REPORT FOR
MATTAGAMI LAKE MINES LIMITED

Covering MAGNETIC and ELECTROMAGNETIC
surveys over their

No. 10 CLAIM GROUP

Sturgeon Lake Area
Patricia Mining Division, Ontario

DUPLICATE COPY
POOR QUALITY ORIGINAL TO FOLLOW

March, 1970
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No. 10 CLAIM GROUP

Sturgeon Lake Area,
Patricia Mining Division, Ontario.

March, 1970.
Report for Mattagami Lake Mines Limited covering MAGNETIC and ELECTROMAGNETIC surveys over their NO. 10 CLAIM GROUP, Sturgeon Lake area, Patricia Mining Division, Ontario.

LOCATION AND ACCESS:

This group of 16 contiguous claims numbered P212743 to P212758 inclusive is located in Sturgeon Lake. The group is staked around an island located approximately 1½ miles south east of Granite Bay. Access is via Sturgeon Lake.

PREVIOUS WORK:

The GSC airborne magnetic map No. 52-G/14 flown at 1000' shows that the claim group flanks a very strong magnetic high towards the southeast. This magnetic high occurs within the lake, but is attributed to iron formation associated with a band of sediments that strike up Sturgeon Lake then turn towards Barge and Port Lakes. The ODM geological map No. 2169 shows the island as being composed of mafic metavolcanics. The area was flown by Questor for Mattagami Lake Mines with the claim group being staked to cover four airborne EM anomalies located on the island and the bay on its eastern shore.

EQUIPMENT USED:

Magnetic- A McPhar fluxgate magnetometer M-700 was used measuring the vertical component of the magnetic field directly in gammas. Accuracy of the instrument is ± 10 gammas. Normal Procedures using base stations and applying drift corrections were carried out.

Electromagnetic- A Crone Shoot back JEM unit was used with a coil separation of 300' and a basic operating frequency of 1800 Hz with readings also being taken at 480 Hz in anomalous areas. The "resultant dip angle" in degrees is recorded using the mid point between the two operators. This instrument was also used for some detail work from line 12E to line 32E adjacent to the base line using the fixed transmitter vertical loop method and running the 400' line with a receiver.

A Crone RADEM-VLF-EM instrument was also used for detail work measuring both the dip angle of the field in degrees and the Field Strength as a percent of normal Field Strength.
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LINECUTTING:

A baseline was established with an azimuth of 40° and a grid cut with a 400' time interval over the entire claim block. Linecutting and picketing over the lake was conducted by Mattagami Lake Mine's own crews. A total of 1 mile of base line and 13.2 miles of line were established.

INTERPRETATION:

Three conductors were detected no. 10-1, No. 10-2 and No. 10-3. Conductor No. 10-1 is a well defined anomaly with high conductivity, a length of 600' and a width that could be as much at 50'. The conductor dips at approximately 60° towards grid north with magnetic correlation being poor to nil.

Conductors 10-2 and 10-3 are weak and poorly defined even with the considerable detail work carried out. A banded deeply buried bedrock conductor or a near surface clay bed could explain the anomaly.

Two drill holes are proposed.

No. 1  Line 32E, 8 + 00 N drilling at -45° in a grid south direction for 400'

No. 2  Line 20 E, 1 + 50 N drilling at -45° in a grid south direction for 500'

Respectfully submitted,

J. DUNCAN CRONE B.A., P. Eng geophysicist.
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Respectfully submitted,

geophysicist.
SPECIAL PROVISION

ASSESSMENT WORK DETAILS

Type of Survey: MAGNETIC

Chief Line Cutter or Contractor: MATTAGAMI LAKE MINES CREW

Party Chief: ROBERT MAJOR, BOX 190, IGNACE, ONTARIO

Consultant: DUNCAN CRONE, 979 LAKESHORE ROAD E., PORT CREDIT, ONT.

COVERING DATES

Line Cutting: MARCH 8-19, 1970

Field Geology or Geophysics: MARCH 22-25, 1970

Office:

INSTRUMENT DATA

Make, Model and Type: McPHAR - M-700 - FLUXGATE

Scale Constant or Sensitivity: GAMMAS

Or provide copy of instrument data from Manufacturer's brochure.

Total Number of Stations Within Claim Group: 896

Number of Miles of Line cut Within Claim Group: 14.2

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey: Days per Claim

Geophysical Survey: 40 Days per Claim

MINING CLAIMS TRAVERSED

P 212743, P 212744, P 212745, P 212746, P 212747, P 212748, P 212749,

P 212750, P 212751, P 212752, P 212753, P 212754, P 212755, P 212756,

P 212757, P 212758.

