REPORT FOR
MATTAGAMI LAKE MINES LIMITED

Covering MAGNETIC and ELECTROMAGNETIC surveys over their

No. 9 CLAIM GROUP

Sturgeon Lake Area,
Patricia Mining Division, Ontario

March, 1970
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March, 1970.
LOCATION AND ACCESS:

This group of 9 contiguous claims numbered 212635 to 212643 inclusive is located on the north shore of Sturgeon Lake immediately south of Cobb Bay. Access is via Sturgeon Lake.

PREVIOUS WORK:

The GSC airborne magnetic map No. 52-G/14 flown at 1000' shows a magnetic low in the claim group area. The ODM geological map No. 2169 shows the area as being underlain by mafic metavolcanics. The area was flown by Questor with airborne EM anomalies being detected in the area staked. There is no other known recorded work in the claim group area.

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.
Report for Mattagami Lake Mines Limited covering MAGNETIC and ELECTROMAGNETIC surveys over their GROUP 9 claims, Sturgeon Lake Area, Patricia Mining Division, Ontario.

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Detail work was also carried out using the Crone JEM as a standard vertical loop EM using the fixed transmitter method and reading the 400' line.

**LINECUTTING:**

An east-west baseline was established and a grid cut with a 400' line interval. Linecutting was by Mattagami Lake Mines own crews. A total of 1 mile of base line and 10.6 miles of line was cut or picketed on the lake.

**GEOPHYSICAL OPERATORS:**

The field work was carried out by Mattagami Lake Mines crews under the party chief Robert Major, Box 190, Ignace, Ontario.

**INTERPRETATION:**

Two conductors were detected that intersect near the base line and line 48 E. This could possibly be a folded structure with the width of the conductor apparently increasing as the nose of the fold is approached. This same effect could be obtained if the dip of one of the limbs flattened towards the nose or intersection of the conductors.

The northern conductor has weak magnetic coincidence of 300 to 600 gammas on some lines – the southern conductor is non-magnetic.

Dip of both conductors is vertical but as mentioned above this could vary as their intersection is approached. Conductivity is moderate. Fracture filling to semi massive sulphides or graphite, could be the cause of the anomaly with a depth of cover anywhere between 50 and 150'.

Two drill holes are proposed.

No. 1 Line 44 E, 1 + 00 N drilling -55° in a true south direction to a depth of 700'

No. 2 Line 28 E, 0 + 50 S drilling at -55° in a true south direction to a depth of 600'.

Respectfully submitted,

J. DUNCAN CRONE B.A., P. Eng
gophysicist.
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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, ONT.

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

Field Geology or Geophysics: FEBRUARY 27 - MARCH 7, 1970
Office: MARCH 12 - 15, 1970

Instrument Data: Make, Model and Type: McPhar M-700 Fluxgate

Scale Constant or Sensitivity: ± 10 GAMMAS
Or provide copy of instrument data from Manufacturer’s brochure.

Total Number of Stations Within Claim Group: 603
Number of Miles of Line cut Within Claim Group: 11.6

Assessment Work Credits Requested:

Geological Survey: Days per Claim
Geophysical Survey: 40 Days per Claim

Mining Claims Traversed:
P 212635, P 212636, P 212637, P 212638, P 212639, P 212640, P 212641,
P 212642, P 212643.

Total: 9

Date: APRIL 10/70.

Signed: DUNCAN CRONE

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

ASSESSMENT WORK DETAILS

Type of Survey: ELECTROMAGNETIC

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

Field Geology or Geophysics: FEBRUARY 27 - MARCH 7, 1970

Office: MARCH 12-15, 1970

INSTRUMENT DATA

Make, Model and Type: CRONE SHOOTBACK JEM (400-1800 Hz)

Scale Constant or Sensitivity: 

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

Total Number of Stations Within Claim Group: 760

Number of Miles of Line cut Within Claim Group: 11.6

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey: Days per Claim

Geophysical Survey: 20 Days per Claim

MINING CLAIMS TRAVERSED

P 212635, P 212636, P 212637, P 212638, P 212639, P 212640.

P 212641, P 212642, P 212643.

