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MAGNETOMETER SURVEY

for

NORAD RESOURCES LTD.

FRANCISCAN LAKE CLAIM GROUP

Claims #PA 963401 - 963431 & 963437 Echo, Pickeral & McAree Township

Patricia Mining Division

Sioux Lookout Region, Ontario

2.10792

E. C. Hamilton

December 10, 1987

RECEIVED

FEB 02 1988

MINING LANDS SECTION



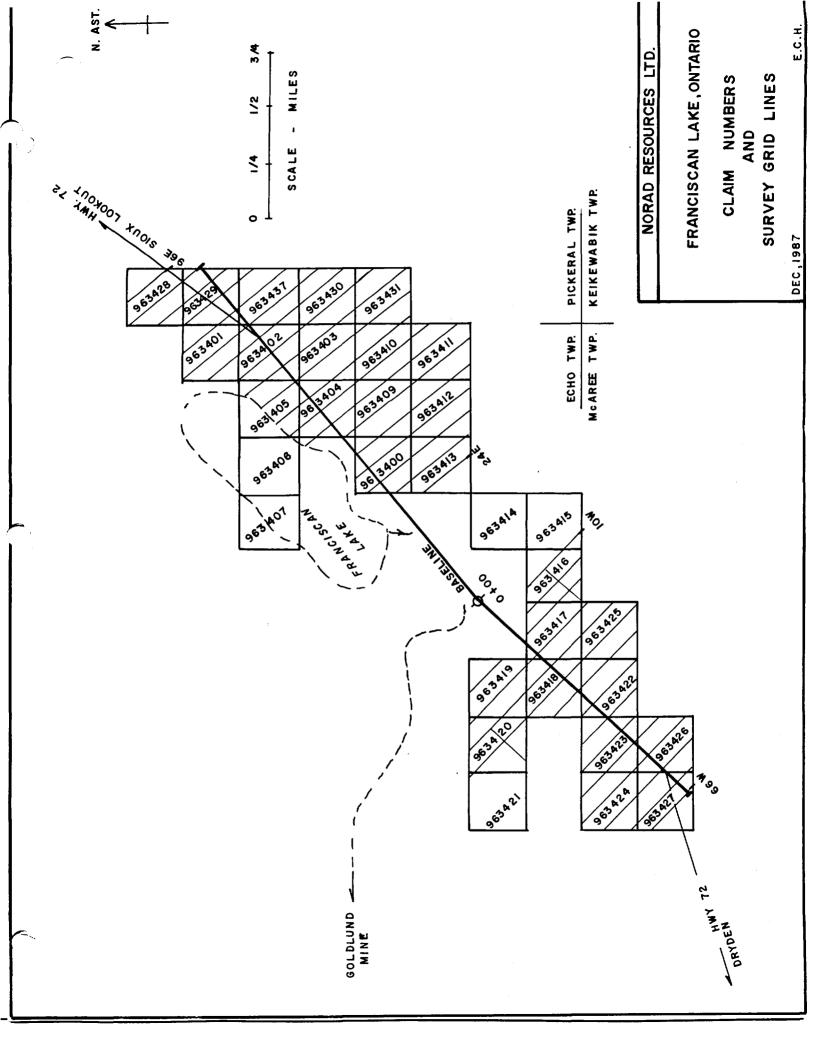
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Introduction

A ground magnetic survey and geological reconnaissance was performed on the claims listed below during period Oct. 30, 1987 and Nov. 28, 1987 for Norad Resources Ltd. to delineate gold exploration targets.

Location

The claims adjoin the southeast side of the Goldlund Mines Ltd. gold property and are transected for 2 3/4 miles by Highway 72. Sioux Lookout is about 20 miles northeast and Dryden about 30 miles southwest.

Franciscan Lake and creek partially underlie the northern claims.

Claims

The 27 claims, as listed below, were staked and registered in the name of Costy Bumbu, 2816 Ridgeway St. E., Thunder Bay, Ontario P7E 5K3, and are controlled by Norad Resources Ltd. The claims are located in Echo, Pickeral and McAree Townships.

