R. A. MacGREGOR, P.ENG.

010

Report on VLF-EM Surveys
Hearst Township, Ontario

Introduction

Lines were run on two seperate grids over the ice of Larder Lake and surveyed by VLF-EM surveys during March, 1978. The results are recorded on the accompanying maps.

Location, Access and Ownership

The property is located in Hearst Township on both sides of the peninsula in Larder Lake lying about the middle of the township.

The claims are numbered L396201; L396203; L442065 to L442068; L446644 to 446645; L446668 to 446675; L446677 to 446687; L447072 to 447073; L447077 to 447078; L447082 to 447083; L447095 to 447096; L447100 to 447101; L447104 to 447105; L447107 to 447109 all inclusive; L447111; L447157 and L447174. The claims are recorded in the name of Colex Explorations Inc.

Previous Exploration

There are no records of previous work on file for these claims. A number of holes are believed to have been drilled from the ice in the northern part of the property, but records could not be found.

Geology

The shore areas of the claims are mapped as Temiskaming sediments cut by Algoman felsic to basic intrusives in the southern part with Keewatin basic volcanics in the north. A part of the large grid may have Huronian sediments covering the volcanic rocks in the lake bottom. The Huronian sediments outcrop on land areas to the north of the claim group and on islands to the east. Outcrop on Island 'CC' which lies to the south-east of the larger grid consists of a felsic agglomerate with some ultramafic flows. These rocks may underly the Huronian in the lake bottom.

Survey Procedure

A base line was run south-east from the No. 1 post of claim L447111 on the larger grid by chaining and picketing at

100 foot intervals. Cross lines were run at 400 foot intervals north-west to the property boundary and south-east to the shore line. The lines were marked on the shore for continuation on land after the snow has gone.

A VLF-EM survey was carried out over the lines using a Crone Radem instrument set to the signal from Cutler Main (17.8 KHz). Readings were taken at 100 foot intervals using the procedure outlined in Appendix I.

Results and Conclusions

Larger Grid

No response was found over the major part of the grid; readings being confined to shore line areas, or a few spots known to contain shallow water. It would appear the VLF instrument is not effective in areas where water depths are greater than 30-40 feet. Conversely this fact might be of value in locating shallow areas in the lake bottom. The weak cross-overs along the west side of the grid are probably caused by shore line topography. An electromagnetic system with much greater depth penetration would be required to adequately test the lake covered areas.

Smaller Grid

There is one cross-over at 5+00NW on line 4SW. This cross-over could represent a NE trending fault which will be further checked on the land area to the east. Parts of the grid may also be covered by water too deep to penetrate with the VLF instrument as evidenced in the larger grid.

Respectfully submitted,

R. MacGregor

May 5, 1978

R. A. MacGregor, P. Eng.

Ontario

Ministry of

GEOPHYSICAL – GE
TECHNICAL

32D04SE0099 2.2697 MCFADDEN

900

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) VLF-EM

Township or Area Hearst

Claim Holder(s) Colex Explorations Inc.
134 Palace Drive, Sault Ste. Marie, Ontario

Survey Company

Author of Report R. A. MacGregor

Address of Author 134 Palace Drive, Sault Ste. Marie Ontario

Covering Dates of Survey March-May, 1978
(linecutting to office)

Total Miles of Line Cut 28.1

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	40
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: May 5/78 SIGNATURE: R. MacGregor
Author of Report or Agent

L.D

Res. Geol. _____ Qualifications 2.1102 + on Mail file

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

see attached list

If space insufficient, attach list

TOTAL CLAIMS 45

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1497 Number of Readings 1497

Station interval 100 feet Line spacing 400 feet

Profile scale 1"=40°

Contour interval

MAGNETIC

Instrument

Accuracy -- Scale constant

Diurnal correction method

Base Station check-in interval (hours)

Base Station location and value

ELECTROMAGNETIC

Instrument Crone Radem

Coil configuration Not applicable

Coil separation Not applicable

Accuracy + ½°

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency Cutler Maine 17.8 KHz (specify V.L.F. station)

Parameters measured Dip angle of the resultant field

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

MINING CLAIMS TRAVERSED

L396201 3/4 not covered
L396203 ✓
L442065 3/4
L442066 1/3
L442067 ✓
L442068 ✓
L446644 1/3
L446645 ✓
L446668 ✓
L446669 ✓
L446670 ✓
L446671 ✓
L446672 ✓
L446673 ✓
L446674 ✓
L446675 ✓
L446677 ✓
L446678 ✓
L446679 ✓
L446680 ✓
L446681
L446682 1/4
L446683 ✓
L446684 ✓
~~L446685 3/4~~
L446686 ✓
L446687 2/3

L447072 ✓
L447073 ~~2/3~~
L447077 ✓
L447078 1/4
L447082 2/3
L447083 3/4 (447087)
~~L447095 3/4~~
L447096 ~~1/3~~
~~L447100 3/4~~
L447101 ✓
~~L447104 2/3~~
L447105 ✓
~~L447107 3/4~~
L447108 ✓
L447109 ✓
L447111 3/4
L447157 ~~3/4~~ (447158)
L447174 3/4
(447177)

Area of ~~claims~~ N.C: 11 3/4
45x40 = 1800 ÷ (45+11) = ~~33~~ days

Circled mining claims (4) not covered / No Credits
Area of claims not covered = 8

39x40 = 1560 ÷ (39+8) = 33 days per claim.

