MAGNETOMETER, VLF-EM AND GEOLOGICAL SURVEYS MCELROY TOWNSHIP, ONTARIO

BY

R.A. MACGREGOR, P. ENG.

JULY 24, 1991

INTRODUCTION

Magnetometer, VLF-EM and Geological surveys were carried out on 3 claims in McElroy Township, Ontario.

LOCATION, ACCESS AND OWNERSHIP

The property is located in the central part of McElroy Township, District of Temiskaming, Ontario. The claims are numbered L1136631, L1136635 and L1136757. They are recorded in the name of Skead Holdings Ltd., c/o Box 1110, Sault Ste. Marie, Ontario.

Access to the property is by a forest access road which runs north from Highway 624 about 10 miles south of Larder Lake, Ontario. From the forest access road, logging roads and trails can be followed to the area of the claims.

PREVIOUS EXPLORATION

The claims have been explored in the past by geophysical surveys.

SURVEY PROCEDURE

An existing linecut grid, now partially overgrown, was used with pacing for distances. Lines have previously been cut every 400 feet from the baseline.

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 Crone Radem 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.

Survey Procedure (Continued)

The geological survey was run by traversing the lines and noting outcrop and rock type. Some samples were taken for possible future analysis.

DISCUSSION OF RESULTS

Magnetometer

There is a magnetic high centred on the north-westerly claim in the group. A low exists in the centre of the most south-easterly claim.

VLF-EM

There is a cross-over on the central claim along the baseline.

Geology

The claims are underlain by a volcanogenic breccia-conglomerate cut by diorite. Ultramafic rocks outcrop to the south west and may underlie drift covered areas on the claims.

CONCLUSIONS

The three claims are along the projected trace of the Lincoln-Nipissing shear zone. It may be represented by the VLF-EM cross-over and the magnetic low on the two southerly claims. The magnetic high should be investigated further. The diorite contains sulphide mineralization. The area should be prospected for nickel sulphides.

Respectfully submitted

R.A. MacGregor, P. Eng.

July 24, 1991

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.

July 29/91
Date

Robert A. MacGregor

REPORT ON

GEOLOGICAL AND MAGNETOMETER SURVEYS

BOSTON & MCELROY TOWNSHIP, ONTARIO

By

R.A. MACGREGOR, P. ENG.

JULY 23, 1991

I. INTRODUCTION

Magnetometer and geological surveys were carried out over 20 claims in McElroy and Boston Townships. Results are shown on the enclosed plans.

II. LOCATION, ACCESS AND OWNERSHIP

The property is located in McElroy and Boston Townships, District of Timiskaming, Ontario. There are twenty claims numbered L1046099 to L1046118 recorded in the name of Skead Holdings Ltd., c/o P.O. Box 1110, Sault Ste. Marie, Ontario.

The claims are located south of the Adams Mine property in Boston and McElroy Townships. The property can be reached by roads running to the control dams for the Adams Mine tailings disposal area. Adams Mine is about 12 miles south of Kirkland Lake and can be reached by Highway 112 and a paved secondary highway through Dane, Ontario.

III. PREVIOUS EXPLORATION

Previous exploration has consisted of geophysical surveys, diamond drilling and some old pits and trenches for which there are no records.

VI. GEOLOGY

The claims are underlain by a volcanic-sedimentary sequence of rocks cut by felsic to ultramafic intrusives. A band of ultramafic rocks trending northewest through the centre of the claims. It consists of serpentinization peridotite and may be intrusive or extrusive. It is flanked by coarse gabbro which from drilling to the south east is at least in part intrusive. The gabbro is cut by quartz stringers and intebedded with felsic tuffs and rhyolite. Andesite outcrops in the most south westerly claim. A syenite to granite intrusive ties in the south central part of the claims. It is probably related to the McElroy stock which lies about one mile east of the claims. In the east part of the claims a volcanogenic breccia-conglomerate outcrops.

Geology (Continued)

The Lincoln-Nipissing shear zone is projected to cross the property in a northwesterly direction. Most of the low lying areas on the claims are now covered by tailings from the Adams Mine. The mine is now closed and the tailings areas have been drained which makes for easy traversing.

