GEOLOGICAL REPORT

WEAGAMOW LAKE PROJECT 3190

GRID #4

CLAIM SHEET RANDALL LAKE M-2544

PATRICIA MINING DIVISION, ONTARIO

November 30, 1979
by N. W. Rayner

St.Joseph Explorations Limited

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LIST OF FIGURES AND MAPS

INTRODUCTION

This report describes the results of geological mapping on a group of 17 claims located in the Randall Lake Area, District of Kenora (Patricia Portion), Patricia Mining Division. The work was carried out by the following personnel:

N.W. Rayner, 37 Marcin Road, Toronto, Ontario. M4S 2V1

W. Ng-See-Quan, 42 Robertsfield Cres., Scarborough, Ontario. M1R 2X3

M. Marren, 27 Augusta Street, Cambridge, Ontario.

A. Soever, 39 King's Street, Toronto, Ontario. M4J 2B7

O. Wowkodow, 607 Durie Street, Toronto, Ontario. M6S 3H2

Geological mapping was carried out during the period from May 26 to June 16, 1978.

PROPERTY and CLAIM STATUS

Grid 4 consists of 17 claims, P.A. 497204, P.A. 497205 and P.A. 497207 - P.A. 497221 inclusive. St.Joseph Explorations Limited acquired these claims under option agreement with R. Knappett. See Figure 1 for the location of these claims.

LOCATION and ACCESS

Grid 4 is located about 500 feet north of the northeast end of Randall Lake.

Access is via float or ski equipped aricraft from either Red Lake or Pickle Lake, a distance of 170 miles and 120 miles respectively. At present, a gravel all-weather road ends about 25 miles southwest of the property. In the winter an ice road up Weagamow Lake to the Indian Settlement passes within six miles of the grid area. Weagamow (Round) Lake Settlement, which receives service flights from Pickle Lake on a regular basis, is about eight miles to the northwest.

PHYSIOGRAPHY

The general area in the vicinity of the property is one of low relief, generally less than 200 feet. Low outcrop ridges are found within a predominantly sand and gravel covered area with low swampy valleys trending in a southwest-northeast direction.

Vegetation consists of jack pine, balsam and spruce in the poorly drained areas, with birch and poplar along the gravel ridges.

HISTORY

In 1912, J.B.Tyrrell traversed the Weagamow Lake area and made geological notes which are found in Hudson Bay Exploration Expedition, 1912, Ontario Bureau of Mines, Vol. XXII 1913, pt. 1, pp. 161-209. The first geological mapping was carried out by J.Satterly, Geology of the Windigo - North Caribou Lake Area, Ontario Department of Mines, Vol. XLVIII, pt. ix, 1939. The most recent geological mapping was done in 1971 by Thurston P.C., Sage R.P., and Seragusa G.M., Operation Winisk Lake: Ontario Department of Mines and Northern Affairs, Preliminary Map P 711, 1971.

The early history of mineral exploration was summarized in a report by W.N. Ingram of Pryotex Mining and Exploration Co. Ltd. The following list outlines the sequence of exploration:

1957 - main showing discovered by prospector working for Mosher interest - trenching and x-ray drilling.

1959 - area restaked by prospector Max Lavine and optioned to Teal Explorations Ltd.

1959 - J.E.Ayrhart & Associates sponsored a Lundberg Explorations airborne E.M. survey.

1959 - Ayrhart staked claims and optioned them to Anaconda.

1959 - Teal performed trenching with a D-6 bulldozer and tractor compressor.

1959 - Teal geophysics - horizontal coil E.M. and mag. by Wagner-Mills geophysics.

1960 - Teal drilled 15 holes totaling 4,889 feet.

1960 - Pickle-Patricia Explorers - Geo Scientific Prospectors long wire E.M. survey.

1960 - East Trinity Mining Corp., - mag. and magniphase surveys.

1967 - Pyrotex Mining and Exploration Co. Ltd. carried out 3,500 feet diamond drilling.

1972 - Inco drilled one hole in ultramafic rock beneath Agutua Arm.

1976 - Main showing staked by R.Knappett and optioned 17 claims to St.Joseph Explorations Limited.

