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MARGINAL NOTES

INTRODUCTION AND ACCESS

Musquash Township is centered at Latitude 48° 09' N and Longitude 84° 44' W. Musquash Township contains only one lake accessible by fixed-wing aircraft. A rough road, barely passable by 4-wheel-drive vehicles, extends into the north-eastern corner of the township. The Magpie River permits only limited access to the township since steep hills and cliffs often border the river. Access to the township is largely by helicopter.

MINERAL EXPLORATION

Little record of exploration activity exists for Musquash Township, and no current or past producing mines are present. Mineral occurrences are not known. A small segment of the Reynolds' iron range passes through the northeastern corner of the township.

GENERAL GEOLOGY

Musquash Township is dominantly underlain by massive and pillowed mafic metavolcanics. Felsic metavolcanics intercalated with metasediments are present in the southwestern corner of the township. Chert-magnetite iron formation (Reynolds' range) is present in the northeastern corner of the township. Numerous occurrences of medium-grained massive mafic rock have been interpreted by the author and assistants to be intrusive.

A band of wacke, siltstone and minor conglomerate 400 to 500 m wide extends in a northwesterly direction across the township, from West André Lake in the southeastern corner of the township, to the northern border. This unit is a massive metasediment composed of claystone and siltstone with thin beds of sandstone and shale. It is interpreted as a turbidite deposit that stratigraphic tops face to the southwest.

Minor quantities of intermediate to felsic metavolcanics occur in the southwestern and northeastern corners of the township. Locally, minor amounts of intermediate to felsic metavolcanics have been encountered in other parts of the township. The intermediate to felsic metavolcanics are chiefly tuff, lapilli-tuff, and rarely, breccia.

Proterozoic diabase dikes cut the rocks of Musquash Township. These dikes dominantly have a northwesterly strike but northeast-striking dikes do occur. These dikes commonly occupy faults and shear zones.

STRUCTURAL GEOLOGY

The rocks found in Musquash Township strike northwesterly, dip 40 to 60° northeast and face southwest. The section is monoclinial and overturned. No folds have been outlined.

The Mildred Lake fault which is clearly outlined in Chabanel Township, which adjoins Musquash Township to the south, appears to extend across Musquash Township even though evidence of it is not as apparent as in Chabanel Township.

The south-facing clastic metasediments found in Musquash Township, and in adjoining Corbiere Township to the east have been tectonically thickened due to folding and faulting in the area of West André Lake.

RECOMMENDATIONS FOR THE PROSPECTOR

Mapping in Musquash Township has indicated the presence of a relatively monotonous sequence of mafic metavolcanic rocks. Sulphide mineralization and quartz veining are not common. Prospecting in this township may best be directed to the location of disseminated sulphide mineralization in association with the mafic intrusions. No record exists of basement exploration in proximity to the Reynolds' iron range, and this area should be checked.

The southwestern corner of the township displays a highly altered (carbonate, locally tourmaline) mafic metavolcanic sequence. Such pervasive alteration should lend encouragement to prospecting efforts in this area.

