

32D04NW0020 2.11487 ARNOLD

010

VLF EM SURVEY REPORT
GRID A1
ARNOLD TOWNSHIP
LARDER LAKE MINING DIVISION
NTS 32D/5

RECEIVED
AUG 11 1988
MINING LANDS SECTION

John Kovala

July 27th, 1988



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INTRODUCTION

LAC Minerals personal conducted a VLF EM survey over 6 unpatented mining claims located in the northwestern part of Arnold Township, 18 kilometers northeast of Kirkland Lake. Nine kilometers of E-W Metric grid lines were surveyed with a Geonics EM-16 VLF Unit. The Annapolis Maryland transmitter (21.4 KHz)NSS was read at 25m intervals.

SUMMARY

A weak North South trending conductor is located on the eastern central area of the property and may represent north south faulting.

A 50m section on each line was unsurveyable due to a north south power line running the entire length of the property on the west side.

LOCATION AND ACCESS

The property is located 18 km Northeast of Kirkland Lake in the northwestern portion of Arnold Township.

Access is gained by traveling 14 km north on the Esker Park road from the Hwy 66 turnoff to the Assomption camp road. This intersection is located centrally on the property.

PROPERTY DESCRIPTION

The property consists of 6 unpatented mining claims; L 893671 to 893676 inclusive.

PHYSIOGRAPHY AND VEGETATION

The property is located centrally on the Munro Esker. 75% of the property is covered by sand. Sand dunes provide the greatest variation in elevation rising up to 15m.

A large muskeg swamp occurs on the western central portion of the property and continues westward. Muskeg also occurs in low lying areas between sand dunes. Alfie creek flows south from Rozon Lake centrally through the property.

Vegetation consists dominately of open pine forest with spruce and alders abundant in lower areas.

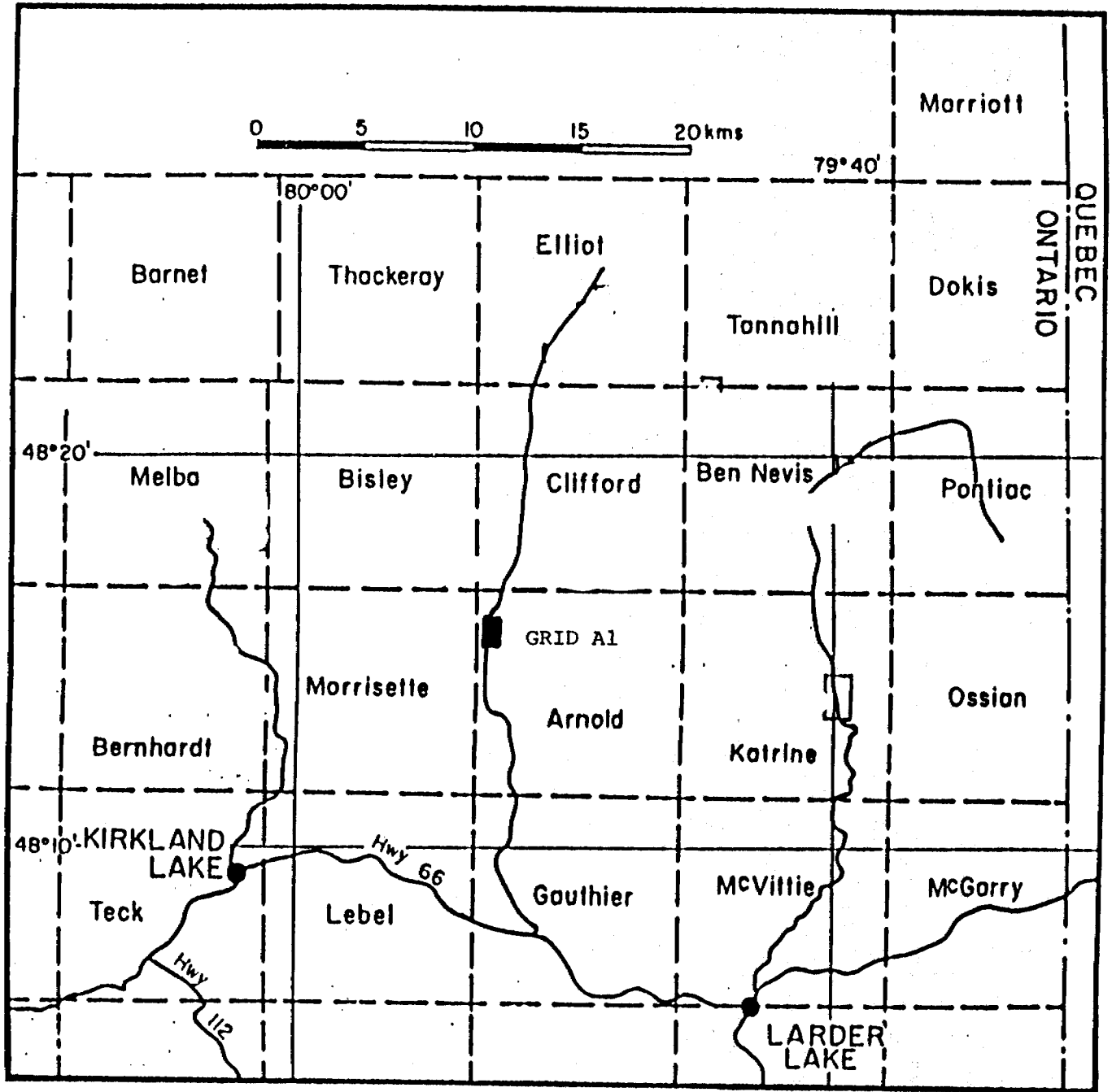
Large portions of the 3 claims on the eastern boundary have been clear cut.

