**Table S3:** Chemical analyses of major (wt. %), trace and rare earth elements (ppm) of meta-mafic rocks from the eastern Rhodope Massif. Location of the samples in Fig. 1.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sample R1 R2 R3 R4 R5 R6 R7 R8 R9 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rock type grt-amph amph amph amph grt-amph amph amph amph grt-amph

Group High-Ti High-Ti High-Ti High-Ti High-Ti Low-Ti Low-Ti High-Ti High-Ti

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SiO2 | 49.42 | 51.55 | 59.22 | 47.36 | 42.93 | 52.46 | 46.52 | 46.92 | 50.55 |
| TiO2 | 1.81 | 1.24 | 1.04 | 1.82 | 3.76 | 0.72 | 0.58 | 2.52 | 1.61 |
| Al2O3 | 12.97 | 14.83 | 16.29 | 13.86 | 13.04 | 15.42 | 21.59 | 13.13 | 15.43 |
| Fe2O3 | 13.65 | 9.88 | 5.82 | 14.17 | 18.49 | 9.48 | 6.23 | 15.57 | 10.51 |
| MnO | 0.18 | 0.16 | 0.11 | 0.21 | 0.29 | 0.16 | 0.11 | 0.20 | 0.16 |
| MgO | 6.94 | 7.15 | 4.20 | 7.59 | 5.86 | 4.73 | 5.70 | 5.32 | 6.32 |
| CaO | 9.76 | 8.84 | 5.84 | 10.32 | 6.91 | 11.79 | 13.61 | 10.19 | 9.02 |
| Na2O | 2.90 | 4.18 | 6.06 | 2.77 | 1.63 | 1.95 | 1.65 | 2.72 | 3.43 |
| K2O | 0.32 | 0.44 | 0.32 | 0.36 | 0.38 | 0.67 | 0.51 | 0.63 | 0.22 |
| P2O5 | 0.16 | 0.11 | 0.21 | 0.17 | 0.10 | 0.19 | 0.03 | 0.27 | 0.17 |
| Cr2O3 | 0.02 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 | 0.05 | 0.01 | 0.05 |
| NiO | 0.01 | 0.01 | n.d. | 0.01 | n.d. | 0.01 | 0.01 | n.d. | 0.02 |
| LOI | 1.55 | 1.11 | 0.72 | 1.04 | 6.13 | 1.66 | 2.55 | 1.67 | 1.69 |
| Total | 99.67 | 99.52 | 99.84 | 99.71 | 99.54 | 99.25 | 99.13 | 99.14 | 99.18 |
| Nb | 8 | 6 | 5 | 8 | 8 | 5.8 | 1.5 | 8.2 | 10.1 |
| Zr | 106 | 93 | 147 | 100 | 75 | 116 | 18 | 196 | 115 |
| Y | 36 | 29 | 31 | 38 | 30 | 20.9 | 6.7 | 59.1 | 26.5 |
| Ta | 1.40 | 1.18 | 2.04 | 1.30 | 0.79 | 3.71 | 4.04 | 2.18 | 3.34 |
| Rb | 7 | 5 | 5 | 7 | 14 | 14.6 | 15.2 | 8.4 | 8.3 |
| Sr | 92 | 167 | 180 | 120 | 99 | 550 | 216 | 92 | 169 |
| Ba | <9< | 36 | 135 | 20 | 46 | 142 | 83 | 72 | 27 |
| U | 2 | 3 | 3 | 2 | 2 | <2< | <2< | <2< | <2< |
| Th | 4 | 5 | 6 | 4 | 4 | 8 | <2< | 3 | 3 |
| Pb | 21 | 12 | 8 | 14 | 6 | 22 | 6 | 11 | 6 |
| Hf | 5 | 4 | 5 | 4 | 4 | 3.24 | 0.33 | 5.36 | 3.36 |
| Sc | 52 | 40 | 22 | 50 | 108 | n.a. | n.a. | n.a. | n.a. |
| Cr | 111 | 192 | 82 | 201 | 55 | 169 | 315 | 52 | 357 |
| V | 409 | 277 | 167 | 421 | 819 | 232 | 217 | 425 | 240 |
| Ni | 58 | 47 | 35 | 76 | 11 | 58 | 88 | 39 | 173 |
| Ga | 20 | 19 | 14 | 19 | 23 | 19 | 16 | 22 | 17 |
| Zn | 115 | 60 | 31 | 111 | 101 | 165 | 149 | 237 | 131 |
| Cu | 56 | 22 | 12 | 32 | 48 | n.a. | n.a. | n.a. | n.a. |
| Co | 79 | 63 | 58 | 74 | 79 | n.a. | n.a. | n.a. | n.a. |
| La | 3.98 | 4.88 | 12.23 | 5.62 | 2.54 | 19.90 | 0.61 | 9.61 | 7.41 |
| Ce | 11.69 | 13.67 | 27.78 | 13.29 | 8.32 | 36.25 | 1.64 | 23.84 | 18.02 |
| Pr | 1.92 | 1.85 | 3.53 | 2.24 | 1.45 | 4.74 | 0.26 | 4.01 | 2.46 |
| Nd | 11.51 | 10.06 | 16.11 | 13.23 | 9.20 | 22.36 | 1.80 | 23.39 | 14.46 |
| Sm | 4.23 | 2.65 | 3.93 | 4.02 | 3.47 | 4.32 | 0.53 | 7.62 | 4.20 |
| Eu | 1.39 | 1.09 | 1.27 | 1.44 | 1.81 | 1.20 | 0.45 | 2.27 | 1.24 |
| Gd | 6.66 | 3.00 | 4.19 | 6.87 | 5.22 | 4.28 | 1.04 | 9.07 | 4.64 |
| Tb | 1.07 | 0.60 | 0.74 | 1.40 | 0.90 | 0.69 | 0.26 | 1.75 | 0.73 |
| Dy | 8.02 | 4.25 | 5.36 | 8.92 | 6.34 | 4.88 | 1.65 | 12.12 | 5.29 |
| Ho | 1.70 | 0.85 | 0.85 | 1.94 | 1.51 | 0.84 | 0.32 | 2.54 | 1.26 |
| Er | 5.35 | 2.49 | 2.92 | 5.78 | 4.38 | 3.01 | 1.39 | 7.22 | 3.38 |
| Tm | 0.82 | 0.38 | 0.39 | 0.89 | 0.63 | 0.33 | 0.14 | 1.09 | 0.47 |
| Yb | 5.21 | 2.51 | 2.96 | 5.74 | 3.98 | 2.09 | 1.01 | 7.76 | 3.37 |
| Lu | 0.69 | 0.39 | 0.44 | 0.62 | 0.58 | 0.39 | 0.21 | 1.06 | 0.43 |