1977 - Reconnaissance geological mapping as follow-up to airborne E.M. anomalies.

1978 - St.Joseph Explorations Limited ground E.M. and magnetitic surveys.

1978 - St.Joseph Explorations Limited - geological mapping.

GEOLOGICAL SETTING

The Weagamow-Eyapamikama Lake belt is a tightly folded synclinal sequence of volcanics and sediments of Precambrian age. The rocks are covered by a mantle of Pleistocene unconsolidated deposits of glacial or glacio-fluvial origin.

Table of Formations

Recent - peat, beach deposits, river deposits

Pleistocene - clay, silt, sand, gravel, boulders

Precambrian -

Middle to Late Precambrian

Keweenawan - diabase dykes, basalt dykes

Early Precambrian

Algoman - pegmatite, granite, granodiorite, diorite, migmatite and gneiss

Pre-Algoman - gabbro, diorite, and quartz diorite

Temiskaming - metasediments - quartzite, arkose, greywacke

Keewatin Metavolcanics - pyroclastic rocks, tuffs, agglomerates
acid lavas, rhyolite, dacite,
intermediate - basic lavas, andesite, basalt

CURRENT GEOLOGICAL MAPPING

(i) Introduction

Mapping of outcrops was carried out on a cut grid with lines 100 meters apart and pickets placed at 25 meter intervals. The area was found to have about 30% exposure with the remaining area covered by swamp, overburden, and lakes.

(ii) Geology of the Property

The oldest rocks exposed on the property consist of a suite of mafic volcanics. The mafic volcanics form an 800 meter thick sequences of flows. The variation in the mafic sequence is largely due to deformation and metamorphic effects. Some primary structures such as pillows and flow banding have been observed, but in most cases have been obliterated by deformation.

Mafic volcanics predominate the south half of the claim group. The schistosity is generally east-west with dips to the south which steepen from an average of 60° along the south claim boundary to an average of 70° near the center of the property.

Quartz veining along with calcite veining is common in the mafic volcanics.

Intermediate volcanics ranging in composition from andesite to dacite overlie the mafic volcanics. This suite consists of both flow and pyroclastic members. Pyroclastic intermediate volcanics are rare within the claim group. Dacite tuff and lapilli tuff was observed on line 6E at 125 meters north.

The contact between the mafic and intermediate flows have an interfingering relationship, with the intermediate sequence thickening to the east. Along the contact are narrow zones of banded chert and magnetite Iron Formation. This unit is 10 meters wide and outcrops on line 7W at 200 meters north. There is geophysical evidence that suggests that the magnetite Iron Formation exists as discontinuous beds along the mafic intermediate contact from line 7W to line 4E.

The felsic volcanics do not form a stratigraphic unit but exist as small pods and lens interlayered with the intermediate volcanics. The rhyodacite schist which host the stockwork of quartz veins is located between line 0 and line 2W at 275 meters north.

Some of the quartz veins within the rhyodacite schist are mineralized with tetrahedrite, chalcopyrite and pyrite. It is the sulphide veins which give good assays in gold and silver.

Carbonate alteration is pervasive in the rhyodacite schist, resulting in the outcrops weathering a rusty red-brown color. The main carbonate minerals are calcite and siderite.

Another unusual feature are zones of bright green mica (fuchsite) which appears to have formed in the footwall schist to the sulphide-rich quartz veins. The dip of the rocks in the vicinity of the contact with the dioritic mafic intrusives is to the north. This northerly dip probably reflects the nearest to the intrusive contact.

Intruding into the mafic volcanic sequence is a series of gabbroic sills. These rocks are concordant with the mafic flows and may in fact be mafic to ultramafic flows.

A younger mafic intrusive occurs in the northern portion of the property. These rocks are of definite intrusive origin containing zenoliths of country rock, chilled margins, and variations in mineralogy reflecting a differentiated crystallization. The one outcrop of hornblende granite within the diorite may represent either a crystal segregation within the intrusive or zenolith of an earlier intrusive.

The youngest rocks on the property are diabase and andesite dykes which cross cut the diorite.

APPENDIX I

(iii) Structure

The layered volcanic assemblage which underlies the map area appears to be the south limb of a regional synform. Pillow facings and stratigraphy indicate tops to the north with dips generally to the south suggesting an overturned structure.

