52J/02SW(36)

2.128

52J02SW0067 52J02SW0042 FOURBAY LAKE

010

REPORT

FOR

MATTAGAMI LAKE MINES LIMITED

covering MAGNETIC AND ELECTROMAGNETIC surveys

over their # 33 - 34 CLAIM GROUP (Jumping Lake)

STURGEON LAKE AREA, PATRICIA MINING DIVISION, ONTARIO

CLAIMS: # 225529 - 41
225563 - 74
225609 - 20 Total 37

SURVEYS: - Magnetic - McPhar Fluxgate
- Electromagnetic - Crone RADEM-VLF

Maps 6

SEPTEMBER 1970

MATTAGAMI LAKE MINES LIMITED

33 - # 34 CLAIM GROUP (JUMPING LAKE)

STURGEON LAKE AREA, PATRICIA MINING DIVISION, ONTARIO

September 1970

CLAIMS: 225529 - 41
225563 - 64
225609 - 20 Total 37

SURVEYS: - Magnetic - McPhar Fluxgate
- Electromagnetic - Crone RADEM-VLF

Maps 6

LOCATION AND ACCESS:

This group of 37 contiguous claims numbered 225529 - 41, 225563 - 64, and 225609 - 20, is located south of Jumping Lake and 1 mile north of Six Mile Lake. Access is via bush plane or trail from the Savant Lake road 3 miles to the northwest.

PREVIOUS WORK AND REPORTS:

Maps

Ontario Department of Mines Sturgeon Lake #1118G
Ontario Department of Mines Sioux Lookout #2169

The area is mapped as being underlain by mafic volcanic rocks. The government airborne magnetic map shows the area as being exceptionally flat magnetically. The area was flown by Questor for Mattagami Lake Mines Limited in March of 1969 and the claim group staked to cover airborne anomalies detected by this survey.

A horizontal loop EM survey was contracted to Prospecting Geophysics by Mattagami Lake Mines in July of 1970 using a 400' spread GEONICS EM-17 instrument.

EQUIPMENT USED AND OPERATORS:

Magnetic - A McPhar fluxgate magnetometer was used measuring the vertical component of the earth's magnetic field directly in gammas. Base stations were established and normal drift correction procedures carried out. Instrument accuracy is ± 10 gammas. Number of stations read was 2083. Field supervisor was Robert Major, Mattagami Lake Mines staff, Box 190, Ignace, Ontario. Survey dates were between July 1 and 31, 1970.

Electromagnetic - A Crone RADEM-VLF-EM instrument was used measuring both dip angle of the resultant field in degrees and the Field Strength of the horizontal component of the resultant field. Brochure enclosed with this report. Survey dates were July 1 to 31, 1970; number of stations 1765.

LINECUTTING:

A total of 29.5 miles were cut under contract to Fred Corcoran, 116 Villeneuve Street, Val D'Or, P.Q. during the period June 1 to 30, 1970. The grid has a 400' line interval.

INTERPRETATION:

A total of 10 VLF conductors were detected by the survey.

Conductor 33-1 This conductor extends from line 12E to line 104E. The conductor is magnetic over most of its length although the coincident magnetic highs vary from almost nil to 11,000 gammas. The conductive portions of the anomaly are generally wider than the magnetic portions indicating a banded structure. Overburden is shallow, dip near vertical but slightly to the north. Test drill hole proposed on line 96E, 14+50N drilling grid south at -45 for 500'. Conductor here is 200' wide and very weakly magnetic. A second proposed hole collared at 6+50N line 60E drilling grid south at -45° for 400'. Conductor here is approximately 70' wide with a 1700 gamma magnetic high. A third proposed drill hole collared at 4+00N line 32E, drilling grid south at -45° for 600'. Expected width of conductor 200', may be banded.

Conductor 33-2 This strong, narrow conductor is detected on lines 32W, 28W and 20W but probably continues below the lake from line 4W to 32W and is open towards the west. There is magnetic coincidence on line 28W and 32W in the order of 1000 gammas. A test hole is proposed collared at 10+50N, line 32W drilling grid south at -45° for 300'. Width of conductor is expected to be less than 50'.

Conductor 33-3 This is a 1000' long conductor with magnetic correlation in the order of 2000 gammas. A test drill hole is proposed

collared at 0+50N (South Base Line), line 8W drilling grid south at -45° for 400'. Width of conductor in the order of 100'.

Conductor 33-4 A weak conductor without magnetic or horizontal loop EM support. No drilling recommended.

Conductor 33-5 This conductor has weak magnetic and horizontal loop EM support. Drilling dependent on further geological or geochemical support.

Conductor 33-6 This conductor is much the same as 33-5 and thus is not recommended for testing with information available to date.

Conductor 33-7 This is a broad, weak anomaly without support of magnetics or horizontal loop. It could be a clay-bed anomaly and thus is not recommended for drilling.

Conductor 33-8 This conductor is 2000' long. A magnetic high flanks it to the south but the conductor is probably non-magnetic. The conductor is supported by the horizontal loop survey. A drill hole is proposed collared at 16+50N, line 68E drilling grid south at -45° for 300'.

Conductor 33-9 This is a weak, broad anomaly with no magnetic support and weak horizontal loop support on line 0+00. It may be caused by a fault or shear zone. No drilling recommended without further information.