TOTAL: 9

DATE: APRIL 10/70.

SIGNED: [Signature]

Special provision credits do not apply to Radiometric Surveys.
THE MINING ACT

DEPARTMENT OF MINES
PROJECTS SECTION

ASSESSMENT WORK CREDITS

FILE: 63.2275
DATE: 

Name: Mattami Lake Mines Ltd.

TOWNSHIP OR AREA: Penasei Lake

<table>
<thead>
<tr>
<th>Type of Survey and Number of Assessment Days Credits per Claim</th>
<th>Mining Claims</th>
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<tbody>
<tr>
<td><strong>GEOPHYSICAL</strong></td>
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<tr>
<td>Special Provision Man days</td>
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<tr>
<td>Ground Airborne</td>
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<tr>
<td>Magnetometer 40 days</td>
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<tr>
<td>Electromagnetic 20 days</td>
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<tr>
<td>Ground Airborne</td>
<td></td>
</tr>
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</tbody>
</table>

**Notice of Intent to be issued (credits have been reduced because of insufficient or partial coverage of claims)**

No assessment credits have been allowed for the following mining claims as they were not sufficiently covered by the survey.

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 - 40
- Geological - 40
- Geochemical - 40
- Radiometric - 20
October 13th, 1970

W.A. Buchan,
Mining Recorder,
Court House,
Sioux Lookout,
Ontario

Dear Sir:

Re: Mining Claim No. Pa. 212635 et al,
Penassi 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.

/dg.

cc. Mattagami Lake Mines Ltd.
Exploration Division
205 - 8 King St., E.
Toronto 1, Ont.

cc. H.L. King
Resident Geologist
808 Robertson St
Kenora, Ont
October 13th, 1970.

W. A. Buchan,  
Mining Recorder,  
Court House,  
Sioux Lookout,  
Ontario.

Dear Sir:

Re: Mining Claim No. Pa. 217935 et al,  
Tennasi Lake area.

The Geophysical assessment work credits an area 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,

[Signature]

Fred V. Matthews,  
Supervisor,  
Projects Section.

cc. Mattagami Lake Mines Ltd.,  
Exploration Division,  
205 - 8 King St. E.,  
Toronto 1, Ont.

cc. H. H. Yule,  
Resident Geologist,  
808 Robertson St.,  
Kenora, Ont.
SEE ACCOMPANYING MAP(S) IDENTIFIED AS 52G/14NE-0043 # 1-3

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE

(X)
MATTAGAMI LAKE MINES LIMITED

CONTOUR INTERVAL 200'

INSTRUMENT: McPHAR M-700

MATTAGAMI LAKE MINES LIMITED

"EXPLORATION DIVISION

MAGNETOMETER SURVEY

ANOMALY No. 9

STURGEON LAKE AREA

PATRICIA MINING DIVISION-ONTARIO

52G/14 NE - 0043 #1

PENASSI LAKE

MARCH 1970
TRANSMITTER STATION A

CRONE INSTRUMENT
400' SEPARATION

MATTAGAMI LAKE MINES LIMITED
EXPLORATION DIVISION

DETAIL EM. VERTICAL LOOP SURVEY

ANOMALY No. 9

STURGEON LAKE AREA

PATRICIA MINING DIVISION-ONTARIO

SCALE OF FEET

MAR6H 1

MATTAGAMI LAKE MINES LIMITED
EXPLORATION DIVISION
DETAIL EM. VERTICAL LOOP SURVEY
ANOMALY No. 9
STURGEON LAKE AREA
PATRICIA MINING DIVISION-ONTARIO
Possible folded structure

Moderate conductivity.

Depth 50° to 150°.

Dip - almost vertical but may vary rapidly near proposed axis of fold.

Magnetic correlation - 800° on line 28E, otherwise weak to nil.

Proposed drillholes - 28E, 0° to 50° South, 500' Depth.

EXPLORATION DIVISION
MATTAGAMI LAKE MINES LIMITED
JEM SURVEY

ANOMALY No. 9
STURGEON LAKE AREA
PATRICIA MINING DIVISION - ONTARIO