



42D15NW0029 2.5507 SANTOY LAKE

010

REPORT ON THE GEOPHYSICS
OF
MICHAM EXPLORATION INC.
SANTOY LAKE AREA
DISTRICT OF THUNDER BAY
ONTARIO

RECEIVED

APR 29 1983

MINING LANDS SECTION

Tinmins, Ontario.
April 25, 1983

David R. Bell Geological Services Inc.
Per: David R. Bell,
Consulting Geologist.



42D15NW0029 2.5507 SANTOY LAKE

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INDEX

	<u>Page No.</u>
I INTRODUCTION	1
II PROPERTY LOCATION & ACCESS	1
III GEOLOGY	1-2
IV GEOPHYSICAL SURVEY PARAMETERS AND SURVEY DATA	
1. VLF-EM Survey	2
2. Magnetic Survey	3
V INTERPRETATION OF THE GEOPHYSICAL SURVEY	3-4
VI RECOMMENDATIONS AND CONCLUSIONS	4
VII CERTIFICATION	5

I

INTRODUCTION

Magnetometer and VLF surveys were undertaken during October 15th through to October 16th, 1982 to aid in delineating the stratigraphy and mineralized zones on the Micham Explorations Inc. property. It is hoped that this program will aid in the future mapping and prospecting of the property.

II

PROPERTY LOCATION AND ACCESS

The Micham Exploration Inc. survey consists of four (4) contiguous unpatented mining claims located in the Thunder Bay Mining Division. The claims are located in the Santoy Lake Area in the vicinity of Jackfish Bay on the north shore of Lake Superior, approximately 15.5 kilometres by road, east of the town of Terrace Bay.

Access to the property is gained via helicopter, east of Terrace Bay to a small unnamed lake located in the centre of the claim group.

The claims are numbered:

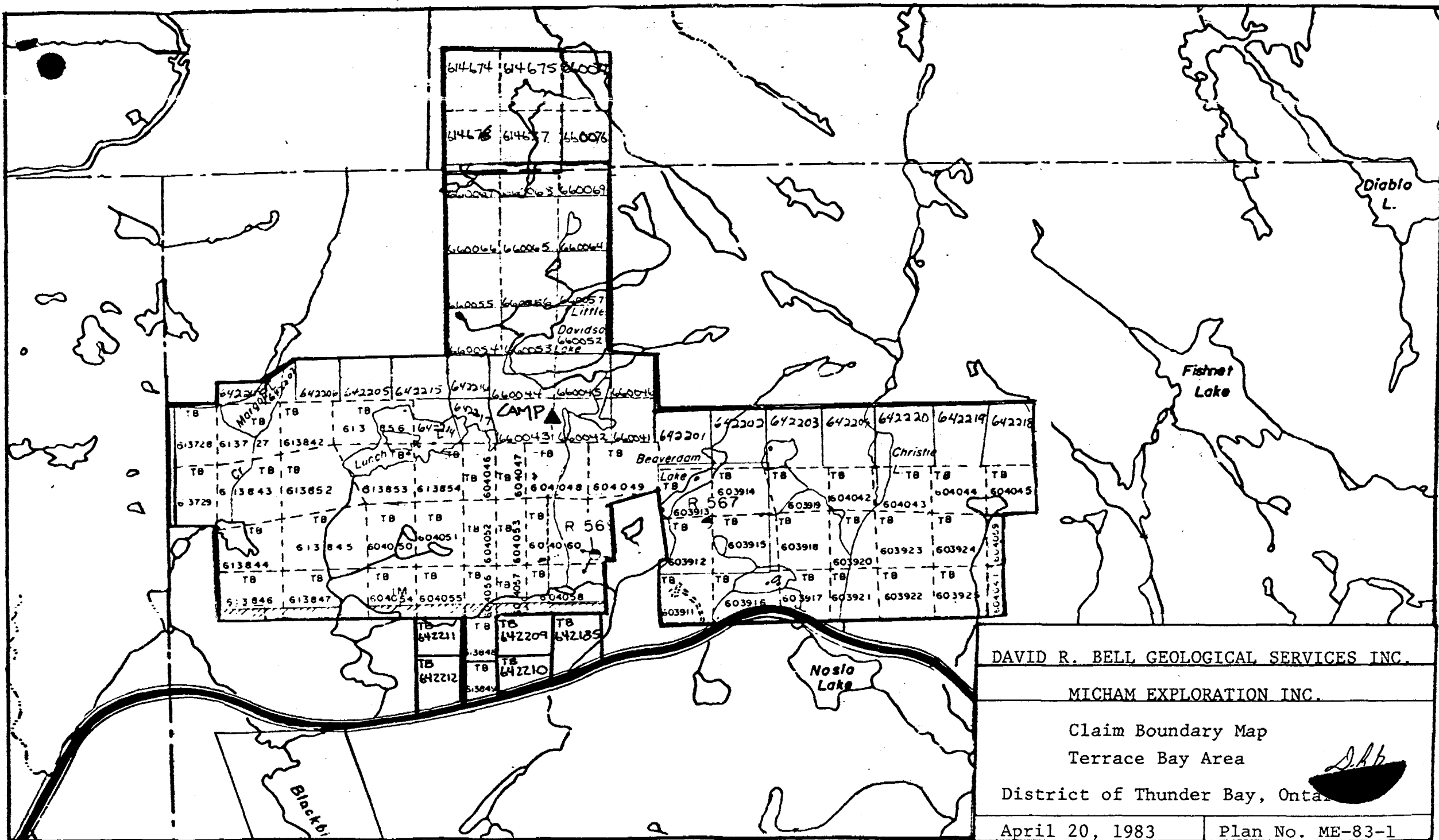
TB614674 through to TB614677 inclusive

and are outlined on Plan No. ME-83-1, prepared by the author from the Ontario Ministry of Natural Resources No. G-612, scale 1 inch = $\frac{1}{2}$ mile.

III

GEOLOGY

The geology of the above claim group is contained in Geological Report 50 and on Map 2107. The claim group is



MICHAM EXPLORATION INC.

Claim Boundary Map
Terrace Bay Area

District of Thunder Bay, Ontario

April 20, 1983

Plan No. ME-83-1

DBB

underlain by chloritized hornblende-garnet schists in the south, and the north by felsic metavolcanic rocks striking approximately 110° ESE, dipping steeply to the southwest.

