

GEORGE W. SANDER

GEOPHYSICIST

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R E P O R T

Magnetometer Survey for Explorers Alliance Ltd.

Ferrex Property.

Rhodes & Botha Twp., Ont.

September 16th, 1957.

By George W. Sander  
Consulting Geophysicist.

Sept 16/1957

63.970

A magnetometer survey was conducted during July 1957, on the Ferrex Property of the Explorers Alliance Ltd. in Rhodes & Botha Twp., Ont. The survey was ordered by Messrs. Macdonald & Sexsmith, Consulting Engineers, Toronto. The group of claims lies in the vicinity of Sandfly Lake, 35 miles north of Sudbury. The property is accessible by a logging road owned by K. V. P. which runs from Benny Siding to the east.

The area is partly covered by lakes, swamps and overburden, however, outcrops of bedrock are frequent.

Geology:

The area of investigation lies north of the Sudbury Basin in the older portion of the Canadian shield. The predominant rocks are granite intrusives and Keewatin sediments in which iron formation occurs. The iron formation

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in the area has attracted interest as a possible source of iron ore. It was the purpose of the magnetometer survey to outline the iron formation in order to aide further exploration.

Technical Data:

The survey was conducted with two Sharpe A2 Magnetometers. The sensetivity of the instrument: was adjusted to one scale division equals 20 gammas and one scale division equals 30 gammas respectively. Ties were found to be generally good and the daily variations were small compared to the local variations found in the area.

Lines were cut at a right angle from a base line which striked 30 degrees east of north. The distance between the lines of observation was 400 feet either side of the base line. Readings were taken at intervals of 100 feet with closer spacing where anomalies were encountered. Some work was done by pacing between the lines in the vicinity of anomalies.

Results:

The results of the magnetometer survey are shown on two maps submitted with this report. Strong anomalies which might represent commercial deposits were found only in the area of the North East map. Two zones of such anomalies are shown on this sheet. The larger one lies in the vicinity of Claims 101945 and 956. The highest value which could be recorded with the instruments used for this survey is 28,000 gammas. Several stations were found to be above this value. The high magnetic values appear to belong to a narrow zone striking slightly north of west. However, relatively high magnetic intensity is shown in a zone up to 1000 feet south of this trend. It seems likely that the whole area in which values above 1000 gammas occur is underlain by Keewatin iron formation and that the higher magnetic values represent better grades of magnetite.

A narrow band of iron formation is indicated on the eastern portion of lines O and 4N.

This smaller anomaly appears to be a portion of an extensive east-west trending magnetic high shown on the aero-magnetic map of the area. The strongest portion of this aerial anomaly lies to the west of the Ferrex Property. However, the ground anomaly does not extend to the west of the baseline. It is probably interrupted by a fault and the anomaly indicated on the west end of line 4N forms the prolongation of this trend.

The larger one of the anomalies located by the ground survey, is not indicated on the aerial survey. This anomaly, being of limited east-west extension, must be missed by the flightlines of the aerial survey.

A third high trend strikes in the north-south direction with its strongest portion in Claim 101941. This trend is likely to represent a diabase dyke, probably expressing a fault. Other anomalies in the 1000 to 2000 gamma range must be attributed to granite intrusives in the area and are of no interest for iron exploration.

It appears questionable whether the magnetic anomalies found during the survey represent magnetite deposits of commercial

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quantities. The following estimate is based on the best anomaly which strikes through Claims 101945, 101955 and 56. If this zone is found to be economical, the other anomalies can be expected to add to the tonnage.

The overburden in the area varies from 0 to probably less than 100 feet. The high values within the anomaly are associated with very little overburden, while the anomaly drops to less than 7000 gammas in the vicinity of the creek, where the overburden is somewhat deeper. If a high grade zone of approximately 30% magnetite exists within the iron formation, it appears doubtful that the width of this zone exceeds 50 feet. Assuming a length of 2000 feet for the zone, 12 000 tons per vertical foot would result. On the basis of the magnetic data the assumption of grade and width appears to be optimistic.

Such computation does not include non-magnetic iron minerals which might be present, such as hematite. Since hematite is not magnetic, it could be expected where the anomaly is of low magnetic value.

A relatively small deposit of iron ore might be of value, if production facilities are developed on the adjacent properties, where similar exploration is undertaken at the present time.

