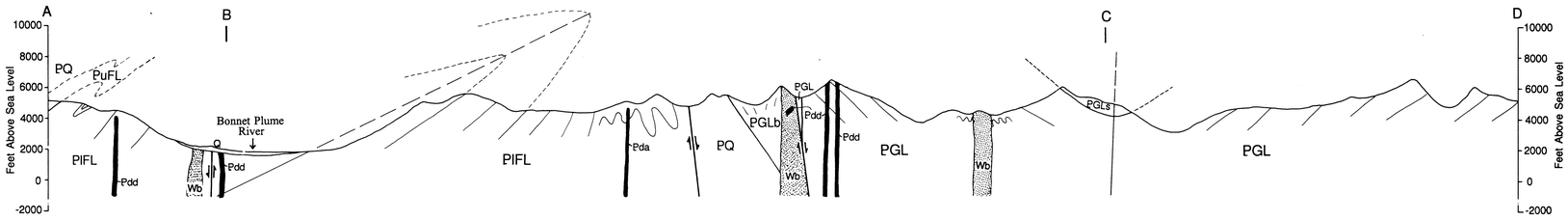
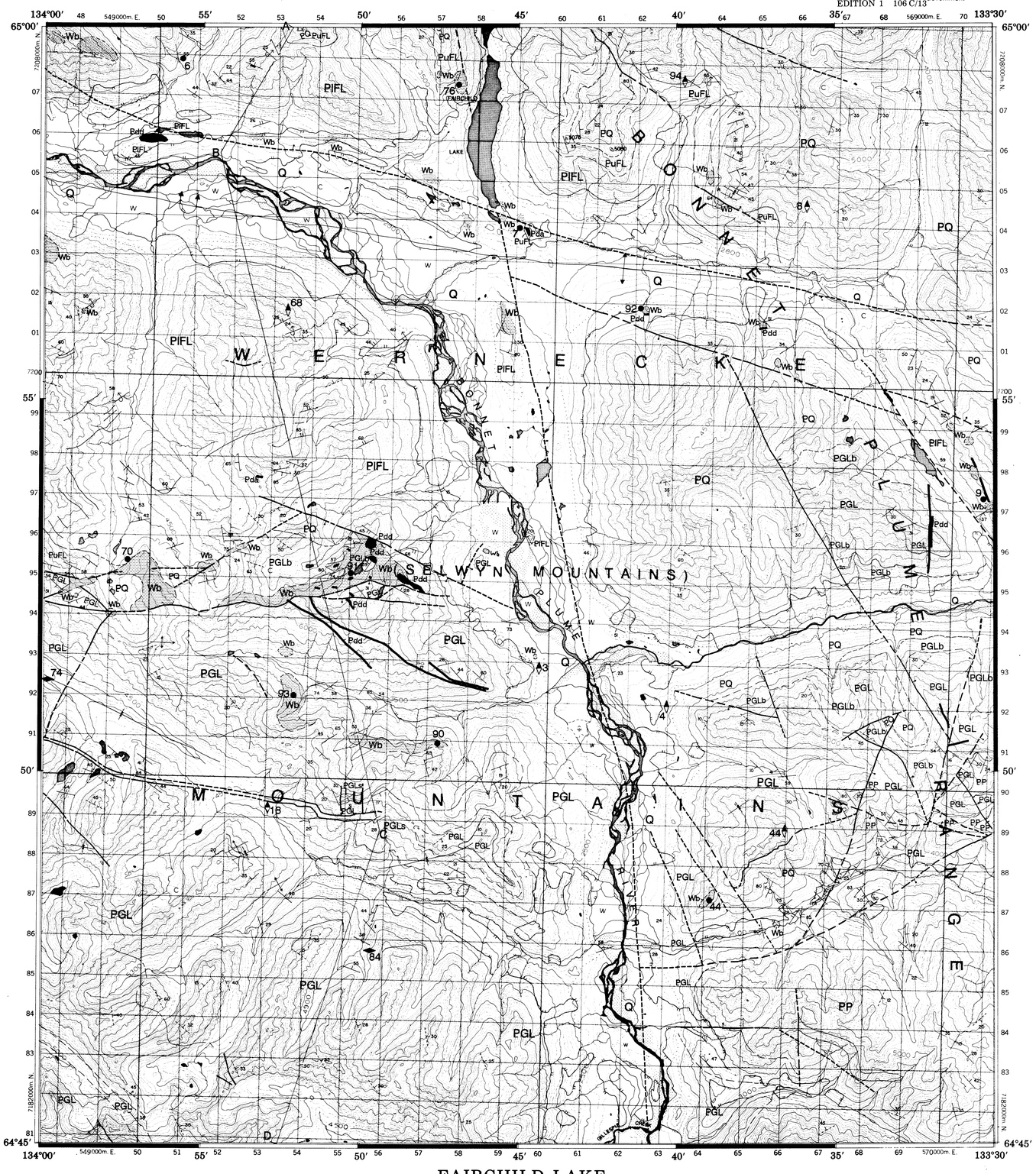



