Table S1 Sr-Nd-Pb isotopic composition of YRD-1101 core

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample No. | Depth (m) | 87Sr/86Sr | | ±2σ | | 143Nd/144Nd | | ±2σ | | εNd | | 208Pb/204Pb | | ±2σ | | 207Pb/204Pb | | ±2σ | | 206Pb/204Pb | | ±2σ | | 208Pb/206Pb | | ±2σ | | 207Pb/206Pb | | ±2σ | |
| 17D-1 | 3.56 | 0.72237 | | 5.34E-06 | | 0.512073 | | 2.31E-06 | | -11.02142252 | | 38.8702 | | 8.78E-04 | | 15.6455 | | 3.29E-04 | | 18.6324 | | 4.16 E-04 | | 2.0862 | | 1.71 E-05 | | 0.83969 | | 6.74 E-06 | |
| 17D-2 | 9.49 | 0.71866 | | 4.32E-06 | | 0.512056 | | 3.64E-06 | | -11.35304055 | | 38.9526 | | 7.86E-04 | | 15.6481 | | 2.72 E-04 | | 18.6865 | | 2.96 E-04 | | 2.0845 | | 1.64 E-05 | | 0.83740 | | 4.92 E-06 | |
| 17D-3 | 15.46 | 0.72077 | | 6.94E-06 | | 0.512069 | | 4.74E-06 | | -11.09945029 | | 38.9435 | | 6.34E-04 | | 15.6447 | | 2.17 E-04 | | 18.6827 | | 2.30 E-04 | | 2.0845 | | 1.42 E-05 | | 0.83739 | | 3.59 E-06 | |
| 17D-4 | 21.44 | 0.71884 | | 5.19E-06 | | 0.512062 | | 2.24E-06 | | -11.23599889 | | 38.8332 | | 1.26 E-04 | | 15.6359 | | 2.96 E-04 | | 18.5881 | | 4.90 E-04 | | 2.0891 | | 1.91 E-05 | | 0.84117 | | 7.08 E-06 | |
| 17D-5 | 27.65 | 0.71826 | | 4.65E-06 | | 0.512053 | | 2.07E-06 | | -11.41156137 | | 38.9010 | | 9.54 E-04 | | 15.6405 | | 3.31 E-04 | | 18.6445 | | 4.04 E-04 | | 2.0865 | | 1.83 E-05 | | 0.83887 | | 7.73 E-06 | |
| 17D-6 | 33.48 | 0.72084 | | 4.57E-06 | | 0.512067 | | 2.9E-06 | | -11.13846418 | | 38.9388 | | 9.05 E-04 | | 15.6465 | | 3.53 E-04 | | 18.6786 | | 3.89 E-04 | | 2.0847 | | 1.29 E-05 | | 0.83766 | | 3.92 E-06 | |
| 17D-7 | 40.75 | 0.7204 | | 4.84E-06 | | 0.512048 | | 3.17E-06 | | -11.50909609 | | 39.0032 | | 9.11 E-04 | | 15.6492 | | 4.02 E-04 | | 18.7122 | | 4.13 E-04 | | 2.0844 | | 1.56 E-05 | | 0.83627 | | 6.26 E-06 | |
| 17D-8 | 46.42 | 0.7178 | | 4.06E-06 | | 0.512022 | | 1.87E-06 | | -12.01627659 | | 39.1512 | | 8.65 E-04 | | 15.6545 | | 3.61 E-04 | | 18.8318 | | 4.42 E-04 | | 2.0790 | | 1.88 E-05 | | 0.83128 | | 7.85 E-06 | |
| 17D-9 | 52.60 | 0.71999 | | 5.11E-06 | | 0.512054 | | 2.73E-06 | | -11.39205443 | | 38.8700 | | 6.97 E-04 | | 15.6387 | | 2.57 E-04 | | 18.6480 | | 2.87 E-04 | | 2.0844 | | 1.65 E-05 | | 0.83864 | | 5.57 E-06 | |
| 17D-10 | 58.34 | 0.71555 | | 5.41E-06 | | 0.512107 | | 2.77E-06 | | -10.35818648 | | 38.7055 | | 9.63 E-04 | | 15.6104 | | 3.69 E-04 | | 18.5331 | | 4.18 E-04 | | 2.0885 | | 1.82 E-05 | | 0.84230 | | 5.88 E-06 | |
| 17D-11 | 64.27 | 0.71741 | | 4.77E-06 | | 0.511934 | | 2.84E-06 | | -13.73288753 | | 38.9590 | | 8.27 E-04 | | 15.6232 | | 3.10 E-04 | | 18.5630 | | 3.06 E-04 | | 2.0988 | | 1.78 E-05 | | 0.84164 | | 6.40 E-06 | |
