 | 0.00 | 465 | 218 | 0.48 | 3.26 ± 0.04 | 0.1118 ± 0.0015 | 1724.7 ± 20.2 | 1830 ± 24 | 5.75 |
| MJK_018 | 0.00 | 378 | 348 | 0.94 | 39.14 ± 0.78 | 0.0446 ± 0.0027 | 162.6 ± 3.2 | | |
| MJK_019 | 0.00 | 428 | 221 | 0.53 | 97.22 ± 2.46 | 0.0540 ± 0.0043 | 66.0 ± 1.7 | | |
| MJK_020 | 0.51 | 716 | 295 | 0.42 | 77.13 ± 1.60 | 0.0388 ± 0.0045 | 83.0 ± 1.7 | | |
| MJK_021# | 0.00 | 1261 | 479 | 0.39 | 68.80 ± 1.14 | 0.0549 ± 0.0022 | 93.0 ± 1.5 | | |
| MJK_022 | 1.40 | 124 | 77 | 0.64 | 99.27 ± 4.07 | 0.0252 ± 0.0158 | 64.6 ± 2.6 | | |
| MJK_023 | 0.00 | 141 | 130 | 0.94 | 86.12 ± 3.88 | 0.0362 ± 0.0062 | 74.4 ± 3.3 | | |
| MJK_024# | 0.00 | 222 | 169 | 0.78 | 87.16 ± 2.80 | 0.0638 ± 0.0070 | 73.5 ± 2.3 | | |
| MJK_025 | 0.97 | 191 | 123 | 0.66 | 99.72 ± 4.18 | 0.0331 ± 0.0113 | 64.3 ± 2.7 | | |
| MJK_026 | 1.09 | 399 | 209 | 0.54 | 87.13 ± 2.65 | 0.0400 ± 0.0079 | 73.6 ± 2.2 | | |
| MJK_027 | 0.00 | 66 | 56 | 0.87 | 78.81 ± 5.06 | 0.0403 ± 0.0088 | 81.3 ± 5.2 | | |
| MJK_028 | 0.00 | 160 | 81 | 0.52 | 70.60 ± 2.38 | 0.0415 ± 0.0061 | 90.7 ± 3.0 | | |
| MJK_029 | 0.98 | 512 | 350 | 0.70 | 99.77 ± 2.90 | 0.0369 ± 0.0092 | 64.3 ± 1.9 | | |
| MJK_030 | 0.00 | 777 | 272 | 0.36 | 63.40 ± 1.15 | 0.0465 ± 0.0025 | 100.9 ± 1.8 | | |
| MJK_031 | 0.68 | 454 | 463 | 1.05 | 97.97 ± 2.63 | 0.0480 ± 0.0100 | 65.5 ± 1.8 | | |
| MJK_032 | 2.11 | 235 | 150 | 0.65 | 73.16 ± 2.15 | 0.0294 ± 0.0101 | 87.5 ± 2.6 | | |
| MJK_033 | 0.10 | 168 | 86 | 0.52 | 80.36 ± 3.28 | 0.0419 ± 0.0105 | 79.7 ± 3.2 | | |
| MJK_034 | 0.00 | 366 | 183 | 0.51 | 82.94 ± 2.45 | 0.0527 ± 0.0044 | 77.3 ± 2.3 | | |
| MJK_035 | 0.00 | 2144 | 1711 | 0.82 | 2.61 ± 0.03 | 0.1357 ± 0.0012 | 2091.8 ± 22.2 | 2175 ± 15 | 3.83 |
| MJK_036 | 0.96 | 139 | 75 | 0.55 | 72.38 ± 3.11 | 0.0292 ± 0.0113 | 88.5 ± 3.8 | | |
| MJK_037 | 0.27 | 316 | 116 | 0.38 | 55.53 ± 1.59 | 0.0442 ± 0.0057 | 115.0 ± 3.3 | | |
| MJK_038 | 0.00 | 270 | 127 | 0.48 | 61.42 ± 1.63 | 0.0468 ± 0.0039 | 104.1 ± 2.7 | | |
| MJK_039 | 0.00 | 176 | 80 | 0.47 | 72.62 ± 2.27 | 0.0455 ± 0.0051 | 88.2 ± 2.7 | | |
| MJK_040 | 0.46 | 461 | 131 | 0.29 | 64.07 ± 1.52 | 0.0506 ± 0.0050 | 99.8 ± 2.3 | | |
| MJK_041 | 0.46 | 295 | 291 | 1.01 | 95.16 ± 3.01 | 0.0339 ± 0.0128 | 67.4 ± 2.1 | | |
| MJK_042 | 0.00 | 508 | 310 | 0.63 | 83.79 ± 1.88 | 0.0419 ± 0.0030 | 76.5 ± 1.7 | | |
| MJK_043 | 0.00 | 448 | 184 | 0.42 | 85.06 ± 1.92 | 0.0477 ± 0.0037 | 75.3 ± 1.7 | | |
| MJK_044 | 0.00 | 235 | 155 | 0.68 | 25.94 ± 0.50 | 0.0539 ± 0.0027 | 243.9 ± 4.7 | | |
| MJK_045 | 0.15 | 1132 | 608 | 0.55 | 86.33 ± 1.48 | 0.0478 ± 0.0040 | 74.2 ± 1.3 | | |
| MJK_046 | 0.00 | 161 | 56 | 0.35 | 71.04 ± 2.05 | 0.0548 ± 0.0065 | 90.1 ± 2.6 | | |
| MJK_047 | 0.00 | 370 | 440 | 1.22 | 83.95 ± 2.00 | 0.0529 ± 0.0044 | 76.3 ± 1.8 | | |
| MJK_048 | 0.25 | 615 | 232 | 0.39 | 64.65 ± 1.13 | 0.0453 ± 0.0041 | 98.9 ± 1.7 | | |
| MJK_049 | 0.00 | 365 | 181 | 0.51 | 70.93 ± 1.43 | 0.0556 ± 0.0042 | 90.2 ± 1.8 | | |
| MJK_050 | 0.00 | 389 | 295 | 0.78 | 93.34 ± 2.11 | 0.0493 ± 0.0039 | 68.7 ± 1.5 | | |
| MJK_051 | 0.56 | 55 | 48 | 0.89 | 12.51 ± 0.31 | 0.0608 ± 0.0092 | 495.8 ± 11.8 | | |
| MJK_052 | 0.24 | 215 | 126 | 0.60 | 74.48 ± 2.17 | 0.0458 ± 0.0083 | 86.0 ± 2.5 | | |
| MJK_053 | 0.00 | 133 | 31 | 0.24 | 27.10 ± 0.65 | 0.0512 ± 0.0045 | 233.6 ± 5.5 | | |
| MJK_054 | 0.00 | 138 | 102 | 0.76 | 32.06 ± 0.95 | 0.0495 ± 0.0044 | 198.0 ± 5.8 | | |
| MJK_055 | 0.00 | 703 | 268 | 0.39 | 60.00 ± 1.07 | 0.0489 ± 0.0024 | 106.5 ± 1.9 | | |
| MJK_056# | 0.00 | 387 | 178 | 0.47 | 84.85 ± 2.42 | 0.0635 ± 0.0054 | 75.5 ± 2.1 | | |
| MJK_057 | 1.16 | 386 | 290 | 0.77 | 99.54 ± 2.45 | 0.0410 ± 0.0078 | 64.4 ± 1.6 | | |
| MJK_058 | 0.14 | 118 | 58 | 0.50 | 24.13 ± 0.64 | 0.0536 ± 0.0065 | 261.8 ± 6.8 | | |
| MJK_059 | 0.08 | 462 | 328 | 0.73 | 61.04 ± 1.42 | 0.0508 ± 0.0066 | 104.8 ± 2.4 | | |
| MJK_060 | 0.00 | 510 | 199 | 0.40 | 84.62 ± 1.87 | 0.0505 ± 0.0037 | 75.7 ± 1.7 | | |
| MJK_061 | 0.47 | 365 | 270 | 0.76 | 34.88 ± 0.62 | 0.0484 ± 0.0059 | 182.2 ± 3.2 | | |
| MJK_062 | 0.00 | 1358 | 574 | 0.43 | 68.94 ± 1.07 | 0.0468 ± 0.0018 | 92.8 ± 1.4 | | |
| MJK_063 | 0.00 | 280 | 90 | 0.33 | 2.95 ± 0.04 | 0.1151 ± 0.0018 | 1880.9 ± 23.4 | 1883 ± 28 | 0.11 |
| MJK_064 | 1.07 | 88 | 64 | 0.74 | 94.88 ± 5.27 | 0.0514 ± 0.0211 | 67.6 ± 3.7 | | |
| MJK_065 | 1.83 | 99 | 45 | 0.47 | 92.76 ± 4.92 | 0.0539 ± 0.0178 | 69.1 ± 3.6 | | |
| MJK_066 | 1.30 | 817 | 768 | 0.96 | 89.89 ± 1.97 | 0.0407 ± 0.0072 | 71.3 ± 1.6 | | |
| MJK_067 | 1.06 | 234 | 127 | 0.56 | 75.03 ± 2.13 | 0.0447 ± 0.0084 | 85.3 ± 2.4 | | |
| MJK_068 | 0.00 | 87 | 74 | 0.88 | 83.36 ± 3.61 | 0.0572 ± 0.0129 | 76.9 ± 3.3 | | |
| MJK_069 | 0.00 | 231 | 116 | 0.52 | 84.44 ± 2.38 | 0.0492 ± 0.0052 | 75.9 ± 2.1 | | |
| MJK_070 | 0.36 | 160 | 68 | 0.43 | 37.04 ± 0.93 | 0.0437 ± 0.0067 | 171.7 ± 4.3 | | |
| MJK_071 | 0.00 | 182 | 134 | 0.75 | 77.05 ± 2.87 | 0.0565 ± 0.0059 | 83.1 ± 3.1 | | |
| MJK_072 | 2.07 | 223 | 170 | 0.78 | 85.80 ± 2.94 | 0.0252 ± 0.0115 | 74.7 ± 2.5 | | |
| MJK_073 | 0.69 | 233 | 108 | 0.48 | 69.74 ± 2.04 | 0.0368 ± 0.0069 | 91.8 ± 2.7 | | |
| MJK_074 | 0.00 | 207 | 174 | 0.86 | 85.08 ± 2.71 | 0.0460 ± 0.0064 | 75.3 ± 2.4 | | |
| MJK_075 | 1.34 | 201 | 94 | 0.48 | 64.02 ± 2.05 | 0.0312 ± 0.0084 | 99.9 ± 3.2 | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MJK_076 | 0.05 | 296 | 73 | 0.25 | 3.12 | ± 0.04 | 0.1189 | ± | 0.0020 | 1791.9 | ± 20.6 | | | | |
| MJK_077 | 0.00 | 292 | 124 | 0.43 | 82.43 | ± 2.43 | 0.0456 | ± | 0.0044 | 77.7 | ± 2.3 | | | | |
| MJK_078# | 0.18 | 525 | 132 | 0.26 | 3.08 | ± 0.04 | 0.1429 | ± | 0.0020 | 1813.9 | ± 22.5 | | | | |
| MJK_079 | 0.01 | 282 | 156 | 0.57 | 87.53 | ± 2.60 | 0.0422 | ± | 0.0091 | 73.2 | ± 2.2 | | | | |
| MJK_080 | 0.00 | 296 | 234 | 0.81 | 35.31 | ± 0.76 | 0.0528 | ± | 0.0036 | 180.0 | ± 3.8 | | | | |
| MJK_081 | 0.00 | 112 | 80 | 0.74 | 12.38 | ± 0.24 | 0.0634 | ± | 0.0039 | 500.7 | ± 9.2 | | | | |
| MJK_082 | 0.01 | 253 | 221 | 0.90 | 3.05 | ± 0.04 | 0.1151 | ± | 0.0029 | 1829.9 | ± 21.3 | 1883 | ± 44 | | 2.82 |
| MJK_083 | 0.00 | 188 | 185 | 1.01 | 84.54 | ± 3.02 | 0.0510 | ± | 0.0069 | 75.8 | ± 2.7 | | | | |
| MJK_084 | 0.00 | 475 | 233 | 0.50 | 60.58 | ± 1.23 | 0.0435 | ± | 0.0031 | 105.5 | ± 2.1 | | | | |
| MJK_085 | 0.00 | 913 | 521 | 0.59 | 60.55 | ± 0.99 | 0.0446 | ± | 0.0018 | 105.6 | ± 1.7 | | | | |
| MJK_086 | 0.83 | 463 | 580 | 1.28 | 81.50 | ± 1.97 | 0.0433 | ± | 0.0096 | 78.6 | ± 1.9 | | | | |
| MJK_087# | 0.00 | 434 | 163 | 0.39 | 73.23 | ± 1.96 | 0.0602 | ± | 0.0051 | 87.4 | ± 2.3 | | | | |
| MJK_088 | 0.32 | 360 | 140 | 0.40 | 23.73 | ± 0.46 | 0.0492 | ± | 0.0036 | 266.0 | ± 5.0 | | | | |
| MJK_089 | 0.54 | 602 | 207 | 0.35 | 80.19 | ± 1.77 | 0.0441 | ± | 0.0050 | 79.9 | ± 1.8 | | | | |
| MJK_090 | 0.12 | 598 | 543 | 0.93 | 29.31 | ± 0.50 | 0.0478 | ± | 0.0042 | 216.3 | ± 3.7 | | | | |
| MJK_091 | 0.07 | 217 | 42 | 0.20 | 3.00 | ± 0.05 | 0.1171 | ± | 0.0022 | 1857.1 | ± 24.7 | 1913 | ± 33 | | 2.92 |
| MJK_092 | 0.45 | 53 | 41 | 0.80 | 2.20 | ± 0.05 | 0.1488 | ± | 0.0050 | 2412.9 | ± 42.6 | 2333 | ± 57 | | -3.42 |
| MJK_093 | 0.00 | 187 | 121 | 0.66 | 62.05 | ± 2.18 | 0.0497 | ± | 0.0049 | 103.1 | ± 3.6 | | | | |
| MJK_094 | 0.38 | 669 | 231 | 0.35 | 66.21 | ± 1.19 | 0.0437 | ± | 0.0042 | 96.6 | ± 1.7 | | | | |
| MJK_095 | 0.00 | 218 | 132 | 0.62 | 77.30 | ± 2.62 | 0.0561 | ± | 0.0061 | 82.9 | ± 2.8 | | | | |
| MJK_096 | 0.00 | 497 | 188 | 0.39 | 62.28 | ± 1.26 | 0.0499 | ± | 0.0028 | 102.7 | ± 2.1 | | | | |
| MJK_097 | 0.00 | 334 | 118 | 0.36 | 36.89 | ± 0.77 | 0.0528 | ± | 0.0034 | 172.4 | ± 3.5 | | | | |
| MJK_098 | 0.00 | 440 | 25 | 0.06 | 2.04 | ± 0.03 | 0.1931 | ± | 0.0022 | 2570.0 | ± 28.9 | 2770 | ± 19 | | 7.22 |
| MJK_099 | 0.00 | 67 | 40 | 0.61 | 24.49 | ± 0.78 | 0.0453 | ± | 0.0048 | 258.0 | ± 8.0 | | | | |
| MJK_100 | 2.38 | 730 | 385 | 0.54 | 79.33 | ± 1.70 | 0.0429 | ± | 0.0066 | 80.8 | ± 1.7 | | | | |
| MJK_101 | 0.16 | 502 | 300 | 0.61 | 84.96 | ± 1.88 | 0.0517 | ± | 0.0069 | 75.4 | ± 1.7 | | | | |
| MJK_102 | 0.11 | 412 | 343 | 0.85 | 79.49 | ± 1.90 | 0.0439 | ± | 0.0078 | 80.6 | ± 1.9 | | | | |
| MJK_103 | 1.24 | 110 | 76 | 0.71 | 94.08 | ± 4.35 | 0.0329 | ± | 0.0150 | 68.2 | ± 3.1 | | | | |
| MJK_104 | 0.00 | 169 | 104 | 0.63 | 64.59 | ± 2.00 | 0.0396 | ± | 0.0049 | 99.0 | ± 3.0 | | | | |
| MJK_105 | 0.31 | 612 | 454 | 0.76 | 32.92 | ± 0.65 | 0.0467 | ± | 0.0042 | 192.9 | ± 3.7 | | | | |
| MJK_106 | 0.58 | 463 | 242 | 0.54 | 91.13 | ± 2.24 | 0.0406 | ± | 0.0071 | 70.4 | ± 1.7 | | | | |
| MJK_107 | 0.00 | 394 | 145 | 0.38 | 62.72 | ± 1.87 | 0.0420 | ± | 0.0040 | 102.0 | ± 3.0 | | | | |
| MJK_108 | 0.00 | 359 | 151 | 0.43 | 63.10 | ± 1.70 | 0.0408 | ± | 0.0037 | 101.4 | ± 2.7 | | | | |
| MJK_109 | 0.00 | 465 | 283 | 0.63 | 81.29 | ± 2.27 | 0.0471 | ± | 0.0035 | 78.8 | ± 2.2 | | | | |
| MJK_110 | 0.00 | 402 | 190 | 0.49 | 2.82 | ± 0.06 | 0.1168 | ± | 0.0018 | 1957.8 | ± 34.3 | 1909 | ± 27 | | -2.56 |
| MJK_111 | 0.22 | 734 | 396 | 0.55 | 75.16 | ± 1.75 | 0.0482 | ± | 0.0059 | 85.2 | ± 2.0 | | | | |
| MJK_112 | 0.00 | 74 | 55 | 0.76 | 97.65 | ± 5.25 | 0.0334 | ± | 0.0105 | 65.7 | ± 3.5 | | | | |
| MJK_113 | 0.00 | 52 | 53 | 1.05 | 12.48 | ± 0.37 | 0.0534 | ± | 0.0039 | 497.0 | ± 14.3 | | | | |
| MJK_114 | 0.00 | 462 | 141 | 0.31 | 85.50 | ± 2.11 | 0.0446 | ± | 0.0038 | 75.0 | ± 1.8 | | | | |
| MJK_115 | 0.14 | 86 | 20 | 0.24 | 12.31 | ± 0.25 | 0.0566 | ± | 0.0044 | 503.6 | ± 9.7 | | | | |
| MJK_116 | 0.00 | 209 | 187 | 0.92 | 82.99 | ± 2.49 | 0.0420 | ± | 0.0045 | 77.2 | ± 2.3 | | | | |
| MJK_117 | 0.00 | 228 | 217 | 0.98 | 26.40 | ± 0.61 | 0.0458 | ± | 0.0031 | 239.7 | ± 5.5 | | | | |
| MJK_118 | 0.00 | 399 | 199 | 0.51 | 25.44 | ± 0.49 | 0.0495 | ± | 0.0023 | 248.6 | ± 4.7 | | | | |
| MJK_119 | 0.00 | 170 | 66 | 0.40 | 72.55 | ± 2.41 | 0.0451 | ± | 0.0072 | 88.3 | ± 2.9 | | | | |
| MJK_120 | 0.55 | 565 | 285 | 0.52 | 68.03 | ± 1.35 | 0.0452 | ± | 0.0055 | 94.1 | ± 1.9 | | | | |
| MJK_121 | 0.00 | 1745 | 910 | 0.53 | 69.64 | ± 1.26 | 0.0497 | ± | 0.0017 | 91.9 | ± 1.7 | | | | |
| MJK_122 | 0.00 | 608 | 205 | 0.35 | 12.54 | ± 0.18 | 0.0567 | ± | 0.0015 | 494.8 | ± 6.8 | | | | |
| MJK_123 | 0.00 | 619 | 192 | 0.32 | 2.96 | ± 0.04 | 0.1139 | ± | 0.0013 | 1877.5 | ± 24.6 | 1863 | ± 21 | | -0.78 |
| MJK_124 | 0.00 | 486 | 193 | 0.41 | 64.97 | ± 1.41 | 0.0522 | ± | 0.0040 | 98.5 | ± 2.1 | | | | |
| MJK_125 | 0.00 | 167 | 84 | 0.52 | 85.61 | ± 3.42 | 0.0409 | ± | 0.0058 | 74.9 | ± 3.0 | | | | |
| MJK_126 | 0.19 | 586 | 119 | 0.21 | 3.03 | ± 0.04 | 0.1154 | ± | 0.0019 | 1840.7 | ± 22.4 | 1887 | ± 30 | | 2.45 |
