# Table A-13 Modal composition of granitic rocks



| Sample | No.1 M99NK025R | No.2 M99NK028R | No.3 M99NK033R | No.4 M99NK038R | No.5 M99NK047R | No.6 M99NK050R | No.7 M99NK051R | No.8 M99NK059R |
|---|---|---|---|---|---|---|---|---|
| Quartz | 277 | 270 | 0 | 311 | 102 | 334 | 32 | 180 |
| mode | ( 40.20 %) | ( 52.94 %) | ( 0.00 %) | ( 43.13 %) | ( 17.09 %) | ( 44.95 %) | ( 4.75 %) | ( 31.47 %) |
| Plagioclase | 149 | 148 | 411 | 269 | 326 | 129 | 541 | 240 |
| mode | ( 21.63 %) | ( 29.02 %) | ( 71.85 %) | ( 37.31 %) | ( 54.61 %) | ( 17.36 %) | ( 80.39 %) | ( 41.96 %) |
| K-feldspar | 245 | 89 | 46 | 86 | 124 | 245 | 4 | 89 |
| mode | ( 35.56 %) | ( 17.45 %) | ( 8.04 %) | ( 11.93 %) | ( 20.77 %) | ( 32.97 %) | ( 0.59 %) | ( 15.56 %) |
| Hornblende | 2 | 0 | 73 | 27 | 20 | 22 | 31 | 0 |
| (replaced by chlorite) | ( 0 ) | ( 0 ) | ( 38 ) | ( 14 ) | ( 16 ) | ( 2 ) | ( 31 ) | ( 0 ) |
| mode | ( 0.29 %) | ( 0.00 %) | ( 12.76 %) | ( 3.74 %) | ( 3.35 %) | ( 2.96 %) | ( 4.61 %) | ( 0.00 %) |
| Biotite | 0 | 0 | 0 | 12 | 7 | 0 | 24 | 36 |
| (replaced by chlorite) | ( 0 ) | ( 0 ) | ( 0 ) | ( 9 ) | ( 5 ) | ( 0 ) | ( 24 ) | ( 3 ) |
| mode | ( 0.00 %) | ( 0.00 %) | ( 0.00 %) | ( 1.66 %) | ( 1.17 %) | ( 0.00 %) | ( 3.57 %) | ( 6.29 %) |
| Calcite | 1 | 0 | 10 | 3 | 4 | 0 | 9 | 4 |
| mode | ( 0.15 %) | ( 0.00 %) | ( 1.75 %) | ( 0.42 %) | ( 0.67 %) | ( 0.00 %) | ( 1.34 %) | ( 0.70 %) |
| Opaque minerals | 3 | 0 | 30 | 7 | 8 | 10 | 0 | 19 |
| :replaced by Feldspar | ( 0.44 %) | ( 0.00 %) | ( 5.24 %) | ( 0.97 %) | ( 1.34 %) | ( 1.35 %) | ( 0.00 %) | ( 3.32 %) |
| Others | 12 | 3 | 2 | 6 | 6 | 3 | 32 | 4 |
| mode | ( 1.74 %) | ( 0.59 %) | ( 0.35 %) | ( 0.83 %) | ( 1.01 %) | ( 0.40 %) | ( 4.75 %) | ( 0.70 %) |
| Total | 689 | 510 | 572 | 721 | 597 | 743 | 673 | 572 |
| (Q/(Q+Pl+Kf)) | ( 0.41 ) | ( 0.53 ) | ( 0.00 ) | ( 0.47 ) | ( 0.18 ) | ( 0.47 ) | ( 0.06 ) | ( 0.35 ) |
| (Pl/(Q+Pl+Kf)) | ( 0.22 ) | ( 0.29 ) | ( 0.90 ) | ( 0.40 ) | ( 0.59 ) | ( 0.18 ) | ( 0.94 ) | ( 0.47 ) |
| (Kf/(Q+Pl+Kf)) | ( 0.37 ) | ( 0.18 ) | ( 0.10 ) | ( 0.13 ) | ( 0.22 ) | ( 0.35 ) | ( 0.01 ) | ( 0.17 ) |
| (Ho+Bt/(Q+Pl+Kf+Ho+Bt)) | ( 0.00 ) | ( 0.00 ) | ( 0.14 ) | ( 0.06 ) | ( 0.05 ) | ( 0.03 ) | ( 0.09 ) | ( 0.07 ) |

## Table A-13 Modal composition of granitic rocks

| Sample | No.9 M99NK061R | No.10 M99NK062R | No.11 M99NK063R | No.12 M99NK065R | No.13 M99NK066R | No.14 M99NK067R ( basalt ) | No.15 M99NK069R | No.16 M99NK070R |
|---|---|---|---|---|---|---|---|---|
| Quartz | 308 | 398 | 210 | 403 | 251 | | 267 | 773 |
| mode | ( 43.14 %) | ( 65.35 %) | ( 29.37 %) | ( 57.00 %) | ( 36.43 %) | ( 0.00 %) | ( 42.72 %) | ( 98.98 %) |
| Plagioclase | 109 | 24 | 278 | 41 | 299 | | 227 | 0 |
| mode | ( 15.27 %) | ( 3.94 %) | ( 38.88 %) | ( 5.80 %) | ( 43.40 %) | ( 0.00 %) | ( 36.32 %) | ( 0.00 %) |
| K-feldspar | 255 | 23 | 188 | 233 | 96 | | 126 | 0 |
| mode | ( 35.71 %) | ( 3.78 %) | ( 26.29 %) | ( 32.96 %) | ( 13.93 %) | ( 0.00 %) | ( 20.16 %) | ( 0.00 %) |
| Hornblende | 7 | 0 | 19 | 3 | 25 | | 2 | 0 |
| (replaced by chlorite) | ( 4 ) | ( 0 ) | ( 10 ) | ( 3 ) | ( 15 ) | ( 0 ) | ( 1 ) | ( 0 ) |
| mode | ( 0.98 %) | ( 0.00 %) | ( 2.66 %) | ( 0.42 %) | ( 3.63 %) | ( 0.00 %) | ( 0.32 %) | ( 0.00 %) |
| Biotite | 16 | 0 | 2 | 0 | 0 | | 0 | 0 |
| (replaced by chlorite) | ( 5 ) | ( 0 ) | ( 0 ) | ( 0 ) | ( 0 ) | ( 0 ) | ( 0 ) | ( 0 ) |
| mode | ( 2.24 %) | ( 0.00 %) | ( 0.28 %) | ( 0.00 %) | ( 0.00 %) | ( 0.00 %) | ( 0.00 %) | ( 0.00 %) |
| Calcite | 0 | 10 | 3 | 23 | 6 | Phenocryst 5 | 0 | 0 |
| mode | ( 0.00 %) | ( 1.64 %) | ( 0.42 %) | ( 3.25 %) | ( 0.87 %) | ( 0.75 %) | ( 0.00 %) | ( 0.00 %) |
| Opaque minerals | 11 | 9 | 12 | 3 | 8 | opaque 8 | 0 | 0 |
| :replaced by Feldspar | ( 1.54 %) | ( 1.48 %) | ( 1.68 %) | ( 0.42 %) | ( 1.16 %) | ( 1.19 %) | ( 0.00 %) | ( 0.00 %) |
| Others | 8 | 145 | 3 | 1 | 4 | Matrix 657 | 3 | 8 |
| mode | ( 1.12 %) | ( 23.81 %) | ( 0.42 %) | ( 0.14 %) | ( 0.58 %) | ( 98.06 %) | ( 0.48 %) | ( 1.02 %) |
| Total | 714 | 609 | 715 | 707 | 689 | 670 | 625 | 781 |
| (Q/(Q+Pl+Kf)) | ( 0.46 ) | ( 0.89 ) | ( 0.31 ) | ( 0.60 ) | ( 0.39 ) | ( - ) | ( 0.43 ) | ( 1.00 ) |
| (Pl/(Q+Pl+Kf)) | ( 0.16 ) | ( 0.05 ) | ( 0.41 ) | ( 0.06 ) | ( 0.46 ) | ( - ) | ( 0.37 ) | ( 0.00 ) |
| (Kf/(Q+Pl+Kf)) | ( 0.38 ) | ( 0.05 ) | ( 0.28 ) | ( 0.34 ) | ( 0.15 ) | ( - ) | ( 0.20 ) | ( 0.00 ) |
| (Ho+Bt/(Q+Pl+Kf+Ho+Bt)) | ( 0.03 ) | ( 0.00 ) | ( 0.03 ) | ( 0.00 ) | ( 0.04 ) | ( - ) | ( 0.00 ) | ( 0.00 ) |

# Table A-13 Modal composition of granitic rocks

| Sample | No.17 M99NK080R | No.18 M99RK025R | No.19 M99RK030R | No.20 M99RK035R | No.21 M99RK036R | No.22 M99RK038R | No.23 M99RK044R |
|---|---|---|---|---|---|---|---|
| Quartz | 211 | 6 | 223 | 207 | 162 | 204 | 20 |
| mode | ( 32.51 %) | ( 0.86 %) | ( 29.54 %) | ( 33.12 %) | ( 23.28 %) | ( 28.02 %) | ( 2.85 %) |
| Plagioclase | 220 | 327 | 367 | 88 | 371 | 301 | 522 |
| mode | ( 33.90 %) | ( 46.92 %) | ( 48.61 %) | ( 14.08 %) | ( 53.30 %) | ( 41.35 %) | ( 74.36 %) |
| K-feldspar | 180 | 177 | 139 | 244 | 86 | 175 | 22 |
| mode | ( 27.73 %) | ( 25.39 %) | ( 18.41 %) | ( 39.04 %) | ( 12.36 %) | ( 24.04 %) | ( 3.13 %) |
| Hornblende | 0 | 164 | 3 | 65 | 38 | 6 | 104 |
| (replaced by chlorite) | ( 0 ) | ( 17 ) | ( 3 ) | ( 14 ) | ( 2 ) | ( 2 ) | ( 13 ) |
| mode | ( 0.00 %) | ( 23.53 %) | ( 0.40 %) | ( 10.40 %) | ( 5.46 %) | ( 0.82 %) | ( 14.81 %) |
| Biotite | 35 | 0 | 15 | 0 | 32 | 20 | 0 |
| (replaced by chlorite) | ( 11 ) | ( 0 ) | ( 11 ) | ( 0 ) | ( 4 ) | ( 4 ) | ( 0 ) |
| mode | ( 5.39 %) | ( 0.00 %) | ( 1 99 %) | ( 0.00 %) | ( 4.60 %) | ( 2.75 %) | ( 0.00 %) |
| Calcite | 0 | 7 | 0 | 8 | 0 | 11 | 0 |
| mode | ( 0.00 %) | ( 1.00 %) | ( 0.00 %) | ( 1.28 %) | ( 0.00 %) | ( 1.51 %) | ( 0.00 %) |
| Opaque minerals | 3 | 13 | 2 | 10 | 5 | 11 | 27 |
| :replaced by Feldspar | ( 0.46 %) | ( 1.87 %) | ( 0.26 %) | ( 1.60 %) | ( 0.72 %) | ( 1.51 %) | ( 3.85 %) |
| Others | 0 | 3 | 6 | 3 | 2 | 0 | 7 |
| mode | ( 0.00 %) | ( 0.43 %) | ( 0.79 %) | ( 0.48 %) | ( 0.29 %) | ( 0.00 %) | ( 1.00 %) |
| Total | 649 | 697 | 755 | 625 | 696 | 728 | 702 |
| (Q/(Q+Pl+Kf)) | ( 0.35 ) | ( 0.01 ) | ( 0.31 ) | ( 0.38 ) | ( 0.26 ) | ( 0.30 ) | ( 0.04 ) |
| (Pl/(Q+Pl+Kf)) | ( 0.36 ) | ( 0.64 ) | ( 0.50 ) | ( 0.16 ) | ( 0.60 ) | ( 0.44 ) | ( 0.93 ) |
| (Kf/(Q+Pl+Kf)) | ( 0.29 ) | ( 0.35 ) | ( 0.19 ) | ( 0.45 ) | ( 0.14 ) | ( 0.26 ) | ( 0.04 ) |
| (Ho+Bt/(Q+Pl+Kf+Ho+Bt)) | ( 0.05 ) | ( 0.24 ) | ( 0.02 ) | ( 0.11 ) | ( 0.10 ) | ( 0.04 ) | ( 0.16 ) |

Table A-14 Microscopic Observation of polished section

| No. | Sampe No. | type | primary minerals | | | secondary minerals | | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | | pyrite | chalcopyrite | magnetite | goethite | chalcocite | hematite | (others) |
| 1 | M99NK027R | disseminate | · | | | △ | | | |
| 2 | M99NK057R | disseminate and veinlet | | △ | · | · | · | | skarn? |
| 3 | M99NK064M | disseminate | | · | | · | | | Minute unknown minerals (△, ○) |
| 4 | M99NK073R | disseminate | | · | △ | | | △ | |

Legend; ◎,abundant; ○, common; △, minor; ·rare

# Table A-15 Powdery X-ray diffraction



| | | Silicas | | | Silicates | | | | | | | | | | | | Carbonates | | | Sulfides | | | | Salfates | | | Others | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | Sample name | Quartz | Cristobalite | Tridymite | Plagioclase | Albite | K-feldspar | Hornblende | Biotite | Sericite | Pyrophylite | Chlorite | Chlorite/Mont | Mont | Kaolin | Andalusite | Calcite | Dolomite | | Pyrite | Galena | Sphalerite | | Gypsum | Barite | | Diaspore | | Note |
| 1 | M99NK002R | 32 | | | | 22 | 12 | | | 4 | | | | | | | | | | | | | | | | | | | |
| 2 | M99NK009R | 35 | | | | 5 | 3 | | | 2 | | | | | | | | | | | | | | | | | | | |
| 3 | M99NK010R | 27 | | | | 13 | 2 | | | 2 | | | | | 1 | | | | | | | | | | | | | | |
| 4 | M99NK011R | 39 | | | | | | | | | | | | | 4 | | | | | | | | | | | | | | |
| 5 | M99NK016R | 26 | | | | | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 6 | M99NK017R | 34 | | | | 4 | | | | 6 | | | | | | | | | | | | | | | | | | | |
| 7 | M99NK029R | 23 | | | | 32 | | | | 5 | | | | | | | | | | | | | | | | | | | |
| 8 | M99NK034R | 30 | | | | | | | | | | | | | 3 | 6 | | | | | | | | | | | | | |
| 9 | M99NK062R | 32 | | | | 18 | 2 | | | 30 | | | | | 1 | | | | | | | | | | | | | | |
| 10 | M99NK072R | 28 | | | | | 2 | | | 4 | 3 | | | | 6 | 4 | | | | | | | | | | | | | |
| 11 | M99NK077R | 28 | | | | 18 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | M99HH008R | 18 | | | | 18 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 13 | M99HH009R | 39 | | | | 3 | | | | 17 | | | | | | | | | | | | | | | | | | | |
| 14 | M99HH011R | 18 | | | | 32 | 7 | | | 2 | | 2 | | | | | | | | | | | | | | | | | |
| 15 | M99HH012R | 6 | | | | 7 | 6 | | | | | | 5 | | | | | | | 2 | | | | | | | | | |
| 16 | M99HH018R | 27 | | | | 18 | | | | | | | | | 1 | | | | | | | | | | | | | | |
| 17 | M99HH020R | | | | 26 | | | 7 | | 6 | | | | | | | | | | | | | | | | | | | |
| 18 | M99HH025R | 37 | | | | | | | | 8 | | | | | | | | | | | | | | | | | | | |
| 19 | M99HH032R | 17 | | | | 14 | 12 | | | | | | | | 2 | | | | | | | | | | | | | | |
| 20 | M99HH033R | 34 | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | M99HH034R | 37 | | | | 12 | | | | 11 | | | | | | | | | | | | | | | | | | | |
| 22 | M99HH035R | 30 | | | | 9 | | | | 9 | | | | | | | | | | | | | | | | | | | |
| 23 | M99HH036R | 58 | | | | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | M99HH038R | | | | 18 | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | M99MZ002R | 32 | | | | 12 | 7 | | | 4 | | | | | | | | | | | | | | | | | | | |
| 26 | M99MZ006R | 34 | | | | 9 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 27 | M99MZ026R | 31 | | | | 6 | 6 | | | | | | | | | 1 | | | | | | | | | | | | | |
| 28 | M99MZ032R | 19 | | | | 13 | 11 | | | 2 | | | | | | 1 | | | | | | | | | | | | | |
| 29 | M99MZ055R | 24 | | | | 23 | 15 | | | 2 | | | | | | | | | | | | | | | | | | | |

Table A-15 Powdery X-ray diffraction



| | | Silicas | | | Silicates | | | | | | | | | | | | Carbonates | | | Sulfides | | | | Salfates | | | Others | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | Sample name | Quartz | Cristobalite | Tridymite | Plagioclase | Albite | K-feldspar | Hornblende | Biotite | Sericite | Pyrophylite | Chlorite | Chlorite/Mont | Mont. | Kaolin | Andalusite | Calcite | Dolomite | | Pyrite | Galena | Sphalerite | | Gypsum | Barite | | Diaspore | | Note |
| 30 | M99MZ063R | 46 | | | | 8 | 8 | | | 2 | | | | | | | | | | | | | | | | | | | |
| 31 | M99RK048R | 22 | | | | 25 | 4 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 32 | M99RK050R | 32 | | | | | 11 | | | 1 | | | | | | | | | | | | | | | | | | | |
| 33 | M99RK051R | 13 | | | | 7 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 34 | M99RK059R | 38 | | | | | | | | 16 | | | | | | | | | | | | | | | | | | | |
| 35 | M99RK060R | 36 | | | | 10 | | | | 7 | | | | | | | | | | | | | | | | | | | |
| 36 | M99RK061R | 50 | | | | 4 | | | | 15 | | | | | | | | | | | | | | | | | | | |
| 37 | M99RK065R | 42 | | | | 4 | | | | 6 | | | | | | | | | | | | | | | | | | | |
| 38 | M99RK069R | 45 | | | | | | | | 6 | | | | | 8 | | | | | | | | | | | | | | |
| 39 | M99RK070R | 35 | | | | | 1 | | | | 7 | | | | | | | | | | | | | | | | | | |
| 40 | M99RK071R | 22 | | | | | | | | | | | | 11 | | | | | | | | | | | | | | | |
| 41 | M99RK073R | 46 | | | | | | | | | 5 | | | | | | | | | | | | | | | | 4 | | |

