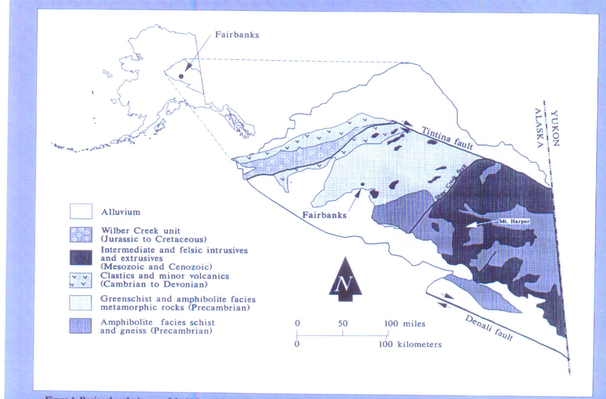


Figure 1. Regional geologic map of the Yukon-Tanana Upland. Modified from Foster and others, 1973.

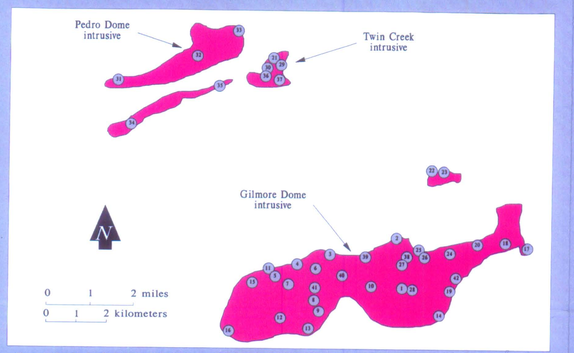


Figure 4. Map showing the location of intrusive rock samples from the Fairbanks mining district. Data from Blum, 1983.

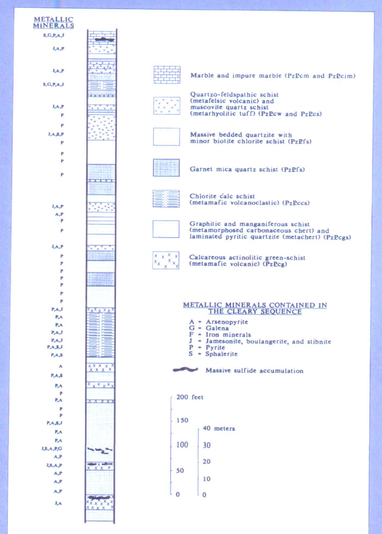


Figure 2. Composite stratigraphic column of the Cleary sequence. Compiled from 3 diamond drill holes in the hanging wall and the footwall of the Christina Vein, Cleary Summit area. Modified from Fairbanks Exploration Inc. unpublished data, 1989.

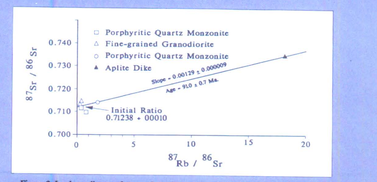


Figure 3. Isochron diagram for samples collected from intrusive rocks in the Fairbanks mining district. Data from Blum, 1983.

Table 3. *Rubidium-strontium isotopic data for samples from the Pedro Dome and Gilmore Dome intrusives. Map numbers refer to sample locations on figure 4. Data modified from Blum, 1983.*

| Map No. | Sr (ppm) | Rb (ppm) | 87Sr/86Sr | 87Rb/86Sr |
|---|---|---|---|---|
| 26 | 857 | 134 | 0.71284±00034 | 0.4526 |
| 39 | 56.6 | 353 | 0.73573±00070 | 18.09 |
| 3 | 365 | 231 | 0.71488±00055 | 1.832 |
| 33 | 608 | 98.5 | 0.71370±00006 | 0.4261 |
| 35 | 702 | 130 | 0.71554±00043 | 0.5361 |
| 30 | 598 | 185 | 0.71051±00022 | 0.8952 |

Table 4. *Whole-rock major oxide chemical analyses and normative mineral compositions for intrusive rocks from the Fairbanks mining district. Map numbers refer to sample locations on figure 4.*

