



32D05SW0008 2.10816 CLIFFORD

010

GRID C14 EXTENSION
CLIFFORD TOWNSHIP, ONTARIO
LARDER LAKE MINING DIVISION
NTS 32 D 5

2.10816

RECEIVED

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MINING LANDS SECTION

REPORT ON
MAGNETIC SURVEY

A. JAMES WALKER, P. Eng.

November 23, 1987



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ENCLOSURES

Grid C 14	Magnetic Survey	Contours	1:5000
	Magnetic Survey	Values	1:5000

INTRODUCTION

In March 1985 and March 1986 Walker Exploration Ltd. carried out a magnetic survey over 28 claims. Twenty-four additional claims on the east have been covered by this survey., A new plan has been prepared to incorporate both the previous and new survey. The 45 claim group is located on the south township boundary and east of centre in Clifford Township, about 20 kilometers northeast of Kirkland Lake.

Linecutting was carried out in September and October by Charles Bosum, while the magnetic survey was made October 25-28 over approximately 34.5 kilometers of line on the additional 24 claims.

The survey was carried out with an EDA PPM 300 total field proton magnetometer. An EDA PPM 400 base station magnetometer was used for diurnal control.

SUMMARY

The magnetic survey shows an east-west trend to the volcanics, with highest values over the mafic intrusives on the easterly section of the old grid and the northeast part of the new grid. Some north-south faulting is likely as indicated by

offsets in the contoured magnetic values.

PROPERTY

The 45 claim group is located in the south central part of Clifford Township (Claims 803325-803342 inclusive, 983106-913108 inclusive, 918236-918238 inclusive, 1014621-1014627 inclusive, 1014635-1014640 and 1014648-1014655 inclusive). The group is about 20 kilometers north-east of Kirkland Lake. Access is via a bush road that goes east from the Esker Lake Provincial Park road (about 5 kilometers).

PREVIOUS WORK

A magnetic survey was carried out by Canadex Mining Corporation Ltd. in 1972 covering the easterly 6 claims of the present survey. L. J. Cunningham, Consultant, reports several old pits and trenches were observed. Pyrite mineralization was observed near some magnetic lows, as well as rusty outcrops near a magnetic high. Some drilling by Mining Corporation is mentioned in Mr. Cunningham's report.

Walker Exploration carried out a magnetic survey in March of 1985, and some detail tests in March of 1986 on the original 21 claim group.

GENERAL GEOLOGY - OGS Geoscience Report 132, Map 2283)

The claim group is mainly drift covered. East-west trending volcanics occur on the property, with intermediate to the south and felsic to the north. Outcrops of quartz gabbro and diorite are found on the east portion of the grid.

SURVEY METHOD

The magnetic survey was performed with an EDA PPM 300 magnetometer, measuring total field to 0.1 gammas. Diurnal control was made by using an EDA base station magnetometer (PPM 400) located on the Esker Lake road to the west. Other grids on this project are tied into this base station, so a common base level for all grids was established. The extension is tied in to the previous survey.

The magnetometer and base station have solid state memory for storage of values and location of stations read. The units are plugged together each evening and the computer programme allows for automatic diurnal corrections to field values. Corrected data was stored on cassette of an HP85 computer. Data is transferred to IBM compatible for final plotting on our in-house plotter.

Observations were made at 125 meter intervals on lines 125 meters apart. As well base line and tie lines were read.

Values are plotted on a plan at a scale of 1:5000. Contours of values are plotted on a separate sheet at 25 gamma intervals.

SURVEY RESULTS

Contours of the values show a general east-west trend with low values to the west. On the old grid some isolated magnetic highs (200 to 600 gammas above background) occur to the east of lines 1875 East, and likely represent the mafic intrusive rocks.

On the new grid a magnetic high area extends from 2000 east to 3000 east, north of the 1260N tie line.

CONCLUSIONS

The magnetic survey should provide a good base to relate previous exploration work and future activities such as prospecting and mapping, geochemistry and other geophysics such as VLF-EM.

Respectfully submitted,



A. James Walker, P. Eng.

AJW:sb

Qual.
63.2234

SURVEY DATA

Grid C14

Clifford Township, Larder Lake Mining Division, Ontario.

Geophysical Contractor - Walker Exploration Ltd.

Covering Dates - Linecutting - Sept. 15-October '87
Magnetic Survey - October 25-28 '87
Drafting - November 15-28 '87
Report - November 23, 1987

Line Coverage - Linecutting - 34.5 kilometers
Magnetic Survey - 34.5 kilometers
Readings 2791
Line Spacing - 125 meters
Station Spacing - 12.5 meters

Crew

Linecutting - Charlie Bosum, Chibougamau, Quebec
Magnetic Survey - J. Tough, Bracebridge, Ontario
Drafting - R. T. Marcroft, Mississauga, Ontario
A. J. Walker, Oakville, Ontario
Field Report - A. J. Walker, Oakville, Ontario

Instruments

Magnetic Survey

- EDA PPM 300 Proton, Total Field
Direct Reading, 0.1 Gamma
Solid State Memory
- EDA PPM 400 Base Station Recorder



**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) Magnetometer
Township or Area Clifford
Claim Holder(s) Lac Minerals Ltd.

Survey Company Walker Exploration Ltd.
Author of Report A. James Walker
Address of Author 406 Canterbury Cr., Oakville
Covering Dates of Survey Sept. 15 - Nov. 28, 1987
(linecutting to office)
Total Miles of Line Cut 34.5 km

MINING CLAIMS TRAVERSED	
List numerically	
L918237	L6014654
(prefix)	(number)
L918238	L6014655
L918239	
L1014621	
L1014622	
L1014623	
L1014624	
L1014625	
L1014626	
L1014627	
L1014635	
L1014636	
L1014637	
L1014638	
L1014639	
L1014640	
L1014648	
L1014649	
L1014650	
L1014651	
L1014652	
L1014653	
TOTAL CLAIMS <u>24</u>	

If space insufficient, attach list

<u>SPECIAL PROVISIONS</u> <u>CREDITS REQUESTED</u>	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical -Electromagnetic _____ -Magnetometer <u>40</u> -Radiometric _____
ENTER 20 days for each additional survey using same grid.	-Other _____ Geological _____ Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)
Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Nov. 23, 1987 SIGNATURE: A. J. Walker
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1395 Number of Readings 2791
Station interval 12.5 Line spacing 125 meters
Profile scale 500
Contour interval 25 gammas

MAGNETIC

Instrument EDA PPM 300, Proton Total Field
Accuracy - Scale constant Readout to 0.1 gammas
Diurnal correction method Base Station Recorder, EDA PPM 400
Base Station check-in interval (hours) Continuous - 15 seconds
Base Station location and value Off Esker Lake Road, just south of
Victoria Lake, 58640

ELECTROMAGNETIC

Instrument _____
Coil configuration _____
Coil separation _____
Accuracy _____
Method: Fixed transmitter Shoot back In line Parallel line
Frequency _____
(specify V.L.F. station)
Parameters measured _____

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 _____



Report of Work *W8706 # 472*
 (Geophysical, Geological,
 Geochemical and Expenditures)



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900

Land Management

Type of Survey(s): **Ground Geophysics (Magnetometer)** Township or Area: **Clifford Township**

Claim Holder(s): **LAC Minerals Ltd.** Prospector's Licence No.: **T-664**

Address: **91 Duncan Ave., Kirkland Lake, Ontario**

Survey Company: **Walker Exploration Ltd.** Date of Survey (from & to): **25 10 87** | **28 10 87** Total Miles of line Cut: **34.5 Km**

Name and Address of Author (of Geo-Technical report): **A.J. Walker, 406 Canterbury, Oakville, Ontario.**

Special Provisions			Mining Claims Traversed (List in numerical sequence)		
	Geophysical	Days per Claim	Mining Claim		Expend. Days Cr.
			Prefix	Number	
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	40	L	918236	40
	- Magnetometer			918237	40
	- Radiometric			918238	40
	- Other			1014621	40
For each additional survey: using the same grid: Enter 20 days (for each)	Geological			1014622	40
	Geochemical			1014623	40
				1014624	40
				1014625	40
				1014626	40
				1014627	40
				1014635	40
				1014636	40
				1014637	40
				1014638	40
				1014639	40
				1014640	40
				1014648	40
				1014649	40
				1014650	40
				1014651	40
				1014652	40
				1014653	40
				1014654	40

Man Days: Complete reverse side and enter total(s) here

Airborne Credits: Note: Special provisions credits do not apply to Airborne Surveys.