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# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | M99NK084R | --- | --- | listwaenite | silicification, carbonatized | --- | <0.005 | 2 | <0.2 | <10 | <0.2 | 0.45 | 20 | <0.5 | <2 | 0.36 | <0.5 | 80 | 1515 | 94 | 4.26 | 0.09 | 15.00 | 540 | <1 | 0.18 | 1955 | 80 | <2 | 4 | <0.01 | 14 | <10 | 14 |
| 70 | M99MZ012M | Khokhoo | 20a | Pb-Cu ore | --- | galena, malachite | 0.010 | 8 | 1.0 | 220 | 23.2 | 0.40 | 280 | <0.5 | 2 | 0.01 | 1 | <1 | 7 | 1135 | 1.09 | 0.18 | 0.04 | 50 | <1 | 0.02 | 3 | 60 | 5210 | 42 | 0.01 | 10 | <10 | 272 |
| 71 | M99MZ013R | Khokhoo | 20b | silicified rock | hydrothermal? | --- | <0.005 | <1 | <0.2 | <10 | 0.2 | 6.00 | 760 | 1.0 | <2 | 0.16 | <0.5 | 1 | 7 | 8 | 0.30 | 0.82 | 0.06 | 45 | <1 | 3.68 | 3 | 150 | 86 | 207 | 0.03 | 1 | <10 | 32 |
| 120 | M99RK008R | Khokhoo | 20b | quartz vein | weak limonite | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 0.70 | 90 | <0.5 | <2 | 0.15 | <0.5 | 1 | 17 | <1 | 0.28 | 0.41 | 0.23 | 110 | <1 | 0.06 | 16 | 80 | 2 | 12 | 0.02 | 8 | <10 | 10 |
| 121 | M99RK009R | Khokhoo | 20b | quartz vein | weak limonite(hematite) | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 0.18 | 810 | <0.5 | <2 | 0.03 | <0.5 | <1 | 15 | <1 | 0.06 | 0.11 | 0.02 | 20 | <1 | 0.04 | 2 | 10 | <2 | 7 | <0.01 | 1 | <10 | 2 |
| 122 | M99RK010R | Khokhoo | 20b | float, granite? | silicification, weak limonite, greisen?(biotite+mica) | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 7.10 | 170 | 1.5 | <2 | 1.09 | <0.5 | 3 | 9 | 1 | 0.56 | 0.78 | 0.19 | 160 | <1 | 3.56 | 3 | 140 | 16 | 200 | 0.07 | 7 | <10 | 20 |
| 123 | M99RK011R | Khokhoo | 20c | quartz vein? | greisen? (biotite+muscovite) | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 5.74 | 450 | 0.5 | <2 | 0.98 | <0.5 | 7 | 33 | <1 | 1.92 | 1.19 | 0.76 | 375 | <1 | 1.74 | 18 | 520 | 14 | 169 | 0.21 | 45 | <10 | 46 |
| 69 | M99MZ011M | Khokhoo | 20d | Cu ore | --- | malachite, chalcopyrite | 0.605 | <1 | 2.0 | 30 | 44.2 | 1.99 | 380 | <0.5 | <2 | 0.05 | 6.5 | 6 | 12 | 7950 | 3.51 | 0.27 | 0.10 | 195 | 2 | 0.05 | 14 | 220 | 111000 | 341 | 0.06 | 35 | <10 | 38 |
| 25 | M99NK027R | Khokhoo | 20d | andesite | --- | sulfide(not identified) | <0.005 | <1 | <0.2 | <10 | 0.2 | 7.44 | 1960 | 1.5 | <2 | 4.95 | <0.5 | 30 | 90 | <1 | 5.20 | 1.66 | 2.58 | 990 | 1 | 2.67 | 76 | 4060 | 38 | 981 | 0.70 | 122 | <10 | 130 |
| 129 | M99RK017R | South Camp | 25a | quartz vein | weak limonite | -- | 0.035 | 1 | <0.2 | <10 | 1.0 | 1.47 | 40 | <0.5 | <2 | 0.23 | <0.5 | <1 | 7 | <1 | 0.24 | 0.18 | 0.10 | 20 | <1 | 1.06 | 1 | 40 | 28 | 25 | <0.01 | 1 | <10 | 4 |
| 72 | M99MZ014R | South Camp | 25c | dunite | --- | --- | <0.005 | 1 | <0.2 | <10 | <0.2 | 0.46 | 100 | <0.5 | <2 | 0.1 | <0.5 | 105 | 1675 | 4 | 5.28 | 0.06 | 15.00 | 485 | <1 | 0.14 | 2230 | 70 | 26 | <1 | <0.01 | 10 | <10 | 30 |
| 26 | M99NK030R | South Camp | 25d | listwaenite | --- | --- | <0.005 | 1 | <0.2 | <10 | 0.2 | 0.24 | 10 | <0.5 | <2 | 0.07 | <0.5 | 111 | 1420 | <1 | 4.18 | 0.02 | >15.00 | 610 | <1 | 0.10 | 2240 | 50 | <2 | <1 | <0.01 | 10 | <10 | 18 |
| 27 | M99NK031R | South Camp | 25d | listwaenite | --- | --- | <0.005 | 5 | <0.2 | <10 | <0.2 | 0.19 | 10 | <0.5 | <2 | 0.72 | <0.5 | 72 | 892 | 6 | 3.34 | 0.01 | >15.00 | 930 | <1 | 0.09 | 1445 | 50 | <2 | 51 | <0.01 | 3 | <10 | 10 |
| 130 | M99RK018R | South Camp | 25e | float, quartz vein | weak limonite | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 0.36 | 30 | <0.5 | <2 | 15.15 | <0.5 | 1 | 11 | 14 | 0.32 | 0.1 | 0.12 | 565 | <1 | 0.09 | 9 | 100 | 4 | 974 | 0.01 | 4 | <10 | 4 |
| 131 | M99RK019R | South Camp | 25e | quartz vein | fluorite | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 0.10 | 10 | <0.5 | <2 | 16.75 | <0.5 | <1 | 9 | 8 | 0.08 | 0.02 | 0.05 | 650 | <1 | 0.04 | 2 | 30 | <2 | 1045 | <0.01 | 1 | <10 | <2 |
| 52 | M99HH025R | Bulgan | Aguit | altered rock | quartz+sericite | --- | <0.005 | 14 | 0.2 | <10 | 9.0 | 7.44 | 870 | 1.5 | <2 | 0.03 | <0.5 | <1 | 2 | 8 | 1.64 | 3.27 | 0.28 | 150 | 45 | 0.19 | <1 | 100 | 98 | 67 | 0.31 | 44 | <10 | 38 |
| 53 | M99HH026R | Bulgan | Aguit | silicified rock | quartz, hematite, limonite | --- | 0.015 | 24 | 0.6 | <10 | 7.4 | 7.03 | 820 | 2.5 | <2 | 0.35 | <0.5 | 2 | 3 | 30 | 2.45 | 3.21 | 0.30 | 410 | 2 | 0.23 | <1 | 1600 | 48 | 58 | 0.30 | 26 | <10 | 172 |
| 45 | M99NK075R | Bulgan West | Aguit | breccia | intense silicification | --- | <0.005 | 1 | 0.2 | <10 | <0.2 | 6.06 | 880 | 1.5 | <2 | 0.37 | <0.5 | 3 | 14 | 4 | 0.71 | 2.96 | 0.15 | 225 | 1 | 2.54 | 2 | 120 | 16 | 150 | 0.09 | 8 | <10 | 26 |
| 47 | M99NK081R | Bulgan West | Aguit | quartz vein | --- | pyrite | 0.010 | 1 | 0.4 | <10 | 4.2 | 0.62 | 210 | <0.5 | <2 | 0.15 | <0.5 | <1 | 15 | 37 | 0.83 | 0.26 | 0.03 | 1040 | 3 | 0.02 | <1 | 320 | 486 | 81 | 0.05 | 6 | <10 | 36 |
| 50 | M99HH003M | Altgana gol | Altgana gol | quartz | --- | molybdenite | <0.005 | <1 | <0.2 | <10 | <0.2 | 6.30 | 270 | 2.0 | <2 | 0.12 | <0.5 | <1 | 8 | 26 | 0.19 | 4.1 | 0.10 | 10 | 320 | 2.29 | 8 | <10 | 12 | 36 | 0.05 | 4 | <10 | 2 |
| 66 | M99MZ008M | Altgana gol | Altgana gol | quartz veins | --- | molybdenite | <0.005 | <1 | <0.2 | <10 | <0.2 | 0.05 | <10 | <0.5 | <2 | 0.03 | <0.5 | <1 | 18 | <1 | 0.08 | 0.03 | <0.01 | 5 | 12 | 0.03 | <1 | 60 | <2 | 5 | <0.01 | <1 | <10 | 2 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | M99NK024M | Altgana gol | Altgana gol | quartz vein | --- | molybdenite? | <0.005 | 4 | <0.2 | <10 | <0.2 | 0.05 | <10 | <0.5 | <2 | <0.01 | <0.5 | <1 | 7 | <1 | 0.03 | 0.03 | <0.01 | 5 | 1 | 0.03 | <1 | 10 | <2 | <1 | <0.01 | <1 | <10 | 2 |
| 117 | M99RK005M | Altgana gol | Altgana gol | quartz vein | limonite | molybdenite | <0.005 | 6 | <0.2 | 10 | <0.2 | 2.73 | 190 | 2.5 | <2 | 0.04 | <0.5 | <1 | 6 | 19 | 0.19 | 1.68 | 0.03 | 10 | 431 | 0.08 | <1 | 40 | 16 | 56 | 0.04 | 3 | <10 | 4 |
| 138 | M99RK029R | Erdenet | Central | granite | moderate silicification, quartz+sericite+mica+tourmaline, limonite | --- | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.26 | 830 | <0.5 | <2 | 0.07 | <0.5 | <1 | 9 | 11 | 0.26 | 1.68 | 0.10 | 10 | 9 | 0.27 | <1 | 530 | 2 | 747 | 0.08 | 47 | <10 | <2 |
| 139 | M99RK031M | Erdenet | Central | granite | potassic, weak limonite | malachite along crucks | <0.005 | 1 | <0.2 | <10 | 0.8 | 7.75 | 830 | 1.5 | 8 | 1.01 | <0.5 | 7 | 7 | 4240 | 1.69 | 2.29 | 0.52 | 140 | 21 | 3.47 | 9 | 550 | 8 | 747 | 0.18 | 53 | <10 | 28 |
| 140 | M99RK032M | Erdenet | Central | diorite | epidote, limonite | malachite along crucks | 0.010 | 1 | <0.2 | 10 | <0.2 | 9.72 | 810 | 1.5 | 8 | 2.72 | <0.5 | 19 | 4 | 5510 | 4.09 | 2 | 1.53 | 660 | <1 | 3.96 | 12 | 1290 | 12 | 1495 | 0.38 | 93 | <10 | 94 |
| 42 | M99NK068R | Erdenet | Dambatseren | quartz+epidote vein | --- | --- | <0.005 | <1 | <0.2 | <10 | 0.6 | 8.62 | 50 | 1.0 | <2 | 6.67 | <0.5 | 13 | 79 | 22 | 3.58 | 0.18 | 0.63 | 665 | <1 | 2.60 | 28 | 1550 | 22 | 1990 | 0.47 | 186 | <10 | 42 |
| 43 | M99NK070R | Erdenet | Dambatseren | dacite | silicified | --- | <0.005 | 16 | <0.2 | 20 | <0.2 | 0.10 | 30 | <0.5 | <2 | 0.03 | <0.5 | <1 | 11 | 23 | 0.66 | 0.01 | 0.01 | 5 | 3 | 0.03 | <1 | 10 | <2 | 9 | 0.11 | 4 | <10 | <2 |
| 44 | M99NK071R | Erdenet | Dambatseren | quartz vein | quartz, tourmaline, limonite | --- | <0.005 | 14 | 0.2 | <10 | 1.2 | 2.16 | 210 | <0.5 | <2 | 0.05 | <0.5 | <1 | 17 | 27 | 1.14 | 0.24 | 0.19 | 15 | 3 | 0.16 | <1 | 390 | 2 | 466 | 0.14 | 39 | <10 | 6 |
| 51 | M99HH021R | Erdenet | Dambatseren | dacite - andesite | partly silicification | --- | <0.005 | 30 | 0.2 | <10 | <0.2 | 7.09 | 1560 | 1.0 | <2 | 0.16 | <0.5 | 1 | 5 | 13 | 0.87 | 3.16 | 0.24 | 115 | <1 | 3.83 | 3 | 220 | 14 | 214 | 0.10 | 13 | <10 | 16 |
| 67 | M99MZ009R | Altgana gol NW | Delger uul | ultra mafic rock | --- | --- | <0.005 | 4 | <0.2 | <10 | <0.2 | 0.59 | 10 | <0.5 | <2 | 0.79 | <0.5 | 100 | 1395 | <1 | 5.04 | 0.08 | 15.00 | 800 | <1 | 0.19 | 1985 | 60 | <2 | 4 | <0.01 | 20 | <10 | 28 |
| 118 | M99RK006R | Altgana gol NW | Delger uul | basic tuff | calcite stain(W:10cm(Max)) | --- | <0.005 | 3 | <0.2 | <10 | 0.2 | 0.37 | 120 | <0.5 | <2 | 2.17 | <0.5 | 92 | 1850 | 10 | 4.81 | 0.03 | >15.00 | 645 | <1 | 0.04 | 1970 | 70 | <2 | 199 | <0.01 | 6 | <10 | 34 |
| 64 | M99MZ006R | Murun South | Donhor bulag | silicified rock | silicification | pyrite dissemination | <0.005 | 14 | <0.2 | <10 | <0.2 | 6.72 | 200 | 4.0 | <2 | 0.03 | <0.5 | <1 | 3 | 13 | 1.96 | 3.3 | 0.12 | 160 | 15 | 2.17 | <1 | 70 | 12 | 53 | 0.19 | 3 | <10 | 40 |
| 65 | M99MZ007R | Murun South | Donhor bulag | silicified rock | silicification | --- | <0.005 | 9 | 0.2 | <10 | <0.2 | 5.61 | 180 | 1.5 | <2 | 0.01 | <0.5 | <1 | 2 | <1 | 0.57 | 1.79 | 0.02 | 15 | <1 | 3.57 | <1 | 130 | 18 | 64 | 0.06 | 5 | <10 | 4 |
| 21 | M99NK021M | Murun South | Donhor bulag | quartz vein | --- | --- | <0.005 | 6 | <0.2 | <10 | <0.2 | 0.27 | 30 | <0.5 | <2 | <0.01 | <0.5 | <1 | 7 | 20 | 1.51 | 0.26 | <0.01 | 20 | 1 | 0.04 | <1 | 10 | 22 | 8 | <0.01 | <1 | <10 | 16 |
| 22 | M99NK022M | Murun South | Donhor bulag | quartz vein | --- | --- | <0.005 | 4 | <0.2 | <10 | 1.0 | 1.75 | 140 | 1.0 | 2 | 0.11 | <0.5 | 3 | 12 | 6 | 2.94 | 0.97 | 0.02 | 1055 | 6 | 0.70 | <1 | 500 | 702 | 55 | 0.05 | 3 | <10 | 74 |
| 23 | M99NK023R | Murun South | Donhor bulag | hydrothermal breccia | silicification | --- | <0.005 | 3 | <0.2 | <10 | <0.2 | 5.68 | 30 | 27.5 | <2 | 0.05 | <0.5 | 1 | 6 | <1 | 2.83 | 2.5 | 0.08 | 345 | <1 | 2.71 | <1 | 140 | 26 | 23 | 0.21 | <1 | <10 | 148 |
| 115 | M99RK003R | Murun South | Donhor bulag | float, quartz vein | limonite stain | --- | <0.005 | 5 | <0.2 | <10 | <0.2 | 0.19 | 10 | <0.5 | <2 | 0.01 | <0.5 | <1 | 8 | 6 | 0.37 | 0.13 | <0.01 | 5 | <1 | 0.08 | <1 | 10 | 4 | 5 | <0.01 | <1 | <10 | 6 |
| 116 | M99RK004R | Murun South | Donhor bulag | dacitic tuff breccia | silicification, sericite | --- | <0.005 | 8 | <0.2 | <10 | <0.2 | 5.72 | 290 | 3.0 | <2 | 0.03 | <0.5 | 1 | 4 | <1 | 1.33 | 2.59 | 0.14 | 145 | 20 | 2.20 | <1 | 170 | 16 | 58 | 0.20 | 4 | <10 | 32 |
| 46 | M99NK079R | Bulgan West | Ereen Ikher | breccia | silicification | --- | <0.005 | 7 | <0.2 | 10 | <0.2 | 5.74 | 460 | 2.5 | <2 | 0.21 | <0.5 | <1 | 8 | 1 | 1.52 | 5.66 | 0.06 | 285 | 5 | 0.20 | <1 | 400 | 12 | 64 | 0.24 | 33 | <10 | 86 |
| 151 | M99RK048R | Bulgan West | Ereen ikher | silicified rock | moderate silicification, sericite?, limonite | --- | <0.005 | 7 | 0.2 | <10 | <0.2 | 7.52 | 1130 | 1.5 | <2 | 0.2 | <0.5 | 4 | 5 | <1 | 0.97 | 2.27 | 0.09 | 175 | <1 | 4.18 | 1 | 180 | 12 | 192 | 0.09 | 6 | <10 | 32 |
| 152 | M99RK049R | Bulgan West | Ereen ikher | lapilli tuff | moderate silicification, limonite | --- | <0.005 | 2 | <0.2 | <10 | <0.2 | 6.82 | 1010 | 1.5 | <2 | 0.14 | <0.5 | 1 | 4 | <1 | 0.71 | 2.35 | 0.05 | 335 | <1 | 3.89 | <1 | 210 | 8 | 126 | 0.09 | 5 | <10 | 42 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | M99RK050R | Bulgan West | Ereen ikher | lapilli tuff | moderate silicificatin, limonite, calcite stain | -- | <0.005 | 19 | 0.4 | <10 | <0.2 | 6.54 | 900 | 1.5 | <2 | 0.87 | <0.5 | 2 | 3 | 3 | 1.21 | 6.79 | 0.08 | 155 | <1 | 0.28 | <1 | 560 | 12 | 81 | 0.27 | 15 | <10 | 46 |
