

EARLY PROTEROZOIC

EPws Western Slave granite: massive to weakly, locally moderately, foliated, medium- to coarse-grained quartz monzonite, monzogranite, and granite; colour varies from white to pink; small clots of garnet, biotite, hercynite, and cordierite. Locally abundant rafts of granitic gneiss, and pelitic and quartzitic paragneiss. Dykes on margin of main pluton intrude Arch Lake granite and high-grade mylonite of LLSZ

EEhm High-grade mylonite: well banded, quartz-feldspathic mylonite, protomylonite, and ultramylonite with sparsely preserved sub-horizontal quartz stretching lineations; amphibolite pull-aparts; ductile feldspars indicative of amphibolite to granulite facies during shearing. Protoliths include Taltson basement gneiss and Arch Lake granite. Variable greenschist and sub-greenschist overprint

EEal Arch Lake granite: massive, weakly foliated to well-foliated, mylonitic granite to granodiorite gneiss with 30 to 50 percent lenticular 1x3cm K-feldspar crystals in a fine- to medium-grained matrix of biotite, quartz, feldspar, and rare garnet. Locally forms L-S tectonite with rods of blue quartz in association with high-grade mylonite in Leland Lakes shear zone (see Note 1)

EEms Metasedimentary rocks: large inliers of quartzite, semipelite gneiss, and pelitic gneiss; common mineral assemblages in pelitic gneiss include biotite-garnet-sillimanite + cordierite in the Leland Lakes area, with biotite-garnet-sillimanite common in areas to the east; locally pervasive pegmatite veins and dykes

ARCHEAN? or EARLY PROTEROZOIC

AEpb Taltson basement complex: well foliated, banded mylonitic biotite-hornblende granite to granodiorite gneiss, hornblende diorite gneiss, locally well layered, locally dismembered and pygmatically folded, highly sheared; pervasively intruded by medium-grained pink granite dykes, sills, and small intrusions similar to western Slave granite suite, which form up to 50 percent of outcrop; minor two-pyroxene granulite

a amphibolite

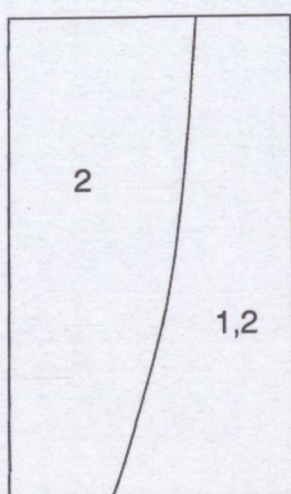
MAP SYMBOLS

- Geological contact (defined, approximate, assumed)
- Fault, displacement unknown (approximate)
- Antiform, trace of axial surface (approximate)
- Foliation, high-grade mylonite (inclined, vertical)
- Foliation, greenschist mylonite (inclined)
- First Foliation (inclined, vertical)
- Second Foliation (inclined)
- Lineation, high-grade stretching (inclined)
- Lineation, greenschist stretching (inclined)
- Lineation, mineral (inclined)
- Mesoscopic fold axis, vergence indicated by tick (inclined)
- Mesoscopic W-fold axis (inclined)
- Mesoscopic U-fold axis (inclined)
- Mesoscopic sheath-fold axis (inclined)
- Axial plane of mesoscopic fold (inclined, vertical)
- Veins: quartz (vertical)
- pegmatite (inclined, vertical)
- epidote (vertical)
- granite (vertical)
- Shear bands: ductile, dextral (inclined)
- ductile, sinistral (inclined)
- brittle, dextral (inclined, vertical)
- brittle, sinistral (inclined)
- Joint (inclined)
- Brecciation
- Mineral occurrence (py, pyrite; mt, magnetite)
- Gossan

NOTES:

- 1) Leland Lakes shear zone (LLSZ) is a composite shear zone active at granulite facies conditions, and later at amphibolite to greenschist and sub-greenschist facies conditions (McDonough et al., 1993, GSC Paper 93-1C).
- 2) The Slave granite has an Rb-Sr reference isochron of 1935 Ma (Neilson et al., 1982). It intrudes the Arch Lake granite and high-grade mylonites of LLSZ. U-Pb dating of granitoids and basement gneisses is in progress.
- 3) Elevations are in feet above mean sea level.