	Claim No.		Recording Date
PA 9	963401 - 963405	incl.	Dec. 4/86
11 9	963408 - 963413	11	Dec. 4/86
11 Ç	963416 - 963420	11	Dec. 4/86
11 9	963422 - 963427	11	Dec. 4/86
" 9	963428 - 963431	11	Dec.16/86
" 9	963437		Dec.16/86

An extension to March 4/88 has been granted for claims 963405 - 963407, 963414, 963415, 963421 and 963425.

Geology

The Franciscan Lake claims are underlain by felsic volcanics, iron formation and greywacke type biotite - quartz schist sediments.

Geology, cont'd.

The rocks generally trend northeast parallel to Hwy 72 with frequent folds, crenulations and intense fracturing.

The iron formation is reported to contain up to 40% magnetite.

Previous surveys on or near the Norad claims report gold assays of $0.06~\rm oz/ton$ associated with pyroclastics near iron formation.

Reconnaissance geological observations are shown on the Magnetometer map.

The Goldlund and Camreco gold deposits are located about 1 mile west of the Norad claims. The Goldlund deposit occurs in fractured zones of a 60' wide competent quartz diorite rock band trending northeasterly parallel to the Norad claims.

Linecutting

A total of 17.73 miles of line were cut. Lines trending northwest were spaced at 400' intervals with pickets at 100' intervals on the lines.

The base line starts at Goldlund Mine Road, trends 52° to the northeast and 49° to the southwest.

The lines were well cut by Richard Weenusk, Harold Grieves and John James Munroe from Oxford House. Manitoba.

Magnetometer Survey

Objective

The objective of the survey was to delineate gold targets in or near

- a) bands or masses of competent rock, quartz diorite, etc.

 near felsic volcanics.
- b) iron formation bands.

Operators |

Dave Breeze, an experienced operator from Winnipeg, recorded about 90% of the field recordings and Erwin Hamilton the remainder.

Instruments

A. Description

Instruments used are listed below.

- 1. 1 base station recorder (MR 10) serial #012-9-40.
- 2. 1 GM 122 proton Barringer Magnetometer Serial #7533.
- 3. 1 GM 122 proton Barringer Magnetometer #7190.

B. Operation

If a proton rich fluid such as kerosene, jet fuel, heptane, etc. is placed into a magnetic field the protons will align along the magnetic field vector. The magnetic field is induced in the sensor upon depressing the pushbutton. Then this field is suddenly removed. Protons which behave as elementary gyroscopes will start precessing around the remaining magnetic field — that of the earth. The precession frequency is directly proportional to the magnetic field of the earth. The magnetometer counts this frequency, divides it by the appropriate constant to obtain a reading in gammas (1 y = 10^{-5} gauss) and displays the reading in the form of a 5 digit number.

C. Accuracy

The instrument is sensitive to 1 gamma magnetic change and measures with an accuracy of ± 1 gamma.

The magnetic reading on or near iron formation and/or the cable line along Hwy 72 at times reduced accuracy and repeatability of readings to ± 25 gammas or more.

Base Station Records

The base station, installed far from hydro and highway interferance, recorded and printed out the magnetic change every 30 seconds during field survey periods. Maximum diurnal variation was about 4 gammas.

Field Survey

Total magnetic field readings were taken at 50' intervals along the lines and at 25' intervals in anomalous areas.

A total of 1888 field readings were recorded with the 50' interval readings plotted on the map on scale of 1'' = 400'.

The anomalous areas where readings were taken at 25' intervals are listed in the Appendix.

Results of Magnetic Survey

The proton magnetometer outlined the general trend and flexures of the iron formation and other rock bands as shown on the Magnetometer Map in pocket.

These high magnetic bands and masses are shown as anomalous zones A, B, C, D, E, F & G and are described below.

Anomalous Zone	Location	Length	Width	Gammas Magnetic Relief
A	5N L32E	2000'	500'	700 - 1000
	to			
	B/L L52E			

This anomaly is caused by magnetite, pyrite, pyrrhotite banded iron formation. A south trending flexure occurs at the east end. A 600' gap of low magnetics separates Zone A from Zone C iron formation.

A previous drill hole tested this anomaly near the base line on L52E. Results are not known.