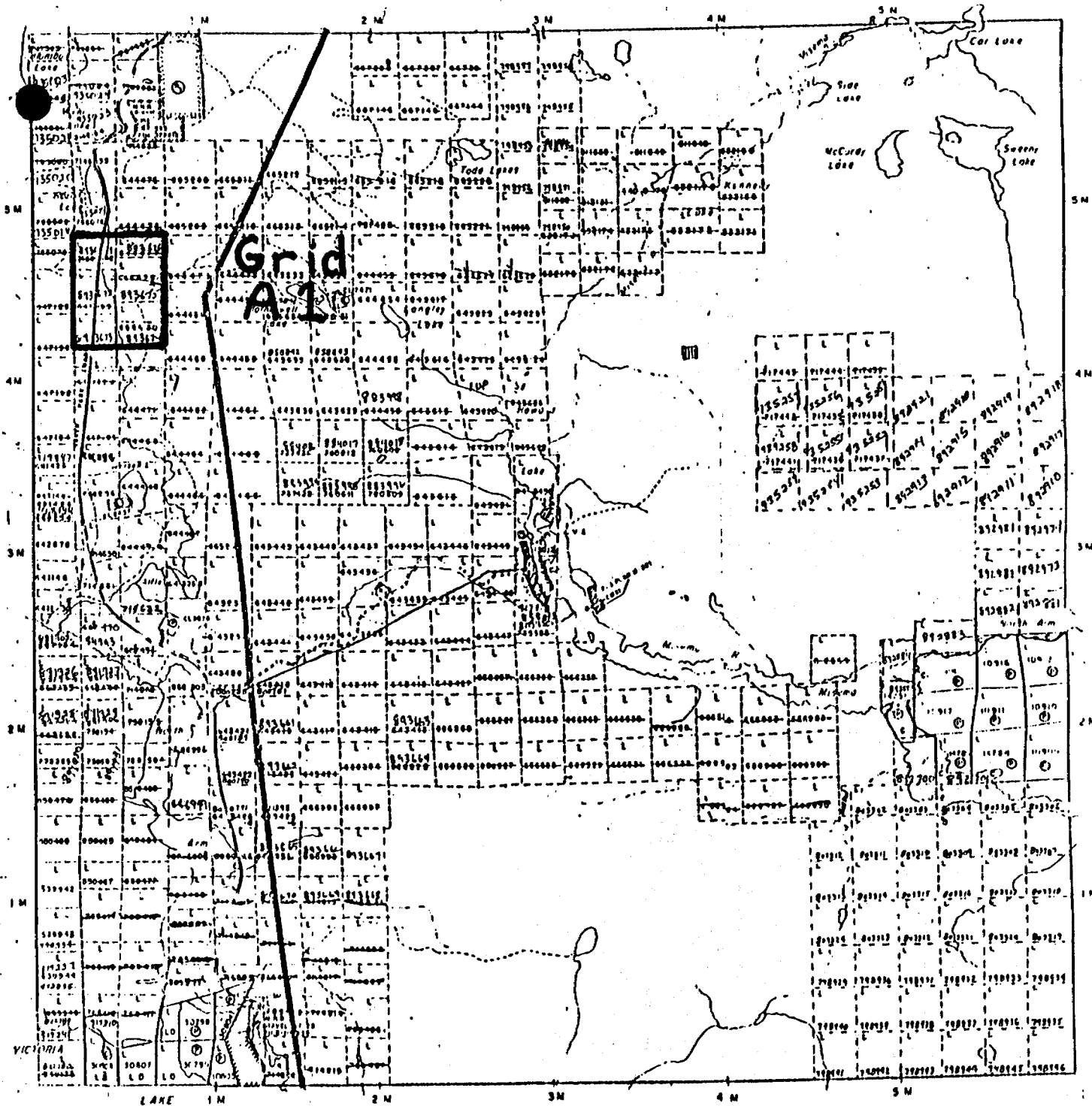
PREVIOUS WORK

VLF-EM and magnetic surveys were carried out for Falconbridge by Geoex in 1980.

Walker Explorations have carried out a magnetic survey in 1986 covering the 6 claim group.

GRID LOCATION MAP





THE TOWNSHIP
OF

GRID LOCATION MAP

ARNOLD

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

GENERAL GEOLOGY (OGS MAP 2061)

No outcrop exposures have been located due to the extensive sand and swamp cover. Sand cover is estimated to be in excess of 200 feet deep.

Regionally the property lies about 4 miles south of the Axis of the Blake River synclinorium. Rocks in the area are Calcalkaline andesite and dacite. Outcrops 1 to 2 km east of the property suggest that tops are to the north and the strike is east-west.

SURVEY METHODS

The VLF survey was conducted over nine kilometers of east west metric grid lines spaced at 125m intervals. The Annapolis Maryland transmitter (21.4KHz)NSS was read at 25 meter intervals utilizing a Geonics EM 16 VLF Unit.

SURVEY RESULTS

The presence of a weak VLF anomaly with a north south axis on the east side of the property suggests north south faulting. Erratic data was received in the area of a power line that cuts across the entire property thus 50m of each line was unsurveyable.

CONCLUSIONS

The lack of outcrop and the presence of thick overburden seriously inhibits further exploration. It is recommended that a line of IP is surveyed to attempt to penetrate the overburden and further investigate the cause of the north south conductor.

CERTIFICATION

I John M. Kovala certify:

1. That I reside at 7 Teck Hughes Property
Kirkland Lake Ontario.
2. That I have completed the B.Sc. program in