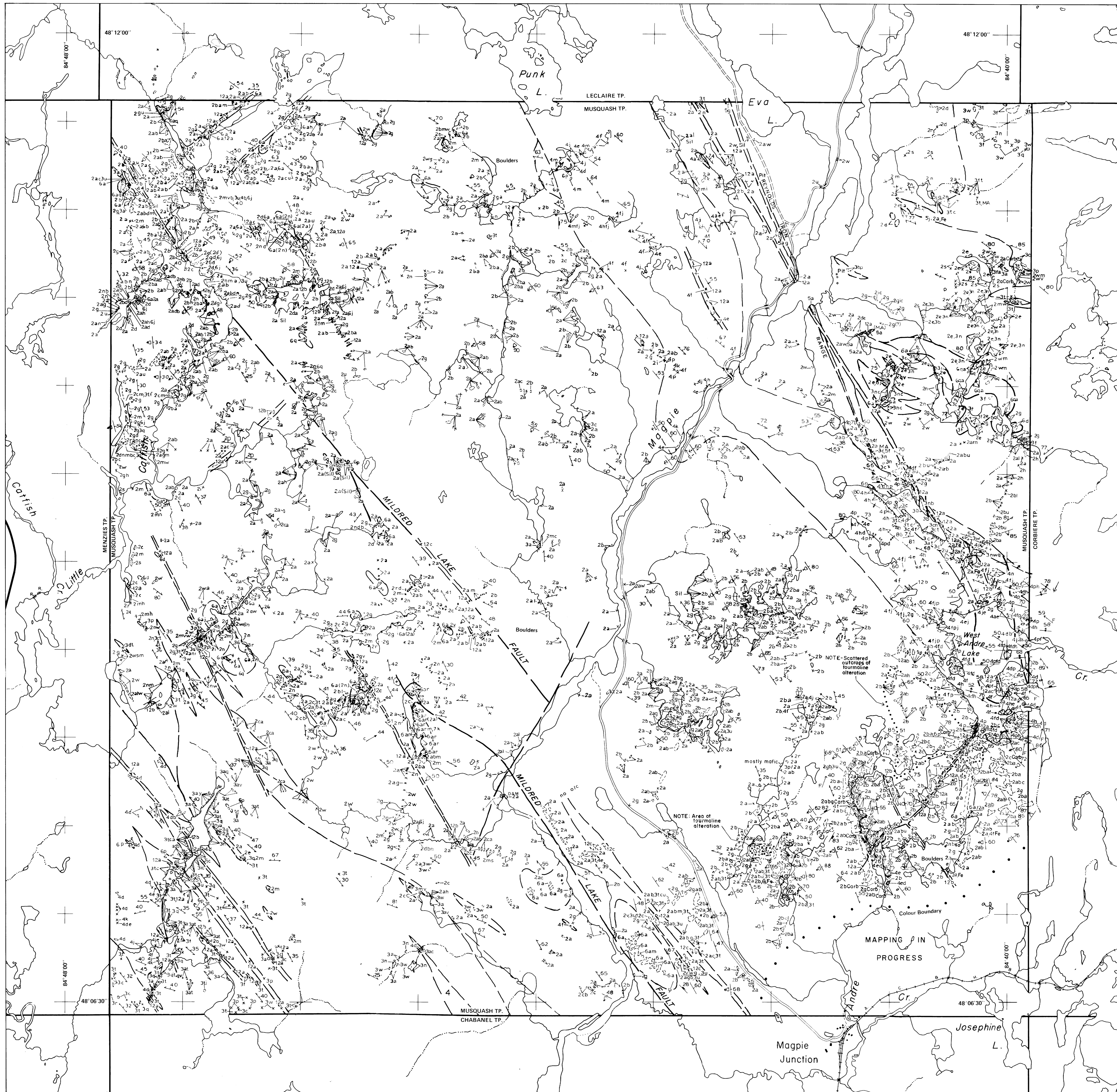
METAL AND MINERAL ABBREVIATIONS

- Ag Silver
As Arsenopyrite
Au Gold
gn Galena
gr Graphite
py Pyrite
qtz Quartz vein
sp Sphalerite

NOTE: Not all abbreviations may appear on this map-sheet.

SYMBOLS

- Schistosity, inclined, vertical
Small bedrock outcrop
Lineation: m= nullion structure, c= class, p= pillow, s= slickensides, d= Dottle, m= intersection of two foliations, F= fold axis of minor fold, se= stretched spherulites
Gossan
Iron staining
Magnetic activity
Mine
Mineral occurrence
Bedding, top (arrow) from grain gradation: inclined, vertical, overturned
Bedding, top (arrow) from cross-bedding: inclined, vertical, overturned
Bedding, top (arrow) indicated by flame structures in interbedded sandstone-siltstone: inclined, vertical, overturned
Iron formation
Trench
Pit
Paleocurrent direction as suggested by ripple marks
Silicified
Joining, inclined, vertical
Lineament
Data from diamond drillhole
Shaft, depth in feet
Geological boundary, observed/interpreted