The local shears are reportedly mineralized with pyrite, chalcopyrite, galena, sphalerite and silver. Several easterly striking quartz veins have been similarly recorded as carrying gold values, on which one a 121 foot shaft was sunk. (Assessment Files, Resident Geologist's Office, Thunder Bay) The shaft was not located during the survey.

IV GEOPHYSICAL SURVEY PARAMETERS AND SURVEY DATA

1. VLF-EM Survey

A Geonics EM-16 VLF-EM unit was used for the VLF survey. The specification sheets for this instrument are contained in the back of this report. The VLF-EM method measures the percent inphase and quadrature components of the secondary field generated by conducting bodies in the ground. The VLF method employs the magnetic component of radio waves transmitted by military radio transmitters, which provide the primary EM signal that energizes conductive bodies in the ground. Cutler Maine, Station NAA, with frequency of 17.8 K.Hz was the transmitter station used during the present survey. The primary EM signal of this transmitter would best energize east-west trending conductors in the survey area.

The present survey was conducted on north-south trending lines at 400 foot centres, with stations read at 100 foot intervals. A total of 139 readings were taken. The survey was done by Guy Thibeault on October 15th, 1982. The survey results are plotted in profile on V.L.F. Survey Map (1" to 20%, scale: 1" to 200 ft.) with accompanying survey data on the same Plan Map in the map pocket of this report.

2. Magnetic Survey

A Geometrics Proton Magnetometer, Model G-816, was used in the survey. A total of 139 readings were recorded by Guy Thibeault on October 16th, 1982. Magnetic base stations were established along baseline 0 for correction of diurnal fluctuations in the total magnetic field. The main magnetic base station was established on L 0+00 at 0+00N, with a value of 60,471 gammas.

The specification data sheets for the G-816 proton magnetometer are in the back of this report. The magnetic data and contours have been presented on Plan Map (scale 1" to 200') on the Magnetic Survey in the map pocket of this report.

INTERPRETATION OF THE GEOPHYSICAL SURVEY

The VLF and magnetic survey results appear to be mapping the geology of the area, delineating possible geological contacts, shear zones and a probable weak conductive zone. The Magnetic Survey results suggest repetitive sequence of narrow east-west trending felsic to mafic units. The interpreted VLF EM anomalies have been plotted on the VLF Survey Map in the back of this report (Scale 1" to 200').

The best VLF EM response on the property is a 1,200 foot (minimum) strike length anomaly occurring from L 0+00/01+00N to L 12+00E/9+20N. This anomaly has been interpreted to be fair in response, as the quadrature is tracking the in-phase response characteristics of weaker VLF anomalies. This anomaly is on the narrow flank of a lower magnetic gradient unit, roughly trending east-west. This anomaly could be real and may be attributed to a shear or mineralized zone.

Similar VLF cross-overs occur at L 12+00E/5+50N and L 12+00E/9+00N, although the possible extension of these anomalies are beyond the survey boundary. On Line 12+00E/12+00N, a one station high gradient magnetic reading occurs, and it is considered suspect.

The VLF - EM Survey results also delineated 3 very weak one-line responses which could be attributed to ridge effects, or topographic effects; these occur at L 8+00W/11+00N, L 4+00W/17+00N, and L 4+00W/20+80N. The location of the anomalies have been plotted on the VLF Survey Plan Map at 1" to 200' scale, in the map pocket (back of this report). These weak VLF cross-overs nevertheless could be indirectly mapping geology, as the anomalies have coincident narrow east-west trending higher magnetic gradient units associated with them that appear to terminate at Line 0. A north-westerly trending fault could be interpreted to occur from 2+00E/0+00N to 2+00W/21+00N from the contoured magnetic data.

VI

RECOMMENDATIONS AND CONCLUSIONS

The magnetic survey has helped resolve some of the geology and corresponds to the trends outlined by the electromagnetic conductors.

Detailed geological mapping and prospecting should be carried out over the entire grid system. The mapping should try to identify as many of the anomalies and magnetic features, paying close attention to gold bearing and base metal structures.

Geochemical soil sampling should also be used to help identify anomalies otherwise not exposed by rock outcrops.

Respectfully submitted by:



David R. Bell,
Consulting Geologist.

Timmins, Ontario
April 25, 1983

C E R T I F I C A T E

I, David R. Bell, hereby certify:

1. That I am a consulting Geologist employed by David R. Bell Geological Services Inc., Suite 6 251 Third Avenue, Timmins, Ontario.
2. That I am a graduate of Carleton University, Ottawa Ontario, with a degree Bachelor of Science (B.Sc.) in geology, 1973.
3. That I have been practicing my profession as a geologist continuously since 1973.
4. That I am a Fellow of the Geological Association of Canada (1981), and a Member of the Canadian Institute of Mining and Metallurgy.
5. That I do not have, nor do I expect to receive, neither directly or indirectly any interest in the property described in this Report, nor in the securities of Micham Exploration Inc..



Timmins, Ontario
April 25, 1983

David R. Bell, (B.Sc.)
Consulting Geologist.

EM16

VLF Electromagnetic Unit

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

The VLF method uses the military and time standard VLF transmitters as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field with the polarities indicated.

Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

Principle of Operation

The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.



Specifications

Source of primary field	VLF transmitting stations.	Reading time	10-40 seconds depending on signal strength.
Transmitting stations used	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.	Operating temperature range	-40 to 50° C.
Operating frequency range	About 15-25 kHz.	Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial $\pm 40\%$, inclinometer dial $\pm 150\%$.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).	Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Method of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.	Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Scale range	In-phase $\pm 150\%$; quadrature $\pm 40\%$.	Weight	1.6 kg (3.5 lbs.)
Readability	$\pm 1\%$.	Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
		Shipping weight	4.5 kg (10 lbs.)