**Rock type: Porphyritic quartz monzonite**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.95 | 0.28 | 11.85 | 0.47 | 2.84 | 0.10 | 0.47 | 1.98 | 2.76 | 3.40 | 0.10 | 99.20 |
| 2 | 77.67 | 0.07 | 12.13 | 0.20 | 1.13 | 0.04 | 0.00 | 1.37 | 3.37 | 3.68 | 0.04 | 99.70 |
| 3 | 71.15 | 0.28 | 14.50 | 0.45 | 2.93 | 0.08 | 0.54 | 2.36 | 3.28 | 3.66 | 0.08 | 99.31 |
| 4 | 70.00 | 0.29 | 14.23 | 0.27 | 2.57 | 0.08 | 0.51 | 2.33 | 3.24 | 3.59 | 0.09 | 97.20 |
| 5 | 74.72 | 0.14 | 14.38 | 0.29 | 1.53 | 0.06 | 0.24 | 1.66 | 3.14 | 4.66 | 0.09 | 100.71 |
| 6 | 71.76 | 0.32 | 12.75 | 0.41 | 2.79 | 0.10 | 0.56 | 2.13 | 2.90 | 3.77 | 0.09 | 97.28 |
| 7 | 71.43 | 0.25 | 13.90 | 0.42 | 2.61 | 0.17 | 0.42 | 2.21 | 3.21 | 3.41 | 0.07 | 98.10 |
| 8 | 74.85 | 0.07 | 13.05 | 0.11 | 1.32 | 0.04 | 0.00 | 1.48 | 3.39 | 3.90 | 0.07 | 98.28 |
| 9 | 74.30 | 0.12 | 12.52 | 0.18 | 1.55 | 0.06 | 0.03 | 1.58 | 3.25 | 3.95 | 0.06 | 97.60 |
| 10 | 72.95 | 0.20 | 14.40 | 0.64 | 1.49 | 0.07 | 0.38 | 1.91 | 3.03 | 4.46 | 0.07 | 99.60 |
| 11 | 76.68 | 0.05 | 12.89 | 0.35 | 0.54 | 0.10 | 0.11 | 0.96 | 3.69 | 4.56 | 0.12 | 100.05 |
| 12 | 72.88 | 0.19 | 13.79 | 0.41 | 0.19 | 0.07 | 0.30 | 1.95 | 3.28 | 4.13 | 0.08 | 97.27 |
| 13 | 72.57 | 0.24 | 14.23 | 0.53 | 1.85 | 0.08 | 0.57 | 1.99 | 2.99 | 4.15 | 0.09 | 99.29 |
| 14 | 74.85 | 0.16 | 13.93 | 0.43 | 1.31 | 0.06 | 0.31 | 2.38 | 3.13 | 3.55 | 0.11 | 100.22 |
| 15 | 72.53 | 0.26 | 13.88 | 0.57 | 1.98 | 0.08 | 0.53 | 2.26 | 2.93 | 4.31 | 0.10 | 99.43 |
| 16 | 74.00 | 0.13 | 13.75 | 0.29 | 1.31 | 0.05 | 0.23 | 1.50 | 3.20 | 5.05 | 0.05 | 99.56 |
| 17 | 74.46 | 0.20 | 13.43 | 0.47 | 1.53 | 0.05 | 0.36 | 1.73 | 3.03 | 3.89 | 0.08 | 99.23 |
| 18 | 73.58 | 0.18 | 14.11 | 0.38 | 1.53 | 0.05 | 0.35 | 1.70 | 2.82 | 4.69 | 0.06 | 99.45 |
| 19 | 73.57 | 0.16 | 13.73 | 0.47 | 1.44 | 0.05 | 0.33 | 1.70 | 3.15 | 4.48 | 0.06 | 99.14 |
| 20 | 76.13 | 0.08 | 12.77 | 0.24 | 0.68 | 0.03 | 0.09 | 1.58 | 3.20 | 4.45 | 0.05 | 99.30 |
| 21 | 72.76 | 0.19 | 13.80 | 0.40 | 1.22 | 0.04 | 0.50 | 1.75 | 3.44 | 3.93 | 0.08 | 98.11 |