| MJK_127 | 0.00 | 537 | 232 | 0.44 | 65.65 | ± 1.45 | 0.0464 | ± | 0.0029 | 97.5 | ± 2.1 | | | | |
| MJK_128 | 1.00 | 168 | 131 | 0.80 | 95.45 | ± 3.33 | 0.0501 | ± | 0.0131 | 67.2 | ± 2.3 | | | | |
| MJK_129 | 0.00 | 166 | 115 | 0.71 | 25.37 | ± 0.56 | 0.0497 | ± | 0.0035 | 249.2 | ± 5.4 | | | | |
| MJK_130 | 0.00 | 201 | 77 | 0.39 | 2.75 | ± 0.04 | 0.1314 | ± | 0.0020 | 2000.3 | ± 25.4 | 2118 | ± 27 | | 5.56 |
| MJK_131 | 0.33 | 1615 | 740 | 0.47 | 38.54 | ± 0.56 | 0.0502 | ± | 0.0023 | 165.1 | ± 2.4 | | | | |
| MJK_132 | 0.00 | 287 | 51 | 0.18 | 2.96 | ± 0.04 | 0.1145 | ± | 0.0018 | 1877.9 | ± 22.9 | 1872 | ± 28 | | -0.31 |
| MJK_133 | 0.00 | 325 | 176 | 0.56 | 25.40 | ± 0.47 | 0.0472 | ± | 0.0021 | 248.9 | ± 4.5 | | | | |
| MJK_134 | 0.00 | 208 | 78 | 0.39 | 84.10 | ± 2.50 | 0.0454 | ± | 0.0053 | 76.2 | ± 2.2 | | | | |
| MJK_135 | 0.70 | 191 | 215 | 1.15 | 30.59 | ± 0.65 | 0.0459 | ± | 0.0077 | 207.4 | ± 4.3 | | | | |
| MJK_136 | 0.00 | 237 | 136 | 0.59 | 89.16 | ± 2.74 | 0.0463 | ± | 0.0052 | 71.9 | ± 2.2 | | | | |
| MJK_137 | 0.00 | 290 | 257 | 0.91 | 28.93 | ± 0.51 | 0.0460 | ± | 0.0026 | 219.1 | ± 3.8 | | | | |
| MJK_138 | 0.00 | 369 | 145 | 0.40 | 78.15 | ± 1.75 | 0.0437 | ± | 0.0029 | 82.0 | ± 1.8 | | | | |
| MJK_139 | 0.11 | 583 | 291 | 0.51 | 78.09 | ± 1.67 | 0.0459 | ± | 0.0049 | 82.0 | ± 1.7 | | | | |
| MJK_140 | 1.41 | 295 | 121 | 0.42 | 84.58 | ± 2.28 | 0.0429 | ± | 0.0075 | 75.8 | ± 2.0 | | | | |
| MJK_141 | 0.00 | 212 | 58 | 0.28 | 3.01 | ± 0.04 | 0.1125 | ± | 0.0017 | 1850.9 | ± 21.3 | 1842 | ± 27 | | -0.48 |
| MJK_142 | 0.00 | 402 | 128 | 0.33 | 24.93 | ± 0.42 | 0.0539 | ± | 0.0021 | 253.5 | ± 4.1 | | | | |
| MJK_143 | 0.00 | 243 | 58 | 0.25 | 3.01 | ± 0.04 | 0.1147 | ± | 0.0017 | 1851.6 | ± 19.7 | 1876 | ± 27 | | 1.30 |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A3. Sample SGD. 試料SGD.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| SGD_001 | 0.00 | 272 | 353 | 1.33 | 91.01 ± 2.46 | 0.0443 ± 0.0044 | 70.4 ± 1.9 | | |
| SGD_002# | 0.36 | 466 | 263 | 0.58 | 62.62 ± 1.04 | 0.0650 ± 0.0056 | 102.1 ± 1.7 | | |
| SGD_003 | 1.52 | 248 | 301 | 1.24 | 98.80 ± 3.04 | 0.0397 ± 0.0130 | 64.9 ± 2.0 | | |
| SGD_004 | 0.78 | 438 | 186 | 0.44 | 81.85 ± 1.71 | 0.0452 ± 0.0057 | 78.3 ± 1.6 | | |
| SGD_005 | 0.00 | 400 | 159 | 0.41 | 77.57 ± 1.70 | 0.0541 ± 0.0035 | 82.6 ± 1.8 | | |
| SGD_006 | 0.95 | 141 | 68 | 0.49 | 87.10 ± 3.14 | 0.0289 ± 0.0105 | 73.6 ± 2.6 | | |
| SGD_007 | 3.75 | 225 | 171 | 0.78 | 75.99 ± 2.08 | 0.0505 ± 0.0113 | 84.3 ± 2.3 | | |
| SGD_008 | 1.81 | 294 | 570 | 1.99 | 108.33 ± 3.57 | 0.0349 ± 0.0208 | 59.2 ± 1.9 | | |
| SGD_009 | 0.00 | 391 | 447 | 1.17 | 81.22 ± 1.61 | 0.0444 ± 0.0035 | 78.9 ± 1.6 | | |
| SGD_010 | 0.00 | 130 | 173 | 1.36 | 101.09 ± 4.18 | 0.0604 ± 0.0094 | 63.5 ± 2.6 | | |
| SGD_011# | 0.00 | 547 | 296 | 0.55 | 74.80 ± 1.53 | 0.0553 ± 0.0029 | 85.6 ± 1.7 | | |
| SGD_012 | 0.00 | 402 | 449 | 1.15 | 79.98 ± 1.52 | 0.0540 ± 0.0037 | 80.1 ± 1.5 | | |
| SGD_013 | 1.05 | 464 | 466 | 1.03 | 103.84 ± 2.47 | 0.0350 ± 0.0092 | 61.8 ± 1.5 | | |
| SGD_014 | 1.15 | 439 | 211 | 0.49 | 88.22 ± 1.74 | 0.0422 ± 0.0063 | 72.7 ± 1.4 | | |
| SGD_015# | 0.55 | 517 | 135 | 0.27 | 4.15 ± 0.05 | 0.1078 ± 0.0015 | 1392.7 ± 15.6 | 1764 ± 24 | 21.05 |
| SGD_016 | 0.00 | 1320 | 721 | 0.56 | 86.19 ± 1.30 | 0.0487 ± 0.0020 | 74.4 ± 1.1 | | |
| SGD_017 | 0.00 | 85 | 82 | 0.99 | 83.72 ± 4.22 | 0.0280 ± 0.0100 | 76.5 ± 3.8 | | |
| SGD_018 | 0.15 | 570 | 315 | 0.57 | 84.66 ± 1.71 | 0.0472 ± 0.0049 | 75.7 ± 1.5 | | |
| SGD_019 | 0.36 | 329 | 140 | 0.44 | 82.59 ± 2.04 | 0.0472 ± 0.0061 | 77.6 ± 1.9 | | |
| SGD_020 | 1.42 | 68 | 71 | 1.08 | 98.40 ± 6.60 | 0.0269 ± 0.0261 | 65.2 ± 4.4 | | |
| SGD_021 | 0.00 | 97 | 96 | 1.02 | 110.38 ± 5.68 | 0.0422 ± 0.0108 | 58.1 ± 3.0 | | |
| SGD_022 | 0.00 | 93 | 130 | 1.44 | 112.28 ± 5.88 | 0.0326 ± 0.0091 | 57.2 ± 3.0 | | |
| SGD_023 | 0.00 | 80 | 55 | 0.71 | 92.25 ± 4.68 | 0.0459 ± 0.0099 | 69.5 ± 3.5 | | |
| SGD_024 | 0.53 | 611 | 255 | 0.43 | 88.52 ± 1.86 | 0.0446 ± 0.0051 | 72.4 ± 1.5 | | |
| SGD_025 | 0.42 | 443 | 209 | 0.48 | 82.65 ± 1.87 | 0.0431 ± 0.0053 | 77.5 ± 1.7 | | |
| SGD_026 | 1.12 | 304 | 319 | 1.08 | 88.38 ± 2.48 | 0.0325 ± 0.0108 | 72.5 ± 2.0 | | |
| SGD_027 | 0.00 | 119 | 127 | 1.09 | 102.46 ± 4.30 | 0.0369 ± 0.0078 | 62.6 ± 2.6 | | |
| SGD_028 | 0.00 | 389 | 154 | 0.41 | 2.91 ± 0.04 | 0.1259 ± 0.0015 | 1903.2 ± 21.5 | 2042 ± 21 | 6.79 |
| SGD_029 | 0.59 | 115 | 115 | 1.03 | 107.34 ± 5.68 | 0.0395 ± 0.0211 | 59.8 ± 3.2 | | |
| SGD_030 | 0.00 | 210 | 127 | 0.62 | 3.13 ± 0.04 | 0.1129 ± 0.0018 | 1789.3 ± 18.2 | 1848 ± 29 | 3.17 |
| SGD_031 | 0.12 | 738 | 422 | 0.59 | 85.50 ± 1.66 | 0.0431 ± 0.0050 | 75.0 ± 1.4 | | |
| SGD_032 | 0.00 | 486 | 401 | 0.85 | 83.66 ± 1.72 | 0.0509 ± 0.0037 | 76.6 ± 1.6 | | |
| SGD_033 | 0.00 | 146 | 190 | 1.33 | 97.48 ± 3.94 | 0.0577 ± 0.0093 | 65.8 ± 2.6 | | |
| SGD_034 | 1.64 | 215 | 136 | 0.65 | 84.68 ± 2.69 | 0.0319 ± 0.0116 | 75.7 ± 2.4 | | |
| SGD_035 | 0.00 | 840 | 412 | 0.50 | 82.17 ± 1.47 | 0.0436 ± 0.0023 | 78.0 ± 1.4 | | |
| SGD_036 | 2.64 | 158 | 227 | 1.47 | 106.95 ± 4.61 | 0.0342 ± 0.0221 | 60.0 ± 2.6 | | |
| SGD_037# | 2.41 | 256 | 82 | 0.33 | 80.97 ± 2.97 | 0.0676 ± 0.0099 | 79.1 ± 2.9 | | |
| SGD_038 | 0.00 | 220 | 182 | 0.85 | 81.40 ± 2.48 | 0.0550 ± 0.0056 | 78.7 ± 2.4 | | |
| SGD_039 | 0.00 | 218 | 125 | 0.59 | 98.95 ± 2.58 | 0.0414 ± 0.0047 | 64.8 ± 1.7 | | |
| SGD_040 | 0.00 | 143 | 147 | 1.05 | 99.45 ± 4.07 | 0.0474 ± 0.0083 | 64.5 ± 2.6 | | |
| SGD_041 | 1.61 | 209 | 328 | 1.61 | 97.65 ± 4.04 | 0.0359 ± 0.0222 | 65.7 ± 2.7 | | |
| SGD_042 | 0.17 | 94 | 99 | 1.08 | 97.25 ± 4.90 | 0.0399 ± 0.0212 | 65.9 ± 3.3 | | |
| SGD_043 | 0.00 | 391 | 247 | 0.65 | 100.82 ± 2.50 | 0.0511 ± 0.0042 | 63.6 ± 1.6 | | |
| SGD_044 | 0.00 | 231 | 125 | 0.55 | 2.98 ± 0.04 | 0.1166 ± 0.0020 | 1864.6 ± 20.8 | 1906 ± 31 | 2.17 |
| SGD_045 | 0.00 | 310 | 284 | 0.94 | 73.07 ± 1.92 | 0.0479 ± 0.0046 | 87.6 ± 2.3 | | |
| SGD_046 | 1.94 | 188 | 222 | 1.21 | 103.61 ± 4.36 | 0.0365 ± 0.0175 | 61.9 ± 2.6 | | |
| SGD_047 | 0.00 | 105 | 121 | 1.19 | 101.42 ± 4.57 | 0.0503 ± 0.0095 | 63.3 ± 2.8 | | |
| SGD_048 | 0.61 | 374 | 263 | 0.72 | 85.28 ± 2.34 | 0.0437 ± 0.0082 | 75.2 ± 2.1 | | |
| SGD_049 | 2.31 | 123 | 104 | 0.86 | 98.30 ± 3.92 | 0.0318 ± 0.0171 | 65.2 ± 2.6 | | |
| SGD_050 | 1.40 | 486 | 477 | 1.01 | 89.51 ± 2.27 | 0.0394 ± 0.0093 | 71.6 ± 1.8 | | |
| SGD_051 | 2.39 | 137 | 124 | 0.93 | 90.29 ± 3.71 | 0.0333 ± 0.0185 | 71.0 ± 2.9 | | |
| SGD_052 | 0.00 | 218 | 117 | 0.55 | 72.28 ± 2.17 | 0.0425 ± 0.0048 | 88.6 ± 2.6 | | |
| SGD_053 | 0.64 | 295 | 435 | 1.51 | 110.63 ± 3.83 | 0.0488 ± 0.0170 | 58.0 ± 2.0 | | |
| SGD_054 | 0.00 | 474 | 434 | 0.94 | 83.03 ± 1.57 | 0.0441 ± 0.0032 | 77.2 ± 1.4 | | |
| SGD_055 | 0.32 | 160 | 126 | 0.81 | 75.77 ± 2.71 | 0.0433 ± 0.0123 | 84.5 ± 3.0 | | |
| SGD_056 | 0.27 | 197 | 296 | 1.54 | 101.00 ± 3.91 | 0.0576 ± 0.0198 | 63.5 ± 2.4 | | |
| SGD_057 | 0.02 | 534 | 81 | 0.16 | 3.06 ± 0.03 | 0.1157 ± 0.0014 | 1824.0 ± 18.1 | 1892 ± 23 | 3.59 |
| SGD_058 | 0.00 | 89 | 63 | 0.72 | 23.57 ± 0.64 | 0.0594 ± 0.0048 | 267.9 ± 7.2 | | |
| SGD_059 | 0.70 | 447 | 295 | 0.68 | 75.11 ± 1.71 | 0.0429 ± 0.0069 | 85.3 ± 1.9 | | |
| SGD_060 | 0.00 | 278 | 348 | 1.28 | 105.22 ± 3.29 | 0.0402 ± 0.0044 | 61.0 ± 1.9 | | |
| SGD_061 | 2.47 | 236 | 102 | 0.44 | 105.55 ± 3.38 | 0.0344 ± 0.0108 | 60.8 ± 1.9 | | |
| SGD_062 | 0.00 | 289 | 59 | 0.21 | 3.07 ± 0.04 | 0.1157 ± 0.0017 | 1816.8 ± 18.6 | 1892 ± 26 | 3.98 |
| SGD_063 | 1.75 | 256 | 225 | 0.90 | 89.04 ± 2.84 | 0.0339 ± 0.0125 | 72.0 ± 2.3 | | |
| SGD_064 | 0.00 | 113 | 111 | 1.01 | 89.13 ± 4.11 | 0.0521 ± 0.0084 | 71.9 ± 3.3 | | |
| SGD_065 | 2.78 | 340 | 140 | 0.42 | 87.49 ± 2.30 | 0.0462 ± 0.0087 | 73.3 ± 1.9 | | |
| SGD_066 | 0.00 | 962 | 961 | 1.02 | 81.41 ± 1.24 | 0.0497 ± 0.0024 | 78.7 ± 1.2 | | |
| SGD_067 | 1.18 | 384 | 236 | 0.63 | 84.77 ± 2.22 | 0.0417 ± 0.0085 | 75.6 ± 2.0 | | |
| SGD_068# | 0.00 | 495 | 531 | 1.10 | 82.12 ± 1.77 | 0.0555 ± 0.0034 | 78.0 ± 1.7 | | |
| SGD_069 | 1.30 | 104 | 105 | 1.04 | 102.10 ± 4.86 | 0.0445 ± 0.0215 | 62.8 ± 3.0 | | |
| SGD_070 | 1.80 | 205 | 267 | 1.34 | 100.96 ± 4.03 | 0.0234 ± 0.0196 | 63.5 ± 2.5 | | |
| SGD_071 | 0.38 | 80 | 82 | 1.05 | 93.05 ± 5.01 | 0.0383 ± 0.0244 | 68.9 ± 3.7 | | |
| SGD_072 | 0.00 | 581 | 373 | 0.66 | 66.88 ± 1.38 | 0.0478 ± 0.0031 | 95.7 ± 2.0 | | |
| SGD_073 | 0.00 | 173 | 202 | 1.20 | 98.43 ± 3.09 | 0.0446 ± 0.0063 | 65.2 ± 2.0 | | |
| SGD_074 | 0.00 | 955 | 499 | 0.54 | 82.52 ± 1.34 | 0.0499 ± 0.0024 | 77.7 ± 1.2 | | |
| SGD_075 | 0.00 | 860 | 346 | 0.41 | 61.27 ± 0.94 | 0.0483 ± 0.0019 | 104.4 ± 1.6 | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SGD_076 | 1.59 | 289 | 204 | 0.72 | 101.80 | ± 3.21 | 0.0407 | ± | 0.0116 | 63.0 | ± 2.0 | | | | |
| SGD_077 | 0.00 | 360 | 341 | 0.97 | 97.08 | ± 2.34 | 0.0539 | ± | 0.0047 | 66.1 | ± 1.6 | | | | |
| SGD_078 | 0.00 | 321 | 246 | 0.79 | 77.76 | ± 2.14 | 0.0438 | ± | 0.0037 | 82.4 | ± 2.3 | | | | |
| SGD_079 | 0.39 | 450 | 344 | 0.78 | 77.77 | ± 1.90 | 0.0443 | ± | 0.0085 | 82.4 | ± 2.0 | | | | |
| SGD_080 | 0.35 | 358 | 284 | 0.81 | 102.88 | ± 2.83 | 0.0430 | ± | 0.0101 | 62.4 | ± 1.7 | | | | |
| SGD_081 | 0.00 | 217 | 180 | 0.85 | 76.89 | ± 2.04 | 0.0478 | ± | 0.0049 | 83.3 | ± 2.2 | | | | |
| SGD_082 | 0.05 | 160 | 93 | 0.59 | 102.11 | ± 3.68 | 0.0631 | ± | 0.0129 | 62.8 | ± 2.3 | | | | |
| SGD_083 | 1.81 | 184 | 201 | 1.12 | 77.94 | ± 2.91 | 0.0693 | ± | 0.0170 | 82.2 | ± 3.0 | | | | |
| SGD_084 | 0.00 | 207 | 288 | 1.43 | 92.87 | ± 3.08 | 0.0439 | ± | 0.0063 | 69.0 | ± 2.3 | | | | |
| SGD_085 | 0.10 | 106 | 60 | 0.58 | 2.47 | ± 0.04 | 0.1347 | ± | 0.0032 | 2189.7 | ± 30.6 | 2161 | ± 42 | -1.33 | |
| SGD_086 | 1.04 | 100 | 57 | 0.58 | 88.61 | ± 4.27 | 0.0450 | ± | 0.0154 | 72.3 | ± 3.5 | | | | |
| SGD_087 | 0.00 | 251 | 130 | 0.53 | 85.57 | ± 2.48 | 0.0399 | ± | 0.0041 | 74.9 | ± 2.2 | | | | |
| SGD_088 | 0.97 | 265 | 188 | 0.73 | 83.52 | ± 2.48 | 0.0393 | ± | 0.0097 | 76.7 | ± 2.3 | | | | |
| SGD_089 | 0.00 | 551 | 366 | 0.68 | 3.16 | ± 0.04 | 0.1165 | ± | 0.0014 | 1773.1 | ± 18.6 | 1904 | ± 21 | 6.88 | |
| SGD_090 | 1.23 | 129 | 97 | 0.77 | 76.01 | ± 3.44 | 0.0453 | ± | 0.0172 | 84.3 | ± 3.8 | | | | |
| SGD_091 | 0.00 | 120 | 61 | 0.53 | 3.23 | ± 0.05 | 0.1183 | ± | 0.0025 | 1738.5 | ± 24.1 | 1932 | ± 37 | 10.01 | |
| SGD_092 | 0.00 | 87 | 113 | 1.33 | 85.24 | ± 3.80 | 0.0470 | ± | 0.0108 | 75.2 | ± 3.3 | | | | |
| SGD_093 | 0.32 | 95 | 94 | 1.01 | 106.55 | ± 6.38 | 0.0366 | ± | 0.0217 | 60.2 | ± 3.6 | | | | |