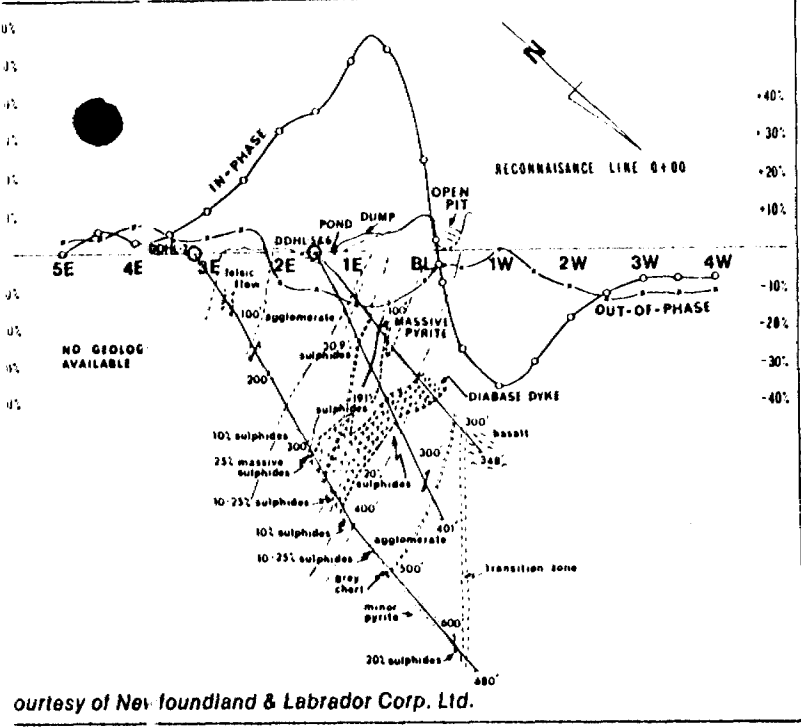


GEONICS LIMITED

Designers & manufacturers
of geophysical instruments

subsidiary of
Deering Milliken Inc.

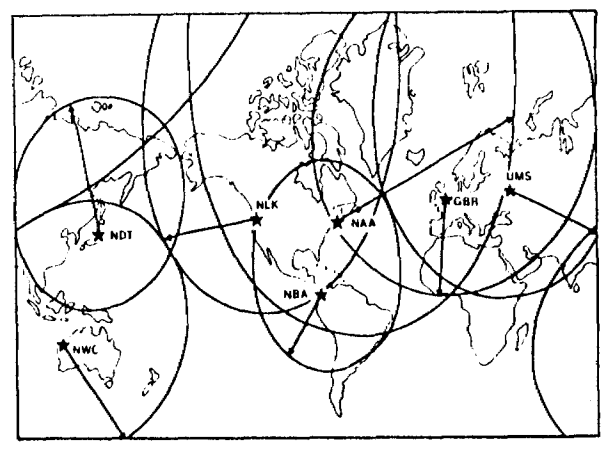
2 Thorncliffe Park Drive
Toronto/Ontario/Canada
M4H 1H2
Tel: (416) 425-1821
Cables: Geonic's



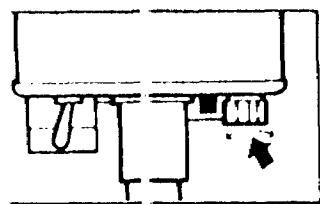
courtesy of Newfoundland & Labrador Corp. Ltd.

EM 16 Profile over Lockport Mine Property, Newfoundland

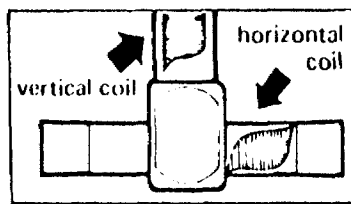
Additional case histories on request.



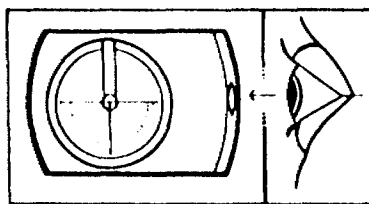
Areas of VLF Signals
 Coverage shown only for well-known stations. Other reliable, fully operational stations exist. For full information regarding VLF signals in your area consult Geonics Limited. Extensive field experience has proved that the circles of coverage shown are very conservative and are actually much larger in extent.



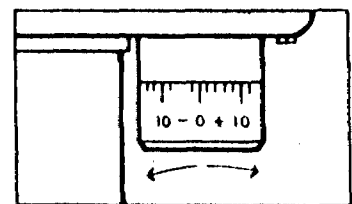
Station Selector
 Tuning units can be plugged at one time. A switch selects transmitter station.



Receiving Coils
 Vertical receiving coil in instrument picks up any vertical signal present. Horizontal receiving coil circuit, after automatic 90° signal phase shift, feeds signal into quadrature dial in series with the receiving coil.



In-Phase Dial
 Shows the tilt-angle of the instrument for minimum signal. This angle is the measure of the vertical in-phase signal expressed in percentage when compared to the horizontal field.



Quadrature Dial
 Is calibrated in percentage markings and nulls the vertical quadrature signal in the vertical coil circuit.

selecting a suitable transmitter station as a source, the EM 16 user can survey with the most suitable primary field method.

The EM 16 has two receiving coils, one for the pick-up of the horizontal (primary) field and the other for detecting any anomalous vertical secondary field. The coils are thus orthogonal, and are mounted inside the instrument "handle".

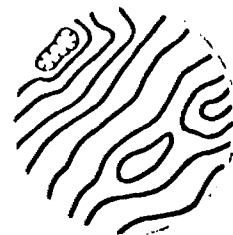
The actual measurement is done by first tilting the coil assembly to minimize the signal in the vertical (signal) coil and then further sharpening the null by using the reference signal to buck out the remaining signal. This is done by a calibrated "quadrature" dial.

The tangent of the tilt angle is the measure of the vertical in-phase component and the quadrature reading is the signal at right angles to the total field. All readings are obtained in per centages and do not depend on the absolute amplitude of the primary signals present.

The "null" condition of the measurement is detected by the drop in the audio signal emitted from the patented resonance loudspeaker. A jack is provided for those preferring the use of an earphone instead.