Conductor 33-10 This anomaly is similar to 33-9 and does not merit testing with the information available at present.

Six drill holes are proposed totalling 2500 feet.

Respectfully submitted,

J. Duncan Crone, B.A., P.Eng
Geophysicist

52 J/02 SW (37)

REPORT ON
ELECTROMAGNETIC SURVEY
ON
GROUP SL 33-34
MATTAGAMI LAKE MINES LTD.
STURGEON LAKE AREA, ONT.

2126

PROSPECTING GEOPHYSICS LTD. GEOPHYSICAL & GEOLOGICAL SURVEYS
3518 VENDOME AVENUE, MONTREAL 28, QUEBEC · TELEPHONE 481-1539

REPORT

ON

ELECTROMAGNETIC SURVEY

ON

GROUP SL 33-34

MATTAGAMI LAKE MINES LTD.

STURGEON LAKE AREA, ONT.

Montreal, Que. July 23, 1970.

REPORT
ON
ELECTROMAGNETIC SURVEY
ON
GROUP SL 33-34
MATTAGAMI LAKE MINES LTD.
STURGEON LAKE AREA, ONT.

INTRODUCTION

An electromagnetic survey using the EM-17 unit with a 400 foot coil interval for added penetration has been carried out over the property referred to as Group SL 33-34, held by Mattagami Lake Mines Ltd. in the Sturgeon Lake area of Ontario.

The following report and accompanying map describe the results of the survey and give a geological interpretation of the results.

PROPERTY AND LOCATION

The property referred to as Group SL 33-34 consists of 37 claims of approximately 40 acres each, situated

near Jumping Lake, north of Sturgeon Lake. The claims are registered with the Patricia Mining Division of the Ontario Department of Mines under the following claim numbers:

PA 225563 to PA 225574 inclusive

PA 225529 to PA 225541 "

PA 225609 to PA 225620 "

GEOLOGY

The geology of the area is described in Geological Report No. 24, published by the Department of Mines of Ontario. A more recent map, P 353, covering the Sturgeon Lake area, was published in 1966.

From this data, it is seen that the underlying rocks of the area are of Precambrian age and consist of sedimentary and volcanic rocks that have been intruded by both basic and granitic rocks and their metamorphosed equivalents. The regional foliation is generally east-west.

Group SL 33-34 appears to be largely underlain by volcanic rocks which include pyroclastics and andesite. The northern portion appears to be underlain by pyroclastics and this should be the favorable horizon for mineral deposition.

SURVEY METHODS AND INSTRUMENT DATA

The survey was carried out using a network of picket lines cut in a north-south direction at 400 foot intervals, as shown on the accompanying map. Stations were at 100 foot intervals along the lines.

The electromagnetic survey was carried out using the Geonics EM-17 horizontal loop equipment with a 400 foot coil interval. The use of the 400 foot coil interval with this equipment obtains extra penetration over the conventional equipment. In the horizontal loop type of survey both the in-phase and out-of-phase components of the secondary field are measured, whose special characteristics make possible a fairly accurate evaluation of the conductivity. A conductor caused by sulphide mineralization will produce a curve going from positive readings through zero to negative and back again to positive. Both the in-phase and out-of-phase readings show the same general curve. The ratio between the in-phase and out-of-phase readings over a conductor is an indication of the conductivity of the body. A good conductor would cause a greater deviation of the in-phase component than the out-of-phase

component. The opposite is true of a poor conductor.

RESULTS OF THE ELECTROMAGNETIC SURVEY AND INTERPRETATION

The electromagnetic survey outlined a series of conductive zones that extend across the property in a general direction slightly north of east. These conductors are lettered A, B, C, etc. for reference purposes.

The majority of the conductive zones appear to line up along the same structure which probably extends across the property. The conductivity is weak and considering a 400 foot coil interval is used, fairly deep overburden can be expected. The ground survey showed considerably more continuity than the airborne survey, probably due to the greater penetration of the equipment.

The following is a brief description of the main conductive zones:

ZONE "A"

This is a fairly well defined zone for a minimum length of 1,600 feet and is the most easterly conductor. It possibly continues further west in the lake and "B" zone would appear to be the westerly extension of the same

structure. The conductor does not show much width but is reasonably strong with ratios up to 5. There is probably a fair depth of overburden and thus the conductor could be quite strong.

ZONE "B"

This has a length of approximately 800 feet and is quite similar to "A" zone and, as mentioned above, it probably represents the same structure. It does not show on line 72E which may be due to a combination of deep overburden and weaker conductivity.

ZONE "C"

This lies to the north of and parallels "B" zone. It shows on two lines only and is rather weak but there are irregular responses on the lines on either side that suggest the conductor may extend further and is either too weak or too deep to be detected.

"D" AND "E" ZONES

These two are grouped together as they are very similar and at the east end the readings represent one broad response rather than two separate conductors. These

appear to lie along the same structure as "A" and "B" zones but are weaker and not as well defined. The conductivity appears to be over a greater width but this may be partially caused by conductive overburden from swampy ground that overlies some of the area.

ZONE "F"

This zone appears to have a more easterly strike but on lines 0 and 4E the interpretation shows the northeast strike. There is a broad response over a swampy area and it is possible the interpretation is wrong.

The conductivity is fairly weak but again it depends on the overburden existing in the vicinity.

