OTISSE
NOS. 373
POWELL TOWNSHIP
MATACHEWAN AREA, ONTARIO

010

PROPERTY, LOCATION & ACCESS

The property comprises 2 water claims numbered 373402 and 373403 covering the south part of Otisse Lake in the southeast quarter of Powell Township.

Located 30 miles west of Kirkland Lake and 2 miles northwest of the Town of Matachewan, the claims are readily accessible from Highway 566 which runs northwest from Matachewan. Secondary gravel roads extend from Highway 566 to the south shore of Otisse Lake.

HISTORY

The Matachewan area was prospected for gold as early as 1909. The height of prospecting activity was in the 1930's when several pits and shafts were sunk. From 1934 to 1957 the two mines of the Matachewan camp (Matachewan Consolidated Mines Ltd., and Young-Davidson Mines Ltd.) produced 956,117 ounces of gold and 165,598 ounces of silver with a total value of $34,688,256.00. Old properties were re-examined after the Second World War, but since the closing of Young-Davidson Mines Limited in 1957 little work has been done.

GENERAL GEOLOGY

The area forms a small part of a large belt of "greenstones" extending from southwest of Timmins, Ontario, to Chibougamau, Quebec. The general geology of part of the belt in Ontario is shown on the compilation map, Timmins-Kirkland Lake sheet (Map 2046) of the Ontario Department of Mines.

The oldest rocks in the area are volcanic, and they are overlain by tightly folded sedimentary rocks. Both are cut by mafic and silicic intrusions. The intrusive rocks, in turn, are cut by early diabase

dikes. Flat-lying sedimentary rocks overlie all of the above rocks, and are intruded by a few late diabase dikes.

Gold occurs in or near quartz veins that occupy shears, fractures, and faults in volcanic rocks, tightly folded sedimentary rocks, and silicic intrusive rocks. Most of the gold, molybdenite, and copper seems to be genetically related to syenite porphyry.

FIELD PROCEDURE

Base stations were established every 400 feet along the base line. Utilizing the north-south lines, the property was traversed in a series of loops both to the north and south of the base line. Readings were taken every 100 feet. Station 0 on Line 0 was arbitrarily set at 500 gammas. A permanent station was established on the shore at 2 S on Line 0 which is the location of the claim posts.

145 readings were taken.

The work was done on the 10th and 11th April, 1974. The instrument used was a McPhar M700 with an accuracy of ± 10 gammas.

INTERPRETATIONS

The readings are gene rally flat over most of the property except for a northerly band of high readings on lines 2E to 6E which almost undoubtedly reflect a diabase dike. This confirms very closely with the geology of O.D.M. Map 2110 which indicates a dike on strike to the north and south. The possible existence of another dike is suggested on line 16W at the western edge of the property.

The known geology infers that the lake, except for diabase dikes, is underlain by conglomerate of Temiskaming age. The low, flat magnetic readings over the lake support this inference.