V. SURVEY PROCEDURE

An existing baseline and linecutting, obliterated in many places was used for pace and compass traversing.

Magnetometer readings were taken with a Sharpe MF1 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.

Pace and compass lines were also traversed to examine rock outcrops, as well roads and outcrops around the tailings areas were traversed. Location was checked against air photographs. Outcrops and rock type were plotted on the enclosed map. Some samples were taken for future analyisis.

VI. RESULTS AND CONCLUSIONS

Magnetometer

The magnetometer survey outlines the ultramafic rocks through the centre of the property. High readings are caused by magnetite content within the ultramafic rocks. Magnetic low areas should be checked for carbonate alteration possible associated gold mineralization.

Results and Conclusions (Continued)

Geology

The geological survey outlines the general geology of the property and will be helpful in further assessing its potential.

Respectfully submitted

July 23, 1991 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.

_____ _____

Date Robert A. MacGregor

Ministry of Northern Development and Mines

DOCUMENT NO. W9180 • 00248 WO

32D04SW0114 2.14266 MCELROY

900

Report of Work
Mining Act
(Geophysical, Geological and Geochemical)

Type of Survey(s)	Mining Division	Township or Area
VLF-EM, Magnetometer & Geology	Larder Lake	McElroy Township

Recorded Holder(s)	Prospector's Licence No.
Skead Holdings Ltd.	T-1956

Address	Telephone No.
c/o P.O. Box 1110, SAULT STE. MARIE, Ont. P6A 5N7	949-5928

Survey Company
Colex Exploration Inc. 2.14266

Name and Address of Author (of Geo-Technical Report)
R.A. MacGregor, 28 Ford St., Sault Ste. Marie, Ont.

Date of Survey (from & to): 01 04 91 (Day | Mo | Yr.) — 31 05 91 (Day | Mo | Yr.)

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey:	Geophysical	
Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	20
For each additional survey: using the same grid:	- Other	
Enter 20 days (for each)	Geological	20
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Other	

Total miles flown over claim(s)

Date	Recorded Holder or Agent (Signature)
May 31/91	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
L	1136631				
	1136635				
	1136757	NO GEOL ATTACH DUE 40			

ONTARIO GEOLOGICAL SURVEY
GIS - ASSESSMENT FILES
OCT 08 1991
RECEIVED

RECEIVED
JUL 02 1991
MINING LANDS SECTION

Total number of mining claims covered by this report of work: 3

Certification Verifying Report of Work

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

Name and Address of Person Certifying
R.A. MacGregor, 28 Ford St., Sault Ste. Marie, Ontario P6A 4N4

Telephone No.	Date	Certified By (Signature)
705-949-5928	May 31, 1991	

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
160	May 31/91	
	Date Approved as Recorded	Provincial Manager, Mining Lands
	Oct 1/91	

Received Stamp
LARDER LAKE MINING DIVISION
JUL 31 PM 3 52
RECEIVED

1362 (89/06)

Ministry of Northern Development and Mines

WORK

DOCUMENT No. 9180 • 00273

Instructions
- Please type or print
- 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.

July 30

Mining Act — Report of Work
(Geophysical, Geological and Geochemical Surveys)

Type of Survey(s)	Mining Division	Township or Area
Magnetometer & Geology	Larder Lake	Boston & McElroy Township

Recorded Holder(s)	Prospector's Licence No.
Skead Holdings Ltd.	T-1956

Address	Telephone No.
c/o P.O. Box 1110, SAULT STE. MARIE, Ont. P6A 5N7	949-5928

Survey Company
Colex Exploration Inc.

