



41P15NE6348 2.2908 CAIRO

TECHNICAL REPORT

ON

The group of mining Claims known as the

"CAIRO GROUP"

for

R. SHEEDY

by SYLVA EXPLORATIONS LIMITED



TABLE OF CONTENTS - INTRODUCTION

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RECEIVED



Author - Robert Sheedy

MINING LANDS SECTION

1979

*Certified Correct*  
*R. Sheedy*

INTRODUCTION

In the Township of Cairo in the Larder Lake Mining Division in the District of Temiskimang an group of seventeen mining claims have been staked out by Robert Sheedy et al in a narrow band of volcanic rocks which extend Eastwards from the Forks of the Montreal River system and from the two known gold producers , the Matachewan Consolidated and the Young Davidson.

The Geology of the group is most favourable, lying of the south of a twenty five square mile syenite stock and intruded with dikes and cupolas which are genetically traceable to the parent stock. A zone of banded tuffs and intermediate flows offers very amenable geology for the deposition of precious/base metals. To add to the already favourable picture a East trending intrusive of diorite lies south of the banded tuffs . With the syenite intrusives to the north and the diorite mafic intrusives to the south the picture looks bright indeed when coupled with todays prevailing gold prices.....

Ans there in lies the rub.....

Since the spring of 1978 when the price of gold began its high climb the property has been under verbal option to no less than 3 major mining firms, who of course requested that no exploration be carried out until a firm price was fixed. Unfortunately the price of gold tends to fluctuate with the whims and ways of the world and these "firm" option agreements never materialized and rather strongly impeded the authours plans to explore the entire group at two hundred foot intervals.

When Kerr-Addison the last of the optioners failed to produce a contract the authour and company began an exploration program which was immediately interrupted by a offer from Newmont Explorations of Canada which dragged on for another 3 months.

Exploration finally proceeded anyway and 4 claims were selected because of the known favourable geology which was known to the authour. While time did not permit full coverage of the entire group as was planned the results were very outstanding and as a result another "definite" option arrangement has been made.

Many EM anomalies were turned up which led to more staking (and a further interuption of exploration). Just as the geology is a nightmare so too is the magnetic signature of the four claims covered. To date there is no way of telling the nature of the mineralization but suffice to say that the most prominent geophysical feature turned up aligns with government copper and nickel showings. ODM map #2110.

A - MAGNETIC SURVEY

Operator - G. L. Taman

Authoub - R. Sheedy

Sylva Explorations Limited

Instrument - McPhar M700

Accuracy +/- 20 gammas

Base station - 2150 gammas

Readability - 5 gammas

There was no diurnal drift throughout the dates covered by the survey.

During the course of the survey several interesting magnetic features were discovered. The most notable trends across the bottom of the claim group near the power line and correlates with the EM anomaly found there. Particularly in the pond does it have interest since it changes polarity from 12,500 gammas plus to minus 1200 gammas two hundred feet to the East. Clearly the magnetic anomaly which dips shallowly south at this point is magnetic and since the conductivity ratio of the Electromagnetic profiles favours that of a sulphide conductor pyrrhotite can be suspected rather than magnetite which was encountered further south in a drill hole from days gone by. (There is a second EM conductor south of the powerline forming with a QP susceptibly a Magnetite profile).

On Lines 6W, 4W, 2W and 00 at about 7N another prominent magnetic feature is present which is only weakly electromagnetically attracted. Immediately North of this feature a second feature shows up on two lines peaking at 8400 gammas.

In the same quadrant the central portion of the pond is persistently magnetic which coincides with the widening out of the major EM anomaly in this sector.

On what is termed L17 West and at 18 North another magnetic correlation with an EM anomaly is found. Although not crossing over the VLF field strength has a sharp increase. The horizontal Loop defines a weak but broad anomalous zone. This particular feature is believed to parallel the syenite volcanic contact in this area.

Further to the north, and roughly parallelling the shore of St. Paul Lake a very prominent magnetic feature exists which is interpreted to be magnetic mineralization which is indicated by a high EM shoulder on both the Radem Dip angle and the Horizontal Loop profile which clearly defines a shallowly dipping conductor which trends southward.

The full extent of the strike length of this feature could not be tested by thin ice which stems from the outflow of water at the creek which flows out of St. Paul Lake. However on the first line east past the thin ice zone a heavy negative magnetic depression was recorded which again is synonymous with a magnetic body switching polarity. This particular zone which lies at 2450' North on Line 00 is also electromagnetically conductive again showing a shallow strong southerly dip. The Radem crossed over on the North of the depression with the similar results from the MaxMin II even further to the North. This would agree with the former findings further to the West. A depression of 13,000 gammas was similarly recorded on L4W at 27N.

