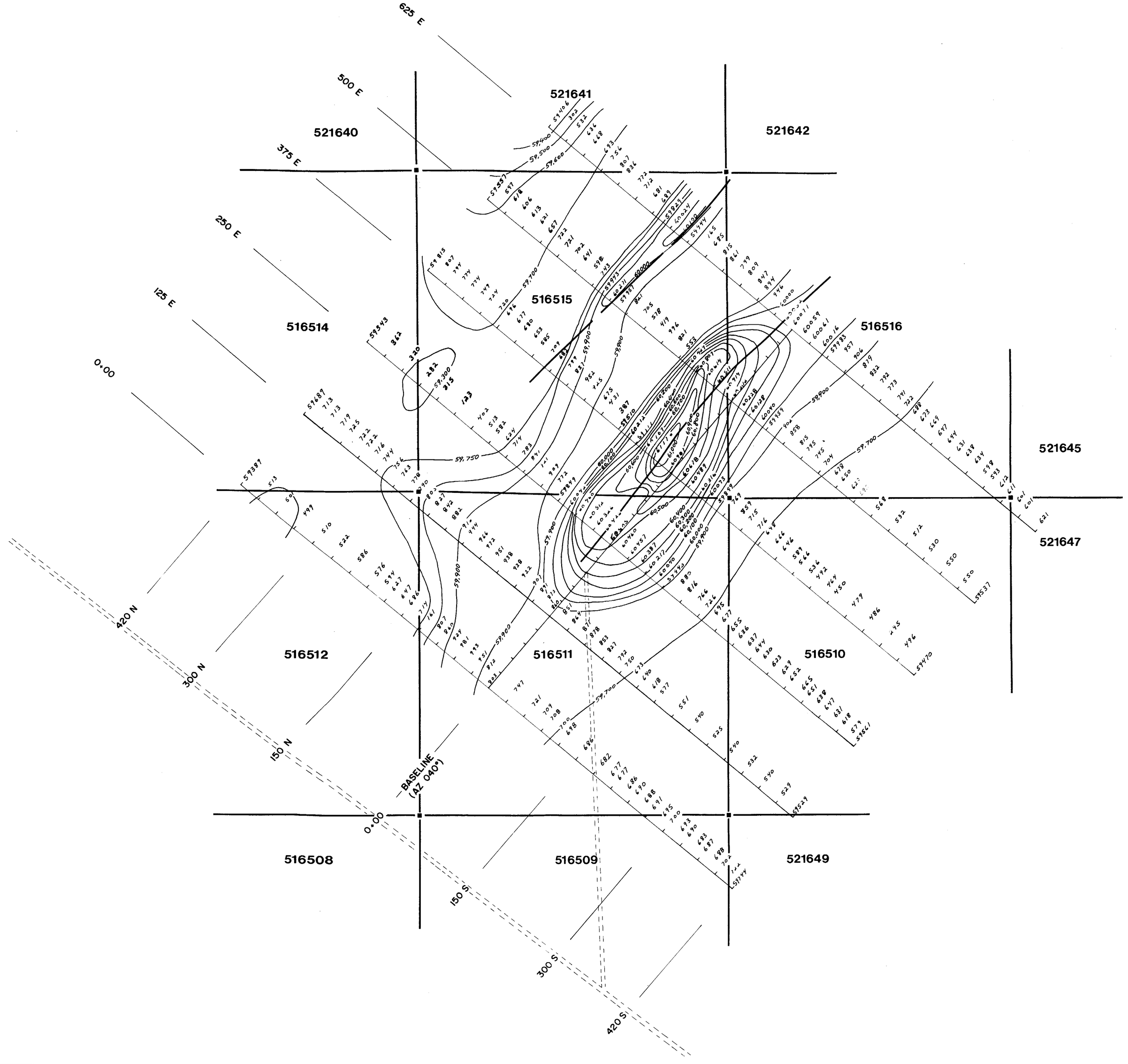
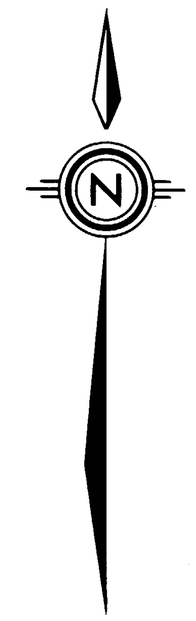
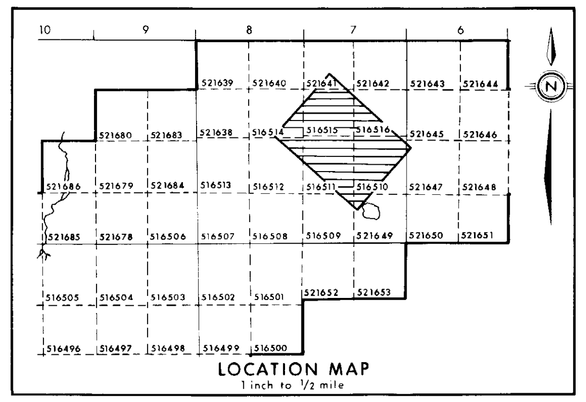