| SGD_094 | 2.71 | 138 | 86 | 0.64 | 89.79 | ± 3.78 | 0.0296 | ± | 0.0149 | 71.4 | ± 3.0 | | | | |
| SGD_095 | 0.42 | 346 | 124 | 0.37 | 79.97 | ± 1.95 | 0.0489 | ± | 0.0059 | 80.1 | ± 1.9 | | | | |
| SGD_096 | 0.33 | 218 | 256 | 1.20 | 107.31 | ± 3.70 | 0.0632 | ± | 0.0144 | 59.8 | ± 2.1 | | | | |
| SGD_097 | 0.57 | 56 | 56 | 1.02 | 2.29 | ± 0.05 | 0.1568 | ± | 0.0066 | 2338.3 | ± 42.0 | 2423 | ± 70 | 3.50 | |
| SGD_098 | 0.00 | 203 | 158 | 0.80 | 77.31 | ± 1.97 | 0.0419 | ± | 0.0046 | 82.9 | ± 2.1 | | | | |
| SGD_099 | 0.54 | 117 | 120 | 1.05 | 108.49 | ± 5.02 | 0.0502 | ± | 0.0190 | 59.1 | ± 2.7 | | | | |
| SGD_100 | 0.00 | 146 | 149 | 1.05 | 93.32 | ± 3.31 | 0.0413 | ± | 0.0061 | 68.7 | ± 2.4 | | | | |
| SGD_101 | 0.00 | 321 | 256 | 0.82 | 87.37 | ± 2.06 | 0.0545 | ± | 0.0049 | 73.4 | ± 1.7 | | | | |
| SGD_102 | 3.90 | 171 | 112 | 0.67 | 86.92 | ± 2.64 | 0.0473 | ± | 0.0161 | 73.7 | ± 2.2 | | | | |
| SGD_103 | 0.00 | 930 | 457 | 0.50 | 73.66 | ± 1.35 | 0.0484 | ± | 0.0020 | 86.9 | ± 1.6 | | | | |
| SGD_104 | 0.00 | 346 | 403 | 1.19 | 83.15 | ± 1.98 | 0.0416 | ± | 0.0036 | 77.1 | ± 1.8 | | | | |
| SGD_105 | 0.03 | 1226 | 447 | 0.37 | 77.53 | ± 1.24 | 0.0521 | ± | 0.0030 | 82.6 | ± 1.3 | | | | |
| SGD_106 | 0.00 | 326 | 178 | 0.56 | 102.35 | ± 2.36 | 0.0450 | ± | 0.0042 | 62.7 | ± 1.4 | | | | |
| SGD_107 | 0.22 | 286 | 145 | 0.52 | 86.58 | ± 2.32 | 0.0528 | ± | 0.0080 | 74.0 | ± 2.0 | | | | |
| SGD_108 | 0.00 | 168 | 132 | 0.81 | 80.23 | ± 2.61 | 0.0459 | ± | 0.0062 | 79.9 | ± 2.6 | | | | |
| SGD_109 | 2.45 | 183 | 173 | 0.97 | 87.57 | ± 3.54 | 0.0472 | ± | 0.0156 | 73.2 | ± 2.9 | | | | |
| SGD_110 | 1.84 | 508 | 335 | 0.68 | 76.60 | ± 1.56 | 0.0347 | ± | 0.0066 | 83.6 | ± 1.7 | | | | |
| SGD_111 | 0.00 | 361 | 163 | 0.46 | 75.20 | ± 1.60 | 0.0426 | ± | 0.0032 | 85.2 | ± 1.8 | | | | |
| SGD_112 | 0.00 | 292 | 79 | 0.28 | 80.19 | ± 2.23 | 0.0497 | ± | 0.0036 | 79.9 | ± 2.2 | | | | |
| SGD_113 | 1.51 | 262 | 256 | 1.00 | 109.95 | ± 3.78 | 0.0312 | ± | 0.0119 | 58.4 | ± 2.0 | | | | |
| SGD_114 | 0.73 | 712 | 66 | 0.09 | 3.68 | ± 0.07 | 0.1081 | ± | 0.0023 | 1548.4 | ± 25.6 | 1768 | ± 39 | 12.42 | |
| SGD_115 | 0.35 | 46 | 30 | 0.67 | 12.42 | ± 0.36 | 0.0512 | ± | 0.0083 | 499.3 | ± 13.8 | | | | |
| SGD_116 | 0.00 | 161 | 102 | 0.65 | 88.93 | ± 2.89 | 0.0615 | ± | 0.0073 | 72.1 | ± 2.3 | | | | |
| SGD_117# | 0.00 | 282 | 663 | 2.41 | 96.45 | ± 2.87 | 0.0631 | ± | 0.0055 | 66.5 | ± 2.0 | | | | |
| SGD_118 | 0.00 | 856 | 449 | 0.54 | 79.84 | ± 1.36 | 0.0462 | ± | 0.0021 | 80.2 | ± 1.4 | | | | |
| SGD_119 | 0.00 | 323 | 240 | 0.76 | 104.87 | ± 2.55 | 0.0432 | ± | 0.0043 | 61.2 | ± 1.5 | | | | |
| SGD_120 | 0.00 | 263 | 154 | 0.60 | 94.93 | ± 2.58 | 0.0430 | ± | 0.0044 | 67.6 | ± 1.8 | | | | |
| SGD_121 | 0.23 | 1050 | 395 | 0.39 | 88.40 | ± 1.42 | 0.0484 | ± | 0.0037 | 72.5 | ± 1.2 | | | | |
| SGD_122 | 0.00 | 95 | 84 | 0.90 | 93.69 | ± 5.07 | 0.0523 | ± | 0.0135 | 68.4 | ± 3.7 | | | | |
| SGD_123 | 1.83 | 110 | 104 | 0.96 | 101.31 | ± 5.01 | 0.0468 | ± | 0.0227 | 63.3 | ± 3.1 | | | | |
| SGD_124 | 0.00 | 397 | 216 | 0.56 | 78.86 | ± 1.66 | 0.0471 | ± | 0.0041 | 81.2 | ± 1.7 | | | | |
| SGD_125 | 1.97 | 279 | 349 | 1.28 | 77.80 | ± 2.59 | 0.0462 | ± | 0.0131 | 82.3 | ± 2.7 | | | | |
| SGD_126 | 0.00 | 947 | 929 | 1.01 | 75.62 | ± 1.35 | 0.0442 | ± | 0.0021 | 84.7 | ± 1.5 | | | | |
| SGD_127 | 0.00 | 193 | 195 | 1.03 | 96.81 | ± 2.98 | 0.0448 | ± | 0.0072 | 66.2 | ± 2.0 | | | | |
| SGD_128 | 1.94 | 349 | 348 | 1.02 | 95.91 | ± 3.05 | 0.0242 | ± | 0.0126 | 66.9 | ± 2.1 | | | | |
| SGD_129 | 0.00 | 364 | 147 | 0.42 | 77.68 | ± 1.78 | 0.0476 | ± | 0.0038 | 82.5 | ± 1.9 | | | | |
| SGD_130 | 1.79 | 506 | 317 | 0.64 | 103.86 | ± 2.63 | 0.0378 | ± | 0.0080 | 61.8 | ± 1.6 | | | | |
| SGD_131 | 0.49 | 312 | 251 | 0.83 | 75.76 | ± 1.96 | 0.0396 | ± | 0.0096 | 84.5 | ± 2.2 | | | | |
| SGD_132# | 0.00 | 338 | 415 | 1.26 | 95.97 | ± 2.64 | 0.0586 | ± | 0.0052 | 66.8 | ± 1.8 | | | | |
| SGD_133 | 0.00 | 85 | 32 | 0.38 | 82.27 | ± 3.74 | 0.0357 | ± | 0.0091 | 77.9 | ± 3.5 | | | | |
| SGD_134 | 0.00 | 650 | 507 | 0.80 | 64.71 | ± 1.39 | 0.0434 | ± | 0.0025 | 98.9 | ± 2.1 | | | | |
| SGD_135 | 0.00 | 201 | 311 | 1.59 | 97.84 | ± 3.28 | 0.0576 | ± | 0.0070 | 65.6 | ± 2.2 | | | | |
| SGD_136 | 2.87 | 296 | 241 | 0.83 | 92.94 | ± 2.77 | 0.0393 | ± | 0.0121 | 69.0 | ± 2.0 | | | | |
| SGD_137 | 1.13 | 153 | 117 | 0.78 | 68.62 | ± 2.42 | 0.0338 | ± | 0.0119 | 93.3 | ± 3.3 | | | | |
| SGD_138# | 0.00 | 759 | 506 | 0.68 | 87.03 | ± 1.59 | 0.0526 | ± | 0.0025 | 73.6 | ± 1.3 | | | | |
| SGD_139 | 0.39 | 520 | 237 | 0.47 | 83.04 | ± 1.59 | 0.0496 | ± | 0.0057 | 77.2 | ± 1.5 | | | | |
| SGD_140 | 0.00 | 620 | 28 | 0.05 | 3.11 | ± 0.04 | 0.1177 | ± | 0.0014 | 1798.4 | ± 19.5 | 1923 | ± 21 | 6.48 | |
| SGD_141# | 0.00 | 614 | 534 | 0.89 | 96.35 | ± 2.02 | 0.0557 | ± | 0.0038 | 66.6 | ± 1.4 | | | | |
| SGD_142 | 0.86 | 530 | 218 | 0.42 | 78.21 | ± 1.63 | 0.0534 | ± | 0.0057 | 81.9 | ± 1.7 | | | | |
| SGD_143# | 0.00 | 610 | 229 | 0.38 | 64.16 | ± 1.14 | 0.0559 | ± | 0.0030 | 99.7 | ± 1.8 | | | | |
| SGD_144 | 0.00 | 244 | 284 | 1.20 | 97.84 | ± 3.40 | 0.0460 | ± | 0.0051 | 65.6 | ± 2.3 | | | | |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A4. Sample NTK. 試料NTK.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (3) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| NTK_001 | 2.45 | 403 | 209 | 0.53 | 60.99 ± 1.22 | 0.0450 ± 0.0068 | 104.8 ± 2.1 | | |
| NTK_002 | 0.00 | 663 | 777 | 1.20 | 76.59 ± 1.60 | 0.0476 ± 0.0020 | 83.6 ± 1.7 | | |
| NTK_003 | 0.31 | 529 | 308 | 0.60 | 76.23 ± 1.78 | 0.0467 ± 0.0057 | 84.0 ± 2.0 | | |
| NTK_004 | 0.00 | 167 | 98 | 0.60 | 100.15 ± 3.47 | 0.0541 ± 0.0058 | 64.0 ± 2.2 | | |
| NTK_005 | 1.57 | 164 | 98 | 0.61 | 97.49 ± 3.18 | 0.0512 ± 0.0135 | 65.8 ± 2.1 | | |
| NTK_006 | 1.13 | 384 | 232 | 0.62 | 92.21 ± 2.09 | 0.0426 ± 0.0065 | 69.5 ± 1.6 | | |
| NTK_007 | 0.58 | 160 | 59 | 0.38 | 97.37 ± 3.22 | 0.0444 ± 0.0088 | 65.9 ± 2.2 | | |
| NTK_008 | 1.23 | 178 | 111 | 0.64 | 77.96 ± 2.16 | 0.0371 ± 0.0094 | 82.2 ± 2.3 | | |
| NTK_009 | 0.99 | 221 | 103 | 0.48 | 99.19 ± 2.60 | 0.0325 ± 0.0080 | 64.7 ± 1.7 | | |
| NTK_010 | 0.59 | 203 | 116 | 0.58 | 98.72 ± 2.94 | 0.0422 ± 0.0091 | 65.0 ± 1.9 | | |
| NTK_011 | 0.00 | 957 | 868 | 0.93 | 66.56 ± 0.90 | 0.0481 ± 0.0018 | 96.1 ± 1.3 | | |
| NTK_012 | 1.09 | 144 | 54 | 0.38 | 97.59 ± 3.62 | 0.0369 ± 0.0100 | 65.7 ± 2.4 | | |
| NTK_013 | 0.82 | 1074 | 587 | 0.56 | 65.89 ± 1.22 | 0.0448 ± 0.0038 | 97.1 ± 1.8 | | |
| NTK_014 | 0.20 | 1053 | 700 | 0.68 | 91.17 ± 1.45 | 0.0424 ± 0.0036 | 70.3 ± 1.1 | | |
| NTK_015 | 0.73 | 414 | 242 | 0.60 | 71.93 ± 1.61 | 0.0449 ± 0.0063 | 89.0 ± 2.0 | | |
| NTK_016 | 0.11 | 242 | 150 | 0.64 | 74.59 ± 2.10 | 0.0440 ± 0.0081 | 85.8 ± 2.4 | | |
| NTK_017 | 0.00 | 246 | 134 | 0.56 | 97.82 ± 2.60 | 0.0531 ± 0.0047 | 65.6 ± 1.7 | | |
| NTK_018 | 1.01 | 181 | 153 | 0.87 | 95.54 ± 2.89 | 0.0342 ± 0.0112 | 67.1 ± 2.0 | | |
| NTK_019 | 0.74 | 226 | 129 | 0.59 | 90.39 ± 2.51 | 0.0456 ± 0.0084 | 70.9 ± 2.0 | | |
| NTK_020 | 0.00 | 259 | 152 | 0.60 | 93.62 ± 2.76 | 0.0547 ± 0.0049 | 68.5 ± 2.0 | | |
| NTK_021 | 0.45 | 290 | 166 | 0.59 | 99.58 ± 2.73 | 0.0383 ± 0.0083 | 64.4 ± 1.8 | | |
| NTK_022 | 0.39 | 105 | 32 | 0.31 | 101.40 ± 4.35 | 0.0451 ± 0.0129 | 63.3 ± 2.7 | | |
| NTK_023 | 1.17 | 192 | 81 | 0.43 | 94.63 ± 2.95 | 0.0374 ± 0.0095 | 67.8 ± 2.1 | | |
| NTK_024 | 0.00 | 767 | 292 | 0.39 | 66.03 ± 1.06 | 0.0465 ± 0.0021 | 96.9 ± 1.5 | | |
| NTK_025 | 0.00 | 227 | 117 | 0.53 | 86.13 ± 2.24 | 0.0500 ± 0.0052 | 74.4 ± 1.9 | | |
| NTK_026 | 0.00 | 69 | 41 | 0.61 | 90.09 ± 4.07 | 0.0568 ± 0.0100 | 71.2 ± 3.2 | | |
| NTK_027 | 0.81 | 245 | 101 | 0.42 | 98.69 ± 3.00 | 0.0428 ± 0.0077 | 65.0 ± 2.0 | | |
| NTK_028 | 0.00 | 143 | 36 | 0.26 | 96.37 ± 3.22 | 0.0371 ± 0.0062 | 66.5 ± 2.2 | | |
| NTK_029 | 0.19 | 390 | 198 | 0.52 | 73.72 ± 1.55 | 0.0479 ± 0.0056 | 86.9 ± 1.8 | | |
| NTK_030 | 0.16 | 728 | 377 | 0.53 | 63.72 ± 1.19 | 0.0479 ± 0.0037 | 100.4 ± 1.9 | | |
| NTK_031 | 1.59 | 279 | 177 | 0.65 | 97.69 ± 2.92 | 0.0375 ± 0.0094 | 65.6 ± 1.9 | | |
| NTK_032 | 1.06 | 306 | 158 | 0.53 | 82.92 ± 1.90 | 0.0457 ± 0.0074 | 77.3 ± 1.8 | | |
| NTK_033 | 4.58 | 277 | 138 | 0.51 | 88.61 ± 2.51 | 0.0421 ± 0.0128 | 72.3 ± 2.0 | | |
| NTK_034 | 0.00 | 153 | 46 | 0.31 | 99.39 ± 3.33 | 0.0514 ± 0.0063 | 64.5 ± 2.2 | | |
| NTK_035 | 0.00 | 860 | 680 | 0.81 | 65.76 ± 1.05 | 0.0491 ± 0.0018 | 97.3 ± 1.5 | | |
| NTK_036 | 0.56 | 648 | 263 | 0.42 | 79.93 ± 1.42 | 0.0413 ± 0.0039 | 80.2 ± 1.4 | | |
| NTK_037 | 0.00 | 297 | 166 | 0.57 | 68.09 ± 1.29 | 0.0491 ± 0.0031 | 94.0 ± 1.8 | | |
| NTK_038 | 0.00 | 42 | 23 | 0.56 | 96.88 ± 5.12 | 0.0434 ± 0.0168 | 66.2 ± 3.5 | | |
| NTK_039 | 0.88 | 189 | 85 | 0.46 | 99.22 ± 2.94 | 0.0571 ± 0.0099 | 64.6 ± 1.9 | | |
| NTK_040 | 0.00 | 152 | 38 | 0.26 | 91.50 ± 3.20 | 0.0430 ± 0.0051 | 70.1 ± 2.4 | | |
| NTK_041 | 1.43 | 256 | 100 | 0.40 | 69.12 ± 1.72 | 0.0381 ± 0.0060 | 92.6 ± 2.3 | | |
| NTK_042 | 0.00 | 157 | 50 | 0.33 | 96.53 ± 3.09 | 0.0368 ± 0.0058 | 66.4 ± 2.1 | | |
| NTK_043 | 0.00 | 124 | 58 | 0.48 | 93.99 ± 3.55 | 0.0356 ± 0.0060 | 68.2 ± 2.6 | | |
| NTK_044 | 0.00 | 131 | 90 | 0.71 | 97.80 ± 4.41 | 0.0404 ± 0.0095 | 65.6 ± 2.9 | | |
| NTK_045 | 0.39 | 518 | 209 | 0.41 | 76.00 ± 1.38 | 0.0516 ± 0.0046 | 84.3 ± 1.5 | | |
| NTK_046 | 0.00 | 87 | 21 | 0.25 | 93.48 ± 4.44 | 0.0391 ± 0.0079 | 68.6 ± 3.2 | | |
| NTK_047 | 0.00 | 670 | 433 | 0.66 | 82.13 ± 1.57 | 0.0472 ± 0.0025 | 78.0 ± 1.5 | | |
| NTK_048 | 1.05 | 128 | 132 | 1.06 | 35.64 ± 0.86 | 0.0350 ± 0.0091 | 178.4 ± 4.3 | | |
| NTK_049 | 0.19 | 174 | 95 | 0.56 | 90.91 ± 2.92 | 0.0508 ± 0.0104 | 70.5 ± 2.3 | | |
| NTK_050 | 0.00 | 88 | 39 | 0.46 | 97.93 ± 4.05 | 0.0372 ± 0.0089 | 65.5 ± 2.7 | | |
| NTK_051 | 0.71 | 356 | 382 | 1.10 | 69.33 ± 1.56 | 0.0487 ± 0.0081 | 92.3 ± 2.1 | | |
| NTK_052 | 0.00 | 372 | 183 | 0.50 | 76.58 ± 1.78 | 0.0458 ± 0.0031 | 83.6 ± 1.9 | | |
| NTK_053 | 1.16 | 208 | 144 | 0.71 | 93.02 ± 2.57 | 0.0358 ± 0.0093 | 68.9 ± 1.9 | | |
| NTK_054 | 0.00 | 110 | 48 | 0.44 | 93.69 ± 3.23 | 0.0355 ± 0.0076 | 68.4 ± 2.3 | | |
| NTK_055 | 0.00 | 60 | 26 | 0.44 | 89.76 ± 4.17 | 0.0437 ± 0.0082 | 71.4 ± 3.3 | | |
| NTK_056 | 1.39 | 308 | 263 | 0.88 | 92.88 ± 1.97 | 0.0343 ± 0.0085 | 69.0 ± 1.5 | | |
| NTK_057 | 0.00 | 455 | 250 | 0.57 | 66.50 ± 1.27 | 0.0468 ± 0.0026 | 96.2 ± 1.8 | | |
| NTK_058 | 0.00 | 225 | 110 | 0.50 | 82.38 ± 1.82 | 0.0509 ± 0.0037 | 77.8 ± 1.7 | | |
| NTK_059 | 0.00 | 187 | 89 | 0.49 | 99.38 ± 2.70 | 0.0555 ± 0.0048 | 64.5 ± 1.7 | | |