Expenditures (excludes power stripping):

Type of Work Performed: **ONTARIO GEOLOGICAL SURVEY**

Performed on Claim(s): **RESERVATION**

Calculation of Expenditure Days Credits:

Total Expenditures: \$ [] + 15 = []

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.

RECORDED
DEC 15 1987

Receipt # _____

RECORDED
DEC 15 1987

AM 4:15

For Office Use Only

Total Days Cr. Recorded: **960**

Date Recorded: **Dec 15/87**

Date Approved as Recorded: **12 Feb 88**

Mining Recorder: **M.G. Weesner**

Branch Director: **[Signature]**

Date: **Dec. 14/87**

Recorded Holder or Agent (Signature): **[Signature]**

Certification Verifying Report of Work

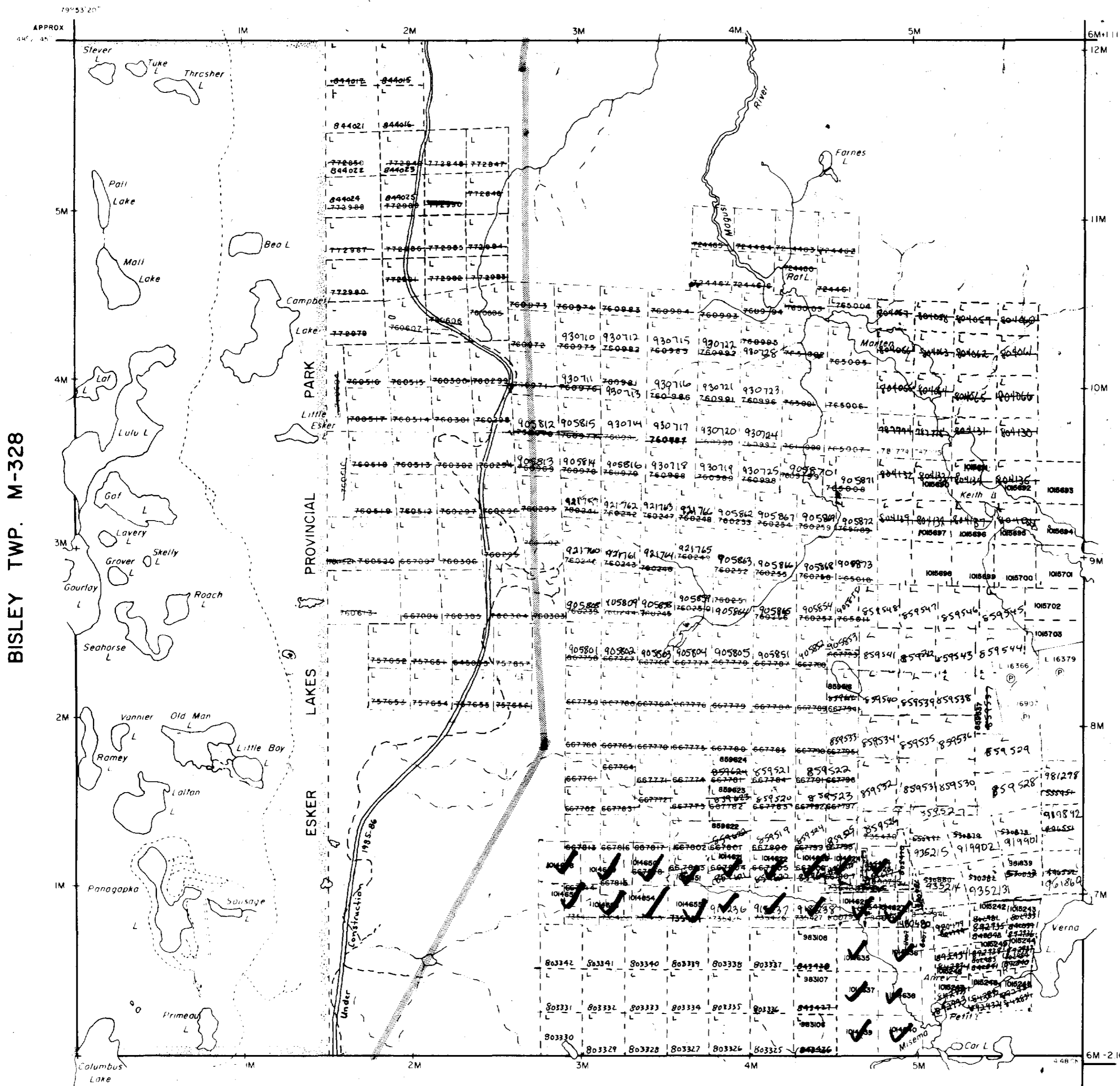
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: **John Kovala 91 Duncan Ave., Kirkland Lake, Ontario**

Date Certified: **Dec. 14/87**

Certified by (Signature): **[Signature]**

ELLIOTT TWP. M-347



NOTES

400 surface rights reservation along the shores of all lakes and rivers.
 Order No. W15/85 Date Disposition April 10/85 MR 65R
 SEC 36/80 Above reopendated Oct 31/85 3:55pm

DATE OF ISSUE
FEB 17 1988
 LARDER LAKE
 MINING RECORDER'S OFFICE

LEGEND

- PATENTED CLAIM
- PATENTED CLAIM
- LEASE
- LICENSE OF OCCUPATION
- CROWN LAND SALE
- LOCATED LAND
- CANCELLED
- MINING RIGHTS ONLY
- SURFACE RIGHTS ONLY
- HIGHWAY & ROUTE
- ROADS
- TRAILS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKIE
- MINE

Application Pending under Public Lands Act

TOWNSHIP OF
CLIFFORD
 DISTRICT OF
 COCHRANE
 LARDER LAKE
 MINING DIVISION
 SCALE 1 INCH = 40 CHAINS (1.2 MILE) #15
 PLAN NO. **M-338**

