



42A03NE0033 2.4763 CLEAVER

010

RECEIVED

MAY 14 1982

MINING LANDS SECTION

Report of Magnetic and Electromagnetic Survey
on the Cleaver Property,
(Little Night Hawk Lake), Cleaver Township
District of Timiskaming

May 7, 1982
Timmins, Ontario

D.R. Pyke, Ph.D.



42A03NE0033 2.4763 CLEAVER

010C

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Figure 1 - Summary of geophysical data

Location

The property is located in the northwest portion of Cleaver Township, District of Timiskaming, Larder Lake Mining Division. The property includes the following claims:

L 568772	L 568775
L 568773	L 568776
L 568774	L 568777

Access

An all weather logging road, extending from major roads in the Timmins area, traverses the west side of Fallon Township and extends east across Cleaver Township immediately north of Little Night Hawk Lake. The claim group is readily reached via trail extending south from the road along the west shore of Little Night Hawk Lake, or via canoe to the south end of the lake. Little Night Hawk Lake is also readily accessible via fixed wing aircraft from Timmins, located 25 miles northwest of the property.

Previous Work

There has been little formal mapping in the area, other than a sketch map by Hopkins (1924) and a reconnaissance by Pyke (1978).

A portion of these claims were originally held by D. O'Connor in the 1920's, and mineralization was described

as occurring in an altered iron formation containing pyrite, limonite, arsenopyrite, galena, sphalerite, chalcopyrite, cobalt bloom, quartz and calcite (Hopkins, 1924).

The earliest recorded assessment work on the property is that of Paymaster Consolidated Mines Limited in 1956 (File 63A-319)*. Paymaster mentions three showings on the property.

1. Côté Showing. Mineralization consists of silver, lead and zinc occurring in a vein 75 feet long and 18.5 inches wide. Surface samples from the vein averaged 16.1% lead, 8.7% zinc and 1.94 ounces silver. Drill samples over a similar width averaged 2.73% lead, 8.7% zinc and 0.395 ounces silver. Eleven diamond drill holes, totalling 1057 feet, tested the vein to a vertical depth of 60 feet. Two of the deeper holes did not encounter the vein, and it was inferred that it does not extend to depth.

2. Moody Lee Showing. In 1950, this showing was reportedly mapped and sampled by Hollinger Mines Limited; the highest assays obtained were 0.06 ounces gold, 1.27% lead and 3.44 percent zinc. There had previously been an assay reported of 0.8 ounces of gold per ton, which could not be duplicated by Hollinger.

3. Pyrrhotite Showing. This would correspond to the original O'Connor showing. No ore values were detected by Paymaster, and the mineralization is described as disseminations and stringers of pyrrhotite in a ten foot wide band of acidic lava.