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Recommendations:

It is recommended to investigate the highest points of the anomalies by surface prospecting, possibly aided by a portable drill. Overburden is not expected to cause serious difficulties. If the results of the surface exploration are encouraging further exploration by deep drilling is recommended. Four drillholes are suggested for this purpose. Dip of the iron formation appears to be vertical or slightly to the northeast.

If the results of prospecting are encouraging, it is recommended to extend the magnetometer survey over the lakes during the winter. Iron formation is often found to form topographical lows and there might be more iron formation under the lakes.

Summary:

A magnetometer survey was conducted on a portion of the Ferrex Property of Explorers Alliance Ltd. Magnetic anomalies were found which represent occurrences of iron formation. On the basis of the magnetic data, it appears questionable that the iron formation contains a commercial deposit of magnetite. However, hematite might be present and the economical situation of a deposit might be favourably affected by developments on the adjacent properties. It is recommended to do some surface prospecting in the area of the high anomalies. Only if results are encouraging a programme of deep drilling is recommended.

Respectfully submitted,

*George W. Sander*

George W. Sander, Ph.D.

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Statement for Assessment Work.

Magnetometer Survey for Explorers Alliance, Ferrex property.  
Rhodes and Botha Twp. Ont.

Type of work: Magnetometer Survey

Time spent on the survey: Days

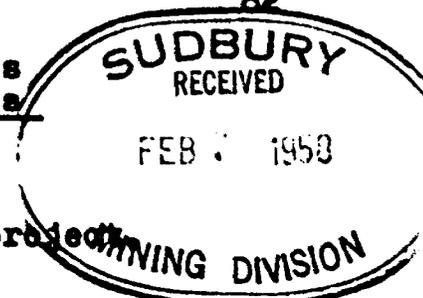
Line cutting supervisor:		
A.P.A. Clarke, c/o 174 Douglas Ave. Oakville Ont.	July 10-Aug. 10 40% of time	10
Line cutters:		
Giovanni Tonelli, chainer 447 Grace Street, Toronto Ont.	July 10-14 July 21-Aug. 8	5 15
Tom Dabutch, Missisauga Reserve Blind River Ont.	July 10-Aug. 8	21
Carl Nigenob, Missisauga Reserve Blind River Ont.	July 10-Aug. 8	20
Willy Moses, Missisauga Reserve Blind River Ont.	July 10-Aug. 8	19
Toamie Dubois, Blind River Ont.	July 29-Aug. 8	6
		95

Magnetometer Survey:		
William Meyer, Magnetometer Operator c/o 174 Douglas Ave. Oakville Ont.	July 10-14 July 21- Aug. 10	5 16
A.P.A. Clarke magnetometer helper see above	July 10- Aug. 10 60% of time	15
George W. Sander, Geophysicist 174 Douglas Ave. Oakville Ont.	July 10-14 July 21-Aug. 8	5 14
Office work	Aug. 12- Aug. 17 Sept. 10- Sept. 20	5 10

Draughtsmen:		
Bernice Melnyk, RR2 Oakville Ont	July 29- Aug. 2	5 1/2
Collin Penn, 116 King Street, Oakville	Sept. 13-20	3 1/2
Mrs. W. Knight, 24 Wilson Street Oakville Ont.	Sept. 13- 20	3 1/2
		82

Line cutting total	95 days
Magnetometer survey total	82 days
187 x 4 = 748 days credit	total 187

Please add time spent by Mr. Macdonald on the project



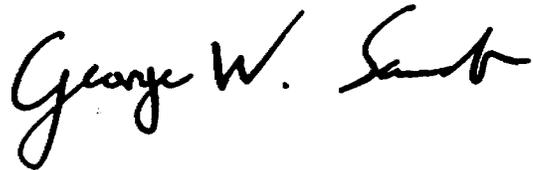
GEORGE W. SANDER

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I declare that I have supervised the above work and that  
the data given above are true.