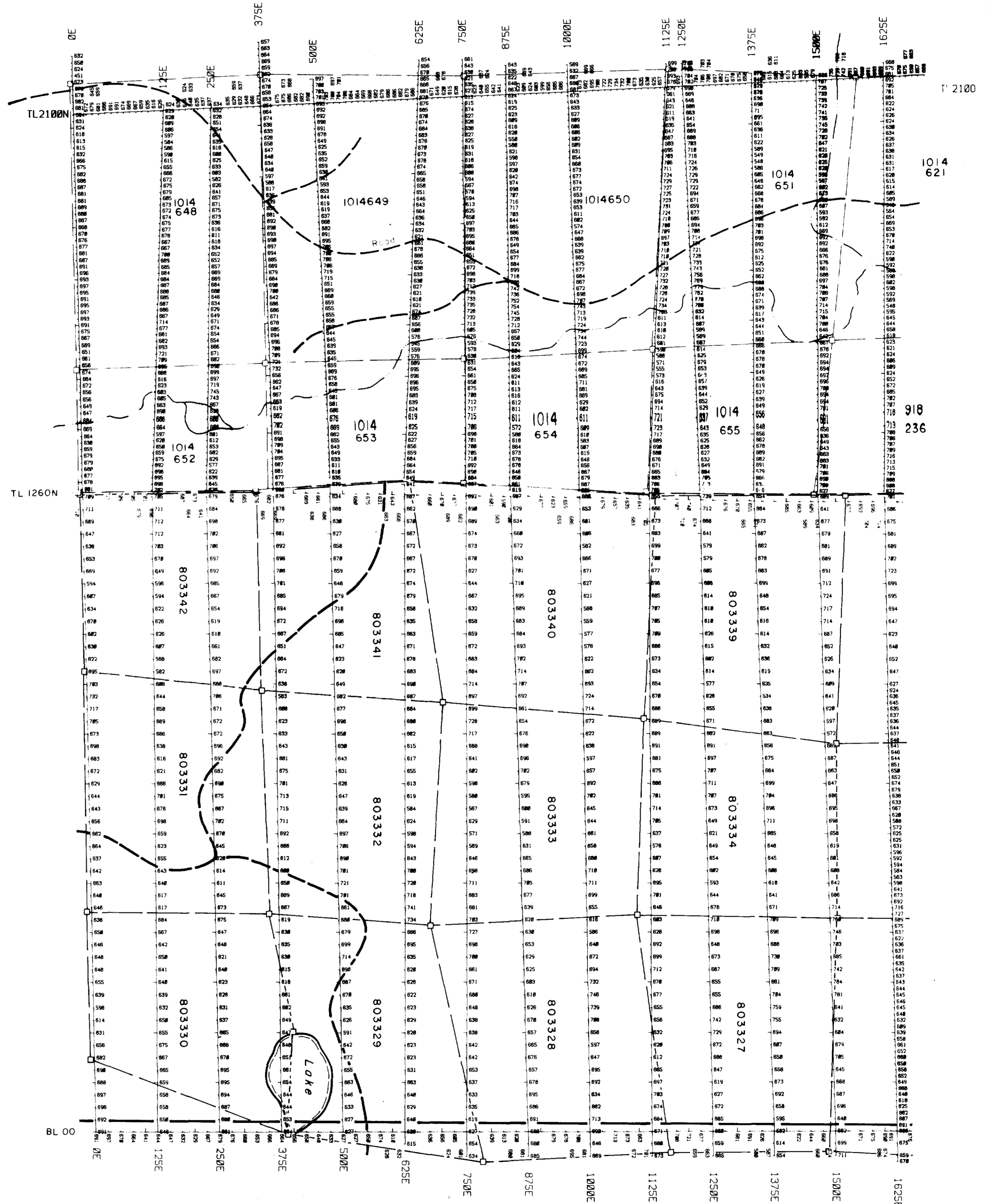
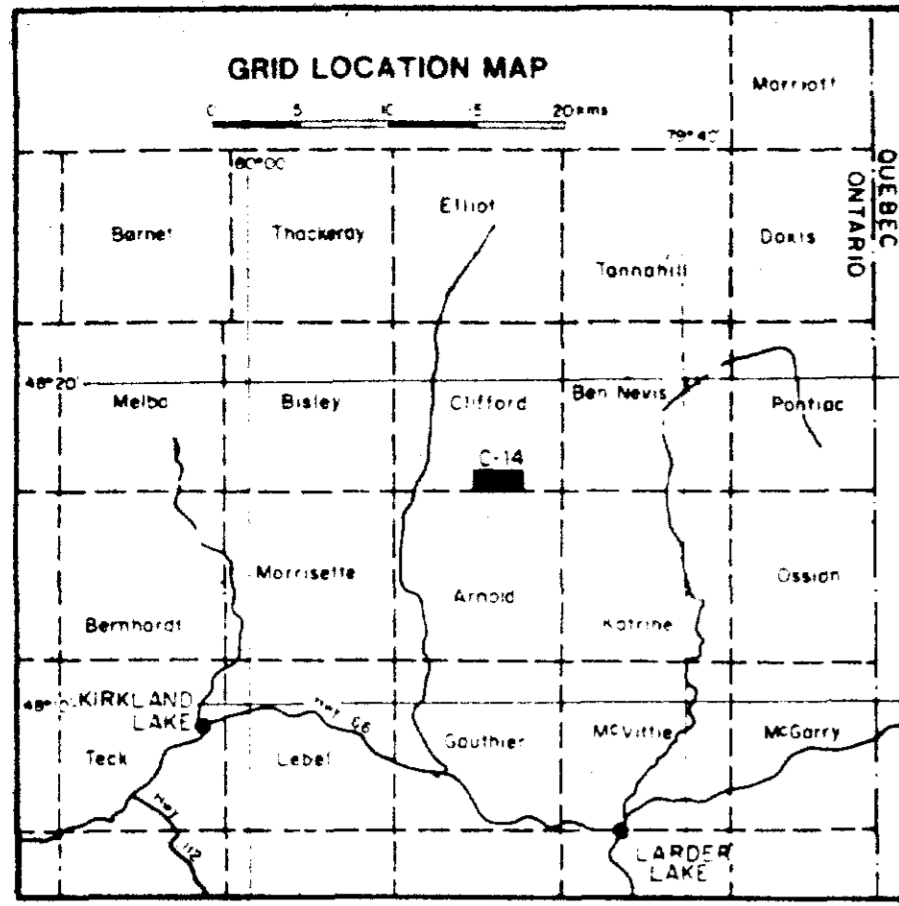
ONTARIO
 MINISTRY OF NATURAL RESOURCES