* Ontario Division of Mines, Assessment Office, Toronto, Ontario

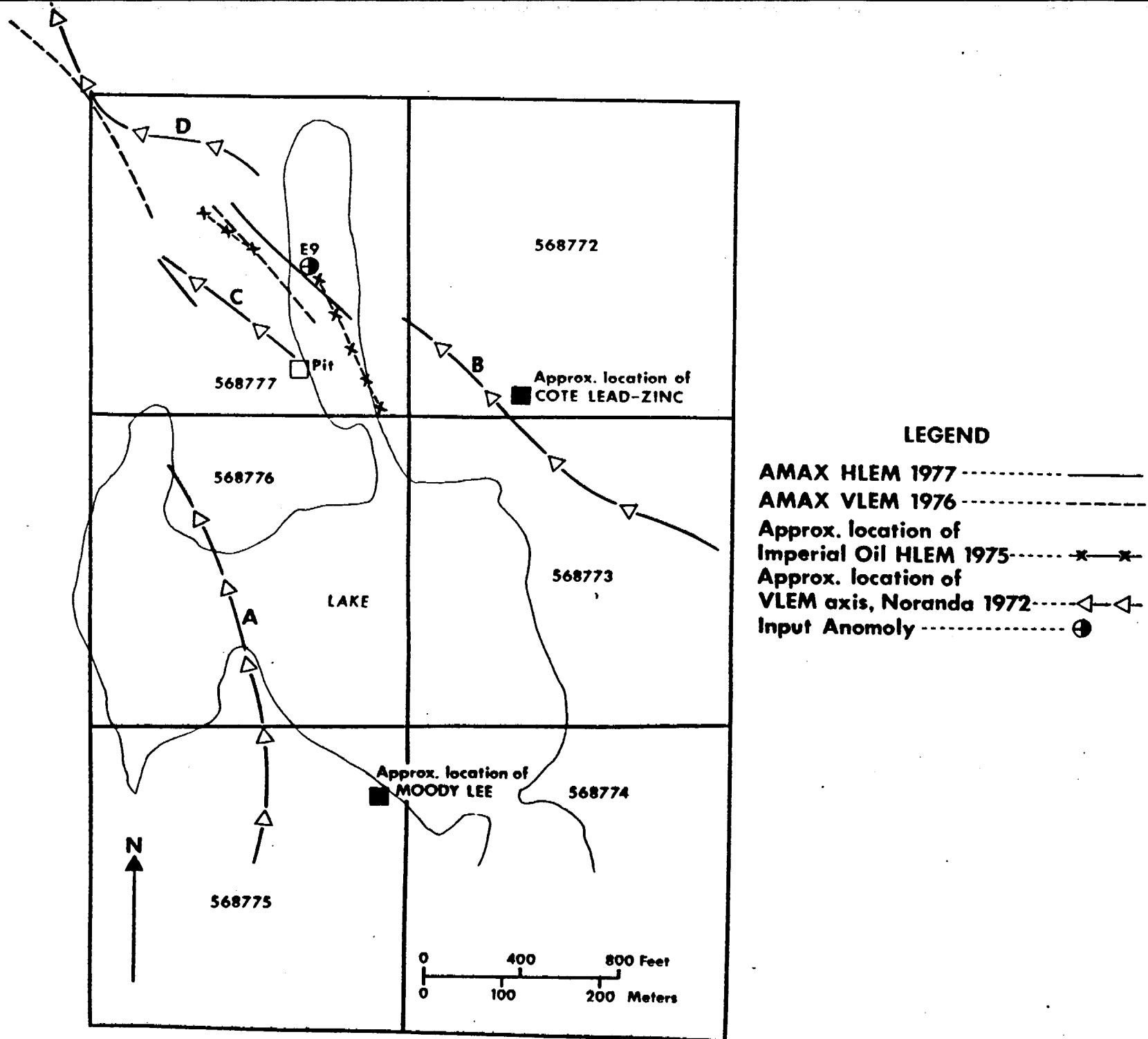


Figure - Sketch map showing geophysical data for Cleaver property.

Paymaster conducted an electromagnetic (VLEM) and magnetic survey over the property and located a number of moderate to weak conductors, none of which were tested by drilling.

In 1972, Noranda Exploration Company Limited conducted an electromagnetic (SS15 VLEM) and magnetic (M-700 fluxgate) survey over the property, and detected five weak to moderate conductive zones that trend north to northwest (File 2-960)*. No follow-up drilling was undertaken.

In 1975, Imperial Oil Limited conducted electromagnetic (SF-600) and magnetic surveys on two claims largely within the northern half of the property. One relatively weak conductor was outlined (File 2-2075)*.

In 1975-1976, Amax Exploration did exploration work on two claims adjoining the north side of the Imperial Oil claims and straddling the northern boundary of the present property. The claims were staked to acquire an airborne imput anomaly detected by an Ontario government survey (ODM, 1975). Electromagnetic (VLEM and HLEM) and magnetic surveys were carried out, and two weak conductors were detected. Subsequent trenching showed the anomaly to result from stringers of pyrrhotite and pyrite in tuffaceous sediments (Files 2-2345, 2-2586, 2-2065)*.

General Geology

The property is within volcanic rocks near the eastern margin of a granodiorite stock that underlies much of

* Ontario Division of Mines, Assessment Office, Toronto, Ontario

Geikie Township immediately to the west. Ultramafic volcanic rocks are intermittently draped around the stock (Pyke, 1978), and older calc-alkaline volcanics are locally domed up at the periphery of the stock. Cobalt Group sediments form a high ridge to the east of the property and fill a north trending fault zone of regional extent.

Property Geology

The property appears to be underlain by dacitic to andesitic volcanic rocks of calc-alkaline affinity (Pyke, 1978). Pillowed and amygdaloidal flows with associated pillow breccias predominate. Paymaster (File 63A-319)* reports that pyroclastic rocks are not uncommon. Magnetic data (GSC, 1970) suggests that a north trending fault crosses the western half of the property.

Magnetic Survey

The magnetic survey was conducted during the period February 26 - February 28, 1982. The survey is approximately tied into the government station M-71-56 at the Kenilworth Mine, having a value of 59875 gammas. A base station on the property at 425N - 075W was used for diurnal control during the survey.

Magnetic readings were taken with a Geometrics portable proton magnetometer model G-816. The instrument measures the total magnetic field directly in gammas (see enclosed specifications). Readings were taken every 50 feet along cut lines spaced at 200 foot intervals; a total of 1043 readings were

*Ontario Division of Mines, Assessment Office, Toronto, Ontario

taken. Background magnetics are in the order of 700 to 800 gammas.

Results and Conclusions

The magnetic survey outlined a number of zones of anomalous readings. The most prominent is a linear magnetic high near the east boundary of the property, which probably reflects the presence of a northerly trending diabase dike. A westerly trending magnetic high extends from the presumed diabase, and is interpreted as an offshoot of such. However, this west trending magnetic high terminates at the base line where a northwest trending magnetic high extends between 10N and 4N. This latter magnetic high would correspond to one of the pyrrhotite-rich zones previously exposed in trenches by Amax Exploration.

The magnetic high extending northwest across claim L 568777 corresponds to the same magnetic zone delineated by Amax, and subsequently shown by trenching to be caused by pyrrhotite-rich metasediments. Although obscured by the west trending "diabase dike", the magnetics suggest that the pyrrhotite zone extends across the southwest corner of claim L 568772 to line 0+00 at approximately 700 to 950E. There is a suggestion that this magnetic high, and corresponding pyrrhotite-rich zone extends to the south boundary of the claim group on line 18S-750E.

The Côte lead-zinc showing was not located at the time of the survey because of the snow cover. However, the magnetics suggest that the Côte showing may form an extension of the same pyrrhotite-rich metasediments exposed by Amax.

This is best resolved by a field examination once the snow is gone.

Electromagnetic Survey

The electromagnetic survey was conducted during the period February 26 to February 28, 1982. The instrument used was a Scopas VLF electromagnetic unit, model SE-80, manufactured by Scintrex. Specifications of the unit are attached. The transmitter station used for the present survey was Cutler, Maine, which uses a frequency of 17.8 kHz, with a radiated power of 1000 kW.