**Rock type: Porphyritic granodiorite**

| Map No. | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 68.67 | 0.40 | 14.75 | 0.80 | 2.68 | 0.07 | 0.88 | 2.25 | 3.59 | 3.41 | 0.14 | 97.64 |
| 23 | 70.16 | 0.33 | 14.77 | 0.29 | 1.31 | 0.05 | 0.50 | 2.16 | 3.93 | 4.15 | 0.11 | 97.76 |
| 24 | 72.52 | 0.29 | 13.98 | 0.47 | 1.49 | 0.04 | 0.52 | 2.34 | 3.24 | 4.05 | 0.08 | 99.02 |
| 25 | 69.76 | 0.49 | 14.80 | 0.58 | 2.61 | 0.06 | 0.96 | 2.85 | 3.17 | 3.13 | 0.12 | 98.53 |
| 26 | 70.30 | 0.47 | 14.83 | 0.68 | 2.12 | 0.05 | 0.80 | 2.72 | 3.04 | 3.66 | 0.15 | 98.82 |
| 27 | 71.51 | 0.37 | 14.76 | 0.40 | 1.94 | 0.04 | 0.67 | 2.37 | 3.39 | 3.71 | 0.13 | 99.39 |
| 28 | 74.08 | 0.26 | 13.02 | 0.57 | 2.52 | 0.09 | 0.45 | 2.06 | 2.87 | 3.37 | 0.10 | 99.39 |
| 29 | 70.61 | 0.40 | 14.80 | 0.65 | 2.16 | 0.05 | 0.66 | 2.97 | 3.53 | 3.09 | 0.15 | 99.07 |
| 30 | 67.03 | 0.57 | 15.05 | 0.95 | 3.15 | 0.09 | 1.07 | 3.53 | 3.54 | 3.00 | 0.19 | 98.17 |

**Rock type: Fine-grained granodiorite**

| Map No. | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 59.36 | 0.92 | 16.52 | 1.09 | 5.67 | 0.12 | 3.81 | 6.62 | 2.50 | 2.52 | 0.22 | 99.35 |
| 32 | 59.65 | 0.95 | 16.05 | 1.00 | 6.03 | 0.14 | 3.72 | 6.30 | 2.56 | 2.43 | 0.23 | 98.96 |
| 33 | 61.95 | 0.86 | 16.34 | 1.08 | 5.07 | 0.12 | 2.56 | 5.43 | 2.45 | 2.75 | 0.19 | 98.80 |
| 34 | 62.47 | 0.98 | 15.78 | 1.11 | 5.36 | 0.12 | 2.94 | 5.61 | 2.14 | 2.69 | 0.18 | 99.38 |
| 35 | 65.36 | 0.67 | 15.99 | 1.29 | 3.96 | 0.08 | 1.19 | 3.50 | 2.36 | 3.50 | 0.21 | 98.11 |
| 36 | 65.34 | 0.78 | 14.95 | 0.83 | 4.41 | 0.09 | 1.52 | 4.55 | 2.64 | 3.19 | 0.22 | 98.52 |
| 37 | 63.49 | 0.71 | 15.78 | 0.59 | 4.31 | 0.11 | 2.42 | 4.55 | 3.55 | 2.24 | 0.20 | 98.01 |

**Rock type: Aplite dikes**

| Map No. | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 75.06 | 0.02 | 13.83 | 0.76 | 1.22 | 0.03 | 0.00 | 0.20 | 3.94 | 4.61 | 0.05 | 99.72 |
| 39 | 76.27 | 0.04 | 12.59 | 0.10 | 1.04 | 0.10 | 0.00 | 0.97 | 3.70 | 4.27 | 0.06 | 99.14 |
| 40 | 75.26 | 0.06 | 12.94 | 0.18 | 0.95 | 0.04 | 0.02 | 1.01 | 3.51 | 4.48 | 0.04 | 98.49 |
| 41 | 73.15 | 0.02 | 13.68 | 1.13 | 1.45 | 0.01 | 0.00 | 0.29 | 3.89 | 4.60 | 0.05 | 98.27 |
| 42 | 74.42 | 0.02 | 13.59 | 0.96 | 0.59 | 0.02 | 0.00 | 0.28 | 3.80 | 4.53 | 0.09 | 98.30 |