BISLEY TWP. M-328

BEN NEVIS TWP. M-325

ARNOLD TWP. M-321



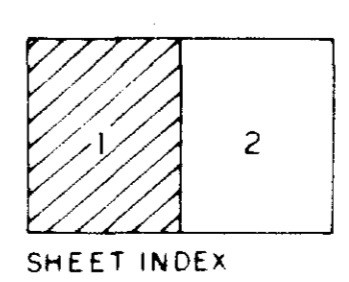


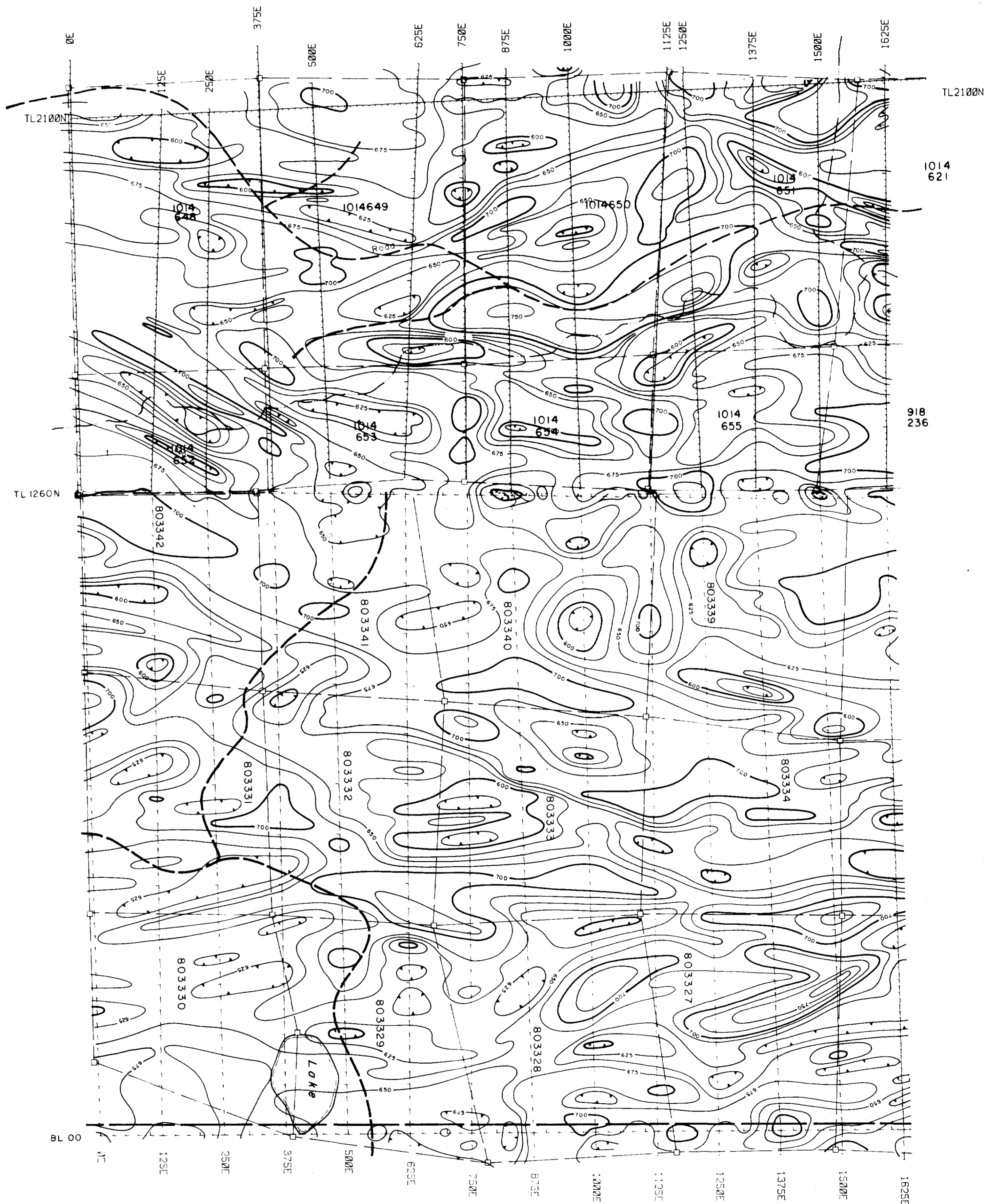
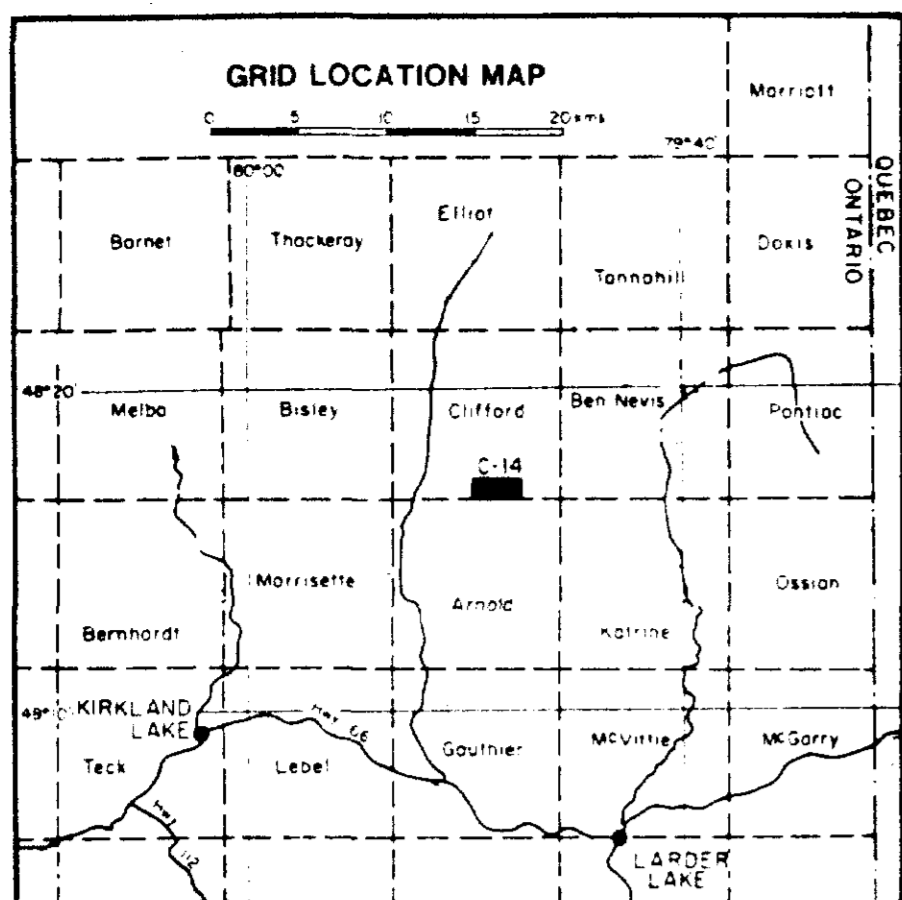
2.10816
 C14 CLIFFORD TOWNSHIP
 KIRKLAND LAKE AREA
 MAGNETOMETER SURVEY
 TOTAL FIELD VALUES

0 100 200 300 meters
 Scale: 1:5000

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 Mississauga Ontario
 OCTOBER 1987

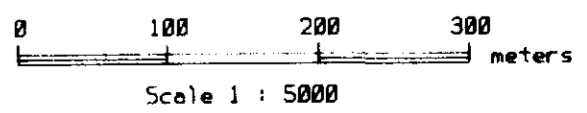
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 - Claim Post and line.....
 - Instrument..... EDR PPM-588
 - Base Station..... EDR PPM-488
 - Base level..... 58800 nt





