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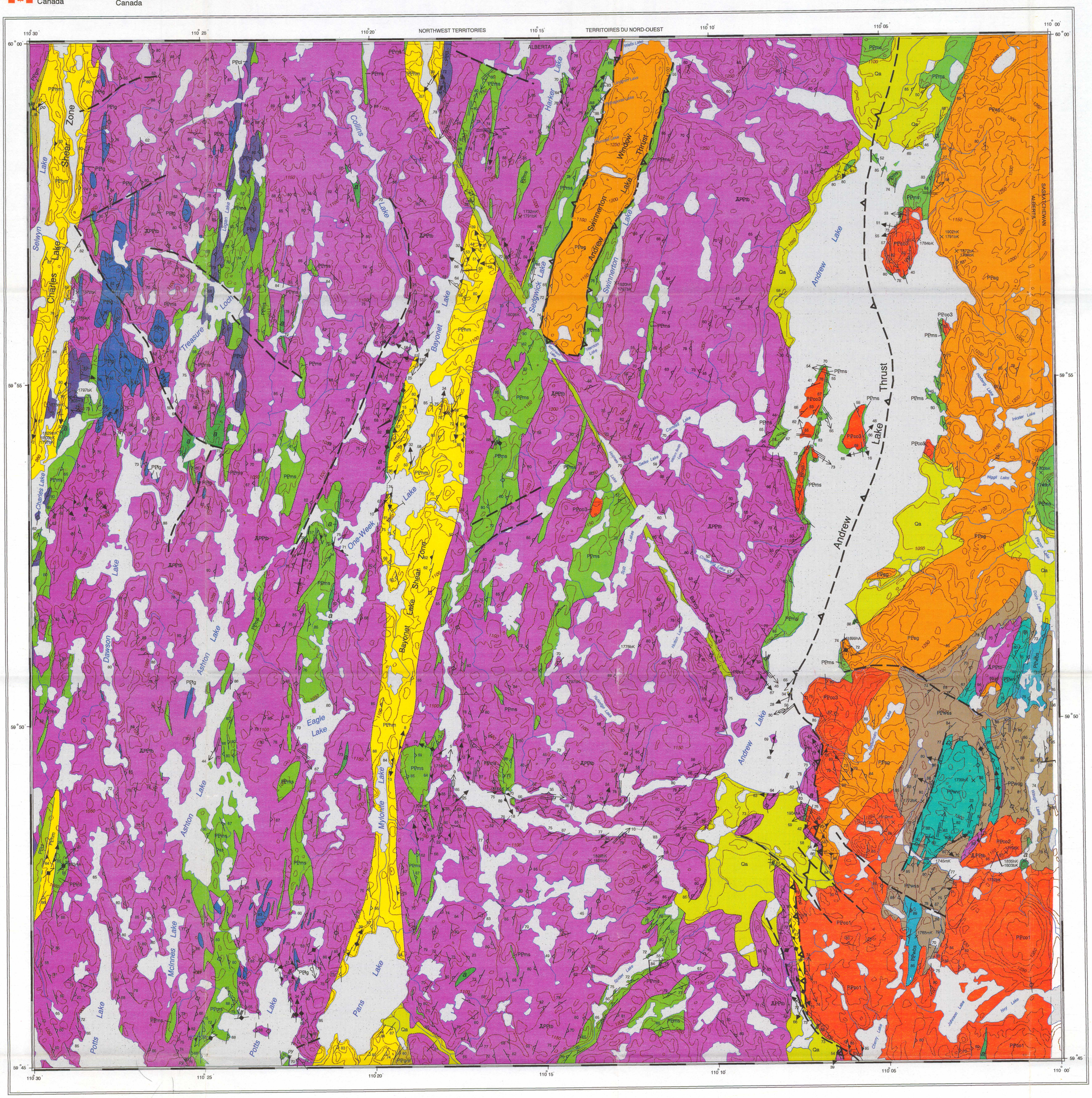


