Table A1. Electron microprobe analysis of the magmatic, metamorphic and hydrothermal K-feldspars and the magmatic plagioclase in the Xiaoqinling area.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mineral | Sample No. | Range | SiO2 | TiO2 | Al2O3 | FeO | MgO | MnO | CaO | Na2O | K2O | P2O5 | Total (wt.%) | Ab | An | Or |
| H-Kfs | DH365-2 | Max | 64.04 | 0.04 | 18.59 | 0.10 | 0.01 | 0.03 | 0.02 | 0.47 | 16.82 | 0.05 | 99.80 | 4.20 | 0.08 | 97.77 |
| (7) | Min | 61.85 | - | 18.12 | - | - | - | - | 0.25 | 16.39 | - | 97.36 | 2.23 | 0.00 | 95.80 |
| DH365-3 | Max | 64.36 | 0.02 | 18.75 | 0.06 | 0.01 | - | - | 0.36 | 16.61 | 0.03 | 99.85 | 3.96 | 0.01 | 97.04 |
| (4) | Min | 63.12 | - | 18.23 | - | - | - | - | 0.31 | 16.10 | - | 98.75 | 2.96 | 0.00 | 96.04 |
| DH400-2 | Max | 63.64 | 0.02 | 18.77 | 0.03 | 0.01 | 0.04 | - | 1.03 | 16.59 | 0.03 | 99.55 | 9.14 | 0.01 | 96.51 |
| (4) | Min | 61.40 | - | 18.21 | - | - | - | - | 0.39 | 15.54 | - | 96.73 | 3.49 | 0.00 | 90.86 |
| DH470-8 | Max | 64.61 | 0.04 | 18.98 | 0.08 | 0.02 | 0.02 | - | 0.44 | 16.77 | 0.06 | 100.53 | 3.23 | 0.01 | 97.25 |
| (2) | Min | 64.41 | 0.02 | 18.81 | 0.08 | 0.02 | 0.01 | - | 0.42 | 16.69 | 0.03 | 100.42 | 2.75 | 0.00 | 96.77 |
| M-Kfs | DH365-2 | Max | 64.24 | 0.02 | 18.75 | 0.07 | - | 0.02 | 0.03 | 0.56 | 16.61 | 0.04 | 100.19 | 4.86 | 0.13 | 97.06 |
| (6) | Min | 62.40 | - | 18.31 | - | - | - | - | 0.33 | 16.13 | - | 97.73 | 2.93 | 0.00 | 95.12 |
| DH365-3 | Max | 64.16 | 0.04 | 19.08 | 0.06 | - | 0.01 | 0.02 | 0.53 | 16.66 | 0.01 | 100.15 | 4.79 | 0.09 | 97.12 |
| (5) | Min | 63.18 | - | 18.79 | - | - | - | - | 0.33 | 16.06 | - | 98.87 | 2.88 | 0.00 | 95.16 |
| DH400-2 | Max | 62.94 | 0.05 | 18.89 | 0.06 | 0.01 | 0.03 | 0.01 | 0.93 | 16.48 | 0.05 | 98.55 | 8.48 | 0.03 | 96.04 |
| (6) | Min | 61.68 | - | 18.43 | - | - | - | - | 0.44 | 15.31 | - | 97.16 | 3.96 | 0.00 | 91.52 |
| DH435-4 | Max | 64.27 | 0.03 | 19.03 | 0.08 | 0.01 | 0.02 | 0.01 | 0.73 | 16.61 | 0.05 | 99.90 | 6.61 | 0.06 | 97.53 |
| (3) | Min | 64.08 | - | 18.75 | 0.02 | - | - | - | 0.28 | 15.75 | 0.01 | 99.78 | 2.47 | 0.00 | 93.38 |
| DH470-3 | Max | 65.22 | 0.04 | 19.22 | 0.01 | - | 0.05 | - | 0.56 | 16.47 | 0.03 | 101.14 | 4.90 | 0.00 | 95.85 |