CONCLUSIONS AND RECOMMENDATIONS

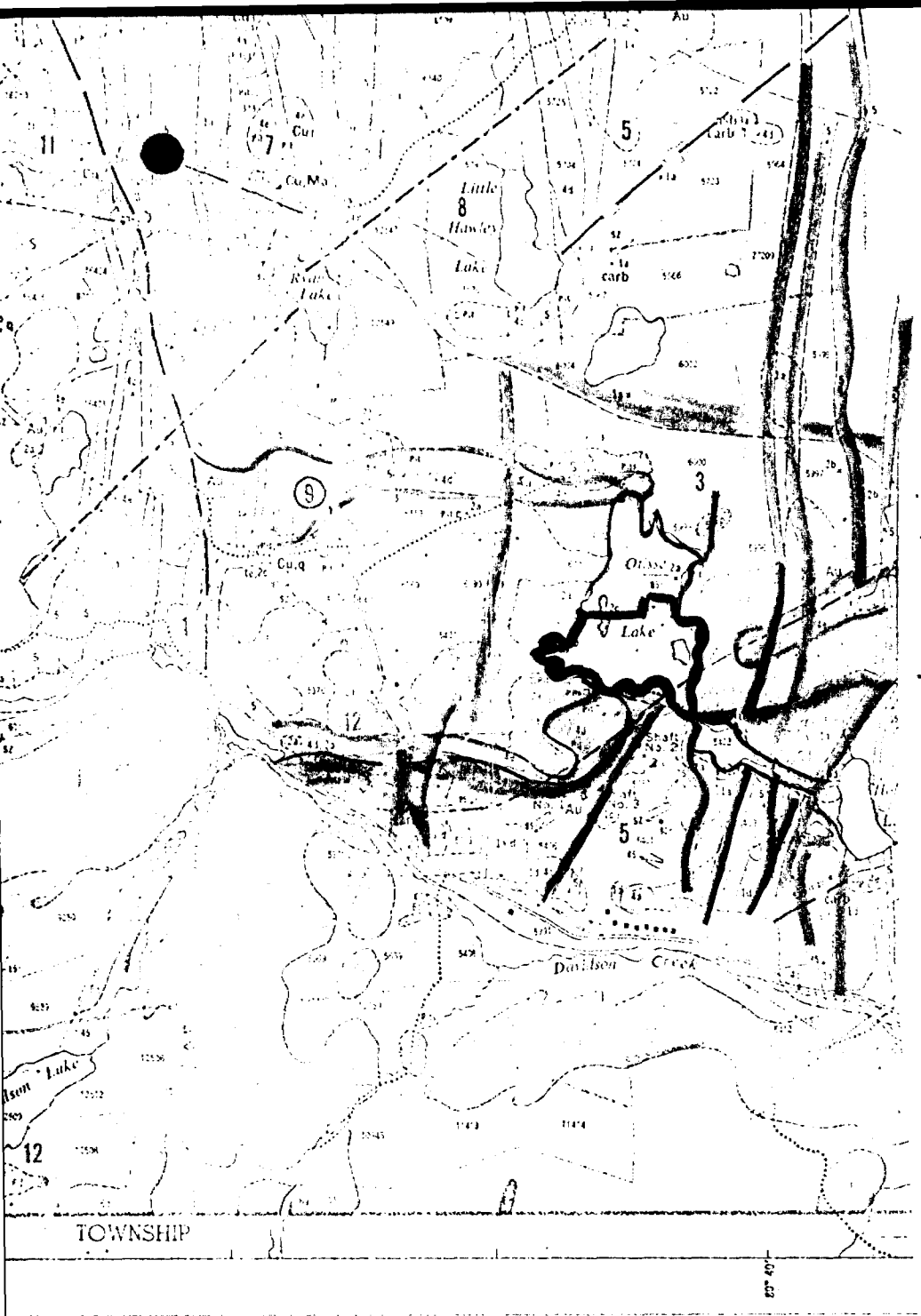
The magnetic survey supports the geology as interpreted on Map 2110, - that the lake is underlain by Temiskaming sediments intruded by one, and possibly two, north trending diabase dikes.

The aeromagnetics of the area indicate that the favourable intrusive syenites and syenite porphyrys are reflected by low magnetic relief. Both the geology and this survey suggest that along the south boundary on Lines 2W-4W-6W, syenite intrusives may be present. Prospecting and stripping along the south shore is recommended to investigate these intrusive rocks.

Signed,

L. J. Cunningham, B.Sc., P.Eng.
Mining Engineer

19th July, 1974
Kirkland Lake, Ontario



PROTEROZOIC

MAFIC INTRUSIVE ROCKS
(Nipissing)

7 Diabase.

INTRUSIVE CONTACT

HURONIAN

COBALT GROUP

Gowganda Formation

6a Arenaceous and arkosic quartzite.
6b Conglomerate.
6c Argillite.
6d Arkose.

UNCONFORMITY

ARCHEAN

MAFIC INTRUSIVE ROCKS
(Matachewan)

5 Diabase, undifferentiated.

INTRUSIVE CONTACT

SILICIC INTRUSIVE ROCKS
(Algoman)

4a Granite.
4b Granodiorite and granitic gneiss.
4c Syenite.
4d Mafic syenite and lamprophyre.
4e Syenite porphyry and coarse-grained syenite.
4f Quartz diorite and diorite.