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Major and trace elements determined by XRF; REE and Ta analyzed by LA-ICP-MS. n.a.= not analyzed;

n.d.= not determined. Abbreviations: grt-amph, garnet-amphibolite; amph, massive/banded amphibolite.

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Sample R10  R11 R12 R13 R14 R15 R16 R17 R18 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rock type d amph grt-amph amph grt-amph amph amph grt-amph amph

Group Low-Ti High-Ti High-Ti Low-Ti High-Ti High-Ti Low-Ti Low-Ti Low-Ti \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SiO2 | 38.98 | 47.65 | 49.07 | 50.72 | 48.64 | 53.35 | 46.81 | 58.96 | 55.26 |
| TiO2 | 0.03 | 1.46 | 1.81 | 0.26 | 1.76 | 1.47 | 0.42 | 0.43 | 0.26 |
| Al2O3 | 1.32 | 15.18 | 13.61 | 15.62 | 13.14 | 16.76 | 15.32 | 12.14 | 15.61 |
| Fe2O3 | 8.01 | 11.33 | 14.35 | 4.78 | 13.84 | 9.29 | 9.68 | 10.89 | 8.24 |
| MnO | 0.11 | 0.23 | 0.22 | 0.13 | 0.23 | 0.21 | 0.17 | 0.31 | 0.16 |
| MgO | 37.32 | 5.90 | 6.18 | 10.69 | 6.47 | 4.72 | 9.95 | 6.23 | 6.61 |
| CaO | 0.05 | 14.61 | 9.02 | 13.06 | 10.31 | 8.04 | 14.40 | 6.26 | 10.17 |
| Na2O | n.d | 1.04 | 3.84 | 2.72 | 2.72 | 3.92 | 1.19 | 2.69 | 1.94 |
| K2O | 0.01 | 0.27 | 0.22 | 0.26 | 0.32 | 0.80 | 0.27 | 0.56 | 0.23 |
| P2O5 | 0.01 | 0.14 | 0.16 | 0.01 | 0.15 | 0.27 | 0.02 | 0.18 | 0.03 |
| Cr2O3 | 0.42 | 0.05 | 0.02 | 0.08 | 0.02 | 0.01 | 0.08 | n.d. | 0.01 |
| NiO | 0.25 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | n.d. | n.d. |
| LOI | 12.56 | 1.58 | 0.84 | 1.77 | 0.79 | 1.38 | 2.06 | 1.16 | 1.81 |
| Total | 99.07 | 99.45 | 99.35 | 100.10 | 98.38 | 100.22 | 100.37 | 99.81 | 100.33 |
| Nb | 10 | 4 | 9 | 0.20 | 8 | 6 | 3 | 7 | 3 |
| Zr | 22 | 98 | 111 | 6 | 99 | 160 | 12 | 22 | 30 |
| Y | 7 | 32 | 36 | 8 | 36 | 43 | 12 | 18 | 13 |
| Ta | n.d | n.d | n.d. | 0.04 | n.d. | 1.37 | 1.24 | 2.48 | 1.76 |
| Rb | 4 | 7 | 6 | 3 | 7 | 16 | 7 | 12 | 4 |