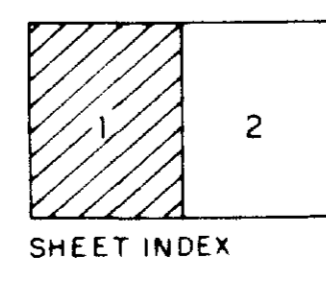
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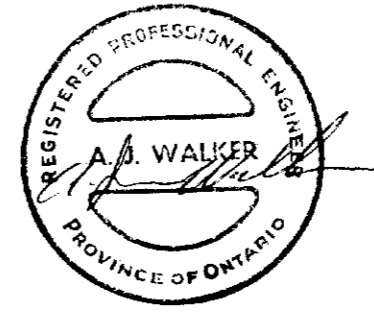
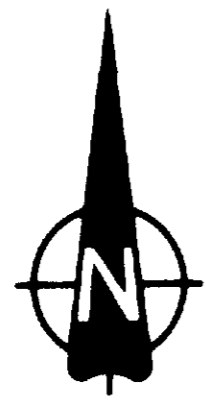
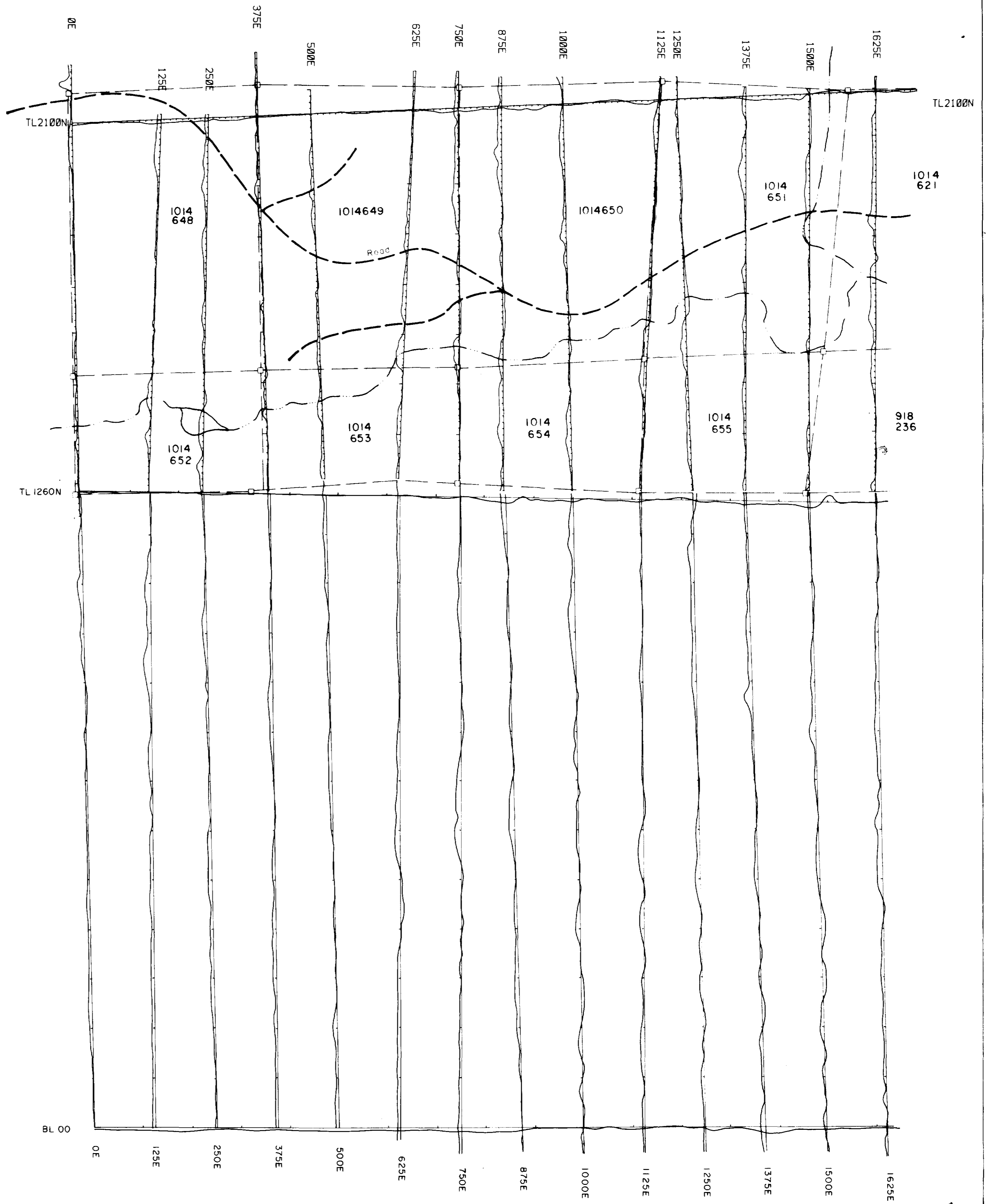
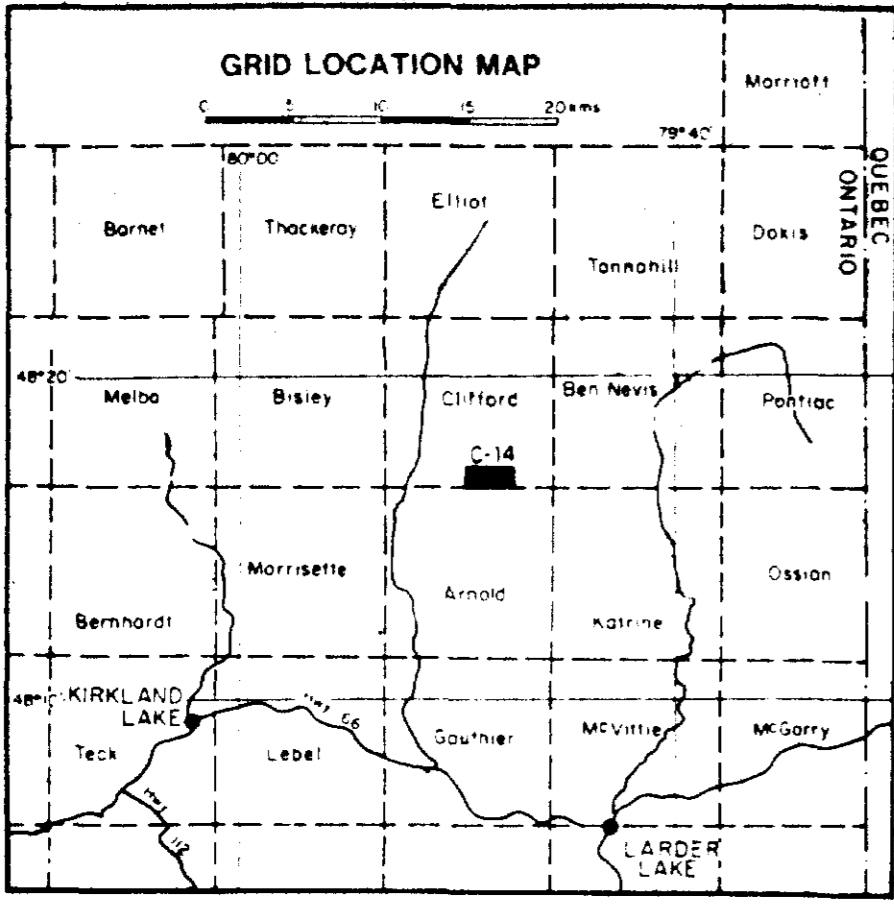
C14 CLIFFORD TOWNSHIP
KIRKLAND LAKE AREA
MAGNETOMETER SURVEY
TOTAL FIELD CONTOURS



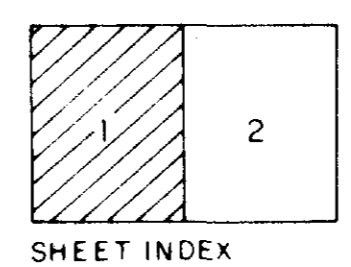
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Mississauga Ontario,
OCTOBER 1987

- LEGEND
- Stream, Swamp, Lakeshore.....
 - Claim Post and line.....
 - Instrument..... EDR PPM-500
 - Base Station..... EDR PPM-400
 - Contours of Total Field..... 25nt interval
 - 25nt contour.....
 - 100nt contour.....
 - 500nt contour.....

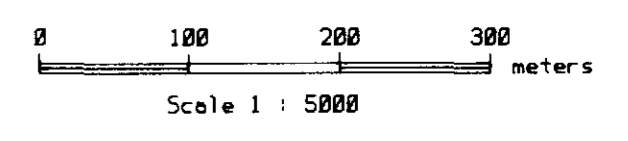




- LEGEND
- Stream, Swamp, Lakeshore.....
 - Claim Post and line.....
 - Instrument..... EDR PPM-500
 - Base Station..... EDR PPM-400
 - Base level..... 58700 nt
 - Profile Scale = 500 nt/cm.....