2.1496

Name and Address of Author (of Geo-Technical Report)	Date of Survey (from & to)	
R.A. MacGregor, 28 Ford St., Sault Ste. Marie, Ont.	01 04 91	31 05 91

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey:	Geophysical	
Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer (now recorded)	14.4 20
For each additional survey: using the same grid:	- Other	
Enter 20 days (for each)	Geological	20
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Other	

Total miles flown over claim(s)

Date	Recorded Holder or Agent (Signature)
May 31/91	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
L	1046099	L	1046116		
	1046100		1046117		
	1046101		1046118		
	1046102				
	1046103				
	1046104				
	1046105				
	1046106				
	1046107				
	1046108				
	1046109				
	1046110				
	1046111				
	1046112				
	1046113				
	1046114				
	1046115				

RECEIVED
JUL 16 1991
MINING LANDS SECTION

Total number of mining claims covered by this report of work: 20

Certification Verifying Report of Work

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

Name and Address of Person Certifying	Telephone No	Date	Certified By (Signature)
R.A. MacGregor, 28 Ford St., Sault Ste. Marie, Ontario P6A 4N4	705-949-5928	May 31, 1991	

Received Stamp
LARDER LAKE MINING DIVISION
JUL 31 PM 3 51
RECEIVED

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
688	May 31/91	
	Date Approved as Recorded	Provincial Manager, Mining Lands
	Oct 1/91	

1362 (89/06)

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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) GEOLOGICAL, MAGNETOMETER & VLF-EM

Township or Area McElroy Township

Claim Holder(s) Skead Holdings Ltd.

Survey Company Colex Exploration Inc.

Author of Report R.A. MacGregor,

Address of Author P.O. Box 1110, Sault Ste. Marie, Ont.

Covering Dates of Survey 01/04/91 to 24/07/91
(linecutting to office)

Total Miles of Line Cut _____

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
L	1136631
	1136635
	1136757

If space insufficient, attach list

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	20
--Magnetometer	20
--Radiometric	
--Other	
Geological	20
Geochemical	

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

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

DATE: July 24, 1991 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 3

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 137 Number of Readings 137

Station interval 100 feet Line spacing 400 feet

Profile scale 1" = 40°

Contour interval 1000 gammas

MAGNETIC

Instrument Sharpe MF-1 Fluxgate Magnetometer

Accuracy – Scale constant 20 gammas on lowest scale

Diurnal correction method looping method

Base Station check-in interval (hours) 2 hours or less

Base Station location and value various along base line

ELECTROMAGNETIC

Instrument Crone Radem

Coil configuration N/A

Coil separation N/A

Accuracy ± ½°

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

Frequency Cutler, Maine (24.0 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

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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 & Geological

Township or Area Douton & McElroy Township

Claim Holder(s) Ekoad Holdings Ltd.

Survey Company Colex Exploration Inc.

Author of Report R.A. MacGregor,

Address of Author P.O. Box 1110, Sault Ste. Marie, Ont.

Covering Dates of Survey 01/04/91 to 23/07/91 (linecutting to office)

Total Miles of Line Cut _____

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 14.4
–Radiometric _____
–Other _____
Geological 20
Geochemical _____

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

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

DATE: July 23, 1991 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

L1046099 (prefix) (number)
1046100
1046101
1046102
1046103
1046104
1046105
1046106
1046107
1046108
1046109
1046110
1046111
1046112
1046113
1046114
1046115
1046116
1046117
1046118

TOTAL CLAIMS 20

If space insufficient, attach list

6371 (5/78)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 767 Number of Readings 767

Station interval 100 feet Line spacing 400 feet

Profile scale 1" = 40°

Contour interval 1000 gammas

MAGNETIC

Instrument Sharpe MF-1 Fluxgate Magnetometer

Accuracy – Scale constant 20 gammas on lowest scale

Diurnal correction method looping method

Base Station check-in interval (hours) 2 hours or less

Base Station location and value various along base line

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

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. MINING RIGHTS ONLY
S.R.O. SURFACE RIGHTS ONLY
M.+S. MINING AND SURFACE RIGHTS

Description	Order No	Date	Disposition	File
(R1) SEC. 43/70		18/4/73	M.R.O.	58999
(R2) SEC 36/80	W 14/85	7/4/85	S.R.O.	