| Sr | 3 | 283 | 105 | 392 | 108 | 297 | 78 | 59 | 100 |
| Ba | 25 | <9< | <9< | 57 | 9 | 529 | <9< | 45 | 28 |
| U | <2< | 2 | <2< | 3 | <2< | 2 | 3 | 2 | <2< |
| Th | <2< | 5 | <2< | 0.08 | 3 | 4 | 4 | 3 | 3 |
| Pb | 5 | 6 | 3 | 2 | <2< | 9 | 24 | 20 | 19 |
| Hf | <1< | 3 | 7 | 0.24 | 3 | 6 | 3 | 4 | 3 |
| Sc | 36 | 29 | 58 | 37 | 58 | 29 | 27 | 42 | 32 |
| Cr | 2756 | 304 | 153 | 483 | 138 | 72 | 472 | 27 | 50 |
| V | 50 | 291 | 433 | 140 | 430 | 201 | 301 | 299 | 226 |
| Ni | 1401 | 139 | 68 | 90 | 54 | 48 | 70 | 9 | 23 |
| Ga | 6 | 20 | 21 | 11 | 21 | 20 | 13 | 12 | 14 |
| Zn | 39 | 69 | 114 | 34 | 126 | 83 | 64 | 87 | 61 |
| Cu | <2< | 106 | 69 | 9 | 67 | 45 | 82 | 9 | 76 |
| Co | 142 | 46 | 50 | 35 | 44 | 62 | 72 | 88 | 88 |
| La | <4< | 8 | 7 | 0.40 | 5 | 11.26 | 0.86 | 1.33 | 1.67 |
| Ce | <3< | 21 | 18 | 1.08 | 21 | 28.48 | 0.87 | 3.25 | 3.61 |
| Pr | n.d. | n.d. | n.d. | 0.22 | n.d. | 4.52 | 0.30 | 0.48 | 0.42 |
| Nd | <4< | 13 | 8 | 1.33 | 14 | 21.73 | 2.05 | 2.46 | 2.30 |
| Sm | n.d. | n.d. | n.d. | 0.50 | n.d. | 6.37 | 0.71 | 0.99 | 0.86 |
| Eu | n.d. | n.d. | n.d. | 0.46 | n.d. | 2.02 | 0.34 | 0.44 | 0.34 |
| Gd | n.d. | n.d. | n.d. | 1.28 | n.d. | 8.58 | 1.11 | 1.80 | 1.50 |
| Tb | n.d. | n.d. | n.d. | 0.23 | n.d. | 1.33 | 0.18 | 0.42 | 0.27 |
| Dy | n.d. | n.d. | n.d. | 1.61 | n.d. | 8.99 | 1.34 | 3.08 | 1.84 |
| Ho | n.d. | n.d. | n.d. | 0.32 | n.d. | 2.08 | 0.31 | 0.62 | 0.38 |
| Er | n.d. | n.d. | n.d. | 0.89 | n.d. | 5.64 | 1.06 | 2.02 | 1.03 |
| Tm | n.d. | n.d. | n.d. | 0.09 | n.d. | 0.85 | 0.12 | 0.25 | 0.22 |
| Yb | n.d. | n.d. | n.d. | 0.99 | n.d. | 5.32 | 1.06 | 2.07 | 1.27 |
| Lu | n.d. | n.d. | n.d. | 0.17 | n.d. | 0.80 | 0.10 | 0.26 | 0.20 |

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Major and trace elements determined by XRF; REE and Ta analyzed by LA-ICP-MS. n.a.= not analyzed;

n.d.= not determined. Abbreviations: d, dunite; grt-amph, garnet-amphibolite; amph, massive/banded

amphibolite.