ZONE "G"

This shows the strongest response obtained in the survey on line 32W, close to the west boundary of the property. The conductor here is 50 feet wide and is quite strong and probably very little overburden. The dip appears to be to the south. On the next line east the conductivity is very weak but this is on the edge of the lake. It is very likely the conductor continues to the

west and may also continue to the east under the lake.

OTHER RESPONSES

There are a few weak one line conductive responses but these do not appear to be of much significance. There are other irregular responses but these are probably due to the sensitivity of the equipment using a 400 foot coil interval. In some cases, such as "C" zone, these may represent conductivity at depth.

CONCLUSIONS AND RECOMMENDATIONS

The electromagnetic survey outlined several conductive zones, most of which follow a structural trend across the property. Generally they are weak with the exception of the west end of "G" zone but this may be due in part to overburden.

Some outcrops exist fairly close to some of the conductivity and the results of this survey should be correlated with geological and magnetic data for a proper interpretation. The conductors, with the exception of "G" zone, appear to be similar and probably represent similar mineralization, possibly a combination of sulphides and graphite.

"G" zone does not lie on the same structure and the response on line 32W is more typical of sulphides.

Respectfully submitted,

PROSPECTING GEOPHYSICS LTD.

H.J. Bergmann, P. Eng.

Montreal, Que.,
July 23, 1970.

FOURBAY LAKE
M - 2879

SCALE: 1" = 40 CHAINS

A NIVEN, OLS 1897

BASE LINE

IGNACE

LAKE SAVANT

DISTRICT OF KENORA

Sturgeon Bay

Sturgeon Lake

Jumping Creek

Sixmile Creek

Sixmile Lake

1M. 2M. 3M. 4M. 5M. 6M.

120M. 119M. 118M. 117M. 116M.

50°00'

91°00'

59' 58' 57' 56' 55' 54' 53' 52' 51' 50'

900
2.128

Group 33-34

SPECIAL PROVISION

ASSESSMENT WORK DETAILS 52 J/02 SW (36)

NAMES AND ADDRESSES

Chief Line Cutter or Contractor F. Corcoran, Valdor, Que.

Party Chief H. Forderbor, R. Peletto, Valdor, Que.

Consultant H.J. Bergmann, Montreal, Que.

COVERING DATES

Line Cutting JUNE 1 - JUNE 30, 1970

Field and Office June 28, 1970 to July 24, 1970

INSTRUMENT DATA

Make, Model and Type Geonics EM-17 Horizontal Loop Electromagnetic Unit with 400 foot coil separation

Scale Constant or Sensitivity ± 28

or provide copy of instrument data from Manufacturer's brochure

Total Number of Stations Within Claim Group 1800

Number of Miles of Line cut Within Claim Group 29.5

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey _____ Days per Claim

Geophysical Survey 40 Days per Claim

MINING CLAIMS TRAVERSED

225563 to 225574 incl.

225529 to 225541 incl.

225609 to 225620 incl.

TOTAL 37

DATE July 31, 1970

SIGNED H.J. Bergmann

A separate form is required for each type of survey

Group 3

Assessment Work Breakdown

Claim No.	No.of Days	Claim No.	No. of Days
225563	40	225535	40
225564	40	225536	40
225565	40	225537	40
225566	40	225538	40
225567	40	225539	40
225568	40	225540	40
225569	40	225541	40
225570	40	225609	40
225571	40	225610	40
225572	40	225611	40
225573	40	225612	40
225574	40	225613	40
225529	40	225614	40
225530	40	225615	40
225531	40	225616	40
225532	40	225617	40
225533	40	225618	40
225534	40	225619	40
		225620	40

GROUP 33-34

SPECIAL PROVISION

ASSESSMENT WORK DETAILS

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

Chief Line Cutter or Contractor F. CORCORAN, 116 Villeneuve St., Val D'Or, P.Q.
Name Address

Party Chief F. HUSSEY, BOX 190, IGNACE, ONT.
Name Address

Consultant J. DUNCAN CRONE, 3607 Wolfedale Rd., Mississauaga, Ont.
Name Address

COVERING DATES Line Cutting JUNE 1-30, 1970.

Field Geology or Geophysics JULY 1-31, 1970.

Office AUGUST 1-10, 1970.

INSTRUMENT DATA Make, Model and Type McPHAR FLUXGATE M-700

Scale Constant or Sensitivity ± 10 GAMMAS

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

Total Number of Stations Within Claim Group 2083 Number of Miles of Line cut Within Claim Group 29.5

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey _____ Days per Claim

Geophysical Survey 20 Days per Claim

MINING CLAIMS TRAVERSED

37 CLAIMS - SEE ATTACHED LIST

TOTAL 37

DATE September 22, 1970. SIGNED J. Duncan Crone

J. D. CRONE

Special provision credits do not apply to Radiometric Surveys.

