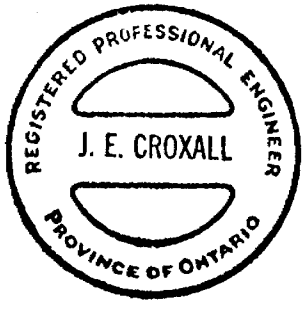
2.2450

V.L.F. Crone Radem
Electromagnetic Survey
on the Eastern Half of the
Allsopp Property-Catherine and Marter Townships
Larder Lake Mining Division.

Submitted by:
J.E. Croxall, P.Eng.

Written:
June 5, 1977



Crone Radem Survey-Allsopp Property

Location and Access

The Allsopp property consists of six unpatented mining claims located in Lot 6 at the Catharine-Marter Township boundary. Four of the claims lie in the south half of Lot 6 Concession 1 of Catharine Township and two lie in the north half of the north half of Lot6 Concession 6 of Marter Township.

The survey was carried out on the three eastern claims of the group, namely:

#477396--NE ¼ of S ½ of Lot 6 Con. 1-Cath. Twp.

#477196--SE ¼ of S ½ of Lot 6 Con. 1-Cath. Twp.

#477397--NE ¼ of N ½ of Lot 6 Con. 6-Marter Twp.

Access to the claim group is best obtained from highway 624 from Larder Lake. A narrow road heads north from a point on the highway one half mile south of the Catharine-Marter boundary and swings west along the township boundary. From this point, access is by foot only along the grown-in road to the east edge of the property-a distance of one-half mile.

The recorded holder of the property is A. Allsopp, 116 Woods St., Kirkland Lake. The survey was performed and the maps and report were

of Keewatin age-specifically dacite and andesite, including pillow lavas.

A report written by W.S. Savage, Resident Geologist, on July 30, 1948 refers to a former claim group here called the Short-Netherton Claims. He describes the main showing on claim #53596 (presently #477196) as a shear zone replaced by quartz and sulphides in a draw between a ridge of pillow lava to the east and a hill of basaltic lava to the west. The one-foot vein strikes N5°W and the sulphides are concentrated in two 4" to 6" bands on either side which are heavily disseminated with pyrite and contain stringers of massive chalcopyrite. The more massive sulphides extend into the wall rocks in irregular stringers. Pyrite, chalcopyrite and sphalerite occur in these stringers.

The following grab sample assays were reported by Savage:

	Au (oz/T)	Ag (oz/T)	Cu (%)	Pb (%)	Zn (%)
O.D.M.	0.05	4.49	27.14		5.09
			5.88		
Swastika Lab.	0.01	0.20	21.25		2.52
Beattie Gold	0.01	0.27	0.88	0.42	2.42
	Tr.	4.03	6.69	0.56	

Four drill holes were recorded on the property around 1970. Three were drilled by Moncrieff Uranium Mines (MC-2,3,4) and one was drilled by Midnorth Engineering (MN-1) for Nickel Rim Mines Ltd. The three former holes have been located in the field and are shown on the plans.

Grab samples taken from the walls and dump of the pit on the above showing (about 100'north from 4+50 E. on XL 0+00) by the author yielded the following results:

	Au (oz/T)	Ag (oz/T)	Cu (%)	Zn (%)
dump sample (mass. sulph.)	0.02	1.38	6.34	1.89
east wall sulph. stringer	0.02	1.20	4.25	5.84

The drill logs refer to "scattered" sulphide mineralization (pyrite, chalco-pyrite and sphalerite over 140' and pyrite, chalco – pyrite over 234') in MN-1 and MC-4 respectively. There was an apparent lack of mineralization both in MC-3 (directly beaneath the strongly mineralized main showing) and in MC-2 to the north of it. The structure reportedly dips east at 65°. The holes dip at 50° to the east.