Geology at Laurentian University.
3. That I have been employed in the exploration
Industry since 1983.

Signed



John M. Kovala
Project Geologist

*Recd
2.10.571*



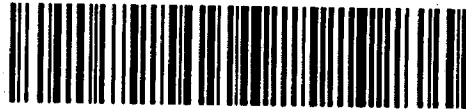
Ministry of
Natural
Resources

Report of Work

(Geophysical, Geological,
Geochemical and Expenditures)

DOCUMENT No

W8808-260



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900

Lands Management The Minin

Type of Survey(s) **VLF-EM16** 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 **Lac Minerals Ltd.** Date of Survey (from & to) **17 08 87** to **21 08 87** Total Miles of line Cut **12 km**

Name and Address of Author (of Geo-Technical report) **John Kovala, 91 Duncan Avenue, KIRKLAND LAKE, Ontario P2N 1Y2**

2.11487

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

Mining Claims Traversed (List in numerical sequence)

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	893671	20			
	893672	20			
	893673	20			
	893674	20			
	893675	20			
	893676	20			

RECEIVED

JUN 21 1988

MINING LANDS SECTION

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE
SEP 2 1988
RECEIVED

KIRKLAND LAKE
MINING DIV.
RECEIVED
JUN 10 1988

AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

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

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.

Date **June 10, 1988** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded **120** Date Recorded **June 10/88** Mining Recorder *[Signature]*

Date Approved as Recorded **21 June 88** *[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 Avenue, KIRKLAND LAKE, Ontario P2N 1Y2**

Date Certified **June 10, 1988** Certified by (Signature) *[Signature]*

Clifford Twp. (M. 338)

