|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **D1709-1H** | **D1709-2H** | **D1709-3H** | **D1709-4H** | **D1709-5H** | **D1709-6H** | **D1709-7H** | **D1709-8H** | **D1709-9H** | **D1709-10H** | **D1709-11H** | **D1709-12H** | **D1709-13H** | **D1709-14H** | **D1709-15H** | **D1709-16H** | **D1709-17H** |
| **Rock type** | **Granite** | | | | | | | | | | | | | | | | |
| **SiO2** | 71.43 | 71.4 | 71.54 | 71.07 | 71.97 | 71.12 | 73.08 | 72.43 | 71.27 | 72.18 | 71.42 | 71.43 | 71.32 | 71.43 | 73.12 | 71.58 | 71.50 |
| **TiO2** | 0.171 | 0.164 | 0.17 | 0.165 | 0.155 | 0.168 | 0.17 | 0.163 | 0.17 | 0.16 | 0.166 | 0.17 | 0.167 | 0.169 | 0.164 | 0.167 | 0.169 |
| **Al2O3** | 15.54 | 15.93 | 15.36 | 15.38 | 15.91 | 15.38 | 15.79 | 15.98 | 15.28 | 15.97 | 15.85 | 15.31 | 15.39 | 15.35 | 15.96 | 15.35 | 15.29 |
| **Fe2O3T** | 1.07 | 1.27 | 1.01 | 1.3 | 1.13 | 1.23 | 1.11 | 1.25 | 1.18 | 1.01 | 1.2 | 1.09 | 1.32 | 1.25 | 1.06 | 1.02 | 1.21 |
| **MnO** | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 |
| **MgO** | 0.27 | 0.25 | 0.26 | 0.25 | 0.25 | 0.32 | 0.27 | 0.22 | 0.27 | 0.27 | 0.33 | 0.25 | 0.21 | 0.29 | 0.27 | 0.26 | 0.26 |
| **CaO** | 0.24 | 0.32 | 0.23 | 0.26 | 0.21 | 0.35 | 0.19 | 0.21 | 0.23 | 0.22 | 0.27 | 0.18 | 0.16 | 0.17 | 0.19 | 0.28 | 0.18 |
| **Na2O** | 5.29 | 5.08 | 4.87 | 5.26 | 5.1 | 4.99 | 5.78 | 5.65 | 4.93 | 5.02 | 4.97 | 4.91 | 5.12 | 5.38 | 5.73 | 4.97 | 4.89 |
| **K2O** | 4.43 | 5.11 | 5.19 | 4.91 | 4.63 | 5.08 | 3.3 | 3.96 | 5.17 | 4.78 | 4.99 | 4.73 | 4.7 | 4.37 | 3.27 | 5.25 | 5.02 |
| **P2O5** | 0.03 | 0.03 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 |
| **L.O.I** | 0.85 | 0.7 | 0.87 | 0.64 | 0.85 | 0.7 | 0.87 | 0.72 | 0.7 | 0.77 | 0.74 | 0.92 | 0.82 | 0.83 | 1.15 | 0.85 | 0.85 |
| **Total** | 99.36 | 100.29 | 99.53 | 99.26 | 100.24 | 99.38 | 100.58 | 100.61 | 99.23 | 100.40 | 99.97 | 99.03 | 99.25 | 99.28 | 100.95 | 99.78 | 99.39 |
| **A/CNK** | 1.12 | 1.10 | 1.09 | 1.07 | 1.15 | 1.07 | 1.18 | 1.14 | 1.08 | 1.15 | 1.13 | 1.13 | 1.12 | 1.11 | 1.20 | 1.07 | 1.11 |