INTRUSIVE CONTACT

ULTRAMAFIC AND MAFIC INTRUSIVE ROCKS
(Haileyburian)

3a Serpentinite.
3b Diorite.

INTRUSIVE CONTACT

SEDIMENTARY ROCKS
(Timiskaming)

2a Conglomerate.
2b Greywacke, interbedded argillite and quartzite.
2c Arkose.

UNCONFORMITY

VOLCANIC ROCKS
(Keewatin)

1a Basalt and andesite.
1b Bleached, silicified, sericitized volcanic rocks.
1c Andesite porphyry.
1d Tuff (banded, and massive types).
1e Agglomerate.
1f Rhyolite and dacite.
1g Carbonatized and amygdaloidal rocks.
1h Amphibolite.

The Forks

Map 2110 SHOWING CLAIMS 373402 & 373403

OTISSE LAKE

POWELL AND CAIRO TOWNSHIPS

TIMISKAMING DISTRICT

Scale 1:31,680 or 1 Inch to ½ Mile

Chains 80 60 40 20 0 1 2 Miles

Metres 1000 0 1 2 3 Kilometres

Feet 1000 0 5,000 10,000 Feet

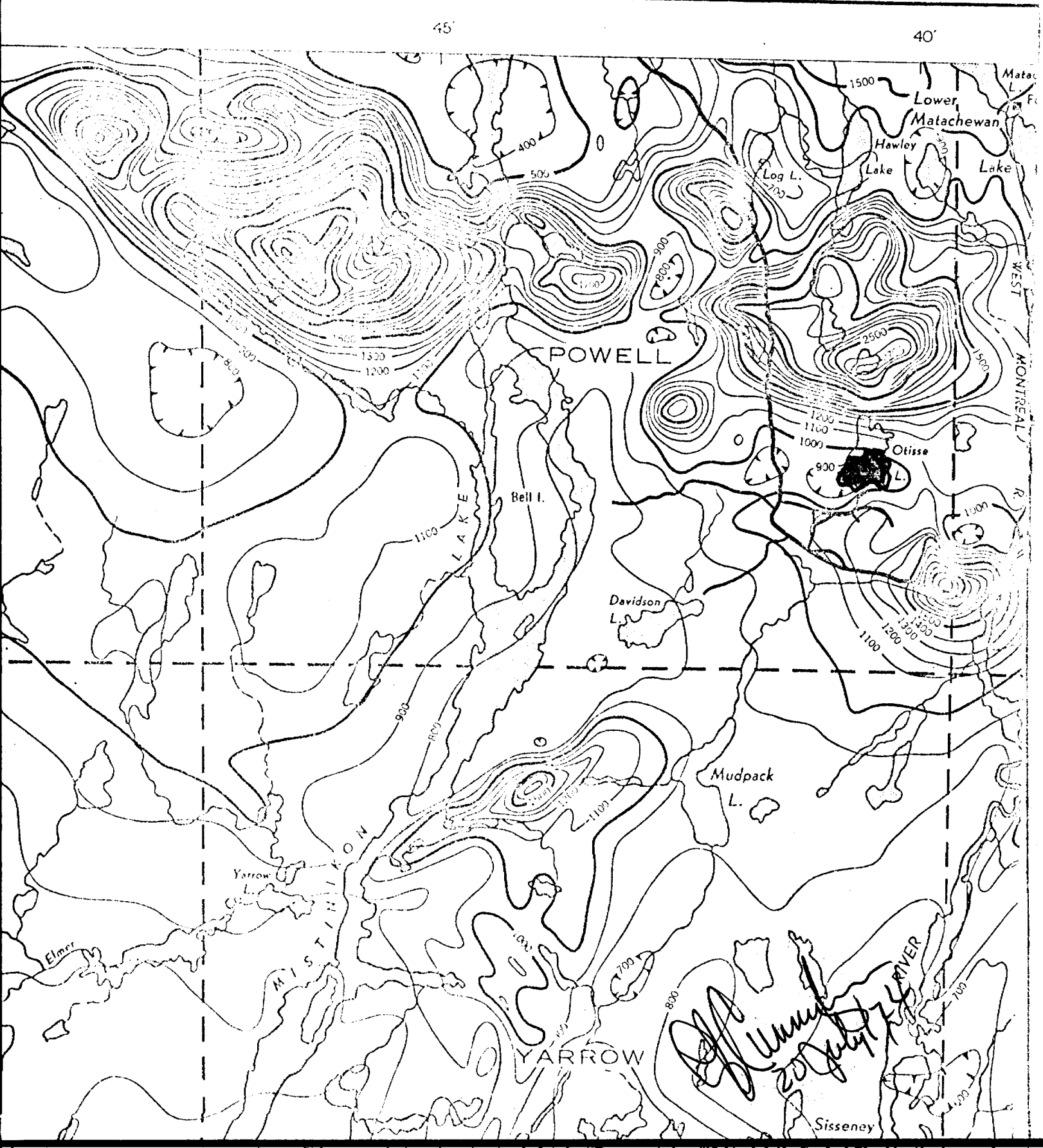
20 July 76

CANADA
DEPARTMENT
OF
MINES AND TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA

PART OF
AEROMAGNETIC MAP
MATACHEWAN SHEET

Scale 1" equals 1 mile
showing
Claims 373402 & 373403
Otisse Lake



900

GEOPHYSICAL – GEOLC
TECHNICAL DA

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.

JUL 24 1974
PROJECTS UNIT

Type of Survey MAGNETOMETER
Township or Area POWELL TWP
Claim holder(s) FRED. J. GARBUTT
242 HANNA RD TORONTO 17
Author of Report L.J. CUNNINGHAM BSc. P.Eng
Address 1 MCPHEE AVE KIRKLAND LAKE. ONT
Covering Dates of Survey 10 APRIL – 20 JULY 74
(linecutting to office)
Total Miles of Line cut 2.7 MILES of PICKETING ON LAKE

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 40
–Radiometric
–Other
Geological
Geochemical