| 154 | M99RK051R | Bulgan West | Ereen ikher | lapilli tuff | silicification, white, sericite?, limonite | -- | <0.005 | 187 | 0.8 | 130 | <0.2 | 7.43 | 640 | 1.5 | <2 | 0.05 | <0.5 | 2 | 2 | 1 | 1.81 | 7.86 | 0.02 | 170 | 7 | 0.73 | <1 | 340 | 30 | 86 | 0.13 | 23 | <10 | 24 |
| 60 | M99MZ002R | Uubulan | Gua ulaan uul | silicified rock | silicification | limonite | <0.005 | 6 | <0.2 | <10 | <0.2 | 6.69 | 110 | 5.5 | <2 | 0.07 | <0.5 | 2 | <1 | 3 | 3.58 | 3.86 | 0.05 | 1475 | <1 | 2.83 | <1 | 140 | 34 | 43 | 0.26 | 4 | <10 | 216 |
| 61 | M99MZ003R | Uubulan | Gua ulaan uul | dacite | silicification | Fe-Mn oxides | <0.005 | 5 | <0.2 | 10 | <0.2 | 6.03 | 380 | 5.5 | <2 | 0.13 | <0.5 | 4 | 13 | 3 | 3.85 | 3.41 | 0.03 | 1220 | <1 | 2.12 | 2 | 540 | 58 | 49 | 0.27 | 10 | <10 | 252 |
| 16 | M99NK016R | Uubulan | Gua ulaan uul | breccia | silicification | --- | 0.010 | 73 | 2.2 | <10 | 2.2 | 4.29 | 180 | 5.0 | <2 | 0.28 | <0.5 | 1 | 1 | 6 | 3.61 | 4.13 | 0.06 | 175 | 109 | 0.47 | <1 | 360 | 64 | 100 | 0.25 | 5 | <10 | 144 |
| 113 | M99RK001R | Uubulan | Gua ulaan uul | float, tuff breccia | white-reddish, acidic alteration, kaolin, limonite, weak silicification | -- | <0.005 | 4 | <0.2 | 10 | 1.0 | 7.08 | 810 | 3.0 | <2 | 0.08 | <0.5 | 1 | 4 | 13 | 0.70 | 4.97 | 0.06 | 75 | 36 | 2.71 | <1 | 190 | 38 | 69 | 0.23 | 13 | <10 | 14 |
| 14 | M99NK014R | Uubulan | Holboo ovoo | andesite | pyroxene skarn | --- | <0.005 | 11 | 0.2 | <10 | <0.2 | 8.59 | 1490 | 1.5 | <2 | 5.97 | <0.5 | 15 | 10 | 7 | 3.68 | 2.8 | 1.39 | 2510 | <1 | 2.80 | 10 | 1540 | 48 | 1355 | 0.54 | 128 | <10 | 168 |
| 68 | M99MZ030R | Kholkhoo | Hurilt gol | granite | --- | --- | <0.005 | 4 | <0.2 | <10 | <0.2 | 6.93 | 1030 | 1.5 | <2 | 0.67 | <0.5 | 1 | 9 | <1 | 0.73 | 3.78 | 0.20 | 100 | <1 | 2.52 | 10 | 90 | 28 | 264 | 0.07 | 7 | <10 | 14 |
| 54 | M99HH032R | Bulgan | Jasiin buuts | andesite | weakly silicified | -- | <0.005 | 1 | 0.2 | <10 | <0.2 | 7.75 | 2180 | 1.5 | <2 | 1.33 | <0.5 | 4 | 1 | <1 | 2.68 | 4.05 | 0.59 | 915 | <1 | 2.95 | <1 | 1080 | 12 | 412 | 0.19 | 44 | <10 | 70 |
| 55 | M99HH033R | Bulgan | Jasiin buuts | quartz vein | quartz (black streak) | -- | <0.005 | 4 | 0.2 | <10 | <0.2 | 6.08 | 200 | 1.0 | <2 | 0.24 | <0.5 | 8 | 4 | 17 | 1.54 | 0.13 | 0.52 | 80 | <1 | 3.32 | <1 | 460 | 2 | 189 | 0.13 | 25 | <10 | 14 |
| 56 | M99HH034R | Bulgan | Jasiin buuts | dacite or dacitic tuff | quartz+sericite | -- | <0.005 | 7 | <0.2 | <10 | <0.2 | 7.82 | 1500 | 0.5 | <2 | 0.06 | <0.5 | 1 | 3 | <1 | 0.98 | 2.61 | 0.20 | 135 | <1 | 1.73 | 1 | 210 | 4 | 63 | 0.19 | 12 | <10 | 14 |
| 57 | M99HH035R | Bulgan | Jasiin buuts | altered rock (andesite?) | quartz+sericite | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 7.17 | 1200 | 1.0 | <2 | 0.01 | <0.5 | <1 | <1 | <1 | 0.45 | 3.2 | 0.27 | 130 | <1 | 0.22 | <1 | 40 | <2 | 11 | 0.28 | 27 | <10 | 10 |
| 160 | M99RK058R | Bulgan | Jasiin buuts | dacite? | white, strong silicification, pyrite rich (limonite), mica | -- | <0.005 | 2 | <0.2 | <10 | <0.2 | 1.22 | 190 | <0.5 | <2 | <0.01 | <0.5 | <1 | 9 | 14 | 0.17 | 0.54 | 0.04 | 5 | 7 | 0.07 | <1 | 40 | <2 | 9 | 0.05 | 5 | <10 | 2 |
| 161 | M99RK059R | Bulgan | Jasiin buuts | dacite? | white, moderate silicification, pyrite rich(limonite) | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 7.63 | 570 | 0.5 | <2 | 0.02 | <0.5 | <1 | 2 | 5 | 0.32 | 3.58 | 0.25 | 45 | <1 | 0.30 | <1 | 40 | <2 | 12 | 0.17 | 32 | <10 | 10 |
| 162 | M99RK060R | Bulgan | Jasiin buuts | dacite? | white, silicification, pyrite(limonite) | -- | <0.005 | 12 | <0.2 | <10 | 0.2 | 6.44 | 440 | 1.0 | <2 | 1.69 | <0.5 | 4 | 3 | 13 | 1.40 | 1.52 | 0.14 | 185 | 3 | 2.82 | <1 | 610 | 14 | 476 | 0.38 | 45 | <10 | 28 |
| 163 | M99RK061R | Bulgan | Jasiin buuts | dacitic tuff | moderate silicification, pyrite rich, limonite along cruck, sericite?, mica | -- | <0.005 | 4 | <0.2 | <10 | <0.2 | 7.18 | 2610 | 1.0 | <2 | 0.07 | <0.5 | 1 | 3 | 9 | 1.10 | 2.96 | 0.24 | 75 | <1 | 0.65 | <1 | 160 | 30 | 71 | 0.11 | 23 | <10 | 18 |
| 164 | M99RK062R | Bulgan | Jasiin buuts | silicified rock | strong silicification, limonite along cruck, sericite?, mica | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 1.62 | 400 | <0.5 | <2 | 0.01 | <0.5 | <1 | 15 | 10 | 0.17 | 0.68 | 0.03 | 20 | <1 | 0.08 | <1 | 60 | 6 | 27 | 0.14 | 14 | <10 | 2 |
| 102 | M99MZ066M | Bulgan | Khar uul | quartz veinlet | epidote | Cu oxide | 0.010 | 7 | 10.5 | 290 | 6.6 | 9.13 | 20 | 1.5 | --- | 13.95 | 1.5 | 15 | 93 | 13000 | 4.25 | 0.13 | 0.88 | 480 | <1 | 0.93 | 43 | --- | 720 | 160 | 0.52 | 260 | <10 | 28 |
| 103 | M99MZ067M | Bulgan | Khar uul | quartz veinlet | epidote | Cu oxide | <0.005 | <1 | 0.8 | 50 | 0.6 | 8.71 | 20 | 1.5 | <2 | 13 | <0.5 | 14 | 83 | 1365 | 2.87 | 0.12 | 0.71 | 465 | <1 | 0.39 | 33 | 1070 | 96 | 100 | 0.39 | 192 | <10 | 28 |
| 73 | M99MZ018R | Erdenet | Khujiriin gol | granodiorite | potassic alteration? | --- | <0.005 | 8 | <0.2 | <10 | <0.2 | 8.31 | 680 | 2.0 | <2 | 2.65 | <0.5 | 16 | 49 | 72 | 3.88 | 2.57 | 1.75 | 1110 | <1 | 3.14 | 42 | 990 | 62 | 556 | 0.50 | 108 | <10 | 460 |
| 74 | M99MZ019R | Erdenet | Khujiriin gol | andesite | --- | magnetite | <0.005 | 7 | <0.2 | <10 | <0.2 | 7.90 | 1940 | 2.0 | <2 | 1.84 | <0.5 | 9 | 10 | 113 | 2.89 | 2.8 | 0.51 | 750 | <1 | 2.35 | 8 | 680 | 26 | 605 | 0.37 | 77 | <10 | 62 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | M99MZ020R | Erdenet | Khujirtin gol | monzonite | --- | --- | <0.005 | 7 | 0.2 | <10 | <0.2 | 8.84 | 780 | 4.0 | <2 | 0.68 | <0.5 | 7 | 12 | 16 | 1.91 | 3.68 | 0.55 | 370 | <1 | 3.95 | 9 | 540 | 106 | 378 | 0.25 | 38 | <10 | 116 |
| 76 | M99MZ021R | Erdenet | Khujirtin gol | diorite | --- | red hematite | <0.005 | <1 | <0.2 | 10 | <0.2 | 8.57 | 650 | 1.0 | <2 | 3.8 | <0.5 | 22 | 32 | 48 | 5.28 | 1.47 | 2.11 | 1090 | <1 | 3.43 | 23 | 1490 | 14 | 776 | 0.65 | 163 | <10 | 126 |
| 132 | M99RK022R | Erdenet | Khujirtin gol | float, granite | quartz veinlet in(W:3mm), limonite | -- | <0.005 | 19 | 0.2 | <10 | <0.2 | 7.29 | 560 | 1.5 | <2 | 1.79 | <0.5 | 11 | 32 | 27 | 3.18 | 2.56 | 1.22 | 855 | <1 | 2.88 | 11 | 870 | 54 | 534 | 0.44 | 94 | <10 | 102 |
| 133 | M99RK023R | Erdenet | Khujirtin gol | quartz vein | quartz network, fluorite | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 2.46 | 170 | 0.5 | <2 | 0.15 | <0.5 | 1 | 4 | 14 | 0.37 | 1.09 | 0.18 | 170 | <1 | 1.09 | 2 | 140 | 52 | 37 | 0.06 | 8 | <10 | 200 |
| 94 | M99MZ049R | Erdenet | Megeit gol | silicified rock | tourmaline? | --- | <0.005 | 7 | <0.2 | <10 | <0.2 | 6.17 | 260 | 0.5 | <2 | 0.19 | <0.5 | 1 | 4 | 2 | 2.67 | 2.22 | 0.04 | 130 | <1 | 1.15 | <1 | 240 | 18 | 106 | 0.10 | 16 | <10 | 8 |
| 15 | M99NK015R | Uubulan | Mogoin gol | diorite | --- | Cu, Mn oxides | 0.085 | 1 | 0.2 | 60 | 16.2 | 7.65 | 40 | 4.5 | 10 | 5.97 | 1.5 | 20 | 2 | 952 | 5.54 | 0.26 | 0.86 | 10000 | 6 | 0.46 | <1 | 340 | 1475 | 886 | 0.15 | 43 | <10 | 1055 |
| 28 | M99NK032R | Erdenet | Mogoin gol | quartzite gravel | --- | --- | <0.005 | 3 | <0.2 | <10 | 0.2 | 0.10 | 10 | <0.5 | <2 | 0.2 | <0.5 | <1 | 20 | 8 | 0.08 | 0.01 | 0.08 | 80 | 1 | 0.04 | 9 | 20 | <2 | 12 | <0.01 | 3 | <10 | <2 |
| 29 | M99NK034R | Erdenet | Mogoin gol | granite | quartz, sericite, limonite | --- | <0.005 | 2 | 0.2 | <10 | 0.2 | 6.91 | 490 | <0.5 | <2 | 0.05 | <0.5 | 1 | 10 | 5 | 3.52 | 0.14 | 0.02 | 15 | 1 | 0.12 | 1 | 1160 | 26 | 669 | 0.07 | 34 | <10 | 2 |
| 30 | M99NK035R | Erdenet | Mogoin gol | granite | quartz, limonite | --- | <0.005 | <1 | <0.2 | <10 | <0.2 | 0.09 | 20 | <0.5 | <2 | <0.01 | <0.5 | <1 | 3 | 1 | 0.22 | 0.03 | <0.01 | <5 | 3 | 0.01 | <1 | 10 | <2 | 7 | 0.11 | 10 | <10 | <2 |
| 31 | M99NK036R | Erdenet | Mogoin gol | granite | quartz, limonite | --- | <0.005 | 4 | <0.2 | <10 | <0.2 | 0.05 | 10 | <0.5 | <2 | <0.01 | <0.5 | <1 | 4 | <1 | 0.16 | 0.01 | <0.01 | <5 | 2 | <0.01 | <1 | <10 | <2 | 5 | 0.05 | 6 | <10 | <2 |
| 32 | M99NK037R | Erdenet | Mogoin gol | granite | quartz, limonite | --- | <0.005 | 3 | <0.2 | <10 | <0.2 | 0.05 | 10 | <0.5 | <2 | <0.01 | <0.5 | <1 | 5 | <1 | 0.22 | 0.01 | <0.01 | <5 | <1 | 0.01 | <1 | 10 | <2 | 6 | 0.08 | 7 | <10 | <2 |
| 112 | M99MZ076R | Zaamar West | Mt. Eagle North | tuff | silicification | --- | <0.005 | 15 | 0.4 | <10 | <0.2 | 7.68 | 300 | 1.5 | <2 | 2.93 | <0.5 | 5 | 74 | 25 | 0.85 | 1.58 | 1.91 | 135 | <1 | 3.20 | 29 | 280 | 4 | 361 | 0.49 | 131 | <10 | 18 |
| 171 | M99RK069R | Bulgan | Mt. Zain gobaav | white altered rock | weak silicification, weak pyrite dissemination, limonite, kaoline | -- | <0.005 | 6 | 0.6 | <10 | 0.2 | 8.93 | 400 | <0.5 | <2 | 0.15 | <0.5 | <1 | 6 | 54 | 0.42 | 0.27 | 0.02 | 5 | <1 | 0.22 | <1 | 990 | 30 | 699 | 0.38 | 67 | <10 | <2 |
| 172 | M99RK070R | Bulgan | Mt. Zain gobaav | white altered rock | weak silicification, pyrite dissemination, limonite | -- | <0.005 | 13 | 0.6 | 150 | <0.2 | 9.04 | 300 | <0.5 | <2 | 0.15 | <0.5 | 1 | 6 | 12 | 1.20 | 1.46 | 0.06 | 5 | <1 | 0.32 | <1 | 610 | 12 | 293 | 0.44 | 88 | <10 | 6 |
| 173 | M99RK071R | Bulgan | Mt. Zain gobaav | altered rock | brown, strong limonitization, montmorillonite? | -- | <0.005 | 55 | 3.2 | 30 | <0.2 | 7.35 | 340 | <0.5 | <2 | 0.6 | <0.5 | 2 | 118 | 27 | 5.32 | 2.27 | 0.83 | 110 | <1 | 0.48 | 5 | 910 | 12 | 280 | 0.70 | 159 | <10 | 42 |
| 174 | M99RK072R | Bulgan | Mt. Zain gobaav | altered rock | brown, strong limonitization | -- | <0.005 | 186 | 3.4 | 30 | <0.2 | 5.49 | 110 | <0.5 | <2 | 0.4 | <0.5 | 3 | 40 | 84 | 16.35 | 1 | 0.31 | 25 | <1 | 0.12 | <1 | 910 | 2 | 84 | 0.55 | 162 | <10 | 12 |
| 175 | M99RK073R | Bulgan | Mt. Zain gobaav | altered rock | yellow-brown, limonite, weak acid leached | -- | <0.005 | 3 | 0.4 | <10 | 0.2 | 2.91 | 1180 | <0.5 | <2 | 0.13 | <0.5 | <1 | 14 | 17 | 0.99 | 0.26 | 0.03 | 5 | <1 | 0.14 | <1 | 1130 | 38 | 952 | 0.49 | 43 | <10 | 6 |
| 176 | M99RK074R | Bulgan | Mt. Zain gobaav | white altered rock | moderate silicification, pyrite dissemination, limonite | -- | <0.005 | 100 | 0.4 | 60 | <0.2 | 5.95 | 570 | <0.5 | <2 | 0.26 | <0.5 | 1 | 22 | 9 | 1.12 | 0.98 | 0.07 | 10 | <1 | 0.26 | <1 | 2310 | 42 | 1415 | 0.37 | 47 | <10 | 2 |
| 179 | M99RK077R | Bulgan | Mt. Zain gobaav | float, white altered rock | white, kaoline?, weak silicification | -- | <0.005 | 5 | 1.0 | 280 | 0.2 | 5.20 | 910 | <0.5 | <2 | 0.67 | <0.5 | <1 | 33 | 63 | 0.43 | 0.38 | 0.03 | 10 | <1 | 0.19 | <1 | 1970 | 100 | 1820 | 0.19 | 57 | <10 | 2 |
| 180 | M99RK078R | Bulgan | Mt. Zain gobaav | andesite | weak silicification, epidote, hematite | malachite | <0.005 | 6 | <0.2 | <10 | 4.8 | 6.83 | 1330 | 0.5 | <2 | 2.31 | <0.5 | 19 | 42 | 3100 | 3.46 | 1.76 | 1.65 | 590 | <1 | 2.20 | 25 | 1880 | 6 | 1030 | 0.52 | 104 | <10 | 54 |
| 9 | M99NK009R | Bulgan SW | Oiut honhor | silicified rock | silicification | --- | <0.005 | 4 | 0.4 | <10 | <0.2 | 6.45 | 250 | 2.0 | <2 | 0.07 | <0.5 | 3 | 5 | 3 | 1.18 | 3.44 | 0.31 | 140 | <1 | 1.26 | 3 | 50 | 10 | 64 | 0.06 | 4 | <10 | 68 |

