表5.3 葛藤岭岩体主微量元素组成

Table 5.3 Major and trace elements compositions of the Getengling pluton

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | SZT01 | SZT02 | SZT05 | SZT06 | SZT07 | SZT09 | SZT11 | SZT12 | GSR-1 (Standard) | | DL |
| Test | SV |
| SiO2 | 68.28 | 68.36 | 69.28 | 70.02 | 67.82 | 65.97 | 68.70 | 68.89 | 72.77 | 72.830 | 0.01 |
| TiO2 | 0.57 | 0.54 | 0.53 | 0.51 | 0.56 | 0.66 | 0.52 | 0.53 | 0.29 | 0.290 | 0.001 |
| Al2O3 | 15.12 | 15.40 | 14.89 | 14.20 | 15.10 | 16.29 | 15.43 | 15.13 | 13.44 | 13.400 | 0.01 |
| (Fe2O3)T | 5.19 | 4.92 | 4.83 | 4.67 | 5.33 | 5.38 | 4.86 | 4.86 | 2.13 | 2.140 | 0.01 |
| MnO | 0.09 | 0.07 | 0.06 | 0.07 | 0.08 | 0.08 | 0.05 | 0.07 | 0.07 | 0.060 | 0.001 |
| MgO | 1.54 | 1.53 | 1.56 | 1.39 | 1.61 | 1.58 | 1.45 | 1.49 | 0.44 | 0.420 | 0.01 |
| CaO | 1.03 | 1.14 | 0.89 | 1.11 | 1.25 | 0.78 | 0.65 | 1.43 | 1.47 | 1.550 | 0.01 |
| Na2O | 2.16 | 2.35 | 2.32 | 2.52 | 2.41 | 2.55 | 2.32 | 2.47 | 3.46 | 3.130 | 0.1 |
| K2O | 4.01 | 3.90 | 3.76 | 3.48 | 3.98 | 4.44 | 3.50 | 3.64 | 5.05 | 5.010 | 0.01 |
| P2O5 | 0.12 | 0.11 | 0.11 | 0.12 | 0.12 | 0.12 | 0.12 | 0.11 | 0.12 | 0.093 | 0.001 |
| LOI | 1.71 | 1.54 | 1.68 | 1.37 | 1.48 | 2.06 | 2.09 | 1.43 |  |  |  |
| Total | 99.82 | 99.86 | 99.91 | 99.45 | 99.74 | 99.93 | 99.68 | 100.04 |  |  |  |
| A/NK | 1.91 | 1.90 | 1.89 | 1.80 | 1.83 | 1.81 | 2.03 | 1.89 |  |  |  |
| A/CNK | 1.55 | 1.51 | 1.57 | 1.43 | 1.43 | 1.56 | 1.75 | 1.43 |  |  |  |
| CaO/Na2O | 0.48 | 0.48 | 0.38 | 0.44 | 0.52 | 0.31 | 0.28 | 0.58 |  |  |  |
| Al2O3/TiO2 | 26.73 | 28.62 | 28.20 | 27.97 | 27.00 | 24.70 | 29.85 | 28.62 |  |  |  |
| TiO2+Fe2O3+MgO | 7.42 | 7.10 | 7.03 | 6.66 | 7.61 | 7.78 | 6.97 | 6.97 |  |  |  |
| Na2O+K2O | 6.28 | 6.36 | 6.18 | 6.08 | 6.48 | 7.14 | 5.94 | 6.19 |  |  |  |
| FeOt/(FeOt+MgO) | 0.75 | 0.74 | 0.74 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Sc | 11.20 | 12.17 | 13.29 | 12.07 | 13.14 | 14.70 | 11.18 | 12.42 | 6.448 | 6.1 | 25.6 |
| V | 53.80 | 54.51 | 61.44 | 56.46 | 59.71 | 76.74 | 54.62 | 58.54 | 24.38 | 24 | 5.1 |
| Cr | 44.90 | 40.15 | 51.32 | 47.79 | 46.13 | 63.78 | 47.63 | 47.09 | 4.621 | 5 | 99 |
| Co | 8.10 | 8.59 | 10.76 | 11.45 | 9.17 | 7.64 | 9.71 | 8.85 | 3.56 | 3.4 | 1.5 |
| Ni | 16.68 | 18.70 | 18.19 | 16.31 | 17.02 | 24.26 | 16.28 | 17.80 | 2.375 | 2.3 | 27.6 |
| Cu | 20.53 | 23.99 | 35.25 | 35.64 | 26.20 | 109.60 | 25.13 | 31.15 | 3.288 | 3.2 | 8.5 |
| Zn | 87.16 | 73.06 | 74.82 | 59.80 | 74.00 | 63.90 | 60.44 | 67.93 | 27.74 | 28 | 52 |
| Ga | 17.23 | 19.00 | 19.11 | 17.31 | 18.23 | 21.94 | 18.10 | 18.88 | 19.26 | 19 | 0.5 |
| Ge | 2.53 | 2.54 | 2.72 | 2.46 | 2.45 | 2.66 | 2.62 | 2.71 | 2.429 | 2 | 2.8 |
| Rb | 179.70 | 193.00 | 204.20 | 182.80 | 208.00 | 200.70 | 168.30 | 190.70 | 472.1 | 466 | 1.3 |
| Sr | 50.57 | 56.63 | 47.84 | 49.92 | 51.48 | 54.57 | 40.58 | 63.45 | 105.1 | 106 | 0.3 |
| Y | 25.33 | 26.63 | 34.40 | 30.94 | 31.49 | 33.25 | 33.92 | 32.69 | 62.57 | 62 | 0.4 |