SOURCES OF INFORMATION:

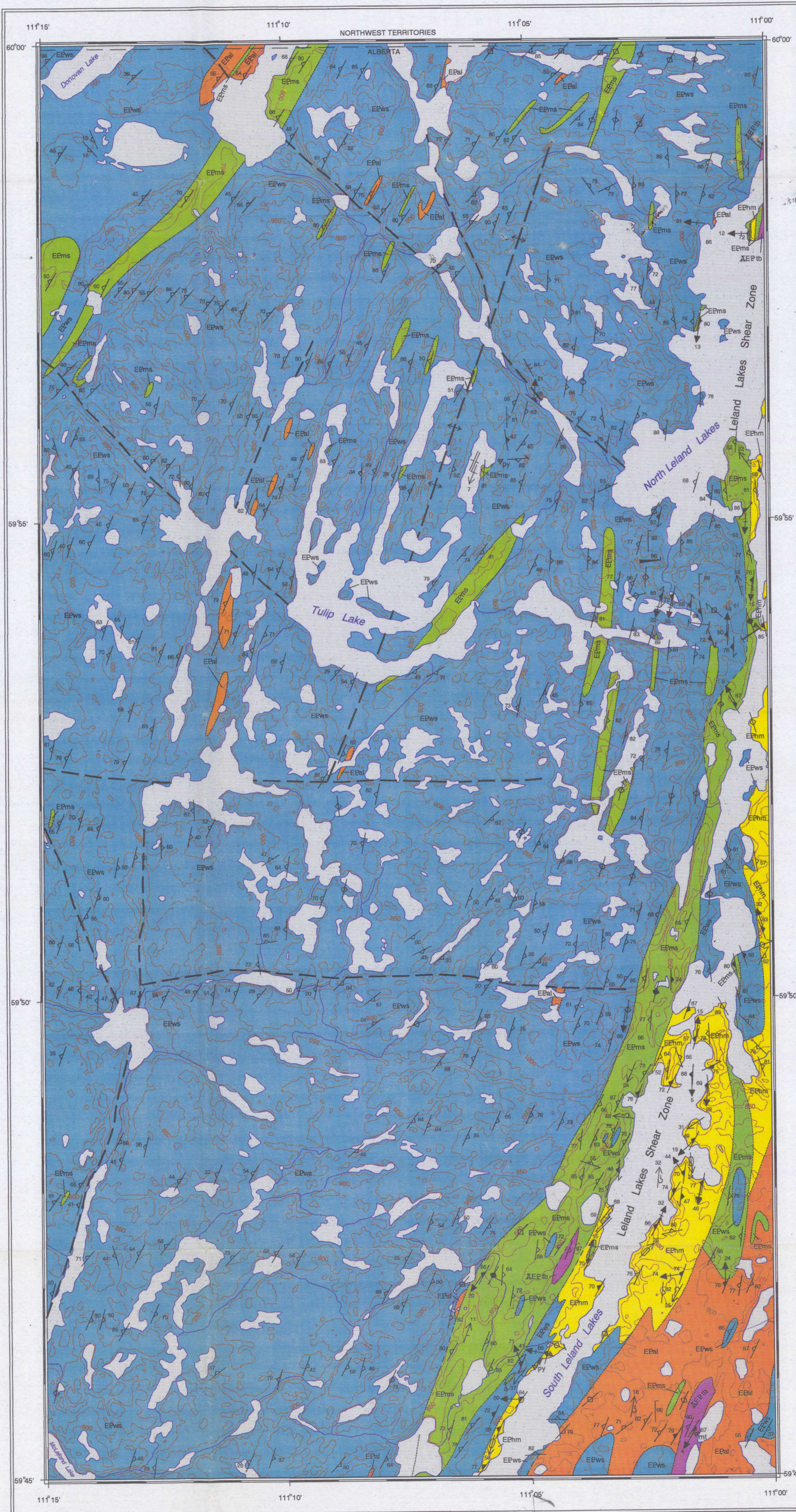


1. McDonough, M.R., Grover, T.W., McNicoll, V.J., and Lindsay, D.D., 1993. Geol. Surv. Canada, Paper 93-1C, p.221-232; and unpub. mapping, 1993.
2. Godfrey, J.G. and Langenberg, C.W., 1986, Geology of the Fitzgerald, Tulip-Mercredi-Charles Lakes district, Alberta; Alberta Res. Coun., Earth Sciences Report 84-7.

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75D/4 O.F. 859	75D/3 O.F. 859	75D/2 O.F. 859
Fitzgerald 74M/13 ARC 1984- 32	Tulip Lake 74M/14 GSC O.F. 2820 ARC 1984- 33, 34	Mercredi Lake 74M/15 GSC O.F. 2629 ARC 1984- 35, 36
Caribou Islands 74M/12	Hay Camp 74M/11 GSC O.F. xxxxx ARC 1984- 28, 29	Cornwall Lake 74M/10 GSC O.F. xxxxx ARC 1984- 30, 31

GEOLOGY
TULIP LAKE (74M/14), EAST-HALF
 ALBERTA - NORTHWEST TERRITORIES

Scale 1:50 000 Echelle
 Kilometres 1 0 1 2 3 Kilomètres
 Transverse Mercator Projection
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