LEGEND

Total Magnetic Field; in gammas — 58750

Base Station Location

Magnetic Contour; 500, 100, 50 gammas

Magnetic Depression

Instrument: Geometrics G-816 Proton Precession Magnetometer

KEY

Claim Post, W.P.	✱, ○	Claim Line	
Creek		Bush Road	
Lake		Trail	
Swamp		Previous Drill Hole	
Rock Outcrop		Recommended Drill Hole	

Norcen
Energy Resources Limited
TIMMINS JOINT VENTURE

SURVEY TYPE: MAGNETOMETER

GRID: AIRPORT L-M

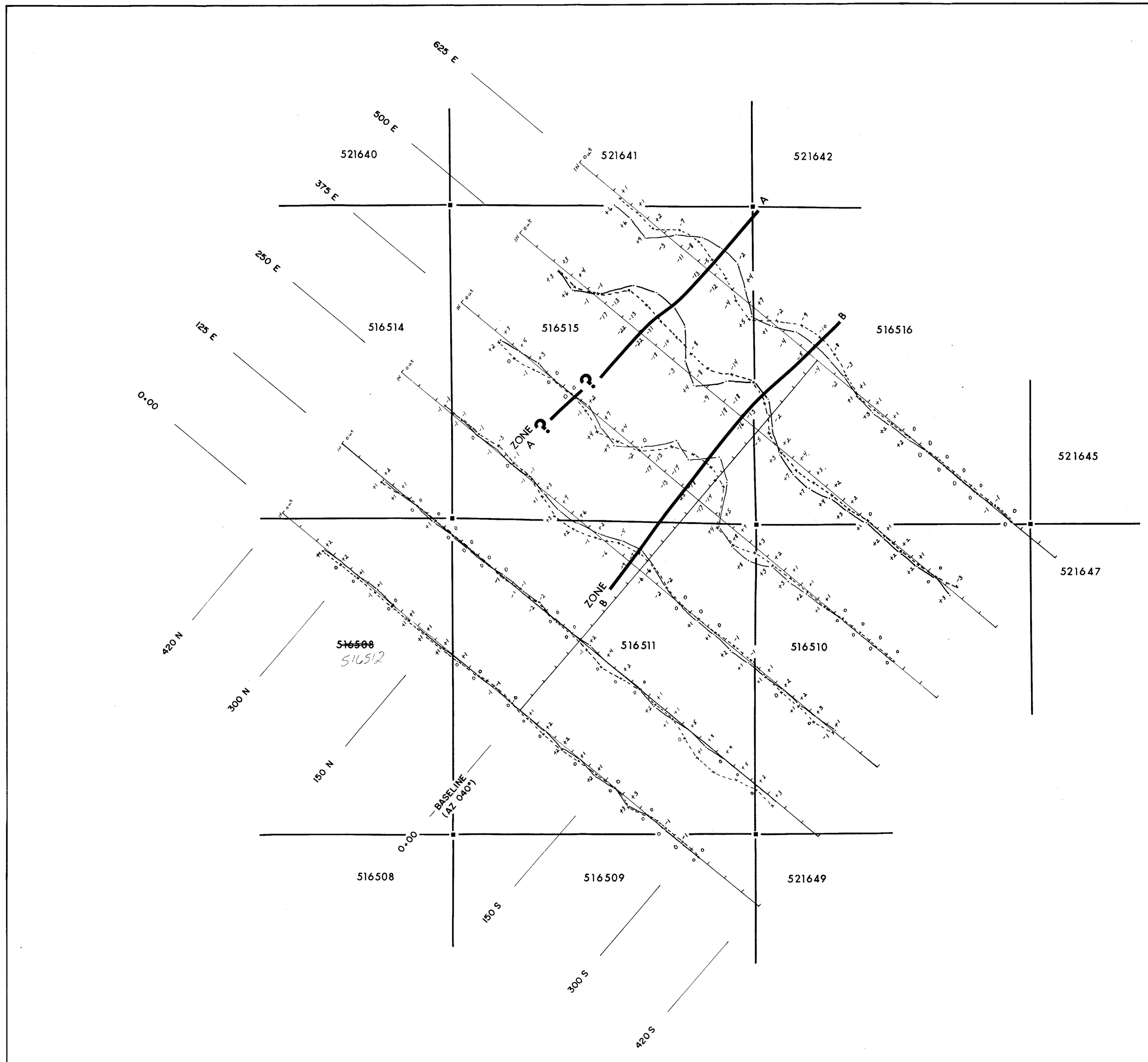
TOWNSHIP: JESSOP — NTS: 42 A/11

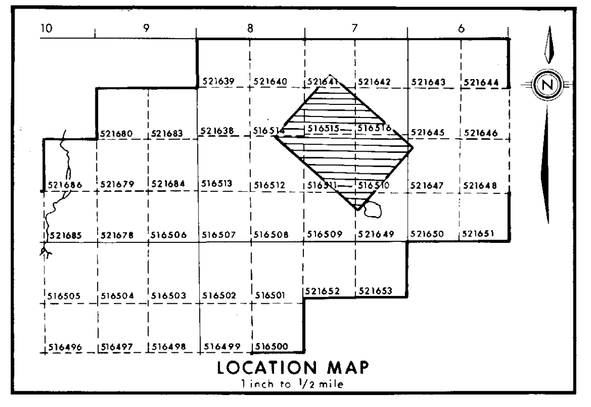
Contour Interval: 50 & 100 gammas	Survey Date: March, 1981
