Appendix Table 3 Trace elements of zircons of eclogites from North Qilian suture zone and Dulan terrane, N. Qaidam UHPM belt

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample  | eclogite (EC) | domains | Ti | Y | Nb | La | Ce | Pr | Nd | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu | Ta | Pb208 | Th | U |
| 2Q27-1 | Qilian Lws-EC |  | 19.03 | 84.46 | 15.81 | 0.0069 | 1.552 | 0.0177 | 0.278 | 0.35 | 0.211 | 2.28 | 0.547 | 6.1 | 1.9 | 5.77 | 1.146 | 10.34 | 1.477 | 0.452 | 2.03 | 41.63 | 205.9 |
| 2Q27-2 | Qilian Lws-EC |  | 21.29 | 2128.19 | 13.62 | 0.116 | 1.8 | 0.171 | 1.36 | 4.34 | 0.045 | 28.99 | 14.48 | 189.58 | 71.37 | 309.71 | 64.25 | 591.88 | 95.96 | 0.388 | 9.62 | 86.29 | 294.45 |
| 2Q27-3 | Qilian Lws-EC |  | 19.73 | 159.14 | 15.81 | 0.175 | 0.288 | 0.079 | 0.71 | 0.6 | 0.25 | 0.85 | 0.7 | 8.28 | 4.26 | 16.28 | 3.12 | 24.73 | 3.93 | 0.19 | 4.57 | 0.153 | 7.96 |
| 2Q27-4 | Qilian Lws-EC |  | 19.08 | 443.28 | 30.43 | 0.229 | 1.83 | 0.099 | 0.98 | 0.82 | 0.27 | 5.47 | 2.46 | 29.42 | 12.53 | 73.7 | 16.4 | 170.61 | 30.59 | 9.1 | 8.17 | 8.67 | 43.36 |
| 2Q27-5 | Qilian Lws-EC |  | 14.15 | 493.32 | 12.9 | 0.11 | 9.72 | 0.053 | 0.59 | 1.27 | 0.182 | 6.54 | 2.45 | 34.09 | 13.42 | 70.15 | 18.44 | 208.66 | 44.86 | 0.359 | 14.31 | 120.28 | 186.65 |
| 2Q27-6 | Qilian Lws-EC |  | 16.15 | 93.4 | 15.13 | 0.117 | 0.67 | 0.044 | 0.67 | 0.33 | 0.165 | 0.85 | 0.572 | 7.02 | 2 | 7.68 | 1.57 | 11.93 | 2.07 | 0.173 | 0.69 | 4.41 | 21.36 |
| 2Q27-7 | Qilian Lws-EC | 　 | 15.92 | 979.43 | 18.17 | 0.199 | 16.77 | 0.089 | 1.61 | 1.9 | 0.5 | 16.19 | 6.77 | 79.74 | 31.1 | 137.68 | 29.84 | 280.14 | 49.42 | 1.77 | 65.8 | 219.57 | 430.64 |
| 2D73-01 | Basaltic EC | Magmatic core? | 13.75 | 3268.72 | 5.09 | 5.33 | 93.59 | 3.01 | 20.49 | 14.71 | 3.16 | 50.54 | 18.86 | 251.35 | 102.62 | 498.51 | 133.36 | 1605.82 | 334.96  | 2.52 | 34.4 | 902.61 | 945.5 |
| 2D73-02 | Basaltic EC | rim | 5.39 | 17.6 | 0.177 | 0.069 | 2.46 | 0.078 | 0.5 | 1.03 | 0.627 | 2.95 | 0.568 | 3.05 | 0.561 | 1.27 | 0.167 | 1.26 | 0.16  | 0.077 | 1.209 | 34.71 | 188.2 |