September 23rd. 1957



George W. Sander



15	15	15
57808	101946	102601
15	15	15
57808	101952	102601
15	15	15
57807	101951	102601

W0394

JL  
289

101945

Lake

Sandfly

17

Bennet Lake

Lake

Kawawia Lake

6 M

13 M

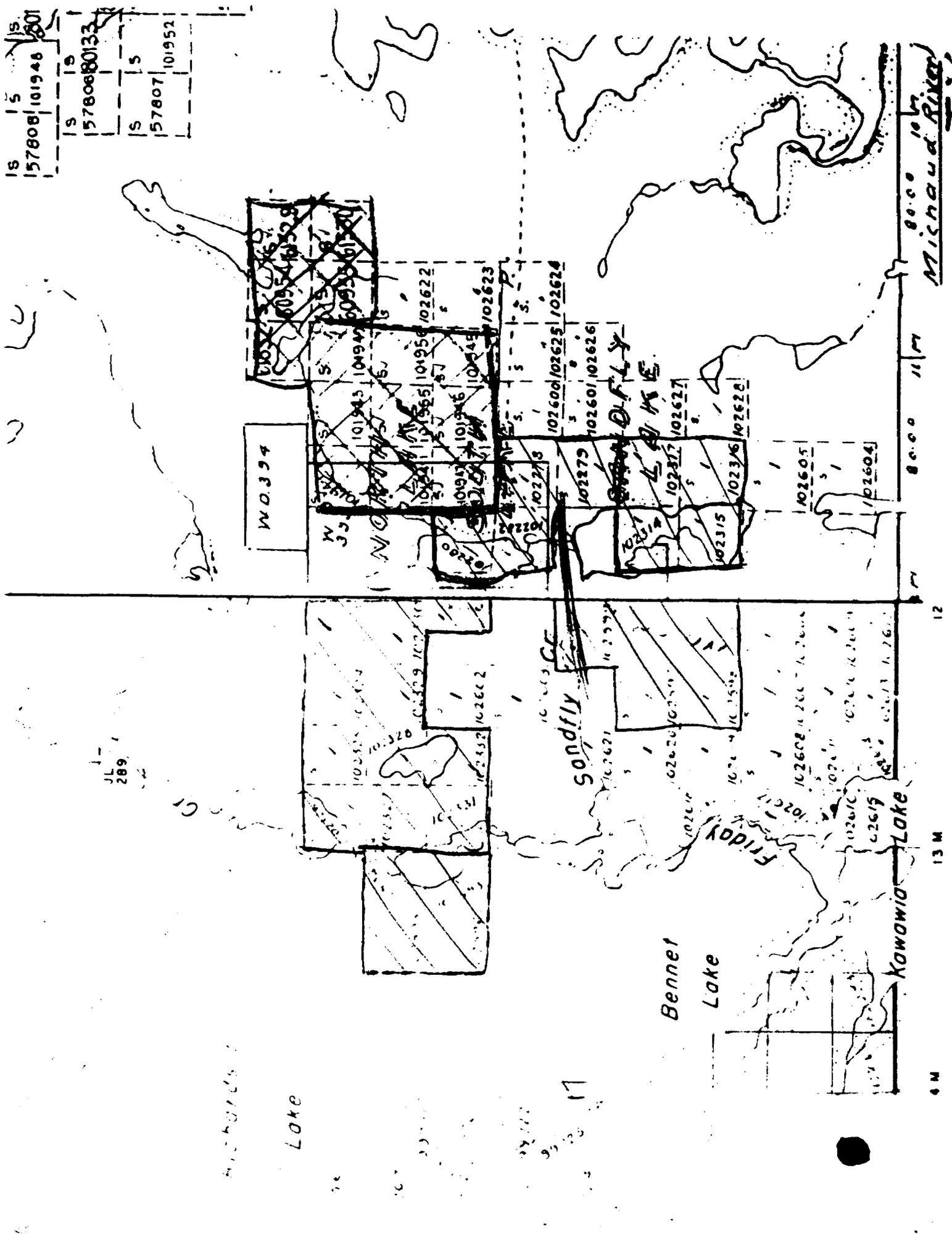
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80.00