Electromagnetic readings were taken at 50 foot intervals along cut lines spaced at 200 foot intervals, for a total of 1043 readings.

The VLF data is presented in contoured form, following the method outlined by Fraser (1969). The Fraser filter value enhances the in-phase cross-overs recorded from the normal dip angle measurements and allows the data to be contoured (ie. it is a method of changing from profile data to contour data).

Results and Conclusions

At least four (A to D) reasonably well defined electromagnetic (VLF) conductors are present on the property.

Conductor A - The most prominent conductor, and has a coincident magnetic high. This would correspond to the pyrrhotite-rich metasediments exposed by the previous trenching of Amax. Whether the Côte' showing is the southeast extension of the same anomaly would be best

determined by a field check of the geology.

Conductors B, C, D - None of these conductors have a corresponding magnetic expression, and are most readily interpreted as being caused by conductive clay in lake bottom and overburden sediments. Preliminary data on a horizontal loop EM survey on the property would tend to support the interpretation that conductors B, C, and D are not of a bedrock source.

Recommendations

Geological mapping of the property to aid in verification of the magnetic and electromagnetic anomalies detected in this survey. Further work dependent on the geological mapping.

References

Fraser, D.R.

- 1969: Contouring of VLF-EM Data; Geophysics,
Vol. 34, No. 6, p. 958-967

O.D.M. - G.S.C.

- 1970: Peterlong Lake Sheet, Sudbury and Timiskaming Districts,
Ontario; Ont. Dept. Mines - Can. Geol. Survey,
Aeromagnetic Series Map 291G(Rev), scale 1 inch to
 $\frac{1}{2}$ mile.

Hopkins, P. E.

- 1924: Notes on gold in McNeil and other Township;
Ontario Dept. Mines, V. 33, pt. 3, P. 37-40.
Accompanied by sketch map, scale 1 inch to 2 miles.

O.D.M. - G.S.C.

- 1975: Airborne Electromagnetic and Total Intensity Magnetic
Survey, Cleaver Township, District of Timiskaming;
by Questor Surveys Limited, for the Ont. Div, of
Mines, Map P.1014, scale 1 inch to 1 mile. Flown
in 1974.

Pyke, D. R.

- 1978: Geology of the Peterlong Lake area, Districts of
Timiskaming and Sudbury; Ontario Geol. Survey, Report
171. Accompanied by Map P. 2345, scale 1:50,000

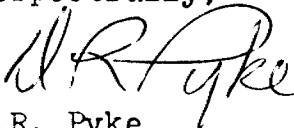
Certificate

I, D.R. Pyke, submit this document to certify that the following statements are, to the best of my knowledge, true and correct.

1. That I supervised the geophysical surveys conducted on the Little Night Hawk Lake, Cleaver Township Property, conducted on February 26 - February 28, 1982.
2. That I am the author of the corresponding assessment report entitled "Report of Magnetic and Electromagnetic Survey on the Cleaver Property, (Little Night Hawk Lake) Cleaver Township, District of Timiskaming".
3. That I have received the following university degrees in geology:

B.Sc.	University of Saskatchewan	1959
M.Sc.	University of Saskatchewan	1961
Ph.D.	McGill University, Quebec	1967
4. That I have been working as a geologist in the general Timmins area for 15 years, and I am familiar with the geology of the area under consideration.

Respectfully,


D.R. Pyke

geoMetrics



Instrument Division

PORTABLE PROTON MAGNETOMETER MODEL G-816 *826*

Data Sheet
August 1974



- ★ 1 gamma sensitivity and repeatability
- ★ Very small size and weight: less than 12 lbs complete with batteries and sensor
- ★ Over 10,000 readings per set of alkaline "D" cell (flashlight) batteries
- ★ Provision to attach sensor to carrying harness for use without staff
- ★ Pushbutton operation—numeric display directly in gammas
- ★ Total field measurements— independent of orientation—no calibration—no leveling

The Model G-816 is a complete portable magnetometer for all man-carry field applications. As an accurate yet simple to operate instrument, it features an outstanding combination of one gamma sensitivity and repeatability, compact size and weight, operation on standard universally available flashlight batteries, ruggedized packaging and very low price.

The G-816 magnetometer allows precise mapping of very small or large amplitude anomalies for ground geophysical surveys, or for detail follow-up to aeromagnetic reconnaissance surveys. It is a rugged, light-weight, and versatile instrument, equally well suited for field studies in geophysics, research programs or other magnetic mapping application where low cost, dependable operation and accurate measurements are required.

For marine, airborne or ground recording systems consider GeoMetrics Models G-801, G-803, and G-826.



"Hands-free" Back Pack Sensor

Based upon the principle of nuclear precession (proton) the G-816 offers absolute drift-free measurements of the total field directly in gammas. (The proton precession method is the officially recognized standard for measurement of the earth's magnetic field.) Operation is worldwide with one gamma sensitivity and repeatability maintained throughout the range. There is no temperature drift, no set-up or leveling required, and no adjustment for orientation, field polarity, or arbitrary reference levels. Operation is very simple with no prior training required. Only 6 seconds are required to obtain a measurement which is always correct to one gamma, regardless of operator experience. Only the Proton Magnetometer offers such repeatability—an important consideration even for 10 gamma survey resolution.



Complete Field Portable System

The Model G-816 comes complete, ready for portable field operation and consists of:

1. Electronics console with internally mounted and easily replaced "D" cell battery pack.
2. Proton sensor and signal cable for attachment to carrying harness or staff.
3. Adjustable carrying harness.
4. 8 foot collapsible aluminum staff.
5. Instruction manual, complete set of spare batteries, applications manual, and rugged field suitcase.

