



41P15NE8610 2.4701 CAIRO

010

REPORT ON

TOTAL FIELD MAGNETIC SURVEY

CLAIM NUMBERS L-537314 to 317 INCLUSIVELY

CAIRO TOWNSHIP

LARDER LAKE MINING DIVISION

DISTRICT OF TIMISKAMING

ONTARIO

**RECEIVED**

APR 19 1982

**MINING LANDS SECTION**

BY

PAMOUR PORCUPINE MINES LIMITED

EXPLORATION DEPARTMENT

APRIL 1982

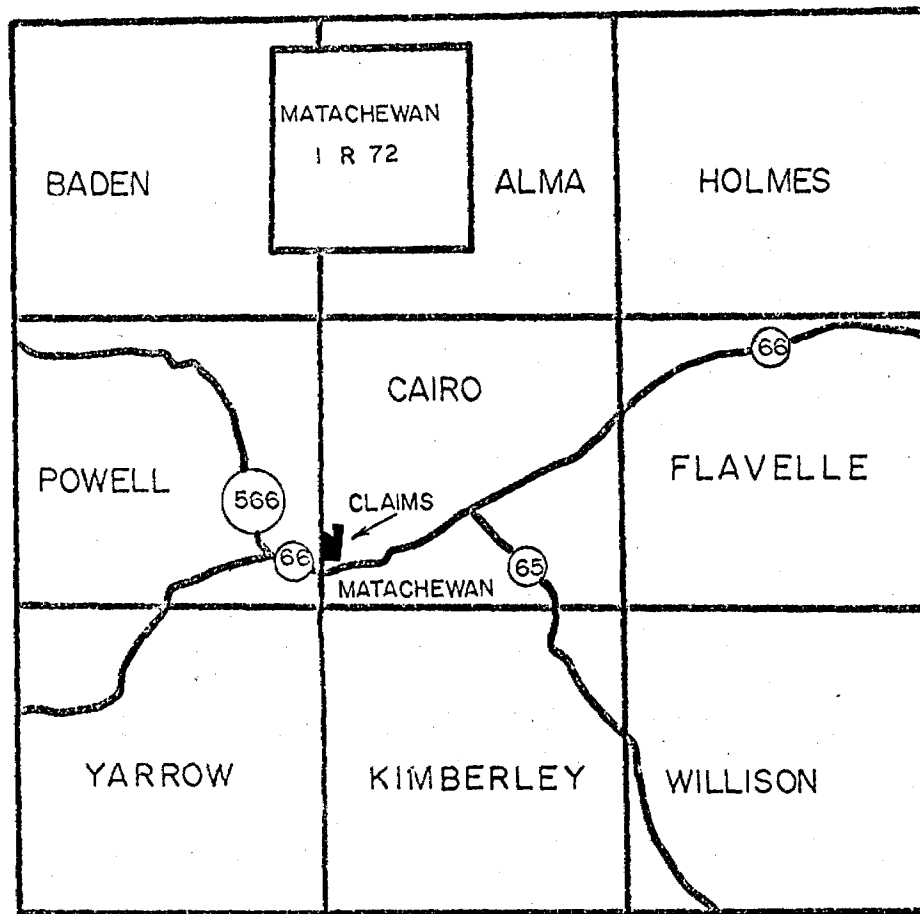


41P15NE8610 2.4701 CAIRO

010C

## TABLE OF CONTENTS

	PAGE
Title Page	
Table of Contents	1
Location Map	
Introduction	2
Property	2
Geophysical Durvey	2
Specifications	2
Procedures	2
Data Presentation	3
Interpretation	3
Conclusions and Recommendations	3
Appendix A - Personnel	4
Appendix B - Instrument Specifications	
Map - East of MCM Claims	



## LOCATION MAP

SCALE: 1" = 4 miles

## INTRODUCTION

During the end of March and the beginning of April, 1982, a total field magnetic survey was conducted on Hollinger Lake, Cairo Township, covering part of mining claim L.537316. The purpose of the survey was to complete the previous magnetic survey of the East of MCM grid, and to delineate any structures and geological units.