# Table A-16 Geochemical analysis of rock samples



| No | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | M99NK010R | Bulgan SW | Oiut honhor | silicified rock | silicification | limonite | <0.005 | 30 | 0.6 | 40 | 0.8 | 7.24 | 660 | 1.5 | <2 | 0.28 | <0.5 | 3 | 25 | 79 | 4.33 | 1.72 | 0.52 | 75 | 1 | 2.50 | 5 | 1740 | 128 | 462 | 0.10 | 86 | <10 | 40 |
| 11 | M99NK011R | Bulgan SW | Oiut honhor | silicified rock | silicification | fine pyrite | <0.005 | 64 | 0.4 | 10 | <0.2 | 4.09 | 260 | 1.5 | <2 | 0.11 | <0.5 | 3 | 23 | 49 | 2.98 | 0.32 | 0.62 | 80 | 6 | 0.30 | 37 | 1090 | 28 | 186 | 0.10 | 59 | <10 | 54 |
| 12 | M99NK012R | Bulgan SW | Oiut honhor | silicified rock | silicification | Cu oxides | <0.005 | 35 | 1.0 | 50 | 1.4 | 7.89 | 320 | 2.0 | 2 | 0.85 | <0.5 | 5 | 23 | 459 | 3.53 | 1.75 | 0.61 | 85 | 5 | 2.35 | 10 | 4580 | 148 | 404 | 0.22 | 95 | <10 | 84 |
| 13 | M99NK013M | Bulgan SW | Oiut honhor | hydrothermal breccia | silicification | fine pyrite | 0.015 | 24 | 1.2 | 30 | 1.6 | 7.56 | 590 | 1.5 | <2 | 0.11 | 2.5 | 11 | 11 | 94 | 7.36 | 2.93 | 0.60 | 115 | 2 | 0.35 | 18 | 1490 | 166 | 370 | 0.14 | 81 | <10 | 416 |
| 119 | M99RK007R | Khokhoo | Quartz | float, quartz vein | limonite | -- | <0.005 | 1 | <0.2 | 10 | <0.2 | 0.05 | 10 | <0.5 | <2 | 0.25 | <0.5 | <1 | 7 | 6 | 0.18 | 0.01 | 0.05 | 190 | 1 | 0.03 | 5 | <10 | 2 | 4 | <0.01 | <1 | <10 | 2 |
| 124 | M99RK012R | Khokhoo | Quartz | float, quartz vein | hematite | | <0.005 | 11 | <0.2 | <10 | <0.2 | 0.14 | 10 | <0.5 | <2 | 0.01 | <0.5 | <1 | 7 | <1 | 0.21 | 0.04 | <0.01 | 30 | <1 | 0.03 | <1 | 40 | <2 | 2 | <0.01 | 1 | <10 | <2 |
| 125 | M99RK013R | Khokhoo | Quartz | quartz vein | limonite | molybdenite? | <0.005 | 1 | <0.2 | <10 | <0.2 | 0.18 | 40 | <0.5 | <2 | 10.5 | 0.5 | <1 | 4 | 2 | 0.24 | 0.01 | 0.13 | 485 | <1 | 0.12 | <1 | 10 | 2 | 600 | <0.01 | 1 | <10 | <2 |
| 126 | M99RK014R | Khokhoo | Quartz | limestone | strong silicification | -- | <0.005 | 1 | <0.2 | <10 | 0.2 | 0.36 | <10 | <0.5 | 2 | 19.25 | <0.5 | 2 | <1 | <1 | 0.29 | 0.03 | 12.65 | 220 | <1 | 0.23 | <1 | 70 | 70 | 171 | <0.01 | <1 | <10 | 40 |
| 127 | M99RK015R | Khokhoo | Quartz | basalt? basic tuff? | weak silicificatron | -- | <0.005 | 1 | <0.2 | <10 | 0.2 | 1.84 | <10 | <0.5 | 6 | >25.0 | 0.5 | 5 | 4 | 2 | 0.98 | 0.03 | 1.09 | 4790 | <1 | 0.85 | 5 | 50 | 26 | 666 | 0.05 | 4 | <10 | 28 |
| 128 | M99RK016R | Khokhoo | Quartz | limestone | weak silicification | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 0.18 | 10 | <0.5 | 2 | 19.55 | <0.5 | 2 | <1 | <1 | 0.17 | 0.06 | 12.75 | 130 | <1 | 0.09 | <1 | 50 | <2 | 123 | 0.01 | <1 | <10 | 2 |
| 59 | M99MZ001R | Uubulan | Sairiin hundii | dacite | silicification | limonite | <0.005 | 4 | <0.2 | <10 | <0.2 | 8.00 | 1140 | 2.5 | <2 | 0.22 | <0.5 | 1 | 3 | 4 | 1.35 | 3.48 | 0.10 | 220 | <1 | 3.92 | <1 | 1750 | 26 | 190 | 0.23 | 15 | <10 | 58 |
| 111 | M99MZ075R | Zaamar West | SAR M-2 | andesite | zeolite, silica | -- | <0.005 | <1 | <0.2 | 60 | <0.2 | 7.25 | 1010 | 1.5 | 6 | 4.64 | <0.5 | 36 | 193 | 133 | 6.34 | 2.13 | 2.83 | 855 | <1 | 3.22 | 107 | 3610 | 14 | 1095 | 1.22 | 193 | <10 | 108 |
| 136 | M99RK027R | Erdenet | SAR136 | aplite | quartz vein | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 5.28 | 620 | 0.5 | <2 | 0.93 | <0.5 | 1 | 3 | 108 | 0.57 | 3.15 | 0.06 | 90 | <1 | 1.94 | <1 | 30 | 4 | 368 | 0.04 | 18 | <10 | 4 |
| 36 | M99NK048R | Erdenet | SAR138 | granite | --- | malachite | <0.005 | <1 | <0.2 | <10 | 1.2 | 8.00 | 90 | 1.5 | <2 | 1.48 | <0.5 | 13 | 22 | 1560 | 1.95 | 0.35 | 0.86 | 590 | <1 | 5.01 | 13 | 920 | 66 | 924 | 0.31 | 65 | <10 | 170 |
| 37 | M99NK053R | Erdenet | SAR139 | quartz+epidote vein | epidote | --- | <0.005 | <1 | 0.4 | <10 | <0.2 | 7.71 | 30 | 0.5 | <2 | 9.61 | <0.5 | 6 | 27 | 8 | 5.60 | 0.09 | 0.65 | 1960 | <1 | 0.23 | 5 | 780 | 14 | 1420 | 0.37 | 135 | <10 | 28 |
| 38 | M99NK056M | Erdenet | SAR139 | ore | epidote, silicification | malachite, chalcopyrite, pyrite | 0.110 | 5 | 0.2 | <10 | 13.2 | 5.95 | 120 | 0.5 | --- | 6.93 | <0.5 | 18 | 26 | 20700 | 6.82 | 0.25 | 1.49 | 1825 | <1 | 0.51 | 22 | --- | 18 | 1540 | 0.26 | 157 | <10 | 52 |
| 39 | M99NK057M | Erdenet | SAR139 | ore | epidote, silicification | malachite, chalcopyrite, pyrite, limonite | 0.045 | 3 | <0.2 | <10 | 4.6 | 7.12 | 350 | 0.5 | 2 | 4.36 | <0.5 | 15 | 13 | 8560 | 3.83 | 0.82 | 1.50 | 1065 | 3 | 2.36 | 17 | 1310 | 10 | 1190 | 0.41 | 114 | <10 | 42 |
| 134 | M99RK024R | Erdenet | SAR144 | silicified rock(granite) | silicification(W:20cm), epidote, quartz vein in, biotite rich | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.65 | 10 | 1.5 | <2 | 10.45 | <0.5 | 14 | 14 | 36 | 3.68 | 0.13 | 1.01 | 655 | <1 | 0.69 | 12 | 940 | 10 | 2520 | 0.44 | 185 | <10 | 38 |
| 135 | M99RK025M | Erdenet | SAR144 | granite | potassic(k-feldsper+biotite), limonite | malachite along fracture (2*3m) | 0.005 | <1 | <0.2 | <10 | 2.0 | 8.10 | 260 | 0.5 | --- | 4.53 | <0.5 | 48 | 19 | 20200 | 4.67 | 0.61 | 1.90 | 650 | 15 | 2.73 | 37 | --- | 6 | 1135 | 0.72 | 159 | <10 | 180 |
| 177 | M99RK075M | Bulgan | SAR181 | andesite | moderate silicification, epidote, hematite, 1*0.6cm | malachite | <0.005 | 1 | 0.2 | 590 | 7.8 | 8.23 | 30 | 0.5 | --- | 13.45 | <0.5 | 22 | 141 | 13300 | 4.19 | 0.1 | 0.78 | 435 | <1 | 0.24 | 59 | --- | 14 | 248 | 0.59 | 137 | <10 | 28 |
| 170 | M99RK068M | Bulgan | SAR182 | epidote vein | silicified, epidote | malachite | 0.010 | 3 | 0.2 | <10 | 3.4 | 7.88 | 30 | 1.5 | <2 | 9.9 | <0.5 | 12 | 21 | 7430 | 2.84 | 0.12 | 0.24 | 510 | <1 | 0.40 | 17 | 740 | 24 | 1825 | 0.27 | 311 | <10 | 8 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 168 | M99RK066R | Bulgan | SAR183 | float, epidote vein | silicified, epidote, quartz veinlet in | -- | <0.005 | 1 | 0.2 | <10 | <0.2 | 7.98 | 40 | 1.5 | <2 | 8.53 | <0.5 | 10 | 95 | 41 | 4.12 | 0.22 | 0.44 | 740 | <1 | 1.45 | 27 | 1730 | 28 | 4120 | 0.59 | 143 | <10 | 20 |
| 169 | M99RK067M | Bulgan | SAR183 | epidote+quartz vein | silicification, epidote | malachite | <0.005 | <1 | 1.0 | 170 | 8.4 | 9.50 | 10 | 1.5 | --- | 13.2 | <0.5 | 14 | 38 | 19100 | 4.29 | 0.13 | 0.18 | 600 | <1 | 0.27 | 27 | --- | 62 | 5110 | 0.43 | 180 | <10 | 2 |
| 89 | M99MZ034R | Erdenet | SAR188 | granodiorite | epidote | --- | <0.005 | 1 | <0.2 | <10 | <0.2 | 8.89 | 230 | 0.5 | <2 | 9.83 | <0.5 | 13 | 23 | 5 | 6.01 | 1.76 | 0.68 | 1025 | <1 | 0.33 | 6 | 980 | 12 | 2810 | 0.43 | 208 | <10 | 32 |
| 90 | M99MZ035R | Erdenet | SAR188 | granitic rock | tourmaline | --- | <0.005 | 56 | 0.2 | 20 | <0.2 | 4.78 | 10 | 0.5 | <2 | 0.38 | <0.5 | 11 | 12 | 7 | 1.88 | 0.12 | 0.48 | 150 | <1 | 2.41 | 3 | 740 | 96 | 104 | 0.29 | 59 | <10 | 38 |
| 41 | M99NK064R | Erdenet | SAR188 | basalt | epidote, quartz | --- | <0.005 | 3 | 0.2 | <10 | 0.2 | 8.85 | 120 | 0.5 | <2 | 5.02 | <0.5 | 17 | 17 | 4 | 5.27 | 0.48 | 2.38 | 875 | <1 | 3.71 | 13 | 680 | 6 | 713 | 0.65 | 214 | <10 | 66 |
| 48 | M99NK082R | Bulgan | SAR194 | andesite | epidote, silicification | malachite | <0.005 | <1 | 0.2 | 100 | 19.8 | 9.14 | 10 | 4.5 | --- | 14.8 | <0.5 | 12 | 128 | 25700 | 4.81 | 0.12 | 0.69 | 455 | <1 | 0.30 | 41 | --- | 44 | 125 | 0.49 | 231 | <10 | <2 |
| 178 | M99RK076M | Bulgan | SAR194 | andesite | epidote, silicifiction, quartz vein(W:3-5cm) | malachite | <0.005 | <1 | <0.2 | 10 | 5.4 | 8.41 | 10 | 1.5 | 14 | 14.4 | <0.5 | 21 | 59 | 4400 | 4.54 | 0.07 | 1.18 | 560 | <1 | 0.93 | 39 | 1630 | 12 | 144 | 0.50 | 186 | <10 | 46 |
| 104 | M99MZ068R | Bulgan | SAR197 | quartz veinet | --- | --- | <0.005 | 1 | 0.4 | <10 | <0.2 | 7.09 | 260 | 0.5 | <2 | 3.62 | <0.5 | 19 | 81 | 110 | 3.68 | 0.63 | 1.70 | 485 | <1 | 3.89 | 46 | 1440 | 26 | 851 | 0.54 | 134 | <10 | 64 |
| 105 | M99MZ069R | Bulgan | SAR197 | brecciated rock | --- | limonite | <0.005 | 18 | 0.2 | 610 | <0.2 | 8.11 | 930 | 1.5 | <2 | 2.64 | <0.5 | 22 | 34 | 81 | 4.09 | 2.84 | 1.63 | 740 | <1 | 3.69 | 41 | 3350 | 42 | 626 | 0.67 | 169 | <10 | 54 |
| 141 | M99RK033R | Erdenet | SAR200 | aplite | quartz vein, quartz+magnetite | -- | <0.005 | 2 | <0.2 | <10 | <0.2 | 3.29 | 180 | 2.0 | <2 | 0.09 | <0.5 | <1 | 20 | 34 | 0.08 | 2.44 | 0.02 | 20 | <1 | 1.05 | <1 | 10 | 8 | 76 | <0.01 | 1 | <10 | <2 |
| 108 | M99MZ072R | Bulgan | SAR202 | quartz veinlet | silicification + epidote | --- | <0.005 | 1 | <0.2 | <10 | <0.2 | 6.33 | 40 | 2.0 | <2 | 8.17 | <0.5 | 13 | 44 | 36 | 3.33 | 0.11 | 0.82 | 525 | <1 | 0.50 | 34 | 1520 | 30 | 1460 | 0.49 | 118 | <10 | 34 |
| 109 | M99MZ073M | Bulgan | SAR204 | quartz veinlet | silicification + epidote | malachite | 0.005 | 1 | <0.2 | 540 | 4.8 | 8.18 | 210 | 1.5 | <2 | 4.73 | <0.5 | 20 | 61 | 7060 | 3.53 | 0.49 | 1.76 | 705 | <1 | 3.56 | 48 | 1870 | 28 | 2080 | 0.61 | 131 | <10 | 56 |
| 110 | M99MZ074M | Bulgan | SAR204 | quartz veinlet | silicification + epidote | malachite | <0.005 | 3 | <0.2 | 1050 | 10.0 | 8.49 | 10 | 1.5 | --- | 10.95 | <0.5 | 9 | 55 | 20600 | 4.05 | 0.04 | 0.27 | 630 | <1 | 0.18 | 23 | --- | 30 | 3800 | 0.51 | 198 | <10 | <2 |
| 106 | M99MZ070R | Bulgan | SAR205 | quartz veinet | silicification + epidote | --- | <0.005 | 4 | <0.2 | <10 | <0.2 | 7.28 | 180 | 3.0 | <2 | 5.82 | <0.5 | 9 | 4 | 3 | 2.79 | 1 | 0.62 | 1055 | <1 | 1.13 | 3 | 990 | 108 | 2790 | 0.35 | 113 | <10 | 52 |
| 107 | M99MZ071R | Bulgan | SAR205 | andesite | silicification + epidote | --- | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.92 | 30 | 2.0 | <2 | 10.9 | <0.5 | 14 | 52 | 12 | 4.87 | 0.15 | 0.48 | 600 | <1 | 0.31 | 25 | 1410 | 28 | 3250 | 0.54 | 213 | <10 | 32 |
| 167 | M99RK065R | Bulgan | SAR219 | silicified rock | white, silicified, sericite? | -- | <0.005 | 4 | <0.2 | <10 | <0.2 | 4.46 | 230 | 0.5 | <2 | 0.13 | <0.5 | 2 | 8 | 5 | 0.48 | 0.99 | 0.11 | 195 | <1 | 2.04 | 1 | 120 | 16 | 37 | 0.07 | 16 | <10 | 26 |
| 58 | M99HH036R | Bulgan | SAR221 | quartz vein | quartz+hematite along fracture | -- | <0.005 | 1 | <0.2 | <10 | 0.2 | 5.06 | 110 | 0.5 | <2 | 2.59 | <0.5 | 12 | 76 | 79 | 2.29 | 0.5 | 0.97 | 255 | <1 | 2.63 | 41 | 980 | 4 | 204 | 0.33 | 110 | <10 | 32 |
| 165 | M99RK063R | Bulgan | SAR221 | silicified rock | silicification, epidote, quartz veinlet | -- | <0.005 | 5 | <0.2 | <10 | <0.2 | 10.60 | 20 | 2.0 | <2 | 13.7 | <0.5 | 16 | 49 | 52 | 3.53 | 0.16 | 0.63 | 505 | <1 | 0.84 | 24 | 1040 | 32 | 1480 | 0.40 | 242 | <10 | 44 |
| 166 | M99RK064R | Bulgan | SAR222 | andesite | silicification, quartz veinlet in | -- | <0.005 | 4 | <0.2 | <10 | 0.2 | 5.44 | 580 | 0.5 | <2 | 0.85 | <0.5 | 2 | 8 | 33 | 0.63 | 1.6 | 0.25 | 190 | <1 | 2.79 | <1 | 390 | 10 | 220 | 0.17 | 23 | <10 | 28 |
| 145 | M99RK041R | Erdenet | SAR233 | float, silicified rock | silicification, hematite, chlorite? | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 3.21 | 10 | <0.5 | <2 | 6.56 | <0.5 | 2 | 14 | 113 | 0.45 | 0.06 | 0.06 | 125 | 1 | 0.04 | 1 | 170 | 40 | 19 | 0.03 | 26 | <10 | 10 |
| 146 | M99RK042R | Erdenet | SAR235 | granite | weak silicification(W:10m) | -- | <0.005 | 1 | <0.2 | <10 | <0.2 | 6.11 | 450 | <0.5 | <2 | 3.03 | <0.5 | 2 | 5 | 37 | 1.41 | 1.17 | 0.14 | 220 | <1 | 2.87 | <1 | 210 | 4 | 841 | 0.14 | 33 | <10 | 12 |