Price and lease rates on the G-816 magnetometer are available upon request.

SPECIFICATIONS

- Sensitivity:** ±1 gamma throughout range
- Range:** 20,000 to 90,000 gammas (worldwide)
- Tuning:** Multi-position switch with signal amplitude indicator light on display
- Gradient Tolerance:** Exceeds 300 ~~gammas/ft~~ (increased gradient tolerance to 800 gammas/ft upper limit)
- Sampling Rate:** Manual push-button, one reading each 6 seconds
- Output:** 5 digit numeric display with readout directly in gammas
- Power Requirements:** Twelve self-contained 1.5 volt "D" cell, universally available flashlight-type batteries. Charge state or replacement signified by flashing indicator light on display.

Battery Type	Number of Readings over
Alkaline	10,000
Premium Carbon Zinc	4,000
Standard Flashlight	1,500

NOTE: Battery life decreases with low temperature operation.

- Temperature Range:** Console and sensor: -40° to +85°C
 Battery Pack: 0° to +50°C (limited use to -15°C; lower temperature battery belt operation—optional)
- Accuracy (Total Field):** ±1 gamma through 0° to +50°C temperature range

Sensor: High signal, noise cancelling, interchangeably mounted on separate staff or attached to carrying harness

- Size:** Console: 3.5 x 7 x 10.5 inches (9 x 18 x 27 cm)
 Sensor: 4.5 x 6 inches (11 x 15 cm)
 Staff: 1 inch diameter x 8 ft length (3 cm x 2.44 m)

	Lbs.	Kgs.
Console (w/batteries):	5.5	2.4
Sensor & signal cable:	4	1.8
Aluminum staff:	2	0.9
Total:	11.5	5.1

All magnetometers and parts are covered by a one year warranty beginning with the date of receipt but not to exceed fifteen months from the shipping date.

geoMetrics

395 JAVA DRIVE
 SUNNYVALE, CA. 94088 U.S.A.
 (408) 734-4818
 CABLE: "GEOMETRICS" SUNNYVALE
 TELEX NO: 357-436

GEOMETRICS INTERNATIONAL CORP
 80 ALFRED ST., MILSON'S POINT
 SYDNEY NSW 2061 PHONE: 829-8842

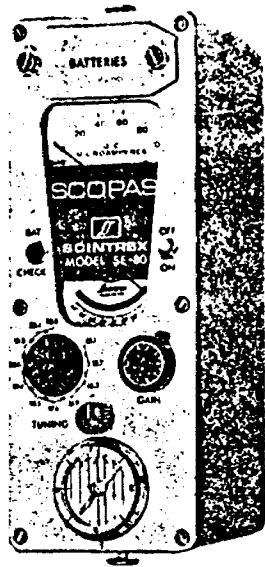
Exploranium

DIVISION OF GEOMETRICS SERVICES CANADA LTD

436 LIMESTONE CRESCENT,
 DOWNSVIEW (TORONTO),
 ONTARIO, CANADA
 TELEPHONE: (416) 861-1866
 TELEX NO: 08-22884

WORLD-WIDE

AGENTS: EUROPE • SCANDINAVIA • AUSTRALIA • UNITED KINGDOM • JAPAN • SO. AFRICA • SO. AMERICA



SE-81 SCOPAS II same overall specifications as SE-80 but with newly revised electronics for increased useable gain for remote stations.



SCINTREX

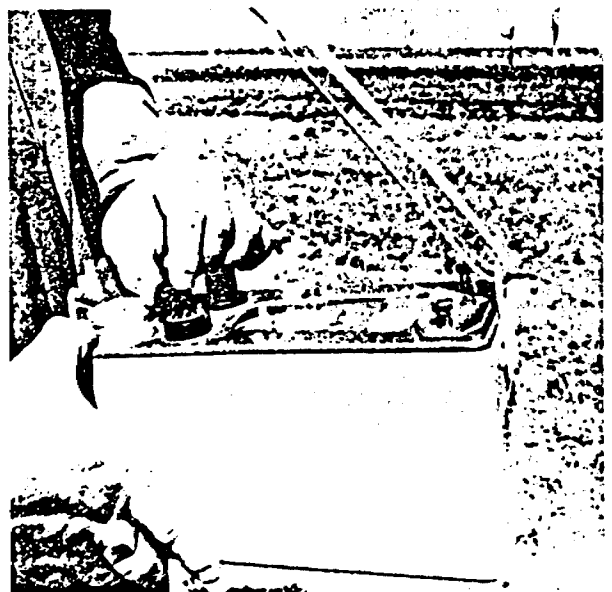
SCOPAS

VLF
ELECTROMAGNETIC
UNIT MODEL SE-80

The SCOPAS* VLF System employs V.L.F. Radio Stations in the 15 to 25 kHz Range as primary field sources. The undisturbed field from these remote sources is essentially horizontal and of relatively constant strength. When conductors are present, the geometry and amplitude of the field are locally distorted and polarization of the field may occur.

With the versatile SCOPAS* unit, all amplitudes and geometric parameters as well as the characteristics of the polarization ellipse can be measured. For fast reconnaissance surveys dip-angle and field directions can be rapidly determined. For detailed surveys, ampli-

tude relations and the elliptical polarization in the horizontal and vertical planes can be determined as well. Thus, the operator can select the parameters most useful for his search problem.