| NTK_060 | 0.00 | 179 | 60 | 0.35 | 90.03 ± 2.28 | 0.0483 ± 0.0051 | 71.2 ± 1.8 | | |
| NTK_061 | 1.12 | 305 | 202 | 0.68 | 82.16 ± 1.97 | 0.0386 ± 0.0070 | 78.0 ± 1.9 | | |
| NTK_062 | 0.00 | 73 | 46 | 0.64 | 81.89 ± 2.95 | 0.0342 ± 0.0073 | 78.2 ± 2.8 | | |
| NTK_063 | 0.45 | 332 | 189 | 0.58 | 83.10 ± 2.07 | 0.0478 ± 0.0075 | 77.1 ± 1.9 | | |
| NTK_064 | 0.16 | 120 | 46 | 0.39 | 93.46 ± 3.21 | 0.0410 ± 0.0098 | 68.6 ± 2.3 | | |
| NTK_065 | 2.49 | 147 | 100 | 0.70 | 93.68 ± 2.99 | 0.0555 ± 0.0135 | 68.5 ± 2.2 | | |
| NTK_066 | 0.13 | 401 | 244 | 0.62 | 79.86 ± 1.56 | 0.0516 ± 0.0058 | 80.2 ± 1.6 | | |
| NTK_067 | 0.00 | 112 | 41 | 0.37 | 93.59 ± 3.38 | 0.0441 ± 0.0058 | 68.5 ± 2.5 | | |
| NTK_068 | 1.02 | 268 | 172 | 0.66 | 78.93 ± 1.92 | 0.0453 ± 0.0076 | 81.2 ± 2.0 | | |
| NTK_069 | 1.27 | 151 | 71 | 0.48 | 96.49 ± 3.21 | 0.0457 ± 0.0094 | 66.5 ± 2.2 | | |
| NTK_070 | 0.00 | 424 | 361 | 0.87 | 95.71 ± 1.86 | 0.0493 ± 0.0031 | 67.0 ± 1.3 | | |
| NTK_071 | 0.00 | 144 | 43 | 0.30 | 95.11 ± 2.78 | 0.0477 ± 0.0050 | 67.4 ± 2.0 | | |
| NTK_072 | 0.00 | 827 | 433 | 0.54 | 89.76 ± 1.33 | 0.0496 ± 0.0021 | 71.4 ± 1.1 | | |
| NTK_073 | 0.11 | 416 | 431 | 1.06 | 89.60 ± 1.90 | 0.0493 ± 0.0077 | 71.5 ± 1.5 | | |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance
(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A5. Sample TKO2.　試料TKO2.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| TAK2_001 | 0.00 | 1132 | 741 | 0.67 | 86.31 ± 1.18 | 0.0507 ± 0.0019 | 74.3 ± 1.0 | | |
| TAK2_002 | 0.28 | 574 | 286 | 0.51 | 92.20 ± 1.39 | 0.0447 ± 0.0043 | 69.5 ± 1.0 | | |
| TAK2_003 | 0.00 | 382 | 298 | 0.80 | 83.45 ± 1.53 | 0.0507 ± 0.0029 | 76.8 ± 1.4 | | |
| TAK2_004 | 0.00 | 242 | 147 | 0.62 | 67.92 ± 1.51 | 0.0501 ± 0.0038 | 94.2 ± 2.1 | | |
| TAK2_005 | 0.00 | 340 | 134 | 0.40 | 84.65 ± 1.54 | 0.0525 ± 0.0027 | 75.7 ± 1.4 | | |
| TAK2_006 | 0.14 | 204 | 108 | 0.55 | 84.84 ± 2.27 | 0.0469 ± 0.0076 | 75.5 ± 2.0 | | |
| TAK2_007 | 0.00 | 767 | 336 | 0.45 | 71.71 ± 0.93 | 0.0485 ± 0.0019 | 89.3 ± 1.1 | | |
| TAK2_008 | 0.88 | 213 | 37 | 0.18 | 3.09 ± 0.03 | 0.1174 ± 0.0017 | 1807.8 ± 16.2 | 1919 ± 26 | 5.79 |
| TAK2_009 | 0.14 | 302 | 171 | 0.58 | 63.82 ± 1.31 | 0.0458 ± 0.0050 | 100.2 ± 2.0 | | |
| TAK2_010 | 0.00 | 272 | 226 | 0.85 | 78.31 ± 1.79 | 0.0499 ± 0.0033 | 81.8 ± 1.9 | | |
| TAK2_011 | 0.00 | 272 | 193 | 0.73 | 93.26 ± 2.04 | 0.0458 ± 0.0029 | 68.8 ± 1.5 | | |
| TAK2_012 | 0.00 | 132 | 78 | 0.61 | 91.41 ± 2.83 | 0.0524 ± 0.0051 | 70.1 ± 2.2 | | |
| TAK2_013# | 0.00 | 287 | 245 | 0.88 | 89.58 ± 1.90 | 0.0543 ± 0.0033 | 71.6 ± 1.5 | | |
| TAK2_014 | 0.07 | 196 | 90 | 0.47 | 96.86 ± 2.40 | 0.0452 ± 0.0077 | 66.2 ± 1.6 | | |
| TAK2_015 | 0.03 | 288 | 180 | 0.64 | 89.19 ± 1.80 | 0.0485 ± 0.0070 | 71.9 ± 1.4 | | |
| TAK2_016 | 0.00 | 298 | 173 | 0.60 | 90.99 ± 1.90 | 0.0471 ± 0.0035 | 70.5 ± 1.5 | | |
| TAK2_017# | 0.00 | 298 | 110 | 0.38 | 63.05 ± 1.22 | 0.0537 ± 0.0027 | 101.4 ± 1.9 | | |
| TAK2_018 | 0.00 | 48 | 23 | 0.50 | 85.29 ± 3.96 | 0.0463 ± 0.0117 | 75.1 ± 3.5 | | |
| TAK2_019 | 0.00 | 337 | 168 | 0.51 | 90.61 ± 1.76 | 0.0485 ± 0.0034 | 70.8 ± 1.4 | | |
| TAK2_020 | 0.31 | 307 | 130 | 0.43 | 61.78 ± 1.08 | 0.0487 ± 0.0049 | 103.5 ± 1.8 | | |
| TAK2_021 | 4.28 | 293 | 263 | 0.92 | 62.29 ± 1.52 | 0.0498 ± 0.0141 | 102.7 ± 2.5 | | |
| TAK2_022 | 0.00 | 361 | 251 | 0.72 | 99.58 ± 2.05 | 0.0445 ± 0.0029 | 64.4 ± 1.3 | | |
| TAK2_023 | 0.00 | 730 | 170 | 0.24 | 68.24 ± 0.95 | 0.0480 ± 0.0021 | 93.8 ± 1.3 | | |
| TAK2_024 | 1.11 | 210 | 128 | 0.63 | 72.34 ± 1.68 | 0.0465 ± 0.0079 | 88.5 ± 2.0 | | |
| TAK2_025 | 0.00 | 416 | 204 | 0.50 | 66.44 ± 1.05 | 0.0439 ± 0.0024 | 96.3 ± 1.5 | | |
| TAK2_026 | 0.00 | 67 | 39 | 0.61 | 91.13 ± 3.88 | 0.0584 ± 0.0099 | 70.4 ± 3.0 | | |
| TAK2_027 | 0.00 | 365 | 170 | 0.48 | 74.17 ± 1.16 | 0.0521 ± 0.0032 | 86.3 ± 1.3 | | |
| TAK2_028 | 0.38 | 287 | 151 | 0.54 | 66.77 ± 1.24 | 0.0420 ± 0.0057 | 95.8 ± 1.8 | | |
| TAK2_029 | 0.58 | 63 | 32 | 0.52 | 96.59 ± 3.99 | 0.0447 ± 0.0149 | 66.4 ± 2.7 | | |
| TAK2_030 | 1.15 | 282 | 182 | 0.66 | 91.55 ± 2.07 | 0.0458 ± 0.0074 | 70.0 ± 1.6 | | |
| TAK2_031 | 0.00 | 243 | 217 | 0.92 | 85.27 ± 1.83 | 0.0464 ± 0.0039 | 75.2 ± 1.6 | | |
| TAK2_032 | 0.00 | 561 | 870 | 1.59 | 73.75 ± 1.15 | 0.0491 ± 0.0025 | 86.8 ± 1.3 | | |
| TAK2_033 | 0.00 | 34 | 17 | 0.52 | 90.97 ± 4.91 | 0.0464 ± 0.0126 | 70.5 ± 3.8 | | |
| TAK2_034 | 0.17 | 876 | 374 | 0.44 | 25.01 ± 0.31 | 0.0488 ± 0.0018 | 252.7 ± 3.1 | | |
| TAK2_035 | 0.00 | 712 | 598 | 0.86 | 89.28 ± 1.43 | 0.0504 ± 0.0025 | 71.8 ± 1.1 | | |
| TAK2_036 | 2.34 | 160 | 135 | 0.87 | 25.14 ± 0.47 | 0.0472 ± 0.0069 | 251.4 ± 4.6 | | |
| TAK2_037 | 0.00 | 436 | 473 | 1.11 | 94.80 ± 1.77 | 0.0445 ± 0.0025 | 67.6 ± 1.3 | | |
| TAK2_038 | 0.56 | 208 | 133 | 0.65 | 92.52 ± 2.25 | 0.0491 ± 0.0090 | 69.3 ± 1.7 | | |
| TAK2_039 | 0.23 | 753 | 229 | 0.31 | 60.97 ± 0.81 | 0.0433 ± 0.0027 | 104.9 ± 1.4 | | |
| TAK2_040 | 0.00 | 59 | 34 | 0.59 | 89.54 ± 4.07 | 0.0554 ± 0.0092 | 71.6 ± 3.2 | | |
| TAK2_041 | 0.00 | 579 | 323 | 0.57 | 92.14 ± 1.47 | 0.0500 ± 0.0027 | 69.6 ± 1.1 | | |
| TAK2_042 | 0.00 | 954 | 705 | 0.76 | 91.44 ± 1.26 | 0.0488 ± 0.0018 | 70.1 ± 1.0 | | |
| TAK2_043 | 0.00 | 319 | 269 | 0.87 | 68.01 ± 1.11 | 0.0483 ± 0.0032 | 94.1 ± 1.5 | | |
| TAK2_044 | 0.00 | 205 | 121 | 0.61 | 94.03 ± 2.29 | 0.0483 ± 0.0041 | 68.2 ± 1.7 | | |
| TAK2_045 | 0.00 | 275 | 218 | 0.81 | 81.20 ± 1.76 | 0.0469 ± 0.0038 | 78.9 ± 1.7 | | |
| TAK2_046 | 0.52 | 546 | 353 | 0.66 | 75.71 ± 1.26 | 0.0435 ± 0.0055 | 84.6 ± 1.4 | | |
| TAK2_047 | 0.00 | 722 | 326 | 0.46 | 67.30 ± 0.77 | 0.0488 ± 0.0020 | 95.1 ± 1.1 | | |
| TAK2_048 | 0.26 | 239 | 89 | 0.38 | 63.66 ± 1.25 | 0.0471 ± 0.0055 | 100.5 ± 2.0 | | |
| TAK2_049 | 3.66 | 129 | 71 | 0.56 | 94.84 ± 3.12 | 0.0456 ± 0.0146 | 67.6 ± 2.2 | | |
| TAK2_050 | 0.46 | 142 | 82 | 0.59 | 79.45 ± 2.65 | 0.0492 ± 0.0103 | 80.6 ± 2.7 | | |
| TAK2_051 | 0.45 | 167 | 106 | 0.65 | 88.48 ± 2.59 | 0.0507 ± 0.0093 | 72.5 ± 2.1 | | |
| TAK2_052 | 0.00 | 172 | 68 | 0.40 | 64.85 ± 1.63 | 0.0448 ± 0.0039 | 98.6 ± 2.5 | | |
| TAK2_053 | 0.00 | 378 | 223 | 0.60 | 94.02 ± 1.88 | 0.0541 ± 0.0036 | 68.2 ± 1.4 | | |
| TAK2_054 | 0.00 | 117 | 59 | 0.52 | 75.12 ± 2.03 | 0.0391 ± 0.0045 | 85.3 ± 2.3 | | |
| TAK2_055 | 0.00 | 426 | 217 | 0.52 | 94.33 ± 1.66 | 0.0427 ± 0.0032 | 68.0 ± 1.2 | | |
| TAK2_056 | 0.00 | 569 | 293 | 0.53 | 63.97 ± 0.98 | 0.0464 ± 0.0020 | 100.0 ± 1.5 | | |
| TAK2_057 | 0.00 | 411 | 135 | 0.34 | 61.24 ± 0.97 | 0.0496 ± 0.0023 | 104.4 ± 1.6 | | |
| TAK2_058 | 0.59 | 194 | 77 | 0.41 | 70.59 ± 1.63 | 0.0371 ± 0.0065 | 90.7 ± 2.1 | | |
| TAK2_059# | 0.00 | 322 | 165 | 0.52 | 87.39 ± 1.85 | 0.0580 ± 0.0036 | 73.3 ± 1.5 | | |
| TAK2_060 | 1.45 | 201 | 53 | 0.27 | 98.98 ± 2.57 | 0.0442 ± 0.0077 | 64.8 ± 1.7 | | |
| TAK2_061 | 0.73 | 152 | 70 | 0.47 | 93.25 ± 2.88 | 0.0358 ± 0.0091 | 68.8 ± 2.1 | | |
| TAK2_062 | 0.00 | 355 | 216 | 0.62 | 84.32 ± 1.45 | 0.0497 ± 0.0028 | 76.0 ± 1.3 | | |
| TAK2_063 | 0.00 | 289 | 234 | 0.83 | 94.53 ± 1.90 | 0.0449 ± 0.0039 | 67.8 ± 1.4 | | |
| TAK2_064 | 0.17 | 317 | 169 | 0.55 | 95.20 ± 2.40 | 0.0379 ± 0.0062 | 67.4 ± 1.7 | | |
| TAK2_065 | 0.48 | 235 | 137 | 0.60 | 95.94 ± 2.30 | 0.0430 ± 0.0074 | 66.8 ± 1.6 | | |
| TAK2_066# | 0.00 | 169 | 136 | 0.82 | 95.68 ± 2.74 | 0.0282 ± 0.0042 | 67.0 ± 1.9 | | |
| TAK2_067 | 0.00 | 444 | 244 | 0.56 | 74.11 ± 1.35 | 0.0438 ± 0.0028 | 86.4 ± 1.6 | | |
| TAK2_068 | 0.00 | 456 | 179 | 0.40 | 62.66 ± 1.00 | 0.0474 ± 0.0028 | 102.1 ± 1.6 | | |
| TAK2_069 | 0.00 | 166 | 91 | 0.56 | 97.95 ± 3.08 | 0.0550 ± 0.0056 | 65.5 ± 2.0 | | |
| TAK2_070 | 0.00 | 240 | 90 | 0.39 | 28.60 ± 0.45 | 0.0485 ± 0.0022 | 221.5 ± 3.5 | | |
| TAK2_071 | 0.00 | 307 | 131 | 0.44 | 82.29 ± 1.71 | 0.0492 ± 0.0038 | 77.9 ± 1.6 | | |
| TAK2_072 | 0.00 | 313 | 136 | 0.45 | 61.33 ± 1.03 | 0.0492 ± 0.0032 | 104.3 ± 1.7 | | |
| TAK2_073 | 0.00 | 263 | 78 | 0.30 | 60.22 ± 1.21 | 0.0510 ± 0.0036 | 106.2 ± 2.1 | | |
| TAK2_074 | 0.00 | 177 | 118 | 0.68 | 86.01 ± 2.45 | 0.0515 ± 0.0051 | 74.5 ± 2.1 | | |
| TAK2_075 | 0.46 | 254 | 224 | 0.90 | 88.32 ± 2.30 | 0.0491 ± 0.0088 | 72.6 ± 1.9 | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAK2_076 | 0.07 | 220 | 156 | 0.73 | 86.89 | ± | 2.37 | 0.0460 | ± | 0.0082 | 73.8 | ± 2.0 |
| TAK2_077# | 0.00 | 245 | 221 | 0.93 | 80.60 | ± | 2.18 | 0.0581 | ± | 0.0048 | 79.5 | ± 2.1 |
| TAK2_078 | 0.03 | 222 | 156 | 0.72 | 85.95 | ± | 2.21 | 0.0425 | ± | 0.0096 | 74.6 | ± 1.9 |
| TAK2_079 | 0.00 | 471 | 327 | 0.71 | 90.37 | ± | 1.66 | 0.0463 | ± | 0.0035 | 70.9 | ± 1.3 |
| TAK2_080 | 0.00 | 676 | 490 | 0.74 | 91.66 | ± | 1.47 | 0.0439 | ± | 0.0023 | 69.9 | ± 1.1 |
| TAK2_081 | 0.00 | 159 | 87 | 0.56 | 89.15 | ± | 2.89 | 0.0432 | ± | 0.0043 | 71.9 | ± 2.3 |
| TAK2_082 | 0.00 | 291 | 137 | 0.48 | 86.63 | ± | 2.07 | 0.0406 | ± | 0.0045 | 74.0 | ± 1.8 |
| TAK2_083 | 0.00 | 535 | 244 | 0.47 | 90.01 | ± | 1.56 | 0.0454 | ± | 0.0027 | 71.2 | ± 1.2 |
| TAK2_084 | 0.00 | 1103 | 352 | 0.33 | 63.16 | ± | 0.72 | 0.0483 | ± | 0.0016 | 101.3 | ± 1.1 |
| TAK2_085 | 0.00 | 65 | 37 | 0.59 | 94.31 | ± | 4.19 | 0.0390 | ± | 0.0084 | 68.0 | ± 3.0 |
| TAK2_086 | 0.00 | 150 | 47 | 0.32 | 73.26 | ± | 1.94 | 0.0521 | ± | 0.0059 | 87.4 | ± 2.3 |
| TAK2_087# | 0.00 | 612 | 301 | 0.50 | 76.24 | ± | 1.03 | 0.0527 | ± | 0.0022 | 84.0 | ± 1.1 |
| TAK2_088# | 0.00 | 80 | 68 | 0.87 | 90.11 | ± | 3.69 | 0.0659 | ± | 0.0088 | 71.1 | ± 2.9 |
| TAK2_089 | 0.00 | 369 | 155 | 0.43 | 86.68 | ± | 1.35 | 0.0485 | ± | 0.0028 | 73.9 | ± 1.1 |
| TAK2_090 | 0.00 | 518 | 405 | 0.80 | 83.71 | ± | 1.48 | 0.0486 | ± | 0.0029 | 76.5 | ± 1.3 |
| TAK2_091 | 0.07 | 553 | 266 | 0.49 | 94.69 | ± | 1.65 | 0.0390 | ± | 0.0045 | 67.7 | ± 1.2 |
| TAK2_092 | 0.37 | 688 | 391 | 0.58 | 92.88 | ± | 1.61 | 0.0451 | ± | 0.0043 | 69.0 | ± 1.2 |
| TAK2_093 | 0.00 | 70 | 40 | 0.59 | 93.96 | ± | 3.79 | 0.0458 | ± | 0.0086 | 68.2 | ± 2.7 |
| TAK2_094 | 0.49 | 355 | 232 | 0.67 | 76.91 | ± | 1.65 | 0.0400 | ± | 0.0065 | 83.3 | ± 1.8 |
| TAK2_095 | 0.00 | 446 | 289 | 0.66 | 94.13 | ± | 1.69 | 0.0479 | ± | 0.0035 | 68.1 | ± 1.2 |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A6. Sample SB1.　試料SB1.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| SHB1_001 | 0.00 | 760 | 372 | 0.50 | 82.87 ± 1.38 | 0.0441 ± 0.0025 | 77.3 ± 1.3 | | |
| SHB1_002 | 0.13 | 440 | 255 | 0.59 | 80.14 ± 1.74 | 0.0527 ± 0.0073 | 79.9 ± 1.7 | | |
| SHB1_003 | 0.87 | 479 | 281 | 0.60 | 74.81 ± 1.50 | 0.0581 ± 0.0076 | 85.6 ± 1.7 | | |
| SHB1_004 | 2.92 | 387 | 118 | 0.31 | 63.37 ± 1.19 | 0.0520 ± 0.0066 | 100.9 ± 1.9 | | |