| (3) | Min | 64.59 | - | 19.01 | - | - | - | - | 0.47 | 16.34 | - | 100.81 | 4.15 | 0.00 | 95.10 |
| DH470-8 | Max | 63.35 | 0.03 | 18.56 | 0.04 | 0.01 | - | - | 0.43 | 16.14 | 0.08 | 98.81 | 3.92 | 0.00 | 96.21 |
| (2) | Min | 62.36 | - | 18.29 | 0.02 | - | - | - | 0.42 | 15.89 | 0.01 | 97.24 | 3.79 | 0.00 | 96.08 |

Table A1. (Continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| K-feldspar | Sample No. | Range | SiO2 | TiO2 | Al2O3 | FeO | MgO | MnO | CaO | Na2O | K2O | P2O5 | Total (wt.%) | Ab | An | Or |
| M-Kfs | DH505-4 | Max | 66.59 | 0.03 | 19.26 | 0.05 | 0.01 | 0.01 | 0.02 | 0.42 | 16.64 | 0.05 | 103.01 | 3.68 | 0.09 | 96.92 |
| (4) | Min | 64.38 | - | 18.87 | 0.01 | - | - | - | 0.35 | 16.37 | - | 100.10 | 3.08 | 0.00 | 96.23 |
| DH540-4 | Max | 65.79 | 0.02 | 19.43 | 0.09 | - | - | 0.04 | 0.48 | 16.64 | 0.08 | 102.34 | 4.29 | 0.21 | 96.75 |
| (6) | Min | 63.60 | - | 19.02 | - | - | - | - | 0.36 | 16.07 | - | 99.56 | 3.21 | 0.00 | 95.50 |
| H-Kfs | CE800-1 | Max | 64.37 | 0.02 | 19.15 | 0.06 | - | 0.04 | 0.06 | 0.48 | 16.61 | 0.03 | 100.48 | 4.28 | 0.28 | 97.48 |
| (4) | Min | 63.43 | - | 18.68 | - | - | - | - | 0.28 | 16.26 | - | 98.94 | 2.50 | 0.00 | 95.44 |
| CE800-2 | Max | 65.39 | - | 19.21 | 0.05 | - | 0.01 | - | 0.37 | 16.64 | 0.02 | 101.53 | 3.36 | 0.00 | 97.37 |
| (3) | Min | 63.38 | - | 18.61 | - | - | - | - | 0.30 | 16.19 | - | 98.78 | 2.63 | 0.00 | 96.64 |
| CE800-5 | Max | 64.64 | 0.05 | 19.12 | 0.46 | 0.01 | 0.03 | 0.02 | 0.38 | 16.60 | 0.05 | 100.65 | 3.43 | 0.11 | 97.17 |
| (6) | Min | 63.51 | 0.01 | 18.27 | 0.04 | - | - | - | 0.32 | 16.19 | - | 99.20 | 2.83 | 0.00 | 96.50 |
| M-Kfs | CE800-4 | Max | 65.14 | 0.04 | 19.39 | 0.07 | 0.01 | 0.02 | - | 0.39 | 16.46 | 0.12 | 100.85 | 3.55 | 0.00 | 97.73 |
| (4) | Min | 63.28 | - | 18.88 | - | - | - | - | 0.25 | 16.07 | - | 98.96 | 2.27 | 0.00 | 96.45 |
| CE800-5 | Max | 63.81 | 0.02 | 19.09 | - | 0.02 | - | - | 0.37 | 16.16 | 0.02 | 99.45 | 3.36 | 0.00 | 97.03 |
| (2) | Min | 62.39 | 0.01 | 18.45 | - | - | - | - | 0.31 | 15.56 | - | 96.78 | 2.97 | 0.00 | 96.64 |
| H-Kfs | FC1000-7 | Max | 62.88 | 0.04 | 18.84 | 0.32 | 0.17 | 0.02 | - | 1.16 | 16.20 | 0.04 | 98.01 | 10.36 | 0.02 | 94.82 |
| (6) | Min | 60.53 | - | 17.79 | - | - | - | - | 0.58 | 15.22 | - | 95.01 | 5.18 | 0.00 | 89.62 |