Normative mineralogy for each rock type in weight percent

**Rock type: Porphyritic quartz monzonite**

| Map No. | Qtz | cor | or | ab | an | di | hy | mg | il | ap | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 39.15 | 0.27 | 20.09 | 23.35 | 9.17 | 0.00 | 5.72 | 0.68 | 0.53 | 0.23 | 99.19 |
| 2 | 40.31 | 0.21 | 21.75 | 28.52 | 6.54 | 0.00 | 1.87 | 0.29 | 0.13 | 0.09 | 99.71 |
| 3 | 30.29 | 1.04 | 21.63 | 27.75 | 11.19 | 0.00 | 6.04 | 0.65 | 0.53 | 0.19 | 99.31 |
| 4 | 30.02 | 0.99 | 21.21 | 27.42 | 10.97 | 0.00 | 5.44 | 0.39 | 0.55 | 0.21 | 97.20 |
| 5 | 34.61 | 1.58 | 26.36 | 26.57 | 7.65 | 0.00 | 3.05 | 0.42 | 0.27 | 0.21 | 100.72 |
| 6 | 34.44 | 0.57 | 20.51 | 24.54 | 9.98 | 0.00 | 5.84 | 0.59 | 0.61 | 0.21 | 97.29 |
| 7 | 32.56 | 1.08 | 20.15 | 27.16 | 10.51 | 0.00 | 5.40 | 0.61 | 0.47 | 0.16 | 98.10 |
| 8 | 36.19 | 0.73 | 23.05 | 28.69 | 6.89 | 0.00 | 2.29 | 0.16 | 0.13 | 0.16 | 98.29 |
| 9 | 35.83 | 0.17 | 23.34 | 27.50 | 7.45 | 0.00 | 2.69 | 0.26 | 0.23 | 0.14 | 97.61 |
| 10 | 32.88 | 1.28 | 26.36 | 23.64 | 9.02 | 0.00 | 2.95 | 0.93 | 0.38 | 0.16 | 99.60 |
| 11 | 35.52 | 0.43 | 26.95 | 31.22 | 3.98 | 0.00 | 1.08 | 0.51 | 0.09 | 0.28 | 100.06 |
| 12 | 33.60 | 0.57 | 24.41 | 27.75 | 9.15 | 0.00 | 0.57 | 0.29 | 0.36 | 0.19 | 96.89 |
| 13 | 33.20 | 1.42 | 24.52 | 25.30 | 9.28 | 0.00 | 4.13 | 0.77 | 0.46 | 0.21 | 99.29 |
| 14 | 36.94 | 0.87 | 20.98 | 26.49 | 11.09 | 0.00 | 2.67 | 0.62 | 0.30 | 0.25 | 100.21 |
| 15 | 32.33 | 0.53 | 25.47 | 24.79 | 10.56 | 0.00 | 4.30 | 0.83 | 0.49 | 0.23 | 99.43 |
| 16 | 31.71 | 0.41 | 29.84 | 27.08 | 7.11 | 0.00 | 2.62 | 0.42 | 0.25 | 0.12 | 99.56 |
| 17 | 36.94 | 1.28 | 22.99 | 25.64 | 8.06 | 0.00 | 3.08 | 0.68 | 0.38 | 0.14 | 99.19 |
| 18 | 34.19 | 1.45 | 27.71 | 23.86 | 8.04 | 0.00 | 3.16 | 0.55 | 0.34 | 0.14 | 99.44 |
| 19 | 33.19 | 0.75 | 26.47 | 26.65 | 8.04 | 0.00 | 2.91 | 0.68 | 0.30 | 0.14 | 99.13 |
| 20 | 36.70 | 0.00 | 26.30 | 27.08 | 7.34 | 0.15 | 1.12 | 0.35 | 0.15 | 0.12 | 99.31 |
| 21 | 32.68 | 0.90 | 23.22 | 29.11 | 8.16 | 0.00 | 2.92 | 0.58 | 0.36 | 0.19 | 98.12 |

**Rock type: Porphyritic granodiorite**

| Map No. | Qtz | cor | or | ab | an | di | hy | mg | il | ap | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 27.30 | 1.40 | 20.15 | 30.38 | 10.25 | 0.00 | 5.92 | 1.16 | 0.76 | 0.32 | 97.64 |
| 23 | 25.57 | 0.15 | 24.52 | 33.25 | 10.00 | 0.00 | 2.96 | 0.42 | 0.63 | 0.25 | 97.76 |
| 24 | 31.73 | 0.20 | 23.93 | 27.42 | 11.09 | 0.00 | 3.24 | 0.68 | 0.55 | 0.19 | 99.02 |
| 25 | 30.50 | 1.30 | 18.50 | 26.82 | 13.35 | 0.00 | 6.01 | 0.84 | 0.93 | 0.28 | 98.53 |
| 26 | 30.81 | 1.28 | 21.63 | 25.72 | 12.51 | 0.00 | 4.64 | 0.99 | 0.89 | 0.35 | 98.82 |
| 27 | 30.76 | 1.17 | 21.92 | 28.69 | 10.91 | 0.00 | 4.36 | 0.58 | 0.70 | 0.30 | 99.39 |
| 28 | 37.91 | 1.15 | 19.91 | 24.29 | 9.57 | 0.00 | 5.02 | 0.83 | 0.49 | 0.23 | 99.39 |
| 29 | 30.02 | 0.61 | 18.26 | 29.87 | 13.75 | 0.00 | 4.51 | 0.94 | 0.76 | 0.35 | 99.07 |
| 30 | 24.41 | 0.02 | 17.73 | 29.95 | 16.27 | 0.00 | 6.89 | 1.38 | 1.08 | 0.04 | 98.17 |