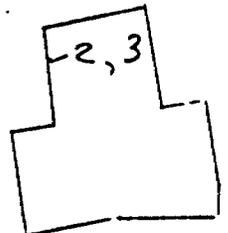
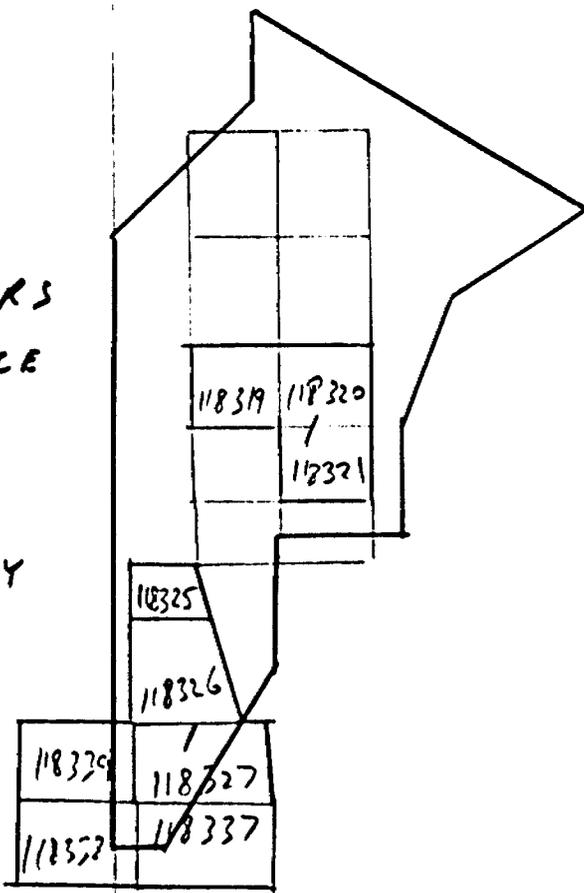
11 M