The presence of a highly deformed, and altered shear zone running through West Lake and East Lake suggests a major fault zone.

Shearing in the diorite indicates that the faulting event is after the emplacement of the diorite and may be the same age as, or slightly older than the diabase dykes.

(iv) Economic Geology

The potential for the existence of more gold-bearing quartz veins within the sheared rhyodacite within the property is good.

The controlling factors for the vein formation are the exhalite type formations of iron formation and carbonatized felsic tuff, the proximity to the dioritic intrusion and the fact that the veins lie within a regional fault system. These factors make the ground both east and west of the property target areas for further exploration.

CONCLUSIONS and RECOMMENDATIONS

The extension of the favourable structure and horizon both east and west of the main showing is a real possibility.

I would recommend the use of both soil and overburden sampling to try to locate similar mineralized quartz veins.

Respectfully submitted,

NWR*MS

N.W. Rayner

APPENDIX I

900

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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 Geological

Township or Area Randall Lake M2544

Claim holder(s) St. Joseph Explorations Limited
90 Eglinton Ave., West, Ste. 505,
Toronto, Ontario. M4R 2E4

Author of Report N. W. Rayner

Address 90 Eglinton Ave., West, Suite 505, Toronto

Covering Dates of Survey May 26 - June 16, 1978
(linecutting to office)

Total Miles of Line cut _____

SPECIAL PROVISIONS CREDITS REQUESTED		DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical	
	-Electromagnetic	
	-Magnetometer	
	-Radiometric	
ENTER 20 days for each additional survey using same grid.	-Other	
	Geological	20
	Geochemical	

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

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

DATE: Dec. 5/79 SIGNATURE: N. W. Rayner
Author of Report or Agent

PROJECTS SECTION

Res. Geol. L.D. Qualifications 2 1785

Previous Surveys _____

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)	
PA	497204	✓
	497205	✓
	497207	✓
	497208	✓
	497209	✓
	497210	✓
	497211	✓
	497212	✓
	497213	✓
	497214	✓
	497215	✓
	497216	✓
	497217	✓
	497218	✓
	497219	✓
	497220	✓
	497221	✓

TOTAL CLAIMS 17

If space insufficient, attach list

Ministry of Natural Resources
Ontario

A separate form is required for each type of work to be recorded.

THE MINING ACT REPORT OF WORK

To the Recorder of Patricia Mining Division

I, St. Joseph Explorations Limited T-501
name of Recorded Holder Prospector's Licence

90 Eglinton Avenue West, Ste.505, Toronto, Ontario. M4R 2E4
Post Office Address

do hereby report the performance of 340 days of Geological Mapping
type of work

not before reported to be applied on the following contiguous claims

Claim No.	Days	Claim No.	Days	Claim No.	Days
497204	20	497211	20	497217	20
497205	20	497212	20	497218	20
497207	20	497213	20	497219	20
497208	20	497214	20	497220	20
497209	20	497215	20	497221	20
497210	20	497216	20		

All the work was performed on Mining Claim (s) Listed above
(In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations – Names and addresses of the men who performed the work and the dates and hours of their employment.
For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.
For Compressed Air or Other Power Driven or Mechanical Equipment
Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.
For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.
With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.
For Geophysical, Geological, Geochemical Surveys and Expenditure Credits - the name of author of report. Covering dates of survey (linecutting & office). Type of instrument used. Total amount of expenditure. Technical reports, maps, expenditure breakdown, receipts must be filed in duplicate with the Minister within 60 days of recording.
For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows: (Attach a list if this space is insufficient)

N. W. Rayner - St. Joseph Explorations Limited, 90 Eglinton Ave., West, Suite 505, Toronto, Ontario. M4R 2E4

Survey Date - May 26 - June 16, 1978

Date December 5th, 1979 N. W. Rayner
Signature of Recorded Holder or Agent

The Mining Act
Certificate Verifying Report of Work

I, N. W. Rayner

90 Eglinton Ave., West, Suite 505, Toronto, Ontario. M4R 2E4
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2. That the annexed report is true.

