

32D04NW0015 2.11623 ARNOLD

010

GRID A 1
ARNOLD TOWNSHIP, ONTARIO
LARDER LAKE MINING DIVISION
NTS 32 D 5

RECEIVED

SEP 19 1988

MINING LANDS SECTION

REPORT ON

MAGNETIC SURVEY

A. JAMES WALKER P.Eng.

NOVEMBER 27, 1987



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- 1 -

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ENCLOSURES

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INTRODUCTION

Walker Exploration Ltd. carried out a magnetometer survey over 10 claims in the northwest part of Arnold Township, along the Esker Lakes road. The group is about 18 kilometers northeast of Kirkland Lake. The survey is over a 6 claims previously surveyed with east-west lines, plus an extension to the south of 4 claims.

Linecutting and chaining was done by another contractor in September 1987. The survey was carried out October 22nd and 23rd, 1987, over approximately 24.3 kilometers of new lines.

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

SUMMARY

The survey has indicated a northerly trend to volcanic flows, with some units more mafic than others. Also north-south faulting or shearing is suggested.

PROPERTY

The 10 claim group is located in the northwest part of Arnold Township. The Esker Lakes Park road accesses the westerly claims. The group consists of claims L893271-L893676 inclusive, L-1014628-1014629, 1014656 and 1014657, and is about 18 kilometers northeast of Kirkland Lake.

PREVIOUS WORK

Assessment records show a ground magnetic and VLF-EM survey was conducted by Geoex for Falconbridge Limited in October 1980, likely following up an airborne survey. Walker Exploration Ltd. carried out a magnetic survey over the 6 northerly claims in November 1986.

GENERAL GEOLOGY (OGS Map 2061)

The property is mainly drift covered (glacial outwash and sand) located in a broad area of felsic to intermediate volcanics, with occasional felsic to mafic intrusives.

SURVEY METHOD

The magnetic survey was performed with an EDA PPM 300 proton magnetometer, measuring total field to 0.1 gammas. Diurnal control was made by using an EDA PPM 400 base station magnetometer located on the Esker Lake road just north of Victoria Lake. Other grids on this project are tied into this common base station.

The field magnetometer and base station magnetometer have solid state memory for storage of values and locations of stations read. The instruments have built in clocks which are synchornized each day. The units are plugged together each evening and the built-in computer programme in the base station allows for automatic diurnal correction of data collected. This corrected data was stored on the cassette of an HP85 computer in the field, and later transferred to an IBM compatible computer for final plotting.

Observations were made at 12.5 meter stations on lines 100 meters spacing (50 meters on north part). Values are plotted on a plan at a scale of 1:5000. Contours of values are plotted on a separate sheet.

New lines were north-south, while previous lines were east-west. Contouring of data was done using all data.

SURVEY RESULTS

The contoured magnetics show a general northerly trend to the volcanics. A broad magnetic high in the north central part of the grid likely represents a more mafic flow. North-south shearing is suggested along the east part and through the central part of the grid. A few magnetic low spikes are likely caused by metal objects along the Esker Lake road (culverts, scrap, etc.), and are ignored in the contouring.

CONCLUSIONS

The survey has indicated a northerly trend to the volcanics, with more mafic units or a basic intrusive. North-south shearing or faulting is also suggested by the survey.



A. James Walker, P. Eng.

AJW:sb

SURVEY DATA

Grid A1.

Arnold Township, Larder Lake Mining Division, Ontario.

Geophysical Contractor - Walker Exploration Ltd.

Covering Dates	- Linecutting	- September 12-27, 1987
	Magnetic	- October 22 & 23, 1987
	Drafting	- Nov. 15-25, 1987
	Report	- November 27, 1987

Line Coverage	- Linecutting	- 24.325 km.
	Magnetic Survey	- 24.325 km.
	Readings	- 1963
	Line Spacing	- 100 meters (some 50 m)
	Station Spacing	- 12.5 meters

Crew

Linecutting	- Charles Bosum, Chibougamau, Quebec
Magnetic Survey	- J. Tough, Bracebridge, Ontario
	D. Miles, London, Ontario
Drafting	- A. J. Walker, Oakville, Ontario
	R.T. Marcroft, Mississauga, 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.