Contractor: Exsics Exploration Ltd.	Interpretation: John Grant

0 50 100 150 200 metres

Scale 1: 2500

John Grant





LEGEND

Conductor Axis

In Phase Profile (scale 1 cm = 10%)

Quadrature Profile (scale 1 cm = 10%)

Depth Estimate (metres) / Dip
Conductivity Thickness (mhos)

25 m / 80° S
15

Instrument: Aerex Parametrics MAX-MIN II

KEY

Claim Post, W P		Claim Line	
Creek		Bush Road	
Lake		Trail	
Swamp		Previous Drill Hole	
Rock Outcrop		Recommended Drill Hole	

Norcen
Energy Resources Limited
TIMMINS JOINT VENTURE

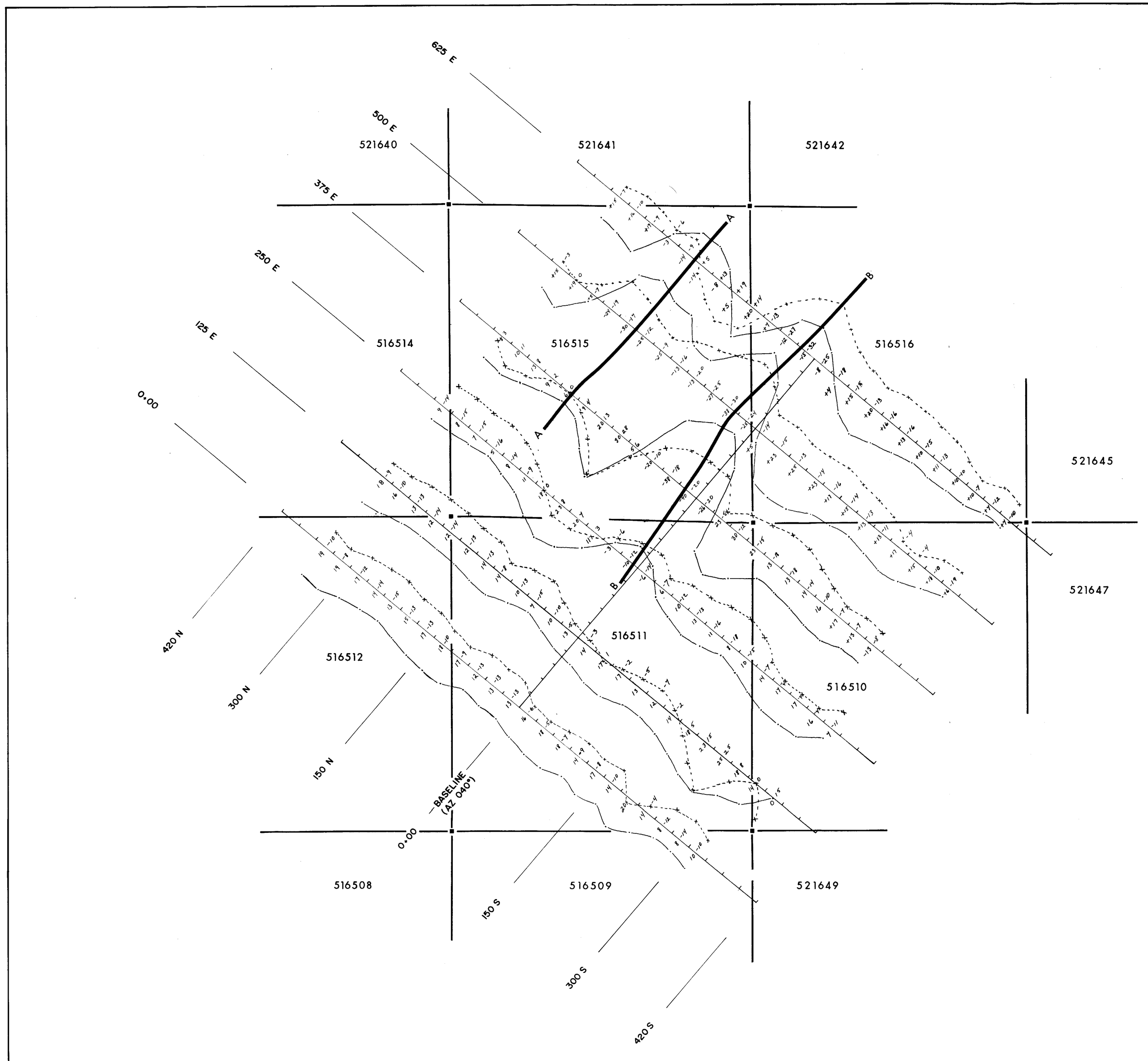
SURVEY TYPE: HEM
FREQUENCY: 444 Hz
GRID: AIRPORT L-M
TOWNSHIP: JESSOP NTS: 42 A/11