The grid layout on Hollinger Lake consisted of 0.95 line miles by Kian Jensen and Byron Cooper of Pamour Exploration Department on March 22, 1982. The magnetic survey was completed on March 23, 1982 and the compilation, interpretation and report writing was done on April 7 to 8, 1982 by Kian Jensen (see Appendix A).

## PROPERTY

The claim group is located north of Highway 65 and between Hollinger Lake and the West Montreal River in the southwestern part of Cairo Township, Ontario.

Pamour Porcupine Mines Limited hold a 100% interest in the property.

## GEOPHYSICAL SURVEY

The purpose of this survey was to complete the previous magnetic survey, and to locate any faults or shear zones which may relate to gold mineralization and to locate contacts between the lithological units found on the property.

## SPECIFICATION

The instrument specifications for the Geometrics proton magnetometer are in Appendix B.

## PROCEDURE

The winter 1981-82 magnetic survey was tied-in to the previous magnetic survey conducted during June of 1980. The baseline was re-observed in a looping fashion. Once this was completed, the north-south traverses were read every 100 feet on survey lines every 200 feet and also completed in a looping fashion.

The tie-in to the previous work was +77 gammas,

and the data connected accordingly. The data was also corrected for the daily drift and diurnal. The accuracy of the data is to  $\pm 1$  gamma after all corrections were made.

#### DATA PRESENTATION

The new data was plotted and contoured at a 100 gamma interval on a 1 inch to 200 feet map. The previously collected data is also presented on the contour map.

#### INTERPRETATION

Unlike the remainder of the survey area, claim L.537316 Hollinger Lake was surveyed on a 200 foot grid. This definitely indicated that the diabase dikes trend in a general north-south direction as indicated on Line 0 at 5N to 16N.

An area of interest on Line 2E at 4N to 8N indicates the possible existence of a carbonate zone, however this may also be influenced by the diabase dikes in the area.

Another area suspected in the previous survey report and confirmed in this survey, is the large magnetic low south of the base line between Lines 4E and 8E which may represent a syenite body.

It is suspected that a fault may exist on Line 8E at 1+50N trending N60°-65°W.

#### CONCLUSIONS AND RECOMMENDATIONS

The results from the magnetic survey indicates the possibility of two zones of interest, these being south of the baseline and the north shore of the lake around line 2E.

It is recommended that a geological survey and soil geochemical survey be conducted to assist in the identification of the true source of the various anomalies.

I hereby submit that this report and accompanying map are true and accurate to the best of my knowledge and that they were completed by myself this 8th day of April, 1982.



Kian A. Jensen, B.Sc.,  
Exploration Geophysicist-  
Geologist.

## CURRICULUM VITAE

NAME: JENSEN, Kian A.  
ADDRESS: 374 Patricia Boulevard, Timmins, Ontario P4N 6Y6  
TELEPHONE: (705) 264-5748  
BIRTHDATE: September 24, 1951  
SEX: Male  
STATUS: Married  
EDUCATION: University of Waterloo, 1971 - 1975, B.Sc. Honour Earth Science, Geology Major

## RELATED EXPERIENCE

March 2 to Present PAMOUR PORCUPINE MINES LIMITED, PAMOUR NO. 1  
Employed as a geologist/geophysicist in the Exploration Department, Pamour No. 1. Responsible for conducting ground geophysical surveys, interpretation and reports. Other duties include geological mapping, drill core logging, ore calculations, and property evaluation.