Dated Dec 5 1979 N. W. Rayner
Signature

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND/OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

LA 041

Ministry of Natural Resources
Ontario

Your file:

Our file: 2.3188

1980 05 27

Mr. Albert Hanson
Mining Recorder
Ministry of Natural Resources
Box 669, Court House
Sioux Lookout, Ontario
P0V 2T0

Dear Sir:

Re: Mining Claims Pa. 497204 et al. Randall Lake Area, File 2.3188

The Geological assessment work credits as shown on the attached statement have been approved as of the above date.

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

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

DN:ie

cc: St. Joseph Explorations Ltd.
Toronto, Ontario
Attn: N.W. Rayner

Resident Geologist ✓
Sioux Lookout, Ontario

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.3188

Recorded Holder: St. Joseph Explorations Limited

Township or Area: Randall Lake Area

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	Pa. 497204-05
Magnetometer _____ days	497207 to 21 inclusive
Radiometric _____ days	
Induced polarization _____ days	
Section 86 (18) _____ days	
Geological 20 days	
Geochemical _____ days	
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 86 (15a) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 86(18)-60;

2.3182

Ontario

Ministry of Natural Resources

Notification of recording of assessment work credits

RECEIVED

MAR 07 1980

MINING LANDS SECTION

Lands Administration Branch
Mining Lands Section
Ministry of Natural Resources
Room 1617, Whitney Block
Queen's Park, Toronto
M7A 1W3

Date of recording of work: December 7, 1979

Recorded holder: St. Joseph Explorations Limited

Address: 90 Eglinton Avenue West, Ste. 505, Toronto, Ont. M4R 2E4

Township or Area: Randall Lake M-2544

Type of survey and number of Assessment days credit per claim	Mining claims
Geophysical	Pa. 497204 & 497205 Pa. 497207-221 incl.
Electromagnetic ____ days	
Magnetometer ____ days	
Radiometric ____ days	
Induced polarization ____ days	
Section 86 (18) ____ days	
Geological 20 days	
Mapping	
Geochemical ____ days	
Man days ☐ Airborne ☐	
Special provision ☐ Ground ☒	

Notice to recorded holder:

☒ Survey reports and maps in duplicate be submitted to the Lands Administration Branch, Toronto within 60 days from the date of recording of this work.

☐ Reports and maps are being forwarded to the Lands Administration Branch with this letter.