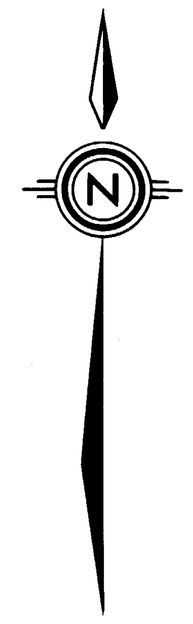
Cable Length: 150 metres	Survey Date: March, 1981
Contractor: Exsics Exploration Ltd.	Interpretation: John Grant

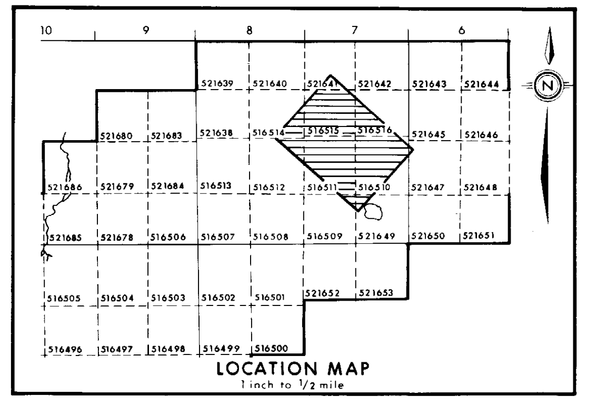
0 50 100 150 200 metres
Scale 1: 2500

GRID, JESSOP

210







LEGEND

Conductor Axis

In Phase Profile (scale 1 cm = 10%)

Quadrature Profile (scale 1 cm = 10%)

Depth Estimate (metres) / Dip
Conductivity-Thickness (mhos)

25 m / 80° S
15

Instrument: Apex Parametrics MAX-MIN II

KEY

Claim Post, W.P.	✱ , ☼	Claim Line	
Creek		Bush Road	
Lake		Trail	
Swamp		Previous Drill Hole	
Rock Outcrop		Recommended Drill Hole	

Norcen
Energy Resources Limited
TIMMINS JOINT VENTURE

SURVEY TYPE: HEM
FREQUENCY: 1777 Hz
GRID: AIRPORT L-M
TOWNSHIP: JESSOP NTS: 42 A / 11

Cable Length: 150 metres	Survey Date: March, 1981
Contractor: Exsics Exploration Ltd.	Interpretation: John Grant