September 1978 to February 1981 GEOTERREX LIMITED, 2060 Walkley Road, Ottawa  
Employed as a geophysicist/party chief conducting various types of ground geophysical surveys. Other responsibilities included training personnel, logistic reports, job proposals, billings, data reduction and interpretation. Clients and types of surveys involved in are as follows:

- Amoco Oil Limited - gravity survey
- Ontario Hydro - seismic survey
- Urangeschellshaft Canada Limited - Max-Min and horizontal PEM surveys
- Energy, Mines and Resources, Earth Physics Branch - inertial gravity survey
- Geoterrex Limited, Calibogie test site - CFM, Max-Min, Proton magnetic and horizontal PEM surveys
- Newmont Exploration of Canada Limited - drillhole PEM survey
- Newmont Exploration of Canada Limited - EMP survey
- E & B Exploration of Canada Limited - gravity survey

Energy, Mines and Resources, Earth Physics Branch -  
inertial gravity survey

Geoterrex Limited, Calibogie test site - Elfast turam,  
IP and DEEPEM surveys

Abitibi-Price Inc. - interpretation of drillhole PEM  
survey

May to  
September 1978

RAYROCK RESOURCES LIMITED (MINES), 1011-2200 Yonge Street,  
Toronto

Employed as a field geologist conducting a reconnaissance  
geochemical survey for uranium in central North West  
Territories. Other responsibilities included rock sampling,  
reconnaissance mapping, claim work, and assisted in  
compiling airborne radiometric results.

September 1974  
to  
April 1975

B.Sc. Thesis, "A Geophysical Investigation for Buried  
Bedrock Valleys in the Belwood Lake Area".

This involved data acquisition, computer modelling, and  
interpretation of gravity and resistivity surveys.

September 1974  
to  
April 1975

UNIVERSITY OF WATERLOO, Waterloo, Ontario

Employed to sort and catalogue rock suites and set up  
museum displays of ore suites from Canadian mines.

May to  
September 1974

CANADIAN OCCIDENTAL PETROLEUM LIMITED, 311-215 Carlingview  
Drive, Rexdale, Ontario

Employed as a field geologist conducting reconnaissance  
and detail geochemical surveys for base metals in south-  
central British Columbia. Other responsibilities included  
claim work, rock sampling, and the preparation of geochemical  
anomaly maps.

October to  
December 1973

UNIVERSITY OF WATERLOO, Waterloo, Ontario

Employed as a geophysical assistant conducting gravity,  
resistivity, and seismic surveys.

#### OTHER EMPLOYMENT

October 1977 to May 1978 GOLDEN TRIANGLE SECURITIES AND INVESTIGATIONS, 52A Francis Street, Kitchener, Ontario

Employed as a security guard at Pirelli Cables in Guelph, Ontario.

June 1975 to September 1977 TOWERS DEPARTMENT STORES, 1013 Ontario Street, Stratford, Ontario

Employed as a department manager responsible for staff schedules, ordering, inventory, and sales.

#### MEMBERSHIPS

Society of Exploration Geophysicists (1981) - Associate Member

Prospector's Licence (Individual) - A44525



APPENDIX A

DATE	PERSONNEL	FUNCTION
March 22, 1982	Kian Jensen	Grid Layout
	Byron Cooper	Grid Layout
March 23, 1982	Kian Jensen	Data Aquistion
April 7, 1982	Kian Jensen	Data Reduction, plotting
April 8, 1982	Kian Jensen	Interpretation and report writing

## 1.0 GENERAL INFORMATION

### 1.1 INTRODUCTION

The Model G-816/826 Portable Proton Magnetometer is a complete system designed for man-carry field applications requiring simple operation and stable measurements of the total intensity of the earth's magnetic field. The G-816/826 is accurate and has a sensitivity of  $\pm 1$  gamma over a range from 20,000 to 90,000 gammas. Since the instrument measures total field intensity, the accuracy of each measurement is not affected by sensor orientation. The inherent simplicity of the G-816/826 Proton Magnetometer allows rapid, accurate measurements to be obtained from a rugged, compact field instrument. This is a precision instrument and reasonable attention must be given to handling, battery condition, and magnetic environment.