CONCLUSIONS - Beginning with a base station of 2150 gammas depressions of 13,000 gammas to 18000 gammas of a positive nature were recorded for a remarkably wide magnetic spread. Some of these may be responsible for the reported theory of a series of magnetic aureoles from the syenites to the north and therefore composed mainly of magnetite. Whereas this may very well be true in part, certainly the electromagnetic responses discussed elsewhere in this report would certainly discriminate against drawing this conclusion in full. Also bits of rock broken off in the vicinity of the extreme depression on L4w 27N contained pyrite and ~~pk~~ minor amounts of chalcopyrite. There was no trace of magnetite however the authour is very aware that the outcrop examined could not be considered completely representative of the zone in question since it is very apparent from the geophysics that if the zone outcrops ~~the~~ it would be in the Lake. Certainly however the magnetics show the main concentrations to be inland.

The main feature just north of the power line/baseline is very powerfully magnetic and could possibly vary in composition from a mixture of sulphides with magnetite to pure, almost EM uncondutive magnetite as the Westward limits of the zone is reached. However as the EM report to follow suggests a pure magnetite composition is unlikely in the southern area of the beaverpond. Either a large percentage of sulphides are present along with magnetite or ~~pxpyrohtite~~ is present or any combination thereof.

B - VLF - EM SURVEY

Operator - B. Ames

Author - R. Sheedy

Sylva Explorations Limited

Instrument - Crone Radem Station - Cutler, Faine 17.8KHz  
Parameters measured - IF ( Dip Angle ) , Out-of-phase, N and  
Horizontal Component of the Field strength.

Survey supervised by R. Sheedy - Drift checks were made every  
two hours and after every traverse near sundown.

Because of a major powerline which passes through the  
Southern boundary of the four claims surveyed the Radem was  
selected for its ability to work near powerline noise since it  
has a visual null. The other major reason for its choice was to  
locate structural features which would be favourable for mineral  
deposition. In practice it was found that unless a very strong  
conductor was near the powerline (which proved to be the case)  
the readings could not be relied upon until the traverse had  
proceeded at least four hundred feet from the powerline.  
As was anticipated from the geology many crossovers, many of a  
very strong nature, were found.

The strongest feature which lies around three to four hundred feet  
North of the power line/baseline is partially masked by the line  
noise but particularly on lines 10 and 8 West can the strong  
crossovers which were confirmed by the MaxMin ~~xxxx~~ be seen.  
A magnetic correlation with a crossover can be seen at 8N on L4W.  
Here a favourable increase in field strength lends credence to  
the belief that a sulphide deposit of an unknown nature is  
present. This zone when compared to the Horizontal Loop  
results can be traced with certainty Westward into the pond  
where it seems to become homogenous with the major conductor  
to the south since it does not appear to be present on L14 W  
with any strength. Curiously the field strength is higher along  
this strike than on that of the major conductor. While there  
seems to be an interrelationship between the two conductors  
there is nothing to support that the nature of the mineralization  
affecting the responses is homogenous but rather of a highly  
variable nature. It varies from being magnetic to practically  
non magnetic and has higher degrees of conductivity in one area

than in others where no crossovers of a particularly strong significance are present. However the zone can be clearly defined and this high variability while proposing some problems for spotting drill holes adds considerably to the prospect of mineralization of an economic nature being intersected.

Again correlating with the magnetic features of the property a major crossover with a very high shoulder is found roughly paralleling the South ~~shore~~ shore of St. Paul Lake in the same area of the magnetic peaks. This serves to confirm the shallow southerly dip of the zone which is actually surfacing in the Lake. One must use the Fraser method of filtering the field readings which are presented to see this since there is another more powerful crossover to the North in the Lake which is off the property. It was this Northerly crossover which persisted on every line which led to the eventual staking of more claims and some confirmatory Horizontal Loop.

CONCLUSIONS - Until the snow melts from the ground and sufficient outcrop can be mapped the nature of the anomalous zones will remain an enigma since the geology is known to be very complex by cursory prospecting which was carried out by the author prior to the staking of the claims in 1976.

The major zone to the south lies in tuffaceous rocks trapped between a granodiorite dike which is probably an Eastern extension of the cupola to the West and a band of mafic diorite intrusives to the south which comes near to the powerline.

Near the 1st tie line to the north and on the side of the Beaverpond there is a quartz vein of about 20' in width which carries a small percentage of Molybdenum and pyrite. Selected samples from here have assayed at .03 in gold. The anomalies lie further to the south.

It may be that the north side of the granodiorite dike is mineralized as well where it contacts with the andesites found there. Both zones are well covered with overburden and swamp and so have escaped past prospecting attempts.