GROUP 33-34

MAGNETOMETER SURVEY

Work to be applied on the following contiguous mining claims:

CLAIM NO.	DAYS	CLAIM NO.	DAYS
PA 225529	20	PA 225569	20
PA 225530	20	PA 225570	20
PA 225531	20	PA 225571	20
PA 225532	20	PA 225572	20
PA 225533	20	PA 225573	20
PA 225534	20	PA 225574	20
PA 225535	20	PA 225609	20
PA 225536	20	PA 225610	20
PA 225537	20	PA 225611	20
PA 225538	20	PA 225612	20
PA 225539	20	PA 225613	20
PA 225540	20	PA 225614	20
PA 225541	20	PA 225615	20
PA 225563	20	PA 225616	20
PA 225564	20	PA 225617	20
PA 225565	20	PA 225618	20
PA 225566	20	PA 225619	20
PA 225567	20	PA 225620	20
PA 225568	20		

GROUP 33-34

SPECIAL PROVISION

ASSESSMENT WORK DETAILS

Type of Survey RADEM E.M.
A separate form is required for each type of survey

Chief Line Cutter or Contractor F. CORCORAN, 116 Villeneuve St., Val D'Or, P.Q.
Name Address

Party Chief F. HUSSEY Box 190, Ignace, Ont.
Name Address

Consultant J. DUNCAN CRONE, 3607 Wolfedale Rd., Mississauga, Ont.
Name Address

COVERING DATES Line Cutting JUNE 1-30, 1970.

Field Geology or Geophysics JULY 1-31, 1970.

Office AUGUST 1-10, 1970.

INSTRUMENT DATA Make, Model and Type CRONE VLF RADEM

Scale Constant or Sensitivity $\pm$ 1° DIP ANGLE

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

Total Number of Stations Within Claim Group 1765 Number of Miles of Line cut Within Claim Group 29.5

ASSESSMENT WORK CREDITS REQUESTED

Geological Survey _____ Days per Claim

Geophysical Survey 20 Days per Claim

MINING CLAIMS TRAVERSED

37 CLAIMS - SEE ATTACHED LIST

TOTAL 37

DATE SEPTEMBER 22, 1970. SIGNED J. Duncan Crone
J. D. CRONE.

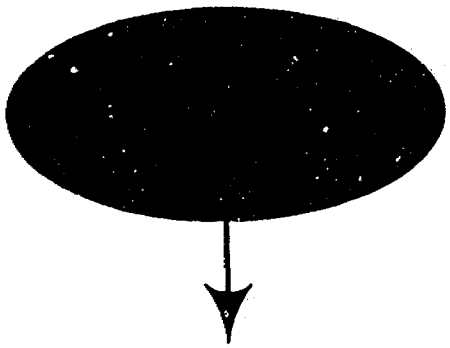
Special provision credits do not apply to Radiometric Surveys.

GROUP 33-34

RADEM E.M. SURVEY

Work to be applied on the following contiguous mining claims;

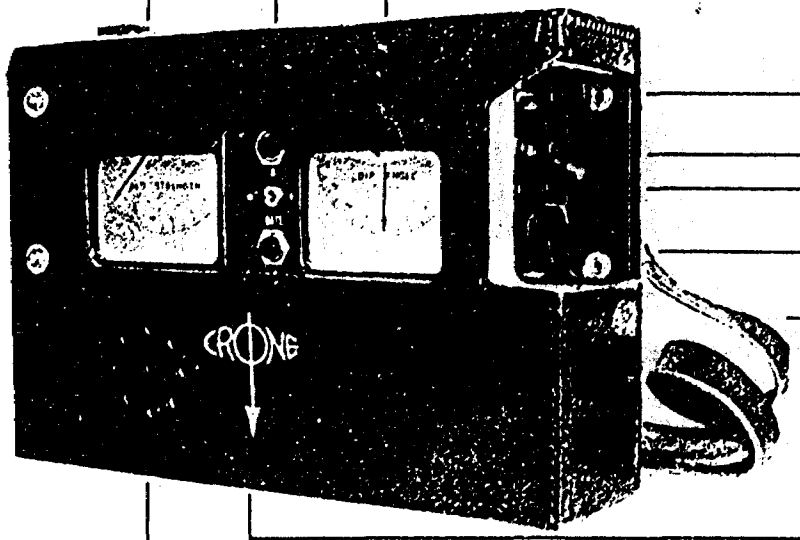
CLAIM NO.	DAYS	CLAIM NO.	DAYS
PA 225529	20	PA 225569	20
PA 225530	20	PA 225570	20
PA 225531	20	PA 225571	20
PA 225532	20	PA 225572	20
PA 225533	20	PA 225573	20
PA 225534	20	PA 225574	20
PA 225535	20	PA 225609	20
PA 225536	20	PA 225610	20
PA 225537	20	PA 225611	20
PA 225538	20	PA 225612	20
PA 225539	20	PA 225613	20
PA 225540	20	PA 225614	20
PA 225541	20	PA 225615	20
PA 225563	20	PA 225616	20
PA 225564	20	PA 225617	20
PA 225565	20	PA 225618	20
PA 225566	20	PA 225619	20
PA 225567	20	PA 225620	20
PA 225568	20		



CRONE GEOPHYSICS LIMITED

3607 WOLFEDALE ROAD,
MISSISSAUGA, ONTARIO,
CANADA.

Phone: 270-0096



This is a rugged, simple to operate, ONE MAN EM unit. It can be used without line cutting and is thus ideally suited for GROUND LOCATION OF AIRBORNE CONDUCTORS and the CHECKING OUT OF MINERAL SHOWINGS. This instrument utilizes higher than normal EM frequencies and is capable of detecting DISSEMINATED SULPHIDE DEPOSITS and SMALL SULPHIDE BODIES. It accurately isolates BANDED CONDUCTORS and operates through areas of HIGH HYDRO NOISE. The method is capable of deep penetration but due to the high frequency used its penetration is limited in areas of clay and conductive overburden.

