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 | DF1Fig 5a | DF2 | DF1Fig 5b | DF2 | DF1Fig 5c | DF2 | DF1Fig 5d | DF2 | DF1Fig 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 |