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LANDS SECTION

2.13024

MAGNETOMETER & VLF-EM SURVEYS

**HEARST TOWNSHIP, Ontario** 

by

R.A. MacGregor, P. Eng.

December 30, 1989

#### I. INTRODUCTION

Magnetometer and VLF-EM surveys were carried out over cut lines in October 1989.

# II. LOCATION, ACCESS AND OWNERSHIP

The claims are located in the southwest corner of Hearst Township. The claims are numbered L891861 to 891864 inclusive. They are recorded in the name of R.A. MacGregor, 28 Ford Street, Sault Ste. Marie, Ontario.

Access to the property is by bush roads from Highway 624 about 8 miles south of Larder Lake, Ontario.

#### III. PREVIOUS EXPLORATION

The claims have been previously explored by linecutting and geophysical surveys. There are a number of old pits and trenches on the claims, but no record of this work.

#### IV. GEOLOGY

According to ODM Map 1947-1 by Jas. E. Thomson, the claims are underlain by Temiskaming sediments cut by Algoman syenite with some Keewatin volcanics in the south. Drift is extensive and almost entirely covers the most easterly claim.

Recent mapping shows the claims underlain by Larder Lake group ultramafic volcanoclastics and sediments cut by syenite and hornblende syenite dykes or sills. There is an outcrop of felsic volcanics on the south part of the line between claims L891862 and L891863, which may be part of the Skead Group. Lamprophyre outcrops on claim L891861. It is probably a dyke.

### V. MAPPING PROCEDURE

Lines were recut following an old survey grid about 5 to 6 years old. The lines were still visible but much overgrown with brush and fallen trees. The baseline trends about N 55° W.

# Mapping Procedure (Continued)

Magnetometer readings were taken with a Sharpe MF-1 Fluxgate Magnetometer at 100-foot intervals. The looping method was used for control of variation. In this method a base station is selected, and readings taken along lines describing a loop, arriving back at the starting base station in less than two hours. A second loop is then started using either the same base station or another which is tied to the previous loop. Readings are then corrected for diurnal variation by assuming the time between readings is the same and distributing any variation equally among the intervening readings. No correction was applied less than the accuracy of the base station readings.

A VLF-EM survey was run with a Phoenix VLF-2 instrument set to the signal from Cutler, Maine (24.0 KHz). Readings were taken at 100-foot intervals along all the lines, using the procedure outlined in Appendix 1. The looping method was used for control of variation as in the magnetometer survey.

## VI. DISCUSSION OF RESULTS

### Magnetometer

The magnetometer survey has indicated magnetic high readings in the east and south east part of the claims and a local high in the south west part. The anomalies probably indicate ultramafic rocks. Lower magnetic readings in the north west are underlain by sedimentary rocks. Low magnetic readings in the south central part of the claims may indicate areas of alteration or syenite intrusion within the mafic-ultramafic volcanics.

#### VLF-EM

There are no significant cross-overs shown by the VLF-EM survey. The area is heavily drift covered, so that some of the weak cross-overs may be more significant than indicated.

# VII. CONCLUSIONS

The magnetic survey has indicated ultramafic to mafic volcanics and sedimentary rocks. Prospecting is warranted along this contact, and in areas where magnetic lows indicate the possibility of alteration zones.

Respectfully submitted

December 30, 1989

R.A. MacGregor, P. Eng.

# CERTIFICATE

- I, Robert A. MacGregor, Certify:
- 1. I am a Mining Engineer residing at 28 Ford Street, Sault Ste. Marie, Ontario. I have worked as a mining engineer and geologist for the past 20 years.
- 2. I am a member of the Association of Professional Engineers of the Province of Ontario and a member of the Canadian Institute of Mining and Metallurgy.
- 3. I attended Queen's University for two years in the Mining Geology course.
- 4. I am the recorded holder of the mining claims in this report and have personal knowledge of the work performed.

plc 30/8

Date

Robert A.



Ministry of Northern Development and Mines

DOCUMENT No.

900

- Please type or print.

- Refer to Section 77, the Mining Act for assessment work requirements

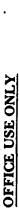
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Date Approved as Recorded Provincial Manager, Mining Lands 320

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# Ministry of Northern Development and Mines

# Geophysical-Geological-Geochemical Technical Data Statement

T321		
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) MAGNETO	METER & VLF-RM	
Township or Area Hearst	Township	MINING CLAIMS TRAVERSED
Claim Holder(s) R.A. Mac	cGregor	List numerically
Survey Company Colex Ex Author of ReporR.A. MacGree	xploration Inc.	L891861 (number) L891862
Address of Auth P.O. Box 11	10, Sault Ste. Marie, Ont.	
Covering Dates of Survey_Oct.	· · ·	L891863
Total Miles of Line Cut		L891864
SPECIAL PROVISIONS CREDITS REQUESTED ENTER 40 days (includes	DAYS GeophysicalElectromagnetic-20	
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# GEOPHYSICAL TECHNICAL DATA

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	Type of electrode								

INDUCED POLARIZATION



Order of the Minister

Mining Lands Section 3rd Floor, 880 Bay Street Toronto, Ontario M5S 1Z8

Mining Act

In the matter of mining claims: L 891861 to 891864 inclusive as shown on Report of Work W8908-373 in the Township of Hearst.