0 50 100 150 200 metres
Scale 1 : 2500

John Grant

2.4031

010

REPORT

ON

MAXMIN II ELECTROMAGNETIC AND MAGNETOMETER SURVEYS

AIRPORT L-M GRID

JESSOP TOWNSHIP

PORCUPINE MINING DIVISION

NORTHEASTERN ONTARIO

for

NORCEN ENERGY RESOURCES LIMITED

Timmins, Ontario
May, 1981

John Grant
Exsics Exploration Limited

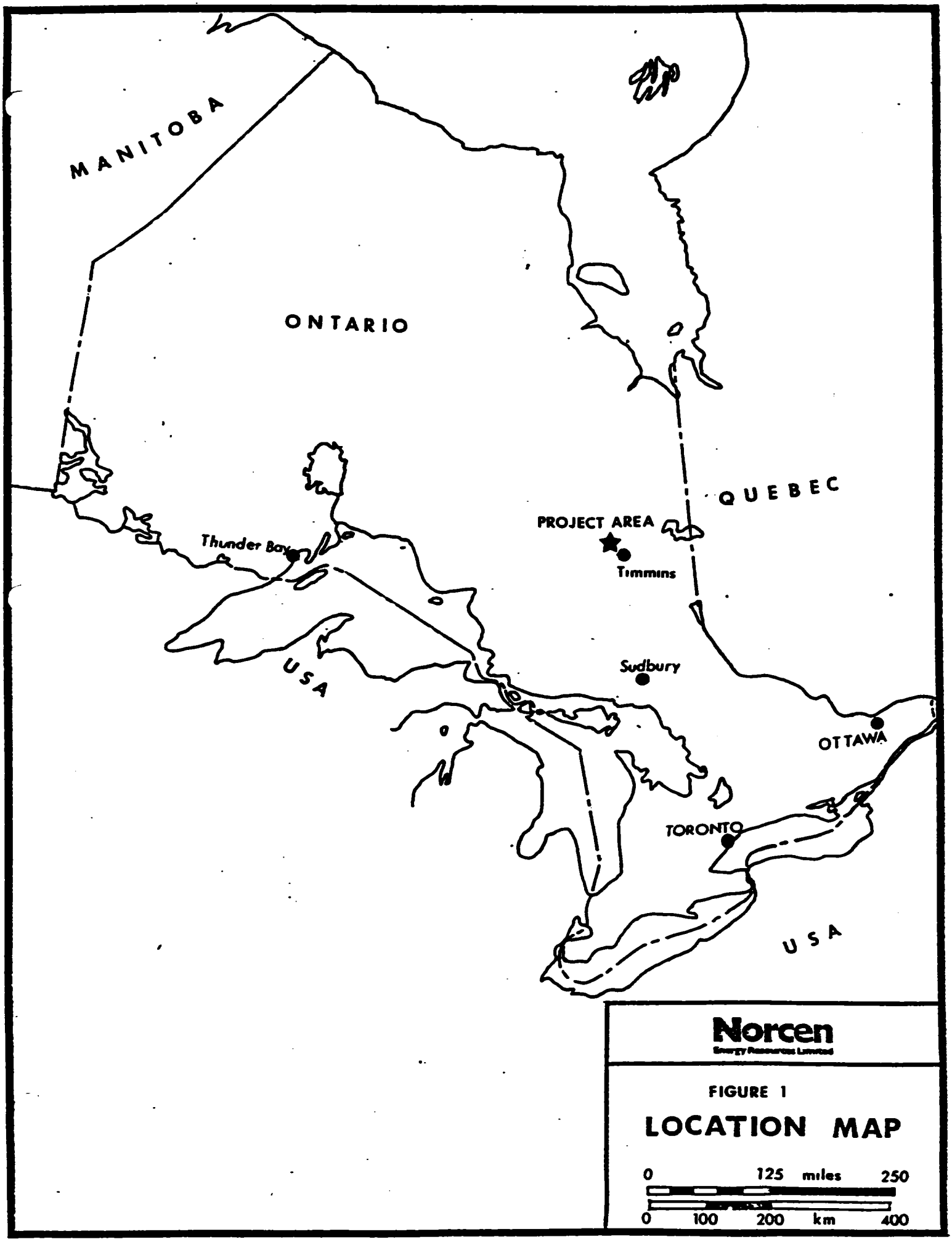
INTRODUCTION

This report deals with the results of MaxMin II electromagnetic and magnetometer surveys on the Airport L•M grid in Jessop township conducted by Exsics Exploration Limited for Norcen Energy Resources Limited.

Survey coverage was completed on the claims as listed below in Jessop township (see grid sketch Figure 3).

P516509	P516510	P516511
P516512	P516514	P516515
P516516		

The grid plans showing low frequency and high frequency electromagnetic results and the contoured magnetometer results are presented with this report as Maps 1, 2 and 3 in the back pocket.


MANITOBA
ONTARIO
QUEBEC
PROJECT AREA
Timmins
Thunder Bay
Sudbury
USA
OTTAWA
TORONTO
USA
Norcen
FIGURE 1
LOCATION MAP
0 125 miles 250
0 100 200 km 400

LOCATION AND ACCESS

The Airport L·M grid is located approximately 5 kilometres northwest of the Timmins Airport in Concession 6, Lots 7 and 8 in Jessop township. Helicopter access to the property was provided by Huisson Aviation Ltd. of Timmins, see Figures 1 and 2.