Canada

canada/yukon economic development agreement

Yukon Government

EDITION 1 106 C/13




# FAIRCHILD LAKE

## YUKON TERRITORY

Scale 1:50,000 Échelle

Miles 1 0 1 2 3 Milles

Metres 1000 0 1000 2000 3000 4000 Mètres

Yards 1000 0 1000 2000 3000 4000 Verges

PRODUCED BY SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, OTTAWA, 1970.

CONTOUR INTERVAL ..... 100 FEET



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NORTH AMERICAN DATUM 1927

TRANSVERSE MERCATOR PROJECTION

CES CARTES SONT EN VENTE AU BUREAU DE DISTRIBUTION DES CARTES, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, OTTAWA.

SYSTÈME DE RÉFÉRENCE GÉODÉSIQUE NORD-AMÉRICAIN 1927

PROJECTION TRANSVERSE DE MERCATOR

ÉTABLIE PAR LA DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, OTTAWA, EN 1970.

ÉQUIDISTANCE DES COURBES ..... 100 PIEDS



| | | |
|---|---|---|
| 106 E/1 | 106 F/4 | 106 F/3 |
| 106 D/16 | 106 C/13 | 106 C/14 |
| 106 D/9 | 106 C/12 | 106 C/11 |

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 8
QUADRILLAGE DE MILLE MÈTRES
UNIVERSEL TRANSVERSE DE MERCATOR

The 1972 MAGNETIC BEARING is 33°32′ (596 mils) EAST of GRID NORTH.

ANNUAL CHANGE DECREASING 4′

GRID NORTH is 1°06′ (20 mils) EAST of TRUE NORTH for centre of map

Le REPERE MAGNETIQUE en 1972 est 33°32′ (596 mils) à l'est du NORD DU QUADRILLAGE.

VARIATION ANNUELLE DÉCROISSANTE 4′

NORD DU QUADRILLAGE est 1°06′ (20 mils) à l'est du NORD GÉOGRAPHIQUE au centre de la carte

## LEGEND

### STRATIFIED ROCKS

**Quaternary**

**Q** — *Alluvium, colluvium, and glacial deposits*

**Middle to Late Proterozoic**
***Pinguicula Group***

**PP** — *Maroon and green weathering siltstone; orange and grey weathering dolostone with minor interbeds of maroon to black siltstone; minor basal greenish grey quartzose sandstone with lenses of conglomerate.*

**Middle Proterozoic**
***Gillespie Lake Group***

**PGL** — *Undivided Gillespie Lake Group: orange, brown and grey weathering dolostone and silty dolostone, locally stromatolitic, locally hosting chert nodules and sparry karst infillings, interbedded with subordinate black weathering siltstone and shale, green, grey and brown weathering laminated mudstone, and grey to white weathering quartzose sandstone. Locally developed slaty cleavage in shaley beds. Hosts sedimentary exhalative Zn, Pb, Cu, and Ag.*

**PGLs** — *Black weathering siltstone and shale*

**PGLb** — *Basal Gillespie Lake Group: cross laminated, orange weathering silty to sandy dolostone interbedded with black weathering shale and grey to white weathering, quartzose, fine grained sandstone*

***Quartet Group***

**PQ** — *Black weathering shale, finely laminated dark grey weathering siltstone, and planar to cross laminated light grey weathering siltstone and fine grained sandstone. In upper part of succession, siltstone and fine grained sandstone interbedded with subordinate orange weathering dolostone grades upward into basal Gillespie Lake Group. Slaty cleavage, crenulation cleavage, and microfolds locally present in shaly units*

***Fairchild Lake Group***

**PFL** — *Undivided Fairchild Lake Group: siltstone, fine grained sandstone, laminated limy siltstone, and minor carbonate*

**PuFL** — *Upper Fairchild Lake Group: black weathering siltstone, buff to light grey weathering dolomitic siltstone, orange to brown weathering dolostone, and white weathering dolostone; locally cleaved and crenulated; grades upward into black shale and siltstone of Quartet Group, and downward into lower Fairchild Lake Group*