**Rock Type: Fine-grained granodiorite**

| Map No. | Qtz | cor | or | ab | an | di | hy | mg | il | ap | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 13.65 | 0.00 | 14.89 | 21.15 | 26.41 | 2.64 | 16.40 | 1.58 | 1.75 | 0.51 | 98.98 |
| 32 | 14.10 | 0.00 | 14.36 | 21.66 | 25.13 | 3.41 | 16.51 | 1.45 | 1.80 | 0.53 | 98.95 |
| 33 | 19.02 | 0.00 | 16.25 | 20.73 | 25.47 | 0.19 | 13.50 | 1.57 | 1.63 | 0.44 | 98.80 |
| 34 | 20.58 | 0.00 | 15.90 | 18.11 | 25.51 | 0.95 | 14.53 | 1.61 | 1.69 | 0.42 | 99.30 |
| 35 | 25.97 | 0.00 | 20.68 | 19.97 | 15.99 | 0.00 | 10.30 | 1.87 | 1.27 | 0.49 | 96.44 |
| 36 | 23.86 | 0.00 | 18.85 | 22.34 | 19.52 | 1.36 | 9.39 | 1.20 | 1.48 | 0.51 | 98.51 |
| 37 | 18.65 | 0.00 | 13.24 | 30.04 | 20.51 | 0.63 | 12.28 | 0.86 | 1.35 | 0.46 | 98.02 |

**Rock type: Aplite dikes**

| Map No. | Qtz | cor | or | ab | an | di | hy | mg | il | ap | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 33.47 | 2.11 | 27.24 | 33.34 | 0.67 | 0.00 | 1.64 | 1.10 | 0.04 | 0.12 | 99.73 |
| 39 | 35.61 | 0.26 | 25.23 | 31.31 | 4.42 | 0.00 | 1.95 | 0.14 | 0.08 | 0.14 | 99.14 |
| 40 | 34.90 | 0.58 | 26.47 | 29.70 | 4.75 | 0.00 | 1.62 | 0.26 | 0.11 | 0.09 | 98.48 |
| 41 | 31.66 | 1.89 | 27.18 | 32.92 | 1.11 | 0.00 | 1.71 | 1.64 | 0.04 | 0.12 | 98.27 |
| 42 | 34.50 | 2.14 | 26.77 | 32.15 | 0.80 | 0.00 | 0.29 | 1.39 | 0.04 | 0.21 | 98.29 |

Table 1. *Whole-rock major oxide chemical analyses of 10 kilogram samples collected from various metamorphic rock units in the Fairbanks mining district. Map numbers refer to sample locations on sheet 1. Analyses by XRF, reported in weight percent.*

