



LEGEND

- 7 Amphibolite; age unknown
- 6 Gabbro; age unknown
- 5 Massive granite and granodiorite; includes small amounts of 1, 2, and 3
- 4 Gneissic granite and granodiorite; includes small amounts of 1, 2, and 3
- 3 Paragneiss: biotite-feldspar-quartz gneiss, biotite-quartz gneiss, hornblende-feldspar-quartz gneiss, hornblende-biotite-feldspar-quartz gneiss; includes small amounts of 1 and 2, migmatite, and lit-par-lit gneiss
- 2 Hornblende gneiss
- 1 Quartzite

- Geological boundary (assumed) .....
- Limit of geological mapping .....
- Bedding (dip known, top unknown) .....
- Gneissosity, foliation (inclined, vertical, dip unknown) .....
- Glacial striae .....
- Esker .....
- Mineral occurrence (pyrite, py) .....

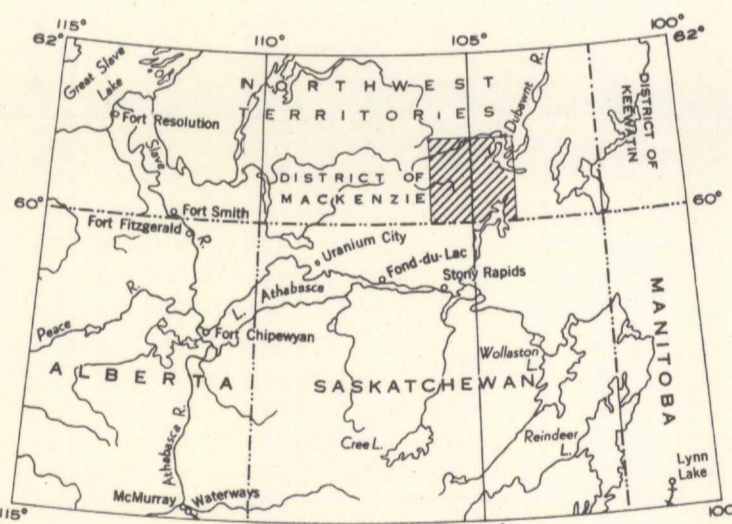
Geology by F. C. Taylor, 1958

- Portage .....
- Provincial boundary .....
- Rapids .....
- Height in feet above mean sea-level .....
- Cartography by the Geological Survey of Canada, 1959

Approximate magnetic declination, 23° 34' East

Air photographs covering this area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario

In response to public demand for earlier publication, Preliminary Series maps are now being issued in this simplified form, thereby effecting a substantial saving in time. There is no loss of information, but the maps will be clearer to read if all or some of the map-units are hand-coloured.



DESCRIPTIVE NOTES

The map-area is about 140 miles east-northeast of Uranium City, Saskatchewan, the nearest aircraft base. Within the area, Selwyn, Flett and Wholdaia Lakes provide ready access to the east third of the area. Several large lakes and Dubawnt River make much of the land area accessible in the west part.

Outcrops are common only in the Flett Lake-Selwyn Lake vicinity; in most of the map-area exposures are small and widely spaced. The area is lightly forested, primarily with black spruce and lesser amounts of jack pine, tamarack, and white birch.

Relief is low, but locally steep-sided hills reach 150 to 200 feet above valley floors. The entire area has been glaciated by a west- to west-southwest flowing ice-sheet. Eskers, drumlin-like ridges, and morainal ridges are common.

Quartzite (1), hornblende gneiss (2), and paragneiss (3) are the oldest rocks. Only in the Selwyn Lake area are quartzite and hornblende gneiss separable from the rocks mapped as paragneiss. Elsewhere narrow bands of these rocks are present in paragneiss and also in the gneissic granite and granodiorite, but are too small to map separately. The quartzite is massive to poorly bedded, light to dark grey, medium grained, and locally garnetiferous. Nowhere are primary structures, other than bedding, preserved. The hornblende gneiss (2) is dark green, fine to medium grained, and moderately foliated; it consists of hornblende, feldspar, and quartz. These rocks are possibly of volcanic origin. Both rock types grade into paragneiss (3).