| FC540-1 | Max | 63.59 | 0.01 | 19.08 | 0.05 | - | 0.01 | - | 0.82 | 16.43 | 0.02 | 99.46 | 7.19 | 0.00 | 96.88 |
| (3) | Min | 62.33 | - | 19.00 | 0.01 | - | 0.01 | - | 0.35 | 16.00 | - | 98.06 | 3.12 | 0.00 | 92.81 |
| M-Kfs | FC1000-7 | Max | 61.65 | 0.05 | 18.26 | 0.04 | 0.01 | 0.03 | 0.03 | 0.83 | 16.11 | 0.06 | 96.89 | 7.31 | 0.15 | 95.30 |
| (6) | Min | 60.88 | - | 17.91 | - | - | - | - | 0.52 | 15.64 | - | 95.70 | 4.70 | 0.00 | 92.58 |

Table A1. (Continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| K-feldspar | Sample No. | Range | SiO2 | TiO2 | Al2O3 | FeO | MgO | MnO | CaO | Na2O | K2O | P2O5 | Total | Ab | An | Or |
| M-Kfs | FC540-1 | Max | 63.09 | 0.04 | 18.88 | - | - | - | - | 0.40 | 16.61 | 0.01 | 98.78 | 3.62 | 0.00 | 97.13 |
| (3) | Min | 62.63 | - | 18.74 | - | - | - | - | 0.32 | 16.09 | - | 98.01 | 2.87 | 0.00 | 96.38 |
| G-Kfs | WY-1 | Max | 64.01 | 0.03 | 19.17 | 0.13 | - | - | 0.02 | 0.82 | 15.68 | 0.03 | 99.55 | 7.51 | 0.08 | 94.21 |
| (3) | Min | 62.95 | 0.01 | 18.49 | 0.06 | - | - | - | 0.63 | 15.36 | - | 97.95 | 5.72 | 0.00 | 92.42 |
| WY-2 | Max | 64.03 | 0.06 | 19.15 | 0.07 | - | 0.01 | 0.05 | 0.85 | 15.93 | 0.03 | 99.44 | 7.70 | 0.25 | 94.10 |
| (6) | Min | 62.27 | - | 18.90 | 0.03 | - | - | - | 0.64 | 15.21 | - | 97.49 | 5.83 | 0.00 | 92.26 |
| NNS-1 | Max | 64.49 | 0.02 | 18.77 | 0.09 | 0.02 | 0.04 | 0.01 | 0.73 | 15.87 | 0.03 | 99.89 | 6.51 | 0.06 | 94.72 |
| (4) | Min | 62.16 | - | 18.30 | - | - | - | - | 0.58 | 15.74 | - | 97.00 | 5.28 | 0.00 | 93.43 |
| Plagioclase | WY-1 | Max | 61.00 | 0.02 | 26.09 | 0.14 | - | 0.01 | 6.61 | 8.48 | 0.25 | 0.02 | 99.47 | 73.94 | 31.00 | 1.43 |
| (2) | Min | 57.80 | - | 24.44 | 0.14 | - | - | 5.11 | 7.98 | 0.23 | - | 98.87 | 67.72 | 24.62 | 1.28 |
| WY-2 | Max | 63.28 | 0.01 | 25.27 | 0.09 | - | 0.04 | 6.37 | 9.89 | 0.28 | 0.38 | 99.57 | 83.82 | 30.31 | 1.56 |
| (2) | Min | 59.11 | - | 22.87 | 0.08 | - | 0.02 | 3.12 | 7.98 | 0.17 | - | 99.40 | 68.72 | 14.61 | 0.96 |
| NNS-1 | Max | 67.24 | 0.03 | 20.22 | 0.07 | - | - | 0.32 | 12.01 | 0.07 | 0.04 | 99.47 | 99.27 | 1.51 | 0.39 |
| (2) | Min | 66.31 | - | 19.60 | 0.02 | - | - | 0.10 | 11.52 | 0.05 | 0.02 | 98.18 | 98.10 | 0.46 | 0.27 |

“-”: below detection limit