



42A11SW0009 2.4032 JESSOP

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JUL 29 1981

MINING LANDS SECTION

R E P O R T

O N

MAXMIN II ELECTROMAGNETIC AND MAGNETOMETER SURVEYS

AIRPORT C·G GRID

JESSOP TOWNSHIP

PORCUPINE MINING DIVISION

NORTHEASTERN ONTARIO

f o r

NORCEN ENERGY RESOURCES LIMITED

Timmins, Ontario
May, 1981

John Grant
John Grant
Exsics Exploration Limited

INTRODUCTION

This report deals with the results of MaxMin II electromagnetic surveys on the Airport C·G 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).

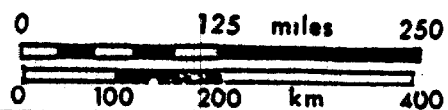
P516530	P516531	P516533
P516534	P516535	P516492
P516493		

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.



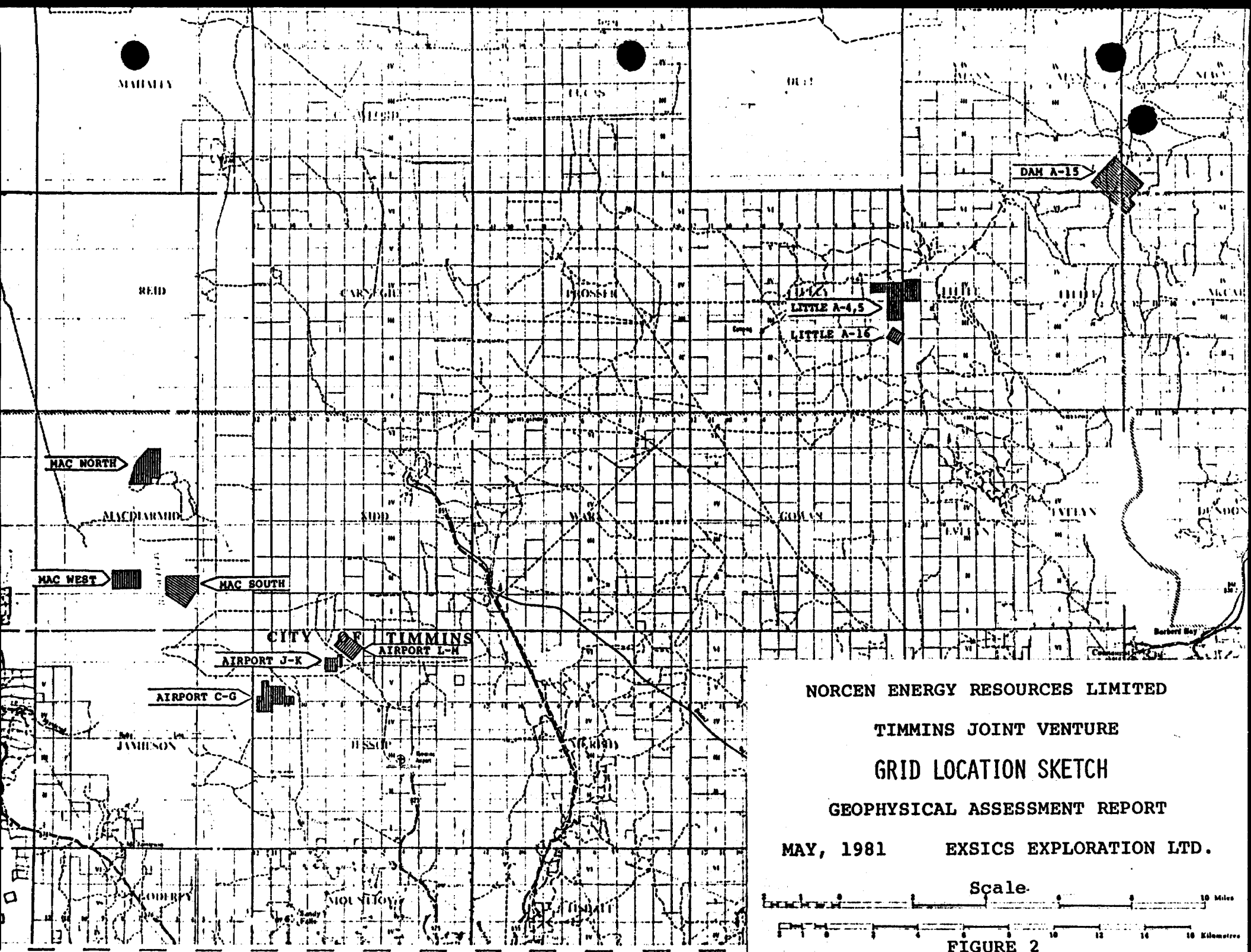
Norcen
Energy Resources Limited

FIGURE 1
LOCATION MAP



LOCATION AND ACCESS

The Airport C·G grid is located approximately 5 kilometres northwest of the Timmins Airport in Concessions 4 and 5, Lots 11 and 12 of Jessop township. Helicopter access to the property was provided by Huisson Aviation Ltd. of Timmins (see Figures 1 and 2).



NORCEN ENERGY RESOURCES LIMITED

TIMMINS JOINT VENTURE

GRID LOCATION SKETCH

GEOPHYSICAL ASSESSMENT REPORT

MAY, 1981

EXSICS EXPLORATION LTD.

Scale

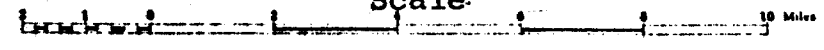
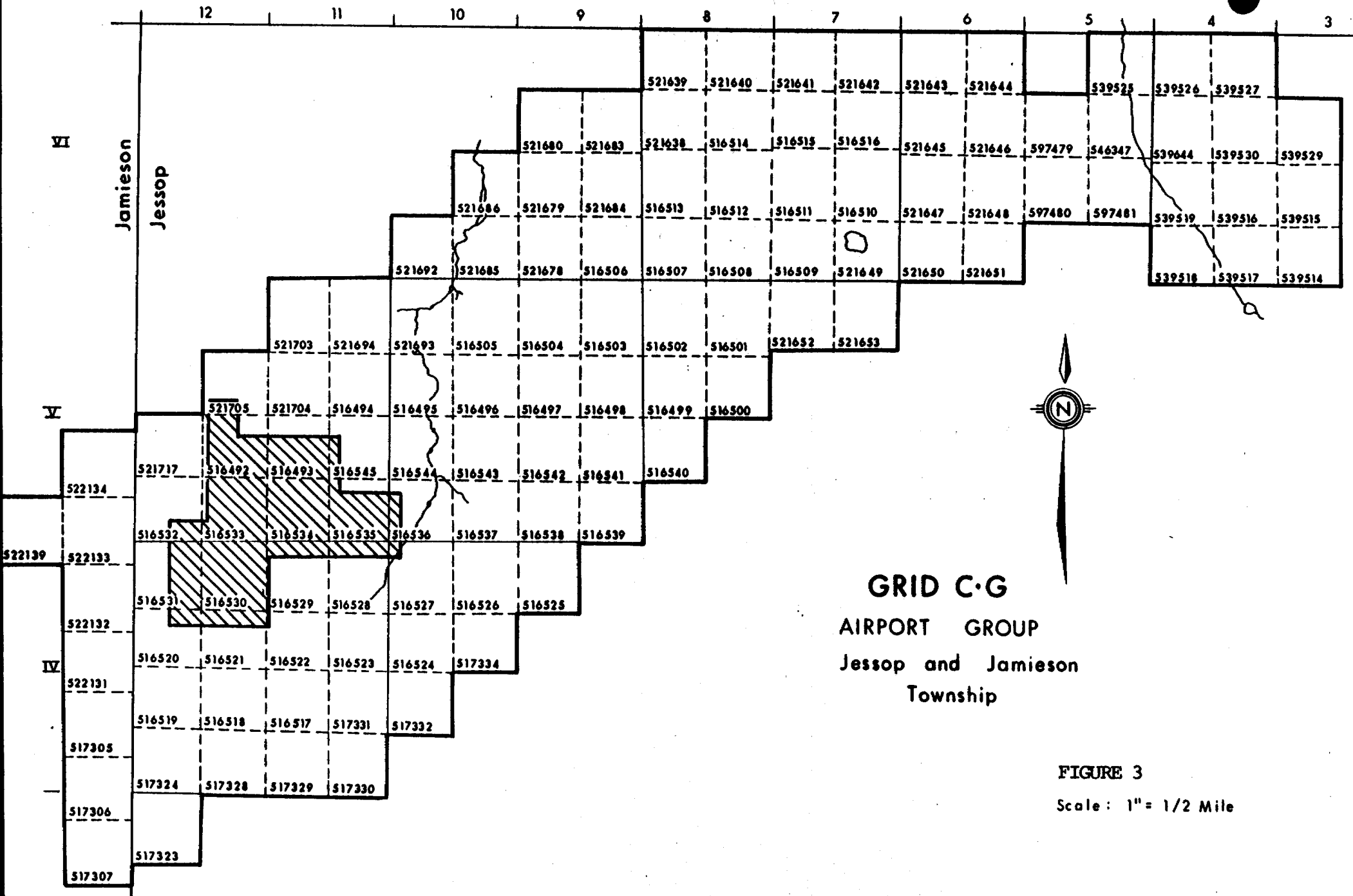