TOTAL: 16

DATE: APRIL 10/70

SIGNED

Special provision credits do not apply to Radiometric Surveys.
SPECIAL PROVISION

ASSESSMENT WORK DETAILS

ELECTROMAGNETIC

Type of Survey: A separate form is required for each type of survey

MATTAGAMI LAKE MINES CREW

Chief Line Cutter or Contractor: Name

ROBERT MAJOR, BOX 190, IGNACE, ONTARIO.

Party Chief: Name

Consultant: Name

DUNCAN CRONE, 979 LAKESHORE ROAD E., PORT CREDIT, ONT.

COVERING DATES

Line Cutting: MARCH 8-10, 1970

Field Geology or Geophysics: MARCH 8-19, 1970

Office: MARCH 22-25, 1970

INSTRUMENT DATA

Make, Model and Type: CRONE SHOOTBACK JEM & RADEM

Scale Constant or Sensitivity: BROCHURE: ENGL.

Or provide copy of instrument data from Manufacturer's brochure.

Total Number of Stations Within Claim Group: Number of Miles of Line cut Within Claim Group

JEM: 717
RADEM: 151
V. LOOP: 63

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey: Days per Claim

Geophysical Survey: 20 Days per Claim

MINING CLAIMS TRAVERSED

P 212743, P 212744, P 212745, P 212746, P 212747, P 212748, P 212749,
P 212750, P 212751, P 212752, P 212753, P 212754, P 212755, P 212756,
P 212757, P 212758.

TOTAL: 16

DATE: APRIL 10/70.

SIGNED

Special provision credits do not apply to Radiometric Surveys.
TECHNICAL ASSESSMENT WORK CREDITS

Record Holder: Mattagami Lake Mines Ltd.

Area: S.W. part of Sturgeon Lake

Type of Survey and number of Assessment Days Credits per claim

<table>
<thead>
<tr>
<th>Survey Type</th>
<th>Number of Days</th>
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<tbody>
<tr>
<td>GEOPHYSICAL Airborne</td>
<td>40 days</td>
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<tr>
<td>Ground Magnetometer</td>
<td>40 days</td>
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<tr>
<td>(Jem) Electromagnetic</td>
<td>20 days</td>
</tr>
<tr>
<td>Radiometric</td>
<td>40 days</td>
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GEOLOGICAL: 40 days

GEOCHEMICAL: 40 days

SECTION 84 (14): 40 days

Special Provision: Man days

NOTICE OF INTENT TO BE ISSUED

☐ Credits have been reduced because of partial coverage of claims.

☐ Credits have been reduced because of corrections to work dates and figures of applicant.

☐ NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:

- Pa. 212743 to 58 inclusive.

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical – 80; Geological – 40; Geochemical – 40;
# Technical Assessment Work Credits

**Recorder Holder:** Mattagami Lake Mines Ltd.

**Area:** S.W. part of Sturgeon Lake

### Type of Survey and number of Assessment Days Credits per claim

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**NOTICE OF INTENT TO BE ISSUED**

- □ Credits have been reduced because of partial coverage of claims.
- □ Credits have been reduced because of corrections to work dates and figures of applicant.
- □ NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:
  - Pa. 212747 - 48
  - 212752 - 53

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical – 80; Geological – 40; Geochemical – 40.
DEPARTMENT OF MINES AND NORTHERN AFFAIRS
MINING LANDS BRANCH

October 14th, 1970.

Mr. W. A. Buchan,
Mining Recorder,
Court House,
Sioux Lookout, Ont.

Dear Sir:

Re: Mining Claim no. Pa. 212747 et al,
S. W. part of Sturgeon Lake Area.

The Geophysical assessment work credits as shown on the attached list have been approved as of the date above.
Please inform the recorded holder and so indicate on your records.

Yours very truly,

Fred W. Matthews,
Supervisor,
Projects Section.

/cdg./

cc. Mattagami Lake Mines Ltd.,
Exploration Division,
205 - 8 King St., E.,
Toronto, Ontario.
Attn.: J. D. Harvey.

cc. H. L. King,
Resident Geologist,
808 Robertson St.,
Kenora, Ont.
SEE ACCOMPANYING MAP(S) IDENTIFIED AS

52G/14NE-0047 # 1-3

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE

(X)
FOR ADDITIONAL INFORMATION

SEE MAPS:

52G/14NE-0047 #4