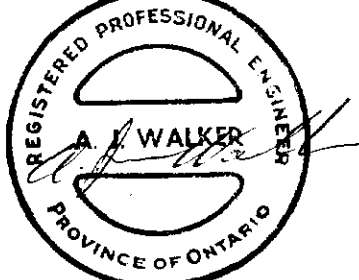
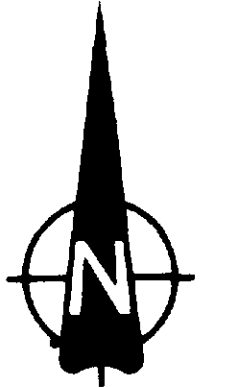
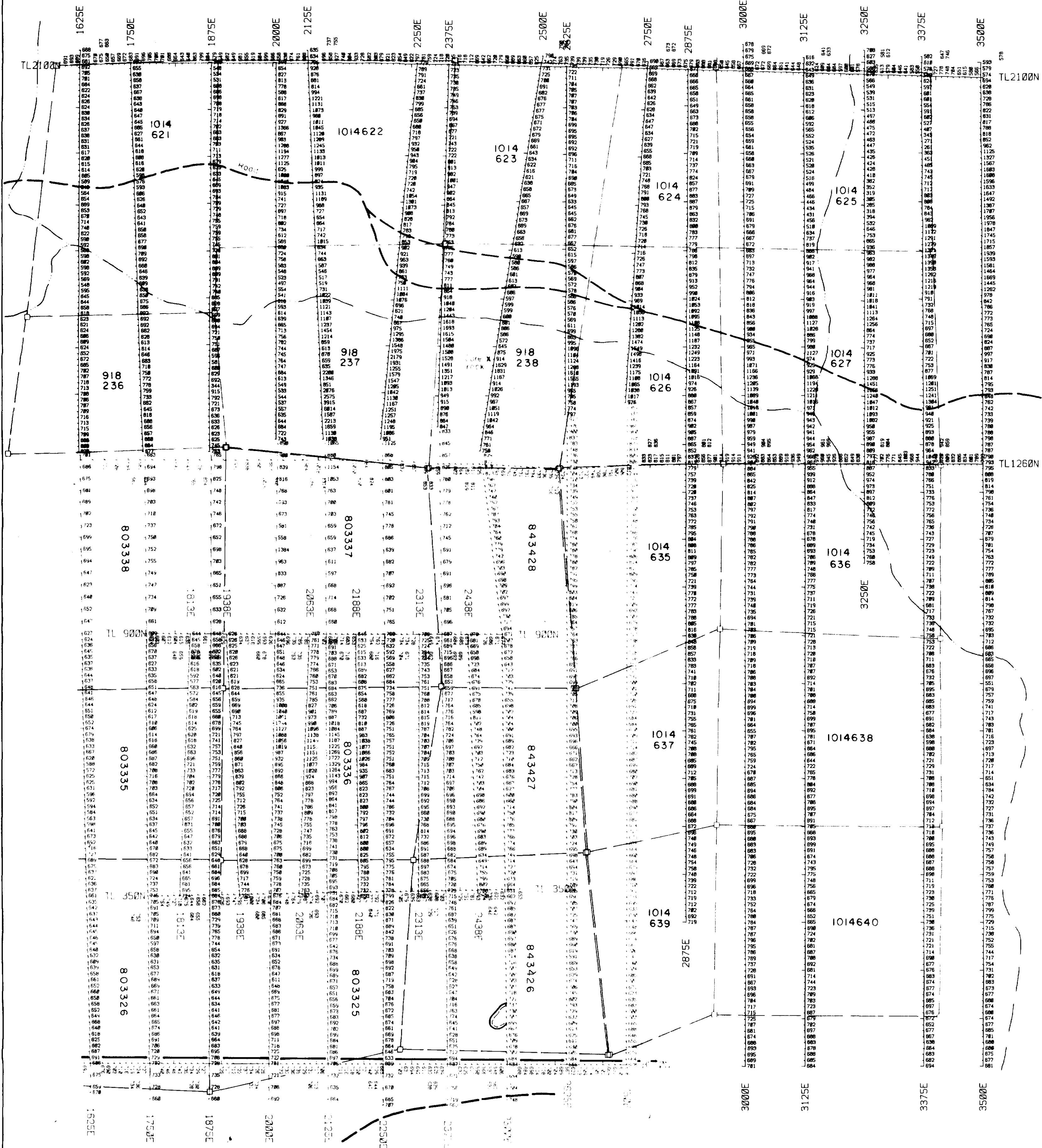
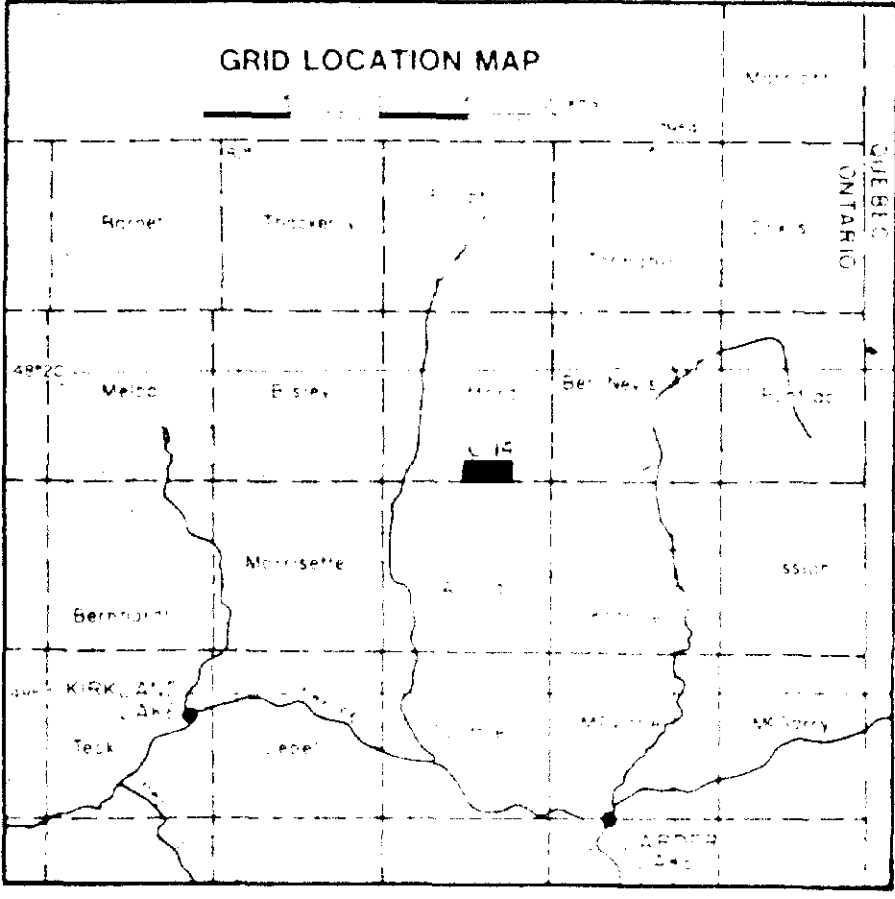


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 C14 CLIFFORD TOWNSHIP
 KIRKLAND LAKE AREA
 MAGNETOMETER SURVEY
 TOTAL FIELD PROFILES



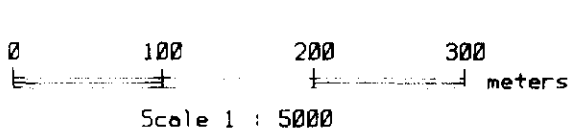
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 Mississauga Ontario
 OCTOBER 1987