C - ELECTROMAGNETIC - (Horizontal Loop)

Again because of the extremely noise encountered by the powerline it was essential to utilize an instrument which nullled visually or in the case of the MaxMin II selected, automatically. By traversing from North to south the progress of the survey was greatly impeded but even when using a 200' cable the receiver could be brought within 50' of the powerline and reliable readings taken without any great problem of establishing a time constant for reading the needles. Although an expensive instrument the MaxMin's performance clearly established itself in the difficult conditions.

Operator - RX - R. Sheedy  
TX - B. Ames

Author- R. Sheedy  
3555Hz presented

Sylva Explorations Limited  
\*\*\*\*\*

By far the most significant and powerful anomaly found by the MaxMin was from 250'N on Line 12N to N 5N on Line 00. The strongest reading was on Line 10N at 4N where the IP was 37% of the total field and the QP was 20% of the total field yielding a ratio for a extremely powerful sulphide conductor. The strike length of the anomaly seems to run in tuffaceous rocks which outcrop to the East of the pond. The geology is better described in the VLF report attached hereto.

The MaxMin also verified the second anomaly to the north of the southern major one. The possibility again seems to exist that the two conductors join somewhere between Lines 12 and "13". The shape of the conductor would probably be influenced more by the geological boundaries which are formed on the West side of the pond by more massive syenites which have been altered than by folding or other structure. It is probable that there is a tongue of tuffs bounded by the syenites on the West and the more mafic graniodiorite dike on the North which is clearly connected to the western complex. The second intrusion of the diorites to the south would also be perhaps a limiting factor although much detailed mapping would be required to determine the final formation of the conductor. This will be hampered by the Beaverpond.

It is worthy of mentioning that the two anomalies combined on L10W yield a very wide theoretical width.

At the North End of the Beaverpond and parralleling just south of the 2nd tie line North a much weaker but definite anomaly extends almost across the whole entire surveyed area. It is in this area somewhere the contact between the syenite intrusions and the andesites are forced. About five hundred feet north of the end of the pond and on the northern extension of L10W there is a copper showing which sits in the andesites. This would make the weak anomaly to the south look more interesting if the same type of mineralization were to be found as a product of contact metamorphism. There are several pits in this area and the government maps show gold showings although the authour never took any samples in the past since the emplacement of the pits did not look like the work of a entirely competent effort. None of these pits are in the direct vicinity of the EK features.

A third zone is the major anomaly which centres in the lake just off the South shore of St. Paul Lake. The high positive shoulders show a shallow dip to the south which is in agreement with the VLF and the Mag. Especially on L8W at 32N does a favourable sulphide ratio show up. The zone has a very favourable computed width when profiled.

Whether the EK system correlates directly with the magnetic profile or is on the shoulder of it is a matter which will require some diamond drilling to turn up the complete answer. One thing can be said for a certainty and that is that the anomaly makes ledge in the lake if it makes it at all and gives no clue as to its nature in the outcrops which are exposed even in the winter on the South shore of St. Paul Lake. On such an outcrop on L6W minor amounts of chalcopyrite in a matrix of pyrite were found but not in sufficient quantities to draw any definite conclusions.

Off the property and further to the North another anomaly is found where the aforementioned VLF crossover was discovered. This verification of the VLF by the Max in lead to the expanding of the property as more and more zones were found to the North.





TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Ground  
Township or Area CAIRO  
Claim Holder(s) Robert Sheedy, HENRY KINS  
Survey Company Sylva Exploration Limited  
Author of Report Robert Sheedy  
Address of Author 350 Georgina St. Matachewan  
Covering Dates of Survey Sept 1 - Feb 14<sup>th</sup> /79  
(linecutting to office)  
Total Miles of Line Cut 6.53

MINING CLAIMS TRAVERSED  
List numerically

|          |          |
|----------|----------|
| L        | 511475   |
| (prefix) | (number) |
| L        | 511474   |
| L        | 505146   |
| L        | 446427   |

SPECIAL PROVISIONS  
CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

Geophysical

- Electromagnetic

- Magnetometer

VLFEM - Other

Geological

Geochemical

DAYS per claim

40

20

20

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Feb 25/79 SIGNATURE: Robert Sheedy  
SYLVA EXPLORATIONS LIMITED  
350 Georgina Street  
Matachewan, Ontario  
(Author of Report or Agent) 705-585-2477

L.D.