*Can. Pat. 578765

**SPECIFICATIONS OF SCOPAS
VLF ELECTROMAGNETIC
UNIT MODEL SE-80**

Primary Field: From any selected VLF transmitting station in frequency range between 15.4 kHz to 25 kHz.

Station Selection: By means of an eight step switch and variable control covering full range.

Measured Values:

- a) The azimuth of horizontal field.
- b) The dip of the axis of the coil at the minimum field, measured from the vertical.
- c) The amplitude of the horizontal field strength in any direction.
- d) The amplitude of the vertical field strength.

The phase angle between the maximum horizontal and vertical field can be calculated from measured values.

Normal Reading Accuracy: Amplitude $\pm 2\%$.
Azimuth $\pm 2^\circ$.
Dip $\pm 1^\circ$. — Dependent on signal strength.

Batteries: Two 9 volt dry cells.

Dimensions: 9.66" x 3.68" x 5.80"
24.5 cm x 9.4 cm x 14.7 cm

Weight: 3 lbs. (1.35 kg)

Accessories: Carrying strap.



SCINTREX LIMITED

222 Snidercroft Road • Concord, Ontario, Canada

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1043 Number of Readings 1043
Station interval 50 feet Line spacing 200 feet
Profile scale _____
Contour interval 100 and 300 gamma

MAGNETIC

Instrument Geometrics proton magnetometer, model G-816
Accuracy - Scale constant 1 gamma
Diurnal correction method Base stn established on grid
Base Station check-in interval (hours) 1 hour
Base Station location and value BASE stn on property approximately tied to government stn M-71-56 - 45 minute interval between Kentworth & property.

ELECTROMAGNETIC

Instrument SCOPAS VLF MODEL SE-80
Coil configuration (uses a single coil phase)
Coil separation _____
Accuracy Amplitude $\pm 2\%$ Azimuth $\pm 2^\circ$ Dip $\pm 1^\circ$
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 17.8 kHz ; Cutler MAINE
(specify V.L.F. station)
Parameters measured Vertical component of the secondary fields

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 _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

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 _____



Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

The Mining Act

#141

2.4763

Type of Survey(s) *(file 2568772)* **GEOPHYSICAL** 115376 Township or Area **CLEAVER** 24/3/11E
 Claim Holder(s) **D.R. Pyke** **2.4763** Prospector's Licence No. **K19126**
 Address **157 BURBANK DR. WILLOWDALE ONT M2K 1N9**
 Survey Company **WOLLEX EXPLORATION** Date of Survey (from & to) **26 02 82** Total Miles of line Cut **11.36**
 Name and Address of Author (of Geo-Technical report) **D.R. PYKE 157 BURBANK DR. WILLOWDALE, ONT M2K 1N9**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	40
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	568772				
	568773				
	568774				
	568775				
	568776				
	568777				

RECEIVED
 MAY 19 1982
 MINING LANDS SECTION

LARDER LAKE
 MINING DIV.
RECEIVED
 MAY - 3 1982
 AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **6**

For Office Use Only

Total Days Cr. Recorded **360** Date Recorded **MAY 3 - 1982** Mining Record

Date Approved at Recorder **83:05:13** Branch Office

Date **April 28/82** Recorder/Holder or Agent (Signature) *D.R. Pyke*

Certification Verifying Report of Work
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying **D.R. PYKE 157 BURBANK DR. WILLOWDALE ONT**

Date Certified **April 28/82** Certified by (Signature) *D.R. Pyke*



Mining Lands Comments

To: Geophysics

Mr. Barber

Comments

Approved

Wish to see again with corrections

Date

May 5/83

Signature

To: Geology - Expenditures

Comments

Approved

Wish to see again with corrections

Date

Signature

To: Geochemistry

Comments

Approved

Wish to see again with corrections

Date

Signature

To: Mining Lands Section, Room 6462, Whitney Block.

(Tel: 5-1380)

D.R. Pyke and Associates Inc.

157 Burbank Drive
Willowdale, Ontario
M2K 1N9
Telephone (416) 221-6210
781-2825

31 DELAIR CRES
THORNHILL ONT.
L3T 2M3

MARCH 1, 1983

E. F. ANDERSON
DIRECTOR
LAND MANAGEMENT BRANCH
ROOM 6450
WHITNEY BLOCK
QUEENS PARK
TORONTO M7A 1W3

RECEIVED
MAR 3 1983
MINING LANDS SECTION

RE: Geophysical Survey on Claims L568772
et al in Cleaver TOWNSHIP. FILE 2.4763

Enclosed are the VLF plans with the
required readings plotted, as per your
request of February 14, 1983

Sincerely
D.R. Pyke.

1983 02 14

2.4763

D.R. Pyke
31 Delair Crescent
Thornhill, Ontario
L3T 2M3

Dear Sir:

RE: Geophysical (Electromagnetic & Magnetometer) Survey
submitted on Mining Claims L 568772 et al in the
Township of Cleaver.

Enclosed is the V.L.F. plan, in duplicate, for the above
mentioned survey. In order to complete your submission we
require the raw reading to be plotted.