THE TOWNSHIP OF
OF

ARNOLD

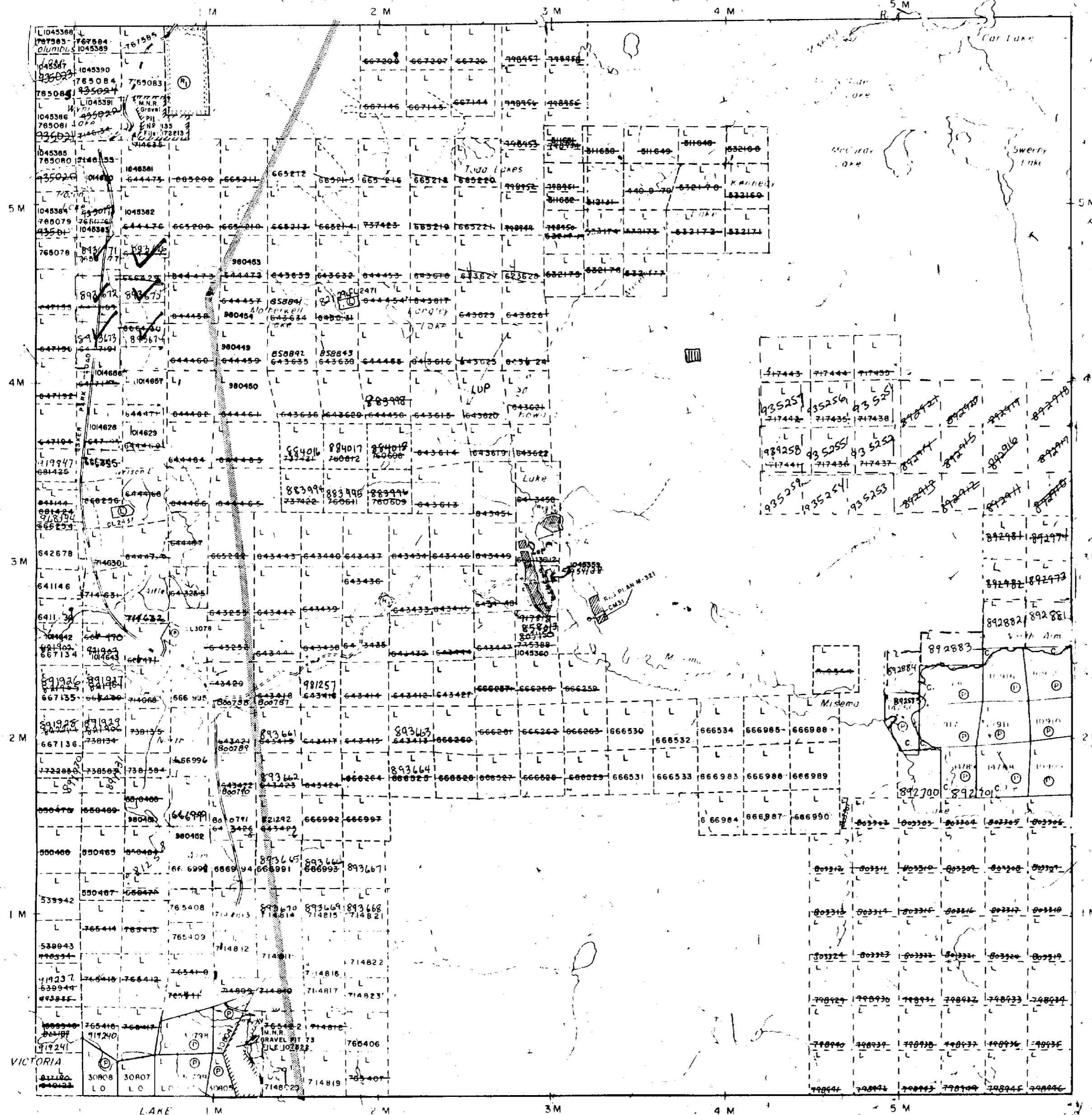
DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

Morrisette Twp. (M. 374)

Katrine Twp. (M. 357)



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
- PATENT SURFACE RIGHTS ONLY (Barrick Power Line)

Application Pending Under Public Lands Act)

NOTES

4. Surface Rights Reservation along the shore of all lakes and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970)

Order No.	File	Date	Disposition
(P)	163497	APRIL 17/70	S.R.O.
(P)	NR W. 32/79 172213	MAY 4/79	S.R.O.