| Zr | 149.00 | 49.41 | 176.20 | 170.40 | 172.20 | 202.10 | 152.60 | 172.90 | 165.4 | 167 | 11.3 |
| Nb | 9.08 | 9.82 | 9.58 | 9.19 | 9.29 | 12.23 | 8.79 | 9.22 | 39.18 | 40 | 10.1 |
| Cs | 11.40 | 13.31 | 14.85 | 12.68 | 15.75 | 7.40 | 9.55 | 15.48 | 38.44 | 38.4 | 0.3 |
| Ba | 353.40 | 345.90 | 366.90 | 310.30 | 350.90 | 445.70 | 353.20 | 365.20 | 345.5 | 313 | 6.8 |
| La | 25.03 | 26.56 | 34.78 | 27.63 | 28.18 | 24.52 | 31.80 | 28.15 | 53.72 | 54 | 0.5 |
| Ce | 56.57 | 60.17 | 73.46 | 57.94 | 60.32 | 54.37 | 68.26 | 61.03 | 107.9 | 108 | 0.5 |
| Pr | 6.68 | 6.93 | 8.96 | 7.35 | 7.44 | 6.84 | 8.51 | 7.44 | 12.97 | 12.7 | 0.2 |
| Nd | 25.57 | 26.27 | 34.19 | 28.04 | 28.45 | 27.03 | 32.90 | 28.34 | 46.45 | 47 | 0.4 |
| Sm | 5.42 | 5.54 | 7.21 | 6.06 | 6.12 | 6.17 | 6.89 | 6.09 | 9.865 | 9.7 | 0.8 |
| Eu | 0.78 | 0.92 | 1.16 | 0.91 | 0.99 | 1.01 | 1.04 | 1.02 | 0.821 | 0.85 | 0.9 |
| Gd | 5.03 | 5.26 | 6.69 | 5.66 | 5.71 | 5.86 | 6.40 | 5.75 | 9.206 | 9.3 | 0.6 |
| Tb | 0.86 | 0.90 | 1.14 | 1.00 | 1.01 | 1.06 | 1.11 | 1.02 | 1.636 | 1.65 | 0.1 |
| Dy | 5.23 | 5.46 | 6.75 | 6.04 | 6.04 | 6.67 | 6.59 | 6.31 | 10.29 | 10.2 | 0.3 |
| Ho | 1.08 | 1.13 | 1.37 | 1.24 | 1.28 | 1.41 | 1.37 | 1.35 | 2.212 | 2.05 | 0.1 |
| Er | 2.97 | 3.12 | 3.68 | 3.44 | 3.52 | 3.93 | 3.75 | 3.72 | 6.573 | 6.5 | 0.2 |
| Tm | 0.45 | 0.46 | 0.54 | 0.50 | 0.52 | 0.60 | 0.54 | 0.55 | 1.076 | 1.06 | 0.1 |
| Yb | 2.86 | 2.86 | 3.42 | 3.25 | 3.36 | 3.89 | 3.43 | 3.55 | 7.481 | 7.4 | 0.3 |
| Lu | 0.43 | 0.41 | 0.52 | 0.49 | 0.50 | 0.54 | 0.51 | 0.54 | 1.161 | 1.15 | 0.1 |
| Hf | 4.48 | 1.81 | 5.27 | 5.04 | 5.04 | 5.96 | 4.56 | 5.23 | 6.264 | 6.3 | 0.3 |
| Ta | 0.92 | 0.91 | 0.93 | 0.94 | 0.88 | 1.07 | 0.80 | 0.85 | 7.217 | 7.2 | 0.7 |
| Pb | 22.84 | 18.90 | 23.46 | 18.75 | 17.52 | 8.26 | 18.33 | 23.18 | 32.21 | 31 | 10.9 |
| Th | 13.24 | 12.37 | 12.61 | 12.31 | 12.72 | 16.91 | 14.41 | 13.63 | 54.88 | 54 | 0.3 |
| U | 2.87 | 2.29 | 2.73 | 2.61 | 2.35 | 2.43 | 2.51 | 2.62 | 19.03 | 18.8 | 0.4 |
| Eu\* | 0.46 | 0.52 | 0.51 | 0.48 | 0.51 | 0.51 | 0.48 | 0.53 |  |  |  |
| Ce\* | 1.05 | 1.07 | 1.00 | 0.98 | 1.00 | 1.01 | 1.00 | 1.01 |  |  |  |
| TZr (°C) | 812 | 718 | 829 | 820 | 818 | 838 | 824 | 819 |  |  |  |
| Rb/Sr | 3.55 | 3.41 | 4.27 | 3.66 | 4.04 | 3.68 | 4.15 | 3.01 |  |  |  |
| Rb/Ba | 0.51 | 0.56 | 0.56 | 0.59 | 0.59 | 0.45 | 0.48 | 0.52 |  |  |  |
| (La/Yb)N | 6.27 | 6.67 | 7.29 | 6.11 | 6.02 | 4.53 | 6.65 | 5.68 |  |  |  |
| SV and DL mean stand values and detection limits, respectively.  The calculation of A/NK, A/CNK, CaO/Na2O, Al2O3/TiO2, TiO2+Fe2O3+MgO and Na2O+K2O are based on the major oxides whose total values are recalculated to 100%.  TZr=12900/(2.95+0.85×M+lnDZr, zircon/melt) (Watson and Harrison, 1983), where DZr, zircon/melt is the ratio of Zr concentrations (ppm) in zircon to that in the saturated melt, M=cation ratio (Na+K+2×Ca)/(Al×Si). The geothermometer is calibrated for M=0.9 to 1.7. | | | | | | | | |  |  |  |