The power for the instrument is from 6 penlight cells. A battery tester is provided.

geometrics



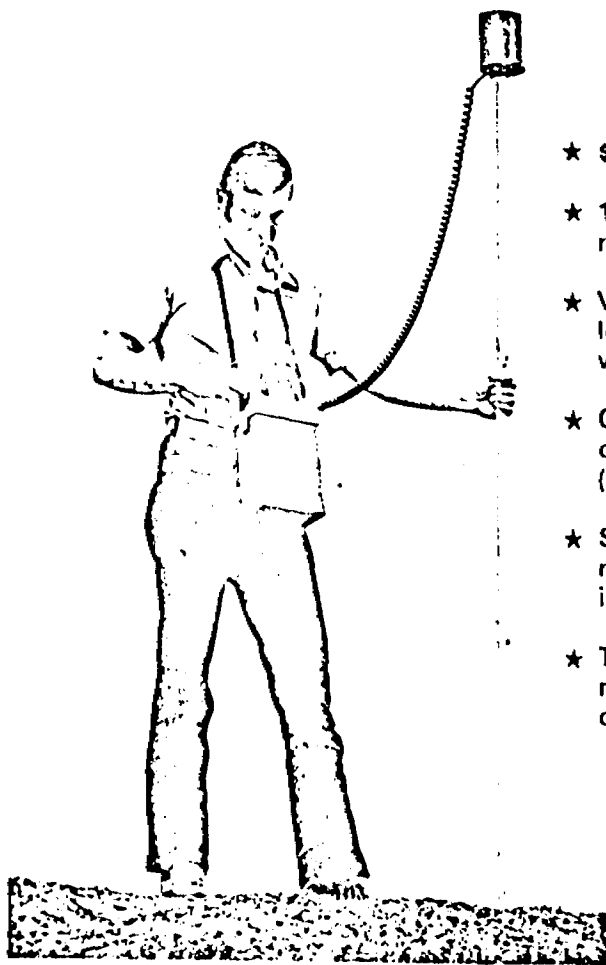
Remote Sensing and
Interpretation

PORTABLE PROTON MAGNETOMETER MODEL G-816

Data/Price Sheet

XXXXXXXXXXXXXX

June 1974

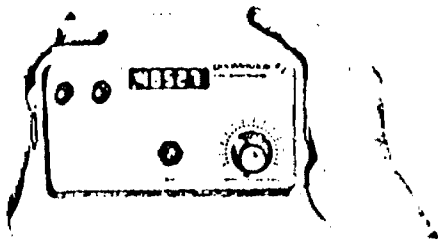


- ★ ~~\$2300~~complete \$2600
- ★ 1 gamma sensitivity and repeatability
- ★ Very small size and weight: less than 12 lbs complete with battery and sensor
- ★ Over 10,000 readings per set of alkaline "D" cell (flashlight) batteries
- ★ Simplified operation—numeric display directly in gammas
- ★ Total field measurements—no calibration—-independent of orientation

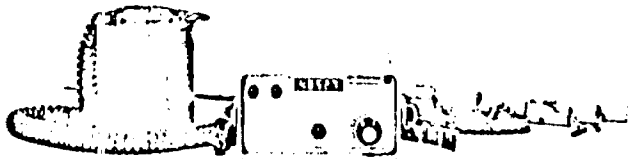
The Model G-816 is a complete portable magnetometer for all man-carry field applications. As an accurate yet simple to operate instrument, it features an outstanding combination of one gamma sensitivity and repeatability, compact size and weight, operation on standard universally available flashlight 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, lightweight, 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-806.



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 official 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 strap or staff.
3. Adjustable carrying strap.
4. 8 foot collapsible staff.
5. Instruction manual, complete set of spare batteries, reusable shipping container.

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.

EXPLORANIUM

CORPORATION OF CANADA
 487 LINES STREET • DOWNSVIEW (TORONTO) CANADA
 TELEPHONE 661 1966 (AREA CODE 416)

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 150 gammas/ft

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
Alkaline	over 10,000
Premium Carbon Zinc	over 4,000
Standard Flashlight	over 1,500

NOTE: Battery life decreases with temperature

Temperature Range: Console and sensor: -40° to +85°C
 Battery Pack: 0° to +50°C (limited use to -15°C; lower temperature 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)

Weight:	lbs.	Kgs.
Console (w/batteries):	5.5	2.4
Sensor & signal cable:	4	1.8
Aluminum staff:	2	0.9
	<u>11.5</u>	<u>5.1</u>

PRICE: Complete Field System \$2600.00 ~~XXXXXX~~
~~\$2900.00~~

DIVISION OF **geoMetrics** SERVICES (CANADA) LTD.

NUCLEAR INSTRUMENT DIVISION

CABLE: EXPLOR

TELEX: 06 22694



Ministry of
Natural
Resources

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

#37



42D15NW0029 2.5507 SANTOY LAKE

900

Land Management

The Mi

unshaded areas below.

Type of Survey(s) **GEOPHYSICAL-MAGNETIC AND VLF ELECTROMAGNETIC** Township or Area **SANTOY LAKE AREA *6612***

Claim Holder(s) **MICHAM EXPLORATION INC.** Prospector's Licence No. **T1185**

Address **251 Third Avenue, Timmins, Ontario.**

Survey Company **Mid-Canada Exploration Services Ltd.** Date of Survey (from & to) **20 10 82** to **2 11 82** Total Miles of line Cut **3.011**

Name and Address of Author (of Geo-Technical report) **DAVID R. BELL, GEOLOGICAL SERVICES INC., TIMMINS, ONTARIO.** P.O. Box 1250 PHN 755

Credits Requested per Each Claim in Columns at right

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

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.
TB	614674	
	614675	
	614676	
	614677	

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MAR 10 1983
MINING LANDS SECTION

see notes / Intent
1983.08.22

Total number of mining claims covered by this report of work. **4**

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.

For Office Use Only

Total Days Cr. Recorded **240** Date Recorded **March 18 1983** Mining Recorder **Barry M. Hooper**

Date Approved as Recorded **Feb 28 1983** Branch Director

Date **Feb. 28/1983** Recorded Holder of Agr. (Signature) *David R. Bell*

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 **P.G. HUNKIN, 354 DONNA CRESCENT, TIMMINS, ONTARIO**

Date Certified **Feb. 24/83** Certified by (Signature) *P.G. Hunkin*



June 20/83

Mining Lands Comments

To: Geophysics *Mr. Roger Barlow*

Comments

Approved Wish to see again with corrections

Date: *July 3/83* Signature: *R Barlow*

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)

SI 375 232
2,307

1989 06 01

Mrs. A. N. Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G8

Dear Madam:

We have received reports and maps for a prospect
(Electromagnetic and Magnetic) survey conducted
under Special Provisions (Article 21.6) (General
Coverage) on mining claims SI 375 232/233/234/235
in the Area of Sandy Lake.