The paragneiss (3) consists chiefly of feldspar-quartz gneiss with either or both biotite and hornblende. In the Selwyn Lake-Flett Lake area the feldspar content is low and most of the rock is a biotite-quartz gneiss with garnet locally common. A medium- to coarse-grained, grey to dark grey, well foliated rock is most characteristic. Lit-par-lit gneiss and migmatite are widely but erratically distributed throughout the areas of paragneiss. With an increase in feldspar content the paragneiss grades into the gneissic granite and granodiorite (4).

The granitic rocks are divided on a textural basis into gneissic (4) and massive (5) varieties. In a few places, dykes and sills of massive granite and granodiorite (5) intrude the gneissic rocks (4) and therefore the massive rocks are younger, at least in part.

Gneissic granite and granodiorite (4) is a pink to grey, fine- to medium-grained, well-foliated rock, locally of the 'augen' type. It consists chiefly of quartz, pink alkali feldspar, and biotite or hornblende, rarely both. Many of these gneissic granitic rocks may have been formed by granitization of the sedimentary rocks. Most contacts with other rock types are drift covered, but where exposed they are gradational. Inclusions of older rocks are common and in some places produce mafic-rich layers.

The massive granite and granodiorite (5) is similar to the gneissic granitic rocks in almost all respects except texture. The pluton of granite north of Mountain Lake is distinctive because of a low quartz and mafic mineral content. In places this mass approaches syenite in composition. The granite west of Flett Lake is characterized by abundant hornblende and locally, only small amounts of quartz.

Narrow pegmatite dykes, oriented at random, are present throughout the map-area cutting paragneiss (3), and granitic rocks (4 and 5). They are most common at the south end of Selwyn Lake. None is known to contain economic minerals.

Gabbro (6) and amphibolite (7) are both of small areal extent. Age relationships with other rock types are unknown but they may predate the granite and granitization. The gabbro (6) is medium to coarse grained, grey green, and weakly foliated.

The amphibolite (7) consists of fine-grained, dark green to black hornblende, white plagioclase, and a few disseminated pyrite crystals. Quartz veins are common throughout the outcrop but none is mineralized.

A few sills and slightly discordant dykes of basalt are present in the south Selwyn Lake area, cutting quartzite (1), hornblende gneiss (2) and paragneiss (3). A narrow dyke of biotite lamprophyre cuts paragneiss in the same area. The age of these intrusive rocks in relation to the granitic rocks is not known.

The main structural trend is east in the west part of the area, to north-northeast in the southeast part. Within this trend, local folding is complex to a degree beyond the scope of reconnaissance mapping. Close folding is evident in some outcrops and is probably a common structural feature.

No faults are mapped. The absence of horizon markers and scarcity of outcrops makes recognition of faults difficult.

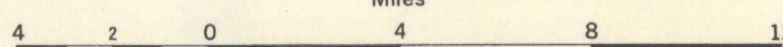
The area has not been prospected thoroughly, due to its remoteness and the scarcity of outcrops. In the paragneiss (3) in the Flett Lake-Selwyn Lake area, a few rust zones are present. These contain small amounts of pyrite, but no ore minerals are visible.

Aeromagnetic maps have been made covering the entire area, but many of the anomalies are in drift- or water-covered regions.

- 1 Geol. Surv., Canada, Aeromagnetic Maps; Geophysics Papers: 375G Bouskill Lake 75A1, 376G Turner Lake 75A2, 377G Thomas Lake 75A3, 378G Wignes Lake 75A4, 379G Burslem Lake 75A5, 380G Eaton Lake 75A6, 381G Bertran Lake 75A7, 382G Flett Lake 75A8, 383G Innes Island 75A9, 384G Wright Lake 75A10, 385G Southby Lake 75A11, 386G Rutledge Lake 75A12, 387G Atkinson Lake 75A13, 388G Mountain Lake 75A14, 389G Cochrane Lake 75A15, 390G Anaunethad Lake 75A16

MAP 9-1959  
GEOLOGY  
WHOLDAIA LAKE WEST  
DISTRICT OF MACKENZIE  
NORTHWEST TERRITORIES

Scale: One Inch to Four Miles =  $\frac{1}{253,440}$   
Miles



MAP 9-1959  
WHOLDAIA LAKE WEST  
NORTHWEST TERRITORIES  
SHEET 75A

JUL 2 1959

5-15  
A. Geol.  
Wholdaia Lake West, N.W.T.  
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