| 2D73-03 | Basaltic EC | core | 5.4 | 528.52 | 2.57 | 0.83 | 24.51 | 0.565 | 4.91 | 3.1 | 0.757 | 7.97 | 2.72 | 37.02 | 16.19 | 83.95 | 23.43 | 283.24 | 71.96  | 0.995 | 5.91 | 164.43 | 261.16 |
| 2D73-05 | Basaltic EC | core | 20.78 | 55.6 | 0.367 | 3.99 | 76.25 | 3.03 | 24.56 | 12.24 | 3.35 | 11.58 | 1.287 | 7.3 | 1.587 | 5 | 0.813 | 5.98 | 1.40  | 0.067 | 1.73 | 41.74 | 170.38 |
| 2D73-06 | Basaltic EC | core | 5.44 | 715.67 | 0.699 | 0.077 | 4.03 | 0.063 | 0.7 | 2.3 | 0.625 | 12.44 | 4.6 | 61.87 | 24.88 | 115.82 | 28.57 | 317.9 | 69.31  | 0.373 | 1.83 | 51.01 | 131.87 |
| 2D73-07 | Basaltic EC | core | 101.26 | 41.49 | 0.426 | 0.081 | 2.86 | 0.059 | 0.77 | 1.24 | 0.805 | 5 | 0.884 | 6.38 | 1.312 | 3.64 | 0.62 | 4.93 | 1.21  | 0.095 | 0.587 | 12.97 | 115.47 |
| 2D73-08 | Basaltic EC | core | 6.27 | 37.65 | 0.292 | 0.14 | 2.82 | 0.11 | 0.8 | 0.86 | 0.27 | 2.04 | 0.6 | 4.42 | 1.082 | 3.87 | 0.652 | 6.16 | 1.77  | 0.111 | 0.46 | 5.99 | 40.66 |
| 2D73-09 | Basaltic EC | core | 24.84 | 67.76 | 0.355 | 3.52 | 59.14 | 3.22 | 25.59 | 14.66 | 5.02 | 15.94 | 1.94 | 11.43 | 2.28 | 6.46 | 0.961 | 7.38 | 1.41  | 0.106 | 6.78 | 123.74 | 602.95 |
| 2D73-10 | Basaltic EC | rim | 5.91 | 22.28 | 0.311 | 0.09 | 1.927 | 0.054 | 0.62 | 0.66 | 0.345 | 2.12 | 0.414 | 2.67 | 0.669 | 2.14 | 0.315 | 2.51 | 0.49  | 0.14 | 0.397 | 1.283 | 29.37 |
| 2D73-11 | Basaltic EC | rim | 2.8 | 16.74 | 0.253 | 0.089 | 1.094 | 0.041 | 0.43 | 0.69 | 0.352 | 2.02 | 0.451 | 2.55 | 0.487 | 1.27 | 0.284 | 1.65 | 0.21  | 0.066 | 0.225 | 3.79 | 75.13 |
| 2D73-12 | Basaltic EC | core | 12.43 | 1006.37 | 1.796 | 0.066 | 10.26 | 0.06 | 0.71 | 2.64 | 0.985 | 13.16 | 5.22 | 73.13 | 32.93 | 169.59 | 43.53 | 506.75 | 114.45  | 0.971 | 13.59 | 384.53 | 372.77 |
| 2D73-13 | Basaltic EC | core | 2.75 | 293.79 | 0.581 | 0.037 | 1.882 | 0.033 | 0.267 | 0.91 | 0.456 | 4.84 | 1.804 | 23.67 | 9.62 | 45.92 | 11.86 | 147.22 | 32.35  | 0.253 | 0.826 | 21.8 | 61.52 |
| 2D73-14 | Basaltic EC | rim | 3.14 | 10.4 | 0.342 | 0.087 | 0.854 | 0.049 | 0.33 | 0.52 | 0.241 | 1.4 | 0.263 | 1.79 | 0.346 | 0.835 | 0.115 | 0.832624 | 0.11  | 0.091 | 0.18 | 4.5 | 59.53 |