The DIP ANGLE measurement detects a conductor from a considerable distance and is used primarily for locating conductors. The FIELD STRENGTH measurement is used to define the shape and attitude of the conductor.

SPECIFICATIONS

Source of Primary Field: VLF Communication Stations 12 to 24 KHz

Number of Stations: 7 switch selectable

Stations Available: The seven standard stations are Cutler, Maine, 17.8; Seattle, Washington, 18.6; Collins, Colorado, 20.0; Annapolis, Md., 21.4; Panama, 24.0; Hawaii, 23.4; England, 16.0. Alternative stations which may be substituted are: Gorki, Russia, 17.1; Japan, 17.4; England, 19.6; Australia, NWC, 22.3 KHz.

Check that Station is Transmitting: Audible signal from speaker.

Parameters Measured and Means:

(1) DIP ANGLE in degrees, from the horizontal of the magnetic component of the VLF field. Detected by minimum on the field strength meter and read from an inclinometer with a range of ±80° and an accuracy of ±½°.

(2) Field Strength (total or horizontal component) of the magnetic component of the VLF field. Measured as a per cent of normal field strength established at a base station. Accuracy ±2% dependent on signal. Meter has two ranges: 0 — 300% and 0 — 600%. Switch for "keyed" or "F.S." (steady) signal.

(3) Out of Phase component of the magnetic field, perpendicular in direction to the resultant field, measured without sign, as a per cent of normal field strength. This is the minimum reading of the Field Strength meter obtained when measuring the dip angle. Accuracy ±2%.

Operating Temperature Range: −20° to +110° F.

Dimensions and Weight: 3.5″ × 7.5″ × 10.5″ — 6 lb.

Shipping: Foam lined wooden case — shipping wt. — 15 lb.

Batteries: 2 of 9 volt: Eveready 216, Burgess 2U6, Mallory M-1604

Average life expectancy — 3 weeks to 3 months dependent on amount of usage.

Units Available on a Rental or Purchase Basis.
Contract Services Available for Field Surveys.

2.128

AREA CODE — 416
TELEPHONE — 365-6918

ONTARIO

WHITNEY BLOCK
QUEEN'S PARK
TORONTO 182 ONT

DEPARTMENT OF MINES AND NORTHERN AFFAIRS
MINING LANDS BRANCH

March 8th, 1971.

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

Re: Mining Claims PA. 225529 et al,
Fourbay Lake Area, File No. 2.128

Dear Sir:

The Geophysical (Magnetometer and Electromagnetic) assessment work credits as listed with my Notice of Intent dated February 19th, 1971, 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.

c.c. Mattagami Lake Mines Ltd.,
205 - 8 King St., E.,
Toronto, Ontario.