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

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

DATE: 20 JULY 74 SIGNATURE: M. Cunningham
Author of Report or Agent

PROJECTS SECTION

Res. Geol. Nil Qualifications 63.1603

Previous Surveys

Checked by ____ date ____

GEOLOGICAL BRANCH

Approved by LD date ____

GEOLOGICAL BRANCH

Approved by ____ date ____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)
L 373402
373403
of

If space insufficient, attach list

LARDER LAKE
MINING DIV.
RECEIVED
JUL 22 1974
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

TOTAL CLAIMS ____

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 145 Number of Readings 145

Station interval 100 Feet

Line spacing 200 Feet

Profile scale or Contour intervals 100 GAMMA CONTOURS
(specify for each type of survey)

MAGNETIC

Instrument MCPHAR M 700

Accuracy - Scale constant ± 10 GAMMAS

Diurnal correction method BY LOOPING FROM BASE LINE

Base station location - EVERY 200 FT ALONG BASELINE
ONE PERMANENT STATION ESTABLISHED ON SHORE

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

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

Type of electrode

Baden Twp. (M.205)

Bannockburn Twp. (M.207)

Cairo Twp. (M. 210)

Yarrow Twp. (M.260)

THE TOWNSHIP
OF 2.1523

POWELL

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.
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

NOTES

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

L.O. 7601 Covers Flooding Rights In This Twp To Below Contour 870'.00 To H.E.P.C. File: 12290 Vol. 2.