| 2D73-15 | Basaltic EC | core | 4.7 | 822.28 | 2.02 | 0.059 | 8.23 | 0.061 | 0.86 | 1.92 | 0.618 | 11.39 | 4.5 | 61.85 | 26.64 | 131 | 35.22 | 401.15 | 94.06  | 0.972 | 2.96 | 79.71 | 146.61 |
| 2D73-16 | Basaltic EC | core | 9.98 | 527.32 | 0.718 | 0.071 | 6.81 | 0.048 | 0.82 | 1.65 | 0.738 | 7.28 | 2.6 | 34.58 | 15.93 | 87.82 | 24.41 | 308.5 | 75.23  | 0.517 | 4.03 | 111.92 | 271.21 |
| 2D73-17 | Basaltic EC | rim | 24.81 | 15.29 | 0.44 | 0.197 | 1.87 | 0.063 | 0.74 | 0.8 | 0.26 | 1.86 | 0.256 | 2.41 | 0.499 | 1.57 | 0.244 | 1.6 | 0.24  | 0.118 | 0.814 | 6.3 | 58.71 |
| 2D73-18 | Basaltic EC | core | 4.66 | 40.39 | 0.352 | 0.058 | 1.219 | 0.074 | 0.33 | 0.55 | 0.555 | 3.83 | 0.986 | 6.85 | 1.313 | 3.71 | 0.655 | 5.36 | 0.95  | 0.079 | 1.318 | 7.55 | 71.13 |
| 2D73-19 | Basaltic EC | core | 6.49 | 84.17 | 0.253 | 0.145 | 0.507 | 0.08 | 0.6 | 1.03 | 0.31 | 0.85 | 0.453 | 7.03 | 2.73 | 9.82 | 1.96 | 12.95 | 2.74  | 0.216 | 0.41 | 0.346 | 7.05 |
| 2D73-20 | Basaltic EC | core | 10.96 | 43.62 | 0.43 | 0.073 | 3.11 | 0.069 | 0.53 | 1.35 | 0.546 | 3.17 | 0.661 | 5.57 | 1.427 | 5.18 | 0.903 | 8.25 | 1.78  | 0.125 | 0.745 | 19.14 | 101.99 |
| 2D73-21 | Basaltic EC | core | 15.67 | 412.5 | 0.773 | 0.178 | 5.58 | 0.126 | 1.12 | 1.71 | 0.962 | 6.31 | 1.89 | 26.2 | 12.94 | 74.02 | 21.74 | 279.68 | 72.46  | 1.369 | 10 | 294.47 | 390.11 |
| 2D155-01 | Basaltic EC | core | 4.35 | 32.94 | 0.204 | 0.066 | 2.74 | 0.039 | 0.324 | 0.7 | 0.453 | 2.71 | 0.628 | 4.83 | 1.134 | 3.3 | 0.607 | 5.22 | 0.94  | 0.042 | 0.157 | 4.12 | 136.83 |
| 2D155-02 | Basaltic EC | core | 8.33 | 35.59 | 0.208 | 0.072 | 3.29 | 0.061 | 0.593 | 0.98 | 0.647 | 3.54 | 0.811 | 5.81 | 1.161 | 3.52 | 0.554 | 4.51 | 0.72  | 0.065 | 1.147 | 33.28 | 133.8 |
| 2D155-03 | Basaltic EC | core | 18.3 | 39.61 | 0.206 | 0.109 | 1.167 | 0.062 | 0.883 | 1.44 | 0.811 | 4.48 | 0.926 | 5.67 | 1.256 | 3.49 | 0.594 | 4.64 | 0.88  | 0.062 | 0.462 | 4.01 | 98.72 |
| 2D155-04 | Basaltic EC | core | 4.44 | 54.86 | 0.216 | 0.067 | 1.135 | 0.06 | 0.72 | 1.47 | 0.847 | 4.96 | 1.1 | 7.64 | 1.79 | 5.04 | 0.848 | 6.97 | 1.23  | 0.121 | 0.19 | 0.645 | 120.5 |