It was noted from a preliminary reconnaissance of the area that several creeks flowed in a southerly direction toward the main easterly flowing creek near the township boundary. It was felt that these might be the surface expression of parallel north-south shear zones.

The absence of any recorded, detailed geophysical work promted the holder and author to acquire the property.

Radem Survey

(A) Purpose

The purpose of this Radem Survey was to establish a guide for further prospecting work by checking for and locating:

1)the extent, in the north-south direction, of the mineralized shear zone evident in the pit and

2) other mineralized shear zones lying parallel to that exposed in the pit.

(B) Scope

A north-south baseline was cut across the centre of the three claims. Crosslines were established at 400' intervals and cut to the claim boundaries.

In all, 16,325' of grid lines were cut, chained and picketed at 100'

intervals. This consists of 3,800' of baseline and 12,525' of crosslines. An additional 4,385' of lines were traversed (not cut and picketed) by pace and compass methods with readings taken at 100' intervals. (These are indicated by dotted lines on the plans and include the north claimline boundary of 477396, the western end of XL 16+00N, an intermediate XL about 140' north of XL 0+00 and east of the baseline, and short western extensions of XL's 12+00S, 4+00S and 4+00N. The 490' traverse extension of the baseline north from XL 16+00N was not read.

A total of 180 readings were obtained at locations indicated on the profile plan.

(C) Instrumentation and Method

The E-M survey was carried out with a Crone Radem V.L.F. unit using Annapolis, Maryland as the transmitter station (21.4 KHz). The receiver measures the dip angle of the direction of the resultant V.L.F. field in degress from the horizontal.

To measure the dip angle, the unit was first held with the instrument face horizontal and rotated until a "null" is obtained (visual minimum on the field strength meter and audio null). The Radem was then held vertically and tilted from right to left until another null was obtained. In this position, the dip angle is read from the inclinometer.

An anomaly is represented as a "cross-over" when positive readings (shown on the north side of the grid lines) change to negative readings (shown on the south side of the grid lines).

(D) Interpretation of Results

Conductor axes, as indicated by cross-overs, are plotted on the profile plan. The north-south conductive trends are more evident from the contour plan which was derived by the application of the Fraser filtering method to the raw data.

A very strong north-south anomaly is observed to exist across claim #477396. It extends across the north-west corner of claim #477196 as well. It coincides very closely with the creek which runs south, south-west into the beaver pond near the west end of XL 0+00. This anomaly could be the reflection of a conductive, clay-filled depression occupied by the creek. There is an indication, however, (from the contours which are available at the ends of the crosslines south of the pond) that the anomaly may continue to the south into areas of higher ground.

Another anomaly, but of much lower intensity, is observed to exist in the vicinity of the small creek along the baseline at XL 0+00.

An anomalous response was observed on higher ground in the pit area (Cu-Zn showing) and drill hole MC-2.

A response of similar intensity was obtained to the south of the pit on XL 4+00S between the creek and the fork in the road. This conductor extends in a south, south-west direction across the baseline toward XL 16+00S.

A broad but weak response was found to cross lines 12+00N and 16+00N east of the baseline.

Conclusion

Several, generally north-south anomalous zones were found to exist on the claims surveyed.

A response was obtained over the mineralized showing.