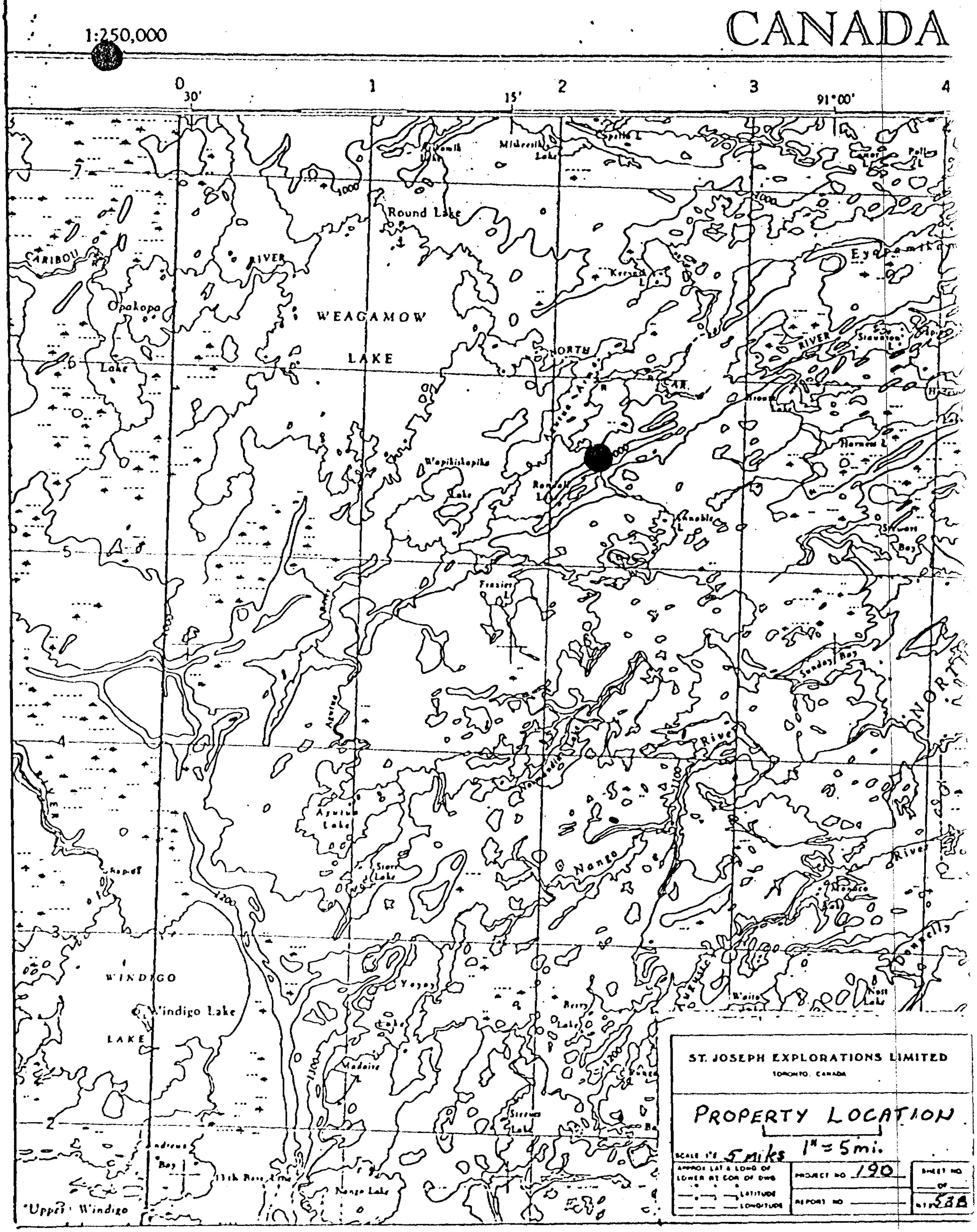
D. Harrison

Mining recorder

c.c. St. Joseph Explorations Limited
90 Eglinton Avenue West
Ste. 505
Toronto, Ontario M4R 2E4
Attention: Mr. N.W. Rayner
Geologist

792 (6/77)