This material will be examined and the appropriate
ment of assessment work orders will be prepared.

Yours very truly,

E. F. Anderson,
Director
Land Management Branch
Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 955-1980
A. Barrand

cc: Michan Exploration Inc.
261 Third Avenue
Timmins, Ontario
P4N 0E2

David R. Ball Geological Services Inc.
251 Third Avenue, Suite 5
Box 1250
Timmins, Ontario
P4N 7J5

DAVID R. BELL GEOLOGICAL SERVICES INC.

251 THIRD AVE., SUITE 6
BOX 1250
TIMMINS, ONTARIO
P4N 7J5
(705) 264-4286

April 25, 1983.

RECEIVED

APR 29 1983

MINING LANDS SECTION

Mr. F.W. Mathews,
Ontario Ministry of Natural Resources,
W1: 17, Whitney Block,
Queen's Park,
Toronto, Ontario.
M7: 1W3

Dear Mr. Mathews:

Re: Micham Exploration Inc. - claims TB614674-TB614677 incl.

Enclosed herewith please find two (2) copies of the report concerning Magnetic and V.L.F. Electromagnetic surveys which were carried out over the above mentioned claim group, in Thunder Bay Mining Division.

A work report for these surveys has been filed with the Mining Recorder in Thunder Bay Mining office.

Yours very truly,



David R. Bell,
Consulting Geologist.

Encl.

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2.5507

1983 09 23

Mrs. Audrey Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

RE; Geophysical (Electromagnetic and Magnetometer) Survey
on Mining Claims TB 614674 to 77 inclusive in the Area
of Santoy Lake

The Geophysical (Electromagnetic and Magnetometer) survey
assessment work credits as listed with my Notice of Intent
dated August 22, 1983, have been approved as of the above
date.

Please inform the recorded holder of these mining claims
and so indicate on your records.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

S. Hurst:mc

Encl.

cc: Micham Exploration Inc
251 Third Avenue
Timmins, Ontario
P4N 1E2

cc: David R. Bell Geological Services Inc
Timmins, Ontario

cc: Resident Geologist
Timmins, Ontario



Date 1983 08 22

Mining Recorder's Report of Work No. 37

Recorded Holder MICHAM EXPLORATION INCORPORATED

Township or Area SANTOY LAKE AREA

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic <u>24</u> days Magnetometer <u>12</u> days Radiometric _____ days Induced polarization _____ days Other _____ days	TB 614674 to 677 incl
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

- not sufficiently covered by the survey
- Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77 (19) — 60;



Sept 12, 83

1983 08 22

Your file:

Our file: 2.5507

Mrs. Audrey Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, 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
M7A 1W3
Phone: 416/965-1316

for S. Hurst:sc

Encls:

- cc: Micham Exploration Inc
Timmins, Ontario
- cc: David R. Bell Geological Services Inc
Timmins, Ontario
- cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario



Ministry of
Natural
Resources

Ontario

Notice of Intent
for Technical Reports

1983 08 22

2.5507

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.



Ministry of Natural Resources

File _____

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

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) Geophysical - Magnetic & VLF EM.

Township or Area Santoy Lake Area (G-612)

Claim Holder(s) Micham Exploration Inc.

Survey Company Mid-Canada Exploration Services Ltd.

Author of Report D. R. Bell

Address of Author P.O. Box 1250, Timmins, Ontario

Covering Dates of Survey Oct. 15-16, 1982
(linecutting to office)

Total Miles of Line Cut 5.2 miles

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

TB.....614674

TB.....614675

TB.....614676

TB.....614677

If space insufficient, attach list

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

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

Geophysical
-Electromagnetic 40

-Magnetometer 20

-Radiometric _____

-Other _____

ENTER 20 days for each
additional survey using
same grid.

Geological _____

Geochemical _____

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

Magnetometer Electromagnetic Radiometric
(enter days per claim)

DATE: April 27, 1983 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. _____ Qualifications 2.1473

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED

APR 29 1983

MINING LANDS SECTION

TOTAL CLAIMS _____

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 160 Number of Readings Mag. 139, VLF 139
Station interval 100 feet Line spacing 400 feet
Profile scale -----
Contour interval -----

MAGNETIC

Instrument Model G-816 Proton magnetometer
Accuracy - Scale constant +/- 1 gamma
Diurnal correction method Closed loops
Base Station check-in interval (hours) 1/2 - 3 hours
Base Station location and value 00 Base Line 60,471 - 59,000 = 1,471

ELECTROMAGNETIC

Instrument Model EM-16 electromagnetic receiver
Coil configuration Vertical
Coil separation Infinity
Accuracy +/- 2%
Method [X] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency 17.8 kilohertz, NAA Cutler Maine (specify V.L.F. station)
Parameters measured In-phase or dip and quad-phase or out-of-phase

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)