| 17D-12 | 70.49 | 0.71896 | | 4.74E-06 | | 0.512025 | | 4.59E-06 | | -11.95775577 | | 38.8850 | | 6.91 E-04 | | 15.6368 | | 2.64 E-04 | | 18.5996 | | 3.32 E-04 | | 2.0907 | | 1.98 E-05 | | 0.84071 | | 6.96 E-06 | |
| 17D-13 | 76.40 | 0.71739 | | 4.00E-06 | | 0.511991 | | 2.32E-06 | | -12.62099181 | | 38.8168 | | 7.18 E-04 | | 15.6246 | | 2.31 E-04 | | 18.5433 | | 2.90 E-04 | | 2.0933 | | 1.44 E-05 | | 0.84261 | | 4.14 E-06 | |
| 17D-14 | 82.56 | 0.72118 | | 5.78E-06 | | 0.512055 | | 4.13E-06 | | -11.37254749 | | 38.9552 | | 8.18 E-04 | | 15.6473 | | 3.01 E-04 | | 18.7037 | | 3.43 E-04 | | 2.0827 | | 1.57 E-05 | | 0.83658 | | 5.08 E-06 | |
| 17D-15 | 88.73 | 0.71676 | | 3.77E-06 | | 0.511985 | | 2.16E-06 | | -12.73803347 | | 39.4878 | | 9.43 E-04 | | 15.6705 | | 4.40 E-04 | | 18.9690 | | 4.44 E-04 | | 2.0817 | | 1.58 E-05 | | 0.82612 | | 7.55 E-06 | |
| 17D-16 | 94.15 | 0.71707 | | 4.11E-06 | | 0.512031 | | 2.32E-06 | | -11.84071411 | | 39.1164 | | 9.27 E-04 | | 15.6516 | | 3.83 E-04 | | 18.7839 | | 4.27 E-04 | | 2.0824 | | 1.56 E-05 | | 0.83324 | | 7.81 E-06 | |
| 17D-17 | 100.44 | 0.72159 | | 4.51E-06 | | 0.512087 | | 8.15E-06 | | -10.74832533 | | 38.9860 | | 9.37 E-04 | | 15.6595 | | 3.39 E-04 | | 18.7477 | | 3.90 E-04 | | 2.0795 | | 1.63 E-05 | | 0.83527 | | 6.25 E-06 | |
| 17D-18 | 106.48 | 0.71945 | | 6.60E-06 | | 0.512008 | | 2.27E-06 | | -12.28937379 | | 38.9802 | | 8.46 E-04 | | 15.6436 | | 3.35 E-04 | | 18.6975 | | 3.84 E-04 | | 2.0848 | | 1.80 E-05 | | 0.83666 | | 6.64 E-06 | |
| 17D-19 | 112.49 | 0.71825 | | 5.35E-06 | | 0.511809 | | 3..59E-06 | | -16.17125535 | | 40.1563 | | 9.08 E-04 | | 15.6758 | | 3.95 E-04 | | 19.1035 | | 3.23 E-04 | | 2.1020 | | 2.73 E-05 | | 0.82057 | | 6.00 E-06 | |
| 17D-20 | 118.49 | 0.71746 | | 5.75E-06 | | 0.512024 | | 1.85E-06 | | -11.97726271 | | 38.8495 | | 7.22 E-04 | | 15.6245 | | 3.09 E-04 | | 18.5983 | | 3.98 E-04 | | 2.0889 | | 1.40 E-05 | | 0.84011 | | 5.31 E-06 | |
| 17D-21 | 124.42 | 0.71923 | | 5.33E-06 | | 0.512029 | | 1.84E-06 | | -11.879728 | | 38.9955 | | 9.26 E-04 | | 15.6457 | | 3.73 E-04 | | 18.7194 | | 3.55 E-04 | | 2.0832 | | 1.80 E-05 | | 0.83581 | | 5.76 E-06 | |
| 17D-22 | 130.40 | 0.7189 | | 6.34E-06 | | 0.512037 | | 2.36E-06 | | -11.72367246 | | 39.0221 | | 9.03 E-04 | | 15.6523 | | 3.59 E-04 | | 18.7602 | | 4.03 E-04 | | 2.0800 | | 1.74 E-05 | | 0.83433 | | 6.44 E-06 | |