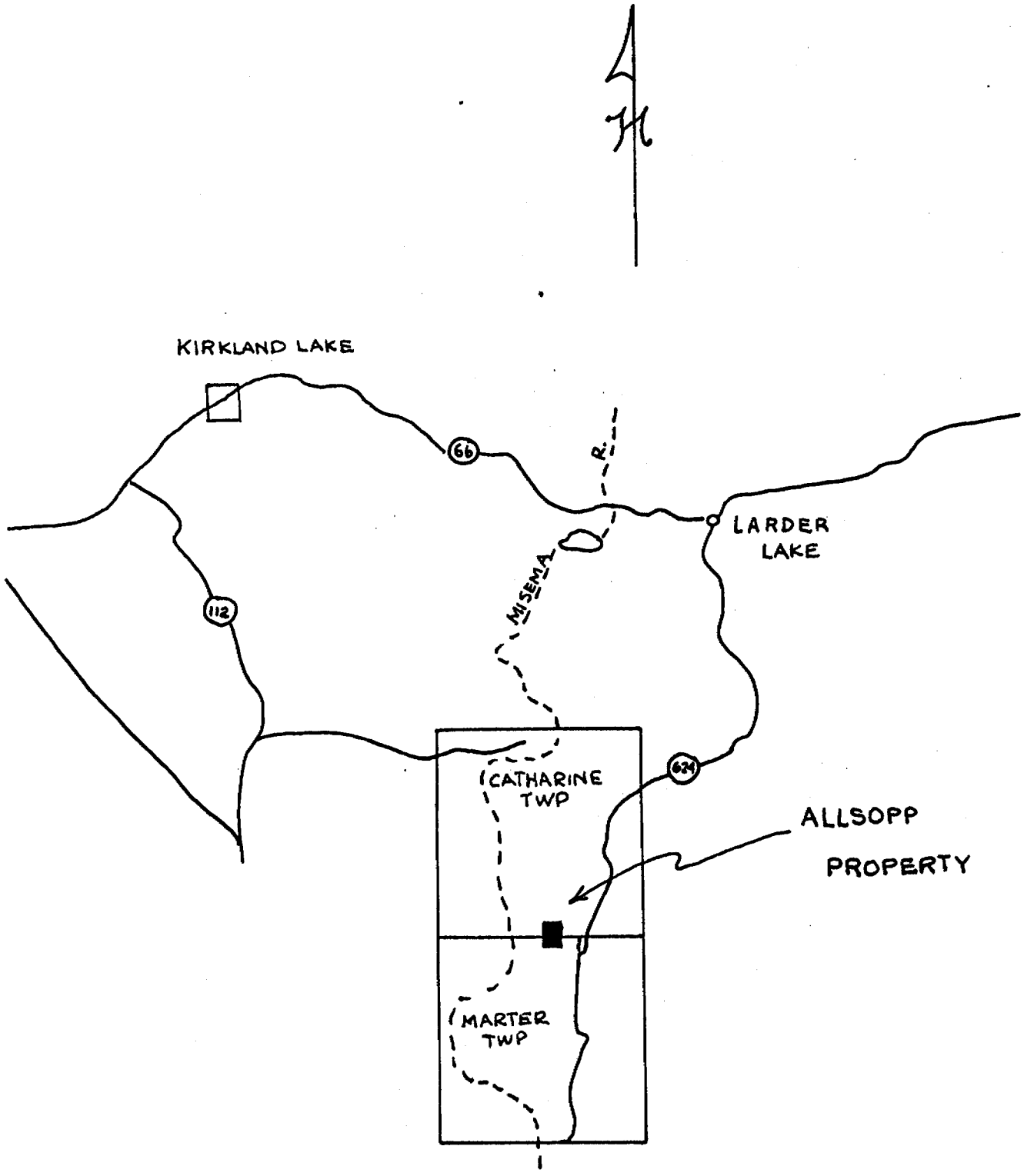
An equally intense response was found to extend for some 1400' in-line with but to the south of the showing.

Two possibly creek-related responses were obtained.

A magnetometer survey is required to validate all responses, particularly the latter.

J. E. Caxall

Location Key Map



Ontario

Ministry of Natur

31M13NW0094 2.2450 MARTER

900

GEOPHYSICAL – GEOLOGIC
TECHNICAL DATA STATEMENT

PROJECTS UNIT

JUL 14 1977

MINING LANDS SECTION

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) ELECTROMAGNETIC

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 APRIL 24 to JUNE 5, 1977
(linecutting to office)

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

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: JUNE 5/77 SIGNATURE: J.E. Croxall
Author of Report or Agent

L.D.