File _____

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) Magnetic

Township or Area Arnold

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. 12 - Nov. 27, 1987
(linecutting to office)

Total Miles of Line Cut _____

MINING CLAIMS TRAVERSED
List numerically

L1014628
(prefix) (number)

L1014629

L1014656

L1014657

**SPECIAL PROVISIONS
CREDITS REQUESTED**

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
-Electromagnetic _____	
-Magnetometer _____	40
-Radiometric _____	
-Other _____	
Geological _____	
Geochemical _____	

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

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Nov. 27, 1987 SIGNATURE: [Signature]
Author of Report or Agent:

Res. Geol. _____ Qualifications 63.2234

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 4

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 981 Number of Readings 1963
Station interval 12.5 meters Line spacing 160 meters
Profile scale 200 nT/cm
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 north of
Victoria Lake - 58640 gammas

ELTROMAGNETIC

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

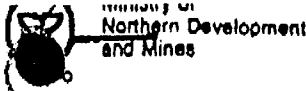
GRAVITY

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

SENT BY: LARDER LK MINING RECOR; 9-20-88 2:21PM ;



Department of Work
(Geophysical, Geological, Geochemical and Exploration)



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2.11623

Do not use shaded areas below.

Type of Survey(s) Magnetometer		Township or Area Arnold	
Claim Holder(s) LAC Minerals Ltd.		Prospector's Licence No. T-664	
Address 91 Duncan Avenue, KIRKLAND LAKE, Ontario P2N 1Y2			
Survey Company Walker Exploration Ltd.		Date of Survey (from & to) 22, 19 87, 23, 10, 87	Total Miles of line Cut 9.2 Km
Name and Address of Author (of Geo-Technical report) A.J. Walker 406 Canterbury Cr., OAKVILLE, Ontario			

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

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
	1014628				
	1014629				
	1014656				
	1014657				
ARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE OCT 24 1988 RECEIVED LAKELAND DEPT. OF MINES AM 7:18:90					

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$ + = 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. **4**

For Office Use Only

Total Days Cr. Recorded 160	Date Recorded Sept 8/88	Mining Recorder <i>[Signature]</i>
2.11623	Date Approved as Recorded 11/20/88	Branch Director <i>[Signature]</i>

Date **September 7, 1988**

Reported 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 some during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
John Kovala 91 Duncan Avenue, KIRKLAND LAKE, Ontario P2N 1Y2

Date Certified **September 7, 1988**

Certified by (Signature) *[Signature]*

Copies Sent Sept 19/88 Kelly

Clifford Twp. (M. 338)

THE TOWNSHIP OF
OF
ARNOLD

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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.
PATENT SURFACE RIGHTS ONLY	Ⓟ

NOTES

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

Areas withdrawn from staking under Section 36 of the Mining Act (R.S.O. 1980).
Order No. File Date Disposition