c.c. J. Duncan Crone,
3607 Wolfedale Road,
Mississauaga, Ont.,

c.c. Mr. H.L. King,
Resident Geologist,
808 Robertson Street,
Kenora, Ontario. ✓

FWM/mr

SEE ACCOMPANYING

MAP(S) IDENTIFIED AS

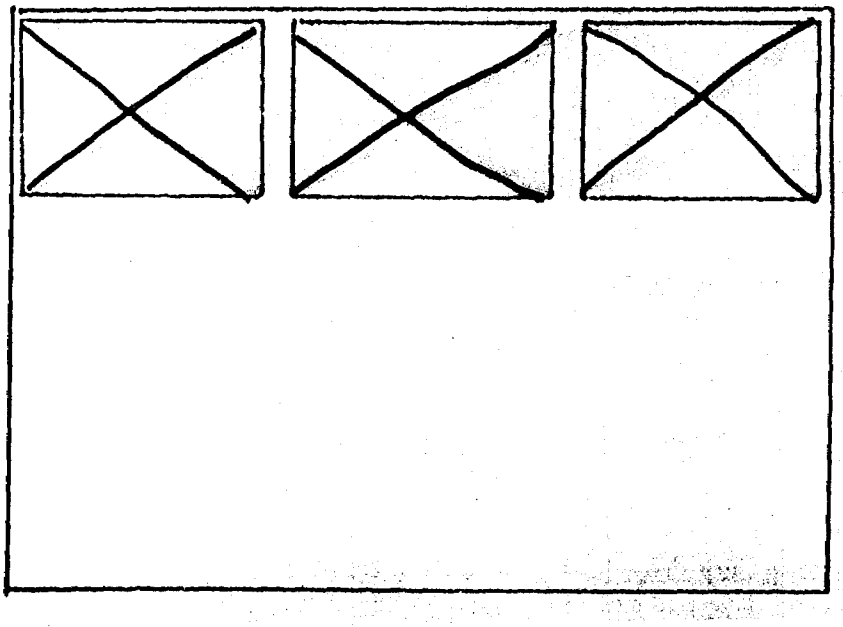
52J/02SW-0042 ##1-2

LOCATED IN THE MAP

CHANNEL IN THE

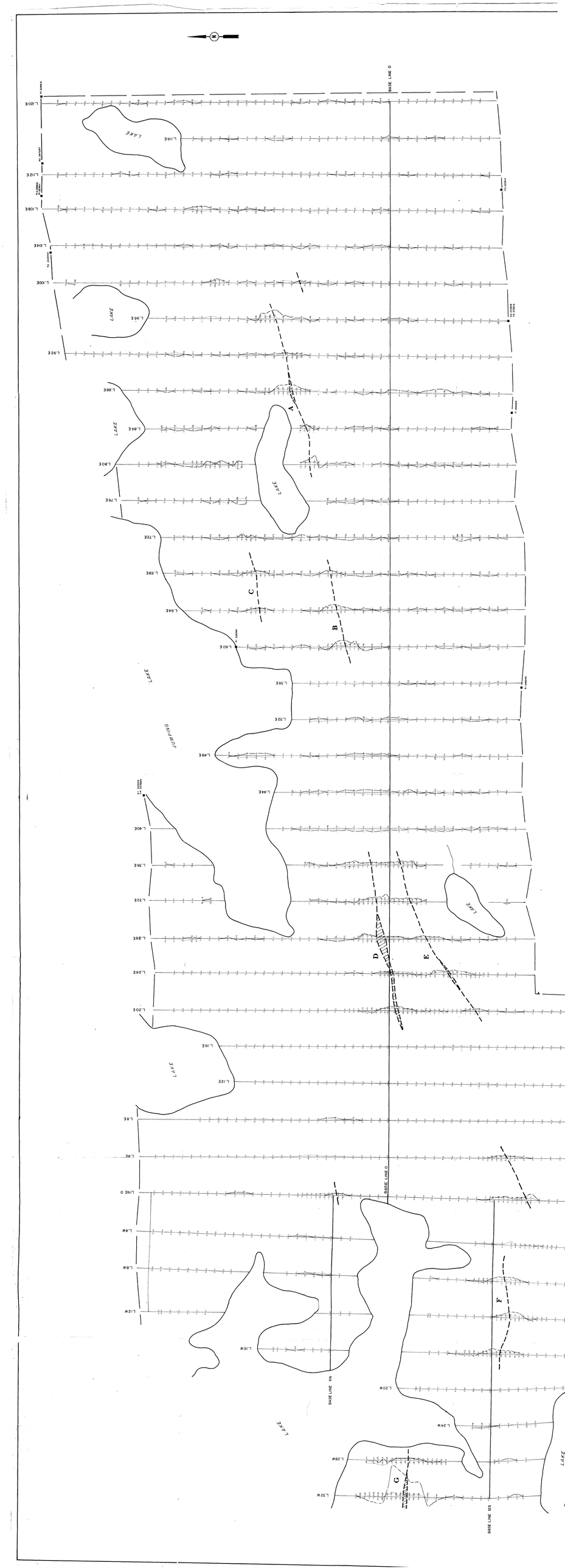
FOLLOWING SEQUENCE

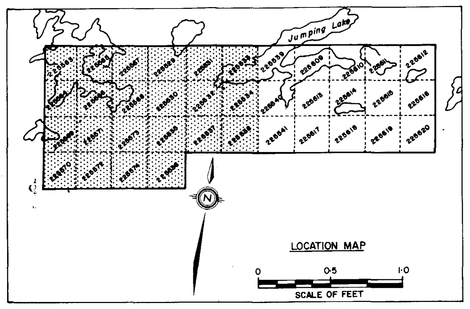
(X)



FOR ADDITIONAL INFORMATION SEE MAPS:

52J/02SW-0042 #3-7


BASE LINE 0
L.120E
L.116E
L.112E
L.108E
L.104E
L.100E
L.96E
L.92E
L.88E
L.84E
L.80E
L.76E
L.72E
L.68E
L.64E
L.60E
L.56E
L.52E
L.48E
L.44E
L.40E
L.36E
L.32E
L.28E
L.24E
L.20E
L.16E
L.12E
L.8E
L.4E
LINE 0
L.4W
L.8W
L.12W
L.16W
L.20W
L.24W
L.28W
L.32W
BASE LINE 4S
BASE LINE 8S
LAKE
A
B
C
D
E
F
G



12 W 8W 4W 00 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E

225565 225567 225529 225531 225533

225568 225530 225532 225534

6+00N

225566

B.L. 0+00

225564 225569 225571 225573 225535 225537 225538

12+00S

225570 225572 225574 225536

32W 28W 24W 20W 16W 12W 8 W 4W 00 4E 8 E 12E 16E 20E 24E 28E 32E 36E 40E 44E

Jumping Lake

52J/02SW-0042 #2

INSTRUMENT: McPHAR M-700

Map 1

MATTAGAMI LAKE MINES LIMITED

EXPLORATION DIVISION

MAGNETOMETER SURVEY

GROUP 33-34

STURGEON LAKE FOLLOW-UP

PATRICIA MINING DIVISION ONTARIO

J. Duncan Carr

200 0 200 400

SCALE OF FEET

52 J/02 SW(36)

48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112 E 116E 120E

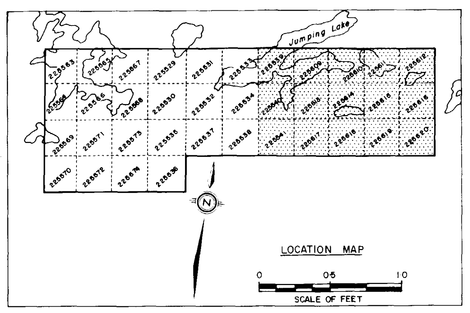
Jumping Lake

225539 225540 225541 225609 225610 225611 225612 225613 225614 225615 225616 225617 225618 225619 225620