QUATERNARY

Qa — *Alluvium, colluvium*

PALEOPROTEROZOIC

PPct — *Cataclasite: highly fractured, disorganized, recrystallized gneiss with little or no planar fabric and no linear fabric; weathers rust colour; local breccia, mylonite*

PPgm — *Amphibolite to Greenschist grade mylonite: well foliated, layered, light coloured, mylonite to protomylonite with abundant sigma-type porphyroclasts. Protoliths include Taltson basement gneisses, high-grade metasediments, high-grade mylonite, and leucogranite (see Note 2)*

PPig — *Leucogranite: weakly to non-foliated white to light grey to pink, muscovite-bearing pegmatitic coarse-grained granite, rare biotite*

PPcl — *Charles Lake granite: massive to foliated megacrystic granite with 15-30 percent K-feldspar megacrysts in a medium-grained biotite-rich matrix. Megacrysts have distinctive biotite inclusions. Local fine-grained porphyry with 2-3% disseminated fine-grained pyrite. Unit is Granite F of Godfrey and Langenberg (1986). Preliminary U-Pb monazite age is 1919 to 1933 Ma (see Note 1)*

PPhm — *High-grade mylonite: well banded, quartzo-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, Andrew Lake granite and metasedimentary rocks. Variable greenschist and sub-greenschist overprint*

PPeg — *Andrew Lake granodiorite: massive, well foliated biotite-hornblende granodiorite to diorite orthogneiss with 30 to 40 percent, equant, 5-10 mm K-feldspar phenocrysts in a medium- to coarse-grained matrix of biotite, hornblende, quartz, and feldspar. Locally cut by pink Slave? granite dykes. Deformed into high grade mylonite in Andrew Lake shear zone. Preliminary U-Pb zircon age is ca. 1960 Ma (see Note 1)*

PPco — *Colin Lake granite: PPco1; massive to weakly foliated, locally cataclastic, medium-coarse grained granite with elongate 4-10cm K-feldspar megacrysts in a matrix of quartz, feldspar, biotite, minor garnet and hornblende. PPco2; non-megacrystic, foliated biotite, chlorite quartz diorite that intrudes Waugh Lake Group. PPco3; fine- to medium grained, weakly foliated, pegmatitic, white muscovite granite that cuts fabrics in Andrew Lake shear zone. Preliminary U-Pb ages are 1971 Ma (zircon; PPco2) and 1921-1933 Ma (monazite; PPco3; see Note 1).*

WAUGH LAKE GROUP (see Note 1)

PEwbs — *Waugh Lake Biotite Schist: foliated biotite-rich schist, phyllite, phyllonite, minor quartzite; local abundant quartz veins; minor pegmatite*

PEwv — *Waugh Lake Volcanic Rocks: foliated, medium- coarse-grained chlorite- biotite-rich mafic schistose gneiss deformed at greenschist to sub-greenschist grade*

PEwcg — *Waugh Lake Conglomerate: foliated, medium- coarse-grained muscovitic feldspathic pebble to granule conglomerate; metagraywacke*

PEwss — *Waugh Lake Paragneiss: foliated, medium- coarse-grained seriotic gneiss, schistose gneiss; minor conglomerate, chlorite-rich schistose gneiss, quartzite*

PEms — *Metasedimentary rocks: large inliers of quartzite, semipelitic gneiss, and pelitic gneiss; common mineral assemblages in pelitic gneiss are 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 PALEOPROTEROZOIC