### 1.2 MAGNETIC ENVIRONMENT

It is important that the earth's magnetic field is not perturbed by allowing unwanted magnetic objects to come close to the sensor. Such objects include rings, keys, watches, belt buckles, pocket knives, metal pencils, zippers, etc. When the sensor is used on the staff, one gamma surveys are easily performed provided the sensor is kept at a distance of three feet (.9 m) from the operator. When the sensor is used in the backpack, certain articles of clothing and some types of batteries within the console will cause a five to ten gamma heading error in the readings. The G-816/826, however, still provides one gamma sensitivity and repeatability despite the presence of such a base line shift. The backpack feature is recommended for use in difficult terrain where "hands free" operation is required.

Prior to survey use, objects that are suspected to be magnetic may be checked in the following manner:

1. Attach sensor to staff and connect coiled signal cable to console. Sensor should not be moved or turned during the test, and the suspected article should be far away initially.
2. Cycle the magnetometer a few times by depressing the READ button--releasing--and waiting for a reading each cycle.
3. Observe measurement readings. Each reading should repeat to  $\pm 1$  gamma. (A slow shift may occur over several minutes due to a diurnal change in the earth's field.)
4. Place the suspected article at the distance from the sensor expected during actual survey operation.
5. Cycle magnetometer several times and note the readings.

6. Remove the article and repeat steps 2 and 3 to check for diurnal shifts in the earth's field. If a diurnal shift is present, repeat entire test.
7. If the readings obtained in step 5 differ by more than  $\pm 1$  gamma ( $\pm$  one count) from those obtained in steps 3 and 6, then the article is magnetic.

IF THE ARTICLE IS HIGHLY MAGNETIC, OR IF THE SENSOR IS INSIDE OR NEAR A BUILDING OR VEHICLE, THE PROTON PRECESSION SIGNAL WILL BE LOST, GIVING COMPLETELY ERRATIC READINGS AND LOSS OF  $\pm 1$  COUNT REPEATABILITY.

The magnetometer should not be operated in areas that are known sources of radio frequency energy, power line noise (transformers), in buildings or near highly magnetic objects. The sensor should always be placed on the staff above the ground, or in the "backpack." The sensor will NOT operate properly when placed directly on the ground.

### 1.3 SPECIFICATIONS

Sensitivity:	$\pm 1$ gamma throughout range.
Range:	20,000 to 90,000 gammas (worldwide).
Tuning:	Multiposition switch with signal amplitude indicator light on display.
Gradient Tolerance:	Exceeds 800 gammas/feet.
Sampling Rate:	Manual push button, one reading each six seconds.
Output:	Five digit numeric display with readout directly in gammas.
Power Requirements:	Twelve 1.5 volt "D" cell universally available flashlight-type batteries. Charge state or replacement signified by flashing indicator light on display.
Temperature Range:	Console and sensor: $-40^{\circ}$ to $+85^{\circ}$ C. Battery pack: $0^{\circ}$ to $+50^{\circ}$ C (limited use to $-15^{\circ}$ C; lower temperature battery belt operation - optional).
Accuracy (Total Field):	$\pm 1$ gamma through $0^{\circ}$ to $+50^{\circ}$ C temperature range.

Operating Manual  
 Model G-816/826  
 Portable Proton Magnetometer

Sensor: High signal, noise cancelling, mounted on staff or attached to backpack.

Size: Console: 3.5 x 7 x 11 inches  
 (9 x 18 x 28 cm)  
 Sensor: 3.5 x 5 inches (9 x 13 cm)  
 Staff: 1 inch diameter x 8 ft. length  
 (3 cm x 2.5 m)

Weight:	Lbs.	Kgs.
Console (w/batteries):	5.5	2.5
Sensor and signal cable:	4	1.8
Aluminum staff:	2	.9
	<u>11.5</u>	<u>5.2</u>

1.4 INVENTORY INSPECTION

When received from the manufacturer, the G-816/826 Magnetometer should include the following items:

- |   |         |
|---|---------|
| 1. G-816/826 Magnetometer console   | 1 each  |
| 2. Sensor   | 1 each  |
| 3. Collapsible sensor staff   | 1 each  |
| 4. Signal cable-staff (long)  | 1 each  |
| 5. Signal cable-backpack (short)  | 1 each  |
| 6. Adjustable carrying harness  | 1 each  |
| 7. Batteries: Type D Premium Carbon Zinc with cardboard jacket (12 each within console) | 24 each |
| 8. Applications Manual for Portable Magnetometers                                       | 1 each  |
| 9. Operator's Manual  | 1 each  |
| 10. Storage/Carrying Case   | 1 each  |





1982 04 26

2.4701

Mining Recorder  
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 (Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims L 537314 et al in the Township of Cairo.

