|  |  |  |  |
| --- | --- | --- | --- |
| Element/oxide | Average content | Detection limit( ppm) | Standard deviation (%) |
| P (ppm) | 309.8  | 3 | 4 |
| Ba (ppm) | 495.9  | 6 | 5 |
| Bi (ppm) | 30.9  | 7 | 8 |
| Ce (ppm) | 35.5  | 5 | 6 |
| Co (ppm) | 97.2  | 1 | 7 |
| Cr (ppm) | 88.2  | 1 | 6 |
| Mn (ppm) | 268.6  | 1.5 | 4 |
| Rb (ppm) | 34.4  | 0.5 | 4 |
| Sr (ppm) | 680.9  | 0.5 | 5 |
| Ti (ppm) | 1036.1  | 1 | 3 |
| W (ppm) | 164.2  | 8 | 10 |
| Zr (ppm) | 80.4  | 0.8 | 5 |
| As (ppm) | 18.2  | 3 | 12 |
| Cu (ppm) | 16.3  | 0.6 | 10 |
| Nb (ppm) | 8.8  | 0.6 | 8 |
| Nd (ppm) | 20.6  | 3 | 7 |
| Ni (ppm) | 17.5  | 1 | 9 |
| Hf (ppm) | 1.0  | 1 | 12 |
| La (ppm) | 21.6  | 5 | 6 |
| V (ppm) | 27.3  | 1 | 5 |
| Y (ppm) | 5.4  | 0.6 | 12 |
| Zn (ppm) | 12.3  | 0.6 | 4 |
| Fe2O3 (%) | 1.2  | 1 | 2 |
| SiO2 (%) | 29.7  | 5 | 0.2 |
| Al2O3 (%) | 4.1  | 5 | 1 |
| MgO (%) | 1.6  | 5 | 4 |
| CaO (%) | 36.3  | 3 | 3 |
| Na2O (%) | 1.7  | 5 | 2 |
| K2O (%) | 1.4  | 3 | 2 |

**Supplementary Table 1.** The detection limit and standard deviation for the elements and oxides measured by XRF-method.