# Table A-16 Geochemical analysis of rock samples



| No | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 147 | M99RK043R | Erdenet | SAR235 | aplite | silicification, chlorite? | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 6.61 | 40 | 1.5 | <2 | 0.34 | <0.5 | <1 | 3 | 3 | 0.22 | 4.53 | 0.03 | 110 | <1 | 2.49 | <1 | <10 | 26 | 29 | 0.02 | 1 | <10 | 14 |
| 142 | M99RK034R | Erdenet | SAR238 | granite | quartz+tourmalin vein in | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 6.22 | 430 | 0.5 | <2 | 2.08 | <0.5 | 5 | 12 | 16 | 2.03 | 2 | 0.46 | 450 | <1 | 2.52 | 6 | 330 | 12 | 281 | 0.22 | 54 | <10 | 34 |
| 143 | M99RK037R | Erdenet | SAR238 | quartz vein | -- | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 2.58 | 100 | 0.5 | <2 | 0.21 | <0.5 | <1 | 11 | 8 | 0.26 | 1.5 | 0.04 | 55 | <1 | 1.12 | <1 | 10 | 2 | 24 | 0.03 | 3 | <10 | 8 |
| 79 | M99MZ024R | Erdenet | SAR25 | granite | --- | --- | <0.005 | 7 | <0.2 | <10 | <0.2 | 6.24 | 700 | 1.0 | <2 | 0.49 | <0.5 | 4 | 11 | 12 | 1.62 | 3.97 | 0.19 | 240 | 1 | 2.13 | 3 | 210 | 24 | 337 | 0.27 | 46 | <10 | 26 |
| 80 | M99MZ025R | Erdenet | SAR25 | granodiorite | --- | pyrite, limonite | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.79 | 930 | 2.0 | <2 | 3.31 | <0.5 | 32 | 113 | 42 | 5.51 | 2.21 | 2.95 | 910 | <1 | 3.27 | 65 | 2990 | 34 | 1200 | 0.81 | 188 | <10 | 102 |
| 144 | M99RK039M | Erdenet | Shand | granite | k-feldsper rich, weak limonite | malachite along crucks | 0.050 | 3 | <0.2 | <10 | 2.2 | 7.26 | 470 | 2.0 | <2 | 0.37 | <0.5 | 11 | 10 | 9490 | 3.54 | 2.41 | 0.56 | 375 | 17 | 3.60 | 10 | 490 | 198 | 127 | 0.23 | 55 | <10 | 130 |
| 1 | M99NK001M | Zaamar | Sudal N177 | quartz vein | --- | limonite | 2.650 | 309 | 2.0 | 30 | 20.4 | 0.28 | 30 | <0.5 | 60 | 0.08 | <0.5 | 8 | 12 | 344 | 15.05 | 0.09 | 0.03 | 165 | 12 | 0.06 | 5 | 240 | 344 | 9 | 0.01 | 18 | 30 | 18 |
| 2 | M99NK002R | Zaamar | Sudal N177 | granite | --- | --- | <0.005 | <1 | <0.2 | <10 | 0.2 | 6.18 | 560 | 1.0 | <2 | 0.08 | <0.5 | 1 | 7 | 5 | 0.63 | 3.24 | 0.06 | 25 | <1 | 2.42 | <1 | 270 | 12 | 51 | 0.05 | 5 | <10 | 6 |
| 3 | M99NK003M | Zaamar | Sudal N177 | quartz vein | --- | --- | <0.005 | 2 | <0.2 | <10 | <0.2 | 0.81 | 40 | <0.5 | <2 | 0.03 | <0.5 | 2 | 10 | 7 | 0.17 | 0.28 | 0.01 | 20 | <1 | 0.31 | <1 | 70 | <2 | 7 | <0.01 | 1 | <10 | <2 |
| 4 | M99NK004M | Zaamar | Sudal N177 | quartz vein | --- | --- | <0.005 | 4 | <0.2 | <10 | <0.2 | 0.04 | <10 | <0.5 | <2 | <0.01 | <0.5 | <1 | 14 | <1 | 0.02 | 0.03 | <0.01 | <5 | <1 | 0.01 | <1 | <10 | <2 | 6 | <0.01 | <1 | <10 | <2 |
| 5 | M99NK005M | Zaamar | Sudal N177 | quartz vein | --- | --- | <0.005 | 6 | 0.2 | <10 | <0.2 | 0.08 | <10 | <0.5 | <2 | 0.52 | <0.5 | <1 | 15 | 2 | 0.14 | 0.02 | 0.05 | 85 | 1 | 0.01 | 1 | 10 | <2 | 36 | <0.01 | 1 | <10 | 2 |
| 6 | M99NK006R | Zaamar | Sudal N177 | slate | pyrite dissemination | pyrite | <0.005 | 48 | 0.2 | <10 | <0.2 | 4.00 | 230 | 0.5 | <2 | 9.52 | <0.5 | 6 | 44 | 19 | 2.44 | 0.92 | 0.64 | 1610 | 1 | 1.42 | 11 | 600 | 28 | 341 | 0.17 | 46 | <10 | 38 |
| 77 | M99MZ022R | Erdenet | Talbulag | dacite | --- | --- | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.66 | 880 | 2.0 | <2 | 2.89 | <0.5 | 21 | 42 | 50 | 3.61 | 2.7 | 1.21 | 650 | <1 | 2.97 | 29 | 1130 | 24 | 1155 | 0.51 | 131 | <10 | 70 |
| 78 | M99MZ023R | Erdenet | Talbulag | volcanic rock | silicification | quartz veinlet | <0.005 | 2 | 0.2 | <10 | <0.2 | 5.99 | 1330 | 1.5 | <2 | 0.2 | <0.5 | 1 | 9 | 4 | 0.62 | 4.11 | 0.04 | 260 | <1 | 2.10 | 1 | 230 | 28 | 158 | 0.09 | 10 | <10 | 18 |
| 33 | M99NK043R | Erdenet | Talbulag | tuff breccia | silicification | --- | <0.005 | 8 | 0.4 | 30 | 0.2 | 3.44 | 680 | <0.5 | <2 | 0.03 | <0.5 | <1 | 55 | 6 | 1.93 | 0.82 | 0.01 | 10 | 4 | 0.46 | 1 | 570 | 18 | 463 | 0.50 | 65 | <10 | <2 |
| 34 | M99NK045R | Erdenet | Talbulag | silicified rock | silicification | --- | <0.005 | 6 | <0.2 | <10 | <0.2 | 0.33 | 190 | 0.5 | <2 | 0.01 | <0.5 | <1 | 20 | 6 | 0.74 | 0.11 | 0.01 | 5 | 2 | 0.04 | <1 | 150 | <2 | 82 | 0.22 | 9 | <10 | <2 |
| 35 | M99NK046R | Erdenet | Talbulag | silicified rock | silicification | --- | <0.005 | 5 | <0.2 | <10 | <0.2 | 6.75 | 730 | 1.0 | <2 | 1.09 | <0.5 | <1 | 11 | 3 | 0.72 | 2.05 | 0.09 | 530 | <1 | 3.42 | <1 | 150 | 12 | 343 | 0.10 | 9 | <10 | 34 |
| 85 | M99MZ030R | Erdenet | Tourmaline | granitic rock | tourmaline-biotite | --- | <0.005 | 3 | 0.4 | 20 | 0.2 | 6.91 | 510 | 1.5 | <2 | 0.02 | <0.5 | <1 | 11 | 12 | 1.06 | 3.02 | 0.42 | 35 | 1 | 0.31 | <1 | 260 | 78 | 25 | 0.14 | 54 | <10 | 18 |
| 86 | M99MZ031R | Erdenet | Tourmaline | syenite | --- | --- | <0.005 | 2 | 0.2 | <10 | <0.2 | 8.03 | 640 | 2.0 | <2 | 0.91 | <0.5 | 4 | 13 | 9 | 1.68 | 3.71 | 0.32 | 140 | 1 | 3.07 | 4 | 390 | 14 | 203 | 0.29 | 42 | <10 | 54 |
| 87 | M99MZ032R | Erdenet | Tourmaline | breccia | tourmaline network | --- | <0.005 | 15 | 0.4 | <10 | <0.2 | 6.32 | 760 | 0.5 | <2 | 0.1 | <0.5 | 1 | 9 | 12 | 3.05 | 2.57 | 0.27 | 60 | 8 | 2.31 | 1 | 460 | 26 | 96 | 0.07 | 27 | <10 | 26 |
| 88 | M99MZ033R | Erdenet | Tourmaline | granitic rock | --- | pyrite diss | <0.005 | 1 | 0.2 | 30 | 0.2 | 7.47 | 140 | 0.5 | <2 | 1.88 | <0.5 | 11 | 11 | 7 | 4.30 | 1.62 | 0.94 | 785 | <1 | 3.89 | 9 | 600 | 120 | 81 | 0.09 | 101 | <10 | 82 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | M99NK060R | Erdenet | Tourmarine | quartz+tourmaline vein | --- | --- | <0.005 | 3 | 0.2 | <10 | <0.2 | 7.02 | 1020 | 0.5 | <2 | 0.13 | <0.5 | 1 | 9 | 47 | 1.72 | 3.64 | 0.27 | 75 | <1 | 1.82 | 1 | 260 | 28 | 108 | 0.07 | 32 | <10 | 26 |
| 81 | M99MZ026R | Erdenet | Tsagaan chuluut | silicified rock | --- | limonite along cracks | <0.005 | 8 | 0.2 | <10 | <0.2 | 6.05 | 750 | 1.5 | <2 | 0.09 | <0.5 | <1 | 7 | 1 | 0.45 | 3.1 | 0.07 | 65 | 1 | 2.56 | <1 | 80 | 20 | 101 | 0.10 | 6 | <10 | 12 |
| 82 | M99MZ027R | Erdenet | Tsagaan chuluut | silica sinter? | --- | --- | <0.005 | 14 | 0.2 | <10 | <0.2 | 6.70 | 650 | 0.5 | <2 | 0.35 | <0.5 | <1 | 4 | <1 | 0.53 | 3.29 | 0.02 | 30 | 3 | 3.62 | <1 | 50 | 6 | 70 | 0.12 | 6 | <10 | 2 |
| 98 | M99MZ061M | Bulgan | Tsookher mert | quartz vein | sericitic | limonite | 0.395 | 49 | 61.0 | 1580 | 35.2 | 1.57 | 70 | 0.5 | 6 | 0.04 | 5.5 | <1 | 12 | 89 | 0.26 | 0.73 | 0.08 | 35 | 16 | 0.06 | 1 | 40 | 16100 | 14 | 0.01 | 28 | <10 | 150 |
| 99 | M99MZ062M | Bulgan | Tsookher mert | quartz vein | sericitic | azurite | 6.290 | 395 | 900.0 | 810 | 554.0 | 1.07 | 80 | 0.5 | 102 | 0.02 | 83.5 | 1 | 18 | 1070 | 0.22 | 0.45 | 0.06 | 25 | 3 | 0.04 | <1 | 50 | 25900 | 16 | <0.01 | 6 | <10 | 170 |
| 100 | M99MZ063R | Bulgan | Tsookher mert | granitic rock | sericitic | --- | 0.110 | 15 | 40.0 | 40 | 192.0 | 5.81 | 1940 | 0.5 | <2 | 0.37 | 1.5 | 5 | 11 | 120 | 0.79 | 3.27 | 0.21 | 175 | <1 | 1.54 | 3 | 210 | 3660 | 153 | 0.08 | 19 | <10 | 372 |
| 101 | M99MZ064M | Bulgan | Tsookher mert | quartz vein | sericitic | malachite, azurite, chalcopyrite? | 1.140 | 792 | 1000.0 | 2450 | 537.0 | 0.99 | 110 | 0.5 | 200 | 0.05 | 167.5 | <1 | 9 | 1940 | 0.14 | 0.42 | 0.05 | 15 | 2 | 0.03 | 1 | 50 | 119000 | 30 | <0.01 | 6 | <10 | 396 |
| 7 | M99NK007R | Zaamar | Ulziit ovoo | andesite | pyroxene skarn | --- | <0.005 | 17 | 0.2 | 10 | <0.2 | 7.86 | 200 | 0.5 | <2 | 11.9 | <0.5 | 17 | 197 | <1 | 3.15 | 1.21 | 3.04 | 1090 | <1 | 1.22 | 180 | 790 | 26 | 249 | 0.88 | 173 | <10 | 48 |
| 8 | M99NK008M | Zaamar | Ulziit ovoo | slate | skarnization | magnetite, Po, chalcopyrite | <0.005 | <1 | <0.2 | 100 | 0.2 | 2.33 | 20 | <0.5 | <2 | 0.14 | <0.5 | 176 | 4 | 498 | 22.00 | 0.18 | 15.00 | 3830 | <1 | 0.29 | 170 | 300 | <2 | 4 | 0.06 | 38 | <10 | 1305 |
| 91 | M99MZ037R | Erdenet | Under | granodiorite | limonite | --- | <0.005 | 16 | 0.4 | <10 | <0.2 | 7.75 | 480 | 1.5 | <2 | 1.56 | <0.5 | 8 | 17 | 32 | 5.99 | 1.64 | 0.44 | 350 | <1 | 4.34 | 3 | 1040 | 14 | 203 | 0.45 | 136 | <10 | 26 |
| 92 | M99MZ038R | Erdenet | Under | granodiorite | --- | --- | <0.005 | 5 | 0.2 | <10 | <0.2 | 7.85 | 620 | 1.5 | <2 | 3.14 | <0.5 | 16 | 18 | 50 | 4.44 | 2.2 | 1.20 | 785 | <1 | 3.06 | 6 | 1060 | 8 | 356 | 0.52 | 113 | <10 | 54 |
| 93 | M99MZ040R | Erdenet | Under | quartz porphyry | oxidization | --- | <0.005 | 2 | <0.2 | <10 | <0.2 | 7.34 | 980 | 1.0 | <2 | 0.11 | <0.5 | 1 | 3 | 5 | 0.77 | 3.38 | 0.13 | 50 | <1 | 3.67 | <1 | 170 | 16 | 73 | 0.05 | 13 | <10 | 10 |
| 97 | M99MZ060R | Bulgan West | Undrakh | quartz veinlet | potassic alteration | malachite, chalcocite | <0.005 | 3 | <0.2 | <10 | 1.6 | 4.62 | 600 | 0.5 | <2 | 0.97 | <0.5 | 5 | 6 | 122 | 0.61 | 1.8 | 0.07 | 140 | 7 | 2.10 | 1 | 90 | 50 | 712 | 0.03 | 32 | <10 | 10 |
| 157 | M99RK054R | Bulgan West | Undrakh | quartz vein | limonite | malachite, chalcopyrite, bornite | 0.215 | 2500 | 1.8 | 30 | 33.8 | 2.82 | 180 | 1.0 | --- | 0.16 | <0.5 | 1 | 7 | 18300 | 1.73 | 0.24 | 0.01 | 30 | 208 | 1.81 | 1 | --- | 14 | 117 | 0.08 | 11 | 50 | 16 |
| 158 | M99RK055M | Bulgan West | Undrakh | granite | limonite | malachite along fracture | 0.005 | 15 | <0.2 | 40 | 1.4 | 5.21 | 570 | 1.5 | 2 | 0.26 | <0.5 | 5 | 2 | 8860 | 0.37 | 2.08 | 0.09 | 25 | 14 | 2.34 | 1 | 90 | 2 | 144 | 0.01 | 5 | <10 | 26 |
| 159 | M99RK057M | Bulgan West | Undrakh | granite | limonite, potassic alteration, weak silicification, mica, quartz vein | malachite | <0.005 | 1 | <0.2 | <10 | 0.8 | 6.54 | 1160 | 1.5 | <2 | 0.42 | <0.5 | 1 | 3 | 465 | 0.27 | 4.11 | 0.05 | 55 | <1 | 2.28 | <1 | 40 | 12 | 208 | 0.05 | 5 | <10 | 20 |
| 95 | M99MZ052R | Bulgan West | Urmiin tsgaan nuur | tuff breccia | --- | --- | <0.005 | 3 | <0.2 | <10 | <0.2 | 9.10 | 1020 | 2.0 | <2 | 1.94 | <0.5 | 14 | 24 | 36 | 3.37 | 2.98 | 1.28 | 575 | <1 | 3.73 | 15 | 1300 | 20 | 893 | 0.52 | 104 | <10 | 72 |
| 96 | M99MZ053R | Bulgan West | Urmiin tsgaan nuur | syenite | --- | --- | <0.005 | 1 | 0.2 | <10 | <0.2 | 6.97 | 1760 | 1.5 | <2 | 0.18 | <0.5 | 1 | 6 | 9 | 0.99 | 4.94 | 0.21 | 180 | <1 | 2.13 | <1 | 100 | 14 | 165 | 0.10 | 10 | <10 | 28 |
| 148 | M99RK045R | Bulgan West | Urmiin tsgaan nuur | lapilli tuff | -- | -- | <0.005 | 2 | <0.2 | <10 | <0.2 | 7.81 | 1290 | 2.5 | <2 | 1.39 | <0.5 | 8 | 7 | 14 | 2.64 | 3.45 | 0.67 | 635 | <1 | 3.47 | 3 | 1010 | 18 | 659 | 0.41 | 62 | <10 | 80 |
| 149 | M99RK046R | Bulgan West | Urmiin tsgaan nuur | lapilli tuff | silicification | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 8.29 | 960 | 3.0 | <2 | 1.1 | <0.5 | 7 | 6 | 19 | 1.99 | 3.64 | 0.53 | 460 | <1 | 3.73 | 2 | 600 | 16 | 434 | 0.32 | 44 | <10 | 52 |
| 150 | M99RK047R | Bulgan West | Urmiin tsgaan nuur | lapilli tuff | silicification, quartz vein in (W:2mm, coarse grain, white) | -- | <0.005 | <1 | <0.2 | <10 | <0.2 | 6.90 | 280 | 3.0 | <2 | 0.39 | <0.5 | 1 | 7 | 15 | 0.86 | 4.09 | 0.13 | 290 | <1 | 2.98 | <1 | 130 | 28 | 114 | 0.20 | 10 | <10 | 34 |

# Table A-16 Geochemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | As (ppm) | Sb (ppm) | Hg (ppb) | Ag (ppm) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | P (ppm) | Pb (ppm) | Sr (ppm) | Ti (%) | V (ppm) | W (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | M99NK020M | Khujirt | Yargit | granite | oxide copper | malachite, azurite | <0.005 | 6 | <0.2 | 10 | 6.2 | 6.14 | 860 | 2.0 | <2 | 0.37 | <0.5 | 5 | 3 | 4360 | 1.27 | 2.84 | 0.33 | 480 | 50 | 2.54 | <1 | 390 | 14 | 199 | 0.13 | 22 | <10 | 40 |
| 155 | M99RK052M | Bulgan West | Zaitan | granite | limonite stain, potassic alteration | malachite | 0.010 | 2 | <0.2 | 10 | <0.2 | 7.21 | 810 | 2.0 | <2 | 0.76 | <0.5 | 6 | 5 | 710 | 1.34 | 4.06 | 0.15 | 145 | <1 | 2.60 | 4 | 320 | 10 | 358 | 0.19 | 35 | <10 | 20 |
| 156 | M99RK053M | Bulgan West | Zaitan | granite | strong limonite, silicification | malachite, azurite | 0.535 | 6090 | 3.8 | 80 | 82.8 | 6.93 | 420 | 2.5 | --- | 0.35 | 2 | 5 | 5 | 49100 | 3.03 | 0.6 | 0.04 | 75 | 341 | 4.65 | 3 | --- | 36 | 286 | 0.19 | 13 | 140 | 24 |
| 62 | M99MZ004R | Khujirt | Zost tolgoi | silicified, breccia | silicification | limonite | <0.005 | 4 | <0.2 | <10 | 0.6 | 5.88 | 800 | 0.5 | <2 | 0.01 | <0.5 | 2 | 2 | 34 | 4.89 | 2.66 | 0.17 | 50 | 1 | 0.15 | <1 | 260 | 2 | 12 | 0.08 | 13 | <10 | 28 |
| 63 | M99MZ005R | Khujirt | Zost tolgoi | granite | --- | --- | <0.005 | 1 | <0.2 | <10 | <0.2 | 6.38 | 290 | 0.5 | <2 | 2.33 | <0.5 | 1 | 4 | <1 | 0.59 | 0.55 | 0.11 | 265 | <1 | 3.80 | <1 | 240 | <2 | 246 | 0.18 | 12 | <10 | 20 |
| 17 | M99NK017R | Khujirt | Zost tolgoi | granite | silicification | quartz, sericite, limonite | <0.005 | 3 | <0.2 | <10 | 1.6 | 6.34 | 900 | 1.5 | <2 | 0.06 | <0.5 | 1 | 3 | 4 | 1.19 | 2.69 | 0.35 | 40 | 1 | 0.52 | <1 | 30 | <2 | 15 | 0.08 | 7 | <10 | 6 |
| 18 | M99NK018R | Khujirt | Zost tolgoi | andesite | argillization | --- | <0.005 | 3 | <0.2 | <10 | <0.2 | 6.90 | 40 | <0.5 | <2 | 6.07 | <0.5 | 6 | 30 | 1 | 4.99 | 0.12 | 1.19 | 795 | <1 | 1.59 | 10 | 780 | <2 | 514 | 0.63 | 112 | <10 | 24 |
| 19 | M99NK019R | Khujirt | Zost tolgoi | granite | silicification | --- | <0.005 | 10 | <0.2 | <10 | 0.6 | 6.38 | 850 | 1.5 | <2 | 0.13 | <0.5 | <1 | 2 | 3 | 1.78 | 2.13 | 0.28 | 55 | 1 | 2.00 | <1 | 260 | 6 | 94 | 0.15 | 3 | <10 | 2 |
| 114 | M99RK002R | Khujirt | Zost tolgoi | dacitic tuff breccia | reddish(white), moderate silicification, limonite, sericite | --- | <0.005 | 8 | <0.2 | <10 | <0.2 | 6.19 | 100 | 0.5 | <2 | 0.28 | <0.5 | 1 | 4 | 9 | 1.36 | 0.33 | 0.05 | 10 | <1 | 4.66 | <1 | 90 | <2 | 77 | 0.04 | 2 | <10 | 2 |
| 83 | M99MZ028R | Erdenet | Zuuchiin gol | andesite | silicification | malachite | 0.025 | 25 | 0.2 | 10 | 14.8 | 8.87 | 390 | 1.5 | 26 | 0.4 | 0.5 | 78 | <1 | 8750 | 2.34 | 2.36 | 0.63 | 325 | 1 | 2.75 | 5 | 1310 | 260 | 156 | 0.16 | 49 | <10 | 90 |
| 84 | M99MZ029R | Erdenet | Zuuchiin gol | silicified rock | silicification | --- | 0.010 | 79 | 1.8 | 200 | 0.6 | 6.49 | 800 | 2.0 | <2 | 0.03 | <0.5 | 1 | 2 | 99 | 0.61 | 4.65 | 0.14 | 250 | <1 | 0.21 | <1 | 110 | 506 | 128 | 0.06 | 6 | <10 | 90 |
| 157 | M99RK028R | Erdenet | Zuuchiin gol | granite | -- | -- | <0.005 | 9 | <0.2 | <10 | 0.2 | 8.10 | 780 | 1.5 | <2 | 2.43 | <0.5 | 14 | 13 | 42 | 3.12 | 2.31 | 0.91 | 745 | <1 | 3.74 | 10 | 1010 | 20 | 840 | 0.35 | 79 | <10 | 120 |

# Table A-17 Geochemical analysis of pan concentrated samples

| No | Sample | Survey Point No. | Area | Cu (ppm) | Pb (ppm) | Zn (ppm) | Au (ppb) | Pt (ppb) | Pd (ppb) | Au (ppb) | Sb (ppm) | As (ppm) | Ba (ppm) | Br (ppm) | Ce (ppm) | Cr (ppm) | Co (ppm) | La (ppm) | Mo (ppm) | Sc (ppm) | Ag (ppm) | Ta (ppm) | Th (ppm) | W (ppm) | U (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | M99HH501P | 25f | Southern Camp | 39 | 8 | 59 | 10 | <5 | 4 | 11 | <1 | 3 | 620 | <2 | 90 | 490 | 27 | 28 | <5 | 24 | <10 | <2 | 6 | <5 | <2 |
| 2 | M99HH502P | --- | Southern Camp | 39 | 5 | 53 | 4 | <5 | <2 | <10 | <1 | 5 | 650 | <2 | 49 | 990 | 35 | 20 | <5 | 22 | <10 | <2 | 4 | <5 | <2 |
| 3 | M99MZ501P | | | 3 | 6 | 36 | 2 | <5 | <2 | <10 | <1 | 2 | 720 | <2 | 57 | 130 | <20 | 24 | <5 | 3 | <10 | <2 | 7 | <5 | <2 |
| 4 | M99MZ502P | 16 | Altgana gol | 9 | 5 | 29 | <2 | <5 | <2 | <10 | <1 | 5 | 780 | <2 | 53 | 630 | <20 | 25 | <5 | 6 | <10 | <2 | 5 | <5 | 2 |
| 5 | M99MZ503P | 18 | Altgana gol NW | 18 | 8 | 41 | <2 | <5 | 4 | <10 | 1 | 13 | 510 | 2 | 41 | <100 | 21 | 18 | <5 | 8 | <10 | <2 | 3 | <5 | <2 |
| 6 | M99MZ504P | 20 | Khokhoo | 3 | 3 | 13 | <2 | <5 | <2 | <10 | <1 | <2 | 1000 | <2 | 73 | 120 | <20 | 32 | <5 | 6 | <10 | 2 | 8 | <5 | <2 |
| 7 | M99MZ505P | 20a | Khokhoo | 5 | 5 | 18 | <2 | <5 | <2 | <10 | <1 | <2 | 1500 | <2 | 120 | 120 | <20 | 41 | <5 | 7 | <10 | <2 | 7 | <5 | <2 |
| 8 | M99MZ506P | 20c | Khokhoo | 6 | 4 | 21 | <2 | <5 | <2 | <10 | <1 | <2 | 890 | <2 | 70 | 160 | <20 | 27 | <5 | 12 | <10 | <2 | 5 | <5 | <2 |
| 9 | M99MZ507P | 38 | Erdenet | 23 | 17 | 57 | <2 | <5 | <2 | <10 | <1 | 13 | 850 | <2 | 58 | <100 | <20 | 22 | <5 | 12 | <10 | <2 | 7 | <5 | <2 |
| 10 | M99MZ508P | 42 | Erdenet | 21 | 12 | 40 | <2 | <5 | <2 | <10 | <1 | 8 | 620 | <2 | 48 | 170 | <20 | 23 | <5 | 15 | <10 | <2 | 5 | <5 | <2 |
| 11 | M99MZ509P | 27 | Bulgan West | 20 | 18 | 60 | <2 | <5 | <2 | <10 | <1 | 12 | 900 | <2 | 50 | <100 | <20 | 22 | <5 | 12 | <10 | <2 | 4 | <5 | <2 |
| 12 | M99MZ510P | 33 | Bulgan | 12 | 8 | 30 | <2 | <5 | <2 | <10 | <1 | 4 | 910 | <2 | 37 | <100 | <20 | 17 | <5 | 7 | <10 | <2 | 3 | <5 | <2 |
| 13 | M99MZ511P | SAR205 | Bulgan | 36 | 18 | 83 | <2 | <5 | <2 | <10 | <1 | 8 | 880 | <2 | 73 | 130 | 35 | 29 | <5 | 16 | <10 | <2 | 4 | <5 | <2 |
| 14 | M99RK500P | 38-SAR | Erdenet | 62 | 10 | 98 | <2 | <5 | <2 | <10 | 1 | 22 | 770 | <2 | 110 | <100 | <20 | 35 | <5 | 27 | <10 | <2 | 3 | <5 | <2 |
| 15 | M99RK501P | 36 | Erdenet | 28 | 25 | 84 | <2 | <5 | <2 | <10 | <1 | 13 | 600 | 2 | <20 | <100 | <20 | 16 | <5 | 7 | <10 | <2 | 8 | <5 | 2 |
| 16 | M99RK502P | SAR136 | Erdenet | 18 | 10 | 35 | <2 | <5 | <2 | <10 | <1 | 7 | 710 | <2 | 87 | 170 | 22 | 32 | <5 | 12 | <10 | <2 | 7 | <5 | 2 |
| 17 | M99RK503P | SAR200 | Erdenet | 18 | 6 | 35 | <2 | <5 | <2 | <10 | <1 | 5 | 630 | <2 | 47 | <100 | <20 | 17 | <5 | 12 | <10 | <2 | 3 | <5 | <2 |
| 18 | M99RK504P | SAR127 | Erdenet | 26 | 8 | 36 | <2 | <5 | <2 | <10 | <1 | 7 | 510 | <2 | 49 | 280 | 29 | 21 | <5 | 32 | <10 | <2 | 4 | <5 | <2 |