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: 416/865-1316

J. Skura/amc

cc: Pamour Porcupine Mines Limited  
Timmins, Ontario  
Attn: Kian A. Jensen

Pamour Porcupine Mines, Limited  
Administration Building  
P.O. Bag 2010  
Timmins, Ontario, Canada P4N 7X7

**pamour**

April 15, 1982

Mr. E. F. Anderson,  
Director,  
Land Management Branch,  
Whitney Block, Room 6450,  
Queens Park,  
TORONTO, Ontario  
M7A 1W3

Re: Magnetic survey for mining claim L.537316, Cairo  
Township, Larder Lake Mining Division, District  
of Timiskaming, Ontario.

Dear Sir:

Please find enclosed the reports and maps for the  
survey covering the lake portion of the mining claim L.537316.

If any problems arise pretaining to the survey.  
please contact myself or Mr. Ed van Hees at (705) 235-3311.

**RECEIVED**

APR 19 1982

Yours truly, **MINING LANDS DIVISION**

*Kian A. Jensen*

Kian A. Jensen, B. Sc.,  
Exploration Geophysicist-  
Geologist.

KAJ/kg  
Enclosure.



Alma Twp. - M.202

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.
PATENTED for S.R.O.	—

NOTES

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

AREAS WITHDRAWN FROM STAKING				
S.R. - SURFACE RIGHTS	Order No.	Date	Disposition	File
(1)	V.H.F. Tower cabin site		S.R.	15376 v2

