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ONTARIO DEPARTMENT OF MINES

PRELIMINARY GEOLOGICAL MAP No. P. 412

# WHITEMUD LAKE AREA

(FREDART - WHITEMUD LAKES AREA)

DISTRICT OF KENORA (PATRICIA PORTION)

Scale 1 inch to 1/4 mile

N.T.S. Reference: 52K/15
O.D.M.-G.S.C. Aeromagnetic Map: 871G

## LEGEND

CENOZOIC
PLEISTOCENE
Sand, gravel, and clay
UNCONFORMITY

PRECAMBRIAN

LATE MAFIC INTRUSIONS
7 Diabase (dikes)
INTRUSIVE CONTACT

LATE FELSIC INTRUSIONS
6 Undifferentiated
6a Massive granite
6b Granite gneiss
6c Pegmatite
6d Hornblende syenite
6e Migmatite
6f Granodiorite
INTRUSIVE CONTACT

EARLY FELSIC INTRUSIONS
5 Undifferentiated
5a Quartz porphyry
5b Sericite-quartz schist
INTRUSIVE CONTACT

EARLY MAFIC INTRUSIONS
4a Diorite, metadiorite
4b Gabbro, metagabbro, amphibolite
4c Peridotite

METASEDIMENTS AND METAVOLCANICS
3a Rhyolite
2 Undifferentiated mafic metavolcanics
2a Massive greenstone
2b Sheared greenstone
2c Pillow lava
2d Diorite, gabbro, amphibolite (flows, sills, and intrusive bodies)
2e Tuff and related sediments
2f Agglomerate
IF Iron Formation
1 Undifferentiated metasediments
1a Conglomerate
1b Arkose, greywacke
1c Slate
1d Quartzite
1e Mica-feldspar-quartz schist and gneiss
1f Biotite-quartz schist and gneiss
1g Staurolite-biotite-amphibole-quartz schist, staurolite-biotite-quartz schist, mica-andalusite-quartz schist, mica-cordierite-quartz schist, garnet-biotite-amphibole-quartz schist

## GEOLOGICAL AND MINING SYMBOLS

- Glacial striae.
- Small bedrock outcrop.
- Area of bedrock outcrop.
- 85 Bedding, top unknown: (inclined, vertical).
- 185 Schistosity: (horizontal, inclined, vertical).
- 85 Gneissosity, (horizontal, inclined, vertical).
- Geological boundary, observed.
- Geological boundary, position interpreted.
- 80 Jointing: (horizontal, inclined, vertical).
- MA Magnetic attraction.

## FREDART WHITEMUD LAKES AREA

### MARGINAL NOTES

Location: The area mapped during the 1966 field season lies in the Patricia Portion of the District of Kenora in northwestern Ontario. The map-area covers approximately 140 square miles and is directly south of Bowerman and Belanger townships, which were mapped during the 1965 field season. Whitemud Lake is forty-five air miles southeast of the town of Red Lake. The southern and northeastern parts of the map-area are accessible by water from the town of Ear Falls.

Mineral Exploration: In 1957, Massberyl Lithium Company Limited ran a geophysical and geological survey over an iron occurrence west of Ogani Lake. Also in 1957, Quebec Labrador Development Company Limited carried out a magnetometer survey and drilled 13 holes on the northern extension of this iron occurrence.

In the summer of 1966, the James, Buffam and Cooper Syndicate restaked the Massberyl Lithium-Quebec Labrador occurrence and by the use of the O.D.M.-G.S.C. aeromagnetic map 871G found that the iron formation extended to, and along the north shore of, Whitemud Lake.

Rexdale Mines Limited has a copper-molybdenum-silver property west of Belanger township and east of the east arm of Snakeweed lake. During the past summer, they had one drill in operation and are involved also in stripping and trenching.

General Geology: The bedrock of the area is of Precambrian age. These rocks are overlain by unconsolidated till, sand, gravel, and clay, which is chiefly of Pleistocene age. Drift ridges are prominent in the south and southwest parts of the map-area.