| 2D155-05 | Basaltic EC | core | 4.93 | 40.04 | 0.308 | 0.081 | 3.09 | 0.038 | 0.446 | 0.73 | 0.477 | 2.81 | 0.647 | 4.67 | 1.24 | 4.42 | 0.828 | 7.01 | 1.48  | 0.064 | 0.581 | 11.36 | 83.32 |
| 2D155-06 | Basaltic EC | core | 2 | 43.68 | 0.196 | 0.066 | 0.755 | 0.0282 | 0.268 | 0.565 | 0.408 | 1.91 | 0.545 | 5.3 | 1.555 | 5.97 | 1.381 | 14.35 | 2.55  | 0.07 | 0.948 | 1.93 | 42.79 |
| 2D155-07 | Basaltic EC | core | 8.46 | 29.82 | 0.261 | 0.057 | 0.9 | 0.029 | 0.34 | 0.59 | 0.468 | 2.89 | 0.779 | 4.9 | 0.999 | 2.8 | 0.512 | 4.8 | 0.93  | 0.098 | 0.459 | 3.24 | 44.51 |
| 2D155-08 | Basaltic EC | core | 7.81 | 37.04 | 0.267 | 0.109 | 3.31 | 0.052 | 0.53 | 0.76 | 0.509 | 3.34 | 0.674 | 5.7 | 1.362 | 4.05 | 0.727 | 6.2 | 1.14  | 0.066 | 1.456 | 41.18 | 111.99 |
| 2D155-09 | Basaltic EC | core | 13.9 | 41.02 | 0.198 | 0.044 | 2.99 | 0.03 | 0.673 | 1.49 | 0.754 | 3.86 | 0.876 | 6.41 | 1.375 | 4.28 | 0.766 | 6.99 | 1.14  | 0.051 | 1.422 | 39.42 | 153.97 |
| 2D155-10 | Basaltic EC | core | 5.57 | 39.03 | 0.252 | 0.08 | 2.54 | 0.067 | 0.5 | 0.97 | 0.398 | 2.85 | 0.722 | 6.02 | 1.51 | 4.51 | 0.895 | 8.35 | 1.67  | 0.105 | 0.538 | 1.79 | 77.04 |
| 2D155-11 | Basaltic EC | core | 4.9 | 61.35 | 0.283 | 0.054 | 3.89 | 0.039 | 0.671 | 1.47 | 0.959 | 5.57 | 1.236 | 9.28 | 2.12 | 6.31 | 1.053 | 9.03 | 1.50  | 0.042 | 0.161 | 4.99 | 162.7 |
| 2D155-13 | Basaltic EC | core | 5.61 | 48.07 | 0.15 | 0.093 | 2.74 | 0.052 | 0.35 | 0.76 | 0.632 | 3.51 | 0.759 | 6.69 | 1.67 | 5.21 | 0.939 | 8.26 | 1.54  | 0.08 | 0.133 | 1.429 | 85.05 |
| 2D155-14 | Basaltic EC | core | 5.12 | 36.73 | 0.167 | 0.061 | 4.73 | 0.045 | 0.47 | 1.15 | 0.558 | 3.04 | 0.72 | 5.65 | 1.34 | 3.91 | 0.611 | 5.92 | 0.88  | 0.071 | 1.98 | 54.46 | 117.22 |
| 2D155-15 | Basaltic EC | core | 3.74 | 31.95 | 0.212 | 0.068 | 2.23 | 0.032 | 0.35 | 0.63 | 0.505 | 2.65 | 0.591 | 4.66 | 1.128 | 4.19 | 0.765 | 7.69 | 1.37  | 0.084 | 1.009 | 19.52 | 158.31 |
| 2D155-16 | Basaltic EC | core | 11.85 | 53.59 | 0.272 | 0.029 | 0.441 | 0.0229 | 0.335 | 1.18 | 0.608 | 3.07 | 0.915 | 6.46 | 1.65 | 5.43 | 0.946 | 7.73 | 2.29  | 0.05 | 0.359 | 0.744 | 44.79 |