**PlFL** — *Lower Fairchild Lake Group: Greenish grey to pink and green weathering calcareous laminated siltstone, grey weathering fine grained sandstone, and minor brown weathering carbonate. Siltstone and sandstone are commonly cross-laminated; siltstone is locally cleaved, crenulated and kinked; base not exposed*

### INTRUSIVE ROCKS

**Middle Proterozoic**
***Wernecke breccia***

**Wb** — *Mottled red, green and grey weathering hematitic and dolomitic breccia, and related metasomatized country rock. Breccia contains variably metasomatized clasts of Wernecke Supergroup, and minor dyke rock. Breccia and metasomatites are locally enriched in copper, cobalt, uranium, silver and gold*

*Igneous dykes*

**Pd** — *Fine to medium grained, mafic to intermediate dykes.* **Pdd**, *greenish grey weathering, fine to medium grained diorite to gabbro;* **Pda**, *grey weathering, biotitic andesite to basalt, locally spherulitic and amygdaloidal*

### Mineral Occurrences, listed in Yukon Minfile

● Wernecke breccia
Cu and/or U (+/− Co, Au, Mo, Ba, Ag)
6 PLUME
7 FAIRCHILD
9 DOLORES
44 LEARY
70 NORANDA
76 OTTER
90 TOW
91 OLYMPIC
92 WHALE
93 ATHENS

▲ Vein
Zn−Pb (+/−Cu, U, Au, Ag)
3 GILLESPIE
4 GEORDIE
8 BIBBER
18 KIDNEY
44 LEARY
68 LAW
94 CAROL

◆ Stratabound concordant
Pb−Zn (+/−Cu, Ag)
84 GOODFELLOW
74 CORD (Minfile: 106D/16)

## SYMBOLS

**stratigraphic or intrusive contact** — known, approximate, assumed

**normal or strike-slip fault** (pegs on downthrown side) — known, approximate, assumed

**bedding** — inclined, overturned, vertical, horizontal, facing unknown; estimate from airphoto or distant sighting

**cleavage** — inclined, vertical

**fold** — syncline; anticline: inclined; overturned

**line of cross section** — A B

## REFERENCES


*BELL, R.T., 1986a. Geological map of northeastern Wernecke Mountains, Yukon Territory. Geological Survey of Canada, Open File 1207.*

*BLUSSON, S.L., 1974. Geology of Nadaleen River, Lansing, Niddery Lake, Bonnet Plume Lake and Mount Eduni map areas, Yukon Territory; Geological Survey of Canada, Open File 205, scale 1:250 000.*

*DELANEY, G.D., 1981. The mid-Proterozoic Wernecke Supergroup, Wernecke Mountains, Yukon Territory. In: Proterozoic Basins of Canada, F.H.A. Campbell, (ed.). Geological Survey of Canada Paper 81-10, p.1-23.*

*EISBACHER, G.H., 1978. Two major Proterozoic unconformities, Northern Cordillera. In: Current Research, Part A, Geological Survey of Canada, Paper 78-1A, p.53-58.*

*INAC, 1993. Yukon MINFILE, 1993. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada.*

*THORKELSON, D.J. and WALLACE, C.A., 1993a. Development of Wernecke breccia in Slats Creek (106D/16) map area, Wernecke Mountains, Yukon. In: Yukon Exploration and Geology, 1992. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 77-87.*

*THORKELSON, D.J. and WALLACE, C.A., 1993b. Geological map of Slats Creek (106D/16) map area, Wernecke Mountains, Yukon. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada Open File 1993-2 (G).*

*TOUBORG, J.F., MAZUR, R.J., and CHAN, A.K., 1979. Report of Fairchild Cobalt Projects. Indian and Northern Affairs Canada Assessment Report #090621.*



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Copies of this map, Yukon MINFILE and Yukon Exploration and Geology may be obtained from the Canada Map Office, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Whitehorse, Yukon, Y1A 3V1 Phone (403) 667-3204.

**This map accompanies the following report:**

*THORKELSON, D.J. and WALLACE, C.A., 1994. Geological setting of mineral occurrences in Fairchild Lake map area (106C/13), Wernecke Mountains, Yukon. In: Yukon Exploration and Geology, 1993. Exploration and Geological Services Division, Indian and Northern Affairs Canada.*

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Indian and Northern Affairs Canada
Exploration and Geological Services Division
Yukon Region



**Open File 1994-6(G)**


**GEOLOGICAL MAP OF FAIRCHILD LAKE MAP AREA (106C/13), WERNECKE MOUNTAINS, YUKON**
**1:50 000 scale**


Derek J. Thorkelson and Carol A. Wallace
Canada/Yukon Mineral Development Agreement
Geoscience Office