| **A/NK** | 1.15 | 1.15 | 1.13 | 1.10 | 1.19 | 1.12 | 1.21 | 1.18 | 1.11 | 1.19 | 1.17 | 1.16 | 1.14 | 1.13 | 1.23 | 1.11 | 1.13 |
| **K2O+Na2O** | 9.72 | 10.19 | 10.06 | 10.17 | 9.73 | 10.07 | 9.08 | 9.61 | 10.10 | 9.80 | 9.96 | 9.64 | 9.82 | 9.75 | 9.00 | 10.22 | 9.91 |
| **Mg#** | 34 | 28 | 34 | 28 | 31 | 34 | 33 | 26 | 31 | 35 | 35 | 31 | 24 | 32 | 34 | 34 | 30 |
| **Na2O/K2O** | 1.19 | 0.99 | 0.94 | 1.07 | 1.10 | 0.98 | 1.75 | 1.43 | 0.95 | 1.05 | 1.00 | 1.04 | 1.09 | 1.23 | 1.75 | 0.95 | 0.97 |
| **TZr** | 814 | 828 | 801 | 805 | 801 | 812 | 813 | 806 | 807 | 803 | 805 | 801 | 798 | 803 | 806 | 800 | 800 |
| **DI** | 96 | 96 | 96 | 96 | 95 | 96 | 95 | 95 | 96 | 96 | 95 | 96 | 96 | 96 | 95 | 97 | 96 |
| **Trace element (ppm)** | | | | | | | | | | | | | | | | | |
| **Sc** | 1.8 | 2.5 | 1.7 | 1.5 | 1.5 | 2.1 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | 1.7 | 1.5 | 1.4 | 1.8 | 1.9 | 1.4 |
| **V** | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 4 | 2 | 2 |
| **Cr** | 0.1 | 0.7 | 0.1 | 1.6 | 0.1 | 1.6 | 1.2 | 2.5 | 1.7 | 0.0 | 0.8 | 0.0 | 0.0 | 0.1 | 0.2 | 5.2 | 0.0 |
| **Co** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Ni** | 0.5 | 0.4 | 0.4 | 0.7 | 0.5 | 0.8 | 1.0 | 1.5 | 1.0 | 0.5 | 0.7 | 0.5 | 0.2 | 0.5 | 0.7 | 2.4 | 0.3 |
| **Ga** | 17.7 | 23.3 | 15.7 | 15.9 | 15.3 | 17.7 | 18.0 | 17.3 | 16.4 | 15.8 | 15.9 | 15.5 | 15.8 | 15.4 | 15.8 | 16.9 | 15.7 |
| **Rb** | 103 | 164 | 113 | 114 | 100 | 140 | 82 | 95 | 121 | 105 | 114 | 105 | 108 | 98 | 71 | 125 | 115 |
| **Sr** | 101 | 128 | 87 | 82 | 85 | 96 | 125 | 106 | 98 | 90 | 91 | 82 | 95 | 110 | 104 | 90 | 91 |
| **Y** | 19.8 | 23.8 | 16.7 | 15.9 | 15.2 | 17.6 | 19.2 | 18.6 | 17.1 | 16.4 | 16.9 | 16.9 | 15.7 | 13.9 | 17.1 | 18.9 | 15.8 |
| **Zr** | 208 | 242 | 181 | 190 | 181 | 205 | 206 | 192 | 193 | 186 | 190 | 181 | 175 | 186 | 191 | 179 | 179 |
| **Nb** | 34.5 | 40.8 | 32.9 | 33.3 | 33.3 | 36.0 | 36.8 | 36.4 | 35.6 | 33.6 | 34.1 | 34.6 | 34.0 | 33.6 | 34.3 | 33.8 | 33.4 |
| **Ba** | 754 | 1126 | 691 | 556 | 576 | 718 | 437 | 541 | 680 | 681 | 829 | 706 | 599 | 448 | 502 | 780 | 686 |