Ⓟ SURFACE RIGHTS WITHDRAWN FROM STAKING
SECTION 43 ORDER (R.S.O.1970) FILE NO. 63497

Ⓟ SURFACE RIGHTS WITHDRAWN FROM STAKING
SECTION 43 ORDER (R.S.O.1970) NO. NR W.32/79

Ⓟ SURFACE + MINING RIGHTS WITHDRAWN FROM
STAKING, section 36/80 order NO. W/32/88
ORDER NO. O-34/88 OPENS W/32/88

Ⓟ SURFACE + MINING RIGHTS WITHDRAWN FROM
STAKING, section 36/80 ORDER NO. W/32/88NR

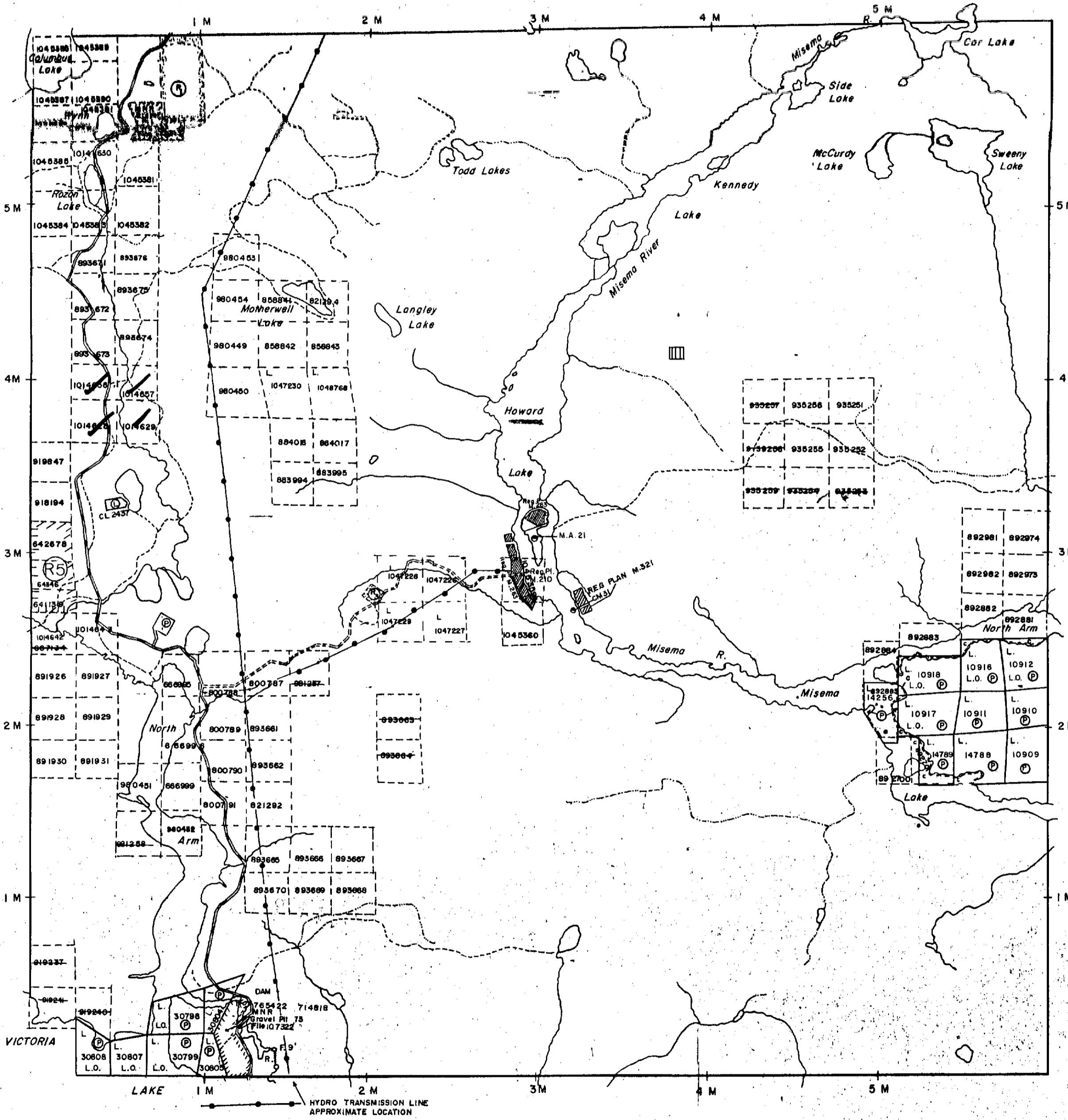
DATE OF ISSUE

SEP 9 1988

LARDER LAKE

PLAN NO. **M.321**

MINISTRY OF
NORTHERN DEVELOPMENT
AND MINES

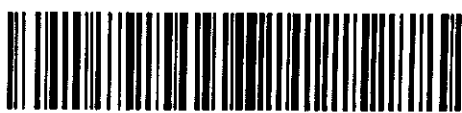


Gauthier Twp. (M. 350)