| SHB1_005 | 0.00 | 393 | 292 | 0.76 | 2.47 ± 0.03 | 0.1433 ± 0.0016 | 2192.6 ± 20.7 | 2269 ± 20 | 3.37 |
| SHB1_006 | 0.00 | 305 | 158 | 0.53 | 60.52 ± 1.36 | 0.0569 ± 0.0046 | 105.6 ± 2.3 | | |
| SHB1_007 | 1.36 | 147 | 112 | 0.78 | 89.19 ± 3.56 | 0.0239 ± 0.0162 | 71.9 ± 2.9 | | |
| SHB1_008 | 0.70 | 540 | 308 | 0.58 | 90.67 ± 2.15 | 0.0448 ± 0.0069 | 70.7 ± 1.7 | | |
| SHB1_009 | 1.67 | 222 | 154 | 0.71 | 97.29 ± 3.27 | 0.0439 ± 0.0136 | 65.9 ± 2.2 | | |
| SHB1_010 | 0.04 | 347 | 157 | 0.47 | 85.62 ± 1.85 | 0.0400 ± 0.0061 | 74.9 ± 1.6 | | |
| SHB1_011 | 0.00 | 380 | 289 | 0.78 | 92.94 ± 2.15 | 0.0419 ± 0.0041 | 69.0 ± 1.6 | | |
| SHB1_012 | 0.00 | 371 | 302 | 0.83 | 90.26 ± 2.38 | 0.0429 ± 0.0039 | 71.0 ± 1.9 | | |
| SHB1_013 | 0.00 | 184 | 102 | 0.57 | 64.62 ± 1.86 | 0.0569 ± 0.0060 | 99.0 ± 2.8 | | |
| SHB1_014 | 1.75 | 456 | 521 | 1.17 | 90.54 ± 2.16 | 0.0366 ± 0.0096 | 70.8 ± 1.7 | | |
| SHB1_015 | 2.05 | 344 | 161 | 0.48 | 57.38 ± 1.18 | 0.0367 ± 0.0077 | 111.4 ± 2.3 | | |
| SHB1_016 | 0.14 | 836 | 311 | 0.38 | 64.70 ± 1.07 | 0.0415 ± 0.0037 | 98.9 ± 1.6 | | |
| SHB1_017 | 0.00 | 179 | 101 | 0.58 | 90.64 ± 3.50 | 0.0472 ± 0.0067 | 70.7 ± 2.7 | | |
| SHB1_018 | 0.00 | 272 | 256 | 0.96 | 89.17 ± 2.52 | 0.0473 ± 0.0055 | 71.9 ± 2.0 | | |
| SHB1_019 | 0.00 | 455 | 323 | 0.73 | 66.51 ± 1.50 | 0.0428 ± 0.0034 | 96.2 ± 2.1 | | |
| SHB1_020 | 0.59 | 380 | 220 | 0.59 | 90.74 ± 2.51 | 0.0405 ± 0.0077 | 70.7 ± 1.9 | | |
| SHB1_021 | 0.98 | 445 | 210 | 0.48 | 86.43 ± 2.23 | 0.0391 ± 0.0073 | 74.2 ± 1.9 | | |
| SHB1_022 | 1.86 | 756 | 324 | 0.44 | 80.05 ± 1.49 | 0.0382 ± 0.0051 | 80.0 ± 1.5 | | |
| SHB1_023 | 0.00 | 292 | 113 | 0.40 | 72.92 ± 2.11 | 0.0497 ± 0.0052 | 87.8 ± 2.5 | | |
| SHB1_024 | 0.00 | 94 | 29 | 0.32 | 99.62 ± 5.14 | 0.0476 ± 0.0144 | 64.4 ± 3.3 | | |
| SHB1_025# | 4.42 | 251 | 310 | 1.26 | 2.92 ± 0.05 | 0.0822 ± 0.0107 | 1899.1 ± 26.6 | 1251 ± 236 | -51.80 |
| SHB1_026 | 1.17 | 345 | 192 | 0.57 | 81.44 ± 2.09 | 0.0429 ± 0.0082 | 78.7 ± 2.0 | | |
| SHB1_027 | 0.21 | 288 | 247 | 0.88 | 88.09 ± 2.67 | 0.0463 ± 0.0116 | 72.8 ± 2.2 | | |
| SHB1_028 | 0.00 | 75 | 28 | 0.38 | 104.42 ± 6.71 | 0.0486 ± 0.0172 | 61.4 ± 3.9 | | |
| SHB1_029 | 0.00 | 227 | 128 | 0.58 | 90.42 ± 2.81 | 0.0487 ± 0.0063 | 70.9 ± 2.2 | | |
| SHB1_030 | 0.00 | 560 | 311 | 0.57 | 25.05 ± 0.31 | 0.0515 ± 0.0018 | 252.4 ± 3.1 | | |
| SHB1_031 | 0.00 | 120 | 37 | 0.32 | 88.42 ± 4.33 | 0.0486 ± 0.0087 | 72.5 ± 3.5 | | |
| SHB1_032 | 0.00 | 255 | 190 | 0.76 | 89.98 ± 2.72 | 0.0482 ± 0.0061 | 71.2 ± 2.1 | | |
| SHB1_033 | 0.03 | 344 | 218 | 0.65 | 26.06 ± 0.50 | 0.0525 ± 0.0055 | 242.7 ± 4.6 | | |
| SHB1_034 | 0.00 | 234 | 147 | 0.64 | 70.70 ± 2.05 | 0.0566 ± 0.0065 | 90.5 ± 2.6 | | |
| SHB1_035 | 1.44 | 265 | 130 | 0.50 | 70.38 ± 2.02 | 0.0539 ± 0.0089 | 90.9 ± 2.6 | | |
| SHB1_036 | 0.00 | 68 | 36 | 0.54 | 91.62 ± 6.00 | 0.0269 ± 0.0104 | 70.0 ± 4.6 | | |
| SHB1_037 | 0.00 | 149 | 102 | 0.70 | 81.46 ± 3.12 | 0.0512 ± 0.0074 | 78.7 ± 3.0 | | |
| SHB1_038 | 0.46 | 872 | 270 | 0.32 | 36.88 ± 0.52 | 0.0452 ± 0.0025 | 172.5 ± 2.4 | | |
| SHB1_039 | 1.64 | 319 | 292 | 0.94 | 87.54 ± 2.57 | 0.0516 ± 0.0124 | 73.2 ± 2.1 | | |
| SHB1_040 | 0.61 | 318 | 258 | 0.83 | 90.27 ± 2.78 | 0.0427 ± 0.0112 | 71.0 ± 2.2 | | |
| SHB1_041 | 2.35 | 205 | 143 | 0.72 | 81.10 ± 2.97 | 0.0620 ± 0.0125 | 79.0 ± 2.9 | | |
| SHB1_042 | 0.00 | 250 | 116 | 0.47 | 82.47 ± 2.33 | 0.0384 ± 0.0051 | 77.7 ± 2.2 | | |
| SHB1_043 | 0.39 | 466 | 150 | 0.33 | 62.89 ± 1.19 | 0.0513 ± 0.0055 | 101.7 ± 1.9 | | |
| SHB1_044# | 0.00 | 265 | 132 | 0.51 | 76.09 ± 1.85 | 0.0585 ± 0.0053 | 84.2 ± 2.0 | | |
| SHB1_045 | 0.00 | 273 | 180 | 0.68 | 35.17 ± 0.62 | 0.0439 ± 0.0034 | 180.7 ± 3.1 | | |
| SHB1_046 | 1.18 | 551 | 463 | 0.86 | 87.38 ± 2.18 | 0.0372 ± 0.0074 | 73.4 ± 1.8 | | |
| SHB1_047 | 0.51 | 939 | 493 | 0.54 | 81.39 ± 1.30 | 0.0438 ± 0.0048 | 78.7 ± 1.2 | | |
| SHB1_048 | 0.00 | 240 | 183 | 0.78 | 86.17 ± 2.43 | 0.0491 ± 0.0062 | 74.4 ± 2.1 | | |
| SHB1_049 | 0.35 | 215 | 67 | 0.32 | 59.94 ± 1.73 | 0.0441 ± 0.0086 | 106.7 ± 3.1 | | |
| SHB1_050 | 0.26 | 200 | 78 | 0.40 | 95.60 ± 3.54 | 0.0382 ± 0.0107 | 67.1 ± 2.5 | | |
| SHB1_051 | 0.39 | 165 | 142 | 0.89 | 68.01 ± 2.39 | 0.0507 ± 0.0136 | 94.1 ± 3.3 | | |
| SHB1_052 | 0.48 | 655 | 592 | 0.93 | 95.68 ± 2.35 | 0.0450 ± 0.0090 | 67.0 ± 1.6 | | |
| SHB1_053 | 0.00 | 237 | 207 | 0.90 | 72.71 ± 2.05 | 0.0476 ± 0.0050 | 88.1 ± 2.5 | | |
| SHB1_054 | 0.00 | 174 | 116 | 0.68 | 90.01 ± 3.24 | 0.0439 ± 0.0079 | 71.2 ± 2.5 | | |
| SHB1_055 | 2.51 | 221 | 170 | 0.79 | 74.02 ± 2.63 | 0.0208 ± 0.0139 | 86.5 ± 3.0 | | |
| SHB1_056 | 0.00 | 194 | 146 | 0.77 | 68.50 ± 2.34 | 0.0476 ± 0.0072 | 93.4 ± 3.2 | | |
| SHB1_057 | 0.29 | 586 | 293 | 0.51 | 91.35 ± 2.24 | 0.0467 ± 0.0057 | 70.2 ± 1.7 | | |
| SHB1_058 | 0.00 | 61 | 40 | 0.67 | 33.22 ± 1.45 | 0.0387 ± 0.0067 | 191.2 ± 8.2 | | |
| SHB1_059 | 0.00 | 331 | 284 | 0.88 | 27.53 ± 0.56 | 0.0478 ± 0.0034 | 230.0 ± 4.6 | | |
| SHB1_060 | 0.53 | 223 | 105 | 0.48 | 79.92 ± 2.48 | 0.0396 ± 0.0102 | 80.2 ± 2.5 | | |
| SHB1_061 | 0.00 | 307 | 215 | 0.72 | 94.00 ± 2.91 | 0.0518 ± 0.0063 | 68.2 ± 2.1 | | |
| SHB1_062 | 0.00 | 566 | 266 | 0.48 | 79.08 ± 1.61 | 0.0458 ± 0.0060 | 81.0 ± 1.6 | | |
| SHB1_063 | 0.00 | 814 | 299 | 0.38 | 66.98 ± 1.38 | 0.0428 ± 0.0029 | 95.5 ± 2.0 | | |
| SHB1_064 | 0.00 | 152 | 99 | 0.67 | 2.06 ± 0.03 | 0.1861 ± 0.0029 | 2548.5 ± 27.2 | 2710 ± 25 | 5.96 |
| SHB1_065 | 1.02 | 211 | 138 | 0.67 | 85.09 ± 2.74 | 0.0474 ± 0.0137 | 75.3 ± 2.4 | | |
| SHB1_066 | 0.88 | 228 | 169 | 0.76 | 93.68 ± 3.42 | 0.0301 ± 0.0135 | 68.5 ± 2.5 | | |
| SHB1_067# | 0.00 | 2093 | 1001 | 0.49 | 91.18 ± 1.12 | 0.0523 ± 0.0021 | 70.3 ± 0.9 | | |
| SHB1_068 | 0.00 | 571 | 340 | 0.61 | 80.82 ± 1.92 | 0.0505 ± 0.0036 | 79.3 ± 1.9 | | |
| SHB1_069 | 0.18 | 276 | 174 | 0.65 | 63.67 ± 1.67 | 0.0511 ± 0.0088 | 100.5 ± 2.6 | | |
| SHB1_070 | 1.65 | 229 | 152 | 0.68 | 96.48 ± 3.51 | 0.0309 ± 0.0144 | 66.5 ± 2.4 | | |
| SHB1_071 | 1.42 | 527 | 245 | 0.48 | 101.17 ± 3.07 | 0.0414 ± 0.0100 | 63.4 ± 1.9 | | |
| SHB1_072 | 0.00 | 111 | 50 | 0.46 | 87.78 ± 3.49 | 0.0656 ± 0.0117 | 73.0 ± 2.9 | | |
| SHB1_073 | 0.00 | 56 | 29 | 0.54 | 98.55 ± 6.93 | 0.0610 ± 0.0266 | 65.1 ± 4.6 | | |
| SHB1_074 | 0.00 | 166 | 87 | 0.54 | 93.64 ± 3.67 | 0.0363 ± 0.0068 | 68.5 ± 2.7 | | |
| SHB1_075 | 0.00 | 259 | 257 | 1.02 | 95.91 ± 2.84 | 0.0559 ± 0.0072 | 66.9 ± 2.0 | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB1_076 | 0.00 | 72 | 44 | 0.64 | 100.86 | ± | 5.99 | 0.0164 | ± | 0.0248 | 63.6 | ± | 3.8 | | | |
| SHB1_077 | 0.00 | 204 | 155 | 0.78 | 89.79 | ± | 3.48 | 0.0568 | ± | 0.0075 | 71.4 | ± | 2.7 | | | |
| SHB1_078 | 0.00 | 119 | 82 | 0.71 | 91.50 | ± | 4.06 | 0.0433 | ± | 0.0099 | 70.1 | ± | 3.1 | | | |
| SHB1_079 | 0.00 | 353 | 205 | 0.60 | 88.66 | ± | 2.22 | 0.0484 | ± | 0.0049 | 72.3 | ± | 1.8 | | | |
| SHB1_080 | 0.00 | 1390 | 1018 | 0.75 | 2.96 | ± | 0.02 | 0.1290 | ± | 0.0011 | 1877.9 | ± | 13.1 | 2085 | ± | 15 | 9.93 |
| SHB1_081 | 0.00 | 551 | 371 | 0.69 | 70.89 | ± | 1.39 | 0.0494 | ± | 0.0035 | 90.3 | ± | 1.8 | | | | |
| SHB1_082 | 0.42 | 823 | 456 | 0.57 | 66.07 | ± | 1.02 | 0.0468 | ± | 0.0049 | 96.8 | ± | 1.5 | | | | |
| SHB1_083 | 0.00 | 335 | 453 | 1.39 | 28.60 | ± | 0.52 | 0.0515 | ± | 0.0029 | 221.5 | ± | 4.0 | | | | |
| SHB1_084 | 0.81 | 584 | 406 | 0.71 | 98.02 | ± | 2.39 | 0.0418 | ± | 0.0084 | 65.4 | ± | 1.6 | | | | |
| SHB1_085 | 0.00 | 586 | 740 | 1.30 | 30.50 | ± | 0.45 | 0.0492 | ± | 0.0022 | 208.0 | ± | 3.0 | | | | |
| SHB1_086 | 0.55 | 69 | 34 | 0.50 | 92.47 | ± | 5.75 | 0.0320 | ± | 0.0286 | 69.3 | ± | 4.3 | | | | |
| SHB1_087 | 0.75 | 534 | 291 | 0.56 | 73.83 | ± | 1.60 | 0.0551 | ± | 0.0070 | 86.7 | ± | 1.9 | | | | |
| SHB1_088 | 0.00 | 978 | 306 | 0.32 | 68.11 | ± | 1.10 | 0.0509 | ± | 0.0027 | 94.0 | ± | 1.5 | | | | |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A7. Sample SB2.　試料SB2.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1) | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| SHB2_001 | 0.00 | 390 | 236 | 0.62 | 89.20 ± 2.07 | 0.0500 ± 0.0044 | 71.9 ± 1.7 | | |
| SHB2_002 | 1.11 | 426 | 244 | 0.59 | 90.24 ± 2.37 | 0.0593 ± 0.0085 | 71.0 ± 1.9 | | |
| SHB2_003 | 0.72 | 301 | 228 | 0.78 | 93.66 ± 2.90 | 0.0453 ± 0.0113 | 68.5 ± 2.1 | | |
| SHB2_004 | 0.00 | 158 | 78 | 0.51 | 76.48 ± 2.76 | 0.0400 ± 0.0067 | 83.7 ± 3.0 | | |
| SHB2_005 | 2.37 | 286 | 144 | 0.52 | 93.62 ± 2.65 | 0.0369 ± 0.0092 | 68.5 ± 1.9 | | |
| SHB2_006 | 0.53 | 576 | 403 | 0.72 | 90.45 ± 2.19 | 0.0466 ± 0.0069 | 70.9 ± 1.7 | | |
| SHB2_007 | 0.03 | 357 | 172 | 0.49 | 91.61 ± 2.28 | 0.0590 ± 0.0079 | 70.0 ± 1.7 | | |
| SHB2_008# | 0.00 | 302 | 142 | 0.48 | 87.18 ± 2.03 | 0.0605 ± 0.0058 | 73.5 ± 1.7 | | |
| SHB2_009 | 0.00 | 90 | 62 | 0.71 | 85.55 ± 3.80 | 0.0713 ± 0.0123 | 74.9 ± 3.3 | | |
| SHB2_010 | 0.31 | 63 | 56 | 0.90 | 2.82 ± 0.06 | 0.1082 ± 0.0044 | 1954.0 ± 34.1 | 1771 ± 72 | -10.33 |
| SHB2_011 | 0.35 | 763 | 329 | 0.44 | 95.26 ± 1.83 | 0.0487 ± 0.0053 | 67.3 ± 1.3 | | |
| SHB2_012# | 0.00 | 336 | 160 | 0.49 | 60.84 ± 1.32 | 0.0565 ± 0.0037 | 105.1 ± 2.3 | | |
| SHB2_013 | 0.00 | 439 | 311 | 0.73 | 91.00 ± 2.04 | 0.0430 ± 0.0044 | 70.5 ± 1.6 | | |
| SHB2_014 | 0.34 | 519 | 443 | 0.88 | 90.93 ± 2.09 | 0.0404 ± 0.0085 | 70.5 ± 1.6 | | |
| SHB2_015 | 0.00 | 417 | 228 | 0.56 | 67.95 ± 1.42 | 0.0481 ± 0.0038 | 94.2 ± 2.0 | | |
| SHB2_016 | 0.91 | 540 | 406 | 0.77 | 91.34 ± 2.17 | 0.0483 ± 0.0081 | 70.2 ± 1.7 | | |
| SHB2_017 | 2.28 | 492 | 264 | 0.55 | 95.07 ± 2.25 | 0.0469 ± 0.0088 | 67.5 ± 1.6 | | |
| SHB2_018 | 2.42 | 915 | 446 | 0.50 | 81.78 ± 1.48 | 0.0562 ± 0.0060 | 78.3 ± 1.4 | | |
| SHB2_019 | 1.96 | 405 | 248 | 0.63 | 73.48 ± 1.64 | 0.0594 ± 0.0097 | 87.1 ± 1.9 | | |
| SHB2_020 | 3.18 | 474 | 248 | 0.54 | 84.29 ± 2.07 | 0.0483 ± 0.0081 | 76.0 ± 1.9 | | |
| SHB2_021 | 0.00 | 437 | 262 | 0.62 | 87.62 ± 2.17 | 0.0543 ± 0.0045 | 73.2 ± 1.8 | | |
| SHB2_022 | 0.49 | 554 | 307 | 0.57 | 89.93 ± 1.96 | 0.0495 ± 0.0069 | 71.3 ± 1.5 | | |
| SHB2_023 | 1.43 | 366 | 116 | 0.33 | 72.73 ± 1.63 | 0.0597 ± 0.0070 | 88.0 ± 2.0 | | |
| SHB2_024 | 0.00 | 479 | 297 | 0.64 | 94.31 ± 1.84 | 0.0529 ± 0.0038 | 68.0 ± 1.3 | | |
| SHB2_025 | 0.00 | 710 | 349 | 0.50 | 71.80 ± 1.31 | 0.0498 ± 0.0025 | 89.2 ± 1.6 | | |
| SHB2_026 | 0.03 | 285 | 161 | 0.58 | 13.25 ± 0.18 | 0.0596 ± 0.0035 | 468.9 ± 6.2 | | |
| SHB2_027 | 0.00 | 76 | 47 | 0.63 | 89.61 ± 4.77 | 0.0637 ± 0.0142 | 71.5 ± 3.8 | | |
| SHB2_028 | 0.62 | 520 | 206 | 0.41 | 64.46 ± 1.21 | 0.0523 ± 0.0049 | 99.2 ± 1.8 | | |
| SHB2_029 | 0.00 | 736 | 788 | 1.10 | 87.71 ± 1.71 | 0.0472 ± 0.0031 | 73.1 ± 1.4 | | |