| **La** | 57.5 | 68.2 | 44.4 | 43.1 | 41.6 | 48.2 | 44.9 | 45.1 | 44.0 | 43.9 | 46.1 | 46.6 | 38.7 | 37.8 | 41.9 | 50.9 | 48.6 |
| **Ce** | 117.0 | 141.1 | 88.4 | 88.8 | 79.5 | 101.7 | 84.3 | 84.2 | 86.1 | 86.0 | 83.1 | 80.2 | 59.1 | 65.4 | 80.1 | 92.6 | 68.5 |
| **Pr** | 12.26 | 14.71 | 9.34 | 9.11 | 8.64 | 10.51 | 9.51 | 9.52 | 9.34 | 9.31 | 9.72 | 9.93 | 6.66 | 6.78 | 8.09 | 10.99 | 8.41 |
| **Nd** | 37.9 | 45.4 | 28.7 | 28.1 | 26.5 | 32.1 | 29.2 | 29.0 | 28.6 | 28.6 | 30.0 | 31.1 | 20.2 | 20.6 | 25.0 | 33.9 | 26.2 |
| **Sm** | 4.98 | 5.99 | 3.80 | 3.76 | 3.50 | 4.29 | 3.88 | 3.85 | 3.82 | 3.80 | 3.96 | 4.16 | 2.73 | 2.77 | 3.43 | 4.52 | 3.46 |
| **Eu** | 0.84 | 1.18 | 0.71 | 0.65 | 0.62 | 0.81 | 0.61 | 0.65 | 0.71 | 0.71 | 0.78 | 0.73 | 0.56 | 0.46 | 0.58 | 0.82 | 0.67 |
| **Gd** | 4.48 | 5.51 | 3.44 | 3.42 | 3.15 | 3.91 | 3.53 | 3.58 | 3.51 | 3.47 | 3.59 | 3.67 | 2.54 | 2.56 | 3.13 | 4.08 | 3.16 |
| **Tb** | 0.62 | 0.75 | 0.49 | 0.48 | 0.44 | 0.55 | 0.51 | 0.52 | 0.50 | 0.49 | 0.50 | 0.51 | 0.38 | 0.38 | 0.46 | 0.58 | 0.46 |
| **Dy** | 2.97 | 3.62 | 2.48 | 2.41 | 2.22 | 2.71 | 2.68 | 2.65 | 2.57 | 2.44 | 2.51 | 2.52 | 2.16 | 2.00 | 2.49 | 2.89 | 2.35 |
| **Ho** | 0.64 | 0.79 | 0.55 | 0.53 | 0.49 | 0.58 | 0.61 | 0.59 | 0.57 | 0.54 | 0.55 | 0.55 | 0.51 | 0.46 | 0.57 | 0.62 | 0.53 |
| **Er** | 1.95 | 2.41 | 1.67 | 1.63 | 1.51 | 1.80 | 1.88 | 1.81 | 1.73 | 1.66 | 1.68 | 1.69 | 1.59 | 1.46 | 1.73 | 1.88 | 1.65 |
| **Tm** | 0.43 | 0.56 | 0.38 | 0.37 | 0.35 | 0.41 | 0.44 | 0.41 | 0.40 | 0.38 | 0.39 | 0.38 | 0.38 | 0.34 | 0.40 | 0.42 | 0.39 |
| **Yb** | 2.85 | 3.71 | 2.54 | 2.49 | 2.33 | 2.80 | 2.92 | 2.71 | 2.69 | 2.52 | 2.55 | 2.54 | 2.55 | 2.22 | 2.65 | 2.85 | 2.56 |
| **Lu** | 0.41 | 0.53 | 0.36 | 0.36 | 0.34 | 0.40 | 0.41 | 0.39 | 0.38 | 0.36 | 0.37 | 0.36 | 0.36 | 0.32 | 0.37 | 0.41 | 0.37 |
| **Hf** | 6.16 | 7.48 | 5.48 | 5.63 | 5.53 | 6.26 | 6.15 | 5.92 | 5.91 | 5.67 | 5.90 | 5.57 | 5.48 | 5.66 | 5.82 | 5.77 | 5.67 |
| **Ta** | 2.40 | 3.00 | 2.24 | 2.19 | 2.24 | 2.50 | 2.51 | 2.47 | 2.44 | 2.36 | 2.31 | 2.42 | 2.36 | 2.18 | 2.37 | 2.42 | 2.34 |