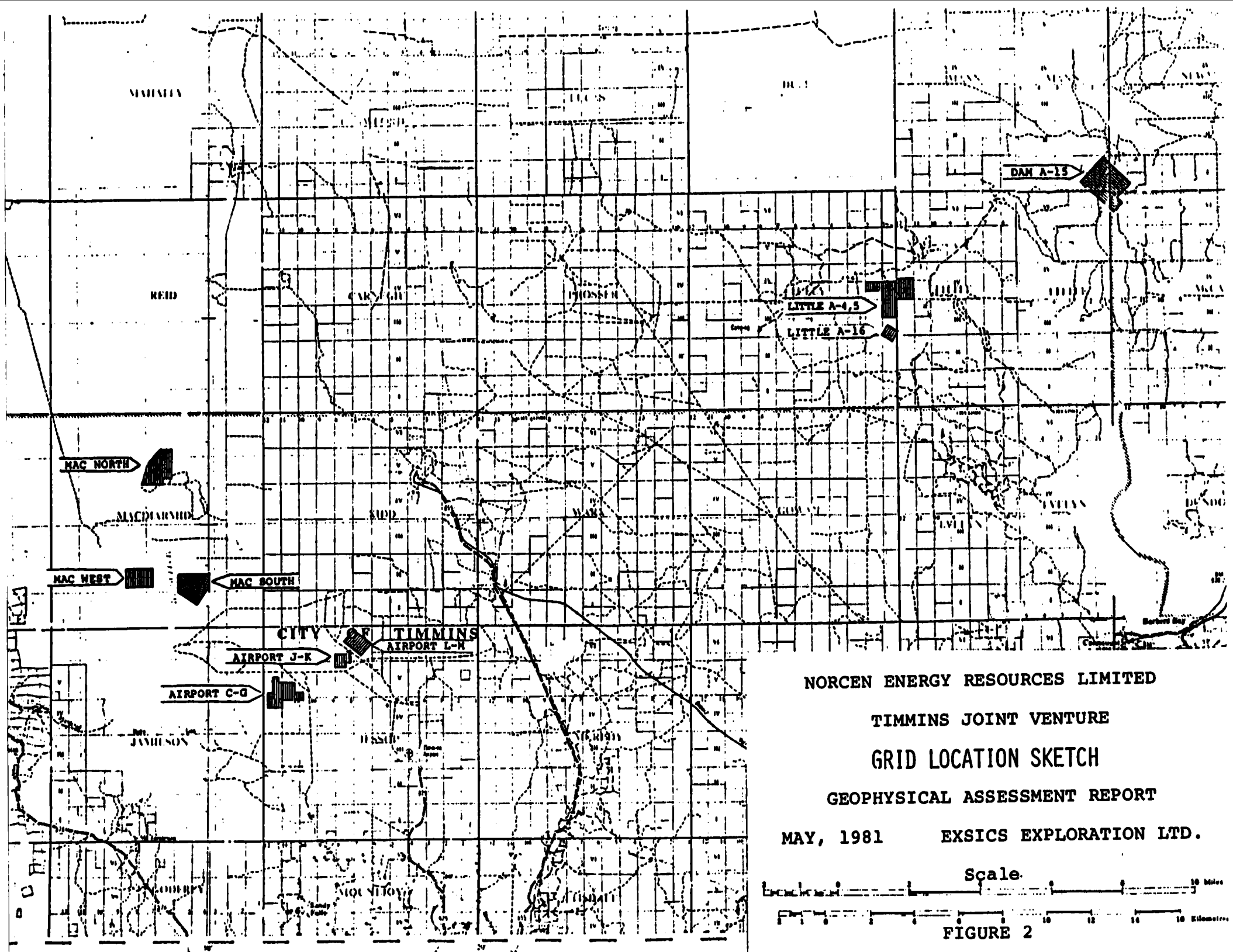
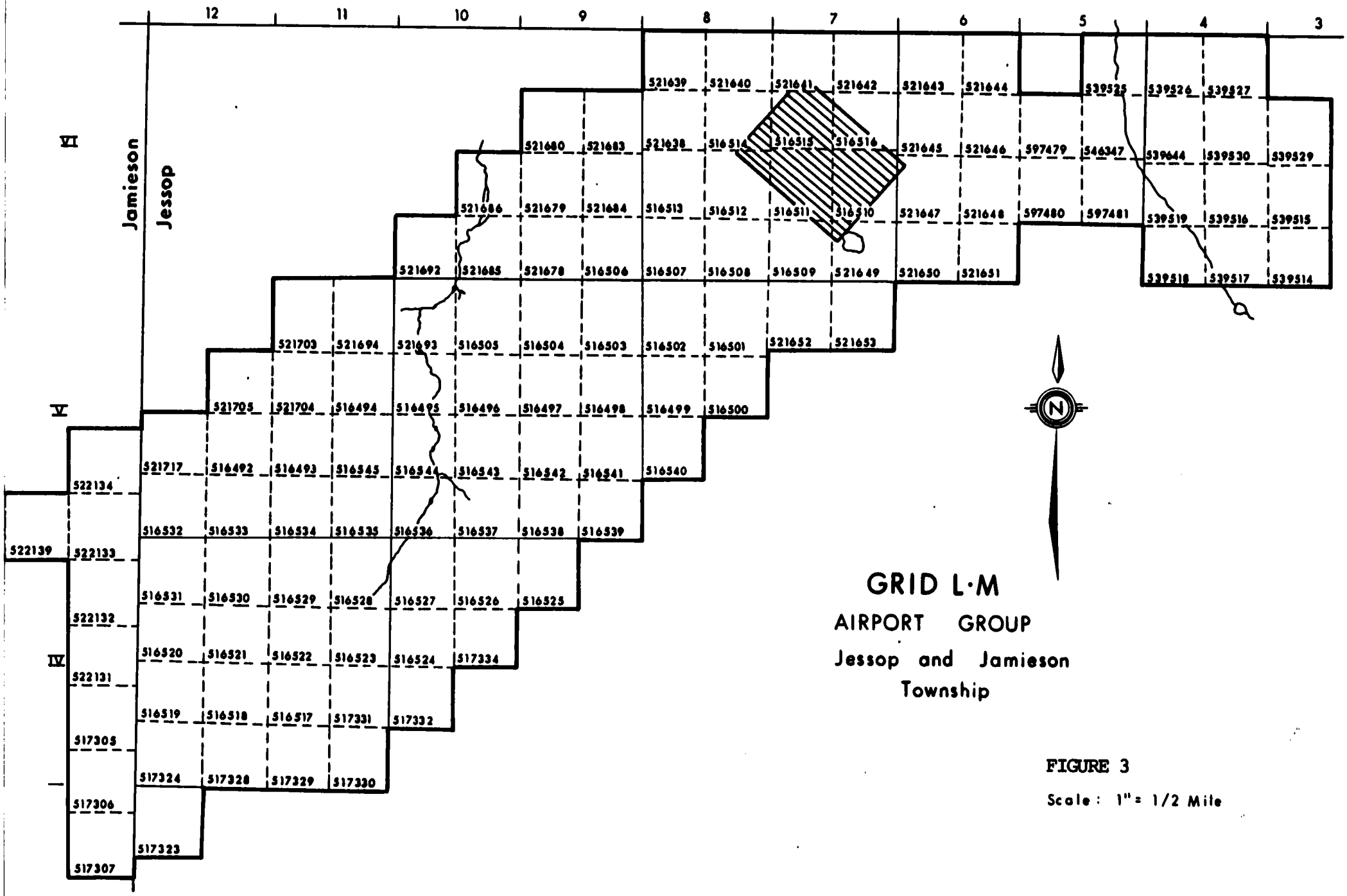

