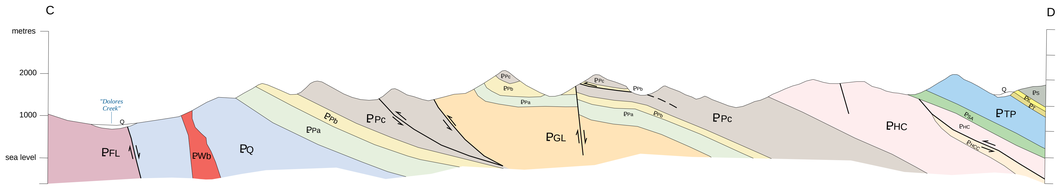

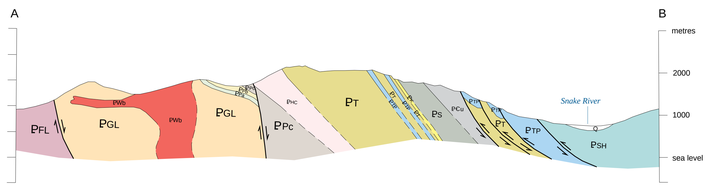

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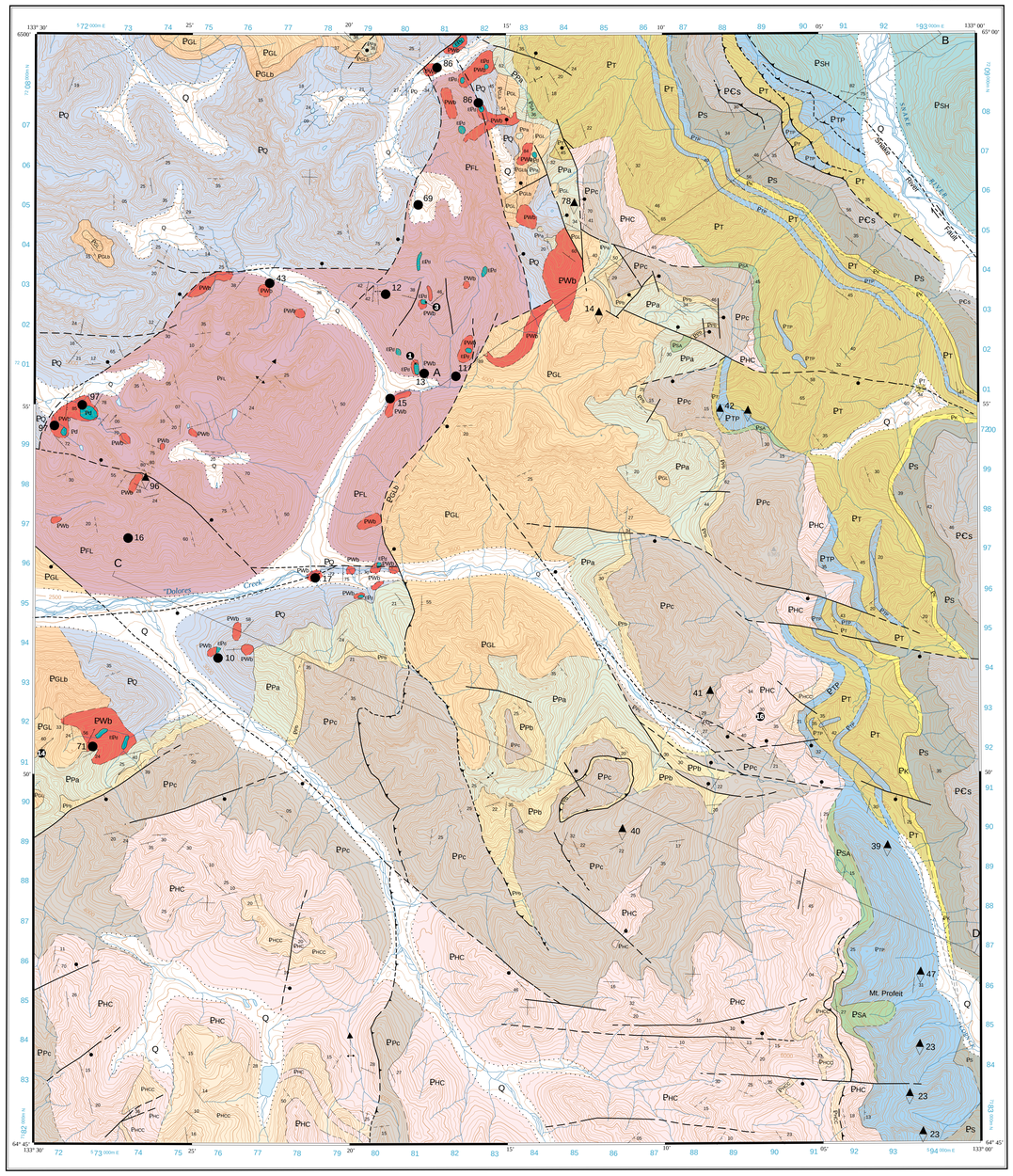

LEGEND

STRATIFIED ROCKS

QUATERNARY

Q — Alluvium, colluvium, and glacial deposits

UPPER PROTEROZOIC TO LOWER PALEOZOIC

PCs — Rusty to grey weathering quartz arenite; pinkish orange and grey weathering white carbonate; pebble conglomerate; siltstone and shale. Correlative with the BACKBONE RANGES and VAMPIRE formations.

UPPER PROTEROZOIC

WINDERMERE SUPERGROUP

PS — SHEEPBED FORMATION: recessive, black weathering shale and siltstone; minor grey weathering limestone near top of unit may belong to the GAMETRAIL FORMATION.