79-109

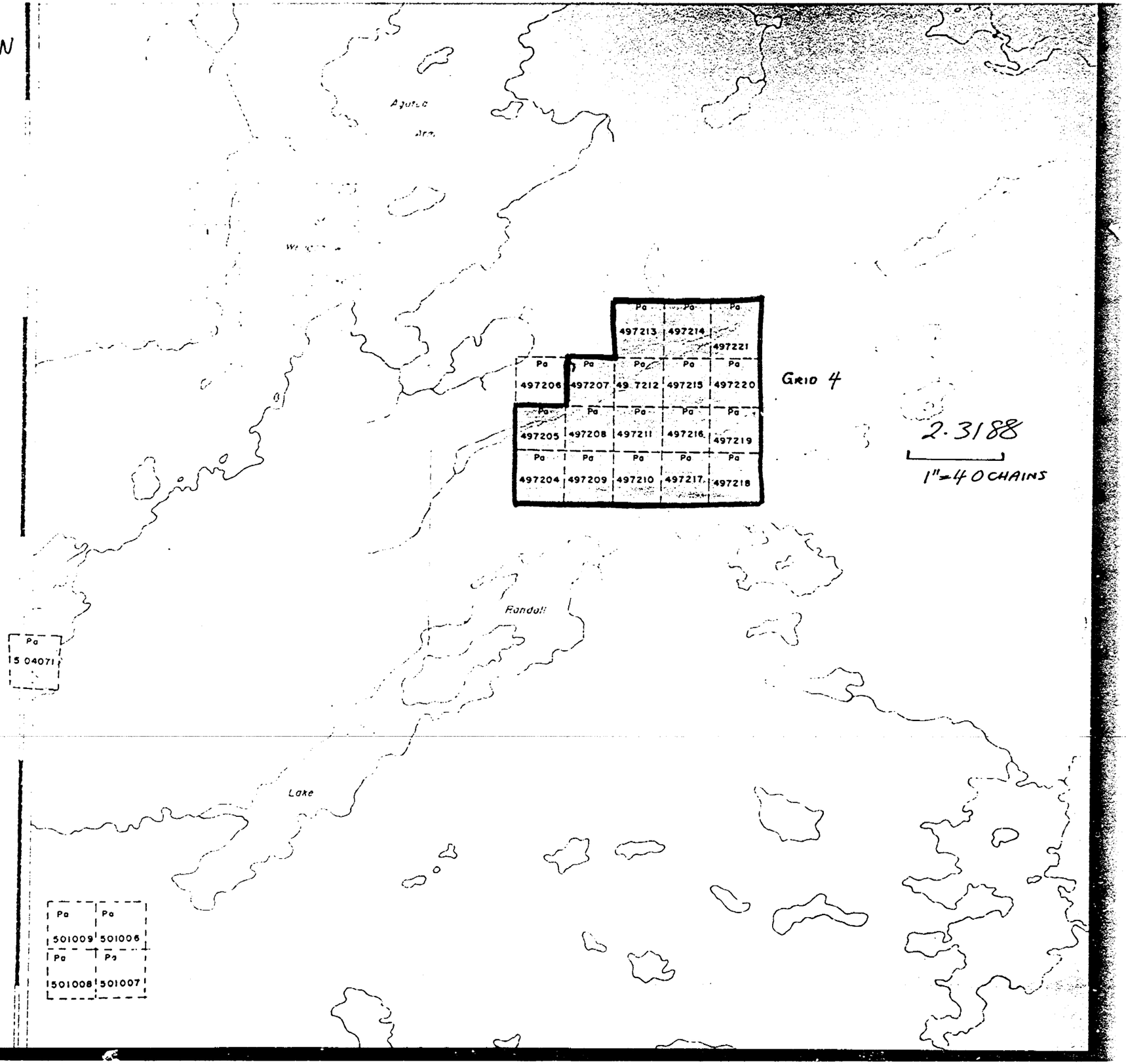


1:250,000
CANADA
0
30'
1
15'
2
3
91°00'
4
Round Lake
CARIBOU
RIVER
Opakopa Lake
WEAGAMOW
LAKE
NORTH
RIVER
Eyamikama
Windigo Lake
WINDIGO
LAKE
Nango Lake
Apuchi Lake
Sunday Bay
Upper Windigo
ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA
PROPERTY LOCATION
1" = 5 mi.
SCALE 1" = 5 miles
PROJECT NO 190
REPORT NO
SHEET NO
53B