| SHB2_030 | 2.89 | 603 | 529 | 0.90 | 104.73 ± 2.91 | 0.0465 ± 0.0115 | 61.3 ± 1.7 | | |
| SHB2_031 | 0.00 | 205 | 190 | 0.95 | 84.70 ± 2.76 | 0.0543 ± 0.0059 | 75.7 ± 2.5 | | |
| SHB2_032 | 0.19 | 259 | 144 | 0.57 | 94.48 ± 3.28 | 0.0615 ± 0.0103 | 67.9 ± 2.3 | | |
| SHB2_033 | 0.00 | 163 | 92 | 0.58 | 62.38 ± 2.06 | 0.0440 ± 0.0059 | 102.5 ± 3.4 | | |
| SHB2_034 | 0.00 | 357 | 135 | 0.39 | 61.23 ± 1.33 | 0.0425 ± 0.0033 | 104.4 ± 2.3 | | |
| SHB2_035 | 0.38 | 166 | 73 | 0.45 | 64.33 ± 2.38 | 0.0509 ± 0.0106 | 99.4 ± 3.6 | | |
| SHB2_036 | 0.00 | 797 | 511 | 0.66 | 70.13 ± 1.10 | 0.0477 ± 0.0027 | 91.3 ± 1.4 | | |
| SHB2_037 | 0.00 | 116 | 75 | 0.66 | 86.70 ± 3.64 | 0.0408 ± 0.0091 | 73.9 ± 3.1 | | |
| SHB2_038 | 0.00 | 322 | 290 | 0.92 | 85.98 ± 2.40 | 0.0465 ± 0.0044 | 74.5 ± 2.1 | | |
| SHB2_039 | 1.90 | 772 | 435 | 0.58 | 24.78 ± 0.30 | 0.0515 ± 0.0032 | 255.0 ± 3.1 | | |
| SHB2_040 | 0.00 | 341 | 255 | 0.77 | 24.16 ± 0.39 | 0.0533 ± 0.0025 | 261.4 ± 4.1 | | |
| SHB2_041 | 0.38 | 199 | 152 | 0.78 | 82.92 ± 2.90 | 0.0523 ± 0.0112 | 77.3 ± 2.7 | | |
| SHB2_042 | 0.87 | 356 | 202 | 0.58 | 89.06 ± 2.16 | 0.0435 ± 0.0080 | 72.0 ± 1.7 | | |
| SHB2_043 | 0.00 | 372 | 256 | 0.70 | 89.77 ± 2.27 | 0.0457 ± 0.0040 | 71.4 ± 1.8 | | |
| SHB2_044 | 0.00 | 156 | 128 | 0.84 | 78.81 ± 2.66 | 0.0539 ± 0.0075 | 81.3 ± 2.7 | | |
| SHB2_045# | 0.62 | 409 | 75 | 0.19 | 4.29 ± 0.06 | 0.1245 ± 0.0020 | 1350.8 ± 16.4 | 2023 ± 27 | 33.23 |
| SHB2_046 | 1.96 | 314 | 276 | 0.90 | 89.12 ± 2.76 | 0.0456 ± 0.0120 | 71.9 ± 2.2 | | |
| SHB2_047 | 0.00 | 315 | 214 | 0.70 | 81.96 ± 2.00 | 0.0540 ± 0.0049 | 78.2 ± 1.9 | | |
| SHB2_048 | 0.00 | 394 | 312 | 0.81 | 89.15 ± 2.25 | 0.0470 ± 0.0039 | 71.9 ± 1.8 | | |
| SHB2_049 | 0.14 | 489 | 413 | 0.87 | 88.21 ± 2.02 | 0.0446 ± 0.0080 | 72.7 ± 1.7 | | |
| SHB2_050 | 0.00 | 432 | 391 | 0.93 | 26.46 ± 0.34 | 0.0513 ± 0.0030 | 239.1 ± 3.0 | | |
| SHB2_051 | 0.00 | 208 | 116 | 0.57 | 86.77 ± 2.43 | 0.0374 ± 0.0055 | 73.9 ± 2.1 | | |
| SHB2_052# | 0.28 | 152 | 72 | 0.48 | 2.69 ± 0.04 | 0.1658 ± 0.0032 | 2034.8 ± 22.7 | 2517 ± 32 | 19.16 |
| SHB2_053 | 0.00 | 1033 | 674 | 0.67 | 67.85 ± 1.24 | 0.0518 ± 0.0021 | 94.3 ± 1.7 | | |
| SHB2_054 | 2.48 | 383 | 276 | 0.74 | 95.70 ± 2.82 | 0.0442 ± 0.0114 | 67.0 ± 2.0 | | |
| SHB2_055 | 1.04 | 521 | 355 | 0.70 | 90.91 ± 2.08 | 0.0446 ± 0.0082 | 70.5 ± 1.6 | | |
| SHB2_056 | 0.00 | 782 | 902 | 1.18 | 94.80 ± 1.38 | 0.0480 ± 0.0034 | 67.6 ± 1.0 | | |
| SHB2_057 | 0.00 | 374 | 205 | 0.56 | 90.97 ± 2.25 | 0.0439 ± 0.0049 | 70.5 ± 1.7 | | |
| SHB2_058 | 0.64 | 244 | 153 | 0.64 | 85.60 ± 2.57 | 0.0328 ± 0.0104 | 74.9 ± 2.2 | | |
| SHB2_059 | 1.67 | 287 | 179 | 0.64 | 88.47 ± 2.30 | 0.0306 ± 0.0088 | 72.5 ± 1.9 | | |
| SHB2_060 | 1.22 | 463 | 276 | 0.61 | 88.60 ± 2.46 | 0.0465 ± 0.0098 | 72.4 ± 2.0 | | |
| SHB2_061 | 0.62 | 478 | 280 | 0.60 | 76.98 ± 1.62 | 0.0422 ± 0.0069 | 83.2 ± 1.7 | | |
| SHB2_062 | 0.00 | 320 | 171 | 0.55 | 90.24 ± 2.12 | 0.0473 ± 0.0045 | 71.0 ± 1.7 | | |
| SHB2_063 | 0.18 | 470 | 234 | 0.51 | 67.50 ± 1.37 | 0.0482 ± 0.0057 | 94.8 ± 1.9 | | |
| SHB2_064 | 0.01 | 235 | 150 | 0.65 | 87.94 ± 2.77 | 0.0487 ± 0.0110 | 72.9 ± 2.3 | | |
| SHB2_065 | 2.53 | 452 | 260 | 0.59 | 96.61 ± 2.53 | 0.0401 ± 0.0092 | 66.4 ± 1.7 | | |
| SHB2_066 | 0.00 | 558 | 397 | 0.73 | 91.51 ± 1.75 | 0.0443 ± 0.0040 | 70.1 ± 1.3 | | |
| SHB2_067 | 2.04 | 579 | 608 | 1.08 | 60.11 ± 1.37 | 0.0360 ± 0.0089 | 106.4 ± 2.4 | | |
| SHB2_068 | 0.21 | 508 | 233 | 0.47 | 2.75 ± 0.03 | 0.1398 ± 0.0019 | 2002.1 ± 18.0 | 2226 ± 23 | 10.06 |
| SHB2_069 | 0.00 | 301 | 212 | 0.72 | 91.01 ± 2.27 | 0.0474 ± 0.0050 | 70.4 ± 1.8 | | |
| SHB2_070 | 0.73 | 284 | 129 | 0.47 | 92.24 ± 2.97 | 0.0398 ± 0.0094 | 69.5 ± 2.2 | | |
| SHB2_071 | 0.43 | 148 | 73 | 0.51 | 93.83 ± 4.25 | 0.0347 ± 0.0139 | 68.3 ± 3.1 | | |
| SHB2_072 | 0.76 | 297 | 159 | 0.55 | 90.87 ± 2.51 | 0.0337 ± 0.0086 | 70.6 ± 1.9 | | |
| SHB2_073# | 0.00 | 451 | 482 | 1.10 | 90.09 ± 1.97 | 0.0626 ± 0.0055 | 71.2 ± 1.5 | | |
| SHB2_074 | 2.53 | 139 | 82 | 0.61 | 91.87 ± 4.12 | 0.0266 ± 0.0177 | 69.8 ± 3.1 | | |
| SHB2_075 | 0.84 | 155 | 93 | 0.62 | 89.00 ± 3.71 | 0.0459 ± 0.0158 | 72.0 ± 3.0 | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB2_076 | 0.00 | 203 | 122 | 0.62 | 92.83 | ± 2.58 | 0.0536 | ± | 0.0068 | 69.1 | ± 1.9 | | | | |
| SHB2_077 | 0.43 | 476 | 229 | 0.49 | 89.77 | ± 2.02 | 0.0512 | ± | 0.0064 | 71.4 | ± 1.6 | | | | |
| SHB2_078 | 1.30 | 348 | 319 | 0.94 | 91.73 | ± 2.35 | 0.0359 | ± | 0.0113 | 69.9 | ± 1.8 | | | | |
| SHB2_079 | 2.23 | 249 | 140 | 0.57 | 89.76 | ± 2.79 | 0.0377 | ± | 0.0106 | 71.4 | ± 2.2 | | | | |
| SHB2_080 | 1.33 | 906 | 1166 | 1.32 | 92.58 | ± 1.80 | 0.0567 | ± | 0.0097 | 69.3 | ± 1.3 | | | | |
| SHB2_081 | 0.00 | 404 | 210 | 0.53 | 76.46 | ± 1.58 | 0.0406 | ± | 0.0036 | 83.8 | ± 1.7 | | | | |
| SHB2_082 | 0.00 | 476 | 356 | 0.77 | 75.36 | ± 1.46 | 0.0461 | ± | 0.0030 | 85.0 | ± 1.6 | | | | |
| SHB2_083 | 0.24 | 237 | 189 | 0.82 | 88.72 | ± 2.73 | 0.0513 | ± | 0.0114 | 72.3 | ± 2.2 | | | | |
| SHB2_084 | 1.17 | 245 | 166 | 0.70 | 86.37 | ± 2.75 | 0.0296 | ± | 0.0119 | 74.2 | ± 2.4 | | | | |
| SHB2_085 | 2.34 | 595 | 518 | 0.89 | 86.44 | ± 2.00 | 0.0339 | ± | 0.0095 | 74.2 | ± 1.7 | | | | |
| SHB2_086 | 0.00 | 361 | 349 | 0.99 | 86.97 | ± 2.00 | 0.0449 | ± | 0.0051 | 73.7 | ± 1.7 | | | | |
| SHB2_087 | 0.25 | 464 | 263 | 0.58 | 75.04 | ± 1.51 | 0.0393 | ± | 0.0061 | 85.3 | ± 1.7 | | | | |
| SHB2_088 | 0.30 | 512 | 306 | 0.61 | 90.01 | ± 2.20 | 0.0450 | ± | 0.0071 | 71.2 | ± 1.7 | | | | |
| SHB2_089 | 0.00 | 447 | 266 | 0.61 | 88.80 | ± 1.88 | 0.0451 | ± | 0.0047 | 72.2 | ± 1.5 | | | | |
| SHB2_090 | 0.00 | 360 | 281 | 0.80 | 89.37 | ± 2.26 | 0.0497 | ± | 0.0046 | 71.7 | ± 1.8 | | | | |
| SHB2_091 | 0.33 | 254 | 201 | 0.81 | 86.39 | ± 2.44 | 0.0479 | ± | 0.0109 | 74.2 | ± 2.1 | | | | |
| SHB2_092 | 0.95 | 293 | 211 | 0.74 | 84.79 | ± 2.35 | 0.0432 | ± | 0.0102 | 75.6 | ± 2.1 | | | | |
| SHB2_093 | 0.00 | 301 | 123 | 0.42 | 2.40 | ± 0.03 | 0.1637 | ± | 0.0019 | 2243.4 | ± 23.3 | 2496 | ± 19 | | 10.12 |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A8. Sample CCO. 試料CCO.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | $^{207}Pb^*/^{206}Pb^*$ (1) | $^{238}U/^{206}Pb^*$ age (1) | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (2) |
|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | (Ma) | (Ma) | (%) |
| CCO_001 | 0.00 | 79 | 59 | 0.77 | 30.62 ± 0.95 | 0.0468 ± 0.0044 | 207.1 ± 6.3 | | |
| CCO_002 | 0.00 | 166 | 127 | 0.78 | 26.28 ± 0.54 | 0.0502 ± 0.0031 | 240.7 ± 4.9 | | |
| CCO_003 | 1.26 | 335 | 315 | 0.96 | 85.15 ± 2.32 | 0.0429 ± 0.0095 | 75.3 ± 2.0 | | |
| CCO_004 | 0.00 | 230 | 116 | 0.52 | 2.98 ± 0.04 | 0.1135 ± 0.0016 | 1864.5 ± 22.5 | 1857 ± 26 | -0.41 |
| CCO_005 | 0.35 | 465 | 161 | 0.36 | 31.28 ± 0.58 | 0.0469 ± 0.0034 | 202.8 ± 3.7 | | |
| CCO_006 | 0.51 | 253 | 123 | 0.50 | 85.29 ± 2.74 | 0.0556 ± 0.0091 | 75.1 ± 2.4 | | |
| CCO_007 | 0.14 | 430 | 91 | 0.22 | 3.00 ± 0.05 | 0.1211 ± 0.0017 | 1852.6 ± 25.5 | 1973 ± 24 | 6.10 |
| CCO_008 | 0.00 | 233 | 169 | 0.74 | 65.33 ± 1.62 | 0.0423 ± 0.0039 | 97.9 ± 2.4 | | |
| CCO_009 | 0.13 | 334 | 273 | 0.84 | 28.83 ± 0.56 | 0.0490 ± 0.0048 | 219.8 ± 4.2 | | |
| CCO_010 | 0.00 | 275 | 197 | 0.74 | 89.15 ± 2.43 | 0.0435 ± 0.0041 | 71.9 ± 2.0 | | |
| CCO_011 | 0.00 | 138 | 119 | 0.89 | 32.27 ± 0.95 | 0.0443 ± 0.0039 | 196.7 ± 5.7 | | |
| CCO_012 | 0.71 | 494 | 295 | 0.61 | 79.42 ± 1.93 | 0.0578 ± 0.0077 | 80.7 ± 2.0 | | |
| CCO_013 | 0.00 | 151 | 142 | 0.96 | 2.69 ± 0.04 | 0.1377 ± 0.0024 | 2036.8 ± 24.3 | 2199 ± 30 | 7.38 |
| CCO_014 | 0.00 | 181 | 95 | 0.54 | 87.53 ± 2.75 | 0.0467 ± 0.0055 | 73.2 ± 2.3 | | |
| CCO_015 | 0.93 | 302 | 199 | 0.68 | 88.71 ± 2.58 | 0.0416 ± 0.0089 | 72.3 ± 2.1 | | |
| CCO_016 | 0.00 | 243 | 94 | 0.39 | 3.13 ± 0.05 | 0.1155 ± 0.0018 | 1786.7 ± 22.5 | 1889 ± 28 | 5.42 |
| CCO_017 | 1.16 | 798 | 449 | 0.58 | 88.83 ± 1.96 | 0.0427 ± 0.0056 | 72.2 ± 1.6 | | |
| CCO_018 | 0.04 | 202 | 79 | 0.40 | 2.83 ± 0.05 | 0.1362 ± 0.0026 | 1947.7 ± 29.0 | 2181 ± 33 | 10.70 |
| CCO_019 | 0.00 | 717 | 501 | 0.72 | 28.31 ± 0.51 | 0.0500 ± 0.0019 | 223.8 ± 4.0 | | |
| CCO_020 | 1.17 | 96 | 66 | 0.70 | 86.56 ± 5.09 | 0.0456 ± 0.0188 | 74.1 ± 4.3 | | |
| CCO_021 | 0.00 | 55 | 41 | 0.76 | 26.08 ± 0.87 | 0.0533 ± 0.0061 | 242.6 ± 8.0 | | |
| CCO_022 | 0.00 | 335 | 239 | 0.73 | 84.08 ± 2.51 | 0.0465 ± 0.0046 | 76.2 ± 2.3 | | |
| CCO_023 | 0.00 | 209 | 120 | 0.59 | 89.32 ± 2.80 | 0.0382 ± 0.0048 | 71.8 ± 2.2 | | |
| CCO_024 | 0.95 | 363 | 230 | 0.65 | 88.75 ± 2.55 | 0.0305 ± 0.0087 | 72.2 ± 2.1 | | |
| CCO_025 | 0.07 | 228 | 43 | 0.20 | 3.12 ± 0.05 | 0.1103 ± 0.0020 | 1793.1 ± 23.1 | 1806 ± 32 | 0.71 |
| CCO_026 | 0.31 | 225 | 189 | 0.86 | 65.21 ± 2.14 | 0.0345 ± 0.0116 | 98.1 ± 3.2 | | |
| CCO_027 | 0.00 | 1181 | 754 | 0.65 | 89.15 ± 1.65 | 0.0497 ± 0.0024 | 71.9 ± 1.3 | | |
| CCO_028 | 0.83 | 68 | 54 | 0.82 | 26.03 ± 1.07 | 0.0335 ± 0.0135 | 243.0 ± 9.8 | | |
| CCO_029 | 0.00 | 161 | 48 | 0.31 | 2.46 ± 0.04 | 0.1480 ± 0.0024 | 2202.4 ± 29.5 | 2325 ± 27 | 5.27 |
| CCO_030 | 0.00 | 147 | 79 | 0.55 | 84.98 ± 3.15 | 0.0390 ± 0.0072 | 75.4 ± 2.8 | | |
| CCO_031 | 0.00 | 1158 | 540 | 0.48 | 85.84 ± 1.48 | 0.0514 ± 0.0024 | 74.7 ± 1.3 | | |
| CCO_032# | 0.00 | 458 | 131 | 0.29 | 3.64 ± 0.05 | 0.1128 ± 0.0014 | 1566.1 ± 17.3 | 1847 ± 22 | 15.21 |
| CCO_033 | 0.75 | 204 | 301 | 1.51 | 2.85 ± 0.04 | 0.1176 ± 0.0046 | 1936.4 ± 23.5 | 1921 ± 69 | -0.80 |
| CCO_034 | 0.00 | 285 | 32 | 0.11 | 3.10 ± 0.04 | 0.1138 ± 0.0016 | 1801.0 ± 20.7 | 1863 ± 25 | 3.33 |
| CCO_035 | 0.00 | 913 | 528 | 0.59 | 3.03 ± 0.03 | 0.1130 ± 0.0012 | 1839.4 ± 18.5 | 1850 ± 18 | 0.57 |
| CCO_036 | 0.00 | 302 | 171 | 0.58 | 84.03 ± 2.14 | 0.0505 ± 0.0042 | 76.3 ± 1.9 | | |
| CCO_037 | 0.00 | 167 | 123 | 0.75 | 87.54 ± 2.89 | 0.0507 ± 0.0066 | 73.2 ± 2.4 | | |
| CCO_038 | 0.88 | 628 | 359 | 0.59 | 91.36 ± 1.87 | 0.0373 ± 0.0060 | 70.2 ± 1.4 | | |
| CCO_039 | 0.00 | 168 | 138 | 0.84 | 86.16 ± 2.91 | 0.0381 ± 0.0050 | 74.4 ± 2.5 | | |
| CCO_040 | 0.00 | 231 | 122 | 0.54 | 83.07 ± 2.15 | 0.0396 ± 0.0043 | 77.1 ± 2.0 | | |
| CCO_041 | 0.00 | 131 | 79 | 0.62 | 87.01 ± 3.28 | 0.0474 ± 0.0067 | 73.7 ± 2.8 | | |
| CCO_042# | 0.00 | 209 | 117 | 0.58 | 3.17 ± 0.05 | 0.1137 ± 0.0018 | 1767.3 ± 22.4 | 1861 ± 28 | 5.03 |
| CCO_043 | 2.41 | 290 | 140 | 0.50 | 3.03 ± 0.05 | 0.1457 ± 0.0026 | 1840.2 ± 24.7 | 2297 ± 31 | 19.89 |
| CCO_044 | 0.00 | 479 | 401 | 0.86 | 40.05 ± 0.69 | 0.0457 ± 0.0024 | 159.0 ± 2.7 | | |