L.O. 11167 Shown thus ---- File 90470

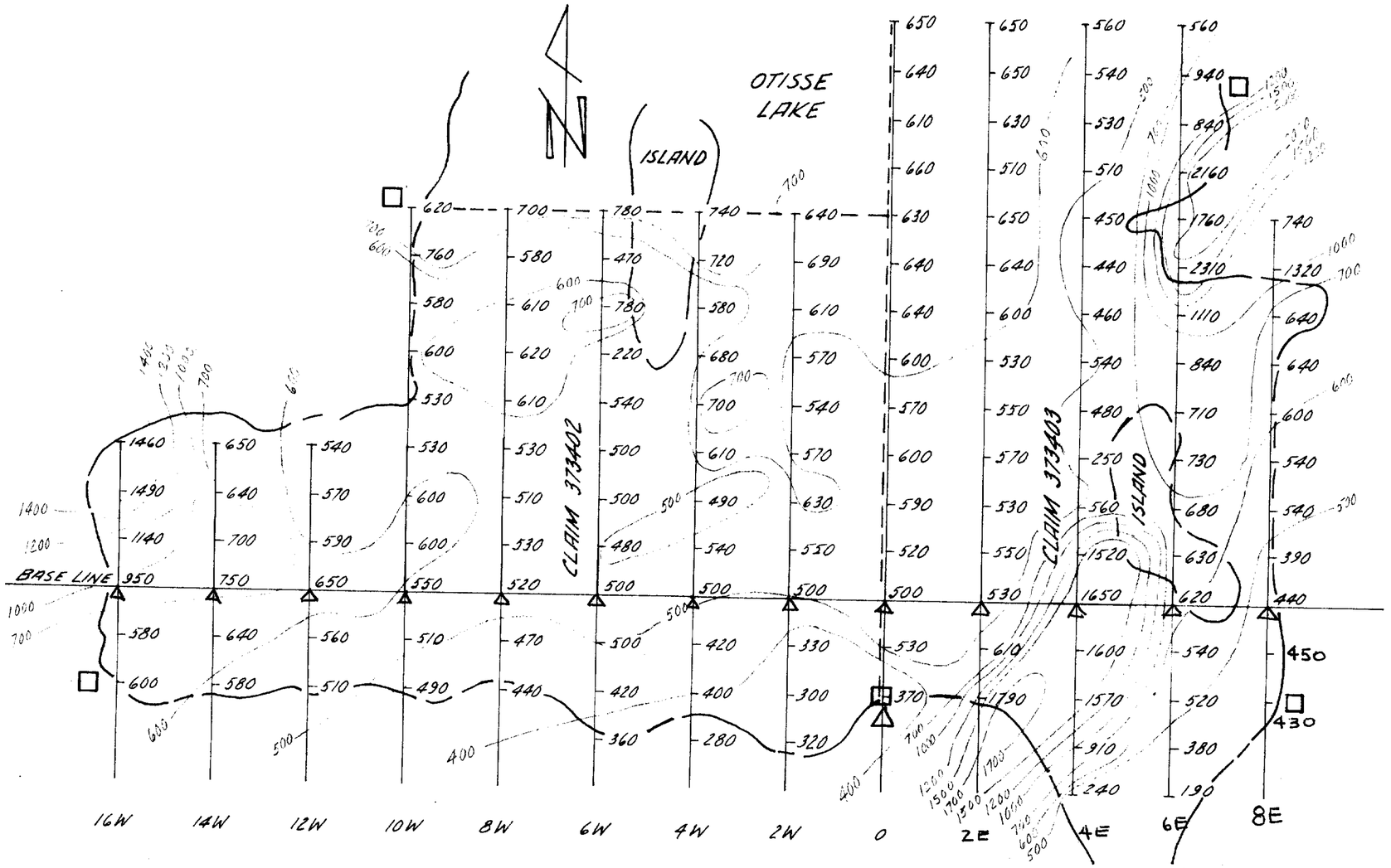
MINING LANDS
DATE OF ISSUE
JUL 25 1974
MINISTRY
OF NATURAL RESOURCES

PLAN NO. M.241

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

41P15NE8291 2.1523 POWELL

200



MAGNETOMETER SURVEY

CLAIMS 373402 - 03

POWELL TWP.

MATACHEWAN AREA

ONTARIO

SCALE - 1" = 100 FT.

INSTRUMENT - McPHAR M-700

VERTICAL FIELD - 10 GAMMA ACCURACY

□ CLAIM POST

△ BASE STATION

30 July 14