B.L. 0+00

600 800 1000 2000

52J/02 SW-0042 #3



INSTRUMENT: McPHAR M-700

Map 2

MATTAGAMI LAKE MINES LIMITED

EXPLORATION DIVISION

MAGNETOMETER SURVEY

GROUP 33-34

STURGEON LAKE FOLLOW-UP

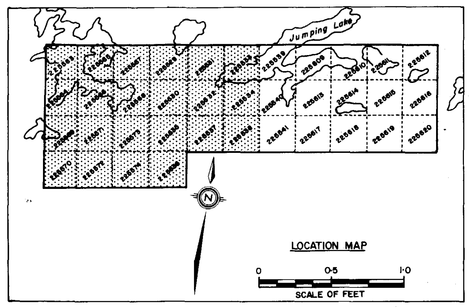
PATRICIA MINING DIVISION-ONTARIO

200 0 200 400

SCALE OF FEET

J Duncan Cam

52 J/02 SW (36)



12W 8W 4W 00 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E

225565 225567 225529 225531 225533

Jumping Lake

225566 225568 225530 225532 225534

6+00N

225564

B.L. 0+00

225571 225573 225535 225537 225538

225569

12+00S 12+00S

225570 225572 225574 225536

32W 28W 24W 20W 16W 12W 8W 4W 00 4E 8E 12E 16E 20E

24E 28E 32E 36E 40E 44E

ELECTROMAGNETIC SURVEY
INSTRUMENT - CRONE RADEM VLF-EM
DIP ANGLE OF RESULTANT VLF FIELD IN DEGREES
VLF CONDUCTOR
PROFILE SCALE: 1" = 30°

52J/02SW-0042 #4

Map 1

MATTAGAMI LAKE MINES LIMITED

EXPLORATION DIVISION

RADEM "VLF-E.M." DIP ANGLE SURVEY

GROUP 33-34

STURGEON LAKE FOLLOW-UP
PATRICIA MINING DIVISION ONTARIO

200 0 200 400
SCALE OF FEET

J. Duncan Cmt
2.128

52J02SW0042 FOLDSAY LAKE

230

48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112E 116E 120E

N

Jumping Lake

225539 225540 225541 225609 225610 225611 225612 225613 225614 225615 225616 225617 225618 225619 225620

B.L. 0+00

B.L. 0+00

48E 52 E 56E 60E 64E 68E 72E 76 E 80E 84E 88E 92E 96E 100E 104E 108E 112 E 116E 120E

52J/02SW-0042 #5

ELECTROMAGNETIC SURVEY

INSTRUMENT - CRONE RADEM VLF-EM

DIP ANGLE OF RESULTANT VLF FIELD IN DEGREES

VLF CONDUCTOR

PROFILE SCALE: 1" = 30°

Map 2

MATTAGAMI LAKE MINES LIMITED

EXPLORATION DIVISION

RADEM "VLF-E.M." DIP ANGLE SURVEY

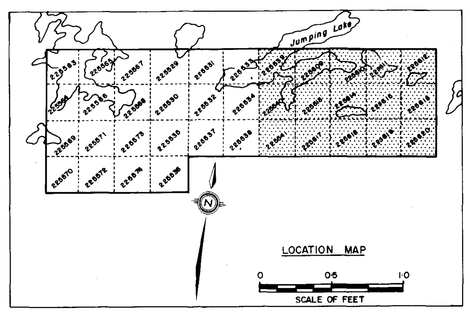
GROUP 33-34

STURGEON LAKE FOLLOW-UP

PATRICIA MINING DIVISION-ONTARIO

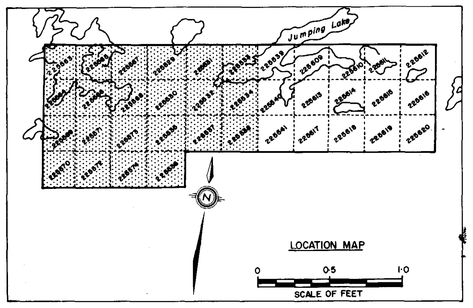
200 0 200 400

SCALE OF FEET



J. Duncan Cann

52 J/02 SW (36)



12W 8W 4W 00 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E

225565 225567 225529 225531 225533

33-9

225568 225530 225532

33-10

225566

6+00N

Jumping Lake

225534

Proposed DDH 4+00N, -45°, 600'

225564

Proposed DDH 10+50N, -45°, 300'

33-2

33-1

225537

225535

225538

B.L. 0+00

225573

33-6

225571

225569

Proposed DDH 0+50N, -45°, 400'

33-3

12+00S

33-5

225574 225536

33-4

225572

225570

33-7

32W 28W 24W 20W 16W 12W 8W 4W 00 4E 8E 12E 16E 20E

24E 28E 32E 36E 40E 44E

52J/02SW-0042 #6

ELECTROMAGNETIC SURVEY

INSTRUMENT - CRONE RADEM VLF-EM
FIELD STRENGTH MEASUREMENT OF
HORIZONTAL COMPONENT OF VLF FIELD
STATION-SEATTLE WASHINGTON 18·6 KHz

VLF CONDUCTOR
CONTOUR INTERVAL 10%

Map 1

MATTAGAMI LAKE MINES LIMITED

EXPLORATION DIVISION

RADEM "VLF-E.M." FIELD STRENGTH SURVEY

GROUP 33-34

STURGEON LAKE FOLLOW-UP
PATRICIA MINING DIVISION ONTARIO

J. Duncan Cann

200 0 200 400
SCALE OF FEET

250

2.128

48E 52E 56E 60E 64E 68E 72E 76E 80E 84E 88E 92E 96E 100E 104E 108E 112E 116E 120E

Jumping Lake

225539 225609 225610 225611 225612

225540 225613 225614 225615 225616

225541 225617 225618 225619 225620

33-8 33-1 33-1

Proposed DDH
16+50N, -45°,
300'.