80.00

10 M  
Michael River



EXPLORERS  
ALLIANCE  
1957  
MAG SURVEY



1" = 1/2 mile

W 1/2

BOTHA TP  
1" = 1/2 MILE

SEE ACCOMPANYING  
MAP(S) IDENTIFIED AS

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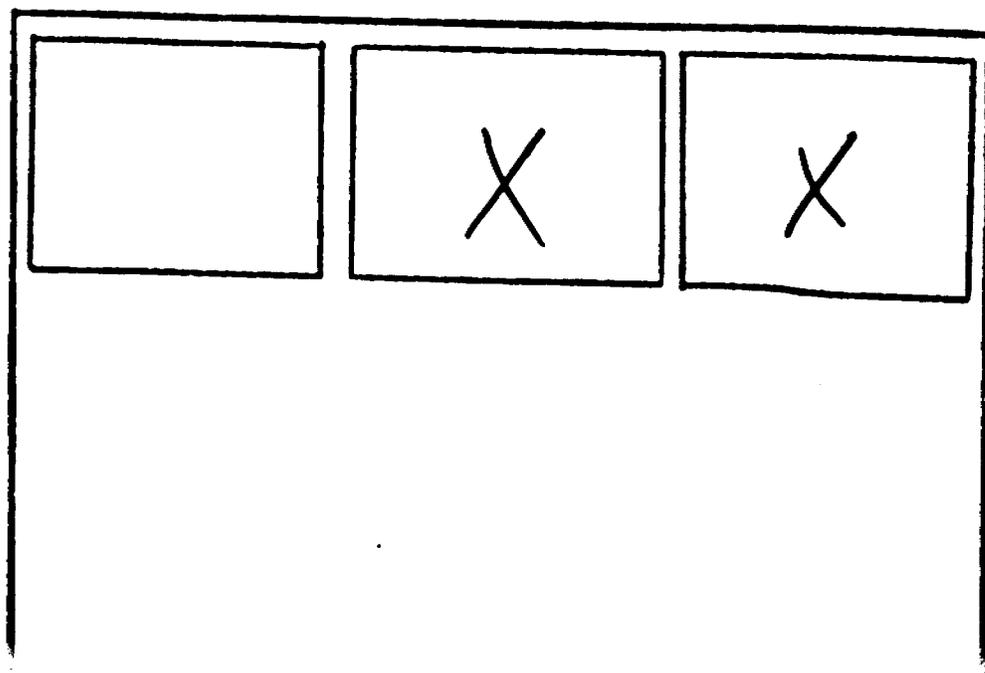
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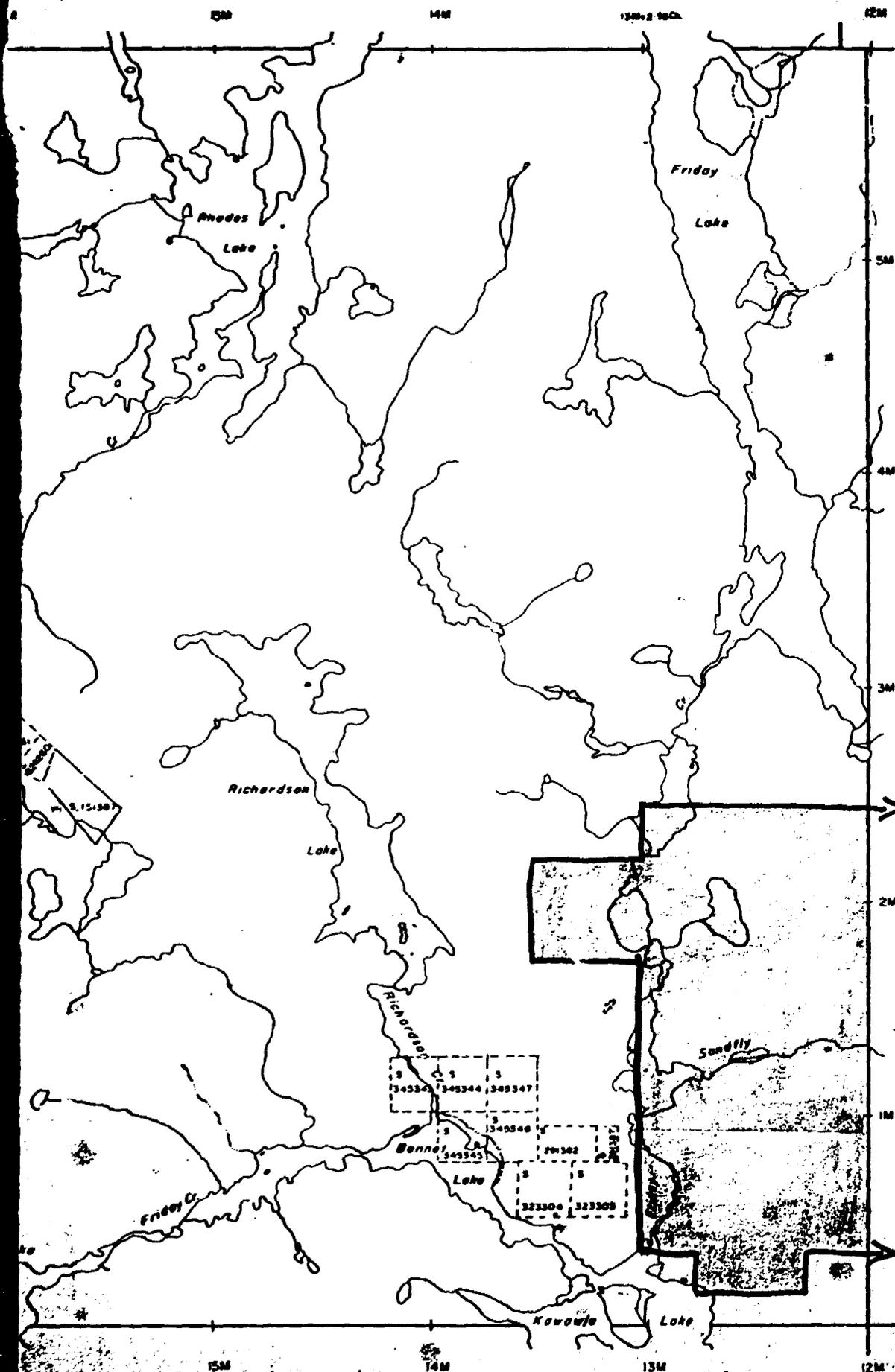
#2

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LOCATED IN THE MAP  
CHANNEL IN THE FOLLOWING  
SEQUENCE (X)



DUNDAS TWP. M. 168



BOTHA TWP. M. 674

# RHODES

DISTRICT OF  
SUDBURY

SUDBURY  
MINING DIVISION

1" = 40 chains  
SCALE: 1-INCH 40 CHAINS

## LEGEND

PATENTED LAND	⊙
CROWN LAND SALE	C.S.
LEASES	⊙
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 around the shores of all lakes and rivers.

Flooding rights to elevation 111' on Onaping Lake (L.O. 6133) - File 9214.

*Explorers Alliance Co.*

- MINING LANDS -  
DATE OF ISSUE  
APR 3 1973  
MINISTRY  
OF NATURAL RESOURCES

PLAN NO. M-1077