# Table A-18 Ore grade assay

| Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | Au (g/t) | Ag (g/t) | Al (%) | Ba (ppm) | Be (ppm) | Bi (ppm) | Ca (%) | Cd (ppm) | Co (ppm) | Cr (ppm) | Cu (ppm) | Fe (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M99HH009R | Erdenet | Northwest | ore | —— | pyrite, chalcopyrite, molybdenite | <0.03 | 5 | 8.90 | 1000 | <10 | <20 | 0.40 | <10 | 10 | <10 | 5670 | 1.25 |
| M99RK020M | Erdenet | Northwest | silicified rock | storong silicification, quartz+sericite, quartz vein(B-type vein), hypogene zone | chalcopyrite vein and dissemination, covelin along fracture | <0.03 | 3 | 7.05 | 800 | <10 | <20 | 0.05 | <10 | <10 | <10 | 5220 | 3.85 |
| M99RK021M | Erdenet | Northwest | granite | silicification, limonite along cruck, partly oxcidized, potassic(biotite+k-feldsper) | quartz+chalcopyrite and pyrite vein, dissemination, malachite along crack | <0.03 | 1 | 9.20 | 1200 | <10 | <20 | 0.35 | <10 | 10 | 10 | 930 | 2.45 |

| Sample | Region | Name of occurrence | Rock Name | Alteration | Mineralization | K (%) | Mg (%) | Mn (ppm) | Mo (ppm) | Na (%) | Ni (ppm) | Pb (%) | Sr (ppm) | Ti (%) | V (ppm) | Zn (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M99HH009R | Erdenet | Northwest | ore | —— | pyrite, chalcopyrite, molybdenite | 2.3 | 0.25 | 90.00 | 10 | 3.6 | <10 | 0.01 | 500 | 0.05 | 30 | 20 |
| M99RK020M | Erdenet | Northwest | silicified rock | storong silicification, quartz+sericite, quartz vein(B-type vein), hypogene zone | chalcopyrite vein and dissemination, covelin along fracture | 3.1 | 0.25 | 30.00 | 110 | 0.4 | <10 | 0.01 | 50 | 0.05 | 40 | 20 |
| M99RK021M | Erdenet | Northwest | granite | silicification, limonite along cruck, partly oxcidized, potassic(biotite+k-feldsper) | quartz+chalcopyrite and pyrite vein, dissemination, malachite along crack | 2.7 | 0.65 | 830.00 | <10 | 2.9 | <10 | 0.02 | 390 | 0.15 | 40 | 600 |

# Table A-19 Petrological chemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | SiO2 (%) | TiO2 (%) | Al2O3 (%) | Fe2O3 (%) | MnO (%) | MgO (%) | CaO (%) | Na2O (%) | K2O (%) | P2O5 (%) | Cr2O3 (%) | LOI (%) | TOTAL (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | M99MZ015R | Erdenet | Northwest | granitic rock | phyllic alteration | 71.56 | 0.33 | 16.68 | 0.75 | 0.005 | 0.130 | 0.20 | 7.41 | 1.21 | 0.06 | 0.005 | 1.12 | 99.45 |
| 17 | M99MZ017R | Erdenet | Northwest | granitic rock | potassic alteration | 67.70 | 0.37 | 16.79 | 2.30 | 0.040 | 0.860 | 1.22 | 5.40 | 2.64 | 0.13 | 0.005 | 1.48 | 98.93 |
| 8 | M99HH008R | Erdenet | Northwest | granite~granodiorite | -- | 66.29 | 0.57 | 15.79 | 3.43 | 0.050 | 1.030 | 2.47 | 4.21 | 4.14 | 0.13 | 0.005 | 1.33 | 99.44 |
| 9 | M99HH010R | Erdenet | Northwest | andesite dyke | -- | 51.81 | 1.02 | 16.37 | 11.42 | 0.370 | 2.250 | 1.27 | 3.85 | 2.34 | 0.51 | 0.005 | 8.70 | 99.91 |
| 10 | M99HH011R | Erdenet | Northwest | ore-granodiorite | (not identified) | 68.26 | 0.38 | 16.85 | 2.11 | 0.030 | 0.750 | 1.09 | 5.57 | 2.52 | 0.15 | 0.005 | 1.66 | 99.37 |
| 11 | M99HH012R | Erdenet | Northwest | andesite dyke | (not identified) | 51.03 | 1.32 | 15.93 | 8.05 | 0.080 | 2.820 | 3.05 | 3.28 | 2.91 | 0.66 | 0.005 | 5.63 | 94.76 |
| 32 | M99RK025R | Erdenet | SAR144 | granite | potasic alteration? (biotite rich) | 52.66 | 1.36 | 17.83 | 8.75 | 0.130 | 3.900 | 6.43 | 4.46 | 2.29 | 0.40 | 0.005 | 1.74 | 99.95 |
| 1 | M99NK041R | Erdenet | Talbulag | andesite | --- | 57.87 | 0.93 | 15.9 | 6.24 | 0.080 | 0.840 | 6.73 | 3.65 | 2.29 | 0.33 | 0.005 | 4.61 | 99.47 |
| 2 | M99NK051R | Erdenet | SAR139 | granite | --- | 56.87 | 1.37 | 16.48 | 7.81 | 0.140 | 2.590 | 5.44 | 4.50 | 2.11 | 0.54 | 0.005 | 1.44 | 99.29 |
| 3 | M99NK052R | Erdenet | SAR139 | basalt | --- | 57.22 | 1.01 | 17.43 | 7.14 | 0.110 | 3.340 | 5.65 | 4.58 | 2.74 | 0.54 | 0.005 | 0.15 | 99.91 |
| 12 | M99HH013R | Erdenet | SAR 138 | granite | -- | 60.29 | 0.68 | 17.47 | 5.10 | 0.140 | 2.080 | 3.44 | 5.23 | 3.85 | 0.27 | 0.005 | 1.09 | 99.64 |
| 13 | M99HH014R | Erdenet | SAR 139 | basalt | silicified, quartz+epidote vein | 59.72 | 0.69 | 17.82 | 5.94 | 0.080 | 1.620 | 5.04 | 4.76 | 2.06 | 0.45 | 0.005 | 1.65 | 99.83 |
| 14 | M99HH015R | Erdenet | SAR 139 | granodiorite | -- | 62.85 | 0.66 | 16.85 | 4.37 | 0.080 | 1.690 | 3.77 | 4.52 | 2.88 | 0.31 | 0.005 | 1.88 | 99.86 |
| 15 | M99HH017R | Erdenet | SAR 139 | granodiorite | epidote | 62.46 | 0.70 | 16.44 | 4.57 | 0.090 | 2.090 | 3.99 | 4.64 | 3.12 | 0.27 | 0.005 | 1.31 | 99.68 |
| 33 | M99RK030R | Erdenet | Central | granite | quartz vein in | 67.17 | 0.44 | 16.49 | 2.81 | 0.040 | 1.020 | 2.43 | 5.01 | 2.45 | 0.16 | 0.005 | 1.19 | 99.21 |
| 34 | M99RK032R | Erdenet | Central | diorite | epidote | 57.37 | 0.64 | 18.26 | 6.20 | 0.100 | 2.520 | 3.20 | 5.55 | 2.62 | 0.33 | 0.005 | 2.12 | 98.91 |
| 4 | M99NK059R | Erdenet | Tourmarine | granite | --- | 67.99 | 0.52 | 15.25 | 2.77 | 0.030 | 0.570 | 1.32 | 4.06 | 4.94 | 0.12 | 0.005 | 1.20 | 98.77 |
| 5 | M99NK061R | Erdenet | Tourmarine | granite | --- | 68.52 | 0.52 | 15.21 | 3.04 | 0.040 | 0.640 | 1.55 | 4.21 | 5.00 | 0.11 | 0.005 | 0.84 | 99.68 |
| 35 | M99RK038R | Erdenet | SAR238 | granite | quartz vein in | 69.18 | 0.46 | 14.86 | 2.84 | 0.060 | 0.810 | 1.83 | 4.29 | 3.89 | 0.11 | 0.005 | 1.11 | 99.44 |
| 20 | M99MZ042R | Erdenet | Ouyt | granodiorite porphyry | sericitic | 68.93 | 0.29 | 16.26 | 1.72 | 0.050 | 0.690 | 1.14 | 4.22 | 3.75 | 0.12 | 0.005 | 1.77 | 98.94 |
| 21 | M99MZ043R | Erdenet | Ouyt | grnodiorite porphyry | --- | 69.36 | 0.29 | 16.73 | 1.64 | 0.020 | 0.520 | 1.56 | 5.85 | 2.21 | 0.08 | 0.005 | 1.22 | 99.48 |
| 22 | M99MZ044R | Erdenet | Ouyt | granodiorite | --- | 69.58 | 0.28 | 17.18 | 1.05 | 0.030 | 0.570 | 1.34 | 6.30 | 1.75 | 0.04 | 0.005 | 1.23 | 99.35 |
| 18 | M99MZ036R | Erdenet | Under | granodiorite | k-feldsper, epidote | 61.32 | 0.91 | 15.38 | 7.05 | 0.160 | 2.180 | 4.54 | 3.89 | 2.45 | 0.27 | 0.005 | 1.47 | 99.62 |
| 19 | M99MZ039R | Erdenet | Under | quartz porphyry | --- | 72.73 | 0.29 | 13.86 | 0.74 | 0.010 | 0.005 | 0.15 | 4.00 | 5.88 | 0.04 | 0.005 | 0.96 | 98.66 |
| 23 | M99MZ045R | Erdenet | SAR233 | volcanic rock | silicification | 71.00 | 0.31 | 15.39 | 1.08 | 0.140 | 0.005 | 0.10 | 5.75 | 4.81 | 0.07 | 0.005 | 0.93 | 99.58 |
| 24 | M99MZ046R | Erdenet | SAR233 | hydrothermal breccia | --- | 65.41 | 0.90 | 15.47 | 4.96 | 0.090 | 1.210 | 1.32 | 5.73 | 2.40 | 0.44 | 0.005 | 1.72 | 99.65 |
| 25 | M99MZ047R | Erdenet | SAR235 | aplitic rock | silicification | 76.84 | 0.12 | 12.37 | 0.71 | 0.030 | 0.100 | 0.55 | 3.04 | 5.30 | 0.03 | 0.005 | 0.54 | 99.63 |
| 26 | M99MZ048R | Erdenet | SAR235 | granitic rock | silicification, sericite | 50.79 | 0.87 | 19.06 | 8.69 | 0.140 | 2.840 | 11.28 | 2.59 | 0.13 | 0.23 | 0.005 | 2.83 | 99.45 |
| 6 | M99NK067R | Erdenet | Zaluu | basaltic andesite | --- | 55.26 | 1.18 | 16.9 | 7.45 | 0.090 | 3.920 | 4.43 | 4.19 | 2.95 | 0.57 | 0.005 | 2.50 | 99.44 |
| 36 | M99RK044R | Erdenet | SAR127 | granodiorite | --- | 52.84 | 1.11 | 17.42 | 8.30 | 0.130 | 5.110 | 7.50 | 4.11 | 1.29 | 0.29 | 0.005 | 1.55 | 99.65 |
| 27 | M99MZ054R | Bulgan West | Burged khyr | granitic rock | --- | 72.45 | 0.30 | 14.21 | 1.84 | 0.030 | 0.005 | 0.25 | 3.93 | 5.43 | 0.03 | 0.005 | 0.91 | 99.38 |
| 28 | M99MZ055R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 74.77 | 0.31 | 14.01 | 0.39 | 0.005 | 0.050 | 0.15 | 3.43 | 5.45 | 0.03 | 0.005 | 0.98 | 99.57 |
| 29 | M99MZ056R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 72.35 | 0.38 | 14.58 | 1.46 | 0.030 | 0.070 | 0.27 | 3.98 | 4.95 | 0.01 | 0.005 | 1.08 | 99.16 |
| 30 | M99MZ057R | Bulgan West | Nomgon | magnetic rock | k-feldsper | 57.40 | 1.95 | 15.38 | 9.18 | 0.190 | 2.070 | 4.28 | 5.74 | 2.12 | 0.73 | 0.005 | 0.58 | 99.62 |
| 31 | M99MZ059R | Bulgan West | Nomgon | granite | replacement | 62.69 | 0.92 | 17.25 | 4.64 | 0.070 | 1.250 | 2.51 | 5.73 | 3.80 | 0.22 | 0.005 | 0.73 | 99.81 |
| 7 | M99NK083R | Bulgan | Khar uul | andesite | -- | 53.62 | 1.09 | 17.25 | 7.37 | 0.110 | 3.150 | 6.40 | 4.62 | 2.83 | 0.57 | 0.005 | 2.92 | 99.93 |

