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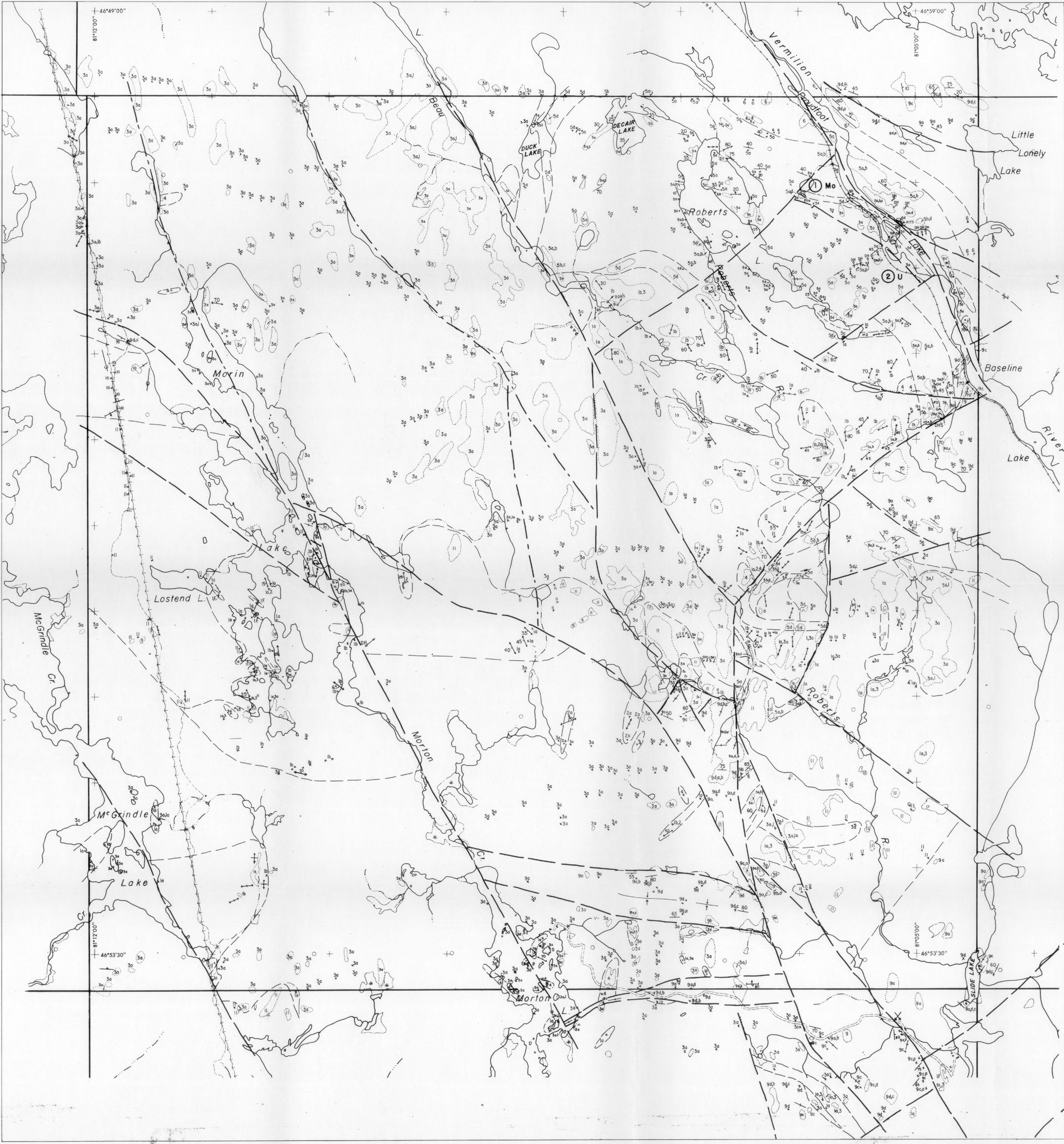
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- LEGEND**
ROBERTS AND CREELEMAN TOWNSHIPS
- PRECAMBRIAN**
 LATE MAFIC INTRUSIVE ROCKS
 12 Olivine diabase
 Intrusive Contact
 11 Quartz diabase (Spissing)
 Intrusive Contact
- HURONIAN**
COBALL GROUP
 10 Lorrain Formation
 10 Quartzite
 9 Goganda Formation
 9a Undifferentiated
 9b Polymictic conglomerate
 9c Arkose
 9c Finely bedded argillite
 9d Greywacke
 Unconformity
- BRUCE GROUP**
 8 Serpent Formation
 8 Quartzite
 7 Espanola Formation
 Limestone
 6 Bruce Formation
 6 Conglomerate
 5 Missisagi Formation
 5a Quartzite
 5b Argillite
 5c Quartz-pebble conglomerate
 5d Polymictic conglomerate (basal)
 Unconformity; faulted contact
- PRE-HURONIAN**
EARLY MAFIC INTRUSIVE ROCKS
 4 Diabase and metadiabase
 Intrusive Contact
- 3 GRANITIC ROCKS**
 3a Granitic Rocks
 3b Porphyritic granite
 Intrusive Contact
- 2 METAVOLCANICS**
 2a Undifferentiated felsic metavolcanics
 2a Quartzitic metasediments
- 1**
 1 Undifferentiated mafic metavolcanics
 1a Massive mafic metavolcanics
 1b Biotite (hornblende)-feldspar schist (metasedimentary)
 1c Metaconglomerate
- Breccia**
 * These rocks do not occur in Roberts township.
 ** These rocks do not occur in Creelman township.