DAM A-15
LITTLE A-4,5
LITTLE A-16
MAC NORTH
MAC WEST
MAC SOUTH
CITY OF TIMMINS
AIRPORT L-M
AIRPORT J-K
AIRPORT C-G
REID
MACDIARMID
JAMESON
NORCEN ENERGY RESOURCES LIMITED
TIMMINS JOINT VENTURE
GRID LOCATION SKETCH
GEOPHYSICAL ASSESSMENT REPORT
MAY, 1981 EXSICS EXPLORATION LTD.
Scale

FIGURE 2

LINECUTTING

A total of 6.4 kilometres of grid and base lines were cut. The baseline runs at an azimuth of 040° with cross lines cut at 125 metre intervals. The cross lines extend from 420 S to 420 N with stations chained at 30 metre intervals.



GRID L·M

AIRPORT GROUP

Jessop and Jamieson Township

FIGURE 3

Scale: 1" = 1/2 Mile

GEOPHYSICAL SURVEYS

1. Electromagnetic Survey

The electromagnetic survey was completed with a MaxMin II electromagnetic instrument manufactured by Apex Parametrics Ltd. utilizing a 150 metre reference cable. Operating frequencies of 444 and 1777 Hz were recorded throughout the survey. Technical and operational specifications of the MaxMin II instrument are included as Appendix A of this report.

The results of the EM survey are presented as Map 1 (showing the 444 Hz frequency) and Map 2 (showing the 1777 Hz frequency) in the back pocket of this report. These results are summarized below.

2. Magnetometer Survey

A Geometrics G-816 proton precession magnetometer was used throughout the survey. Correction for diurnal variations in the magnetic field were made by reference to the Recording Base Station Magnetometer G-826A manufactured by Exploranium Geometrics Ltd.