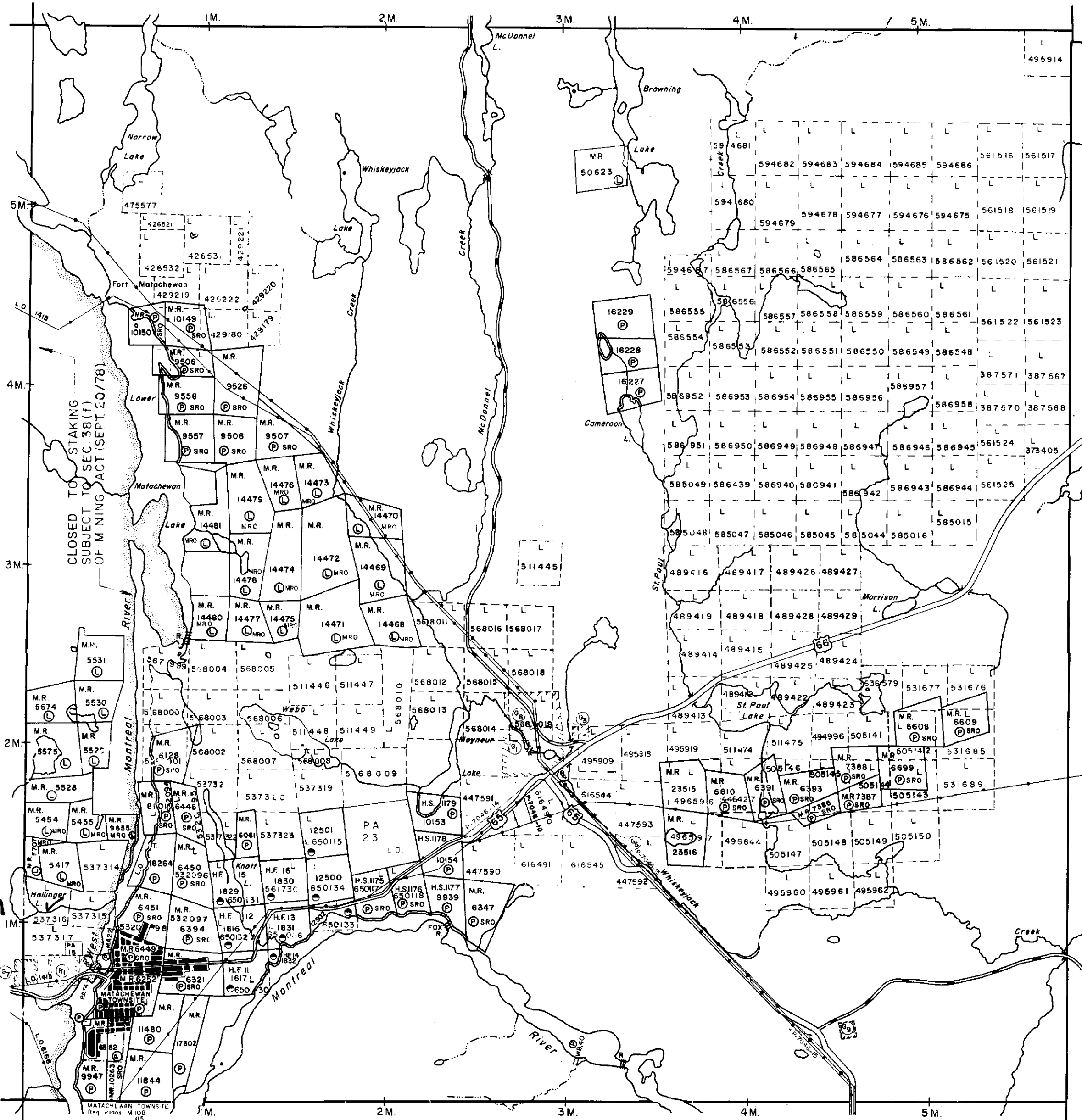
SAND and GRAVEL

- (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) M.T.C. Pit 3F-28
- (6a) Gravel Pit 205
- (6b) Gravel Pit
- (6c) M.T.C. Gravel pit 3F-21

DATE OF ISSUE  
JAN 11 1983  
Ministry of Natural Resources  
TORONTO

PLAN NO. M.210

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH



Povell Twp. - M.241

Flavelle Twp. - M.220

Kimberley Twp. - M.226



41P15NE610 2.4701 CAIRO

**PAMOUR EXPLORATION**  
**EAST OF MCM CLAIMS**  
 CAIRO TOWNSHIP, ONTARIO.  
 LARDER LAKE MINING DIVISION  
**MAGNETIC SURVEY**  
**(TOTAL FIELD)**

CLAIM NUMBERS: L-537314 TO L-537317

SCALE: 1 inch = 200 feet

DRAWN BY: K.A.J.