APPtb — *Taltson basement complex: well foliated, banded mylonitic biotite-hornblende granite to granodiorite gneiss, hornblende diorite gneiss, locally well layered, locally dismembered and ptygmatically 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. Preliminary U-Pb ages range from 2.1 to 3.2 Ga (see Note 1). Unconformably overlain by Waugh Lake Group*

a — *amphibolite, well foliated to mylonitic*

MAP SYMBOLS

- Geological contact (defined, approximate, assumed)
- Fault, displacement unknown (approximate (assumed under water))
- Thrust fault, dextral oblique (defined, approximate (assumed under water))
- Antiform, Synform; trace of axial surface (approximate)
- Bedding, tops unknown (inclined, vertical)
- Foliation, high-grade mylonite (inclined, vertical)
- Foliation, amphibolite mylonite (inclined)
- Foliation, greenschist mylonite (inclined, vertical)
- First foliation (inclined, vertical)
- Second Foliation (inclined, vertical)
- Lineation, high-grade stretching (inclined)
- Lineation, greenschist stretching (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 (inclined, vertical)
  - pegmatite (inclined, vertical)
  - epidote (inclined, vertical)
  - granite (inclined, vertical)
- Shear bands:
  - ductile, dextral (inclined, vertical)
  - ductile, sinistral (inclined, vertical)
  - brittle, dextral (inclined, vertical)
  - brittle, sinistral (inclined, vertical)
- Joint (inclined, vertical)
- Smal scale thrust fault
- K-Ar (K) or Ar-Ar (A) date (Ma; h, hornblende; b, biotite; m, muscovite). x 1835 hK
- Brecciation
- Mineral occurrence (py, pyrite; as, arsenopyrite; po, pyrrhotite) py
- Gossan

NOTES:

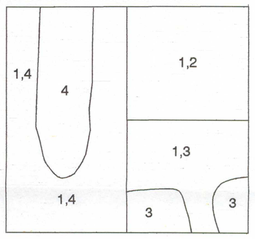
1) Preliminary U-Pb ages of basement gneisses range from 3.2-2.1 Ga. Plutonic rocks range from 1.97-1.92 Ga (McNicoll et al., 1994, Lithoprobe Report #31).

2) High grade shear zones were deformed at upper amphibolite to granulite facies, and were overprinted by greenschist grade mylonitization, and local subgreenschist facies cataclasis (reference #1). Bayonet Lake shear zone is a splay of the Charles Lake shear zone, the main shear zone of the Taltson magmatic zone

3) Andrew Lake thrust is an upper amphibolite to granulite facies shear zone with downdip stretching lineations indicating that Taltson basement gneisses were thrust to the east-north-east in a dextral oblique sense over Andrew Lake granodiorite (ref. #1).

4) K-Ar data are recalculated by H. Plint from Baadsgaard and Godfrey (1967, 1971: CJES). Ar-Ar data are from Plint, H.E. and McDonough, M.R.,(CJES, submitted June, 1994).

SOURCES OF MAP 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 M.R. McDonough, unpublished mapping, 1993.

2. Godfrey, J.G., 1961, Alta Res. Coun., Preliminary Report 58-3.

3. Godfrey, J.G., 1963, Alta Res. Coun., Preliminary Repirt 61-2.

4. Godfrey, J.G., 1966, Alta Res. Coun., Preliminary Report 65-6.

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Canada

75D/2 GSC O.F. 859	75D/1 GSC O.F. 859	75C/4
Mercredi Lake 74M/15 GSC O.F. 2904 ARC 1984-35,36	Andrew Lake 74M/16 GSC O.F. 2905 ARC 58-3A, 61-2A,65-6A,6C	Thainka Lake 74N/13 SRC 61A, 71A
Cornwall Lake 74M/10 GSC O.F. 2896 ARC 1984-30,31	Colin Lake 74M/9 GSC O.F. xxxx ARC 3,4,7,8	Harper Lake 74N/12 SRC 81A, 111A

REVISED GEOLOGY

ANDREW LAKE (74M/16)

ALBERTA - SASKATCHEWAN - NORTHWEST TERRITORIES

Scale 1:50 000 Echelle

Kilometres 1 0 1 2 3 Kilometres

Transverse Mercator Projection

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