| **Pb** | 17.64 | 39.75 | 17.49 | 16.28 | 13.77 | 28.52 | 12.79 | 13.51 | 18.32 | 16.81 | 17.85 | 16.27 | 14.48 | 11.06 | 12.80 | 23.90 | 16.82 |
| **Th** | 27.70 | 35.95 | 23.43 | 24.63 | 22.48 | 28.41 | 24.12 | 24.63 | 25.67 | 23.54 | 24.03 | 22.74 | 20.98 | 19.13 | 22.29 | 26.67 | 21.00 |
| **U** | 1.99 | 3.53 | 2.07 | 2.94 | 1.74 | 2.70 | 1.86 | 2.09 | 2.82 | 1.69 | 2.03 | 1.67 | 2.13 | 1.74 | 1.60 | 2.30 | 1.81 |
| **∑REE** | 244.85 | 294.39 | 187.33 | 185.24 | 171.16 | 210.70 | 185.36 | 184.97 | 184.92 | 184.13 | 185.84 | 184.94 | 138.44 | 143.56 | 170.91 | 207.43 | 167.26 |
| **(La/Yb)N** | 14.46 | 13.20 | 12.53 | 12.45 | 12.79 | 12.33 | 11.04 | 11.93 | 11.72 | 12.48 | 13.00 | 13.2 | 10.87 | 12.17 | 11.35 | 12.79 | 13.64 |
| **Eu/Eu\*** | 0.55 | 0.63 | 0.60 | 0.55 | 0.57 | 0.60 | 0.50 | 0.54 | 0.60 | 0.59 | 0.63 | 0.57 | 0.64 | 0.53 | 0.54 | 0.59 | 0.62 |
|  | | | | | | | | | | | | | | | | | |
| **Sr-Nd-Pb isotope compositions** | | | | | | | | | | | | | | | | | |
| **87Rb/86Sr** | 2.97 |  | 3.77 |  | 3.42 |  | 1.90 |  | 3.61 |  | 3.63 |  | 3.29 |  | 1.99 |  | 3.62 |
| **(87Sr/86Sr)m** | 0.7120 |  | 0.7123 |  | 0.7124 |  | 0.7084 |  | 0.7124 |  | 0.7121 |  | 0.7122 |  | 0.7108 |  | 0.7124 |
| **2SE** | 14 |  | 5 |  | 6 |  | 6 |  | 7 |  | 6 |  | 8 |  | 10 |  | 8 |
| **(87Sr/86Sr)i** | 0.7089 |  | 0.7083 |  | 0.7088 |  | 0.7064 |  | 0.7086 |  | 0.7083 |  | 0.7087 |  | 0.7087 |  | 0.7086 |
| **147Sm/144Nd** | 0.0794 |  | 0.0799 |  | 0.0800 |  | 0.0805 |  | 0.0807 |  | 0.0796 |  | 0.0816 |  | 0.0829 |  | 0.0800 |
| **(143Nd/144Nd)m** | 0.512457 |  | 0.512476 |  | 0.512481 |  | 0.512317 |  | 0.512455 |  | 0.512472 |  | 0.512483 |  | 0.512438 |  | 0.512295 |
| **2SE** | 22 |  | 16 |  | 13 |  | 13 |  | 18 |  | 8 |  | 49 |  | 18 |  | 6 |
| **εNd(t)** | -2.42 |  | -2.06 |  | -1.96 |  | -5.17 |  | -2.47 |  | -2.13 |  | -1.94 |  | -2.83 |  | -5.59 |
| **(143Nd/144Nd)i** | 0.512419 |  | 0.512437 |  | 0.512442 |  | 0.512278 |  | 0.512416 |  | 0.512433 |  | 0.512443 |  | 0.512398 |  | 0.512256 |
| **TDM/Ga** | 0.79 |  | 0.77 |  | 0.76 |  | 0.95 |  | 0.80 |  | 0.77 |  | 0.77 |  | 0.83 |  | 0.97 |