CLAIM LOCATION

RANDALL LAKE
M-2544

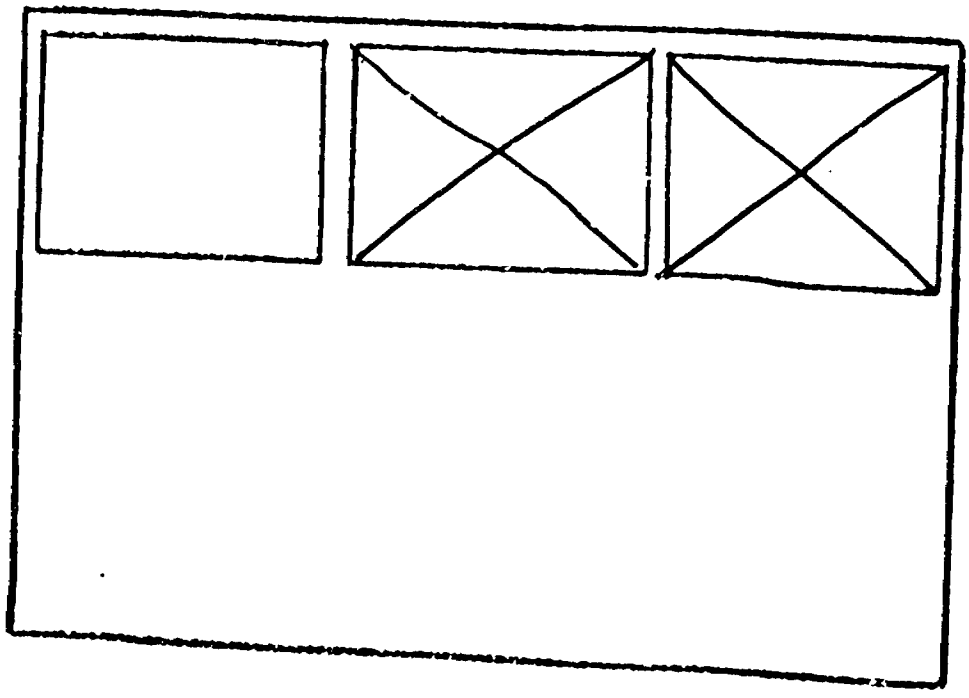
Scale 1" = ½ mi



SEE ACCOMPANYING MAP(S) IDENTIFIED AS

53B/14SE-0013-B1, #1, #2

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



WEAGAMOW LAKE
(ROUND LAKE)

AGUTUA ARM

Eyapamikamb Lake

North Caribou River

GRID '1'

GRID '2'

GRID '3'

GRID '4'

GRID '5'

GRID '6'