Anomaly C indicates open folding and is caused by the continuation of anomaly A iron formation. Some outcrop occurs at 8S on lines 68E and 84E.

Results of Survey, cont'd.

Anomalous				Gammas
Zone	Location	Length	Width	Magnetic Relief
В	3N L48E	3200'	50-150'	100 - 400
	to			
	7N L80E			

An interesting anomaly in a treed region with sparse or no outcrop. This anomaly may indicate a competent diorite dyke rock similar to Goldlund Mines.

D 13S L56E 1200' 50'-100' 200 to 9S L64E

An interesting anomaly. Outcrop is located near 8S on L64E.

E 3S L68E 1600' 50'-100' 100 - 1300 to 5S L84E

An interesting anomaly trending parallel to Anomaly C in a region of very sparse to no outcrop. This conformable anomaly may indicate a competent dyke rock similar to Goldlund Mines.

F 10+75N L66W 100' 100' 700 + 1100' and 8+50N L66W 1100

These anomalies have short strike length but warrant field investigation.

G L38W from 300' 100' 100 - 400 3N to 6+50N

This one line anomaly has outcrop.

Conclusions

This magnetometer survey and geological reconnaissance delineated the Franciscan Lake area formation trends.

The Franciscan Lake iron formation trend, other bands of high magnetics and the general region warrants further investigation.

The Beaver Pond iron formation on claim 963414 should be delineated with a Fluxgate magnetometer this winter.

Recommendations

The magnetic anomalies are significant and warrant field reconnaissance, trenching and/or drill testing.

Consideration should be given to additional 1988 gold exploration in the sequence below.

- Sampling and assaying of drift, outcrop and/or sandy soils and basal till to <u>locate gold values</u>, especially in magnetically anomalous areas.
- 2. Linecutting at 200' intervals in areas of interest.
- 3. A combined EM and magnetic survey to define drill targets such as
 - a) shear zones near iron formation and acid volcanic and/ or sediment contacts.
 - b) fracture zones in competent rock.
- 4. About 3500' of diamond drilling is warranted to test selected portions of selected magnetic anomalies.

Magnetic anomalies B and E occur in heavy overburden and could be drill tested immediately.

Erwin C. Hamilton

E. C. Hamilton

December 10, 19

References & Sources of Information

Ontario

Township of Echo 1" = 1000', Map #1950-1 Compilation Map 1" = $\frac{1}{2}$ mile, showings, conductors, and drill holes.

Claim Maps
Discussions with Ontario Government geologists
Franciscan Lake Summary Report by L.O. Koskitalo,
dated July 31, 1987.

APPENDIX

Anomalous Areas

Readings at 25' intervals were taken between stations listed below.

Line	<u>Interval</u>
32 + 00E	0 + 25S - 3 + 25S 4 + 75S - 5 + 25S
36 + 00E	13 + 25S 11 + 75S 10 + 75S 8 + 25S - 6 + 50S 2 + 25S - 1 + 75S
40 + 00E	9 + 75S - 10+75S 12 + 25S 16 + 25S - 16+75S
44 + 00E	17 + 75S - 17 + 25S 10 + 25S - 9 + 75S
48 + 00E	0 + 25S - 0 + 75S 15 + 25S - 15 + 75S
52 + 00E	4 + 75S - 0 + 25S
56 + 00E	1 + 25S - 2 + 75S 6 + 75S - 9 + 25S 13 + 25S - 13 + 75S 14 + 75S - 16 + 25S
60 + 00E	17 + 75S - 17 + 25S 12 + 25S - 11 + 25S 4 + 25S - 2 + 75S
64 + 00E	3 + 75S - 4 + 75S 7 + 75S - 1 + 25S
68 + 00E	8 + 25S - 5 + 75S 3 + 75S - 2 + 75S 0 + 75S - 0 + 25S
72 + 00E	4 + 25S - 5 + 25S 8 + 25S - 8 + 75S
76 + 00E	9 + 25S - 4 + 75S 0 + 75S - 0 + 25S

APPENDIX, Anomalous Areas, Cont'd.