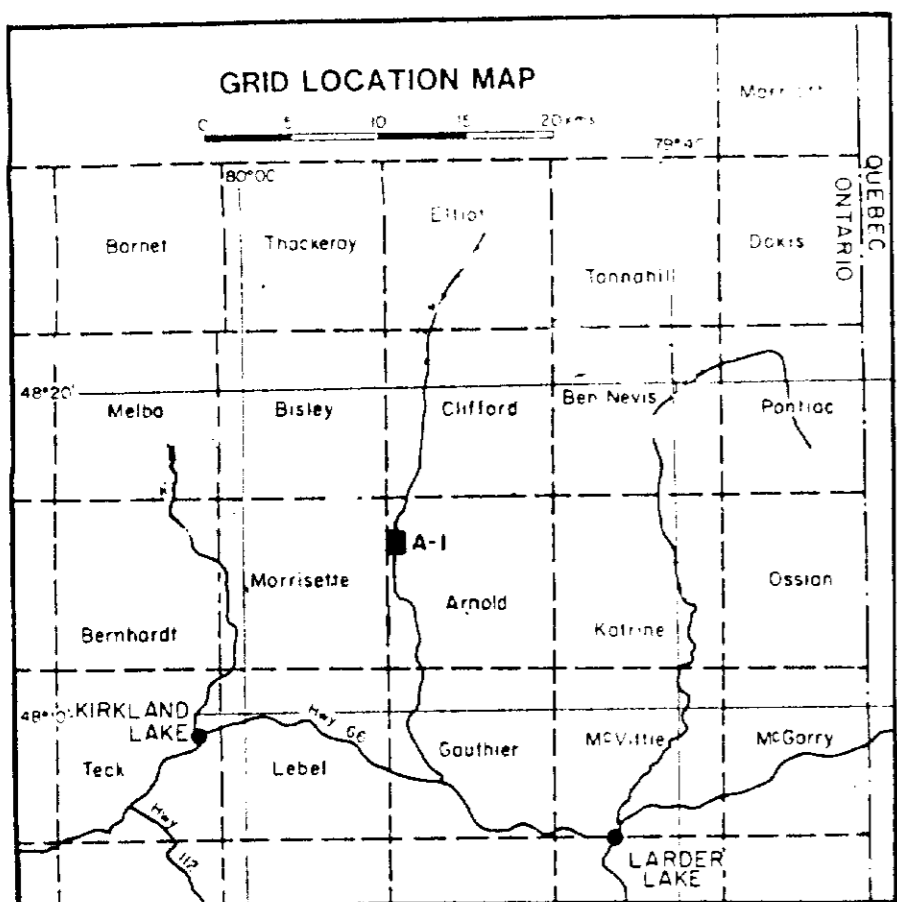
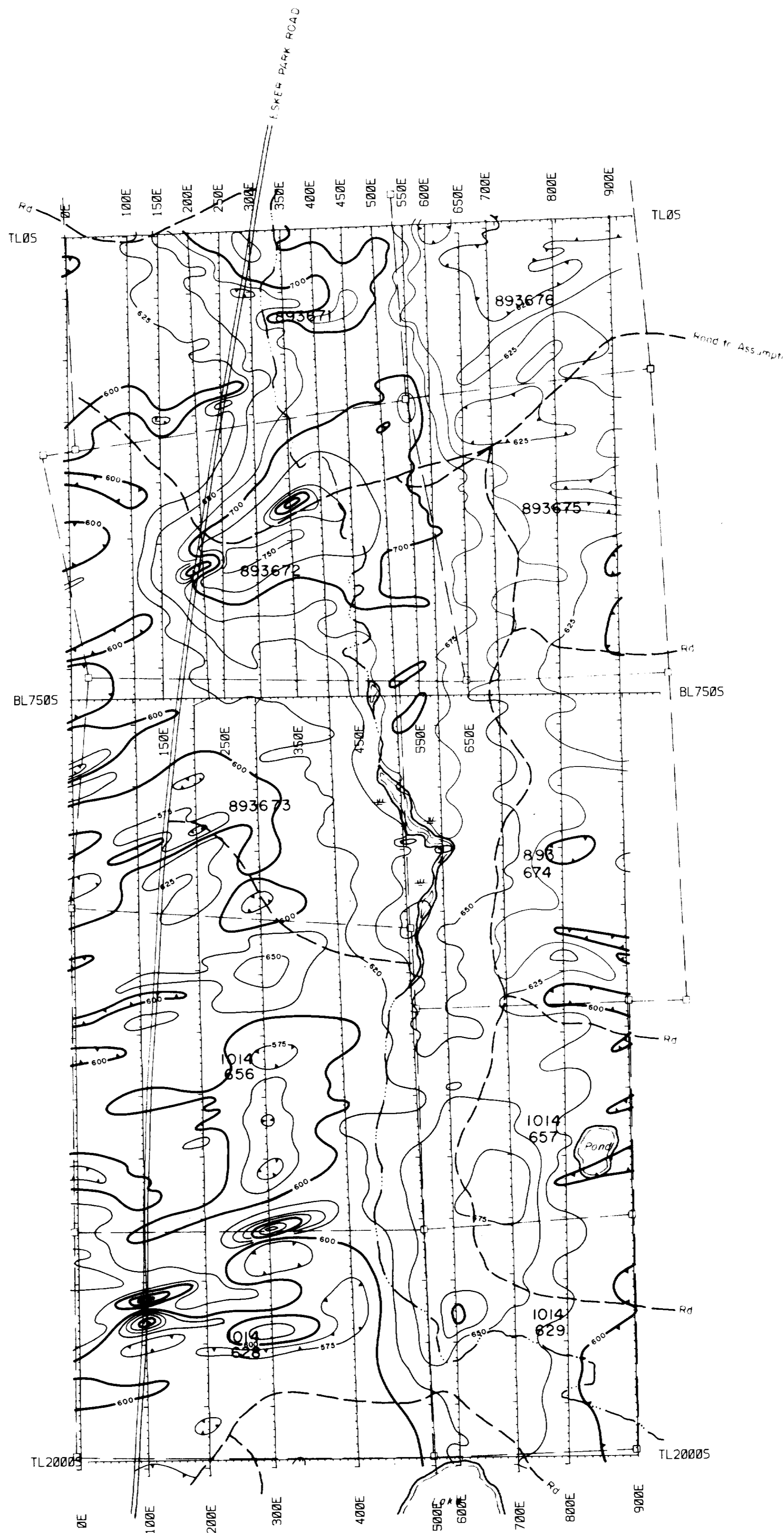
NOTICE !!!