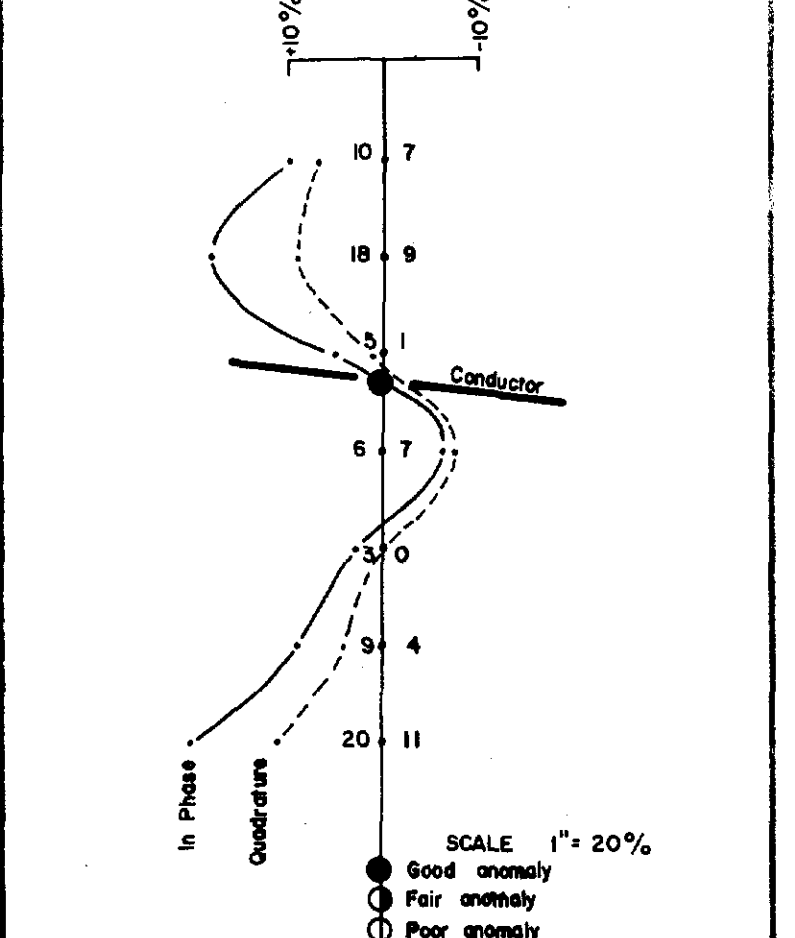
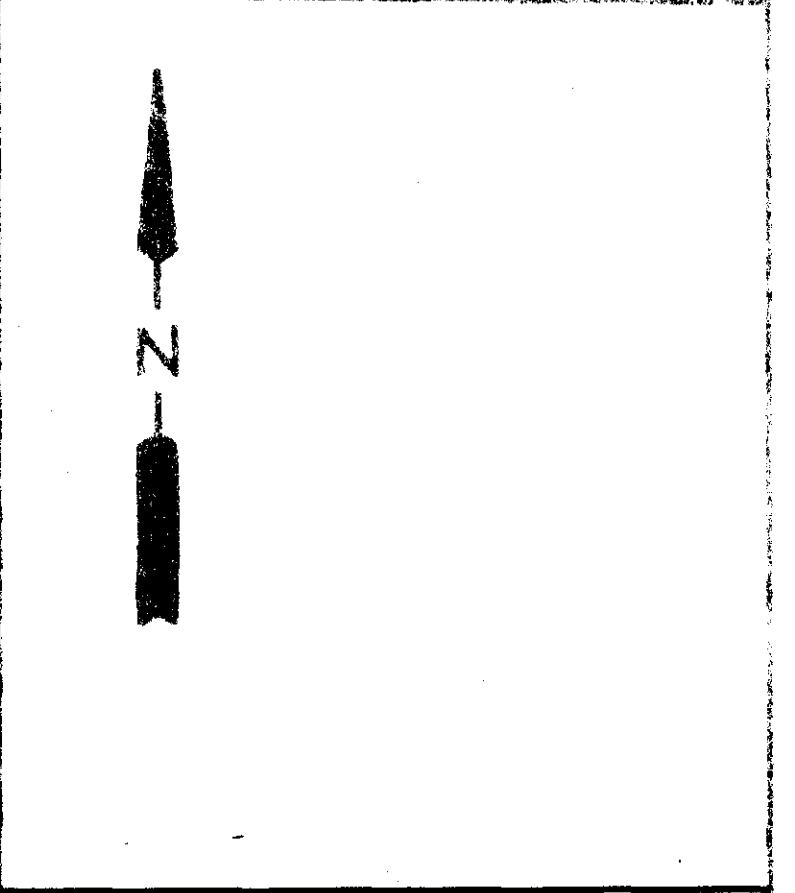
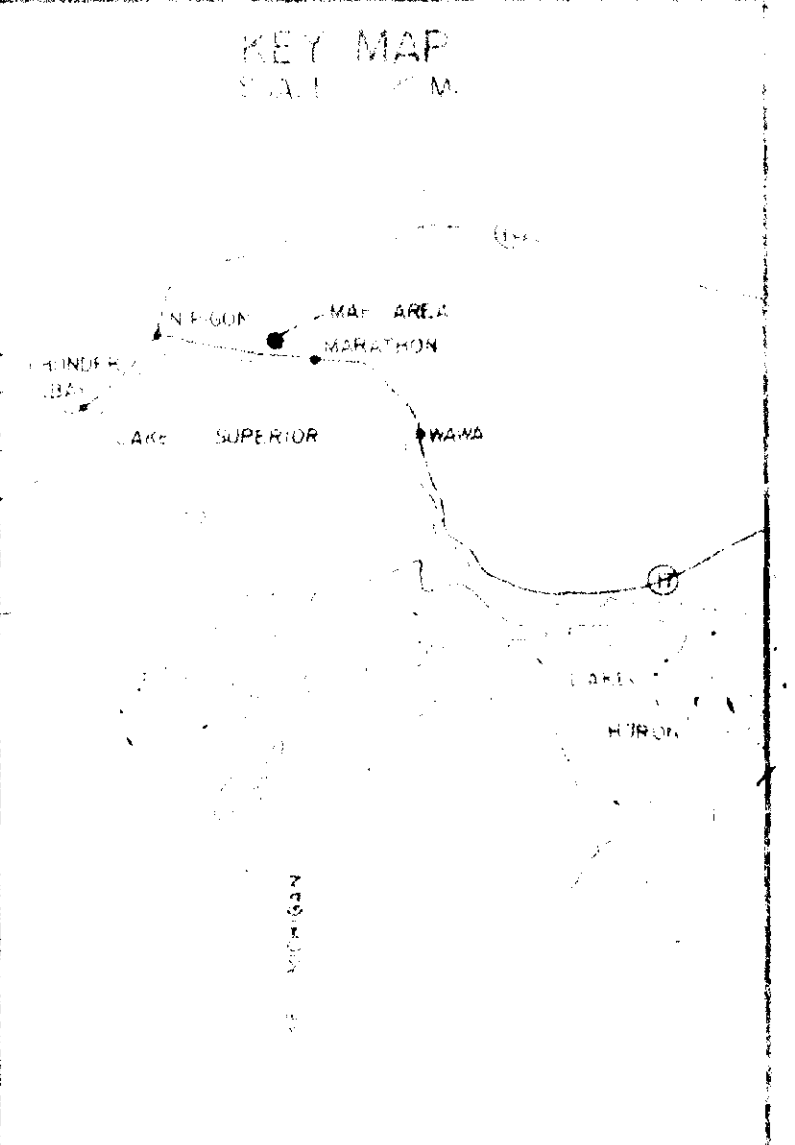