Res. Geol. ____ Qualifications 2.2164

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
L.	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 180 Number of Readings 180

Station interval 100 FT. Line spacing 400 FT

Profile scale ONE INCH = 20 DEGREES

Contour interval 10 DEGREES

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 VERTICAL LOOP

Coil separation 600 MILES OR INFINITY

Accuracy ± ½ DEGREE

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

Frequency ANNAPOLIS, MARYLAND 21.4. KHz
(specify V.L.F. station)

Parameters measured DIP ANGLE (in degrees) of RESULTANT VLF-EM 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

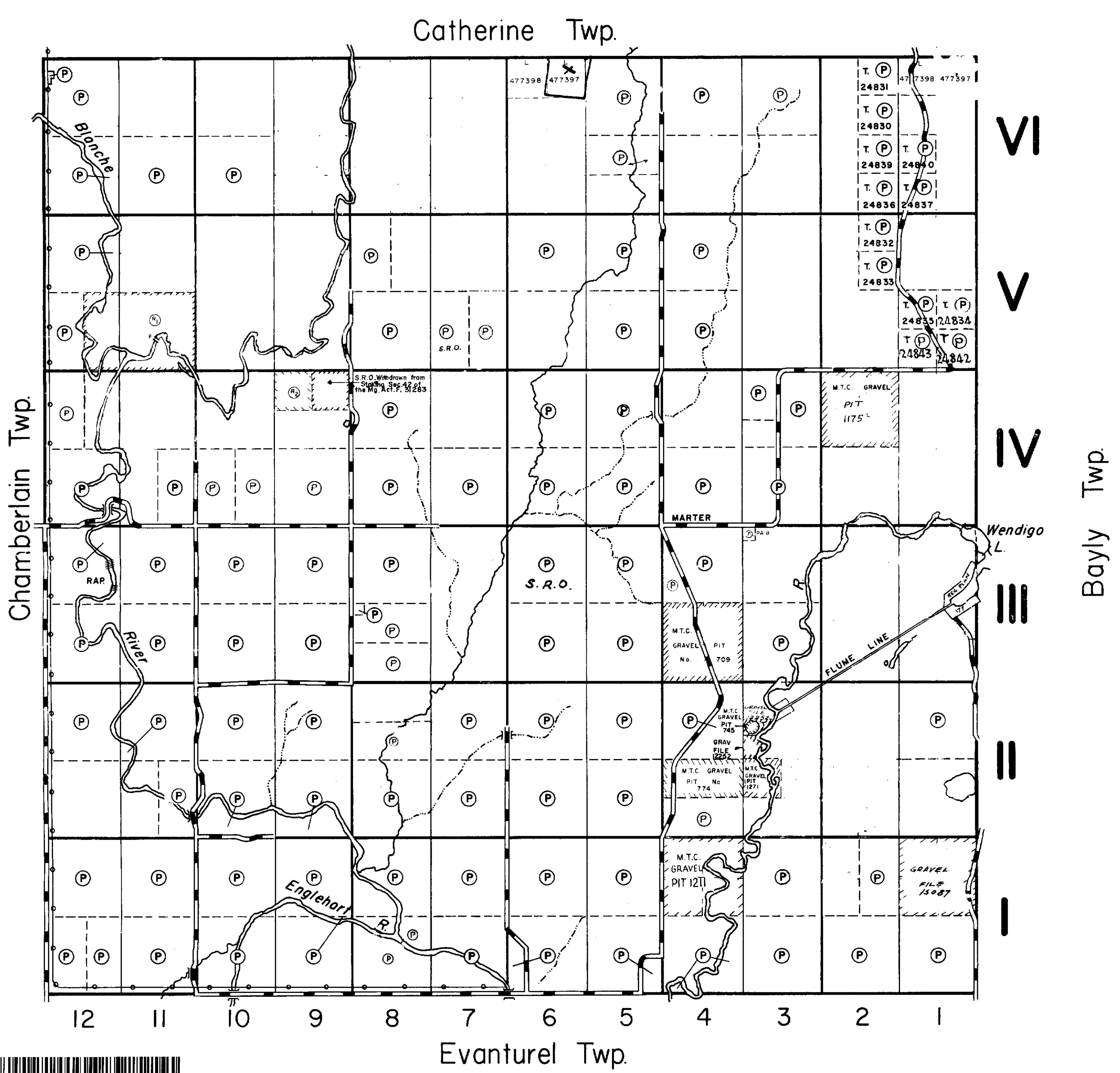
– Integration time

Power

Electrode array

Electrode spacing

Type of electrode



31M13NW0094 2.2450 MARTER

200

G.E.M.

THE TOWNSHIP OF 2.2450 MARTER

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
JUL 15 1977
SURVEYS AND MAPPING BRANCH

PLAN NO. – M-543

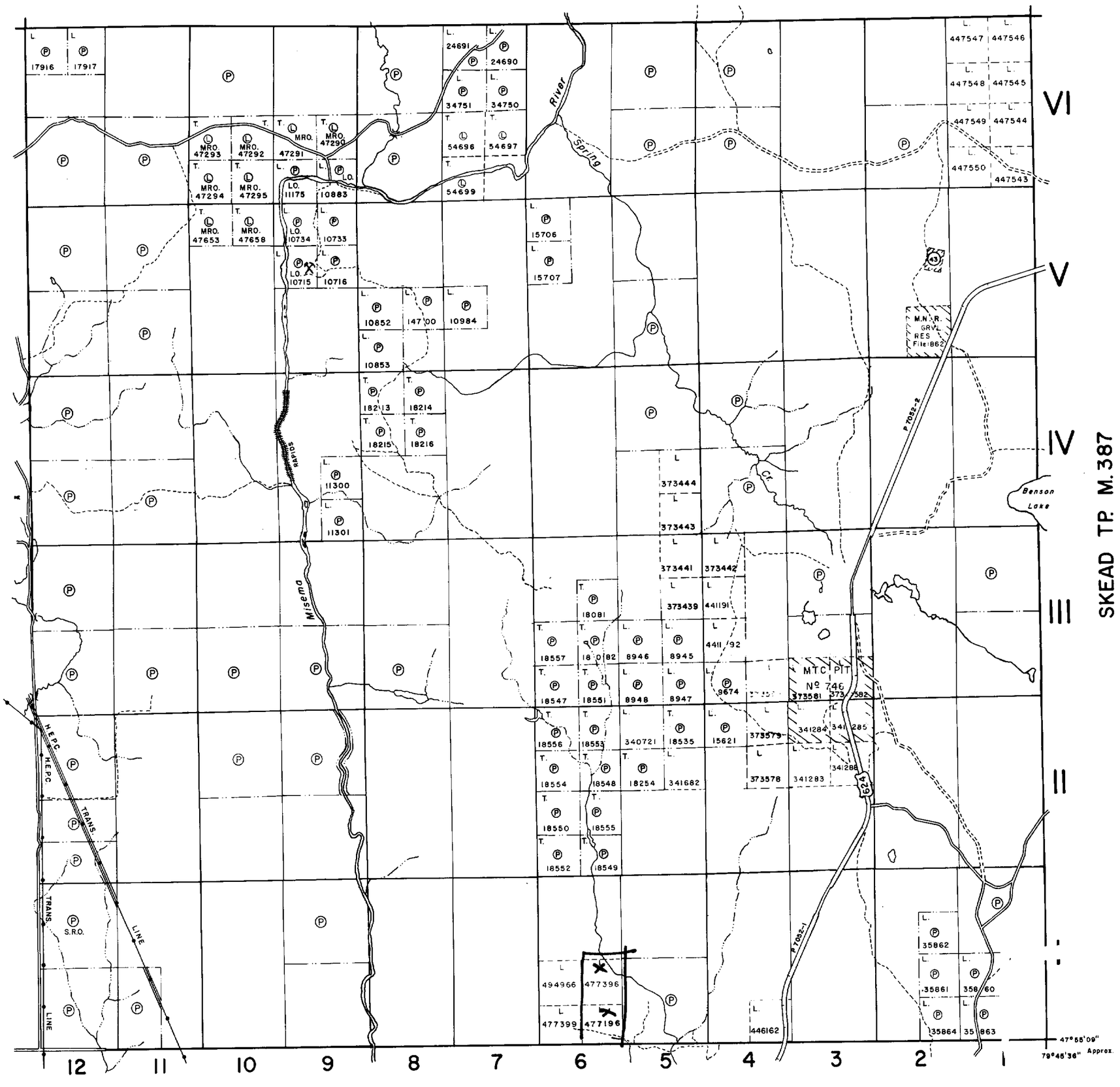
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