THIS TOWNSHIP/AREA FALLS WITHIN THE
TIMISKAMING MANAGEMENT UNIT AND MAY BE
SUBJECT TO FORESTRY OPERATIONS
THE MNR UNIT FORESTER FOR THIS AREA CAN BE
CONTACTED AT / P.O. BOX 129 SWASTIKA, ONT.

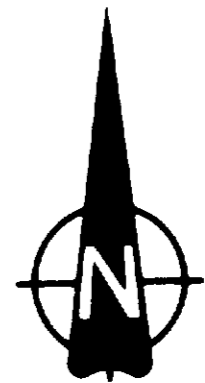
IN CIRCULATION JULY 8, 1988 T.O.



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ARNOLD TWP



0 250 500m

- 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.....



GRID A1 ARNOLD TOWNSHIP
KIRLAND LAKE AREA
MAGNETOMETER SURVEY
TOTAL FIELD CONTOURS

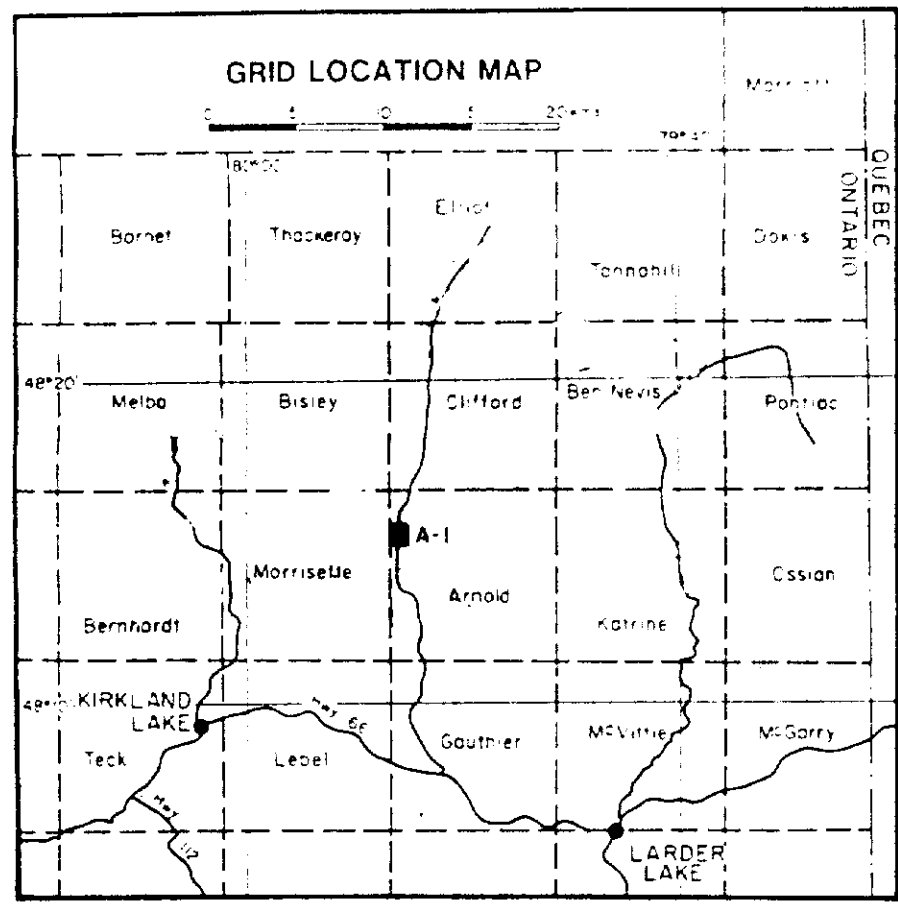
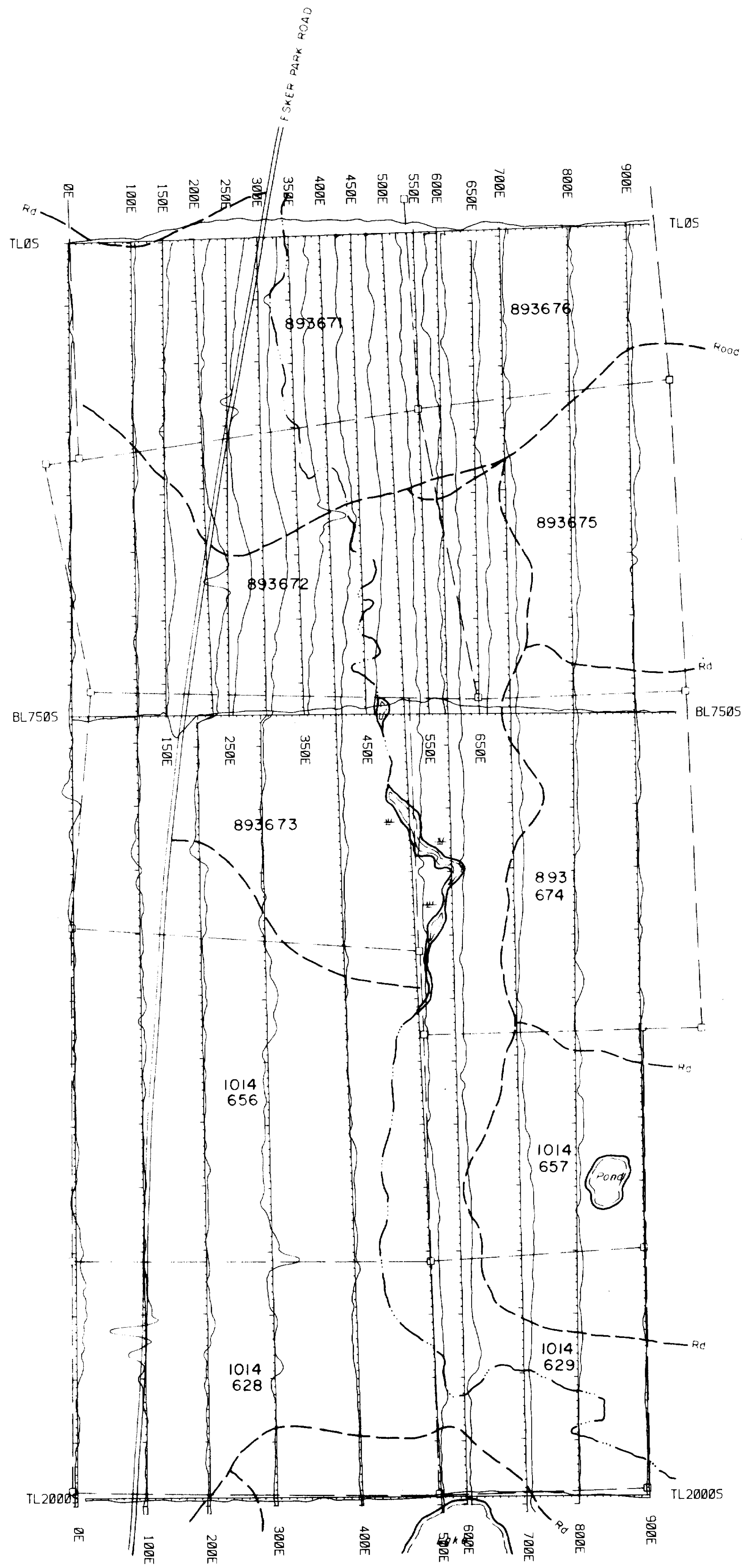
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Scale 1 : 5000