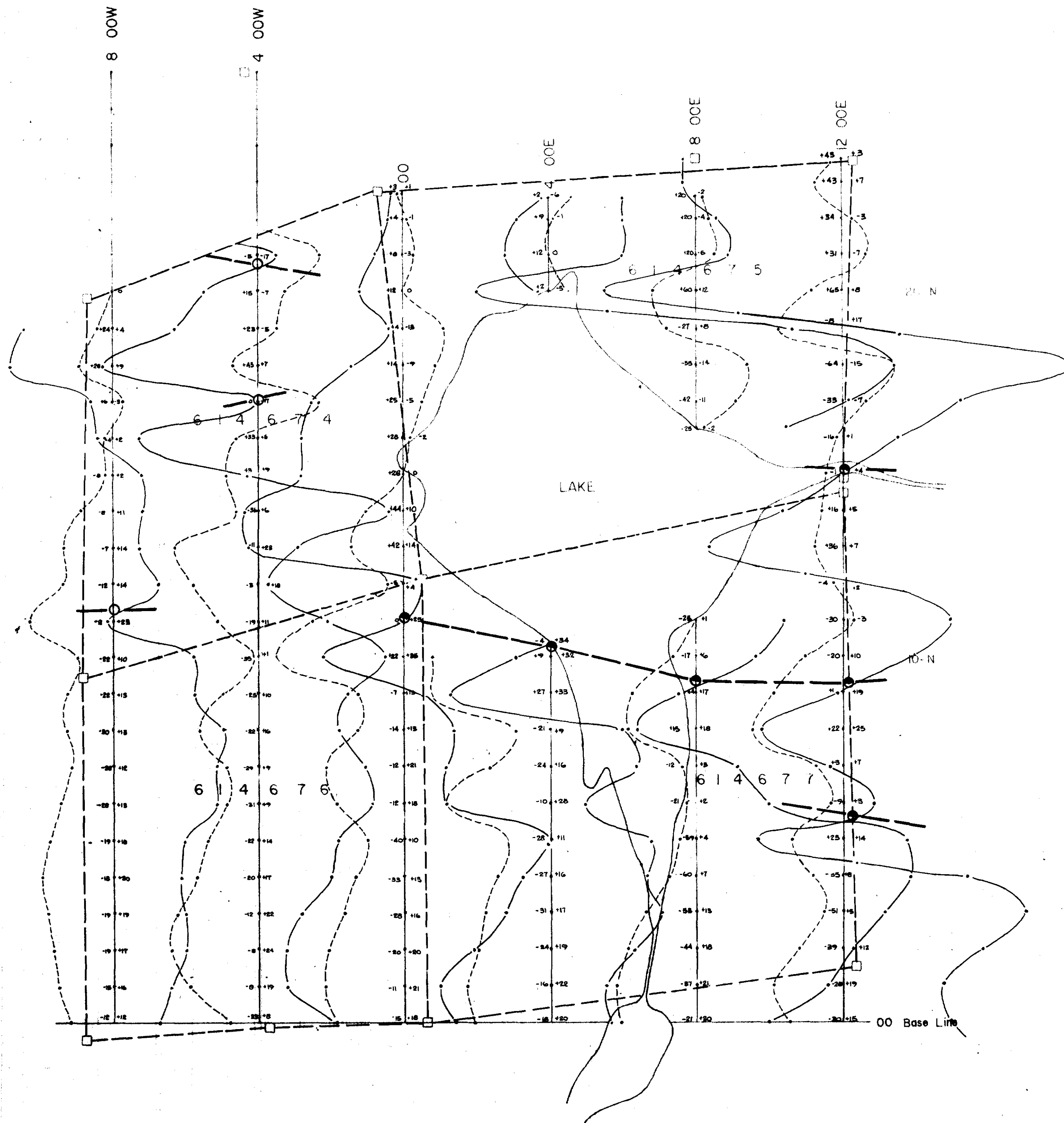
Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____