Proposed DDH
14+50N, -45°, 500'.

Proposed DDH
6+50N, -45°, 400'

B.L. 0+00

B.L. 0+00

52J/02 SW-0042 # 7

ELECTROMAGNETIC SURVEY

INSTRUMENT–CRONE RADEM VLF-EM

FIELD STRENGTH MEASUREMENT OF
HORIZONTAL COMPONENT OF VLF FIELD
STATION · SEATTLE WASHINGTON 18·6 KHz
VLF CONDUCTOR
CONTOUR INTERVAL 10%

Map 2

MATTAGAMI LAKE MINES LIMITED

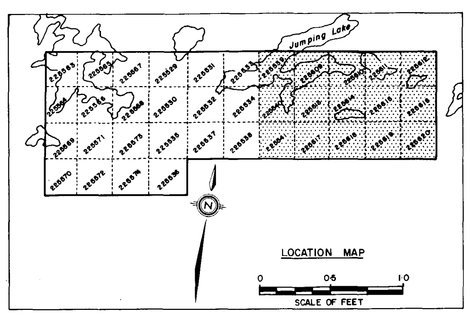
EXPLORATION DIVISION

RADEM "VLF-E.M" FIELD STRENGTH SURVEY

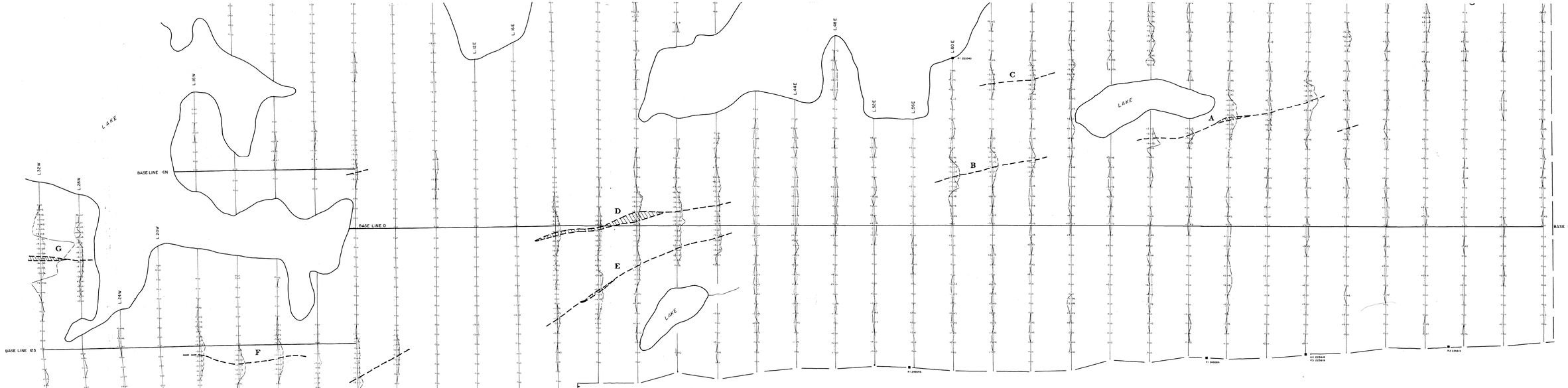
GROUP 33-34

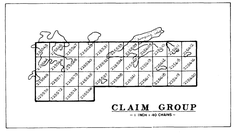
STURGEON LAKE FOLLOW-UP
PATRICIA MINING DIVISION-ONTARIO

200 0 200 400
SCALE OF FEET



2128





CLAIM GROUP

(1 MINI = 40 CLAIMS)

LEGEND

- MEASUREMENT STATIONS ALONG PICKET LINES
- ELECTROMAGNETIC READINGS - In Phase Component (%)
- ELECTROMAGNETIC READINGS - Out of Phase Component (%)
- PROFILE - In Phase Component (Scale 1" = 40 %)
- PROFILE - Out of Phase Component (Scale 1" = 10 %)
- COIL SEPARATION - 400 Feet
- INSTRUMENT - GEONICS EM-17
- ELECTRICAL CONDUCTOR

52J/02 SW-0042 #1

Group SL-33-34

HORIZONTAL LOOP

ELECTROMAGNETIC SURVEY

- for -

MATTAGAMI LAKE MINES LTD.

Jumping Lake - Sturgeon Lake Area, Ontario

SCALE 0 200 400 600 800 FEET

JULY 1970

PGL PROSPECTING GEOPHYSICS LTD.

52J/02 SW-0042 #1

52J/02 SW (77)