For further information, please contact Mr. F.W. Matthews at
416/965-1380.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
416/965-1380

Diane Wice:sc

Encls:

cc: Mining Recorder
Kirkland Lake, Ontario



Mining Lands Comments

VLF map needs raw data

To: Geophysics *Mr. Barlow.*

Comments

- VLF map needs raw readings plotted

Approved Wish to see again with corrections Date *Jan 7/82* Signature *Roger Barlow*

To: Geology - Expenditures

Comments

Approved Wish to see again with corrections Date Signature

To: Geochemistry

Comments

LD

Approved Wish to see again with corrections Date Signature

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1982 05 19

2.4763

Mining Recorder's Office
Ministry of Natural Resources
4 Government Road East
P.O. Box 984
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims L 568772 et al in the Township of Cleaver.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

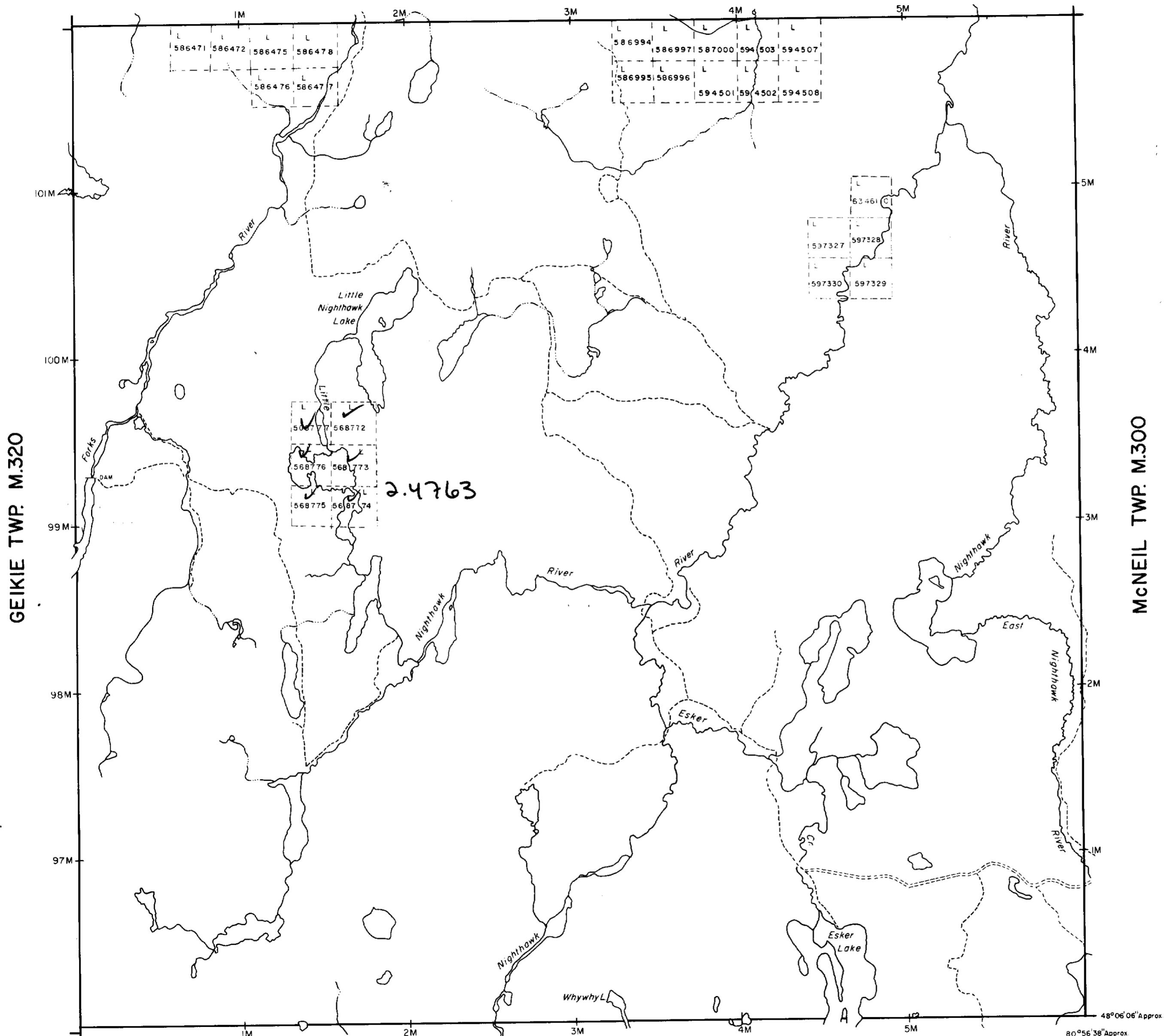
J. Skura/amc

cc: Wollex Exploration
Willowdale, Ontario
Attention: Mr. D.R. Pyke

FALLON TWP. M.278

NOTES
 400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
JAN 20 1983
 Ministry of Natural Resources
 TORONTO



McNEIL TWP. M.300

LEGEND

- PATENTED LAND Ⓟ or ●
 - PATENTED FOR SURFACE RIGHTS ONLY Ⓞ
 - LEASE Ⓛ
 - LICENSE OF OCCUPATION L.O.
 - CROWN LAND SALES C.S.
 - LOCATED LAND Loc.
 - CANCELLED C.
 - MINING RIGHTS ONLY M.R.O.
 - SURFACE RIGHTS ONLY S.R.O.
 - HIGHWAY & ROUTE NO.
 - ROADS
 - TRAILS
 - RAILWAYS
 - POWER LINES
 - MARSH OR MUSKEG
 - MINES
- *used only with summer resort locations or when space is limited

TOWNSHIP OF

CLEAVER

DISTRICT OF
TIMISKAMING

LARDER LAKE
 MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. D.KAVANAGH
 DATE 29/1/71