<u>Line</u>	Interval
80 + 00E	4 + 75S - 10 + 25S
84 + 00E	6 + 25S - 4 + 75S
80 E	6 + 75N
76E	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
72E	3 + 25N - 4 + 75N 6 + 75N - 7 + 75N 9 + 25N - 11 + 75N
68E	2 + 75N - 1 + 75N 1 + 25N - 2 + 75N
56E	8 + 25N - 10 + 25N 1 + 75N - 0 + 25N
48E	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
44E	5 + 25N - 0 + 25N
36E	0 + 25N - 6 + 25N
32E	9 + 25N - 0 + 25N
28E	0 + 25N - 0 + 75N
10W	16 + 25S
38W	3 + 75N - 3 + 25N
62W	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
60W	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$

CERTIFICATE

I, Erwin C. Hamilton, of the City of Winnipeg, in the Province of Manitoba, hereby certify that:

- I reside at 816 Jubilee Avenue, Winnipeg, Manitoba R3L 1P9.
- 2. I am a graduate of NcGill University at Montréal, Québec, and was awarded the degree of M.Sc. (Geology) in 1953. I am also a Professional Engineer in the Provinces of Ontario and Manitoba.
- 3. I am a mineral explorationist and have been practising my profession for more than 30 years.
- 4. I have no interest directly or indirectly in the properties of Norad Resources, nor do I anticipate receiving or acquiring any interest therein.

Dated this 10th day of December, 1987 at Winnipeg, Manitoba

Envin Hamilton

E.C. Hamilton

Consulting Geologist

Qual 2220

1362 (85/12)

FRANCISCAN LAKE EAST & WE Report of Work Ministry of Northern Development

(Geophysical, Geological, Geochemical and Expenditures)



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Ministry of Northern Development and Mines

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE.

FEB 2 1098

RECEIVED

February 23, 1988

Your File: 87-231 Our file: 2.10792

Mining Recorder Ministry of Northern Development and Mines Court House P.O. Box 3000 Sioux Lookout, Ontario **POV 2TO**

Dear Sir:

Notice of Intent dated February 8, 1988 Geophysical (Magnetometer) Survey submitted on Mining Claims PA-963401 et al in the Townships of Echo, McAree and Pickeral

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager Mining Lands Section

Mines and Minerals Division

Whitney Block, Room 6610 **Oueen's Park** Toronto, Ontario M7A 1W3

Telephone: (416) 965-4888

Q KDK: DI

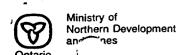
Enclosure: Technical Assessment Work Credits