| 17D-23 | 136.40 | 0.71783 | | 5.68E-06 | | 0.512023 | | 2.58E-06 | | -11.99676965 | | 38.9519 | | 8.06 E-04 | | 15.6402 | | 3.23 E-04 | | 18.6660 | | 3.53 E-04 | | 2.0868 | | 1.25 E-05 | | 0.83789 | | 4.39 E-06 | |
| 17D-24 | 142.45 | 0.72543 | | 4.58E-06 | | 0.512092 | | 2.69E-06 | | -10.65079062 | | 38.9474 | | 6.37 E-04 | | 15.6551 | | 2.19 E-04 | | 18.7342 | | 2.29 E-04 | | 2.0790 | | 1.58 E-05 | | 0.83564 | | 4.03 E-06 | |
| 17D-25 | 146.45 | 0.72514 | | 4.19E-06 | | 0.512035 | | 5.28E-06 | | -11.76268634 | | 38.9373 | | 7.78 E-04 | | 15.6503 | | 3.00 E-04 | | 18.6895 | | 3.57 E-04 | | 2.0834 | | 1.62 E-05 | | 0.83738 | | 5.22 E-06 | |
| 17D-26 | 152.48 | 0.7198 | | 6.82E-06 | | 0.512051 | | 2.06E-06 | | -11.45057526 | | 38.9365 | | 8.72 E-04 | | 15.6534 | | 3.51 E-04 | | 18.7060 | | 3.62 E-04 | | 2.0815 | | 1.57 E-05 | | 0.83681 | | 5.46 E-06 | |
| 17D-27 | 158.41 | 1322 | 0.72477 | | 4.87E-06 | | 0.512032 | | 3.81E-06 | | -11.82120717 | | 38.9604 | | 6.27 E-04 | | 15.6514 | | 2.27 E-04 | | 18.7000 | | 2.97 E-04 | | 2.0835 | | 1.46 E-05 | | 0.83698 | | 4.64 E-06 | |
| 17D-28 | 164.41 | 1403 | 0.72238 | | 4.59E-06 | | 0.511993 | | 2.32E-06 | | -12.58197793 | | 38.9629 | | 7.98 E-04 | | 15.6432 | | 2.59 E-04 | | 18.6917 | | 3.01 E-04 | | 2.0845 | | 1.71 E-05 | | 0.83691 | | 4.65 E-06 | |
| 17D-29 | 170.08 | 1480 | 0.71837 | | 4.64E-06 | | 0.511997 | | 2.58E-06 | | -12.50395016 | | 39.1072 | | 8.94 E-04 | | 15.6558 | | 3.36 E-04 | | 18.8046 | | 3.45 E-04 | | 2.0797 | | 1.61 E-05 | | 0.83255 | | 5.17 E-06 | |
| 17D-30 | 176.42 | 1567 | 0.72054 | | 4.96E-06 | | 0.512081 | | 2.72E-06 | | -10.86536698 | | 38.9788 | | 8.14 E-04 | | 15.6605 | | 3.20 E-04 | | 18.7453 | | 4.53 E-04 | | 2.0794 | | 1.90 E-05 | | 0.83544 | | 7.75 E-06 | |
| 17D-31 | 182.36 | 1648 | 0.72453 | | 4.28E-06 | | 0.512077 | | 3.29E-06 | | -10.94339475 | | 38.9561 | | 7.61 E-04 | | 15.6596 | | 2.74 E-04 | | 18.7208 | | 2.64 E-04 | | 2.0809 | | 1.61 E-05 | | 0.83648 | | 5.15 E-06 | |
| 17D-32 | 188.60 | 1730 | 0.72435 | | 4.45E-06 | | 0.512080 | | 2.22E-06 | | -10.88487393 | | 38.9114 | | 1.00 E-04 | | 15.6500 | | 3.68 E-04 | | 18.6860 | | 3.53 E-04 | | 2.0824 | | 1.77 E-05 | | 0.83753 | | 5.91 E-06 | |
| 17D-33 | 194.09 | 1803 | 0.71987 | | 7.30E-06 | | 0.511875 | | 2.76E-06 | | -14.88379714 | | 38.8828 | | 8.89 E-04 | | 15.6258 | | 3.12 E-04 | | 18.5172 | | 3.64 E-04 | | 2.0998 | | 2.35 E-05 | | 0.84385 | | 6.50 E-06 | |
| 17D-34 | 200.04 | 1885 | 0.72131 | | 4.87E-06 | | 0.512006 | | 2.71E-06 | | -12.32838767 | | 38.9120 | | 8.00 E-04 | | 15.6384 | | 2.84 E-04 | | 18.6476 | | 3.10 E-04 | | 2.0867 | | 1.51 E-05 | | 0.83862 | | 4.56 E-06 | |