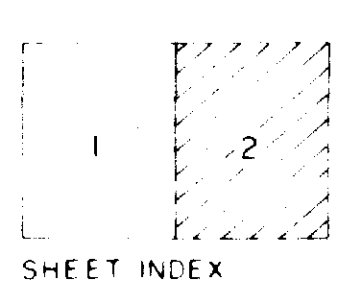
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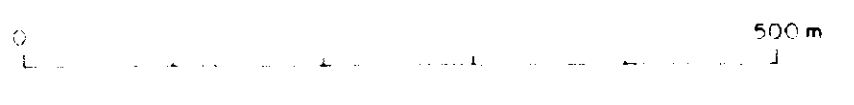
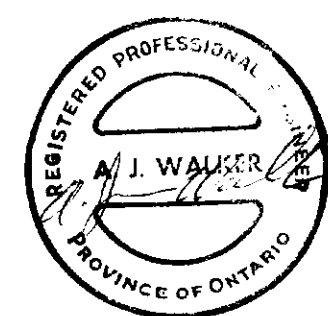
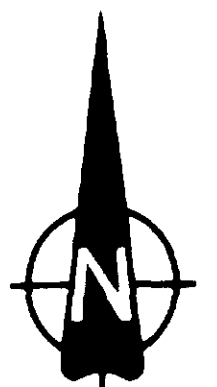
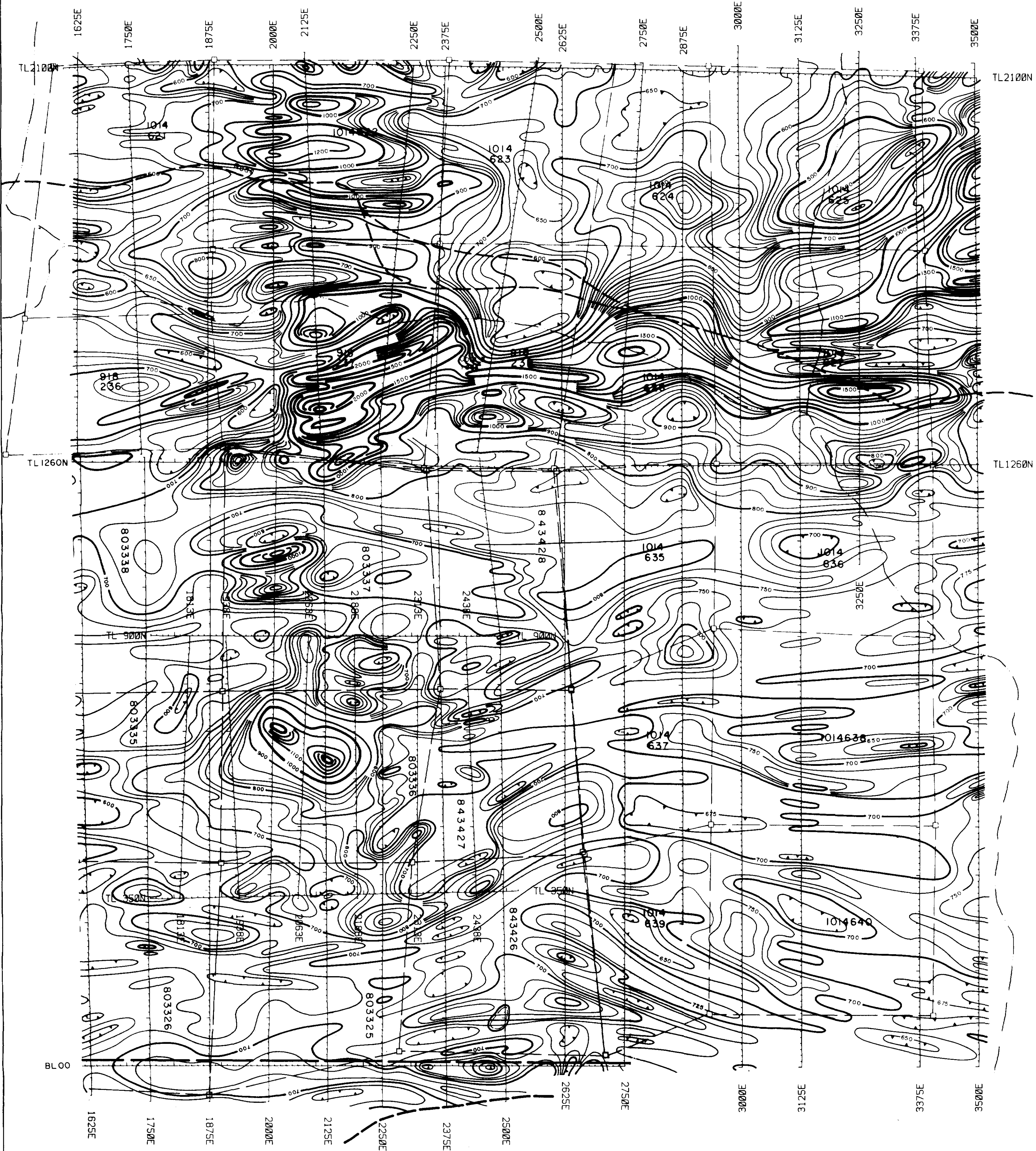
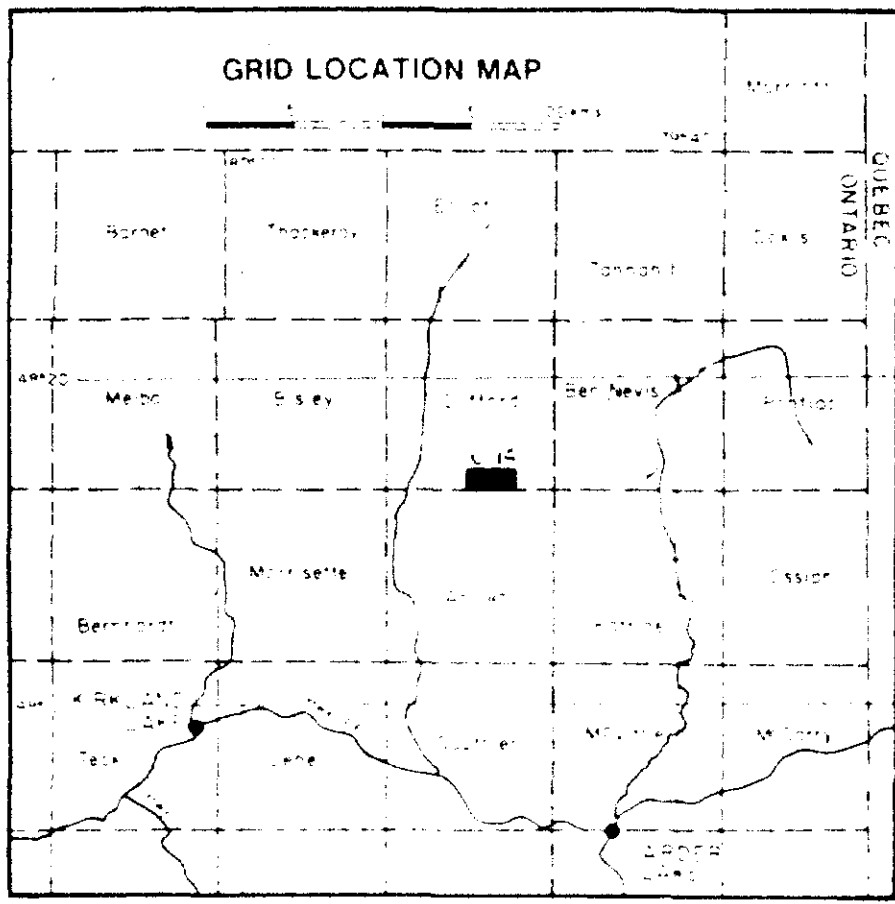
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 KIRKLAND LAKE AREA
 MAGNETOMETER SURVEY
 TOTAL FIELD VALUES



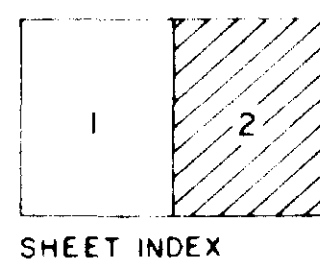
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 Mississauga Ontario.
 OCTOBER 1987

- LEGEND
- Stream, Swamp, Lakeshore.....
 - Claim Post and line.....
 - Instrument..... EDR PPM-500
 - Base Station..... EDR PPM-400
 - Base level..... 50000 nt

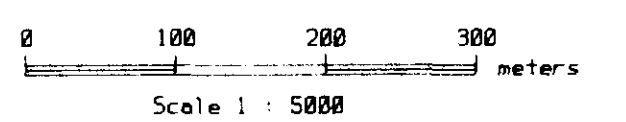




- LEGEND
- Stream, Swamp, Lakeshore.....
 - Claim Post and line.....
 - Instrument..... EDA PPM-500
 - Base Station..... EDA PPM-400
 - Contours of Total Field..... 25nt Interval
 - 25nt contour.....
 - 100nt contour.....
 - 500nt contour.....