cc: Mr. G.H. Ferguson Mining & Lands Commissioner

Toronto, Ontario

Resident Geologist Sioux Lookout, Ontario

Mr. Costy Bumbu 2816 Ridgeway St. E. Thunder Bay, Ontario P7E 5K3



Technical Assessment Work Credits

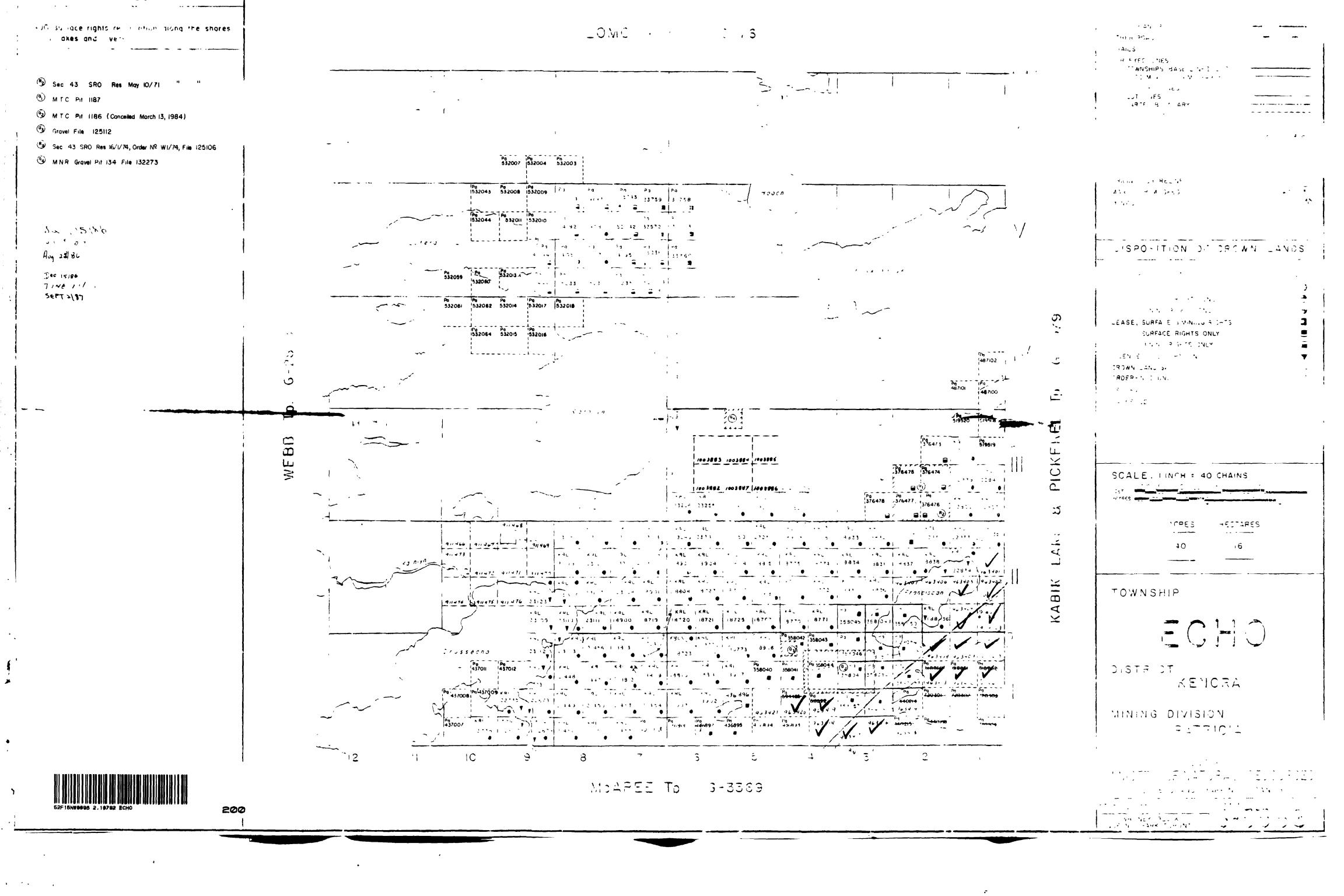
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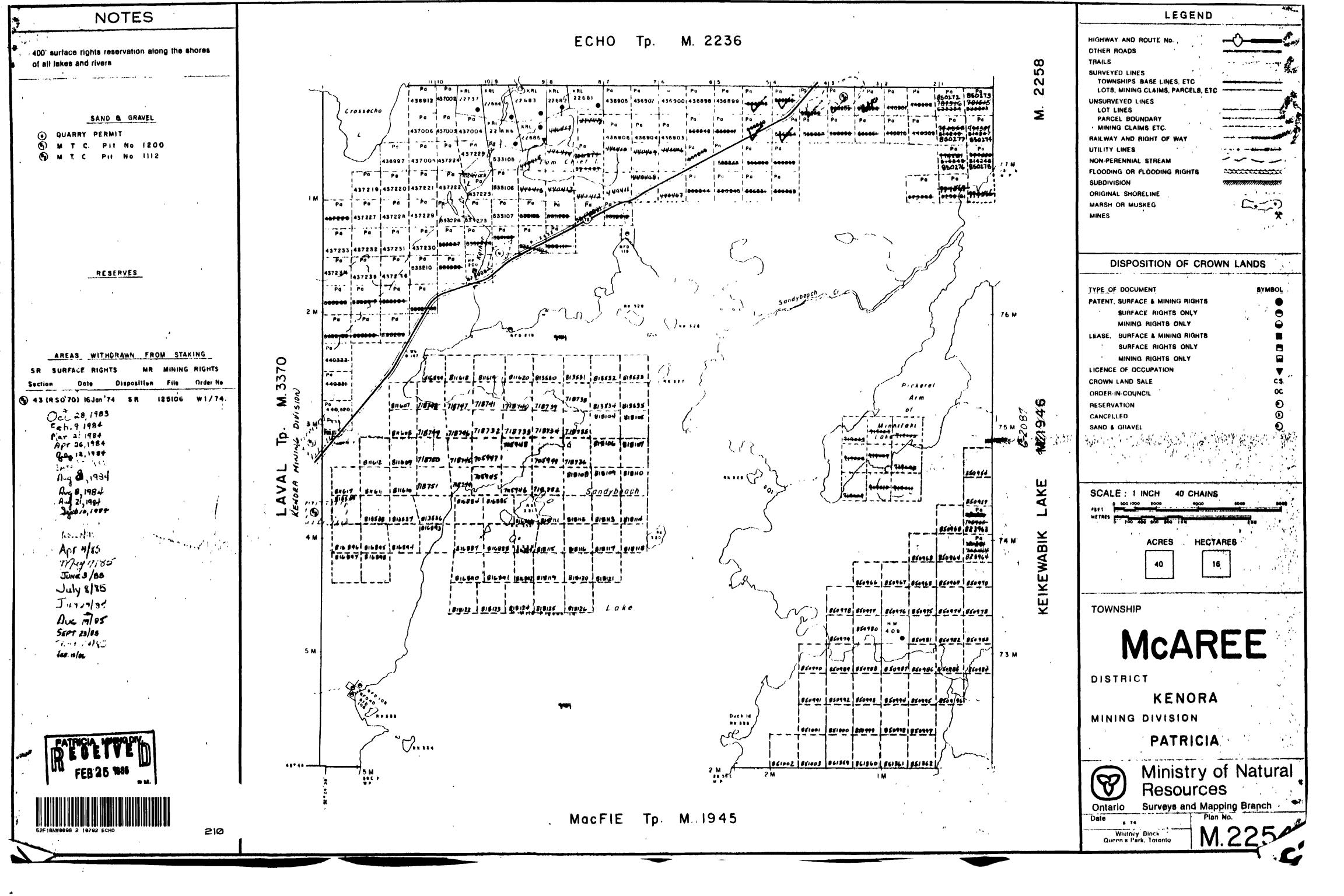
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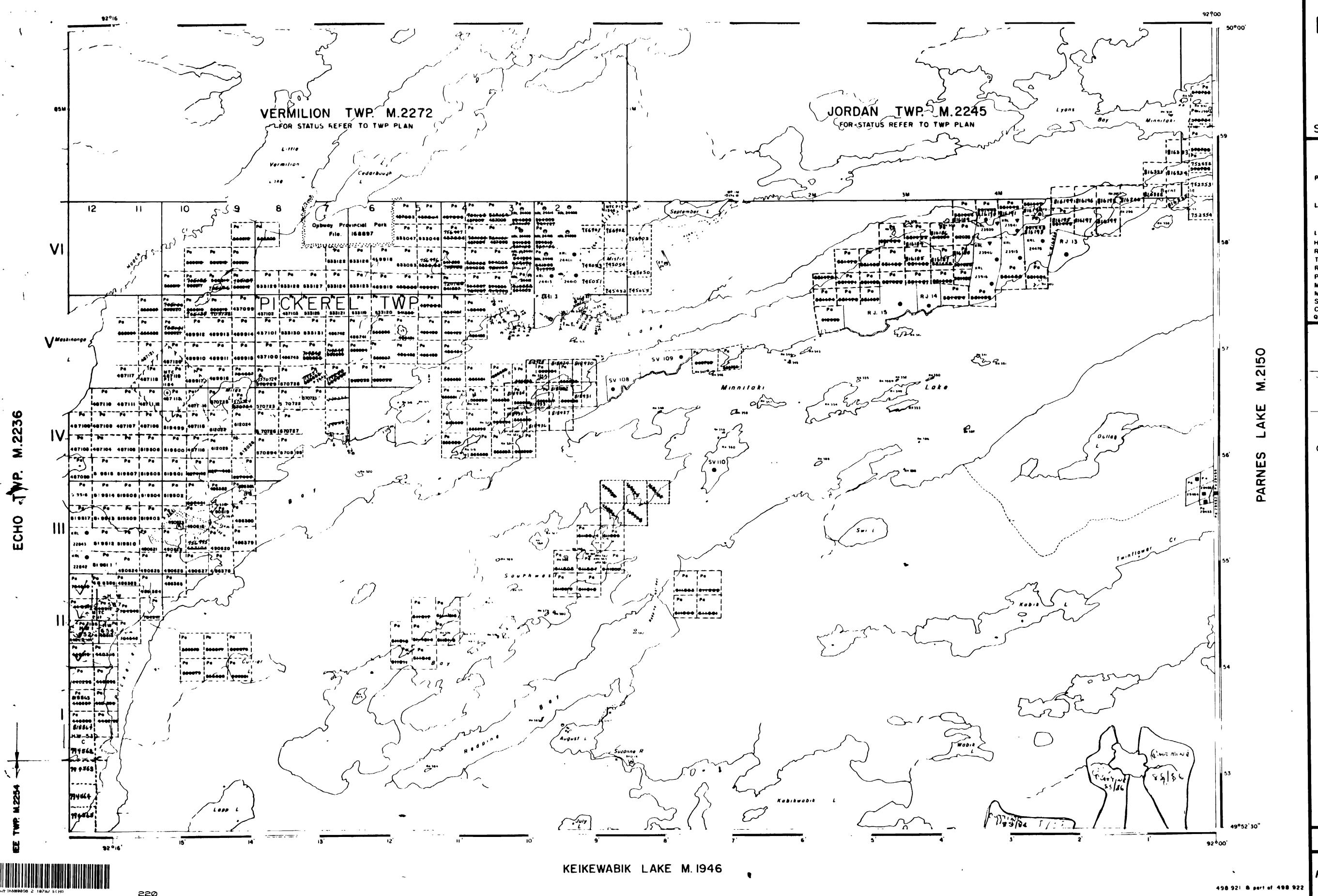
2.10792