# Table A-19 Petrological chemical analysis of rock samples



| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | Cu (ppm) | Pb (ppm) | Zn (ppm) | Ag (ppm) | Sn (ppm) | W (ppm) | U (ppm) | Th (ppm) | Sr (ppm) | Rb (ppm) | Ba (ppm) | V (ppm) | Co (ppm) | Cs (ppm) | Ga (ppm) | Hf (ppm) | Ni (ppm) | Nb (ppm) | Ta (ppm) | Ti (ppm) | Zr (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | M99MZ015R | Erdenet | Northwest | granitic rock | phyllic alteration | 850.0 | 5 | 5 | 0.5 | 0.5 | 28 | 0.50 | 0.5 | 293.0 | 21.6 | 187 | 15.0 | 0.3 | 0.5 | 19 | 5 | 2.5 | 1.0 | 0.25 | 0.25 | 205 |
| 17 | M99MZ017R | Erdenet | Northwest | granitic rock | potassic alteration | 455.0 | 10 | 55 | 0.5 | 0.5 | 8 | 1.50 | 3.0 | 885.0 | 42.4 | 910 | 35.0 | 3.0 | 1.3 | 19 | 4 | 2.5 | 2.0 | 0.25 | 0.25 | 213 |
| 8 | M99HH008R | Erdenet | Northwest | granite ~granodiorite | -- | 30.0 | 10 | 30 | 0.5 | 0.5 | 5 | 1.50 | 5.0 | 583.0 | 57.0 | 967 | 55.0 | 6.0 | 1.1 | 17 | 9 | 2.5 | 4.0 | 0.25 | 0.25 | 353 |
| 9 | M99HH010R | Erdenet | Northwest | andesite dyke | -- | 40.0 | 5 | 155 | 0.5 | 0.5 | 5 | 1.00 | 3.0 | 147.5 | 34.6 | 770 | 120.0 | 47.0 | 3.2 | 18 | 4 | 15.0 | 6.0 | 0.25 | 0.25 | 165 |
| 10 | M99HH011R | Erdenet | Northwest | ore-granodiorite | (not identified) | 1010.0 | 10 | 70 | 0.5 | 0.5 | 8 | 1.50 | 3.0 | 902.0 | 38.0 | 983 | 35.0 | 2.5 | 1.2 | 18 | 5 | 2.5 | 1.0 | 0.25 | 0.25 | 223 |
| 11 | M99HH012R | Erdenet | Northwest | andesite dyke | (not identified) | 31600.0 | 10 | 245 | 0.5 | 0.5 | 8 | 0.50 | 3.0 | 1395.0 | 42.2 | 1200 | 155.0 | 19.0 | 1.1 | 19 | 4 | 35.0 | 8.0 | 0.25 | 0.25 | 179 |
| 32 | M99RK025R | Erdenet | SAR144 | granite | potasic alteration? (biotite rich) | 130.0 | 5 | 70 | 0.5 | 0.5 | 6 | 0.50 | 1.0 | 1070.0 | 41.2 | 1325 | 185.0 | 20.5 | 1.4 | 21 | 10 | 15.0 | 5.0 | 0.25 | 0.25 | 328 |
| 1 | M99NK041R | Erdenet | Talbulag | andesite | --- | 30.0 | 15 | 65 | 0.5 | 0.5 | 5 | 2.50 | 9.0 | 1300.0 | 45.8 | 989 | 170.0 | 15.0 | 1.1 | 17 | 4 | 25.0 | 4.0 | 0.25 | 0.25 | 185 |
| 2 | M99NK051R | Erdenet | SAR139 | granite | --- | 35.0 | 15 | 65 | 0.5 | 0.5 | 6 | 1.50 | 5.0 | 821.0 | 41.0 | 508 | 140.0 | 12.5 | 0.7 | 18 | 5 | 2.5 | 4.0 | 0.25 | 0.25 | 190 |
| 3 | M99NK052R | Erdenet | SAR139 | basalt | --- | 30.0 | 10 | 85 | 0.5 | 0.5 | 4 | 1.00 | 4.0 | 1035.0 | 49.4 | 978 | 120.0 | 18.0 | 0.8 | 19 | 6 | 20.0 | 7.0 | 0.25 | 0.25 | 244 |
| 12 | M99HH013R | Erdenet | SAR 138 | granite | -- | 70.0 | 15 | 60 | 0.5 | 0.5 | 6 | 4.50 | 7.0 | 636.0 | 87.4 | 576 | 70.0 | 10.5 | 5.8 | 21 | 4 | 2.5 | 3.0 | 0.25 | 0.25 | 153 |
| 13 | M99HH014R | Erdenet | SAR 139 | basalt | silicified, quartz+epidote vein | 495.0 | 5 | 30 | 0.5 | 0.5 | 5 | 1.00 | 3.0 | 1545.0 | 16.0 | 1225 | 75.0 | 8.5 | 0.6 | 19 | 4 | 2.5 | 3.0 | 0.25 | 0.25 | 155 |
| 14 | M99HH015R | Erdenet | SAR 139 | granodiorite | -- | 30.0 | 15 | 65 | 0.5 | 0.5 | 5 | 1.50 | 5.0 | 1215.0 | 29.6 | 869 | 80.0 | 10.0 | 0.3 | 19 | 4 | 5.0 | 2.0 | 0.25 | 0.25 | 155 |
| 15 | M99HH017R | Erdenet | SAR 139 | granodiorite | epidote | 2.5 | 10 | 60 | 0.5 | 0.5 | 5 | 1.50 | 4.0 | 1365.0 | 31.0 | 1125 | 80.0 | 9.5 | 0.8 | 18 | 4 | 15.0 | 1.0 | 0.25 | 0.25 | 154 |
| 33 | M99RK030R | Erdenet | Central | granite | quartz vein in | 660.0 | 5 | 40 | 0.5 | 0.5 | 6 | 1.00 | 3.0 | 937.0 | 40.4 | 948 | 45.0 | 5.0 | 1.0 | 19 | 6 | 2.5 | 2.0 | 0.25 | 0.25 | 222 |
| 34 | M99RK032R | Erdenet | Central | diorite | epidote | 2190.0 | 5 | 90 | 0.5 | 0.5 | 6 | 1.50 | 3.0 | 1175.0 | 54.4 | 855 | 90.0 | 19.5 | 0.9 | 21 | 3 | 2.5 | 1.0 | 0.25 | 0.25 | 126 |
| 4 | M99NK059R | Erdenet | Tourmarine | granite | --- | 15.0 | 15 | 50 | 0.5 | 0.5 | 6 | 4.50 | 23.0 | 209.0 | 162.0 | 610 | 40.0 | 2.5 | 6.0 | 16 | 13 | 2.5 | 5.0 | 0.25 | 0.25 | 375 |
| 5 | M99NK061R | Erdenet | Tourmarine | granite | --- | 30.0 | 15 | 60 | 0.5 | 0.5 | 6 | 5.00 | 23.0 | 217.0 | 166.0 | 615 | 40.0 | 5.0 | 4.1 | 16 | 12 | 2.5 | 5.0 | 0.25 | 0.25 | 396 |
| 35 | M99RK038R | Erdenet | SAR238 | granite | quartz vein in | 25.0 | 15 | 40 | 0.5 | 0.5 | 5 | 1.50 | 11.0 | 280.0 | 114.0 | 633 | 45.0 | 4.5 | 2.6 | 16 | 11 | 2.5 | 6.0 | 0.25 | 0.25 | 349 |
| 20 | M99MZ042R | Erdenet | Ouyt | granodiorite porphyry | sericitic | 2.5 | 5 | 10 | 0.5 | 0.5 | 7 | 0.50 | 3.0 | 942.0 | 72.0 | 1020 | 10.0 | 2.0 | 2.0 | 18 | 4 | 2.5 | 1.0 | 0.25 | 0.25 | 161 |
| 21 | M99MZ043R | Erdenet | Ouyt | gmodiorite porphyry | --- | 500.0 | 10 | 35 | 0.5 | 0.5 | 5 | 0.50 | 1.0 | 950.0 | 21.2 | 1055 | 20.0 | 1.5 | 0.4 | 17 | 4 | 2.5 | 1.0 | 0.25 | 0.25 | 164 |
| 22 | M99MZ044R | Erdenet | Ouyt | granodiorite | --- | 385.0 | 10 | 115 | 0.5 | 0.5 | 5 | 0.25 | 0.5 | 930.0 | 17.2 | 921 | 15.0 | 0.5 | 1.1 | 15 | 4 | 2.5 | 0.5 | 0.25 | 0.25 | 192 |
| 18 | M99MZ036R | Erdenet | Under | granodiorite | k-feldsper, epidote | 30.0 | 5 | 75 | 0.5 | 0.5 | 5 | 3.00 | 16.0 | 400.0 | 45.8 | 628 | 110.0 | 14.5 | 1.2 | 17 | 8 | 2.5 | 6.0 | 0.25 | 0.25 | 320 |
| 19 | M99MZ039R | Erdenet | Under | quartz porphyry | --- | 590.0 | 15 | 55 | 0.5 | 0.5 | 5 | 1.50 | 6.0 | 107.0 | 76.0 | 1355 | 25.0 | 0.3 | 0.5 | 14 | 8 | 2.5 | 6.0 | 0.25 | 0.25 | 271 |
| 23 | M99MZ045R | Erdenet | SAR233 | volcanic rock | silicification | 2.5 | 10 | 50 | 0.5 | 0.5 | 4 | 3.00 | 13.0 | 58.0 | 64.2 | 380 | 5.0 | 0.3 | 0.5 | 19 | 12 | 2.5 | 21.0 | 1.50 | 0.25 | 397 |
| 24 | M99MZ046R | Erdenet | SAR233 | hydrothermal breccia | --- | 5.0 | 5 | 45 | 0.5 | 0.5 | 5 | 1.50 | 7.0 | 444.0 | 19.0 | 887 | 50.0 | 5.5 | 0.9 | 18 | 10 | 2.5 | 18.0 | 1.50 | 0.25 | 377 |
| 25 | M99MZ047R | Erdenet | SAR235 | aplitic rock | silicification | 2.5 | 15 | 10 | 0.5 | 0.5 | 5 | 0.50 | 17.0 | 84.7 | 61.8 | 300 | 2.5 | 0.3 | 0.3 | 12 | 9 | 2.5 | 2.0 | 0.25 | 0.25 | 284 |
| 26 | M99MZ048R | Erdenet | SAR235 | granitic rock | silicification, sericite | 10.0 | 2.5 | 90 | 0.5 | 0.5 | 5 | 0.25 | 1.0 | 1695.0 | 1.8 | 50.5 | 225.0 | 13.5 | <0.1 | 23 | 2 | 2.5 | 2.0 | 0.25 | 0.25 | 95 |
| 6 | M99NK067R | Erdenet | Zaluu | basaltic andesite | --- | 55.0 | 25 | 125 | 0.5 | 0.5 | 5 | 0.50 | 4.0 | 1355.0 | 50.6 | 1120 | 135.0 | 21.0 | 0.5 | 18 | 5 | 40.0 | 6.0 | 0.25 | 0.25 | 182 |
| 36 | M99RK044R | Erdenet | SAR127 | granodiorite | --- | 60.0 | 5 | 70 | 0.5 | 0.5 | 6 | 0.50 | 3.0 | 1195.0 | 20.2 | 515 | 190.0 | 25.5 | 0.7 | 19 | 2 | 30.0 | 1.0 | 0.25 | 0.25 | 93 |
| 27 | M99MZ054R | Bulgan West | Burged khyr | granitic rock | --- | 5.0 | 25 | 120 | 0.5 | 0.5 | 6 | 1.50 | 14.0 | 149.5 | 132.5 | 619 | 15.0 | 1.0 | 1.9 | 16 | 12 | 2.5 | 8.0 | 0.50 | 0.50 | 358 |
| 28 | M99MZ055R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 15.0 | 50 | 20 | 0.5 | 1.0 | 6 | 1.50 | 10.0 | 166.5 | 132.0 | 608 | 10.0 | 0.3 | 1.2 | 16 | 10 | 2.5 | 9.0 | 0.50 | 0.50 | 310 |
| 29 | M99MZ056R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 40.0 | 50 | 90 | 0.5 | 0.5 | 6 | 2.50 | 12.0 | 221.0 | 99.0 | 817 | 20.0 | 1.5 | 1.3 | 16 | 10 | 2.5 | 8.0 | 0.50 | 0.50 | 334 |
| 30 | M99MZ057R | Bulgan West | Nomgon | magnetic rock | k-feldsper | 120.0 | 10 | 120 | 0.5 | 0.5 | 5 | 0.25 | 1.0 | 659.0 | 19.0 | 954 | 110.0 | 10.0 | 0.4 | 22 | 6 | 2.5 | 8.0 | 0.25 | 0.25 | 201 |
| 31 | M99MZ059R | Bulgan West | Nomgon | granite | replacement | 10.0 | 5 | 40 | 0.5 | 0.5 | 5 | 1.50 | 6.0 | 443.0 | 55.8 | 940 | 65.0 | 7.5 | 1.0 | 21 | 19 | 2.5 | 9.0 | 0.25 | 0.25 | 677 |
| 7 | M99NK083R | Bulgan | Khar uul | andesite | -- | 2.5 | 5 | 85 | 0.5 | 0.5 | 4 | 0.50 | 2.0 | 1720.0 | 42.2 | 855 | 145.0 | 19.0 | 0.1 | 19 | 4 | 30.0 | 7.0 | 0.25 | 0.25 | 171 |

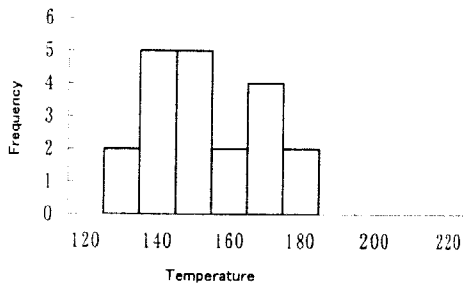
# Table A-19 Petrological chemical analysis of rock samples

| No. | Sample | Region | Name of occurrence | Rock Name | Alteration | La (ppm) | Ce (ppm) | Pr (ppm) | Nd (ppm) | Sm(ppm) | Eu (ppm) | Gd (ppm) | Tb (ppm) | Dy (ppm) | Ho (ppm) | Er (ppm) | Tm(ppm) | Yb (ppm) | Lu (ppm) | Y (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | M99MZ015R | Erdenet | Northwest | granitic rock | phyllic alteration | 4.5 | 10.00 | 0.80 | 3.00 | 0.40 | 0.05 | 0.10 | 0.05 | 0.1 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 1.0 |
| 17 | M99MZ017R | Erdenet | Northwest | granitic rock | potassic alteration | 21.5 | 44.50 | 4.80 | 17.00 | 2.40 | 0.70 | 2.30 | 0.05 | 0.9 | 0.05 | 0.30 | 0.05 | 0.40 | 0.05 | 6.0 |
| 8 | M99HH008R | Erdenet | Northwest | granite ~ granodiorite | -- | 15.0 | 36.50 | 4.30 | 19.00 | 3.80 | 0.80 | 3.10 | 0.10 | 2.5 | 0.30 | 1.10 | 0.05 | 1.20 | 0.05 | 12.5 |
| 9 | M99HH010R | Erdenet | Northwest | andesite dyke | -- | 25.0 | 56.50 | 6.80 | 25.50 | 5.70 | 1.60 | 4.70 | 0.30 | 2.7 | 0.40 | 1.00 | 0.05 | 1.00 | 0.05 | 13.5 |
| 10 | M99HH011R | Erdenet | Northwest | ore-granodiorite | (not identified) | 11.0 | 24.00 | 2.60 | 11.00 | 2.40 | 0.80 | 1.70 | 0.05 | 0.8 | 0.05 | 0.10 | 0.05 | 0.10 | 0.05 | 5.5 |
| 11 | M99HH012R | Erdenet | Northwest | andesite dyke | (not identified) | 31.5 | 74.50 | 9.50 | 42.50 | 9.00 | 2.70 | 10.70 | 1.30 | 8.1 | 1.70 | 4.80 | 0.40 | 4.50 | 0.40 | 56.0 |
| 32 | M99RK025R | Erdenet | SAR144 | granite | potasic alteration? (biotite rich) | 18.5 | 43.00 | 5.40 | 22.50 | 5.80 | 1.40 | 5.40 | 0.40 | 3.1 | 0.40 | 1.50 | 0.05 | 1.20 | 0.05 | 15.0 |
| 1 | M99NK041R | Erdenet | Talbulag | andesite | --- | 21.0 | 47.00 | 5.60 | 21.50 | 4.10 | 1.20 | 3.70 | 0.20 | 2.0 | 0.30 | 0.80 | 0.05 | 1.00 | 0.05 | 11.0 |
| 2 | M99NK051R | Erdenet | SAR139 | granite | --- | 18.5 | 46.50 | 6.00 | 26.00 | 5.40 | 1.50 | 5.70 | 0.60 | 3.9 | 0.70 | 1.90 | 0.05 | 1.90 | 0.05 | 22.5 |
| 3 | M99NK052R | Erdenet | SAR139 | basalt | --- | 33.5 | 72.00 | 8.30 | 33.00 | 5.90 | 1.60 | 5.00 | 0.50 | 3.5 | 0.50 | 1.50 | 0.05 | 1.60 | 0.05 | 16.5 |
| 12 | M99HH013R | Erdenet | SAR 138 | granite | -- | 29.5 | 49.50 | 5.80 | 24.50 | 4.60 | 0.80 | 4.20 | 0.30 | 2.0 | 0.10 | 0.90 | 0.05 | 0.70 | 0.05 | 10.5 |
| 13 | M99HH014R | Erdenet | SAR 139 | basalt | silicified, quartz+epidote vein | 22.5 | 50.50 | 6.30 | 25.00 | 4.40 | 1.30 | 3.70 | 0.10 | 2.5 | 0.20 | 1.00 | 0.05 | 0.90 | 0.05 | 12.0 |
| 14 | M99HH015R | Erdenet | SAR 139 | granodiorite | -- | 18.5 | 42.00 | 5.30 | 19.50 | 3.80 | 1.10 | 3.20 | 0.10 | 1.8 | 0.10 | 0.70 | 0.05 | 0.60 | 0.05 | 9.0 |
| 15 | M99HH017R | Erdenet | SAR 139 | granodiorite | epidote | 18.0 | 40.50 | 5.20 | 21.00 | 4.20 | 1.10 | 3.50 | 0.10 | 1.6 | 0.10 | 0.50 | 0.05 | 0.70 | 0.05 | 8.0 |
| 33 | M99RK030R | Erdenet | Central | granite | quartz vein in | 17.0 | 36.50 | 3.90 | 15.50 | 2.60 | 0.80 | 2.30 | 0.05 | 1.0 | 0.05 | 0.30 | 0.05 | 0.10 | 0.05 | 6.0 |
| 34 | M99RK032R | Erdenet | Central | diorite | epidote | 17.0 | 38.50 | 4.80 | 21.00 | 3.70 | 1.10 | 3.30 | 0.10 | 2.2 | 0.20 | 0.80 | 0.05 | 1.10 | 0.05 | 12.5 |
| 4 | M99NK059R | Erdenet | Tourmarine | granite | --- | 25.5 | 61.50 | 7.30 | 28.50 | 5.80 | 0.90 | 7.00 | 0.70 | 5.4 | 1.00 | 3.30 | 0.20 | 3.30 | 0.30 | 32.0 |
| 5 | M99NK061R | Erdenet | Tourmarine | granite | --- | 22.0 | 48.50 | 5.80 | 23.00 | 4.70 | 0.60 | 4.90 | 0.40 | 3.7 | 0.80 | 2.70 | 0.05 | 2.70 | 0.05 | 25.5 |
| 35 | M99RK038R | Erdenet | SAR238 | granite | quartz vein in | 23.0 | 52.50 | 6.10 | 23.00 | 3.90 | 0.70 | 3.90 | 0.30 | 2.8 | 0.40 | 1.60 | 0.05 | 2.10 | 0.05 | 17.0 |
| 20 | M99MZ042R | Erdenet | Ouyt | granodiorite porphyry | sericitic | 16.0 | 32.50 | 3.80 | 13.00 | 2.10 | 0.60 | 2.00 | 0.05 | 0.7 | 0.05 | 0.20 | 0.05 | 0.20 | 0.05 | 5.0 |
| 21 | M99MZ043R | Erdenet | Ouyt | grnodiorite porphyry | --- | 17.0 | 35.00 | 4.20 | 17.00 | 3.30 | 0.90 | 3.10 | 0.30 | 1.9 | 0.40 | 1.10 | 0.05 | 0.80 | 0.05 | 13.5 |
| 22 | M99MZ044R | Erdenet | Ouyt | granodiorite | --- | 10.0 | 19.50 | 2.10 | 8.00 | 1.30 | 0.50 | 0.60 | 0.05 | 0.2 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 2.0 |
| 18 | M99MZ036R | Erdenet | Under | granodiorite | k-feldsper, epidote | 26.0 | 57.00 | 8.40 | 30.00 | 7.70 | 2.60 | 7.40 | 1.90 | 6.7 | 1.90 | 3.90 | 1.10 | 4.40 | 1.20 | 31.5 |
| 19 | M99MZ039R | Erdenet | Under | quartz porphyry | --- | 22.0 | 47.00 | 5.60 | 21.50 | 4.20 | 1.00 | 4.60 | 0.40 | 4.1 | 0.80 | 2.00 | 0.10 | 2.80 | 0.20 | 21.5 |
| 23 | M99MZ045R | Erdenet | SAR233 | volcanic rock | silicification | 57.0 | 118.50 | 13.00 | 43.50 | 6.70 | 0.90 | 6.00 | 0.60 | 3.9 | 0.60 | 2.00 | 0.05 | 2.20 | 0.10 | 21.5 |
| 24 | M99MZ046R | Erdenet | SAR233 | hydrothermal breccia | --- | 38.0 | 85.00 | 10.00 | 38.50 | 6.70 | 1.50 | 6.20 | 0.70 | 4.2 | 0.70 | 2.20 | 0.05 | 2.10 | 0.05 | 20.5 |
| 25 | M99MZ047R | Erdenet | SAR235 | aplitic rock | silicification | 29.0 | 57.50 | 5.80 | 19.50 | 2.60 | 0.05 | 1.40 | 0.05 | 0.4 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 3.0 |
| 26 | M99MZ048R | Erdenet | SAR235 | granitic rock | silicification, sericite | 14.5 | 32.00 | 4.00 | 16.00 | 3.00 | 1.30 | 3.10 | 0.10 | 2.4 | 0.30 | 0.90 | 0.05 | 1.10 | 0.05 | 11.0 |
| 6 | M99NK067R | Erdenet | Zaluu | basaltic andesite | --- | 31.0 | 70.00 | 7.80 | 30.50 | 5.50 | 1.70 | 4.50 | 0.40 | 2.5 | 0.30 | 0.90 | 0.05 | 0.80 | 0.05 | 11.0 |
| 36 | M99RK044R | Erdenet | SAR127 | granodiorite | --- | 13.5 | 31.50 | 4.10 | 18.50 | 4.10 | 1.20 | 3.90 | 0.30 | 2.2 | 0.40 | 1.10 | 0.05 | 0.70 | 0.05 | 12.0 |
| 27 | M99MZ054R | Bulgan West | Burged khyr | granitic rock | --- | 7.5 | 37.00 | 1.90 | 7.50 | 1.40 | 0.10 | 1.30 | 0.05 | 1.6 | 0.10 | 0.60 | 0.05 | 0.90 | 0.05 | 8.0 |
| 28 | M99MZ055R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 19.5 | 48.00 | 5.30 | 17.00 | 2.50 | 0.30 | 1.70 | 0.05 | 1.7 | 0.30 | 1.10 | 0.05 | 1.50 | 0.05 | 11.0 |
| 29 | M99MZ056R | Bulgan West | Burged khyr | silicified rock | hypogene alunite | 22.0 | 50.50 | 5.10 | 19.00 | 3.60 | 0.60 | 2.60 | 0.10 | 1.9 | 0.20 | 0.90 | 0.05 | 1.10 | 0.05 | 11.5 |
| 30 | M99MZ057R | Bulgan West | Nomgon | magnetic rock | k-feldsper | 31.0 | 76.50 | 10.80 | 50.00 | 10.40 | 2.50 | 9.20 | 1.10 | 6.5 | 1.10 | 3.40 | 0.10 | 3.20 | 0.10 | 32.0 |
| 31 | M99MZ059R | Bulgan West | Nomgon | granite | replacement | 24.5 | 58.00 | 7.20 | 29.50 | 5.80 | 1.10 | 5.10 | 0.50 | 3.4 | 0.60 | 2.00 | 0.05 | 1.90 | 0.10 | 19.5 |
| 7 | M99NK083R | Bulgan | Khar uul | andesite | -- | 33.5 | 70.50 | 8.50 | 32.50 | 5.30 | 1.60 | 4.70 | 0.30 | 2.3 | 0.30 | 1.00 | 0.05 | 0.70 | 0.05 | 12.0 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (1/7)