3. Survey Results

The MaxMin survey located two parallel anomalous zones. Zone A striking 040° for 250 m plus. Zone B striking 040° for 375 m plus. Both zones are still open to the east and off the grid.

4. Conductor Characteristics

Zone A
L375 mE to L625 mE
@ 225 mN:

MaxMin II
1777 Hz

- Strike length of at least 250 metres at 040°
- Dipping near vertical
- Depth to source of 30 metres
- Conductivity thickness product of 5 metres

4. Conductor Characteristics (Cont'd)

Zone A
L375 mE to L625 mE
@ 225 mN:

444 Hz
- Similar strike and dip as the 1777 Hz
- Depth to source of 30-35 metres
- Conductivity of zone increasing to a max of 40 mhos as the zone extends east to west

Magnetics
- Good correlation with the zone or lines 500 mE and 625 mE also indicating a near vertical dip

Zone B
L250 mE to L625 mE
@ 20-30 mN

1777 Hz
- Strike length of 375 mE open to the east and striking 040°
- Dipping near vertical
- Depth to source is questionable to the closeness of Zone A
- Conductivity of the zone is 5-9 mhos

4. Conductor Characteristics (Cont'd)

Zone B
L250 mE to L625 mE
@ 20-30 mN

444 Hz
- Strike and dip is similar to the 1777 frequency
- Depth to source of 30-35 metres
- Conductivity of 12-20 mhos.

Magnetics
- Good
- Correlation with entire length of zone also showing a near vertical dip to slightly south

CONCLUSIONS

Both surveys indicated two parallel anomalous zones too close for the 150 metre coil separation of the MaxMin to separate effectively for accurate profile interpretation.

The difference in mho values of both zones from the 1777 Hz to the 444 Hz is due to the conductive overburden layer blanketing the zones.

However, both zones are well defined and consistent geophysically.

RECOMMENDATIONS

Any further geophysics required would be done only to close off the zones to the east; otherwise both conductors have enough definition to be properly drilled.

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL
TECHNICAL DATA

TO BE ATTACHED AS AN APPENDI
FACTS SHOWN HERE NEED NOT B
TECHNICAL REPORT MUST CONTAIN INTE

42A11SW0007 2.4031 JESSOP

900

Type of Survey(s) ELECTROMAGNETIC, MAGNETOMETER

Township or Area JESSOP TOWNSHIP

Claim Holder(s) NORCEN ENERGY RESOURCES LTD.
715 - 5TH. AVE. SW.
CALGARY, ALTA., T2P 2X7

Survey Company EXSICS EXPLORATION LIMITED

Author of Report JOHN GRANT

Address of Author P.O. BOX 1880, TIMMINS, ONT, P4N 7X1

Covering Dates of Survey FEBRUARY – MAY, 1981
(linecutting to office)

Total Miles of Line Cut 6.4 KILOMETRES

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	20
–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: JULY 27, 1981 SIGNATURE: John W Grant
Author of Report or Agent

Res. Geol. _____ Qualifications 3743

Previous Surveys

File No.	Type	Date	Claim Holder

ED

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	516510
P	516511
P	516512
P	516514
P	516515
P	516516

If space insufficient, attach list

TOTAL CLAIMS 6

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations MAXMIN: 138 MAG: 305 Number of Readings MAXMIN: 55 MAG: 305

Station interval 30 METRES Line spacing 125 METRES

Profile scale MAXMIN 1 cm = 10%

Contour interval MAG 50 AND 100 GAMMAS

MAGNETIC

Instrument GEOMETRICS G-816 PROTON PRECESSION MAGNETOMETER AND G-826A RECORDING BASE STATION

Accuracy – Scale constant ± 1 GAMMA

Diurnal correction method RECORDING BASE STATION

Base Station check-in interval (hours) CONTINUOUS MONITOR DURING SURVEY

Base Station location and value LOT 11, CONC 2, MOUNTJOY TOWNSHIP 59,000 GAMMAS

ELECTROMAGNETIC

Instrument APEX PARAMETRICS MAXMIN II

Coil configuration HORIZONTAL

Coil separation 150 METRES

Accuracy ± 1 %

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

Frequency 444 AND 1777 Hz (specify V.L.F. station)

Parameters measured HORIZONTAL IN-PHASE AND QUADRATURE COMPONENTS OF SECONDARY 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

eet

MONTH.. 19...........

CLAIM NUMBER		RECORDED HOLDER	TOWNSHIP OR AREA	SPEC. PROV.	GROUND						AIR			SEC. (4)
					MAG.	E.M.	RAD.	GEOL.	GEOCH.	OTHER	MAG.	E.M.	RAD.	
			TOTAL											