SAND AND GRAVEL

(G1)	GRAVEL	FILE	147036
(G2)	GRAVEL	FILE	33786

PENDING APPLICATION UNDER PUBLIC LANDS ACT (SURFACE RIGHTS)

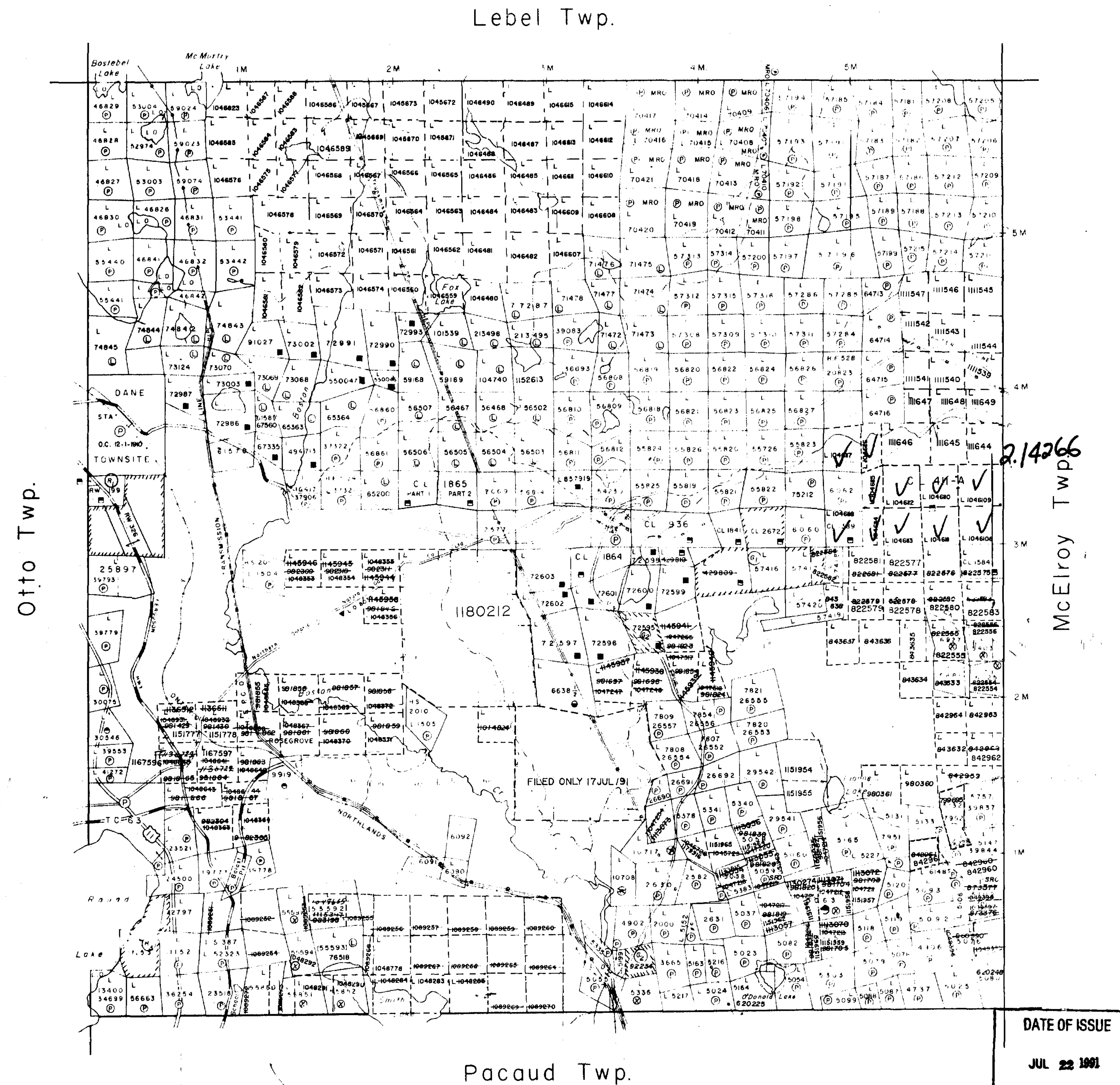
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