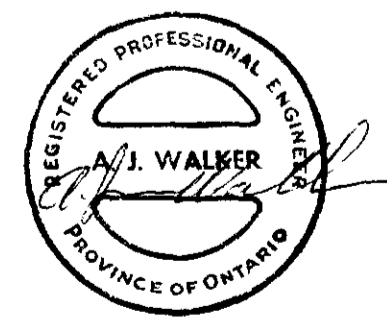
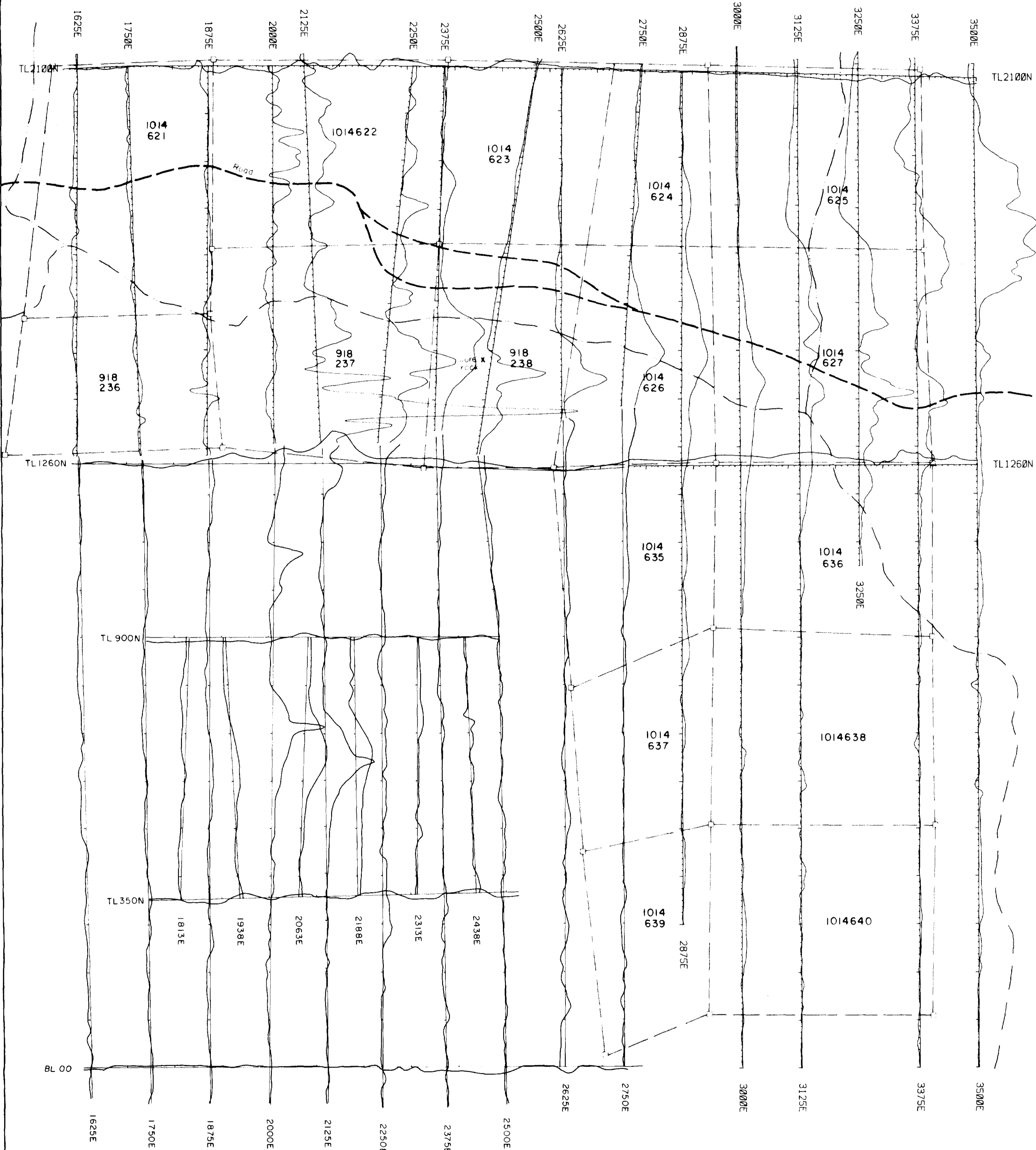
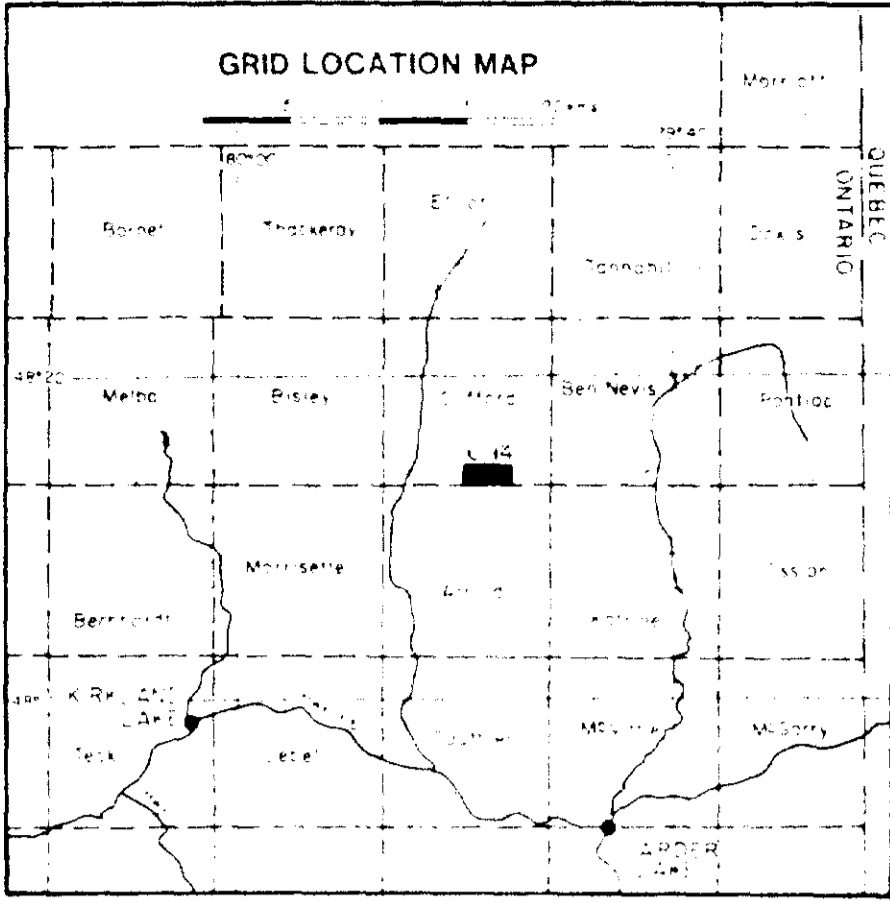


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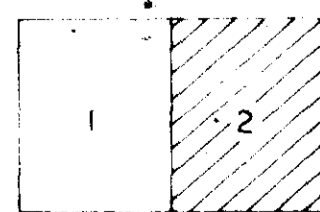
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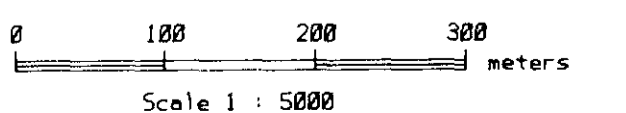
500m

LEGEND
 Stream, Swamp, Lakeshore.....
 Claim Post and line.....
 Instrument..... EDR PPM-500
 Base Station..... EDR PPM-400
 Base level..... 58700 mt
 Profile Scale = 500 mt/cm.....



SHEET INDEX

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DRG. 2C

NTS 32 0 5



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