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. ...70),

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

DATE OF ISSUE
JUL 15 1977
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 2.2450

CATHARINE

DISTRICT OF
TIMISKAMING

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

31M13NW0094 2.2450 MARTER

XL 16+00N

XL 12+00 N

494966

477396

XL 8+00N

477399

477196

XL 4+00N

XL 0+00

Cu-ZN

XL 4+00S

CATHARINE TWP.

MARTER TWP.

XL 8+00S

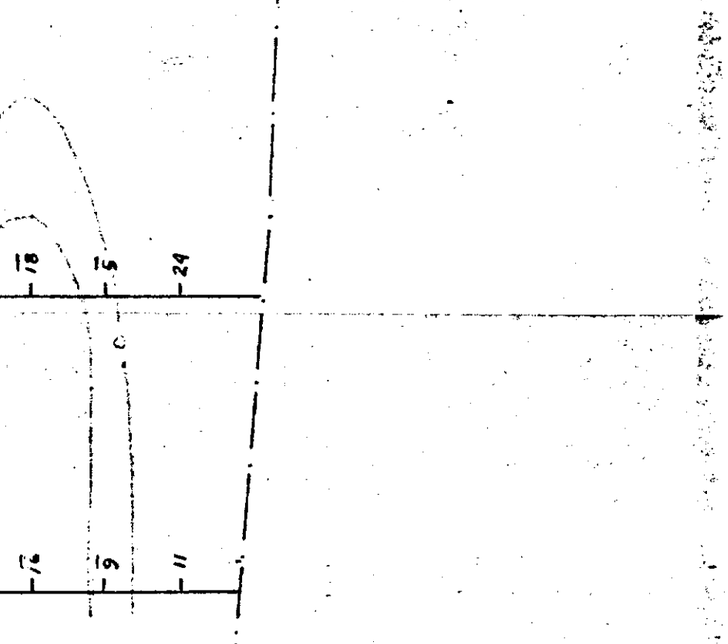
XL 12+00S

477398

477397

XL 16+00S

XL 20+00S



REGISTERED PROFESSIONAL ENGINEER
J. E. CROXALL
PROVINCE OF ONTARIO

CONTOUR PLAN of FILTERED DATA
from RADEM SURVEY.

ALLSOPP CATH.-MART. PPTY.

GRID SCALE 1 INCH = 200 FEET

CONTOUR INT. = 10 DEGREES J.E. Croxall

RADEM SURVEY
ALLSOPP CATH.-MART. PPTY.

SCALE 1 INCH = 200 FEET

SURVEY DATE APR. 24 - JUNE 5/77

J. E. Croxall

REGISTERED PROFESSIONAL ENGINEER
J. E. CROXALL
ONTARIO

ASSESSMENT...
rec'd from Research
Office Toronto
Date June 13/78 H. Lovell

31M13NW0094 2.2450 MARTER

230