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.
POK ITO
705-642-3222

CIRCULATED ARPRL 26/88

32D04SW0114 2.14266 MCELROY

200



LEGEND

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT

SCALE 1 INCH 40 CHAINS

TOWNSHIP

BOSTON

M N R ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

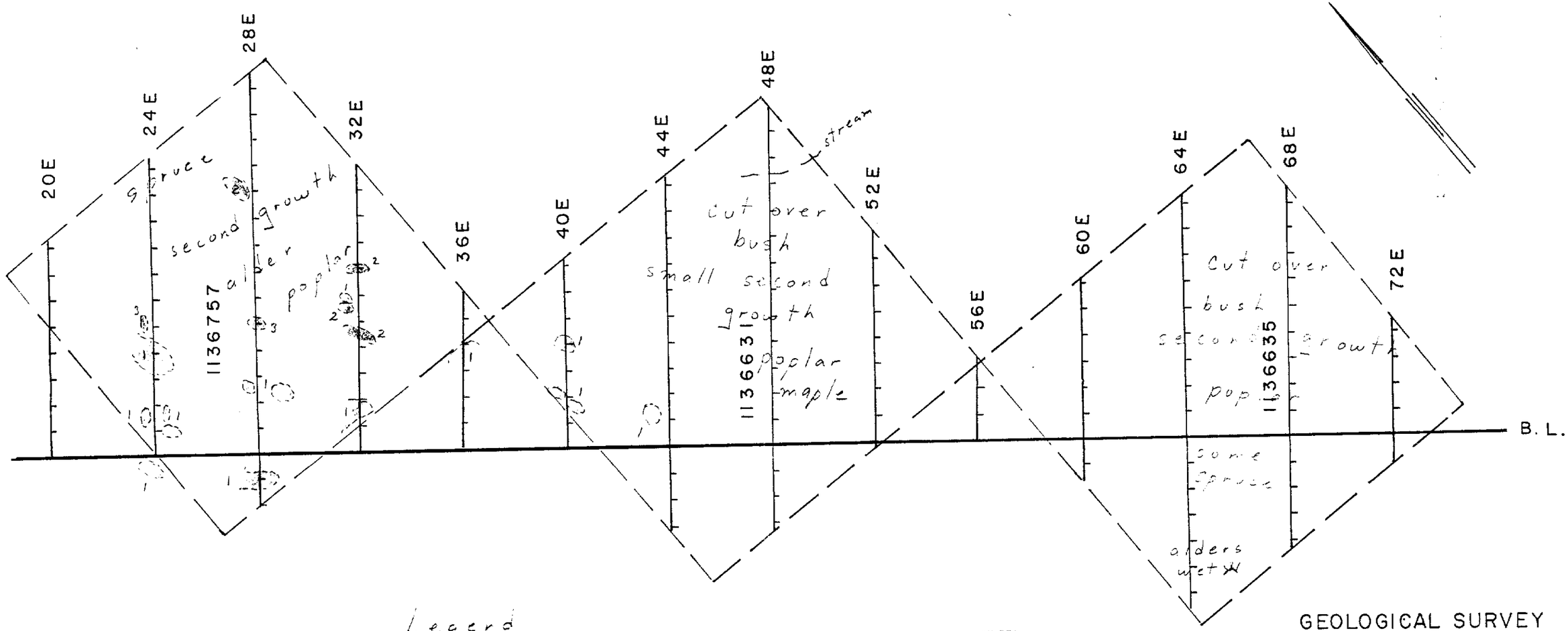
LAND TITLES / REGISTRY DIVISION

TIMISKAMING

Ministry of Northern Development and Mines
Ontario

JANUARY 1985

G-320



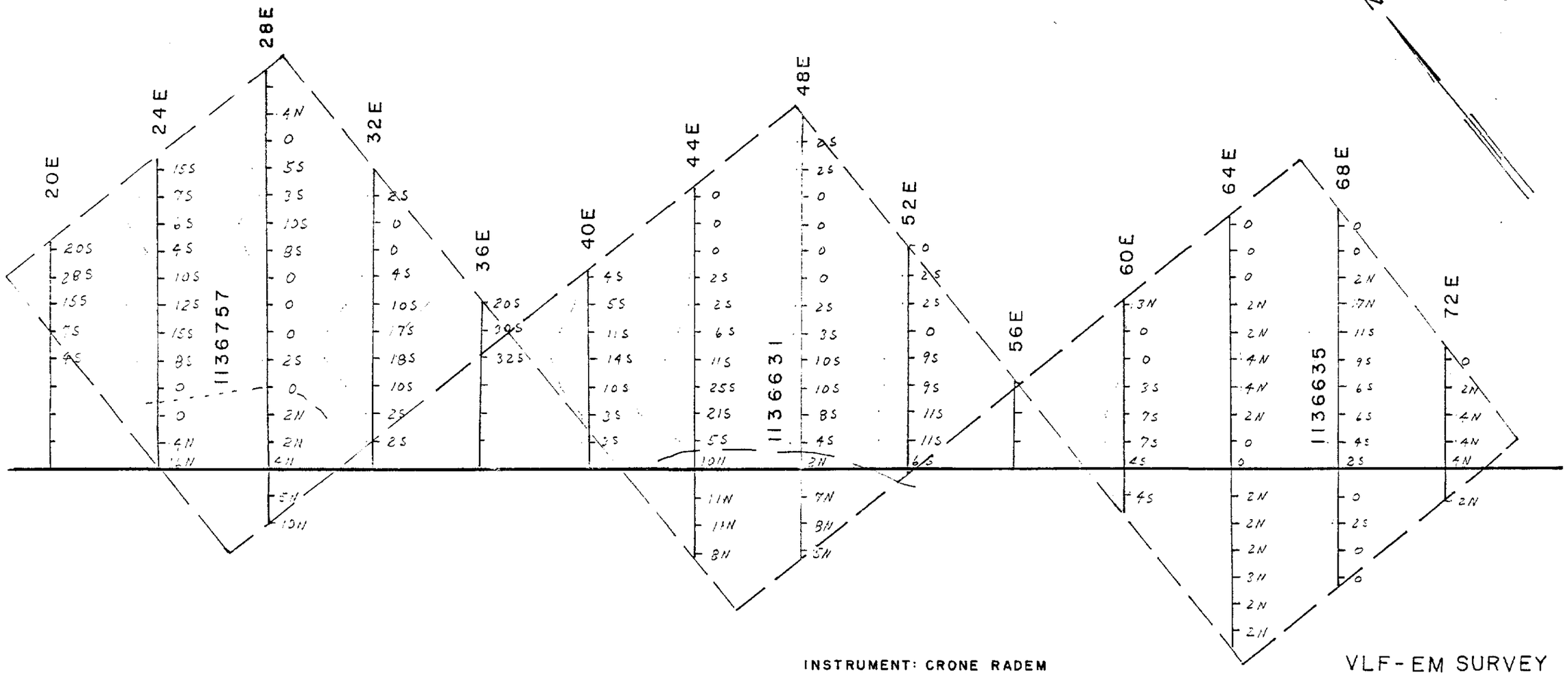
Legend

- Volcanoclastic breccia-conglomerate
- Diorite
- Amphibolite

GEOLOGICAL SURVEY
McELROY TWP.

SCALE: 1" = 400'