LEGEND

- PHANEROZOIC
CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT
UNCONFORMITY
PRECAMBRIAN
LATE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS
CARBONATITE INTRUSIVE ROCKS
FIREBAND CARBONATITE
EARLY PRECAMBRIAN (ARCHEAN)
FELSIC INTRUSIVE ROCKS
MAFIC TO ULTRAMAFIC INTRUSIVE ROCKS
INTRUSIVE CONTACT
METASEDIMENTS AND METAVOLCANICS
CHEMICAL METASEDIMENTS
GLASTIC METASEDIMENTS
INTERMEDIATE TO FELSIC METAVOLCANICS
MAFIC TO INTERMEDIATE METAVOLCANICS
EARLY FELSIC PLUTONIC ROCKS
GNESIC GRANITIC ROCKS

Ontario Geological Survey
MAP P.2568
GEOLOGICAL SERIES - PRELIMINARY MAP
OF
MUSQUASH TOWNSHIP
ALGOMA DISTRICT

Scale 1:158 400
NTS Reference: 42 C/2
OGM-GS-1982
OGM Geological Compiler: Map: 2220

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LEGEND continues
MASSIVE GRANITIC ROCKS
Breccia
Carbonated

NOTES
a) This is a field legend and may be changed subsequent to laboratory investigations. The legend applies to Chabanel, Musquash, McMurtry, Lashburn and Escouwa Townships. Units listed may not all be present in each township.

b) Greater than 50 percent siliceous minerals.
c) Greater than 50 percent carbonate.
d) Colour index: 10 to 25.
e) Colour index: 10 to 25.
f) Transitional porphyritic to non-porphyritic.
g) Associated with mafic intrusive rocks.
h) A chemical sedimentary bed which contains 33 percent or more of the common iron minerals by volume. This does not include common associated interbeds of chert or clastic sedimentary material. A sufficiently extensive mappable unit containing a significant proportion of ironstone interbeds may be designated as an iron formation.

i) Dot type conglomerate.
j) Green mica may be present.
k) May be intrusive in part.
l) Greater than 5 percent quartz.
m) Possibly contemporaneous with unit 7.

Where a rock-unit code is followed by a second code in brackets, xenoliths of the second unit occur within the first unit.
Many outcrops, pits, trenches, and all surveyed claims were not plotted on map-face due to lack of space.

LIST OF PROPERTIES AND OCCURRENCES
1. Bolden showing
2. Eleanor iron range (Sir James Mine)
3. Helen iron range (McLeod Mine)
4. Johnson iron range
5. Lucy iron range (Lucy Mine)
6. Magpie Junction showing
7. Mildred iron range
8. Miller showing
9. Williamson showing
10. Mammoth Metals Limited
11. Phelps Dodge Corporation of Canada Limited

NOTE: Not all properties may appear on this map-sheet.

SOURCES OF INFORMATION
Base-map derived from Forest Resources Inventory maps, Lands and Waters Group, Ontario Ministry of Natural Resources.
Geology not tied to surveyed lines.
Magnetic declination approximately 6° 17' in 1979.
Assessment Work Library, Ministry of Natural Resources, Toronto.
Sault Ste. Marie.
Records, Algoma Ore Properties, Sault Ste. Marie.
Records, Algoma Central Railroad, Sault Ste. Marie.
Metric Conversion Factor: 1 foot = 0.3048 m

CREDITS
Geology by R.P. Sage, D. England, T. Calvert, G. Oudkerk, R. Worona, and K. Kosciuszko, 1981.

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1982. Precambrian Geology of Musquash Township, Algoma District. Ontario Geological Survey, Map P. 2568. Geological Series - Preliminary Map, scale 1:158 400 or 1 inch to 1/4 mile. Geology, 1981.