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

Previous Surveys

| File No. | Type | Date | Claim Holder |
|----------|------|------|--------------|
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |

TOTAL CLAIMS 4

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS If more than one survey, specify data for each type of survey

Number of Stations 394 Number of Readings 1034
Station interval 100' Line spacing 200'
Profile scale
Contour interval

MAGNETIC

Instrument Magnetometer (McPhar M700)
Accuracy - Scale constant 7.05 - 20 gammas
Diurnal correction method base station
Base Station check-in interval (hours) 1 hr
Base Station location and value 10 10N 2150 gammas

ELECTROMAGNETIC

Instrument Horizontal loop in MaxMin II
Coil configuration MaxMin coupled horizontal loop
Coil separation 200'
Accuracy
Method: [ ] Fixed transmitter [ ] Shoot back [x] In line [ ] Parallel line
Frequency
Parameters measured inphase and outphase (specify V.L.F. station)

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument
Method [ ] Time Domain [ ] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_

(type, depth -- include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey VLF EM

Instrument Crowe - Radem VLF EM

Accuracy ± 0.1 degree

Parameters measured Dip angle, outphase, field strength

Additional information (for understanding results) Cutler Mine 17.8

AIRBORNE SURVEYS

Type of survey(s) \_\_\_\_\_

Instrument(s) \_\_\_\_\_  
(specify for each type of survey)

Accuracy \_\_\_\_\_  
(specify for each type of survey)

Aircraft used \_\_\_\_\_

Sensor altitude \_\_\_\_\_

Navigation and flight path recovery method \_\_\_\_\_

Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_

Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken \_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

ANALYTICAL METHODS

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others \_\_\_\_\_

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_

Alma Twp. - M.202

2.2908  
 THE TOWNSHIP OF  
**CAIRO**

DISTRICT OF  
**TIMISKAMING**

**LARDER LAKE**  
 MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

**LEGEND**

- PATENTED LAND (P)
- CROWN LAND SALE (C.S.)
- LEASES (L)
- LOCATED LAND (Loc.)
- LICENSE OF OCCUPATION (L.O.)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED (C)

**NOTES**

400' Surface Rights Reservation along the shores of all lakes and rivers

| AREAS WITHDRAWN FROM STAKING |           |              |                      |           |
|------------------------------|-----------|--------------|----------------------|-----------|
| S.R. - SURFACE RIGHTS        | Order No. | Date         | M.R. - MINING RIGHTS | File      |
| (7) VHF Tower cabin site     |           |              | S.R.                 | 15376 v 2 |
| (8) W. 26/78                 |           | May 31, 1978 | S.R.                 | 188 522   |