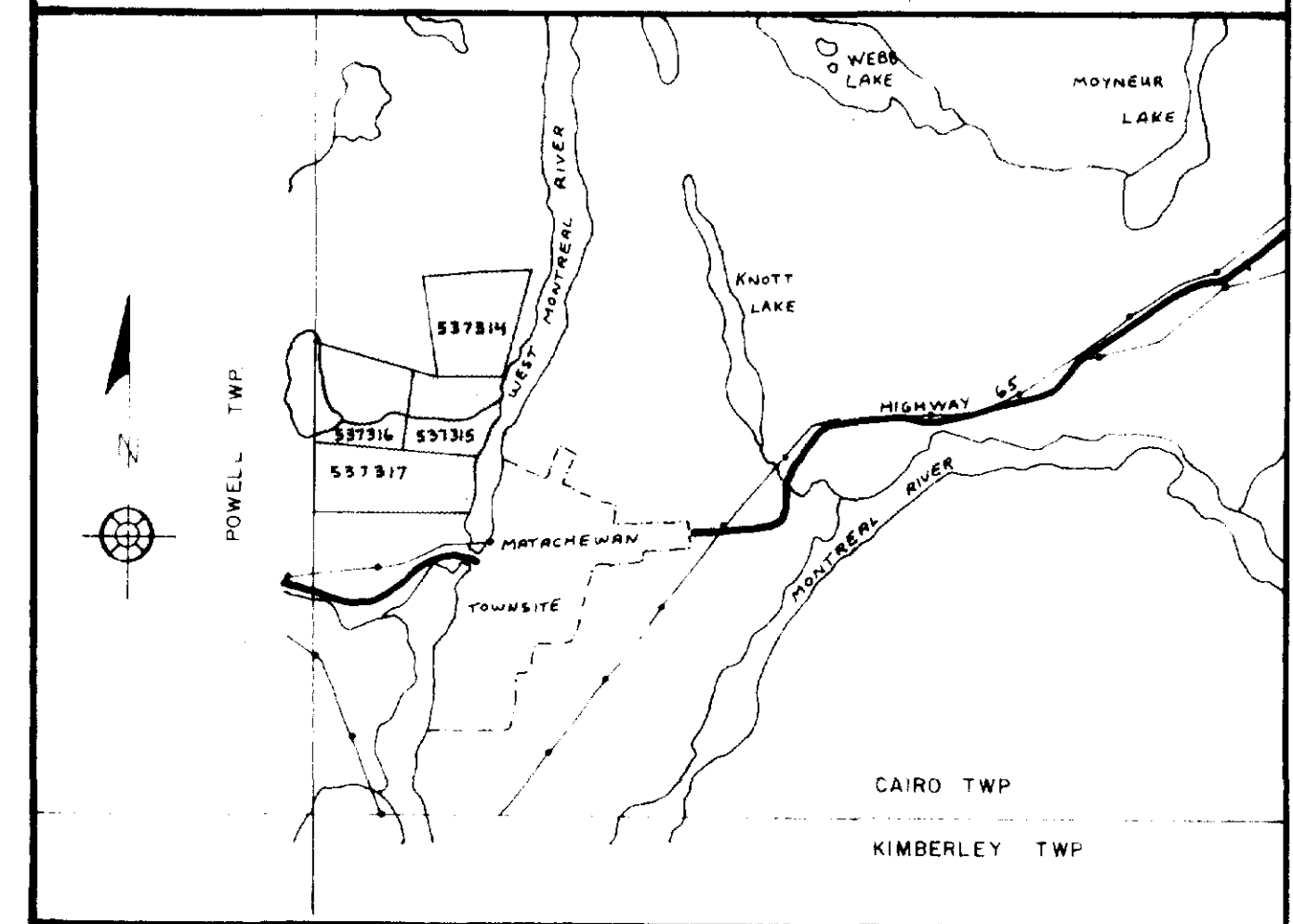
APPROVED BY: *K.A.J.*

REVISION BY:

DATE: *April 15/82*

K.A.JENSEN 04/06/82

2.4701



LOCATION MAP

SCALE: 1 INCH = 1/2 MILE

**KEY**

- CLAIM POST
- - - CLAIM LINE
- SURVEY LINE
- - - BUSH ROAD
- \* SWAMP
- SHORE LINE
- HYDRO LINE
- △ COMMUNICATION TOWER
- MAGNETIC BASE STATION
- MAGNETIC LOW
- 100 GAMMA
- 500 GAMMA

