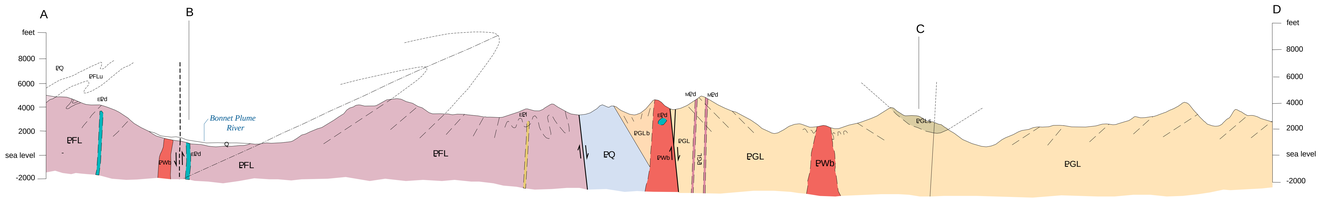
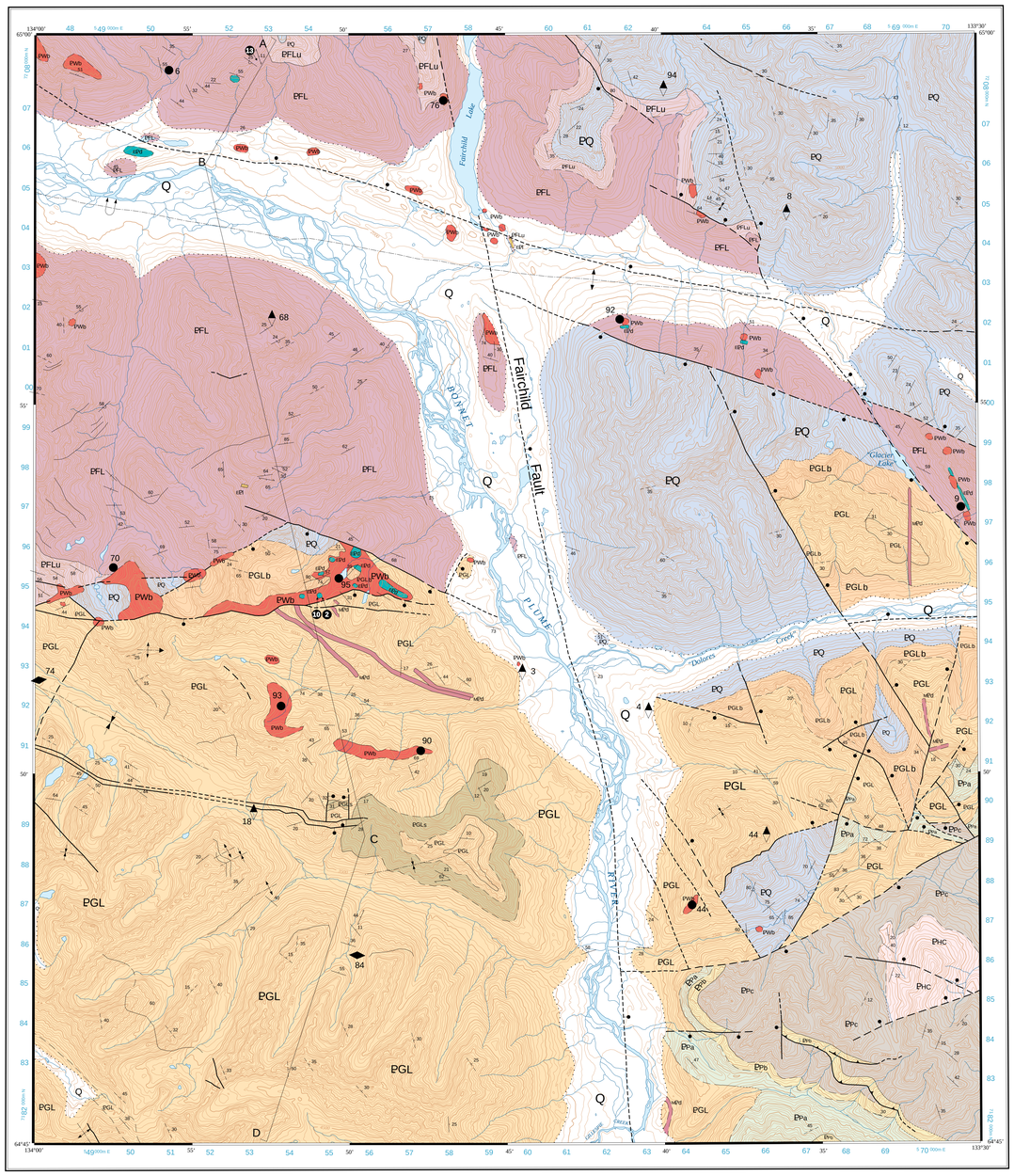


Canada



LEGEND

STRATIFIED ROCKS

QUATERNARY

Q — Alluvium, colluvium, and glacial deposits

MIDDLE TO UPPER PROTEROZOIC

HEMATITE CREEK GROUP

PHC — Hematite Creek Group, undivided. Medium to very thick bedded, buff, orange, brown and grey weathering dolostone, interbedded with black, grey and maroon weathering shale, micaceous siltstone, nodular limestone, and light grey weathering quartz arenite. Stromatolites are locally abundant in basal and upper parts of succession. Formerly called Pinguicula Group, units D, E and F.