| **T2DM/Ga** | 1.10 |  | 1.07 |  | 1.07 |  | 1.33 |  | 1.11 |  | 1.08 |  | 1.06 |  | 1.13 |  | 1.36 |
| **206Pb/204Pb** | 18.852 |  | 18.833 |  | 18.885 |  | 18.896 |  | 18.850 |  | 18.784 |  | 18.856 |  | 18.857 |  | 18.794 |
| **2SE** | 7 |  | 6 |  | 6 |  | 7 |  | 6 |  | 14 |  | 32 |  | 16 |  | 4 |
| **207Pb/204Pb** | 15.707 |  | 15.705 |  | 15.708 |  | 15.713 |  | 15.705 |  | 15.695 |  | 15.698 |  | 15.711 |  | 15.705 |
| **2SE** | 6 |  | 6 |  | 5 |  | 7 |  | 6 |  | 13 |  | 28 |  | 13 |  | 5 |
| **208Pb/204Pb** | 39.619 |  | 39.517 |  | 39.643 |  | 39.663 |  | 39.459 |  | 39.397 |  | 39.458 |  | 39.597 |  | 39.444 |
| **2SE** | 16 |  | 17 |  | 16 |  | 16 |  | 15 |  | 33 |  | 73 |  | 35 |  | 14 |
| **(206Pb/204Pb)t** | 18.843 |  | 18.823 |  | 18.875 |  | 18.884 |  | 18.837 |  | 18.774 |  | 18.844 |  | 18.847 |  | 18.793 |
| **(207Pb/204Pb)t** | 15.706 |  | 15.705 |  | 15.708 |  | 15.713 |  | 15.705 |  | 15.695 |  | 15.698 |  | 15.710 |  | 15.704 |
| **(208Pb/204Pb)t** | 39.578 |  | 39.482 |  | 39.600 |  | 39.613 |  | 39.422 |  | 39.362 |  | 39.420 |  | 39.551 |  | 39.411 |

LOI=loss on ignition; Mg#=100×Mg2+/(Mg2++TFe2+); A/CNK=molecular Al2O3/(CaO+Na2O+K2O). A/NK=molecular Al2O3/(Na2O+K2O); Eu/Eu\*=2\*EuN/(SmN+GdN), the subscript of *N* means normalized to chondrite. *m* measured isotopic ratios; *t*, age–corrected initial isotopic ratios. εNd*(t)* are initial values; (CHUR=chondritic uniform reservoir), TDM represents the age of crustal material separated from depleted mantle,TDM2 represents the two-stage Nd depleted-mantle model age. (87Sr/86Sr)i=(87Sr/86Sr)m−(87Rb/86Sr)×(eλT–1), λRb–Sr=0.0142 Ga-1, 87Rb/86Sr=(Rb/Sr)×2.8956. (143Nd/144Nd)i=(143Nd/144Nd)m−(147Sm/144Nd)×(eλT–1), λSm–Nd=0.00654 Ga-1, 147Sm/144Nd=(Sm/Nd)×0.60456. εNd(t)=[(143Nd/144Nd)Sample(t) /(143Nd/144Nd)CHUR(t)–1]×104, (143Nd/144Nd)CHUR(T)=0.512638–0.1967×(ελt–1). TDM=1/λSm–Nd×ln {1+ [((143Nd/144Nd)m−0.51315) / ((147Sm/144Nd)Sample–0.2137)]}. TZr, Zirconium temperature (Watson and Harrison, 1983). DI, differentiation index.