CONTOUR INTERVAL 100 GAMMAS

BASE LEVEL: 58000 GAMMAS

BASE STATION (GRID): 59120 GAMMAS

BASE MAG STATION (CONTROL): 60207 GAMMAS

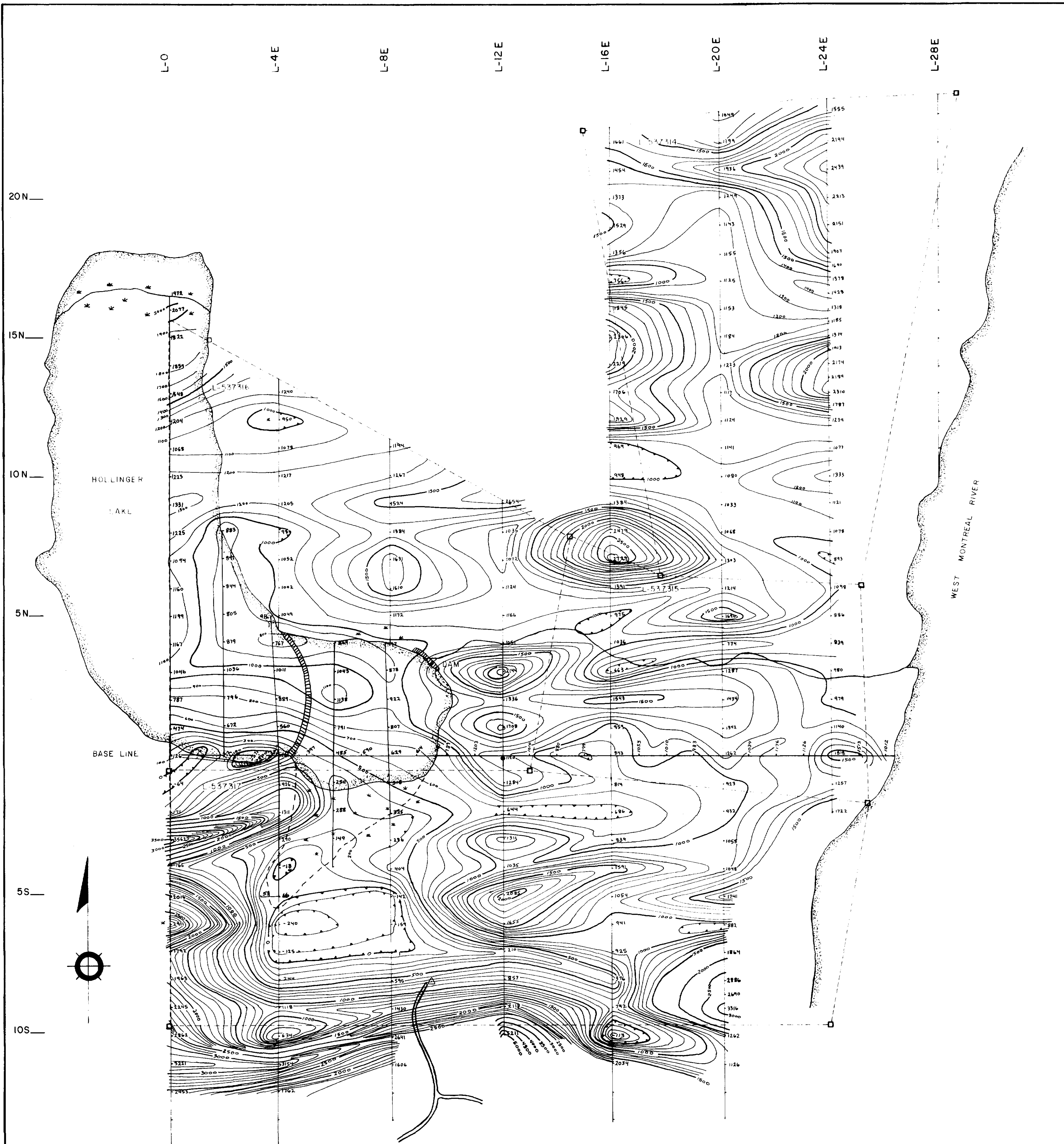
**INSTRUMENTS:**

EG & G GEOMETRICS

G-826A PROTON BASE MAGNETOMETER

G-816 PORTABLE PROTON MAGNETOMETER

Note: MAGNETIC SURVEY OF HOLLINGER LAKE  
 COMPLETED ON MARCH 26, 1982.



41P15NE616 2.4701 CAIRO