**Chatanika terrane**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 34.03 | 7.16 | 1.83 | 5.91 | 6.19 | 28.33 | 0.83 | 0.07 | 1.58 | 0.55 | 0.40 | 10.22 | 0.39 | 97.49 | Garnet clinopyroxene schist |
| 2 | 35.39 | 7.73 | 1.44 | 1.11 | 1.26 | 28.08 | 0.54 | 1.83 | 0.65 | 0.07 | 0.06 | 19.73 | 0.48 | 98.37 | " " " |
| 3 | 56.11 | 9.87 | 1.83 | 1.13 | 1.22 | 13.99 | 0.37 | 2.70 | 1.04 | 0.11 | 0.06 | 9.38 | 0.45 | 98.26 | Garnet amphibolite |
| 4 | 72.60 | 5.00 | 0.23 | 1.08 | 6.30 | 3.59 | 0.66 | 1.96 | 0.26 | 0.26 | 0.09 | 6.68 | 0.42 | 99.13 | Muscovite-hornblende schist |
| 5 | 34.11 | 10.53 | 0.19 | 9.00 | 7.08 | 21.10 | 0.95 | 1.15 | 2.42 | 0.78 | 0.18 | 9.92 | 0.36 | 97.77 | Garnet calc-schist |
| 6 | 37.61 | 10.59 | 1.97 | 9.05 | 8.86 | 18.47 | 1.78 | 0.32 | 2.20 | 0.84 | 0.17 | 6.51 | 0.37 | 98.74 | Garnet amphibolite |
| 7 | 71.70 | 13.37 | 4.57 | 0.77 | 0.48 | 0.44 | 0.21 | 2.15 | 0.74 | 0.17 | 0.16 | 3.29 | 0.61 | 98.66 | Muscovite-kspar schist |
| 8 | 43.37 | 10.18 | 2.39 | 7.22 | 8.39 | 14.88 | 3.09 | 0.25 | 1.69 | 0.62 | 0.34 | 3.75 | 0.42 | 96.59 | Garnet amphibolite |
| 9 | 34.96 | 9.16 | 2.33 | 5.29 | 5.06 | 26.87 | 2.02 | 0.12 | 1.56 | 0.33 | 0.17 | 12.04 | 0.36 | 99.91 | Marble |
| 10 | 31.98 | 8.80 | 2.19 | 5.00 | 4.56 | 26.60 | 1.64 | 1.28 | 1.26 | 0.40 | 0.17 | 16.82 | 0.38 | 100.70 | Impure marble |
| 11 | 84.20 | 2.77 | 0.40 | 1.39 | 1.19 | 3.79 | 0.48 | 0.53 | 0.19 | 1.46 | 0.01 | 4.06 | 0.20 | 100.47 | Graphitic metachert |

**Cleary sequence metavolcanic rocks**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 77.07 | 7.45 | 11.12 | 0.59 | 0.25 | 0.32 | 0.16 | 1.29 | 0.80 | 0.17 | 0.08 | 1.85 | 0.64 | 101.79 | Banded muscovite quartzite |
| 13 | 89.91 | 3.57 | 1.17 | 0.99 | 0.00 | 0.47 | 0.19 | 0.53 | 0.13 | 0.09 | 0.13 | 0.95 | 0.53 | 98.68 | " " " |
| 14 | 66.76 | 16.94 | 2.09 | 1.58 | 1.12 | 0.29 | 0.38 | 5.38 | 0.83 | 0.12 | 0.18 | 2.48 | 0.45 | 98.60 | " " " |
| 15 | 70.07 | 12.51 | 2.63 | 1.23 | 1.52 | 0.25 | 0.34 | 3.57 | 1.21 | 0.10 | 0.09 | 3.16 | 0.44 | 97.12 | Meta-rhyolitic tuff |
| 16 | 43.04 | 11.04 | 0.59 | 10.44 | 11.05 | 11.80 | 0.46 | 1.60 | 2.69 | 0.57 | 0.22 | 3.55 | 0.45 | 97.50 | Garnet ortho-amphibolite |
| 17 | 42.25 | 12.52 | 1.03 | 10.26 | 9.65 | 11.87 | 0.45 | 1.78 | 3.52 | 0.76 | 0.22 | 3.68 | 0.44 | 98.43 | " " " |
| 18 | 47.96 | 15.32 | 1.55 | 7.98 | 6.74 | 11.12 | 3.15 | 0.41 | 1.15 | 0.18 | 0.18 | 3.69 | 0.07 | 99.50 | Feldspathic chlorite schist |
| 19 | 56.59 | 20.80 | 2.71 | 4.54 | 2.10 | 0.79 | 0.47 | 5.36 | 1.06 | 0.14 | 0.16 | 4.62 | 0.10 | 99.40 | Chlorite-talc schist |
| 20 | 42.14 | 13.63 | 1.88 | 10.42 | 8.99 | 14.52 | 1.49 | 0.70 | 2.45 | 0.45 | 0.38 | 0.48 | 0.18 | 97.53 | Ortho amphibolite |
| 21 | 25.45 | 4.52 | 1.23 | 1.38 | 0.81 | 37.73 | 0.16 | 0.96 | 0.15 | 0.14 | 0.06 | 30.77 | 0.31 | 103.36 | Calc-chlorite schist |
| 22 | 88.24 | 6.20 | 0.58 | 2.05 | 0.28 | 0.08 | 0.25 | 1.46 | 0.30 | 0.03 | 0.18 | 1.10 | 0.24 | 100.75 | Feldspathic muscovite quartzite |
| 23 | 77.65 | 14.00 | 0.67 | 0.50 | 0.39 | 0.20 | 0.29 | 2.30 | 0.58 | 0.03 | 0.05 | 3.49 | 0.32 | 100.15 | Banded muscovite quartzite |
| 24 | 51.54 | 25.31 | - | - | 1.58 | 0.32 | 0.68 | 7.08 | 0.95 | 0.13 | 0.06 | 6.12 | 0.94 | 100.10 | Graphitic schist |
| 25 | 72.37 | 13.46 | 7.28 | 0.27 | 0.28 | 0.28 | 0.15 | 0.97 | 0.89 | 0.09 | 0.12 | 5.04 | 0.47 | 101.20 | Banded muscovite quartzite |
| 26 | 59.34 | 16.18 | 3.67 | 4.28 | 2.90 | 3.50 | 1.25 | 3.81 | 1.04 | 0.08 | 0.19 | 3.33 | 0.56 | 99.57 | Muscovite garnet schist |
| 27 | 67.14 | 16.25 | 5.73 | 0.69 | 0.84 | 0.40 | 0.46 | 3.80 | 0.75 | 0.17 | 0.16 | 3.90 | 1.11 | 100.29 | Feldspathic muscovite schist |
| 28 | 96.78 | 1.27 | 0.41 | 0.85 | 0.06 | 0.10 | 0.23 | 0.43 | 0.10 | 0.02 | 0.01 | 0.64 | 0.27 | 100.90 | Chlorite schist |
| 29 | 76.13 | 6.53 | 4.97 | 0.89 | 1.25 | 1.53 | 0.64 | 1.58 | 0.29 | 0.14 | 0.10 | 4.10 | 0.23 | 98.15 | " " |
| 30 | | | | | | | | | | | | | | - | Graphitic quartz schist |