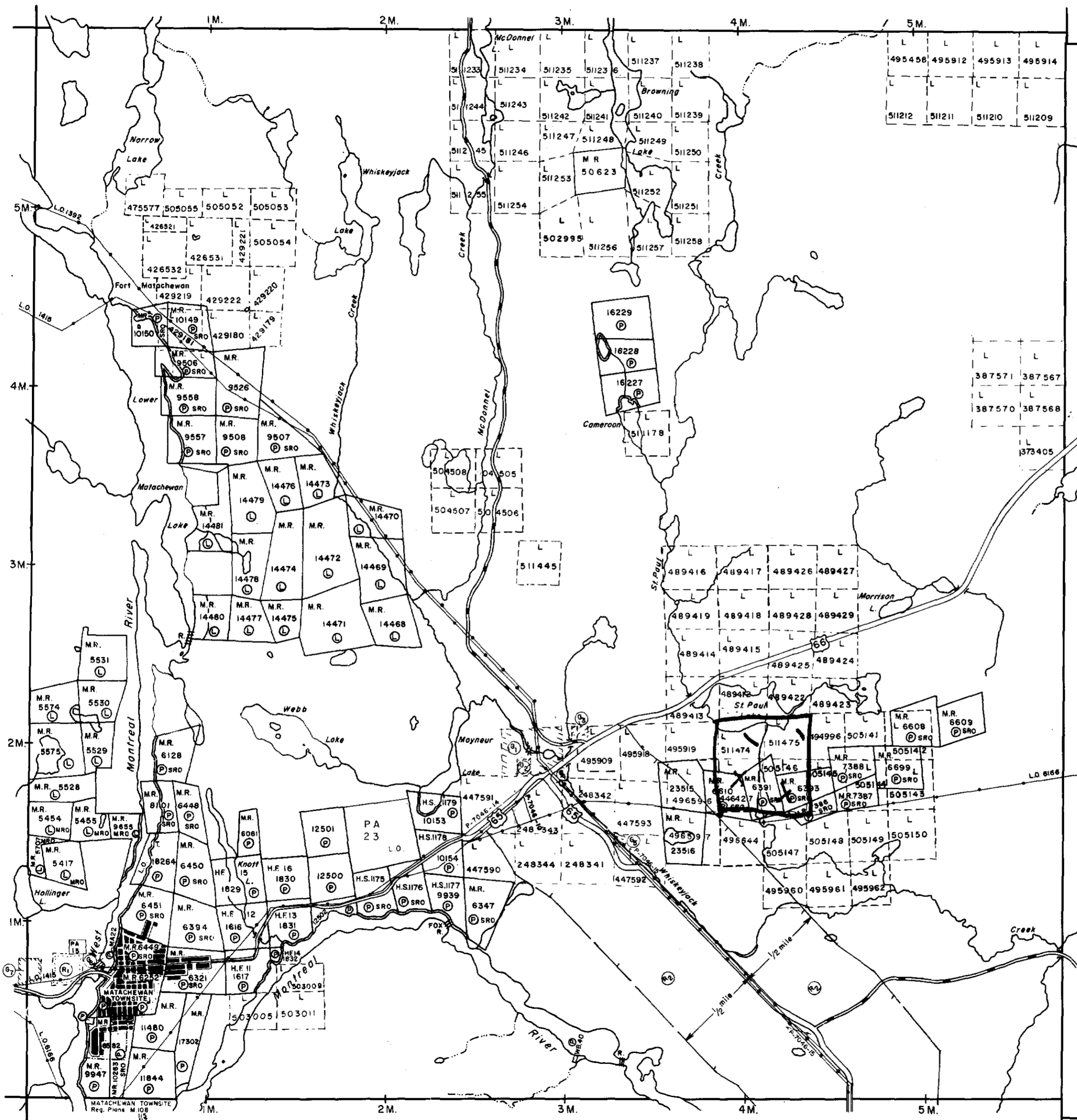
**SAND and GRAVEL**

- (1) M.T.C. Gravel Pit 206
- (2) M.T.C. Gravel Pit 1313
- (3) Gravel Pit 204, File 127307
- (4) M.T.C. Gravel Pit 3F-4, File 127307
- (5) Gravel File 127307
- (6) Gravel Pit 205
- (7) Gravel Pit

**DATE OF ISSUE**  
**FEB 23 1979**  
**SURVEYS AND MAPPING**  
**BRANCH**

Powell Twp. - M.241

Flavelle Twp. - M.220



Kimberley Twp. - M.226

PLAN NO. **M.210**  
 ONTARIO  
**MINISTRY OF NATURAL RESOURCES**  
 SURVEYS AND MAPPING BRANCH



41P1SNE8346 2.2908 CAIRO

CL 489408

CL 489405

CL 489406

CL 489407

REMOVED FROM STAKES

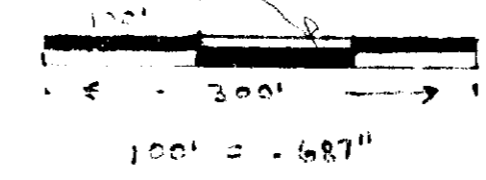
OPEN WATER

MISTINIKON LAKE  
DANGEROUS ICE

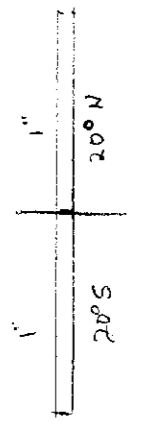
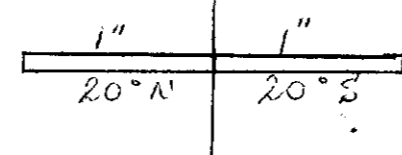
OP LEFT OF LINE  
IP TO RIGHT

CRONE RADEN VLF-EM  
DIP ANGLE MEASUREMENT  
IP TO RIGHT OF CONTROL LINES  
OR TO LEFT OF CONTROL LINES  
TRANSVERSE - CENTER LINE 128K 40