| CCO_045 | 0.00 | 352 | 150 | 0.44 | 84.77 ± 1.86 | 0.0411 ± 0.0038 | 75.6 ± 1.7 | | |
| CCO_046 | 1.96 | 168 | 137 | 0.84 | 89.52 ± 2.96 | 0.0388 ± 0.0140 | 71.6 ± 2.4 | | |
| CCO_047 | 0.37 | 183 | 14 | 0.08 | 28.93 ± 0.73 | 0.0472 ± 0.0041 | 219.0 ± 5.4 | | |
| CCO_048 | 0.00 | 98 | 59 | 0.62 | 35.33 ± 0.99 | 0.0437 ± 0.0042 | 179.9 ± 5.0 | | |
| CCO_049 | 0.00 | 60 | 54 | 0.91 | 23.92 ± 0.67 | 0.0541 ± 0.0057 | 264.0 ± 7.2 | | |
| CCO_050 | 0.00 | 209 | 57 | 0.28 | 2.99 ± 0.04 | 0.1190 ± 0.0017 | 1859.7 ± 24.1 | 1942 ± 26 | 4.24 |
| CCO_051# | 0.00 | 177 | 130 | 0.75 | 101.47 ± 3.28 | 0.0616 ± 0.0071 | 63.2 ± 2.0 | | |
| CCO_052 | 0.15 | 323 | 142 | 0.45 | 84.69 ± 2.34 | 0.0391 ± 0.0069 | 75.7 ± 2.1 | | |
| CCO_053 | 0.00 | 197 | 198 | 1.03 | 87.90 ± 2.78 | 0.0413 ± 0.0047 | 72.9 ± 2.3 | | |
| CCO_054 | 0.00 | 392 | 217 | 0.57 | 83.36 ± 1.75 | 0.0444 ± 0.0035 | 76.9 ± 1.6 | | |
| CCO_055 | 0.98 | 395 | 200 | 0.52 | 83.89 ± 2.16 | 0.0375 ± 0.0069 | 76.4 ± 2.0 | | |
| CCO_056 | 0.00 | 470 | 326 | 0.71 | 2.19 ± 0.03 | 0.1737 ± 0.0019 | 2427.4 ± 23.8 | 2595 ± 18 | 6.46 |
| CCO_057 | 0.00 | 823 | 267 | 0.33 | 85.09 ± 1.40 | 0.0478 ± 0.0026 | 75.3 ± 1.2 | | |
| CCO_058 | 0.00 | 665 | 788 | 1.22 | 31.59 ± 0.50 | 0.0523 ± 0.0018 | 200.9 ± 3.1 | | |
| CCO_059 | 0.00 | 201 | 92 | 0.47 | 2.86 ± 0.04 | 0.1225 ± 0.0017 | 1934.7 ± 24.7 | 1994 ± 24 | 2.97 |
| CCO_060 | 0.19 | 238 | 72 | 0.31 | 2.96 ± 0.04 | 0.1136 ± 0.0022 | 1878.8 ± 23.4 | 1858 ± 35 | -1.12 |
| CCO_061 | 0.00 | 795 | 416 | 0.54 | 83.51 ± 1.75 | 0.0490 ± 0.0026 | 76.7 ± 1.6 | | |
| CCO_062 | 0.97 | 70 | 95 | 1.40 | 34.43 ± 1.33 | 0.0500 ± 0.0177 | 184.6 ± 7.0 | | |
| CCO_063 | 0.00 | 181 | 207 | 1.17 | 3.11 ± 0.05 | 0.1121 ± 0.0022 | 1795.8 ± 23.0 | 1836 ± 34 | 2.19 |
| CCO_064 | 0.00 | 432 | 188 | 0.45 | 82.59 ± 2.03 | 0.0462 ± 0.0031 | 77.6 ± 1.9 | | |
| CCO_065 | 0.71 | 105 | 48 | 0.47 | 25.34 ± 0.74 | 0.0431 ± 0.0055 | 249.5 ± 7.1 | | |
| CCO_066 | 0.12 | 147 | 86 | 0.60 | 87.96 ± 3.08 | 0.0674 ± 0.0118 | 72.9 ± 2.5 | | |
| CCO_067 | 0.15 | 871 | 297 | 0.35 | 24.80 ± 0.40 | 0.0534 ± 0.0021 | 254.8 ± 4.0 | | |
| CCO_068 | 0.00 | 533 | 40 | 0.08 | 2.85 ± 0.04 | 0.1143 ± 0.0014 | 1941.7 ± 21.8 | 1870 ± 22 | -3.83 |
| CCO_069 | 0.00 | 273 | 82 | 0.31 | 62.55 ± 1.55 | 0.0467 ± 0.0036 | 102.2 ± 2.5 | | |
| CCO_070 | 0.65 | 206 | 32 | 0.16 | 2.97 ± 0.05 | 0.1113 ± 0.0020 | 1868.5 ± 26.7 | 1821 ± 33 | -2.61 |
| CCO_071 | 0.66 | 626 | 540 | 0.89 | 36.15 ± 0.63 | 0.0445 ± 0.0047 | 175.9 ± 3.0 | | |
| CCO_072 | 0.75 | 150 | 120 | 0.82 | 82.34 ± 2.89 | 0.0402 ± 0.0130 | 77.8 ± 2.7 | | |
| CCO_073 | 0.00 | 1298 | 187 | 0.15 | 3.10 ± 0.05 | 0.1236 ± 0.0012 | 1801.6 ± 23.0 | 2009 ± 18 | 10.32 |
| CCO_074 | 0.00 | 261 | 154 | 0.61 | 82.07 ± 2.35 | 0.0564 ± 0.0049 | 78.1 ± 2.2 | | |
| CCO_075# | 0.00 | 235 | 192 | 0.84 | 83.15 ± 2.28 | 0.0624 ± 0.0051 | 77.1 ± 2.1 | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCO_076 | 0.00 | 327 | 49 | 0.16 | 3.07 | ± | 0.04 | 0.1145 | ± | 0.0017 | 1818.4 | ± | 19.9 | 1874 | ± | 26 | 2.97 |
| CCO_077 | 0.00 | 453 | 176 | 0.40 | 3.04 | ± | 0.04 | 0.1157 | ± | 0.0014 | 1835.8 | ± | 20.9 | 1891 | ± | 22 | 2.92 |
| CCO_078 | 0.00 | 232 | 97 | 0.43 | 88.21 | ± | 2.15 | 0.0499 | ± | 0.0045 | 72.7 | ± | 1.8 | | | | |
| CCO_079 | 0.00 | 520 | 49 | 0.10 | 3.31 | ± | 0.04 | 0.1174 | ± | 0.0014 | 1703.7 | ± | 20.0 | 1918 | ± | 20 | 11.17 |
| CCO_080 | 0.00 | 259 | 116 | 0.46 | 3.12 | ± | 0.04 | 0.1177 | ± | 0.0015 | 1791.9 | ± | 19.3 | 1923 | ± | 23 | 6.82 |
| CCO_081 | 0.00 | 704 | 450 | 0.66 | 84.89 | ± | 1.59 | 0.0465 | ± | 0.0025 | 75.5 | ± | 1.4 | | | | |
| CCO_082 | 2.41 | 140 | 97 | 0.71 | 90.61 | ± | 3.57 | 0.0289 | ± | 0.0129 | 70.8 | ± | 2.8 | | | | |
| CCO_083 | 2.65 | 208 | 215 | 1.06 | 89.65 | ± | 2.55 | 0.0241 | ± | 0.0123 | 71.5 | ± | 2.0 | | | | |
| CCO_084 | 0.00 | 916 | 220 | 0.25 | 22.99 | ± | 0.32 | 0.0512 | ± | 0.0015 | 274.5 | ± | 3.8 | | | | |
| CCO_085 | 0.00 | 339 | 246 | 0.75 | 84.87 | ± | 2.13 | 0.0417 | ± | 0.0034 | 75.5 | ± | 1.9 | | | | |
| CCO_086 | 0.00 | 352 | 240 | 0.70 | 85.47 | ± | 2.15 | 0.0447 | ± | 0.0064 | 75.0 | ± | 1.9 | | | | |
| CCO_087 | 0.01 | 480 | 151 | 0.32 | 3.08 | ± | 0.04 | 0.1123 | ± | 0.0015 | 1814.9 | ± | 22.7 | 1838 | ± | 23 | 1.26 |
| CCO_088 | 0.00 | 231 | 125 | 0.55 | 3.21 | ± | 0.05 | 0.1141 | ± | 0.0017 | 1750.5 | ± | 23.2 | 1866 | ± | 27 | 6.19 |
| CCO_089 | 1.31 | 207 | 146 | 0.72 | 92.15 | ± | 2.96 | 0.0512 | ± | 0.0128 | 69.6 | ± | 2.2 | | | | |
| CCO_090 | 0.66 | 451 | 146 | 0.33 | 20.19 | ± | 0.35 | 0.0495 | ± | 0.0029 | 311.6 | ± | 5.2 | | | | |
| CCO_091 | 0.00 | 319 | 224 | 0.72 | 88.06 | ± | 2.17 | 0.0411 | ± | 0.0034 | 72.8 | ± | 1.8 | | | | |
| CCO_092 | 0.00 | 186 | 120 | 0.66 | 1.62 | ± | 0.02 | 0.2941 | ± | 0.0032 | 3095.9 | ± | 34.0 | 3441 | ± | 17 | 10.03 |
| CCO_093 | 2.40 | 143 | 65 | 0.47 | 84.01 | ± | 3.03 | 0.0552 | ± | 0.0141 | 76.3 | ± | 2.7 | | | | |
| CCO_094 | 0.00 | 91 | 87 | 0.98 | 15.37 | ± | 0.39 | 0.0595 | ± | 0.0082 | 406.2 | ± | 10.0 | | | | |
| CCO_095 | 0.65 | 108 | 41 | 0.39 | 23.76 | ± | 0.62 | 0.0420 | ± | 0.0061 | 265.8 | ± | 6.8 | | | | |
| CCO_096 | 0.00 | 323 | 284 | 0.90 | 2.94 | ± | 0.04 | 0.1147 | ± | 0.0016 | 1887.8 | ± | 20.1 | 1876 | ± | 25 | -0.63 |
| CCO_097 | 0.00 | 103 | 94 | 0.94 | 2.19 | ± | 0.03 | 0.1614 | ± | 0.0029 | 2424.9 | ± | 29.7 | 2472 | ± | 29 | 1.91 |
| CCO_098 | 0.00 | 387 | 238 | 0.63 | 84.92 | ± | 1.73 | 0.0465 | ± | 0.0030 | 75.5 | ± | 1.5 | | | | |
| CCO_099 | 1.26 | 403 | 441 | 1.12 | 87.38 | ± | 2.22 | 0.0348 | ± | 0.0091 | 73.4 | ± | 1.9 | | | | |
| CCO_100 | 0.00 | 348 | 45 | 0.13 | 3.45 | ± | 0.04 | 0.1137 | ± | 0.0014 | 1640.8 | ± | 18.0 | 1861 | ± | 22 | 11.83 |
| CCO_101 | 0.00 | 107 | 153 | 1.47 | 2.15 | ± | 0.04 | 0.1618 | ± | 0.0026 | 2457.7 | ± | 37.2 | 2476 | ± | 27 | 0.74 |
| CCO_102 | 0.32 | 364 | 291 | 0.82 | 24.21 | ± | 0.49 | 0.0479 | ± | 0.0050 | 260.9 | ± | 5.2 | | | | |
| CCO_103 | 1.57 | 411 | 360 | 0.90 | 81.84 | ± | 1.99 | 0.0313 | ± | 0.0082 | 78.3 | ± | 1.9 | | | | |
| CCO_104 | 1.09 | 276 | 148 | 0.55 | 84.99 | ± | 2.57 | 0.0458 | ± | 0.0089 | 75.4 | ± | 2.3 | | | | |
| CCO_105 | 1.32 | 73 | 93 | 1.31 | 4.20 | ± | 0.08 | 0.0978 | ± | 0.0072 | 1375.5 | ± | 24.1 | 1584 | ± | 132 | 13.16 |
| CCO_106 | 0.47 | 116 | 90 | 0.79 | 84.76 | ± | 3.49 | 0.0614 | ± | 0.0160 | 75.6 | ± | 3.1 | | | | |
| CCO_107 | 0.00 | 349 | 323 | 0.95 | 86.58 | ± | 2.13 | 0.0517 | ± | 0.0048 | 74.0 | ± | 1.8 | | | | |
| CCO_108 | 0.63 | 442 | 273 | 0.64 | 85.05 | ± | 1.98 | 0.0462 | ± | 0.0072 | 75.4 | ± | 1.7 | | | | |
| CCO_109 | 0.46 | 178 | 79 | 0.45 | 3.06 | ± | 0.05 | 0.1126 | ± | 0.0026 | 1824.2 | ± | 26.0 | 1843 | ± | 40 | 1.02 |
| CCO_110 | 0.05 | 159 | 22 | 0.15 | 3.05 | ± | 0.05 | 0.1147 | ± | 0.0020 | 1826.4 | ± | 24.1 | 1876 | ± | 32 | 2.64 |
| CCO_111 | 2.64 | 73 | 62 | 0.87 | 23.38 | ± | 0.78 | 0.0338 | ± | 0.0118 | 270.0 | ± | 8.9 | | | | |
| CCO_112 | 0.49 | 125 | 86 | 0.71 | 33.78 | ± | 0.92 | 0.0425 | ± | 0.0087 | 188.1 | ± | 5.1 | | | | |
| CCO_113 | 1.09 | 306 | 222 | 0.74 | 82.48 | ± | 2.50 | 0.0400 | ± | 0.0092 | 77.7 | ± | 2.3 | | | | |
| CCO_114 | 0.00 | 87 | 80 | 0.94 | 87.32 | ± | 3.94 | 0.0506 | ± | 0.0099 | 73.4 | ± | 3.3 | | | | |
| CCO_115 | 0.26 | 161 | 85 | 0.54 | 82.12 | ± | 2.50 | 0.0494 | ± | 0.0099 | 78.0 | ± | 2.4 | | | | |
| CCO_116 | 0.61 | 744 | 287 | 0.40 | 37.95 | ± | 0.68 | 0.0441 | ± | 0.0028 | 167.7 | ± | 3.0 | | | | |
| CCO_117 | 0.00 | 1035 | 487 | 0.48 | 91.01 | ± | 1.67 | 0.0500 | ± | 0.0024 | 70.4 | ± | 1.3 | | | | |
| CCO_118 | 3.89 | 250 | 181 | 0.74 | 87.42 | ± | 2.80 | 0.0346 | ± | 0.0118 | 73.3 | ± | 2.3 | | | | |
| CCO_119 | 0.17 | 200 | 69 | 0.35 | 23.62 | ± | 0.41 | 0.0462 | ± | 0.0039 | 267.3 | ± | 4.5 | | | | |
| CCO_120 | 0.00 | 1096 | 594 | 0.56 | 82.92 | ± | 1.46 | 0.0473 | ± | 0.0023 | 77.3 | ± | 1.4 | | | | |
| CCO_121 | 0.13 | 132 | 43 | 0.34 | 2.17 | ± | 0.03 | 0.1648 | ± | 0.0030 | 2447.2 | ± | 28.5 | 2507 | ± | 30 | 2.39 |
| CCO_122 | 0.00 | 732 | 366 | 0.51 | 25.53 | ± | 0.38 | 0.0499 | ± | 0.0016 | 247.7 | ± | 3.6 | | | | |
| CCO_123 | 0.00 | 937 | 700 | 0.77 | 83.23 | ± | 1.46 | 0.0447 | ± | 0.0021 | 77.0 | ± | 1.3 | | | | |
| CCO_124 | 0.31 | 214 | 125 | 0.60 | 2.28 | ± | 0.04 | 0.1422 | ± | 0.0026 | 2342.0 | ± | 34.1 | 2255 | ± | 32 | -3.86 |
| CCO_125# | 0.09 | 693 | 318 | 0.47 | 3.76 | ± | 0.06 | 0.1232 | ± | 0.0021 | 1520.2 | ± | 20.0 | 2004 | ± | 30 | 24.14 |
| CCO_126 | 1.06 | 206 | 245 | 1.22 | 82.59 | ± | 2.74 | 0.0490 | ± | 0.0137 | 77.6 | ± | 2.6 | | | | |
| CCO_127 | 0.75 | 723 | 327 | 0.46 | 85.59 | ± | 1.89 | 0.0413 | ± | 0.0050 | 74.9 | ± | 1.6 | | | | |
| CCO_128 | 0.08 | 297 | 44 | 0.15 | 3.02 | ± | 0.04 | 0.1117 | ± | 0.0018 | 1841.6 | ± | 22.1 | 1829 | ± | 29 | -0.69 |
| CCO_129 | 0.00 | 895 | 466 | 0.53 | 77.91 | ± | 1.50 | 0.0436 | ± | 0.0025 | 82.2 | ± | 1.6 | | | | |
| CCO_130 | 0.11 | 250 | 120 | 0.49 | 3.15 | ± | 0.05 | 0.1070 | ± | 0.0018 | 1777.4 | ± | 23.0 | 1749 | ± | 32 | -1.62 |
| CCO_131 | 0.00 | 444 | 120 | 0.28 | 30.04 | ± | 0.50 | 0.0487 | ± | 0.0020 | 211.1 | ± | 3.5 | | | | |
| CCO_132 | 0.00 | 455 | 209 | 0.47 | 85.69 | ± | 2.01 | 0.0518 | ± | 0.0032 | 74.8 | ± | 1.7 | | | | |
| CCO_133 | 0.00 | 204 | 63 | 0.32 | 2.97 | ± | 0.04 | 0.1141 | ± | 0.0016 | 1873.0 | ± | 24.4 | 1866 | ± | 26 | -0.38 |
| CCO_134 | 0.00 | 127 | 123 | 0.99 | 36.12 | ± | 0.90 | 0.0516 | ± | 0.0045 | 176.0 | ± | 4.3 | | | | |
| CCO_135 | 0.00 | 1211 | 308 | 0.26 | 62.47 | ± | 0.85 | 0.0490 | ± | 0.0017 | 102.4 | ± | 1.4 | | | | |
| CCO_136 | 0.00 | 256 | 133 | 0.53 | 84.41 | ± | 2.29 | 0.0443 | ± | 0.0047 | 75.9 | ± | 2.0 | | | | |
| CCO_137 | 0.00 | 205 | 163 | 0.82 | 26.58 | ± | 0.50 | 0.0532 | ± | 0.0031 | 238.1 | ± | 4.4 | | | | |
| CCO_138 | 0.00 | 901 | 400 | 0.46 | 80.94 | ± | 1.29 | 0.0485 | ± | 0.0022 | 79.2 | ± | 1.3 | | | | |
| CCO_139 | 0.00 | 375 | 81 | 0.22 | 29.18 | ± | 0.45 | 0.0470 | ± | 0.0020 | 217.2 | ± | 3.3 | | | | |
| CCO_140 | 0.06 | 209 | 95 | 0.47 | 2.77 | ± | 0.04 | 0.1351 | ± | 0.0024 | 1989.8 | ± | 23.7 | 2166 | ± | 30 | 8.13 |
| CCO_141 | 0.00 | 240 | 160 | 0.68 | 25.27 | ± | 0.48 | 0.0490 | ± | 0.0024 | 250.2 | ± | 4.7 | | | | |
| CCO_142 | 0.00 | 290 | 182 | 0.64 | 34.99 | ± | 0.69 | 0.0502 | ± | 0.0027 | 181.6 | ± | 3.5 | | | | |
| CCO_143 | 0.21 | 344 | 109 | 0.32 | 2.86 | ± | 0.04 | 0.1224 | ± | 0.0017 | 1934.9 | ± | 23.2 | 1992 | ± | 25 | 2.87 |
| CCO_144# | 0.80 | 289 | 108 | 0.38 | 3.61 | ± | 0.06 | 0.1247 | ± | 0.0020 | 1576.5 | ± | 22.3 | 2026 | ± | 28 | 22.19 |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.