WALKER EXPLORATION LTD.
Mississauga Ontario
OCTOBER 1987

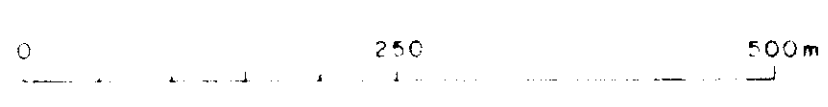
DRG. 1B

NTS 32 0 5

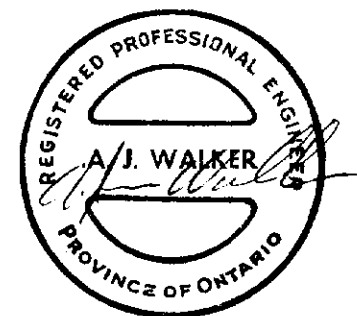




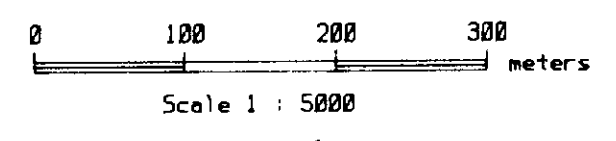
ARNOLD TWP



- LEGEND
- Stream, Swamp, Lakeshore.....
 - Cleat Post and line.....
 - Instrument..... EDA PPM-500
 - Base Station..... EDA PPM-400
 - Base level..... 58600 nt
 - Profile Scale = 200 nt/cm.....