SYLVA EXPLORATIONS LIMITED  
"THE BRIDGE GROUP"  
for  
KEMET



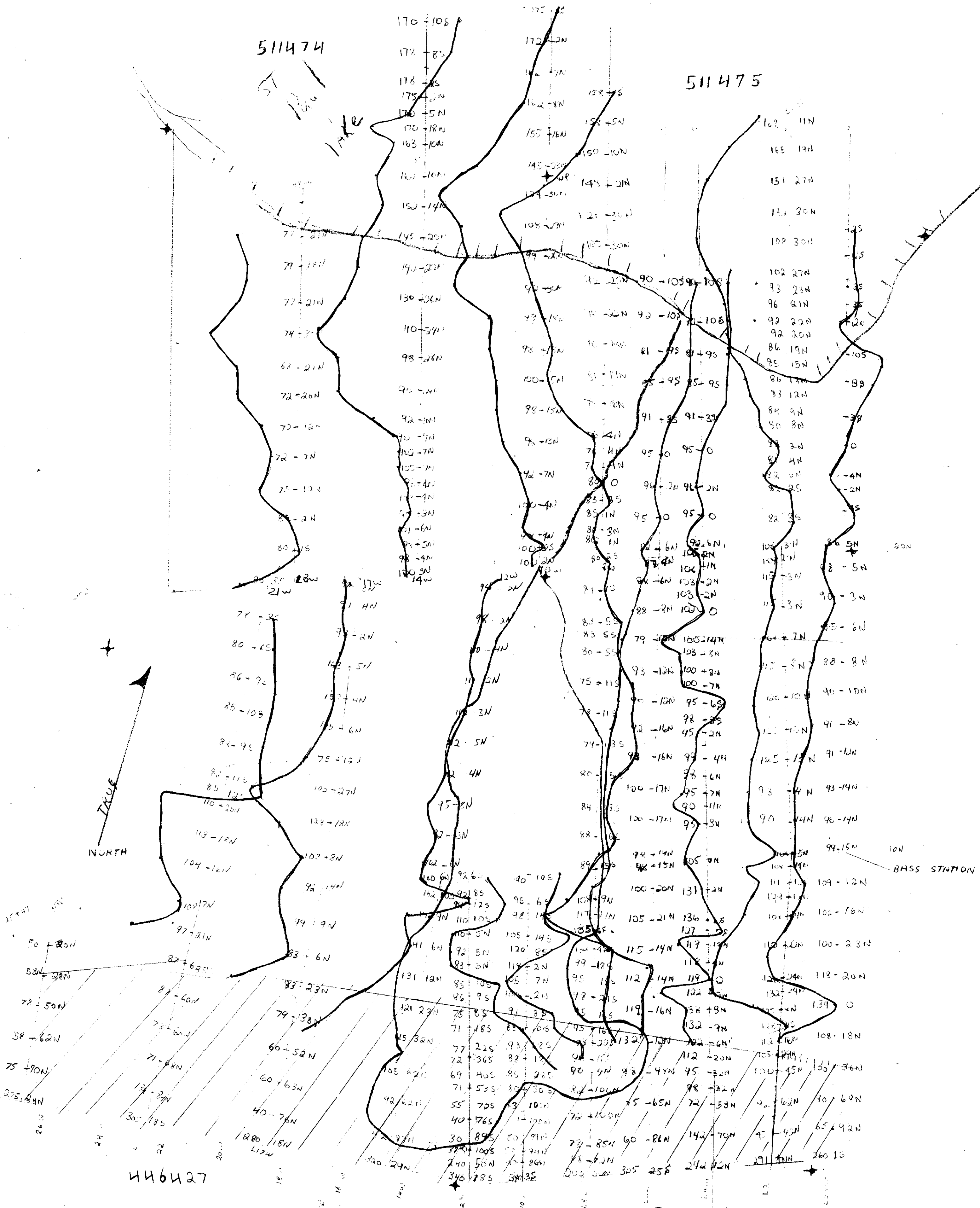
OPERATOR - B. AMES  
CHECKER - R. SHEEDY  
DIP ANGLE SCALE



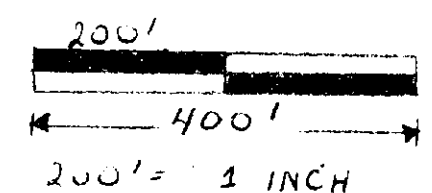
220

Certified Correct,  
R. Sheedy  
President  
Sylva Ex

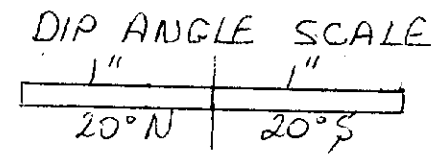
2 28 99



SYLVA EXPLORATIONS LIMITED  
 100 S. Main Street  
 Montpelier, Vermont, U.S.A.  
 802-248-1111



HE.P.C. INTERFERENCE



CRONE RADEM VLF EM  
 DIP ANGLE MEASUREMENT TO RIGHT OF LINE  
 FIELD STRENGTH TO LEFT OF LINE  
 TRANSMITTER - CUTLER, MAINE 17.8 KHZ  
 BASE STATION - 100%

"THE CAIRO GROUP"  
 FOR  
 R. SNEEDY  
 BY  
 SYLVA EXPLORATIONS LIMITED  
 OPERATOR - BAMES  
 AUTHOR + SUPERVISOR - R. SNEEDY



CL489408

CL489405

CL489406

CL489407

REMOVED FROM STAKINGS

OPENWATER

DANGEROUS ICE

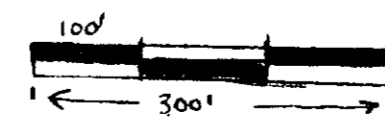
STEEP CLIFF

OPENW20

ELECTROMAGNETIC SURVEY  
SYLVA EXPLORATIONS LIMITED  
"THE BRIDGE GROUP"  
for  
B.F. AMES

APEX PARAMETRICS MAXMINII  
3555HZ 200' COIL SPACINGS  
QP PRESENTED TO LEFT OF CONTROL LINES  
IP PRESENTED TO RIGHT OF CONTROL LINES  
444 HZ AVAILABLE BY REQUEST