PK — KEELE FORMATION: thin bedded to massive, light orange to brown weathering micritic dolostone. Minor brown weathering diamictite locally forming base of unit may belong to ICE BROOK FORMATION

PT — TWITYA FORMATION: thin bedded, brown weathering siltstone interbedded with sandstone, granule to pebble conglomerate ("grit"), and light grey weathering dolostone

PTP — PROFEIT DOLOSTONE: (facies of Twitya Formation) massive to thick bedded, light grey weathering dolostone commonly containing vugs, stromatolites, oncolites, oolites and micritic intraclasts; commonly fetid; minor siltstone, sandstone and grit

PSH — SHEZAL FORMATION: massive, green weathering diamictite containing rounded to subrounded pebbles and cobbles of carbonate, sandstone and (?) greenstone

PSA — SAYUNEI FORMATION: thick bedded to massive, orange to brown weathering sandstone, and conglomerate containing rounded to subrounded pebble to boulder sized clasts of carbonate, siltstone and quartz arenite

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 siltsone, 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.

PHCC — Corn Creek Quartz Arenite (facies of PHC): thick to very thick bedded, light grey weathering quartz arenite; minor siltstone and carbonate abundant in upper parts of PHC. Formerly termed Corn Creek quartzite (Pinguicula Group unit E).

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

WERNECKE SUPERGROUP

PGL — GILLESPIE LAKE GROUP: orange, brown and grey weathering dolostone and silty dolostone, locally hosting chert nodules and sparry karst infillings; minor siltstone and shale, and light grey weathering quartzose sandstone

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

PQ — QUARTET GROUP: black weathering shale, finely laminated dark grey weathering siltstone, and planar to cross laminated light grey weathering siltstone and very 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.

PFL — FAIRCHILD LAKE GROUP: thinly bedded, laminated to cross-laminated black to greenish-grey weathering siltstone and limy siltstone; minor black to grey weathering slate and kinked slate; minor brown weathering dolostone

INTRUSIVE ROCKS

MIDDLE PROTEROZOIC

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 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 disseminations of hematite or magnetite. Megaclasts common within Wernecke breccia. At Porphyry mineral occurrence, intrusion is pinkish grey weathering fine- to medium-grained quartz albite syenite.

SYMBOLS

Stratigraphic or intrusive contact (defined, approximate, assumed)

Normal fault (pegs on hanging wall) (defined, approximate, assumed)

Thrust fault (teeth on hanging wall) (defined, approximate, assumed)

Strike slip fault

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

Slaty cleavage, schistosity
inclined

Fold
syncline
anticline

Line of cross-section (A — B)

Preliminary age determination

PRELIMINARY ISOTOPIC AGES

Ref no.	Sample no.	Geochronologist	Method and Material	Age(s) preliminary
1	DT-93-52-1C	J. Mortensen	U-Pb zircon (igneous)	1725 +/-5
3	DT-93-22-1C	J. Mortensen	U-Pb zircon (igneous)	1709 +/- 10
14	DT-93-153-1B	V. McNicoll	U-Pb zircon (detrital)	1840-3078
16	DT-95-11-1B	M. Villeneuve	40Ar/39Ar muscovite (detrital)	1033-2411

MINERAL OCCURRENCES
Yukon Minfile

Wernecke Breccia:

106 C/010	●	Key Mountain	Cu and/or U
106 C/011	●	Mammoth	Cu and/or U
106 C/012	●	Cirque	Cu and/or U
106 C/013	●	Porphyry	Cu and/or U
106 C/015	●	Airstrip	Cu and/or U
106 C/016	●	Mueller	Cu and/or U
106 C/017	●	Dobby	Cu and/or U
106 C/043	●	Dowser	Cu and/or U
106 C/069	●	Pterd	Cu and/or U
106 C/071	●	Pika	Cu and/or U
106 C/086	●	Anoki	Cu and/or U
106 C/097	●	Bel	Cu and/or U

Vein:

106 C/014	▲	Tetrahedrite Creek	Zn, Pb, Ag, Cu, Au
106 C/023	▲	Cob	Zn, Pb, Ag, Cu, Au
106 C/039	▲	Profeit	Zn, Pb, Ag, Cu, Au
106 C/040	▲	Poo	Zn, Pb, Ag, Cu, Au
106 C/041	▲	Carne	Zn, Pb, Ag, Cu, Au
106 C/042	▲	Dan	Zn, Pb, Ag, Cu, Au
106 C/047	▲	Coast	Zn, Pb, Ag, Cu, Au
106 C/078	▲	Blusson	Zn, Pb, Ag, Cu, Au
106 C/095	▲	Julie	Zn, Pb, Ag, Cu, Au

RECOMMENDED CITATION

THORKELSON, D.J. and WALLACE, C.A., 1998. Geological map of Dolores Creek map area, Wernecke Mountains, Yukon (106 C/14). 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.

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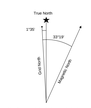
ONE THOUSAND METRE
Universal Transverse Mercator Grid
ZONE 8

"DOLORES CREEK"
SCALE 1:50 000

Miles 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 1972
FOR CENTRE OF MAP
Annual change decreasing 0.2'

106 E/1	106 F/4	106 F/3
106 D/16 Thorkelson and Wallace Geoscience Map 1998-9	106 C/13 Thorkelson and Wallace Geoscience Map 1998-10	106 C/14 THIS MAP
106 D/9	106 C/12	106 C/11

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

Geoscience Map 1998-11

Geological map of "Dolores Creek" area Wernecke Mountains, Yukon NTS 106 C/14

by

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