LEGEND

□ CLAIM POSTS LOCATED

— PROPERTY BOUNDARY —

INSTRUMENT USED:
GEONICS VLF EM-16

OPERATOR: GUY THIBAUT

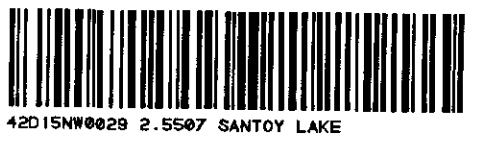
READINGS: 139

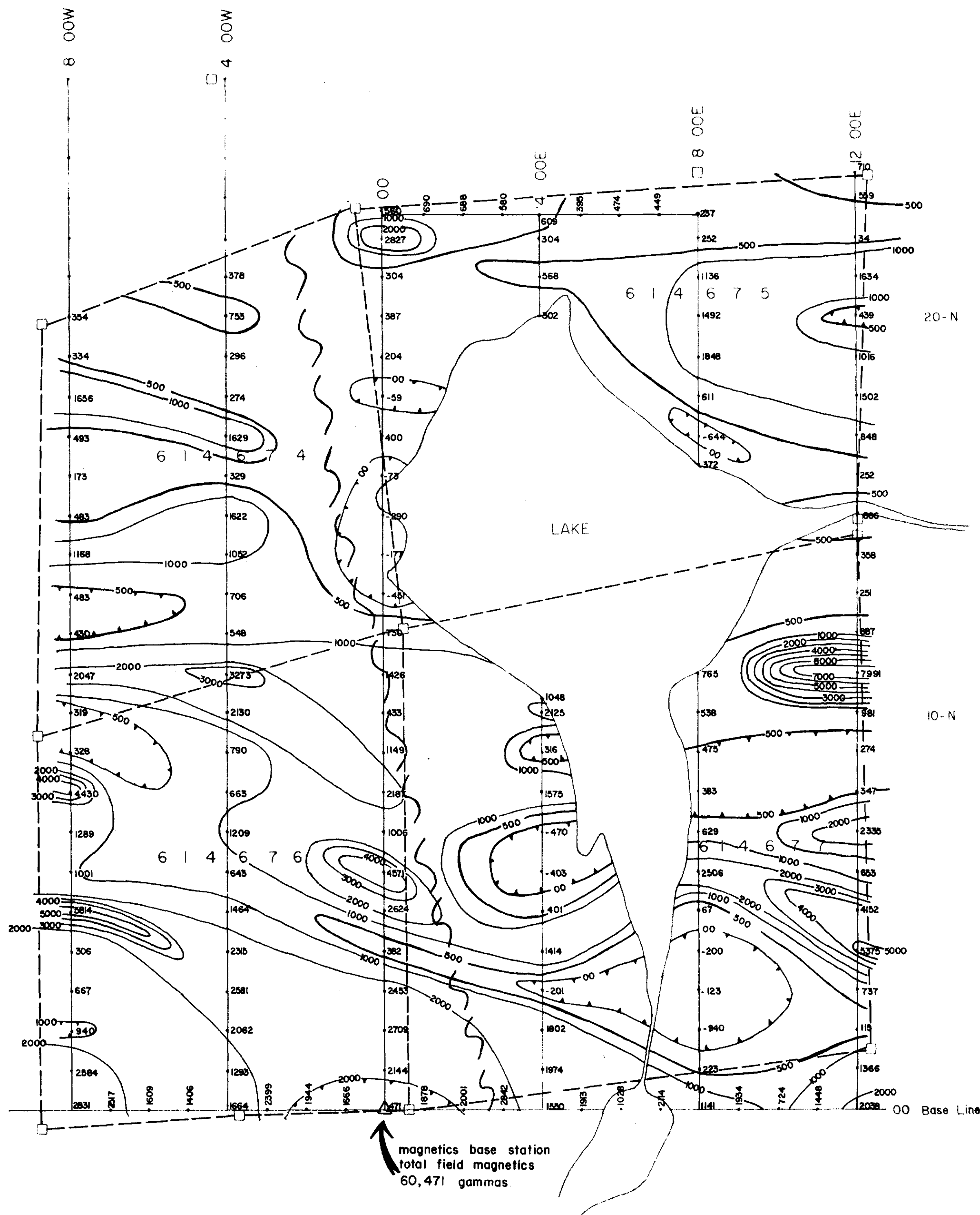
MID CANADA EXPLORATION SERVICES LIMITED

VLF SURVEY
MICHAM EXPLORATION INC.
SANTOY LAKE AREA
THUNDER BAY MINING DIVISION ONTARIO

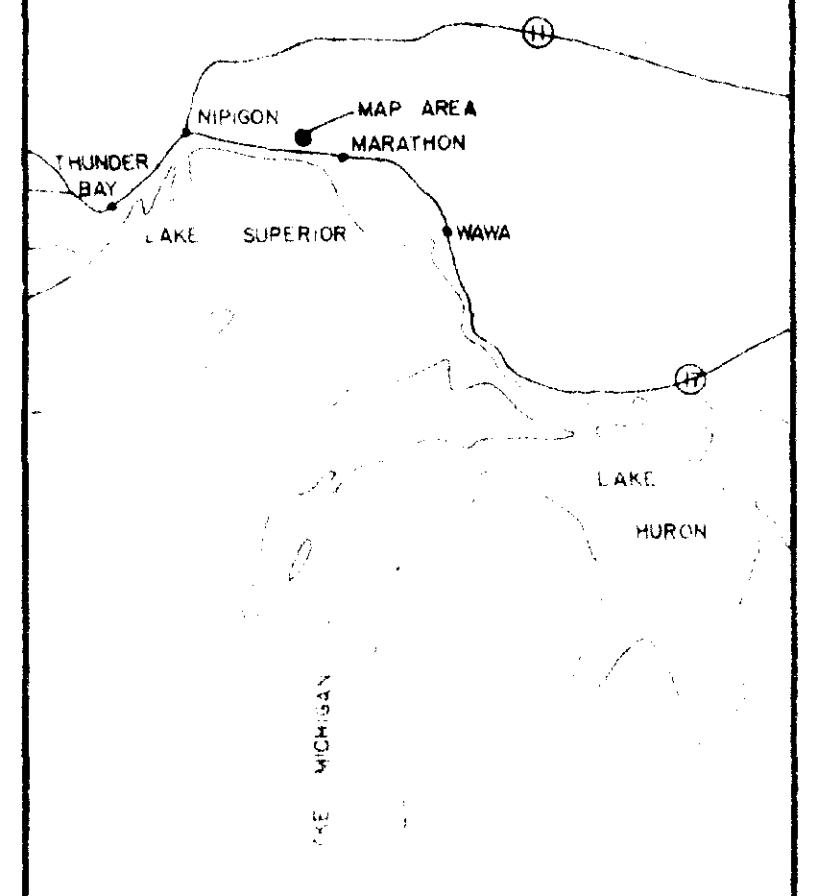
SCALE: 1" = 200' DATE: NOVEMBER 9, 1982

DRAWN: I. MAGEAU CHECKED: [Signature]



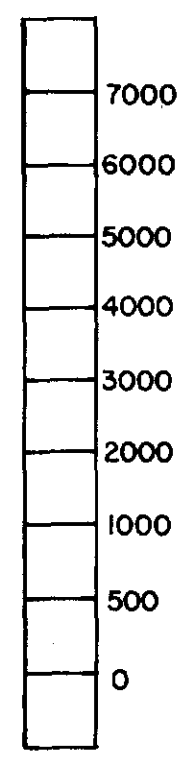


KEY MAP
SCALE: 1" = 12.5 Mi.



Total field magnetics data readings have been reduced by 59,000 gammas

CONTOURS
(gammas)



LEGEND

- CLAIM POSTS LOCATED
- PROPERTY BOUNDARY ———

INSTRUMENT USED:
GEOMETRICS PROTON MAG G-816

OPERATOR: GUY THIBAUT READINGS: 139

MID CANADA EXPLORATION SERVICES LIMITED

MAGNETIC SURVEY
MICHAM EXPLORATION INC.
SANTOY LAKE AREA
THUNDER BAY MINING DIVISION ONTARIO

SCALE: 1" = 200' DATE: NOVEMBER, 9, 1982