Sample: M99NK003M　　Fluid inclusion: Many other secondary inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (°C) | Melting Temp (°C) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 5.0 | 10 | po | 148 | -2.2 | 3.71 |
| 2 | Quartz | 5.0 | 10 | po | 157 | -2.5 | 4.18 |
| 3 | Quartz | 5.0 | 7 | po | 139 | -2.7 | 4.49 |
| 4 | Quartz | 5.0 | 10 | irr | 142 | -1.0 | 1.74 |
| 5 | Quartz | 7.5 | 10 | po | 146 | -2.8 | 4.65 |
| 6 | Quartz | 5.0 | 7 | po | 136 | -1.5 | 2.57 |
| 7 | Quartz | 2.5 | 7 | po | 144 | - | - |
| 8 | Quartz | < 2.5 | 7 | po | 156 | - | - |
| 9 | Quartz | 10.0 | 12 | po | 164 | -3.0 | 4.96 |
| 10 | Quartz | 7.5 | 10 | irr | 173 | -1.8 | 3.06 |
| 11 | Quartz | 7.5 | 12 | po | 182 | -2.2 | 3.71 |
| 12 | Quartz | 5.0 | 10 | po | 166 | -1.6 | 2.74 |
| 13 | Quartz | 5.0 | 7 | eg | 148 | - | - |
| 14 | Quartz | 2.5 | 5 | po | 171 | - | - |
| 15 | Quartz | < 2.5 | 5 | eg | 155 | - | - |
| 16 | Quartz | < 2.5 | 3 | eg | 150 | - | - |
| 17 | Quartz | 7.5 | 13 | po | 184 | -1.7 | 2.90 |
| 18 | Quartz | 5.0 | 10 | po | 172 | -2.8 | 4.65 |
| 19 | Quartz | 5.0 | 7 | po | 175 | -2.0 | 3.39 |
| 20 | Quartz | 2.5 | 5 | eg | 156 | - | - |

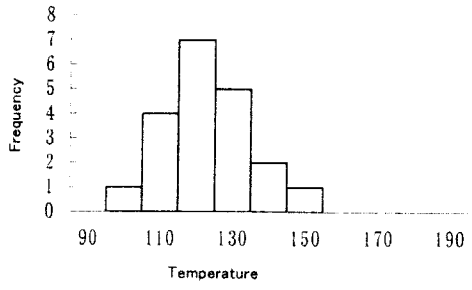



| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 °C |
| Minimum | 136 °C |
| Average | 161.1 °C |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (2/7)

Sample: M99NK005M　　Fluid inclusion: Many other secondary inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (°C) | Melting Temp (°C) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 5.0 | 10 | po | 112 | -1.3 | 2.24 |
| 2 | Quartz | 5.0 | 7 | po | 109 | -1.0 | 1.74 |
| 3 | Quartz | 12.5 | 13 | irr | 143 | -2.8 | 4.65 |
| 4 | Quartz | 7.5 | 12 | po | 128 | -2.4 | 4.03 |
| 5 | Quartz | 5.0 | 10 | po | 121 | -1.4 | 2.41 |
| 6 | Quartz | 5.0 | 7 | po | 131 | -1.1 | 1.91 |
| 7 | Quartz | 5.0 | 5 | eg | 110 | -1.0 | 1.74 |
| 8 | Quartz | 2.5 | 7 | eg | 125 | - | - |
| 9 | Quartz | 5.0 | 10 | po | 137 | -1.4 | 2.41 |
| 10 | Quartz | 5.0 | 10 | po | 134 | - | - |
| 11 | Quartz | 5.0 | 10 | po | 128 | -1.3 | 2.24 |
| 12 | Quartz | 7.5 | 12 | sq | 151 | -2.2 | 3.71 |
| 13 | Quartz | 5.0 | 12 | po | 137 | -1.4 | 2.41 |
| 14 | Quartz | 5.0 | 10 | po | 122 | -1.3 | 2.24 |
| 15 | Quartz | 2.5 | 7 | eg | 137 | - | - |
| 16 | Quartz | < 2.5 | 5 | eg | 111 | - | - |
| 17 | Quartz | 7.5 | 10 | po | 124 | -1.3 | 2.24 |
| 18 | Quartz | 7.5 | 10 | po | 145 | -1.3 | 2.24 |
| 19 | Quartz | 2.5 | 5 | eg | 117 | - | - |
| 20 | Quartz | 5.0 | 7 | po | 121 | -0.8 | 1.40 |



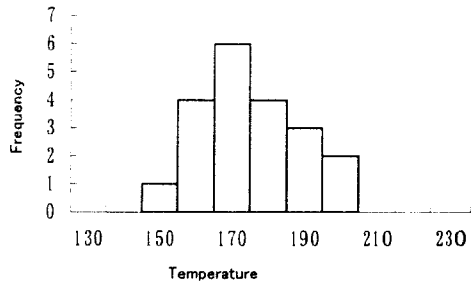

| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 °C |
| Minimum | 136 °C |
| Average | 161.1 °C |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (3/7)

Sample: M99NK037R

Fluid inclusion: Many other leqiod single phase inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (°C) | Melting Temp (°C) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 12.5 | 10 | irr | 175 | -0.9 | 1.57 |
| 2 | Quartz | 5.0 | 7 | po | 181 | -0.5 | 0.88 |
| 3 | Quartz | 2.5 | 3 | eg | 179 | - | - |
| 4 | Quartz | 2.5 | 3 | eg | 167 | - | - |
| 5 | Quartz | 7.5 | 10 | po | 193 | -0.8 | 1.40 |
| 6 | Quartz | 5.0 | 10 | po | 188 | -0.3 | 0.53 |
| 7 | Quartz | 5.0 | 7 | po | 167 | -0.4 | 0.71 |
| 8 | Quartz | 5.0 | 10 | sq | 188 | - | - |
| 9 | Quartz | 5.0 | 10 | po | 191 | -0.3 | 0.53 |
| 10 | Quartz | 5.0 | 7 | po | 164 | -0.5 | 0.88 |
| 11 | Quartz | 10.0 | 7 | po | 193 | -0.8 | 1.40 |
| 12 | Quartz | 5.0 | 12 | po | 204 | -0.6 | 1.05 |
| 13 | Quartz | 2.5 | 10 | po | 202 | - | - |
| 14 | Quartz | < 2.5 | 7 | eg | 177 | - | - |
| 15 | Quartz | < 2.5 | 5 | eg | 151 | - | - |
| 16 | Quartz | 5.0 | 10 | po | 182 | -0.7 | 1.23 |
| 17 | Quartz | 5.0 | 7 | po | 178 | -0.8 | 1.40 |
| 18 | Quartz | 2.5 | 5 | eg | 161 | - | - |
| 19 | Quartz | 5.0 | 10 | po | 177 | - | - |
| 20 | Quartz | 5.0 | 7 | po | 171 | -0.5 | 0.88 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



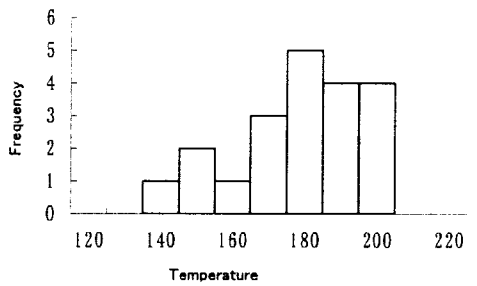

| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 °C |
| Minimum | 136 °C |
| Average | 161.1 °C |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (4/7)

Sample: M99MZ008M

Fluid inclusion: Many other secondary inclusions are observed.
Necking down is also observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (°C) | Melting Temp (°C) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 10.0 | 7 | po | 181 | -7.5 | 11.10 |
| 2 | Quartz | 22.5 | 10 | irr | 155 | -7.8 | 11.46 |
| 3 | Quartz | 10.0 | 7 | po | 142 | -7.3 | 10.86 |
| 4 | Quartz | 5.0 | 10 | po | 175 | - | - |
| 5 | Quartz | 5.0 | 10 | po | 186 | - | - |
| 6 | Quartz | 15.0 | 7 | tu | 193 | -4.1 | 6.59 |
| 7 | Quartz | 10.0 | 7 | tr | 173 | -5.2 | 8.14 |
| 8 | Quartz | 7.5 | 10 | po | 189 | -3.5 | 5.71 |
| 9 | Quartz | 12.5 | 12 | irr | 204 | -8.0 | 11.70 |
| 10 | Quartz | 10.0 | 10 | po | 194 | -6.7 | 10.11 |
| 11 | Quartz | 12.5 | 10 | irr | 206 | -8.2 | 11.93 |
| 12 | Quartz | 7.5 | 10 | eg | 196 | -3.8 | 6.16 |
| 13 | Quartz | 7.5 | 7 | po | 192 | -5.1 | 8.00 |
| 14 | Quartz | 5.0 | 7 | po | 188 | - | - |
| 15 | Quartz | 12.5 | 12 | irr | 206 | -4.3 | 6.88 |
| 16 | Quartz | 7.5 | 10 | po | 182 | -5.8 | 8.95 |
| 17 | Quartz | 5.0 | 7 | po | 164 | - | - |
| 18 | Quartz | 10.0 | 12 | irr | 201 | -7.7 | 11.34 |
| 19 | Quartz | 5.0 | 10 | po | 177 | -7.6 | 11.22 |
| 20 | Quartz | 5.0 | 7 | po | 156 | - | - |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



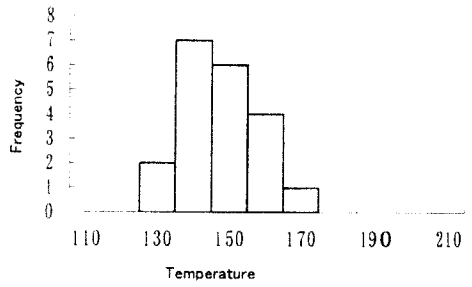

| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 °C |
| Minimum | 136 °C |
| Average | 161.1 °C |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (5/7)

Sample: M99MZ016M

Fluid inclusion: Many other secondary inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (℃) | Melting Temp (℃) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 10.0 | 10 | irr | 161 | -0.8 | 1.40 |
| 2 | Quartz | 5.0 | 10 | po | 169 | -1.2 | 2.07 |
| 3 | Quartz | 5.0 | 10 | po | 162 | - | - |
| 4 | Quartz | 20.0 | 10 | po | 144 | -1.8 | 3.06 |
| 5 | Quartz | 5.0 | 7 | po | 132 | -1.0 | 1.74 |
| 6 | Quartz | 10.0 | 10 | po | 143 | -1.4 | 2.41 |
| 7 | Quartz | 5.0 | 10 | sq | 159 | -1.0 | 1.74 |
| 8 | Quartz | 5.0 | 7 | po | 140 | -1.2 | 2.07 |
| 9 | Quartz | 5.0 | 5 | po | 144 | - | - |
| 10 | Quartz | 2.5 | 3 | po | 142 | - | - |
| 11 | Quartz | 7.5 | 10 | sq | 160 | -1.1 | 1.91 |
| 12 | Quartz | 5.0 | 10 | po | 155 | -0.7 | 1.23 |
| 13 | Quartz | 5.0 | 7 | po | 151 | -0.8 | 1.40 |
| 14 | Quartz | 5.0 | 3 | po | 142 | -0.7 | 1.23 |
| 15 | Quartz | 12.5 | 12 | irr | 138 | -0.8 | 1.40 |
| 16 | Quartz | 10.0 | 10 | irr | 142 | -1.6 | 2.74 |
| 17 | Quartz | 10.0 | 12 | po | 172 | -1.8 | 3.06 |
| 18 | Quartz | 7.5 | 10 | po | 155 | -1.2 | 2.07 |
| 19 | Quartz | 2.5 | 7 | eg | 154 | - | - |
| 20 | Quartz | < 2.5 | 5 | eg | 158 | - | - |



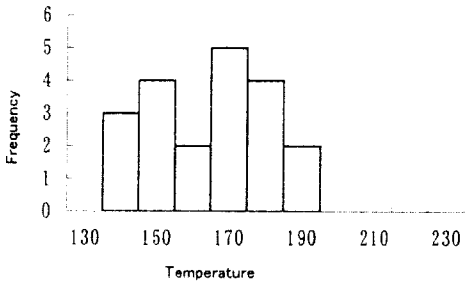

| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 ℃ |
| Minimum | 136 ℃ |
| Average | 161.1 ℃ |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (6/7)

Sample: M99MZ065M

Fluid inclusion: Many other leqiod single phase inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (℃) | Melting Temp (℃) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 5.0 | 7 | po | 176 | -0.1 | 0.18 |
| 2 | Quartz | 5.0 | 7 | po | 167 | -0.2 | 0.35 |
| 3 | Quartz | 7.5 | 7 | po | 156 | 0.0 | 0.00 |
| 4 | Quartz | 7.5 | 7 | po | 159 | -0.2 | 0.35 |
| 5 | Quartz | 5.0 | 10 | po | 195 | 0.0 | 0.00 |
| 6 | Quartz | 2.5 | 7 | eg | 187 | - | - |
| 7 | Quartz | 2.5 | 5 | eg | 152 | - | - |
| 8 | Quartz | 5.0 | 10 | po | 188 | -0.2 | 0.35 |
| 9 | Quartz | 5.0 | 7 | po | 194 | 0.0 | 0.00 |
| 10 | Quartz | 2.5 | 5 | eg | 175 | - | - |
| 11 | Quartz | < 2.5 | 5 | eg | 145 | - | - |
| 12 | Quartz | < 2.5 | 3 | eg | 147 | - | - |
| 13 | Quartz | 7.5 | 10 | sq | 186 | 0.0 | 0.00 |
| 14 | Quartz | 5.0 | 5 | po | 176 | -0.1 | 0.18 |
| 15 | Quartz | 5.0 | 5 | po | 171 | -0.1 | 0.18 |
| 16 | Quartz | 2.5 | 5 | eg | 160 | - | - |
| 17 | Quartz | 2.5 | 3 | eg | 145 | - | - |
| 18 | Quartz | 5.0 | 7 | po | 174 | -0.2 | 0.35 |
| 19 | Quartz | 5.0 | 7 | po | 182 | 0.0 | 0.00 |
| 20 | Quartz | < 2.5 | 5 | eg | 151 | - | - |



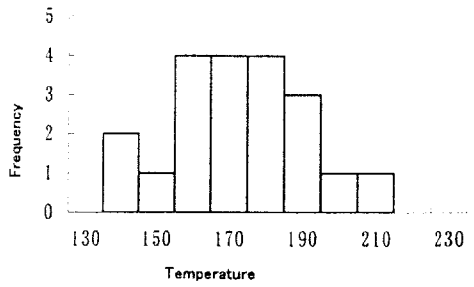

| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 ℃ |
| Minimum | 136 ℃ |
| Average | 161.1 ℃ |
| deviation | 13.9 |

Table A-20 Homogenization temperature and salinity of fluid inclusions of quartz samples (7/7)

Sample: M99RK013R

Fluid inclusion: Many other secondary inclusions are observed.

| No. | Mineral | Size (m μ) | Volume ratio (%) | Form | Temperature (°C) | Melting Temp (°C) | NaCl Wt (%) |
|---|---|---|---|---|---|---|---|
| 1 | Quartz | 7.5 | 10 | irr | 186 | -0.5 | 0.88 |
| 2 | Quartz | 2.5 | 7 | po | 194 | - | - |
| 3 | Quartz | 2.5 | 5 | po | 202 | - | - |
| 4 | Quartz | < 2.5 | 5 | po | 147 | - | - |
| 5 | Quartz | < 2.5 | 5 | eg | 162 | - | - |
| 6 | Quartz | 5.0 | 10 | po | 159 | -0.4 | 0.71 |
| 7 | Quartz | 5.0 | 7 | po | 184 | -0.4 | 0.71 |
| 8 | Quartz | < 2.5 | 5 | eg | 163 | - | - |
| 9 | Quartz | < 2.5 | 3 | eg | 173 | - | - |
| 10 | Quartz | < 2.5 | 5 | eg | 176 | - | - |
| 11 | Quartz | 5.0 | 12 | po | 217 | -0.4 | 0.71 |
| 12 | Quartz | 5.0 | 10 | po | 190 | -0.5 | 0.88 |
| 13 | Quartz | 5.0 | 7 | sq | 177 | -0.2 | 0.35 |
| 14 | Quartz | < 2.5 | 10 | po | 182 | - | - |
| 15 | Quartz | 2.5 | 5 | po | 193 | - | - |
| 16 | Quartz | < 2.5 | 5 | eg | 167 | - | - |
| 17 | Quartz | < 2.5 | 3 | eg | 161 | - | - |
| 18 | Quartz | 5.0 | 7 | po | 188 | -0.4 | 0.71 |
| 19 | Quartz | < 2.5 | 5 | eg | 172 | - | - |
| 20 | Quartz | < 2.5 | 3 | eg | 148 | - | - |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |




| | |
|---|---|
| Mineral | Quartz |
| Inclusions | 20 |
| Maximum | 184 °C |
| Minimum | 136 °C |
| Average | 161.1 °C |
| deviation | 13.9 |

Legend:

Form

eg: egg-shape; irr: irregular; po: polygon; sq: square; tr: triangle; tu:tube; wg: wedge-shape

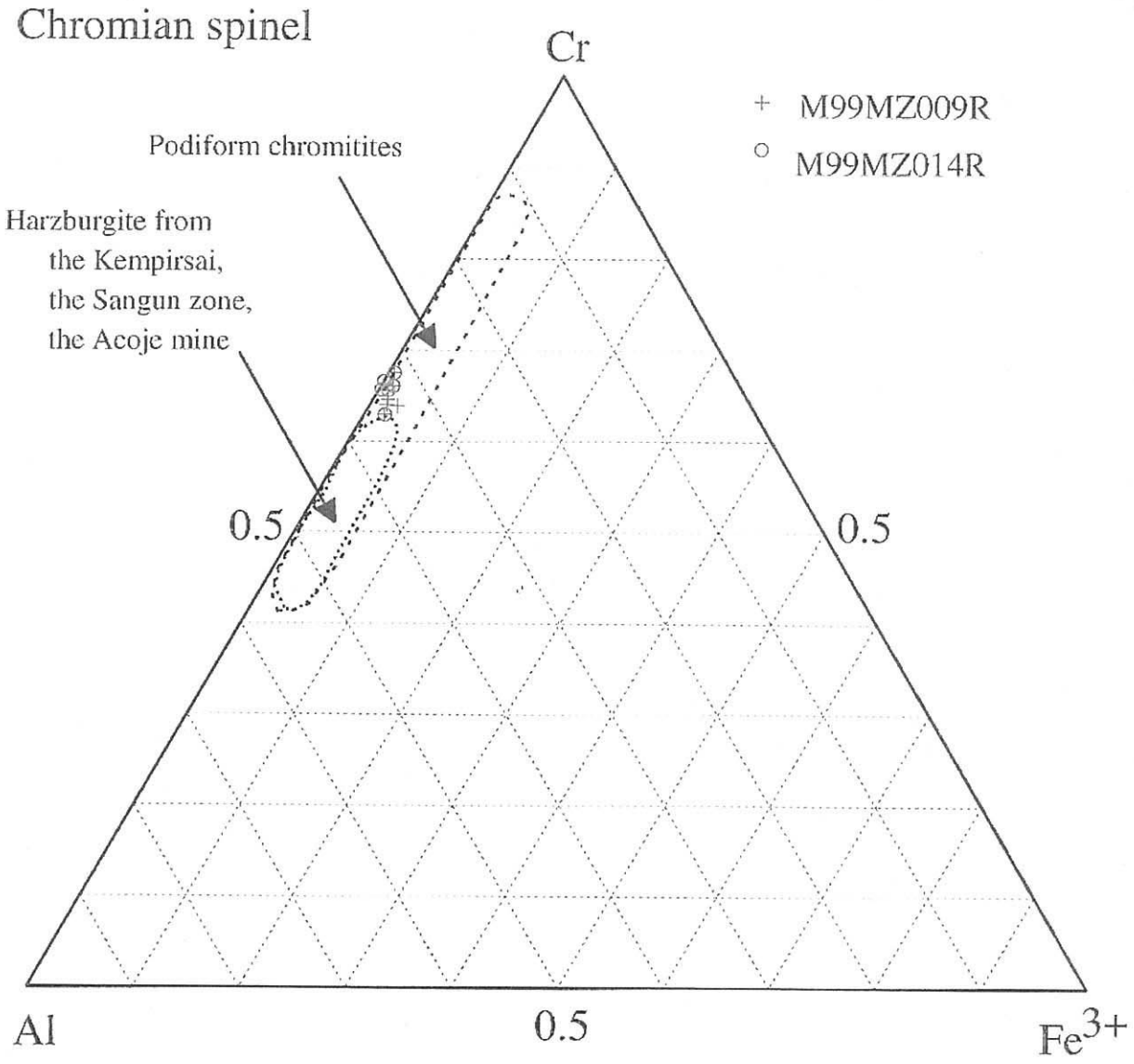



Fig. A-1 Diagram of Electron microprobe analysis for chromian spinel