PLAN NO. **M.269**

ONTARIO
MINISTRY OF NATURAL RESOURCES
 SURVEYS AND MAPPING BRANCH

HINCKS TWP. M.223



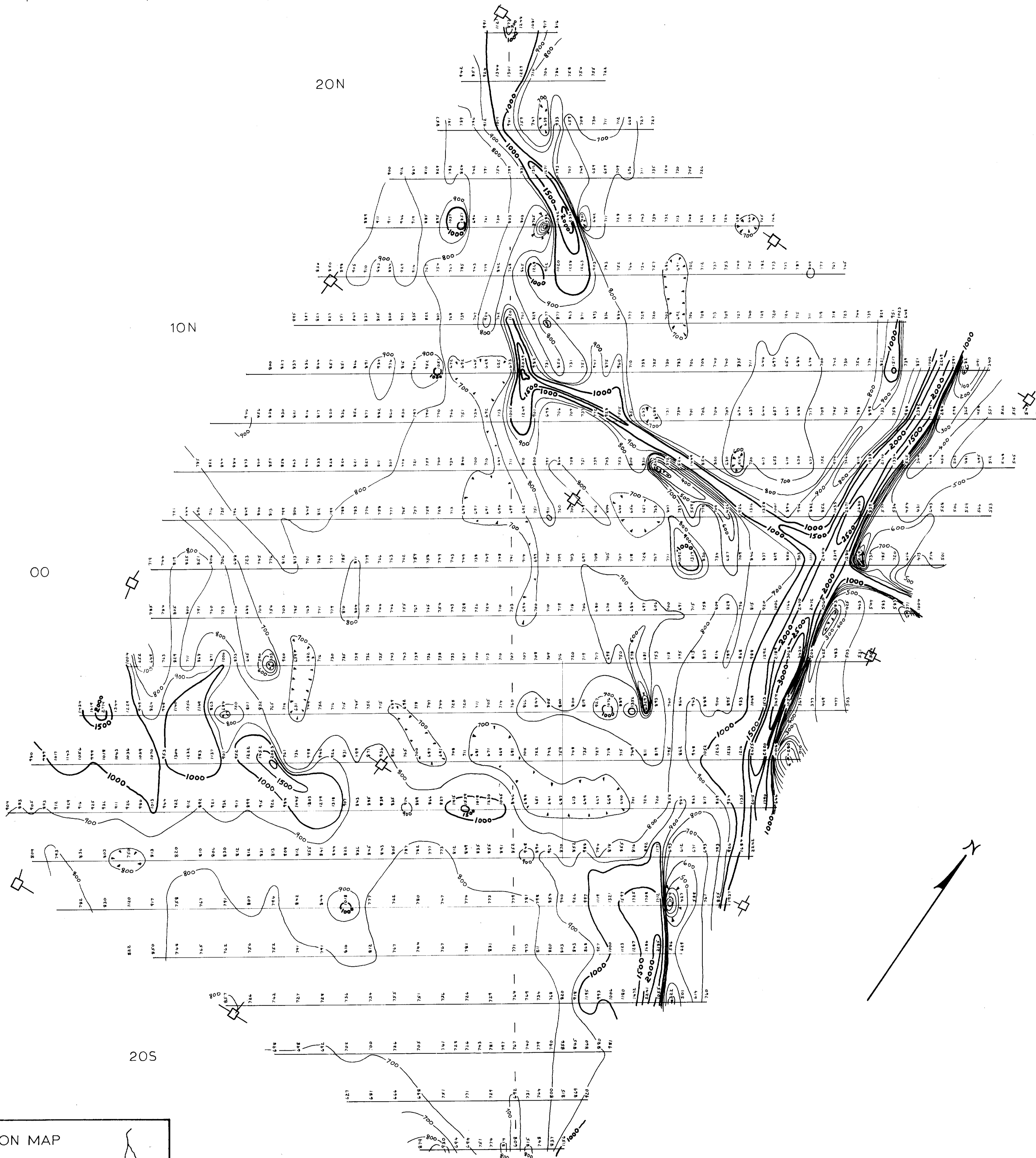
20W 15W 10W 5W BL 5E 10E 15E 20E

20N

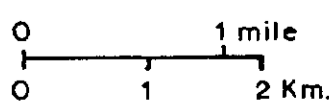
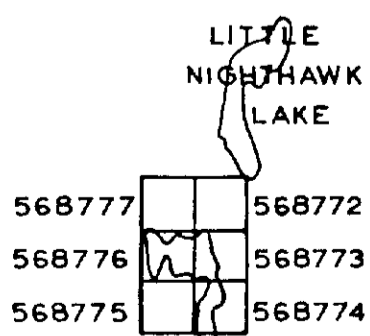
10N