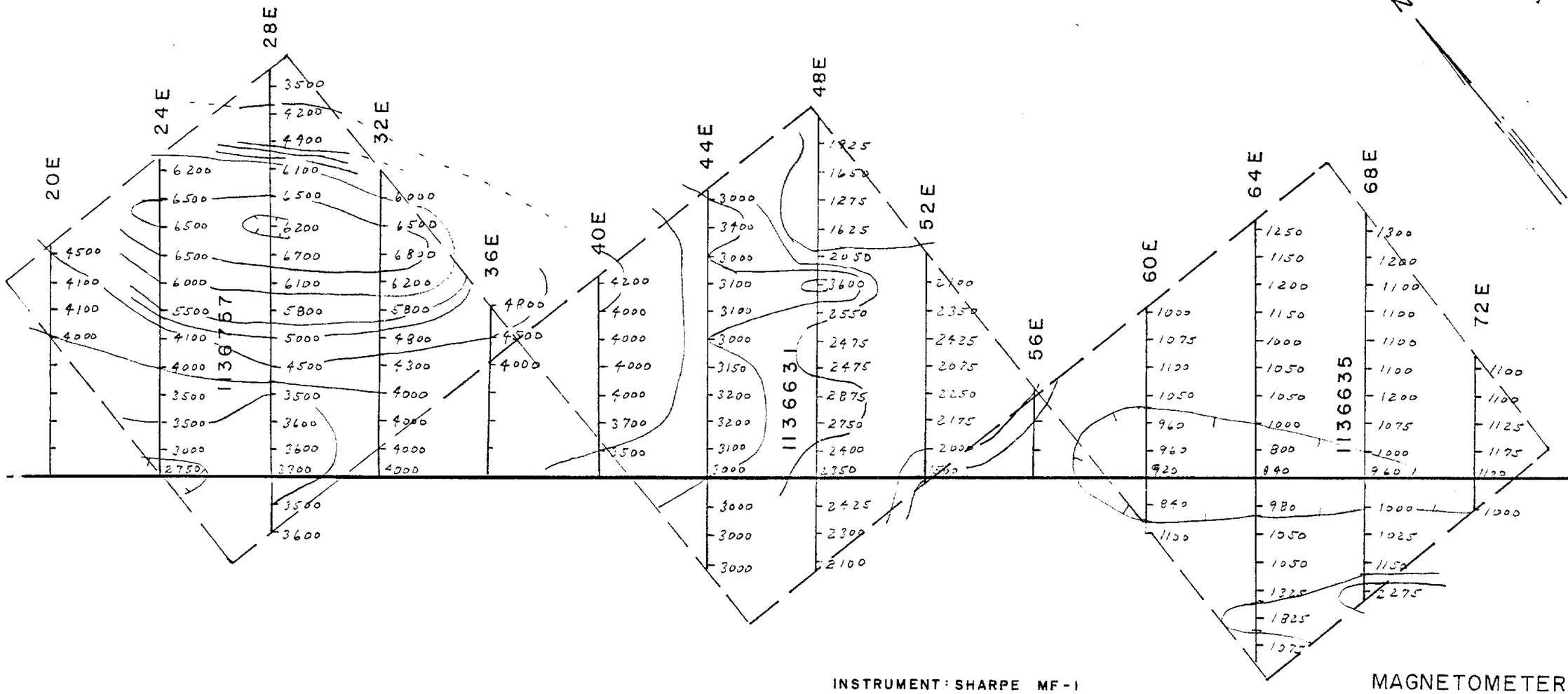
2.14266



INSTRUMENT: CRONE RADEM
STATION: CUTLER, MAINE (24.0KHz)
SCALE: 1"= 40°

VLF-EM SURVEY
McELROY TWP.

SCALE: 1"= 400'



INSTRUMENT: SHARPE MF-1
CONTOUR INTERVAL: 500 GAMMAS.

MAGNETOMETER SURVEY
McELROY TWP.

SCALE: 1" = 400'

2.14266

MAGNETOMETER SURVEY
BOSTON & McELROY TWP

SCALE 1"=400'

2.14266

REGISTERED PROFESSIONAL ENGINEER
Province of Ontario


Drained Tailings
1046117
1046116
96NW
92NW
88NW
84NW
80NW
Drained tailings
1046110
tailings flood area
breach Rock Fill Dam
bushes
old road
waste rock
1046115
1046112
Bulldozed Pit
small poplar
Flooded area
1046119
1046114
Gold overgrown Trench
1046113
1046111
1046108
1046109
alders poplar
poplar alders
1046105
1046104
Drained Tailings
1046106
Pond
1046107
1046102
1046101
water filled tailings pond
wet tailings
1046100
1046099
Concrete dam and rock Rock dam
Road
1046098
1046097
12N
8N
4N
0
LEGEND
1 1 Cherty. tuff, rhyolite
2 2 Andesite
3 Volcanic fragmental
4 Conglomerate
5 Gabbro
6 Serpentinite
7 7 Syenite, syenite porphyry
8 Granite
xx Scattered outcrop
2.14266
GEOLOGICAL SURVEY
McELROY TWP
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

250