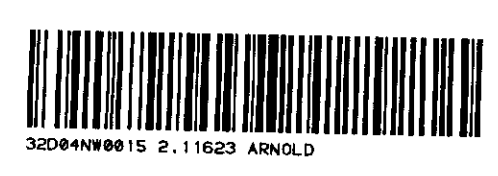


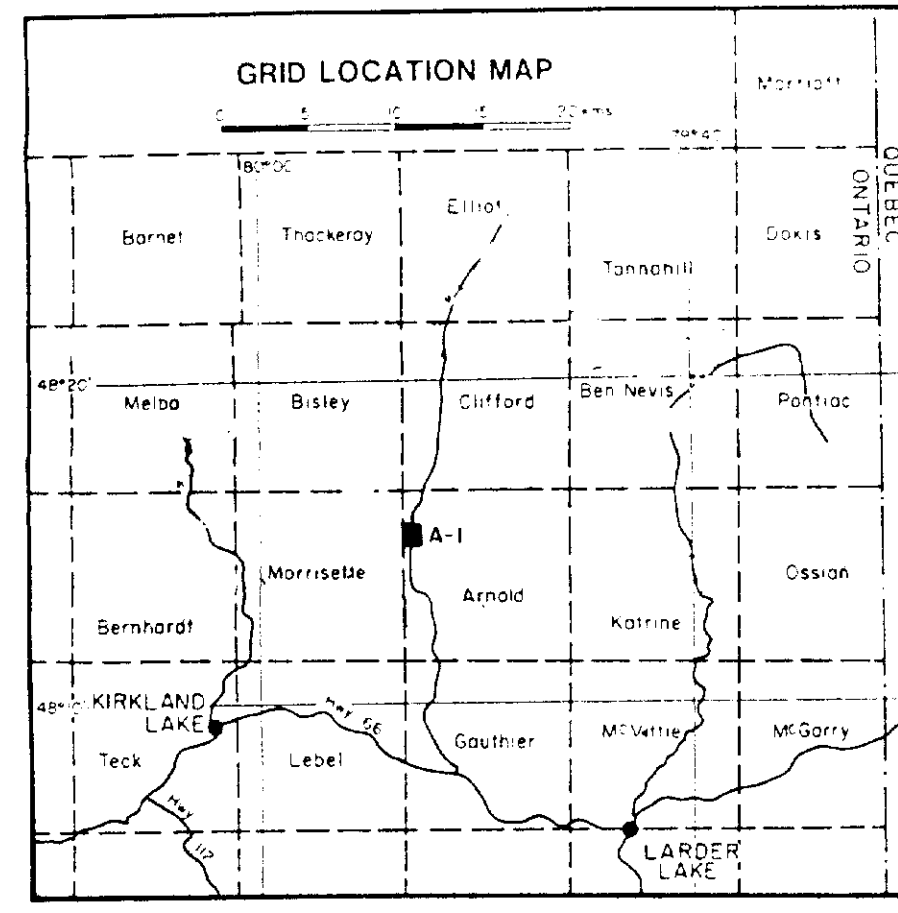
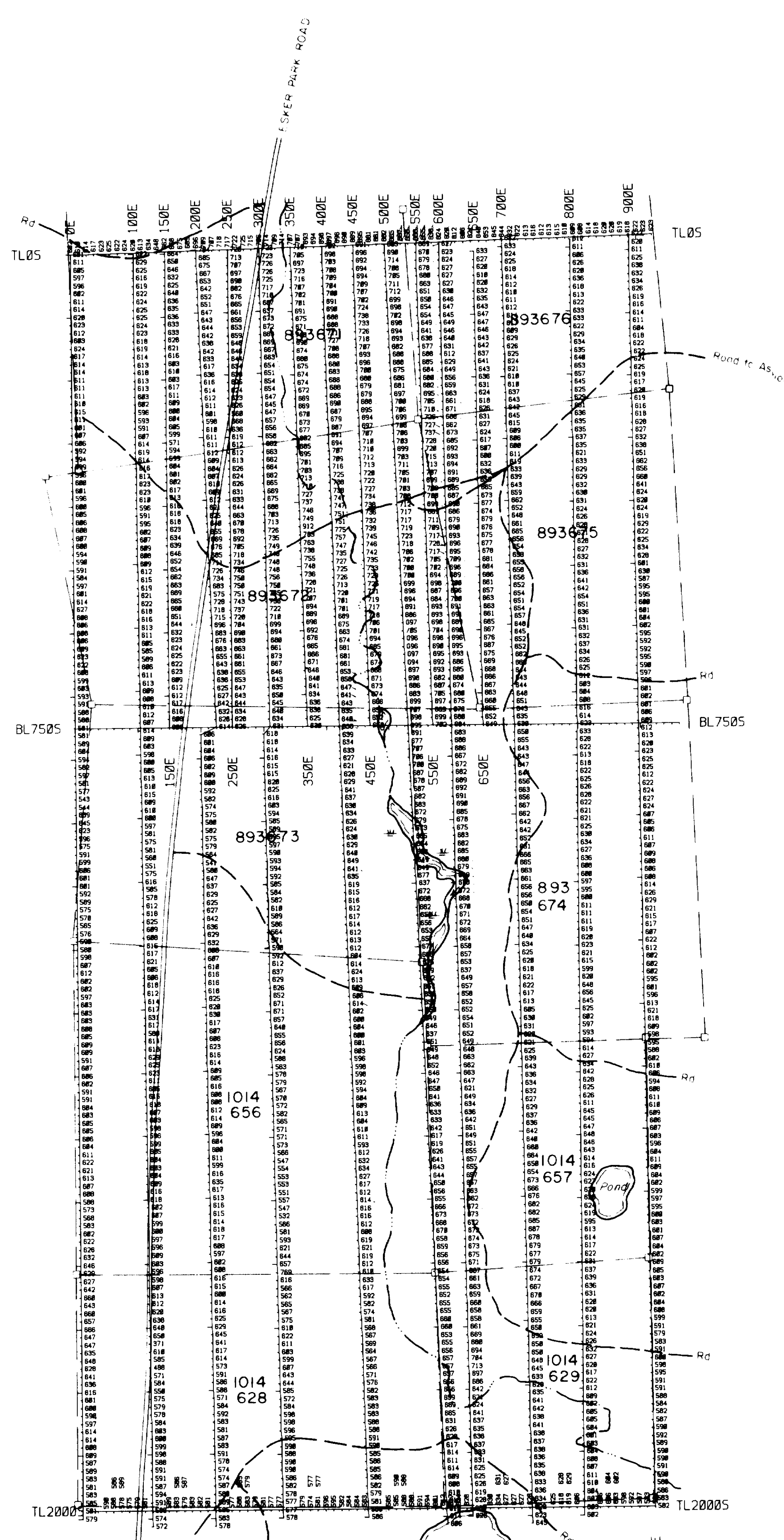
GRID A1 ARNOLD TOWNSHIP
KIRKLAND LAKE AREA
MAGNETOMETER SURVEY
TOTAL FIELD PROFILES



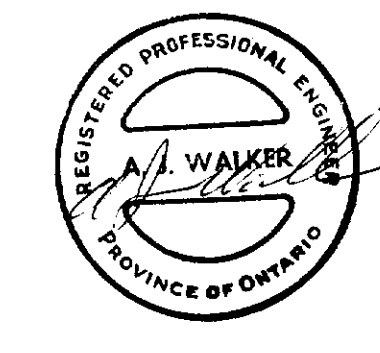
Scale 1 : 5000
WALKER EXPLORATION LTD.
Mississauga Ontario,
OCTOBER 1987

DRG. 1C





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



GRID A1 ARNOLD TOWNSHIP
 KIRLAND LAKE AREA
 MAGNETOMETER SURVEY
 TOTAL FIELD VALUES
 Scale 1 : 5000
 WALKER EXPLORATION LTD.
 Mississauga Ontario
 OCTOBER 1987
 DRG. 1A