Magnetic
Base Station

RANDALL LAKE

ST. JOSEPH EXPLORATIONS LIMITED

TORONTO, CANADA

WEAGAMOW LAKE AREA

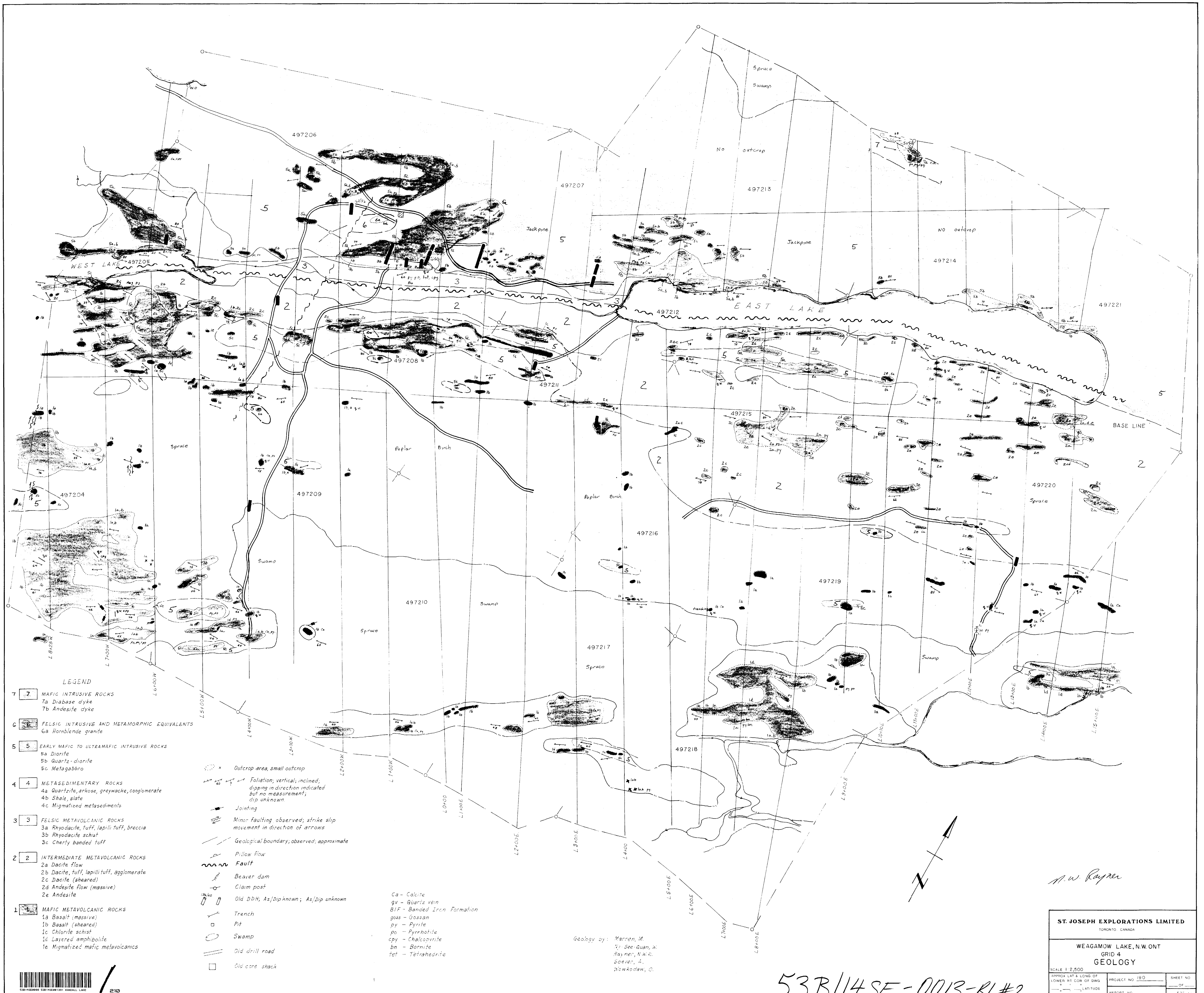
—LOCATION MAP—

SCALE: 1" = 1/2 mile

APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG. 52° 51' 00" LATITUDE; 91° 03' 00" LONGITUDE	PROJECT NO. 190	SHEET NO. — OF —
	REPORT NO. —	N.T.S. 53 B

53B/14SE-0013-B1,#1

53B14SE0008 53B14SE0013B1 RANDALL LAKE



WEST LAKE
EAST LAKE
BASE LINE
497204
497205
497206
497207
497208
497209
497210
497211
497212
497213
497214
497215
497216
497217
497218
497219
497220
497221
No outcrop
Spruce
Swamp
Jackpine
Poplar Birch
LEGEND
7 MAFIC INTRUSIVE ROCKS
7a Diabase dyke
7b Andesite dyke
6 FELSIC INTRUSIVE AND METAMORPHIC EQUIVALENTS
6a Hornblende granite
5 EARLY MAFIC TO ULTRAMAFIC INTRUSIVE ROCKS
5a Diorite
5b Quartz-diorite
5c Metagabbro
4 METASEDIMENTARY ROCKS
4a Quartzite, arkose, greywacke, conglomerate
4b Shale, slate
4c Migmatized metasediments
3 FELSIC METAVOLCANIC ROCKS
3a Rhyodacite, tuff, lapilli tuff, breccia
3b Rhyodacite schist
3c Cherty banded tuff
2 INTERMEDIATE METAVOLCANIC ROCKS
2a Dacite flow
2b Dacite, tuff, lapilli tuff, agglomerate
2c Dacite (sheared)
2d Andesite flow (massive)
2e Andesite
1 MAFIC METAVOLCANIC ROCKS
1a Basalt (massive)
1b Basalt (sheared)
1c Chlorite schist
1d Layered amphibolite
1e Migmatized mafic metavolcanics
Outcrop area, small outcrop
Foliation; vertical; inclined; dipping in direction indicated but no measurement; dip unknown.
Jointing
Minor faulting observed; strike slip movement in direction of arrows
Geological boundary; observed; approximate
Pillow flow
Fault
Beaver dam
Claim post
Old DDH; Az/Dip known; Az/Dip unknown
Trench
Pit
Swamp
Old drill road
Old core shack
Ca - Calcite
qv - Quartz vein
BIF - Banded Iron Formation
goss - Gossan
py - Pyrite
po - Pyrrhotite
cpy - Chalcopyrite
bn - Bornite
tet - Tetrahedrite
Geology by: Marren, M.
Ni-See-Quan, W.
Rayner, N.W.R.
Soever, A.
Wowkodaw, O.
N.W. Rayner
ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA
WEAGAMOW LAKE, N.W. ONT
GRID 4
GEOLOGY
SCALE 1:2,500
APPROX LAT & LONG. OF LOWER RT. COR. OF DWG.
LATITUDE
LONGITUDE
PROJECT NO 190
REPORT NO
SHEET NO
OF
NTS 53B/14
53B/14SE-0013-B1,#2
53B14SE0008 53B14SE0013B1 RANDALL LAKE
210