OP ---  
IP ---



TRUE NORTH

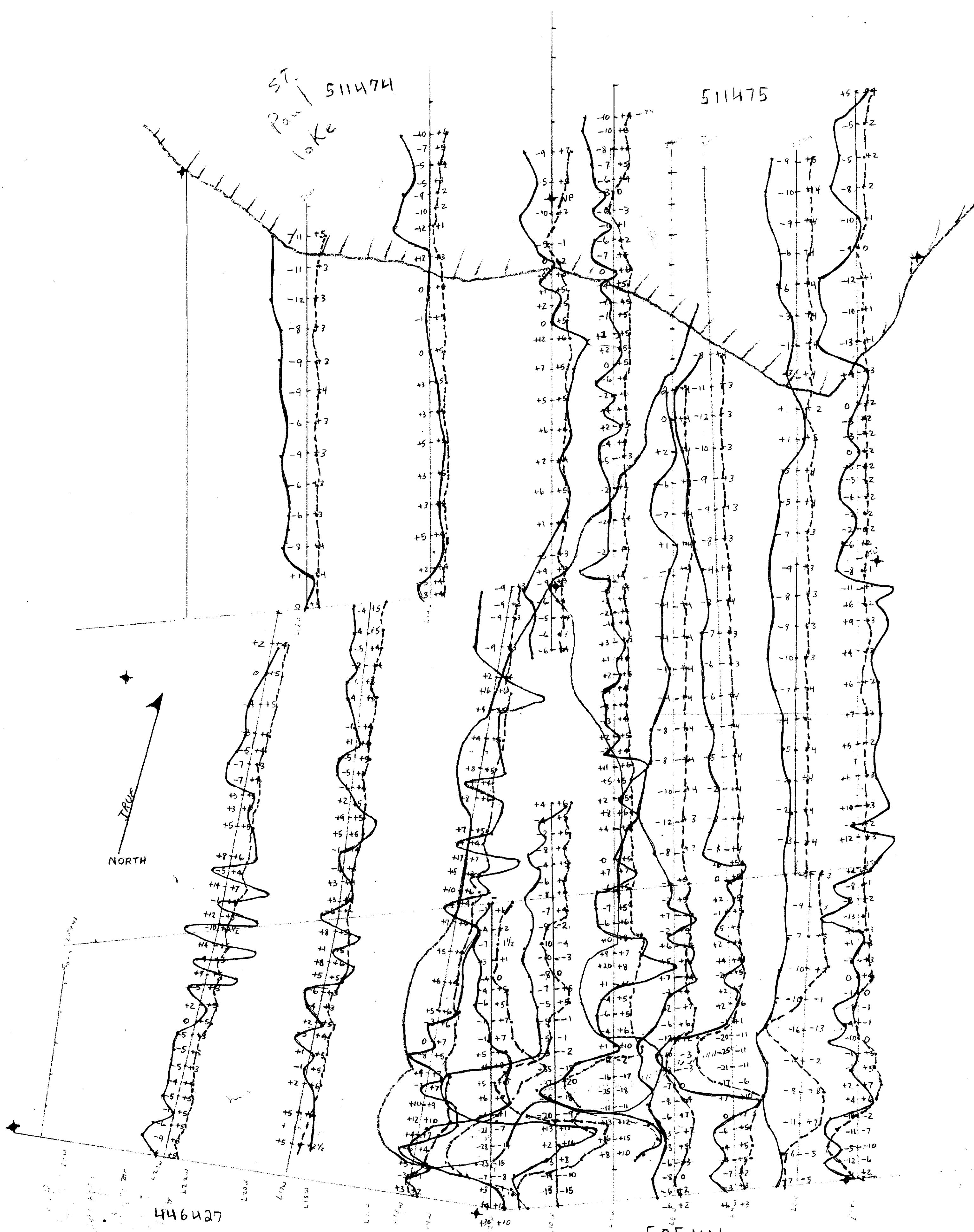


240

Controlled Connect.  
R. Sheedy  
President  
Sylva

2 2899





SYLVA EXPLORATIONS LIMITED  
 355 Esplanade Street  
 Metachewon, Ontario / FOX 1A0  
 1-203-565-2377