"#" with labels mean the data are discordant.

(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance

(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. U–Pb age. U–Pb 年代.
Table A9. Sample SBR.　試料SBR.

| Labels | $^{206}Pb_c$ (1) | U | Th | Th/U | $^{238}U/^{206}Pb^*$ (1) | | $^{207}Pb^*/^{206}Pb^*$ (1) | | $^{238}U/^{206}Pb^*$ age (1) | | $^{207}Pb^*/^{206}Pb^*$ age (1 | Disc (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (%) | (ppm) | (ppm) | | | | | | (Ma) | | (Ma) | (%) |
| SBR_001 | 0.00 | 700 | 354 | 0.52 | 64.21 | ± 0.83 | 0.0503 | ± 0.0016 | 99.6 | ± 1.3 | | |
| SBR_002 | 5.20 | 446 | 342 | 0.79 | 81.13 | ± 1.26 | 0.0556 | ± 0.0089 | 79.0 | ± 1.2 | | |
| SBR_003 | 0.56 | 846 | 462 | 0.56 | 80.73 | ± 1.10 | 0.0421 | ± 0.0030 | 79.4 | ± 1.1 | | |
| SBR_004 | 0.00 | 578 | 335 | 0.59 | 81.06 | ± 1.22 | 0.0456 | ± 0.0019 | 79.0 | ± 1.2 | | |
| SBR_005 | 0.16 | 407 | 267 | 0.67 | 78.39 | ± 1.20 | 0.0467 | ± 0.0042 | 81.7 | ± 1.2 | | |
| SBR_006 | 0.00 | 434 | 260 | 0.62 | 73.47 | ± 1.14 | 0.0476 | ± 0.0022 | 87.1 | ± 1.3 | | |
| SBR_007 | 0.18 | 211 | 162 | 0.79 | 83.14 | ± 1.80 | 0.0406 | ± 0.0066 | 77.1 | ± 1.7 | | |
| SBR_008 | 0.00 | 232 | 145 | 0.64 | 77.52 | ± 1.59 | 0.0460 | ± 0.0031 | 82.6 | ± 1.7 | | |
| SBR_009# | 0.00 | 169 | 85 | 0.51 | 81.63 | ± 1.85 | 0.0572 | ± 0.0039 | 78.5 | ± 1.8 | | |
| SBR_010 | 0.37 | 380 | 350 | 0.94 | 85.21 | ± 1.58 | 0.0458 | ± 0.0075 | 75.2 | ± 1.4 | | |
| SBR_011 | 0.29 | 194 | 110 | 0.58 | 84.93 | ± 2.02 | 0.0488 | ± 0.0078 | 75.5 | ± 1.8 | | |
| SBR_012 | 15.39 | 323 | 105 | 0.33 | 59.54 | ± 1.00 | 0.0657 | ± 0.0102 | 107.4 | ± 1.8 | | |
| SBR_013 | 0.00 | 296 | 134 | 0.46 | 77.31 | ± 1.57 | 0.0493 | ± 0.0028 | 82.9 | ± 1.7 | | |
| SBR_014 | 0.00 | 421 | 271 | 0.66 | 81.60 | ± 1.50 | 0.0455 | ± 0.0024 | 78.5 | ± 1.4 | | |
| SBR_015 | 0.40 | 451 | 231 | 0.53 | 83.22 | ± 1.58 | 0.0496 | ± 0.0046 | 77.0 | ± 1.5 | | |
| SBR_016 | 0.00 | 394 | 246 | 0.64 | 79.95 | ± 1.26 | 0.0439 | ± 0.0022 | 80.1 | ± 1.3 | | |
| SBR_017 | 0.00 | 593 | 210 | 0.36 | 83.85 | ± 1.31 | 0.0499 | ± 0.0022 | 76.4 | ± 1.2 | | |
| SBR_018 | 0.00 | 80 | 83 | 1.06 | 85.40 | ± 2.63 | 0.0461 | ± 0.0056 | 75.0 | ± 2.3 | | |
| SBR_019 | 0.00 | 339 | 326 | 0.98 | 81.93 | ± 1.46 | 0.0483 | ± 0.0030 | 78.2 | ± 1.4 | | |
| SBR_020 | 1.00 | 159 | 123 | 0.79 | 84.94 | ± 2.36 | 0.0429 | ± 0.0094 | 75.5 | ± 2.1 | | |
| SBR_021 | 0.48 | 176 | 133 | 0.77 | 79.23 | ± 2.19 | 0.0486 | ± 0.0089 | 80.9 | ± 2.2 | | |
| SBR_022 | 0.47 | 631 | 425 | 0.69 | 79.80 | ± 2.14 | 0.0464 | ± 0.0044 | 80.3 | ± 2.1 | | |
| SBR_023 | 7.09 | 155 | 84 | 0.56 | 84.81 | ± 3.01 | 0.0419 | ± 0.0118 | 75.6 | ± 2.7 | | |
| SBR_024 | 1.07 | 334 | 430 | 1.32 | 84.42 | ± 2.39 | 0.0388 | ± 0.0078 | 75.9 | ± 2.1 | | |
| SBR_025 | 3.00 | 287 | 263 | 0.94 | 84.84 | ± 2.70 | 0.0536 | ± 0.0091 | 75.5 | ± 2.4 | | |
| SBR_026 | 0.00 | 364 | 111 | 0.31 | 63.07 | ± 1.77 | 0.0503 | ± 0.0026 | 101.4 | ± 2.8 | | |
| SBR_027 | 0.00 | 137 | 66 | 0.49 | 79.73 | ± 2.95 | 0.0527 | ± 0.0059 | 80.4 | ± 3.0 | | |
| SBR_028 | 0.41 | 476 | 289 | 0.62 | 80.65 | ± 2.28 | 0.0485 | ± 0.0048 | 79.4 | ± 2.2 | | |
| SBR_029 | 0.00 | 463 | 209 | 0.46 | 82.65 | ± 2.22 | 0.0440 | ± 0.0019 | 77.5 | ± 2.1 | | |
| SBR_030 | 1.38 | 282 | 198 | 0.72 | 69.93 | ± 2.53 | 0.0472 | ± 0.0086 | 91.5 | ± 3.3 | | |
| SBR_031 | 0.00 | 205 | 164 | 0.82 | 79.60 | ± 2.94 | 0.0480 | ± 0.0032 | 80.5 | ± 3.0 | | |
| SBR_032 | 0.21 | 336 | 235 | 0.72 | 63.73 | ± 2.24 | 0.0485 | ± 0.0051 | 100.4 | ± 3.5 | | |
| SBR_033 | 0.96 | 333 | 320 | 0.99 | 83.94 | ± 2.88 | 0.0403 | ± 0.0070 | 76.3 | ± 2.6 | | |
| SBR_034 | 0.00 | 514 | 187 | 0.37 | 63.54 | ± 2.10 | 0.0511 | ± 0.0023 | 100.7 | ± 3.3 | | |
| SBR_035 | 3.26 | 257 | 162 | 0.65 | 83.74 | ± 2.99 | 0.0526 | ± 0.0077 | 76.5 | ± 2.7 | | |
| SBR_036 | 4.47 | 86 | 54 | 0.65 | 76.70 | ± 2.93 | 0.0613 | ± 0.0173 | 83.5 | ± 3.2 | | |
| SBR_037 | 0.00 | 624 | 251 | 0.41 | 60.90 | ± 0.92 | 0.0475 | ± 0.0017 | 105.0 | ± 1.6 | | |
| SBR_038 | 0.00 | 596 | 529 | 0.91 | 78.97 | ± 1.28 | 0.0474 | ± 0.0020 | 81.1 | ± 1.3 | | |
| SBR_039 | 0.00 | 830 | 527 | 0.65 | 84.18 | ± 1.30 | 0.0490 | ± 0.0021 | 76.1 | ± 1.2 | | |
| SBR_040 | 0.00 | 656 | 362 | 0.57 | 62.03 | ± 0.91 | 0.0511 | ± 0.0019 | 103.1 | ± 1.5 | | |
| SBR_041 | 0.00 | 150 | 84 | 0.57 | 79.29 | ± 1.80 | 0.0439 | ± 0.0045 | 80.8 | ± 1.8 | | |
| SBR_042 | 0.37 | 268 | 144 | 0.55 | 82.35 | ± 1.79 | 0.0486 | ± 0.0057 | 77.8 | ± 1.7 | | |
| SBR_043 | 0.00 | 257 | 137 | 0.55 | 83.90 | ± 1.93 | 0.0467 | ± 0.0032 | 76.4 | ± 1.7 | | |
| SBR_044 | 0.00 | 583 | 298 | 0.52 | 61.46 | ± 0.84 | 0.0465 | ± 0.0019 | 104.0 | ± 1.4 | | |
| SBR_045 | 1.48 | 179 | 80 | 0.46 | 81.30 | ± 1.99 | 0.0351 | ± 0.0071 | 78.8 | ± 1.9 | | |
| SBR_046 | 0.00 | 285 | 232 | 0.84 | 74.07 | ± 1.53 | 0.0532 | ± 0.0037 | 86.4 | ± 1.8 | | |
| SBR_047 | 0.30 | 549 | 261 | 0.49 | 79.15 | ± 1.24 | 0.0459 | ± 0.0036 | 80.9 | ± 1.3 | | |
| SBR_048 | 0.00 | 349 | 189 | 0.56 | 79.37 | ± 1.56 | 0.0525 | ± 0.0032 | 80.7 | ± 1.6 | | |
| SBR_049 | 0.00 | 259 | 287 | 1.14 | 75.11 | ± 1.48 | 0.0454 | ± 0.0031 | 85.3 | ± 1.7 | | |
| SBR_050 | 0.00 | 458 | 475 | 1.06 | 83.16 | ± 1.33 | 0.0494 | ± 0.0027 | 77.1 | ± 1.2 | | |
| SBR_051 | 0.00 | 308 | 286 | 0.95 | 80.15 | ± 1.51 | 0.0506 | ± 0.0032 | 79.9 | ± 1.5 | | |
| SBR_052 | 0.25 | 187 | 173 | 0.95 | 83.67 | ± 2.22 | 0.0534 | ± 0.0095 | 76.6 | ± 2.0 | | |
| SBR_053 | 0.04 | 298 | 419 | 1.44 | 84.26 | ± 2.01 | 0.0502 | ± 0.0100 | 76.1 | ± 1.8 | | |
| SBR_054 | 0.53 | 155 | 106 | 0.70 | 82.86 | ± 2.00 | 0.0524 | ± 0.0094 | 77.3 | ± 1.9 | | |
| SBR_055 | 0.00 | 153 | 142 | 0.95 | 81.04 | ± 2.03 | 0.0418 | ± 0.0041 | 79.1 | ± 2.0 | | |
| SBR_056 | 0.83 | 398 | 262 | 0.68 | 81.21 | ± 1.48 | 0.0446 | ± 0.0059 | 78.9 | ± 1.4 | | |
| SBR_057 | 0.35 | 186 | 178 | 0.98 | 77.38 | ± 2.00 | 0.0402 | ± 0.0079 | 82.8 | ± 2.1 | | |
| SBR_058 | 1.40 | 295 | 144 | 0.50 | 85.49 | ± 1.54 | 0.0407 | ± 0.0054 | 75.0 | ± 1.3 | | |
| SBR_059 | 0.07 | 1014 | 662 | 0.67 | 82.18 | ± 1.02 | 0.0511 | ± 0.0035 | 78.0 | ± 1.0 | | |
| SBR_060 | 0.24 | 302 | 293 | 0.99 | 84.32 | ± 1.71 | 0.0442 | ± 0.0065 | 76.0 | ± 1.5 | | |
| SBR_061 | 0.00 | 323 | 299 | 0.95 | 82.02 | ± 1.49 | 0.0486 | ± 0.0030 | 78.1 | ± 1.4 | | |
| SBR_062 | 0.00 | 383 | 308 | 0.83 | 81.70 | ± 1.38 | 0.0512 | ± 0.0027 | 78.4 | ± 1.3 | | |
| SBR_063 | 0.15 | 324 | 105 | 0.33 | 82.14 | ± 1.54 | 0.0449 | ± 0.0044 | 78.0 | ± 1.5 | | |
| SBR_064 | 0.00 | 419 | 535 | 1.31 | 82.97 | ± 1.36 | 0.0501 | ± 0.0024 | 77.2 | ± 1.3 | | |
| SBR_065 | 0.00 | 483 | 251 | 0.53 | 81.86 | ± 1.36 | 0.0447 | ± 0.0022 | 78.3 | ± 1.3 | | |
| SBR_066 | 0.41 | 210 | 129 | 0.63 | 84.40 | ± 2.14 | 0.0416 | ± 0.0078 | 75.9 | ± 1.9 | | |
| SBR_067 | 0.00 | 379 | 188 | 0.51 | 79.61 | ± 1.48 | 0.0450 | ± 0.0027 | 80.5 | ± 1.5 | | |
| SBR_068 | 0.00 | 397 | 289 | 0.75 | 80.48 | ± 1.56 | 0.0465 | ± 0.0025 | 79.6 | ± 1.5 | | |
| SBR_069 | 0.72 | 265 | 321 | 1.24 | 80.75 | ± 1.84 | 0.0470 | ± 0.0091 | 79.3 | ± 1.8 | | |
| SBR_070 | 0.00 | 296 | 178 | 0.62 | 82.81 | ± 1.59 | 0.0514 | ± 0.0031 | 77.4 | ± 1.5 | | |
| SBR_071 | 0.00 | 305 | 234 | 0.79 | 88.09 | ± 1.92 | 0.0454 | ± 0.0025 | 72.8 | ± 1.6 | | |

Errors are 1-sigma; $Pb_c$ and Pb* indicate the common and radiogenic portions, respectively.
"#" with labels mean the data are discordant.
(1) Common Pb corrected by assuming $^{206}Pb/^{238}U$-$^{208}Pb/^{232}Th$ age-concordance
(2) The degree of discordance for an analyzed spot indicates the chronological difference between the two ages determined by Pb–Pb and U–Pb methods, and is defined as {1-(238U/206Pb* age)/(207Pb*/206Pb* age)}×100 (%) (e.g., Song et al., 1996).

Appenxix 3. O–kb age. O–kb 年代.

Table A10. Summary of the youngest age clusters for dated zircons in the nine sandstone samples (n = number of grains).
砂岩９試料中のジルコンが持つ最若年代集団のまとめ (n は粒子数).

| sample name | number of data | | YSG | YC1σ | | YC2σ | |
|---|---|---|---|---|---|---|---|
| | All | Conc. | (Ma) | (Ma) | n | (Ma) | n |
| KRH (Kirihata) | 72 | 71 | 59.6 ± 1.3 | 61.1 ± 0.5 | 10 | 63.2 ± 0.2 | 42 |
| MJK (Mijikano) | 143 | 138 | 64.3 ± 1.9 | 66.0 ± 0.6 | 14 | 67.8 ± 0.6 | 22 |
| SGD (Sagadani) | 144 | 134 | 57.2 ± 3.0 | 60.1 ± 0.6 | 16 | 62.9 ± 0.4 | 45 |
| NTK (Natekami) | 73 | 73 | 63.3 ± 2.7 | 65.8 ± 0.4 | 26 | 67.6 ± 0.4 | 43 |
| TKO2 (Takeo) | 95 | 88 | 64.4 ± 1.3 | 66.1 ± 0.6 | 10 | 67.8 ± 0.3 | 26 |
| SHB1 (Shoubu1) | 88 | 85 | 61.4 ± 3.9 | 65.5 ± 0.8 | 11 | 69.3 ± 0.5 | 36 |
| SHB2 (Shoubu2) | 93 | 88 | 61.3 ± 1.7 | 68.0 ± 0.5 | 14 | 66.7 ± 1.0 | 9 |
| CCO (Chichioni) | 144 | 138 | 69.6 ± 2.2 | 72.0 ± 0.4 | 23 | 74.3 ± 0.3 | 55 |
| SBR (Sobura) | 71 | 70 | 72.8 ± 1.6 | 75.2 ± 0.5 | 13 | 77.0 ± 0.3 | 38 |

Age errors are 1σ

tone samples (n = number of grains).