On consideration of an application from the recorded holder, R.A. MacGregor under Section 77 Subsection 22 of the Mining Act, I hereby order that the time for filing reports and plans in support of Gecphysical (Magnetometer & Electromagnetic) assessment work recorded on October 16, 19 89 be extended until and including January 15, 19 89

Provincial Manager, Mining Lands Section

December 7, 1989

Date

copies: Mining Recorder

Kirkland Lake, Ontario



DOCUMENT No. W8908 • 3 13

Mining Division

Larder Lake

# Report of Work

Mining Act

Magnetometer & VLP-RM

Type of Survey(s)

(Geophysical, Geological and Geochemical Surveys)

Instructions

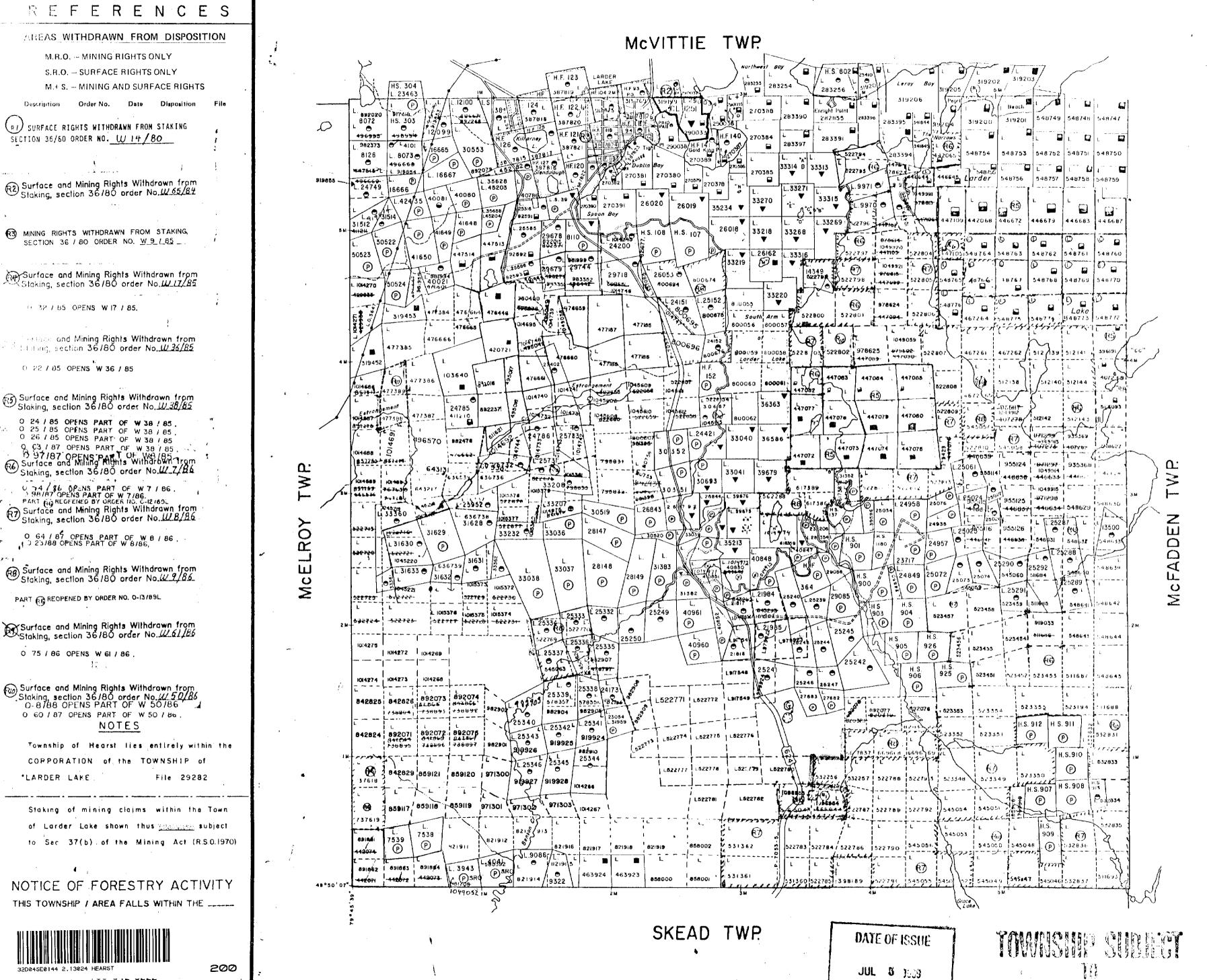
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Township or Area

- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

Hearst Township

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M.B.R. ADMINISTRATIVE DISTRICT KIRKLAND LAKE

MINING DIVISION

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Date FEBRUARY, 1985

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