McVITTIE TWP. M-370

McELROY TWP. M-366

McFADDEN TWP. M-368

SKEAD TWP. M-387

THE TOWNSHIP
OF

2.2697

HEARST

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH — 40 CHAINS

LEGEND

PATENTED LAND	● or (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 S.R.O.	

NOTES

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

Township of Hearst lies entirely within the CORPORATION of the TOWNSHIP of LARDER LAKE. File: 129282.

Staking of mining claims within the Town of Larder Lake shown thus [redacted] subject to Sec. 37(b) of the Mining Act (R.S.O. 1970).

DATE OF ISSUE
MAY 31 1978
SURVEYS AND MAPPING BRANCH

PLAN NO. M-354

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

32D04SE0099 2.2697 MCFADDEN

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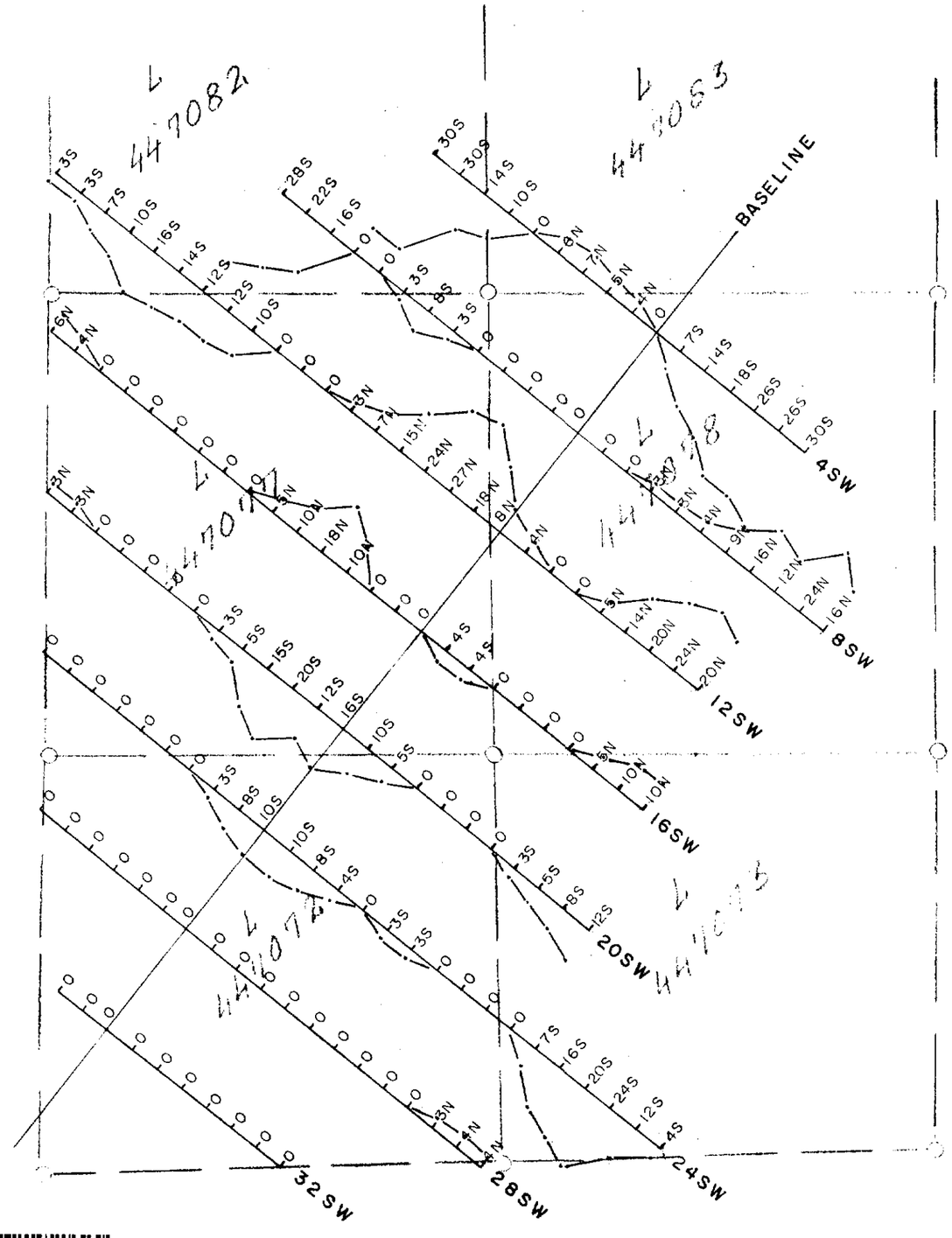
LARDER
LAKE



N

Claim lines approximate

VLF-EM SURVEY

LARDER LAKE PROPERTY— ONT.

SCALE 1"= 400'
1"= 40°

Station Cutler, Maine 17.8 KHz

Inst.- Crone Radem

Dip Angle of the Resultant Field in Degrees

LARDER LAKE

N

Claim lines approximate

VLF-EM SURVEY

LARDER LAKE PROPERTY – ONT.

SCALE 1"= 400'
1"= 40°

Station Cutler, Maine 17·8 KHz

Inst. – Crone Radem

Dip Angle of the Resultant Field in Degrees

RECORDED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO