Magnetometer Survey

on

The Eastern Half of the Allsopp Property

in

Catherine & Marter Townships

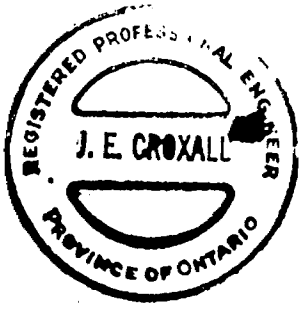
Larder Lake Mining Division

Submitted by

J.E. Croxall - P.Eng.

J.E. Croxall

Written: Oct.30,1978



Magnetometer Survey - Allsopp Property

Location and Access

At the present time, the Allsopp Property consists of three unpatented mining claims located in Lot 6 at the Catherine and Marter Township boundary. The three western claims of the original six-claim group have been allowed to lapse, leaving the three eastern claims (previously covered by a V.L.F. electromagnetic survey) in good standing. These three eastern claims have been covered by this follow-up magnetometer survey. These three claims are:

No. 477396 - N.E. ¼ of S.½ of Lot 6 Con. I -Cath. Twp.

No. 477I96 - S.E. ¼ of S.½ of Lot 6 Con. I -Cath. Twp.

No. 477397 - N.E. ¼ of N.½ of Lot 6 Con. 6 -Marter Twp.

The property is about one-half mile west of Highway 624 at a point about I3 miles south of the Town of Larder Lake.

A.Allsopp, II6 Woods St., Kirkland Lake is the recorded holder. The survey was performed and the map and report were written by J.E.Croxall - P.Eng., 376 Cherry St., Timmins - a partner in the property.

The survey results are submitted for assessment work credits on the three claims specified above.

Geology, Mineral Occurrences & Previous Exploration.

The property is underlain by basic to intermediate

volcanic rocks of Keewatin age. The main showing on claim no. 477I96 (I00 ft. north of 4+50E. on XL. 0+00) is a narrow shear zone replaced by quartz and sulphides and containing a narrow bed of cherty material. It strikes north - south and lies between a hill of basaltic lava to the west and a ridge of pillow lava to the east. The main sulphides are heavily disseminated pyritic bands adjacent to the vein containing stringers of massive chalcopyrite and sphalerite. Some minor pyrrhotite has been noted.

Three of four drill holes reported in I970 by Moncrieff Uranium Mines and Nickel Rim Mines Ltd. have been located on the three claims surveyed.

A more detailed description of the mineralization and previous diamond drilling results was given in the June I977 report of the V.L.F. - E.M. survey conducted by the author on these three claims.

Magnetometer Survey

(A) Purpose

The purpose of the magnetometer survey was to further investigate conductive responses obtained by the previous E.M. survey. The presence of pyrrhotite (although minor)

in the mineralization at the main showing may serve as a guide to locating other buried pyrrhotite-bearing base metal zones.

(B) Scope

The same grid was used for the magnetometer survey as for the E.M. survey. In all, a total of 285 readings were taken - 156 of which were at established, picketed stations while the remainder were either intermediate readings between pickets in anomalous areas or readings taken by pace-and-compass methods past the ends of the grid lines. These were done in an effort to better define anomalous magnetic responses which were found to exist near the west borders of the claims and to ensure that previous conductive zones located near the same boundaries were being adequately checked.

The locations of all readings taken are shown on the map enclosed.

(C) Instrumentation and Method

The instrument used was a PMF-3 Magnetometer manufactured by McPhar Geophysics Ltd. It measures the strength of the vertical component of the total magnetic field in units of gammas.

This field, at a given station, consists of the vectorial sum of the earth's magnetic field and that of any anomalous

body. The latter is caused by mineralization that is either naturally magnetic or is capable of possessing a secondary field which is induced by the earth's primary field.

Immediately prior to the survey the instrument was set to read zero over the Ministry of Natural Resources' base station No. M-7I-I0 whose true reading is recorded as 580±I0 gammas. About 60 minutes later the property base station was read and found to be zero as well. All subsequent readings were taken relative to the property base station reading. All readings gathered were increased by 580 gammas after correction for diurnal drift and before being plotted and contoured.

The base line was read immediately from 0+00 to XL 20+ 00S. The cross lines were traversed from west to east then east to west in a looped fashion, closing in on the base station from the south.(i.e. from west to east on XL 20+00S, then from east to west on XL I6+00S etc.). Every hundred foot grid station was read, additional or intermediate readings being taken in anomalous areas.

The same method was followed in the northern part of the grid. The base station was read at the end of each phase of the survey - the check-in interval being 3 hours for the southern half of the survey and 3½ hours for the

northern half. Reading times were noted at short, regular intervals throughout the survey.

Since the earth's magnetic field fluctuates with time, it is periodically necessary to check in on the base station to determine the magnitude of this natural drift in relation to the magnitude of the actual station reading taken. Any apparent change in magnetic intensity which occurred during the time interval between base station checks is applied as a progressive, time-related adjustment against all readings taken during that interval.

A contour plan was derived from the corrected and plotted station readings and accompanies this report.

(D) Interpretation of Results

The lack of bedrock exposure in anomalous areas makes the interpretation of results difficult at the outset.

The magnetically anomalous zone along the western property boundary (from XL 8+00N southward) may indicate a change of rock type - i.e. a more basic rock type or diabase dike on the western side of the claims.

The co-incidence of magnetically and electromagnetically anomalous zones along the west property boundary cannot be ignored. The lack of co-incidence northward from 8+00N could be interpreted, on the one hand, to mean that the creek bed is the conductor except that the conductive trace

extends south of the pond near XLO+OO onto higher ground where no creek exists. The conductive response could be a shear zone, (along or near a north striking geological contact indicated by elevated magnetic responses) the northern part of which is occupied by the creek.

Since the main showing is a mineralized shear striking north-south (which, incidently, responded only very weakly in both surveys) the responses still warrant further checking.

The other magnetically anomalous zone of similar magnitude located near the baseline at I2+OON cannot be explained. It is noted however that this zone is bounded on the west by the strong E.M. conductor which parallels the creek and on the east by a weaker E.M. response.

Conclusion

Two magnetically anomalous zones with peak values in the order of twice background were found to exist on the claims surveyed. One zone exists along the west claim boundaries from 8+OON to the south where it coincides with a previously located E.M. conductor. The other zone near the baseline at XL I2+OON is bounded on both the east and west by E.M. responses - the former a weak response compared to the latter.

The co-incident mag-e.m. responses appear to diverge north of 8+00N at the west claim boundary with the e.m. response continuing north-north easterly parallel to the creek.

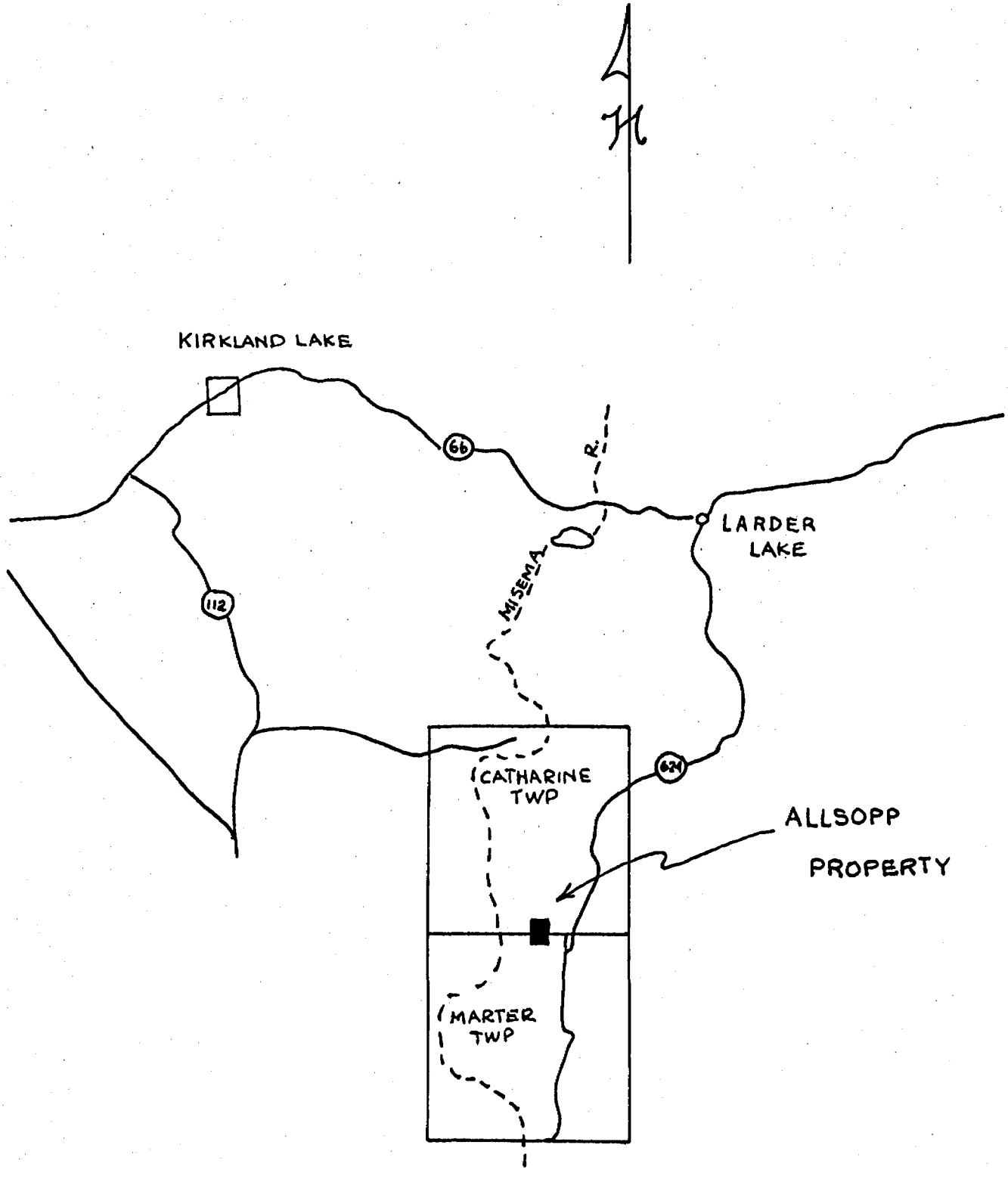
The claims to the west will be re-staked on the basis of these findings. Additional work of a geochemical or geophysical nature is required to further evaluate the responses located to date.

J. E. Croxall

J.E.Croxall - P. Eng.

Oct. 30/1978

Location Key Map



Ontario

Ministry of Natur

GEOPHYSICAL – GEOLOGIC
TECHNICAL DATA

31M13NW0093 2.2830 MARTER

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) MAGNETIC

Township or Area CATHARINE-MARTER TWPS.

Claim Holder(s) A. ALLSOPP

116 WOODS ST., KIRKLAND LAKE

Survey Company N/A

Author of Report J. E. CROXALL

Address of Author 376 CHERRY ST., TIMMINS, ONT.

Covering Dates of Survey OCT. 1 TO OCT. 31, 1978
(~~linecutting~~ survey to office)

Total Miles of Line Cut (PREVIOUS) 3.1 MILES (16,325')

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey. (PREVIOUS E.-M.)

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic
--Magnetometer 20
--Radiometric
--Other
Geological
Geochemical

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

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

DATE: NOV. 1/78 SIGNATURE: J. E. Croxall
Author of Report or Agent

Res. Geol. L.D. Qualifications 2.2164

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
	477396
	477196
	477397

If space insufficient, attach list

TOTAL CLAIMS 3

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 156 Number of Readings (a) AT PICKET STATIONS = 156; (b) AT INTERMEDIATE " = 129; TOTAL = 285

Station interval 100 FT. Line spacing 400 FT.

Profile scale N/A.

Contour interval 100 GAMMAS

MAGNETIC

Instrument PMF-3 by McPHAR

Accuracy – Scale constant 25 gammas

Diurnal correction method Change in base station rdg. between check-ins distributed over check-in interval according to time from initial rdg.

Base Station check-in interval (hours) (3 TO 3½ HRS.)

Base Station location and value BASE OF 18"Ø SPRUCE TREE LOCATED AT 2+50 EAST ON XL 0+00. BASE RDG. = 580 GAMMAS

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

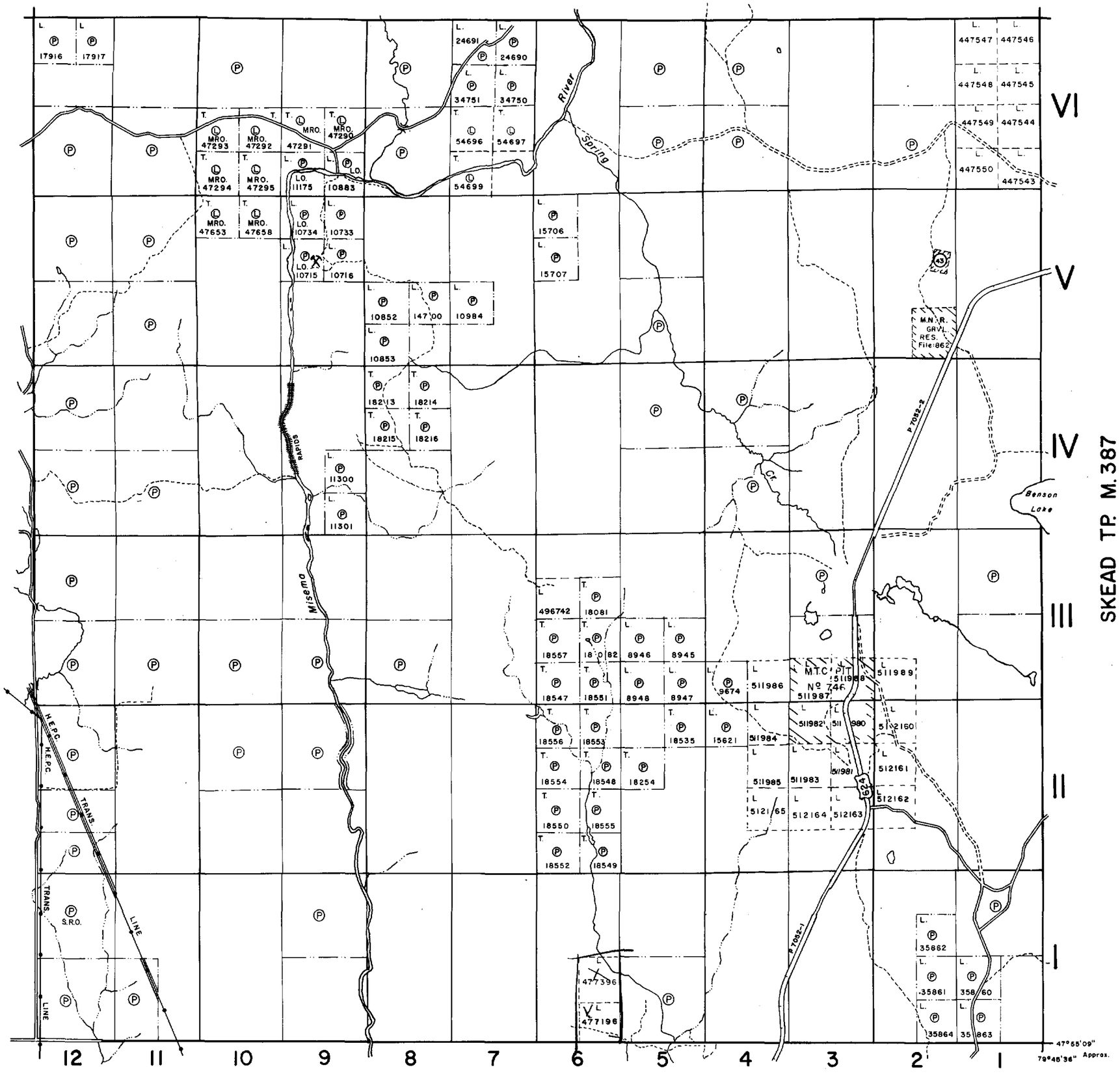
Type of electrode

McELROY TP. M.366

PACAUD TP. M.380

SKEAD TP. M.387

MARTER TP. M. 543



NOTES

400' surface rights reservation along the shores of all lakes and rivers.

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

	File	Date	Disposition
(43) W.54/74	26940	10/10/74	S.R.O.

DATE OF ISSUE
NOV - 6 1978
SURVEYS AND MAPPING BRANCH

LEGEND

PATENTED LAND	(P) or ●
PATENTED FOR SURFACE RIGHTS ONLY	◒
LEASE	(L)
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	(17)
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

*used only with summer resort locations or when space is limited

TOWNSHIP OF

CATHARINE

DISTRICT OF TIMISKAMING 2.7830

LARDER LAKE
MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. K.K.I.
DATE JUNE '72
PLAN NO. M. 336

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Catherine Twp.

Chamberlain Twp.

Bayly Twp.

Evanturel Twp.

VI

V

IV

III

II

I

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

Blanche River

Englehart R.

Wendigo L.

FLUME LINE

MARTER

S.R.O.

S.R.O. Withdrawn from Staking Sec 42 of the Mg. Act F. 31283

PA24

PA 8

RAP

M.T.C. GRAVEL PIT 1175

M.T.C. GRAVEL PIT No. 709

M.T.C. GRAVEL PIT 745

GRAV FILE 2252

M.T.C. GRAVEL PIT No. 774

M.T.C. GRAVEL PIT 1271

M.T.C. GRAVEL PIT 1211

GRAVEL FILE 15087

477397

512124 512125 512123 512126

T. P 24831 T. P 24830 T. P 24839 T. P 24840 T. P 24836 T. P 24837 T. P 24832 T. P 24833 T. P 24835 T. P 24834 T. P 24843 T. P 24842

THE TOWNSHIP OF MARTER

2.2830

DISTRICT OF TIMISKAMING

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	P
CROWN LAND SALE	C.S.
LEASES	L
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	
IMPROVED ROADS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
WATER POWER LEASE	W.P.L.

NOTES

400' Surface Rights Reservation around all Lakes and Rivers

Mining Claims on N. 1/2 Lot 1 Con 6
SW. 1/4 " 2 " 6
NW. 1/4 " 2 " 5
N. 1/2 " 1 " 5
will be exclusive of gravel purposes.

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

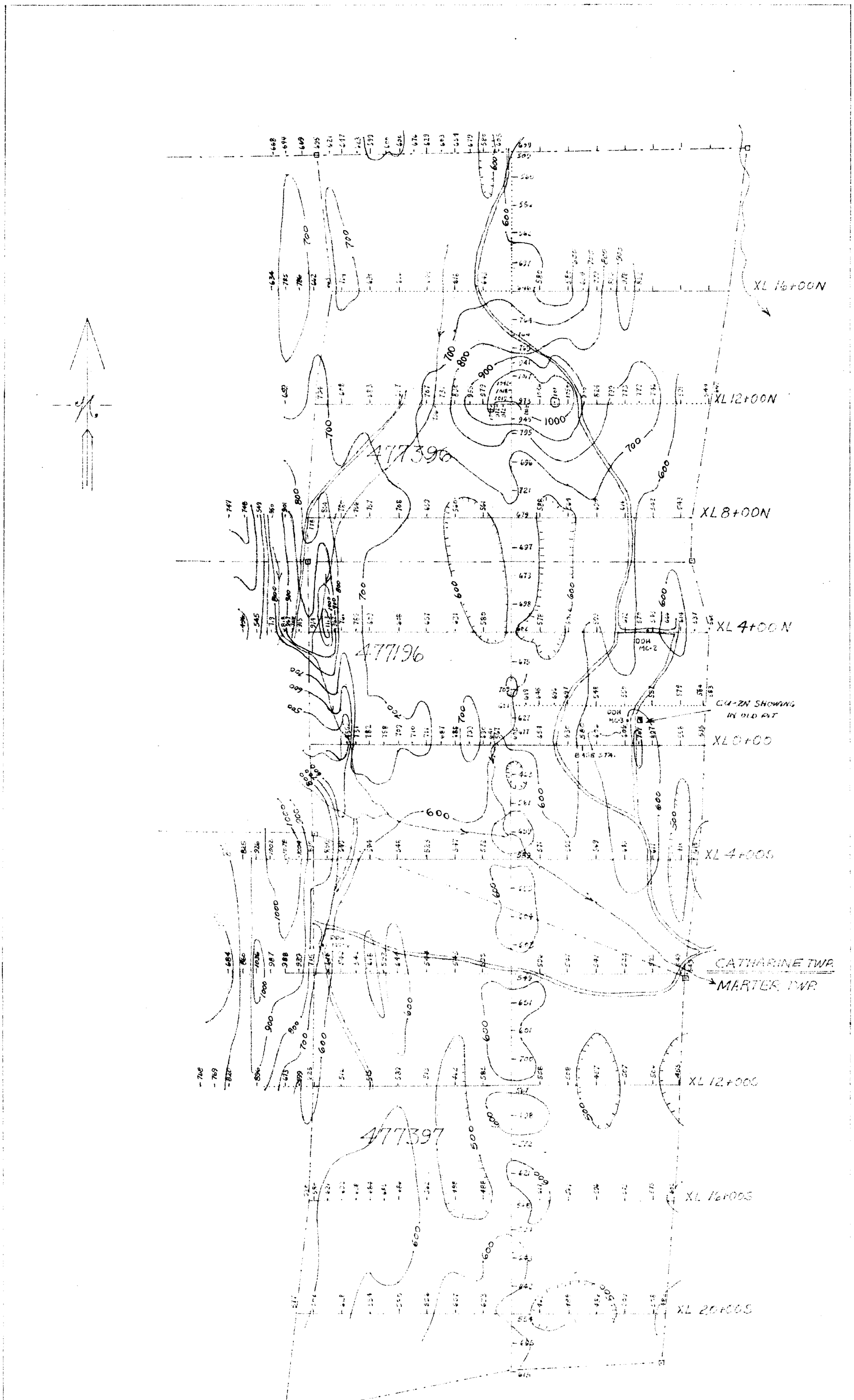
	Order No.	File	Date	Disposition
R1		30852	19/10/71	S.R. & M.R.
R2	W. 11/76	31283	23/3/76	S.R.O.

DATE OF ISSUE
NOV - 6 1978
SURVEYS AND MAPPING BRANCH

PLAN NO. – M-543

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

G.E.M.



MAGNETOMETER SURVEY
ALLSOPP - CATH-MART. PPTY.
SCALE 1 INCH = 200 FEET
SURVEY DATE: OCT. 31 TO NOV. 3, 1978
CONTOUR INTERVAL = 100 GAMMAS J.E. Carroll