There are three prominent metasedimentary belts in the area; these consist of impure quartzite, arkose, slate, greywacke and their derived schists, together with banded iron formation. The belt in the northwest corner of the map-area exhibits a high grade of metamorphism and the rocks have been altered to mica, garnet, andalusite and staurolite schists. This belt is the continuation of the belt, south of Fredart Lake, which was mapped last year (O.D.M. P. 349 and P. 350).

The metavolcanics are massive to sheared greenstone and are intercalated with thin belts of tuffs, matic sediments and banded iron formation. A few bodies of medium-grained matic rock are found with the metavolcanics. While some of these rocks appear to be intrusive, most of them are considered to be medium-grained phases of the volcanic rocks.

Diorite, gabbro and peridotite dikes, sills and irregular masses have intruded both the metavolcanics and metasediments and are intruded by the granitic rocks.

Granitic rocks occupy the areas between the metasedimentary belts.

The youngest rocks are diabase dikes which intrude the granitic rocks.

Structural Geology: The major rock units of the metasedimentary belts trend east-northeast. The banding and schistosity in the metasediments are very pronounced and follow this trend. The dips of the bedding and schistosity are either steep or vertical. Primary features are not present or apparent and have probably been obliterated by extreme shearing and metamorphism.

No major faults were recognized although a number of prominent lineaments were seen. Whitemud Lake, for example, is extremely straight and trends parallel to the schistosity and gneissosity of the surrounding lakeshore rocks.

Economic Geology: According to logs of the diamond drill holes bored in 1957 by Quebec Labrador Development Company Limited, the iron formation band north of the Papaonga River (Long. 92°39', Lat. 50°53') has an approximate width of 300 feet and an iron content of 20 percent. The 1960 aeromagnetic map (871G - Bluffy Lake) indicates that this iron fromation may extend for another five miles along Whitemud Lake. The author found numerous surface showings of iron formation on the north shore of Whitemud Lake.

Rexdale Mines Limited in the Snakeweed and Fredart Lakes area has to date completed about 20,000 feet of diamond drilling. They state (Information Brochure- Rexdale Mines Limited - January, 1967) that the drilling has returned favourable results, showing commercial values of copper and silver mineralization up to depths of over 500 feet and over a length of 1500 feet. Also, apart from the known sulphide zones, widespread molybdenum-bearing structure have been explored with encouraging results.

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1958: Geology of the Wapesi Lake-Tully Lake area; accompanied by Map 1959-1; Ontario Dept. Mines, Vol. LXVII, pt. 4, p. 1-11 (Published 1959).

Maps

O.D.M.-G.S.C.
Maps 861G, 871G, Aeromagnetic Series; scale 1 inch to 1 mile. Ontario Dept. Mines - Geol. Surv. Canada; published 1960.

Other Sources

Files, Ontario Dept. Mines, Resident Geologist, Kenora.

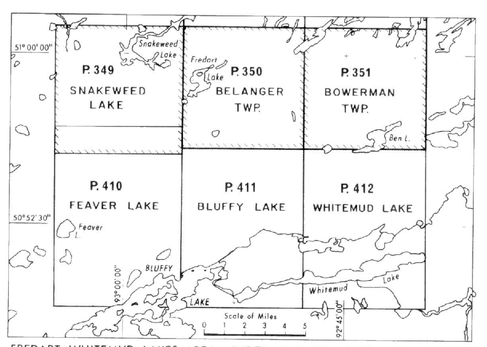

### PROPERTY

5. James, Buffam and Cooper Syndicate

### SOURCES OF INFORMATION

Geology by K. G. Fenwick and assistants, 1966.
Basemap derived from maps of the Forest Resources Inventory, Ontario Department of Lands and Forests.

Issued 1967.




FREDART-WHITEMUD LAKES AREA. INDEX MAP TO ADJOINING SHEETS.

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