*Carl Sid*  
*R. Sheedy*

IP ———  
 OP - - - -

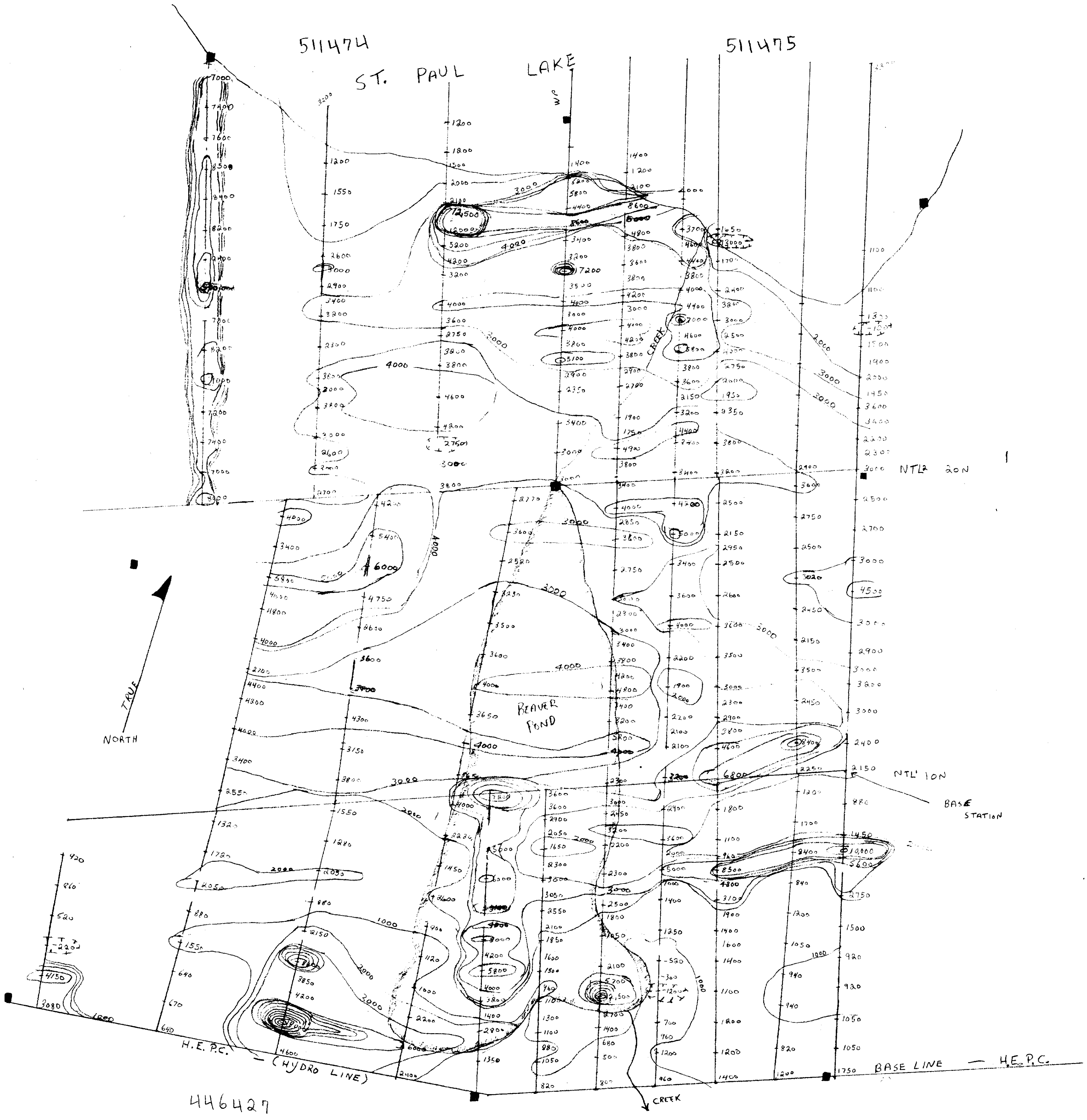
200' = 1 INCH

OPERATORS  
 RX ROBERT SHEEDY  
 TX B. AMES  
 AUTHOUR: RSHEEDY

ELECTROMAGNETIC SURVEY  
 APEX PARAMETRICS MAXIMUM 11  
 IP TO LEFT OF CONTROL LINE  
 OP TO RIGHT OF CONTROL LINE

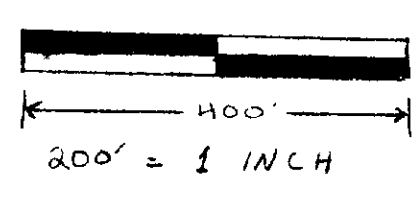
"THE CAIRO GROUP"  
 FOR  
 ROBERT SHEEDY  
 BY  
 SYLVA EXPLORATIONS LIMITED





*Certified*  
*R. Sheedy*

CONTOUR INTERVAL - 1000 GAMMAS



MAGNETIC DEPRESSION  
 E T T T

READINGS ARE RELATIVE TO BASE STATION

|   |
|---|
| MAGNETIC SURVEY<br>FOR<br>ROBERT SHEEDY<br>BY<br>SYLVA EXPLORATIONS |
| BASE SETTING - 2150 GAMMAS  |
| INSTRUMENT - McPHAR M700<br>MAGNETOMETER                            |
| OPERATOR : G TAMAN  |
| AUTHOR : R SHEEDY   |