- GEOLOGICAL AND MINING SYMBOLS**
- Glacial striae.
 - Small bedrock outcrop.
 - Area of bedrock outcrop.
 - Bedding, top unknown; (inclined, vertical).
 - Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned).
 - Bedding, top (arrow) from crossbedding; (inclined, vertical, overturned).
 - Schistosity; (horizontal, inclined, vertical).
 - Concretosity, (horizontal, inclined, vertical).
 - Geological boundary, observed.
 - Geological boundary, position interpreted.
 - Fault; (observed, assumed).
 - Limestone.
 - Joining; (horizontal, inclined, vertical).
 - Anticline, syncline, with plunge.
 - Drill hole; (vertical, inclined).
 - Gravel pit.

- MINERAL OCCURRENCES REFERENCES**
- U Uranium Mo Molybdenum
- OCCURRENCES**
1. Assembly Mines Limited Mo
 2. Assembly Mines Limited U

MARGINAL NOTES
ROBERTS TOWNSHIP

Location: The centre of Roberts township is located approximately 32 miles NW of the city of Sudbury. Access is provided to the eastern part of the township by a service road for the transmission line of the Hydro Electric Power Commission of Ontario, to the central and southern parts by private lumber roads of the Valley Creek Construction Company Limited, and the northeastern part by the Canadian National Railway. There are also two portages from the transmission line service road into Morion Lake.

Mineral Exploration: Some geophysical anomalies were drilled by the Hanna Mining Company Limited in areas of volcanic outcrop. Exploration for uranium was carried out in the 1966 field season and drilling was done near Roberts Lake on some uranium showings in the winters of 1966 and 1967. Dyno Mines Limited and Elmridge Mines Limited both carried out some exploration for uranium in the 1950's in the northeast corner of the township.

General Geology: The main rock units described in order of decreasing age are as follows:

Pre-Huronian: The Pre-Huronian rocks are schistose mafic and felsic metavolcanics that contain minor amounts of metasedimentary iron formation and quartzite. The metavolcanics are intruded by a granite that consequently contains many inclusions of metavolcanics and large bodies of granite such as the one in the northwest corner of the township are quite free of inclusions. Both rock types are intruded by mafic dikes.

Huronian: The metasediments unconformably overlie the Pre-Huronian complex. In all cases the contact is not a simple unconformity in its original position but the contact is vertical and shearing has taken place along it. The Missisagi Formation displays a polymictic boulder conglomerate in many places at its contact with the underlying Pre-Huronian rocks. The uranium-bearing quartz-pebble conglomerate beds are found above this basal conglomerate. The Missisagi Formation is a medium-grained, impure, green to grey weathering quartzite.

The paraconglomerate (conglomerate with 10 percent or less pebbles) of the Bruce Formation conformably overlies the Missisagi quartzite. It is exposed in only a few outcrops in the township. The laminated limestone of the Espanola Formation was found in only one place in the township and it seems to conformably lie between the Bruce and Goganda formations.

The Serpent Formation does not outcrop in Roberts township. It may be faulted away or it was never deposited. The latter hypothesis is favoured because there does not seem to be a fault between the Bruce and Goganda formations in the northeast corner of the township on the east side of the Vermilion River.

The Goganda Formation is typically a grey-green weathering, laminated argillite with minor amounts of greywacke, arkose, and conglomerate. In the southeast corner of the township a very coarse polymictic boulder paraconglomerate predominates in the formation.

The Lorrain Formation, typically a greenish weathering, medium-grained quartzite with massive bedding, graded bedding, and abundant cross-bedding is found only as a few outcrops in the northwest part of the township.

Late Mafic Intrusive Rocks: All the previously described rocks are intruded by Spissing diabase, a quartz diabase. Very large parts of the township are underlain by this rock type.

Structural Geology: The Pre-Huronian metavolcanics and metasediments of the township are schistose to gneissic with near vertical foliations. The granite in the township shows very little foliation and is commonly massive.

The Huronian metasediments are all in a near vertical position and faulted in a very complex pattern off against each other obliterating most stratigraphic successions. Very striking is the in-faulting into the granite of the two bands of Goganda Formation in the southern part of the township.

Economic Geology: Minor amounts of sulphides with associated traces of gold occur in the metavolcanics. Small lenses of iron formation were found in the southeastern part of Morion Lake. Although the metavolcanic rocks of the township appear to be similar to those containing the iron formations of the Moose Mountain mine, drilling by The Hanna Mining Company Limited of some geophysical anomalies did not discover any similar iron formation.

Traces of molybdenum were found in the sheared contact between the basal Missisagi conglomerate and the granite near the small pond between the Vermilion River and Roberts Lake.

The main economic interest of the area lies in the uranium mineralization found in the Missisagi Formation around Roberts Lake and the Vermilion River in the northeast part of the township.

SOURCES OF INFORMATION

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 Geology is not tied to any surveyed lines.
 Issued 1968.