**Cleary sequence metasedimentary rocks**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 63.11 | 16.64 | 1.60 | 5.39 | 2.23 | 1.12 | 1.47 | 3.99 | 1.09 | 0.16 | 0.12 | 1.74 | 0.21 | 98.87 | Para amphibolite |
| 32 | 52.94 | 19.36 | 2.23 | 4.77 | 2.23 | 13.30 | 0.61 | 1.61 | 0.82 | 0.10 | 0.33 | 0.90 | 0.30 | 99.50 | Marble |
| 33 | 66.46 | 15.86 | 2.60 | 2.46 | 2.12 | 1.30 | 1.69 | 3.75 | 0.65 | 0.18 | 0.09 | 3.10 | 0.21 | 100.47 | Para amphibolite |
| 34 | 6.01 | 0.00 | 0.02 | 0.18 | 0.26 | 52.75 | 0.08 | 0.19 | 0.04 | 0.14 | 0.08 | 42.37 | 0.21 | 101.33 | Muscovite quartzite |
| 35 | 29.98 | 14.08 | 1.91 | 11.75 | 6.82 | 17.40 | 0.86 | 0.29 | 2.55 | 0.93 | 1.22 | 10.24 | 0.29 | 98.32 | Marble |
| 36 | 86.13 | 6.18 | 1.09 | 1.76 | 0.56 | 0.42 | 0.63 | 1.67 | 0.27 | 0.07 | 0.13 | 0.61 | 0.35 | 99.87 | Biotite muscovite garnet schist |
| 37 | 11.49 | 0.12 | 0.13 | 0.54 | 0.21 | 48.34 | 0.33 | 0.59 | 0.09 | 0.10 | 0.04 | 38.50 | 0.32 | 100.80 | Meta-conglomerate |
| 38 | 66.84 | 11.44 | 1.26 | 8.91 | 3.53 | 3.22 | 0.99 | 1.37 | 1.07 | 0.14 | 0.55 | 0.00 | 0.58 | 100.00 | Quartzite |
| 39 | 77.15 | 11.10 | 1.93 | 2.19 | 1.35 | 0.44 | 1.19 | 2.35 | 0.54 | 0.08 | 0.04 | 1.94 | 0.24 | 100.54 | " " |
| 40 | 56.45 | 19.98 | 1.05 | 5.53 | 2.82 | 0.66 | 3.14 | 7.43 | 0.92 | 0.23 | 0.13 | 1.14 | 0.14 | 99.62 | Muscovite schist |
| 41 | 85.38 | 5.64 | 1.60 | 2.37 | 0.67 | 2.87 | 0.37 | 0.43 | 0.26 | 0.02 | 0.17 | 1.12 | 0.03 | 100.93 | Muscovite quartzite |
| 42 | 85.95 | 6.26 | 1.51 | 2.24 | 0.80 | 2.27 | 0.40 | 0.55 | 0.32 | 0.04 | 0.13 | 1.33 | 0.31 | 101.80 | Feldspathic biotite garnet schist |
| 43 | 58.75 | 19.98 | 0.96 | 7.28 | 2.51 | 0.73 | 1.02 | 4.40 | 0.93 | 0.12 | 0.14 | 2.12 | 0.38 | 98.51 | Garnet chlorite muscovite schist |
| 44 | 76.91 | 11.03 | 1.49 | 2.25 | 1.26 | 0.95 | 1.70 | 2.44 | 0.50 | 0.07 | 0.06 | 1.32 | 0.28 | 99.98 | Biotite muscovite quartz schist |
| 45 | 66.90 | 16.62 | 5.35 | 1.36 | 1.33 | 0.28 | 0.84 | 3.83 | 0.91 | 0.12 | 0.11 | 2.86 | 0.48 | 100.51 | Muscovite quartz schist |