10S

20S



LOCATION MAP



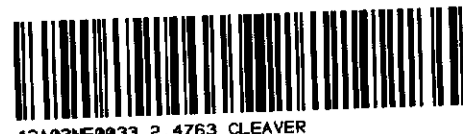
ER TWP

LEGEND

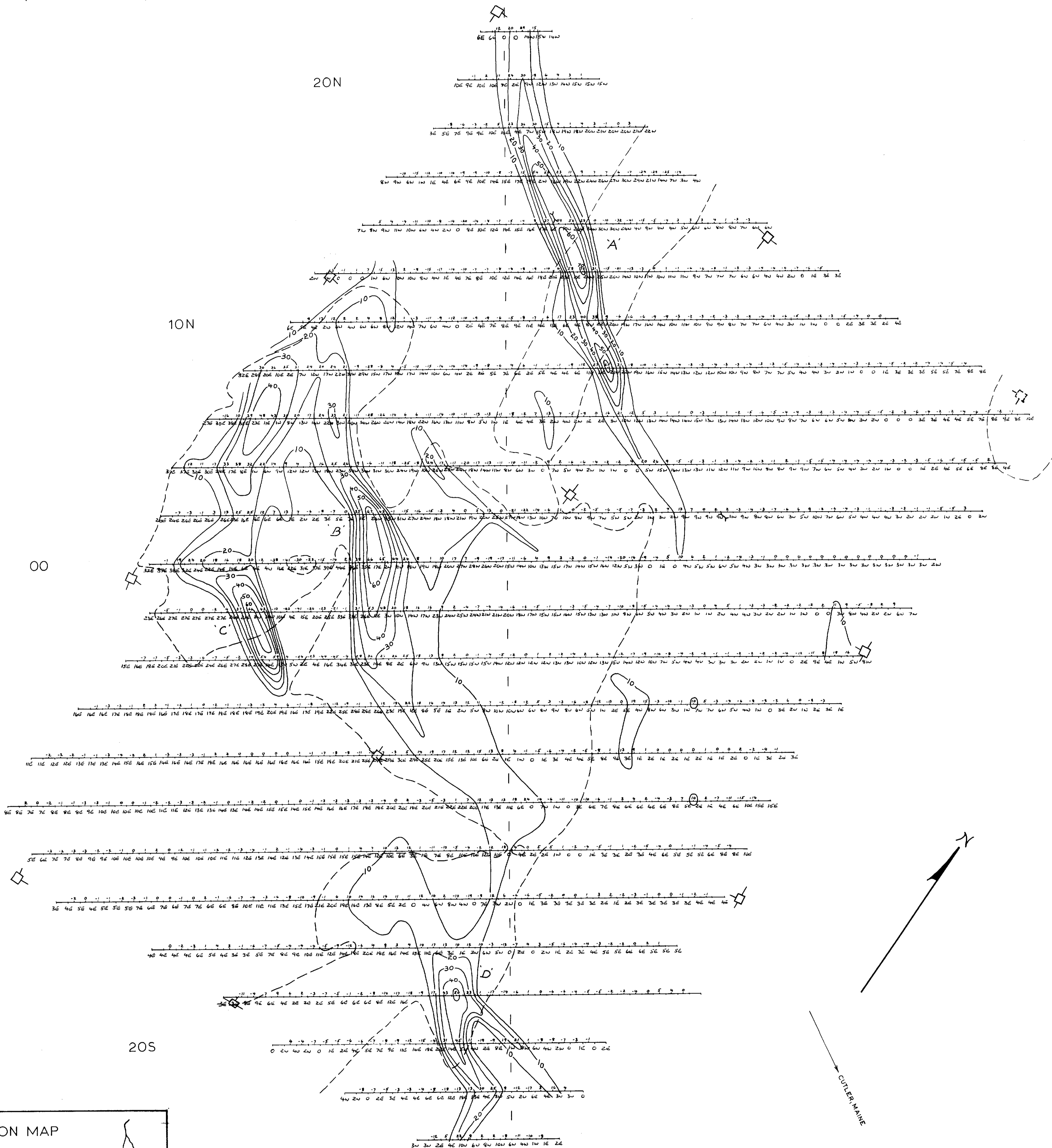
- (59)499 TOTAL MAGNETIC FIELD IN GAMMAS
- MAGNETIC CONTOUR:
100 gamma INTERVAL to 1000
500 gamma INTERVAL over 1000
- (59) MAGNETIC LOW

INSTRUMENT: GEOMETRICS G-816 PROTON MAGNETOMETER
BASE STATION USED FOR DIURNAL CONTROL: LOCATION 425N+075W
SURVEY APPROX. TIED TO GOV'T STATION M-71-56 KENILWORTH MINE: VALUE 59875 gammas

SURVEY CONDUCTED FOR: COMSTATE RESOURCES LTD			
SURVEY TYPE: MAGNETIC			
LOCATION: LITTLE NIGHAWK LAKE TIMMINS, ONTARIO		AREA REFERENCE: CLEAVER TWP	
PROPERTY: 568772 to 568777		DATE: MARCH, 1982	
PROJECT NO.: 6.116	MAP SHEET: 1 of 1	MAP NO.: 2	
SCALE			
SURVEY CONDUCTED BY: WOLLEX EXPLORATION			



20W 15W 10W 5W BL 5E 10E 15E 20E



LOCATION MAP

LITTLE NIGHAWK LAKE
 568777 568772
 568776 568773
 568775 568774



0 1 mile
 0 1 2 Km.

ER TWP

LEGEND

- DIP ANGLE IN DEGREES AND DIRECTION TO SOURCE
- 10 FRASER FILTER VALUE
- 20 FRASER CONTOUR: INTERVAL-10
- - - LAKESHORE
- X TRENCH

INSTRUMENT: SCINTREX SE-80

SURVEY CONDUCTED FOR:		
COMSTATE RESOURCES LTD.		
SURVEY TYPE:		
VLF EM		
LOCATION:	LITTLE NIGHAWK LAKE TIMMINS, ONTARIO	AREA REFERENCE:
PROPERTY:	568772 to 568777	DATE:
PROJECT NO.:	6-116	MAP SHEET:
	1 OF 1	MAP NO.:
		1
SCALE		
200 0 100 200 feet		
SURVEY CONDUCTED BY:		
WOLLEX EXPLORATION		