Mining Recorder's Report of Work No.
87-231

Recorded Holder Costy Bumbu	
Echo, McAree and	Pickeral
Type of survey and number of	Mining Claims Assessed
Assessment days credit per claim Geophysical	mining Cidina Assessed
Electromagneticdays	
Magnetometer days	PA-963401 to 04 inclusive
.	963408 to 13 inclusive 963416 to 19 inclusive
Radiometric days	963422 to 29 inclusive
Induced polarizationdays	963437
Other days	
Section 77 (19) See "Mining Claims Assessed" column	
Geologicaldays	
Geochemicaldays	
Man days Airborne	
Special provision 🔀 Ground 🗓	
Credits have been reduced because of partial coverage of claims.	
Credits have been reduced because of corrections to work dates and figures of applicant.	
Special credits under section 77 (16) for the following m	ining claims
special creats under section 77 (10) for the following in	ining cianns
30 days Magnetometer	10 days Magnetometer
PA-963420	PA-963430
963431	
963405	
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not sufficiently covered by the survey	insufficient technical data filed
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AREA OF KABIK LAKE

PICKEREL TWP.

KENORA PATRICIA

DISTRICT OF

MINING DIVISION

SCALE : I-INCH = 40 CHAINS

DISPOSITION OF CROWN LANDS PATENT, SURFACE AND MINING RIGHTS ____ SURFACE RIGHTS ONLY

LICENCE OF OCCUPATION _____ TRAILS RAILWAYS

POWER LINES MARSH OR MUSKEG

CANCELLED
QUARRY PERMIT - 0

NOTES

400' surface rights reservation along the shores'

Lake Withdrawn from Staking

Sept 1, 1903 Oct 28,1983

Mar 8, 1784 Mar 27, 1884 APT 17, 1984

Oct 18/84

Apr 12/85

PATRICIA MININGDIV. APR 1 8 1985 A.M. P.M. 7.610.10.11.12.11.2.8.4.5.6

NATIONAL TOPOGRAPHIC SERIES 52 F 16

PLAN NO. M. 2258

ONTARIO

MINISTRY OF NATURAL RESOURCES SURVEYS AND MAPPING BRANCH