**Chena River sequence**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 72.69 | 12.70 | 2.01 | 1.82 | 1.62 | 0.49 | 1.30 | 3.45 | 0.50 | 0.11 | 0.07 | 2.07 | 0.20 | 99.23 | Biotite muscovite schist |
| 47 | 47.06 | 13.32 | 1.55 | 9.88 | 5.73 | 10.01 | 3.33 | 0.25 | 2.61 | 0.32 | 0.24 | 5.85 | 0.39 | 100.54 | Garnet amphibolite |
| 49 | 74.07 | 10.34 | 0.70 | 4.14 | 2.55 | 2.23 | 2.01 | 1.35 | 1.04 | 0.22 | 0.14 | 0.78 | 0.40 | 99.97 | Calcareous schist |
| 50 | 69.84 | 9.20 | - | * | 0.95 | 4.51 | 0.26 | 2.28 | 0.64 | 2.94 | 0.03 | 4.64 | 1.02 | 100.54 | Para amphibolite |
| | | | | | | | | | | | | | | | Graphitic quartz schist |

**Birch Hill sequence**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 44.26 | 9.08 | 1.24 | 1.85 | 1.97 | 19.72 | 1.29 | 2.26 | 0.35 | 0.18 | 0.12 | 17.03 | 0.46 | 99.81 | Calcareous schist |
| 52 | 93.29 | 2.15 | 0.67 | 1.04 | 0.07 | 0.35 | 0.21 | 0.52 | 0.09 | 0.10 | 0.11 | 0.10 | 0.52 | 99.22 | Graphitic phyllite |
| 53 | 96.03 | 1.79 | 0.40 | 0.12 | 0.04 | 0.50 | 0.22 | 0.38 | 0.06 | 0.07 | 0.20 | 0.00 | 0.47 | 101.30 | " " |
| 54 | 89.47 | 5.30 | 0.41 | 0.19 | 0.56 | 1.08 | 0.18 | 1.61 | 0.34 | 0.63 | 0.01 | 1.59 | 0.11 | 101.48 | Carbonaceous quartzite |

**Aplite Dikes**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 61.28 | 15.99 | 2.57 | 5.25 | 0.70 | 0.91 | 2.71 | 3.81 | 0.77 | 0.34 | 0.33 | 4.43 | 0.53 | 99.62 | Pyritic aplite |
| 56 | 64.95 | 16.26 | 5.96 | 0.27 | 0.74 | 0.92 | 1.41 | 3.81 | 0.79 | 0.29 | 0.03 | 3.49 | 1.62 | 100.04 | " " |

**Skarns/Hornfels**

| Map No. | $SiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MgO | CaO | $Na_2O$ | $K_2O$ | $TiO_2$ | $P_2O_5$ | MnO | LOI | $H_2O$ | Total | Rock Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 42.84 | 11.18 | 1.81 | 8.66 | 1.57 | 26.90 | 0.20 | 0.08 | 0.39 | 0.12 | 0.62 | 3.17 | 0.34 | 97.54 | Calc-silicate skarn |
| 58 | 45.97 | 11.00 | 2.19 | 8.67 | 10.87 | 14.79 | 0.65 | 1.11 | 2.12 | 0.80 | 0.20 | 1.11 | 0.31 | 99.48 | Hornblende hornfels |
| 59 | 33.37 | 8.08 | 1.31 | 7.19 | 0.92 | 36.60 | 0.15 | 0.00 | 0.19 | 0.14 | 0.56 | 4.17 |