MIDDLE PROTEROZOIC

PINGUICULA GROUP

PPc — UNIT C: thin to very thick bedded and massive, grey weathering dolostone and limestone; abundant "zebra" texture and pods of coarse grained sparry dolomite; minor intraclast conglomerate and interbeds of black shale

PPb — UNIT B: medium bedded, orange weathering dolostone; minor grey weathering limestone and maroon weathering siltstone. Local crossbedding and intraclast conglomerate

PPa — UNIT A: thin bedded, laminated, maroon, green and black weathering siltstone and shale; minor basal sandstone and conglomerate

LOWER 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 Gillispie 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: Greenish grey to pink and green weathering laminated siltstone, grey weathering fine-grained sandstone, and minor brown to white weathering carbonate. Siltstone and sandstone are commonly cross-laminated; siltstone is locally cleaved, crenulated and kinked, and locally metamorphosed into chloritoid/garnet-quartz-muscovite-chlorite schist. Base not exposed.

PFLu — 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

INTRUSIVE ROCKS

MIDDLE PROTEROZOIC

BEAR RIVER DYKES

MEd — Greenish grey weathering, fine-grained diorite to gabbro

WERNECKE BRECCIA

PWb — Mottled red, green brown and grey weathering hematitic breccia and related metasomatized country rock. Breccia contains variably metasomatized clasts of Wernecke Supergroup and minor Early Proterozoic diorite (EPd) Breccia hosts localized enrichments of copper, gold, uranium, cobalt and silver. Brecciation occurred after formation of cleavage, schistosity, and kink bands in Wernecke Supergroup.

EARLY TO MIDDLE PROTEROZOIC

IGNEOUS DYKES

EPf — Grey weathering dykes of basaltic biotite lamprophyre, locally spherulitic or amygdaloidal; locally crosscut by stringers of hematite

EARLY PROTEROZOIC

BONNET PLUME RIVER INTRUSIONS

EPd — Dykes, stocks, and megaclasts of greenish grey weathering, fine- to medium-grained diorite to gabbro, commonly containing stringers or dissemination of hematite or magnetite. Megaclasts common within Wernecke breccia. At Olympic occurrence, includes megaclasts of micro-anorthosite.

SYMBOLS

Stratigraphic or intrusive contact
known, approximate, assumed.....

Normal or strike-slip fault (pegs on downthrown side)
known, approximate, assumed.....

Reverse fault (teeth on hanging wall)
known, approximate, assumed.....

Bedding
inclined, overturned, vertical,
horizontal, facing unknown
estimate from airphoto or distant sighting.....

Slaty cleavage, schistosity
inclined, vertical.....

Fold
syncline
anticline: inclined; overturned.....

Line of cross section..... A — B

Preliminary age determination..... ❷

PRELIMINARY ISOTOPIC AGES

Ref. no.	Sample no.	Geochronologist	Method and Material	Age(s) preliminary
2	DT-93-25-1C	J. Mortensen	U-Pb zircon (igneous)	1722 +/- 20
10	DT-93-25-2C	J. Mortensen	U-Pb rutile (hydrothermal)	ca. 1370 Ma
13	DT-93-22-1	P. Layer	40Ar/39Ar muscovite (metamorphic)	786.2 +/- 3.9

MINERAL OCCURRENCES
Yukon Minfile

Wernecke breccia:
Cu and/or U (±Co,Au,Mo,Ba,Ag)

106 C/006	Plume
106 C/007	Fairchild
106 C/009	Dolores
106 C/044	Leary
106 C/070	Noranda
106 C/076	Otter
106 C/090	Tow
106 C/092	Whale
106 C/093	Athens
106 C/095	Olympic

Vein:
Zn-Pb (± Cu,U,Au,Ag)

106 C/003	Gillespie
106 C/004	Geordie
106 C/008	Bibber
106 C/018	Kidney
106 C/044	Leary
106 C/068	Law
106 C/094	Carol

Stratabound concordant:
Pb-Zn (±Cu,Ag)

106 C/084	Goodfellow
106 C/074	Cord (Minfile:106 D/16)

RECOMMENDED CITATION

THORKELSON, D.J. and WALLACE, C.A., 1998. Geological map of Fairchild Lake map area, Wernecke Mountains, Yukon (106 C/13). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada. Geoscience Map 1998-11, scale 1:50 000.

This map accompanies Thorkelson, D.J. 1998. Geology of the Slats Creek, Fairchild Lake and Dolores Creek map areas, Yukon (106 D/16, 106 C/13, 106 C/14). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin.....TBA.

Digital cartography and drafting by Will vanRanden, Canada/Yukon Geoscience Office.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geology Program.

Copies of this map, the accompanying report and Yukon Minfile may be purchased from Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 102-300 Main St. Whitehorse, Yukon Y1A 2B5 Ph. 403-667-3266 Fax 403-667-3267.

Store map in a dark area to prevent colours from fading.

Topographic base produced by SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES.

ONE THOUSAND METRE
Universal Transverse Mercator Grid
ZONE 8

FAIRCHILD LAKE
YUKON TERRITORY
SCALE 1:50 000

Miles 3 2 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Metres

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1991
FOR CENTRE OF MAP
Annual change decreasing 4 9'

106 E/1	106 F/4	106 F/3
106 D/16 Thorkelson & Wallace Geoscience Map 1998-9	**106 C/13 THIS MAP**	106 C/14 Thorkelson & Wallace Geoscience Map 1998-11
106 D/9	106 C/12	106 C/11

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

Geoscience Map 1998-10

Geological map of Fairchild Lake area, Wernecke Mountains, Yukon NTS 106 C/13

by

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