- (P) PROPOSED CROWN SUBDIVISION
- (---) PROPOSED POWER LINE RIGHT-OF-WAY-CONTRACTOR J.D. STEVENS OF KIRKLAND LAKE

NOTICE OF FORESTRY ACTIVITY

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. BOK ITO, 705-642-3222

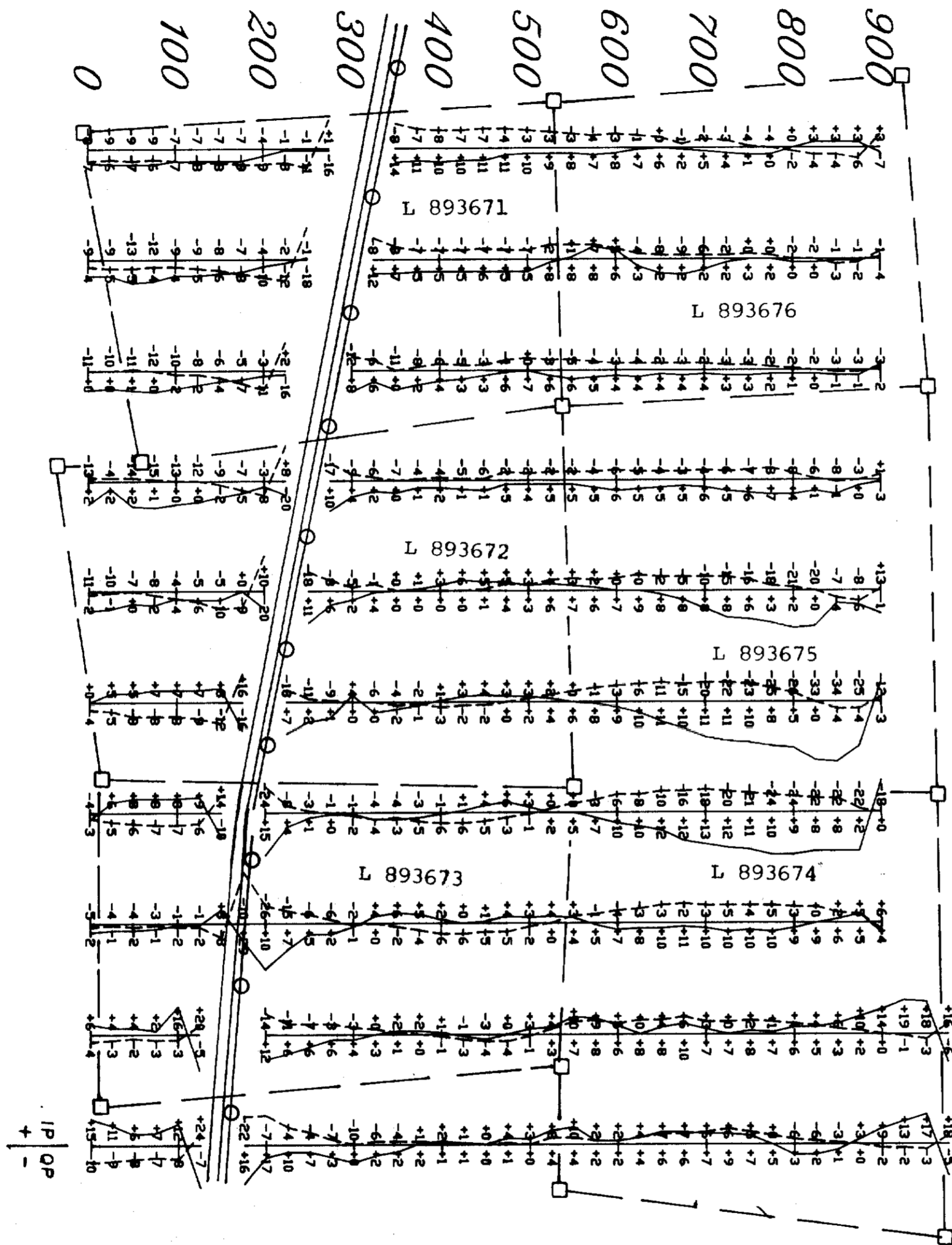
PLAN NO. M.321#7

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Gauthier Twp. (M. 350)



32084NW0020 2.11487 ARNOLD



L 0+00

L 1+25 S

L 2+50 S

L 3+75 S

L 5+00 S

L 6+25 S

L 7+50 S

L 8+75 S

L 10+00 S

L 11+25 S

2.11487

Instrument Geonics Em-16

Tx: Annapolis 21.4KHz

Vertical Scale : 1cm = 25%

Inphase _____

Quadrature _____



LAC Minerals Ltd.
EXPLORATION DIVISION
Kirkland Lake, Ontario

DRAWN BY Peter Hofman
CHECKED BY _____
APPROVED BY J. Keenan
REVISED BY _____
DRAWING N° _____

TITLE
A1 VLF-EM Survey
Inphase and Quad. Profiles
Scale = 1:5000

