Adjusted Major oxides (in wt %) element data of Bhatwari gneiss used for computing the isometric log-ratio transformations

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | BGN 26/1A | BGN 26/1B | BGN 26/2 | BGN 26/3 | BGN 26/4 |
|  |  |  |  |  |  |
| SiO2 A | 67.03 | 49.16 | 57.79 | 72.87 | 67.78 |
| TiO2 A | 0.49 | 0.60 | 0.47 | 0.15 | 0.34 |
| Al2O3 A | 14.50 | 26.75 | 19.24 | 14.01 | 15.26 |
| Fe2O3T A | 8.38 | 14.47 | 8.37 | 3.48 | 5.24 |
| MnO A | 0.03 | 0.02 | 0.05 | 0.02 | 0.03 |
| MgO A | 0.52 | 2.30 | 1.21 | 0.14 | 0.76 |
| CaO A | 1.39 | 0.32 | 4.34 | 0.60 | 2.28 |
| Na2O A | 2.15 | 1.55 | 6.66 | 2.77 | 3.27 |
| K2O A | 5.63 | 4.94 | 2.06 | 6.25 | 5.26 |
| P2O5 A | 0.21 | 0.10 | 0.41 | 0.11 | 0.16 |

Discriminant-function equations for the five new multi-dimensional discrimination diagrams for major elements.

|  |  |  |  |
| --- | --- | --- | --- |
| Fig. no. type \* | | Equations | |
| Fig. 5a  (IA+CA-CR+OI-Col)  (1+2-3+4-5) | |  | |
| Fig. 5b  (1-2-3+4)  (IA-CA-CR+OI) | |  | |
| Continues | | | |
|  | | | |
| Figure no.  type | | | Equations |
| Fig. 5c  (1-2-5)  (IA-CA-Col) | | |  |
| Fig. 5d  (1-3+4-5)  (IA-CR+OI-Col) | | |  |
|  | | |  |
| Figure no.  type | Equations | | |
| Fig. 5e  (2-3+4-5)  (CA-CR+OI-Col) |  | | |

\* For Fig. 5a, equations 1 and 2 are used to calculate the x- and y-axis variables,  and , respectively, where the subscript macid stands for the major-element (m) based diagram for acid (acid) magmas. Similarly, the remaining pairs of DF1-DF2 equations are used for Fig. 2b to 2e

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | DF1  Fig 5a | DF2 | DF1  Fig 5b | DF2 | DF1  Fig 5c | DF2 | DF1  Fig 5d | DF2 | DF1  Fig 5e | DF2 |
| BGN 26/1A | -4.63 | -0.31 | 5.75 | -3.99 | 2.99 | 4.32 | -4.13 | 1.26 | 1.72 | -2.24 |
| BGN 26/1B | -4.87 | 0.34 | 7.64 | -8.79 | 2.71 | 7.45 | -2.91 | 1.93 | 1.77 | -1.76 |
| BGN 26/2 | -1.30 | -0.56 | 2.44 | -3.13 | 0.06 | 1.40 | -0.76 | 0.19 | -0.58 | 0.78 |
| BGN 26/3 | -4.78 | -1.37 | 5.53 | -2.29 | 3.77 | 3.91 | -4.73 | 0.37 | 1.04 | -2.97 |
| BGN 26/4 | -3.48 | -0.87 | 4.12 | -1.95 | 2.48 | 2.16 | -3.74 | 0.45 | 0.79 | -1.99 |