FIGURE 2

LINECUTTING

A total of 14.7 kilometres of grid and base lines were cut. The base-line runs at an azimuth of 040° with cross lines cut at 125 metre intervals. The cross lines were chained with stations at 30 metre intervals.



GRID C-G
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.

4. Conductor Characteristics (Cont'd)

Zone A

L375 mE to L625 mE

420 mN:

MaxMin

1777 Hz

- Conductivity value of 14 mhos

- Dip is near vertical

444 Hz

- Strike and dip is similar to the 1777 Hz

- Depth to source of 25 metres

- Conductivity value of 26 mhos

Magnetics

- There is a good correlation with the majority of the zone

Zone B

L750 E to 1000 mE

MaxMin

1777 Hz

- The conductor has a strike of 095° for 250 m plus open to the east

- Depth to source of 22-30 metres

- Conductivity value of 3 mhos

- Dip is near vertical

444 Hz

- Strike and dip is similar to 1777 Hz

- Depth to source is 35-50 metres

- Conductivity value of 6-8 mhos

Magnetics

- Mag shows good correlation in the east portion of the zone striking off the grid to the east

4. Conductor Characteristics (Cont'd)

Zone C

L750 mE to 1375 mE
slightly north of
the base line

- | | |
|-----------|--|
| 1777 Hz | <ul style="list-style-type: none">- Strike length of 625 m open to the east at Az 090°- Depth to source of 15-30 metres- Conductivity of the zone 2.5 mhos |
| 444 Hz | <ul style="list-style-type: none">- Strike and dip is similar to 1777 Hz- Depth to source of 30-50 metres- Conductivity value of 3-10 mhos |
| Magnetics | <ul style="list-style-type: none">- There is good mag correlation with the zone consistently up to L1125 mE- The contour plot also shows a vertical dip |

4. Conductor Characteristics

Zone D
L500 mE to L0+00
450 mS

1777 Hz

- Strikes for 375 m plus, open to the west @ 090°
- Depth to source of 30-35 metres
- Conductivity of 5-10 mhos getting stronger to the west
- Dip is near vertical

444 Hz

- Dip and strike is similar to 1777 Hz
- Depth to source is 20-35 metres
- Conductivity value of 5-7 mhos

Magnetics

- There is good mag correlation with the entire conductor axis also extending off the grid to the west

CONCLUSION

Zone A and B are defining the same conductive horizon which has been slightly faulted. This is evident in the mag contour which shows a dike like intrusion following L750 mE and to a lesser extent along L875 mE.

All zones surveyed by MaxMin have adequate coverage for profile interpretation. No further geophysics is required for drill hole set-ups.

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations MAXMIN: 272 MAG: 622 Number of Readings MAXMIN: 1008 MAG: 622
Station interval 30 METRES Line spacing 125 METRES
Profile scale MAXMIN 2CM = 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 [x] 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

Kidd Twp. - M.291

THE TOWNSHIP
OF

JESSOP

DISTRICT OF
COCHRANE

PORCUPINE
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	⊘

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

This township lies within the Municipality of CITY of TIMMINS.

(R) - S.R.O. Withdrawn from Staking under Sec.42 of The Mining Act (R.S.O. '60). Files: 108158, 110302.

AREAS WITHDRAWN FROM DISPOSITION

S.R. - SURFACE RIGHTS M.R. - MINING RIGHTS

Description	Order No.	Date	Disposition	File
(R) SEC 43	W.63/77	12/9/77	MR & SR	108371
(R) SEC 43	W.78/81	24/7/81	MR, B.S.R.	145730

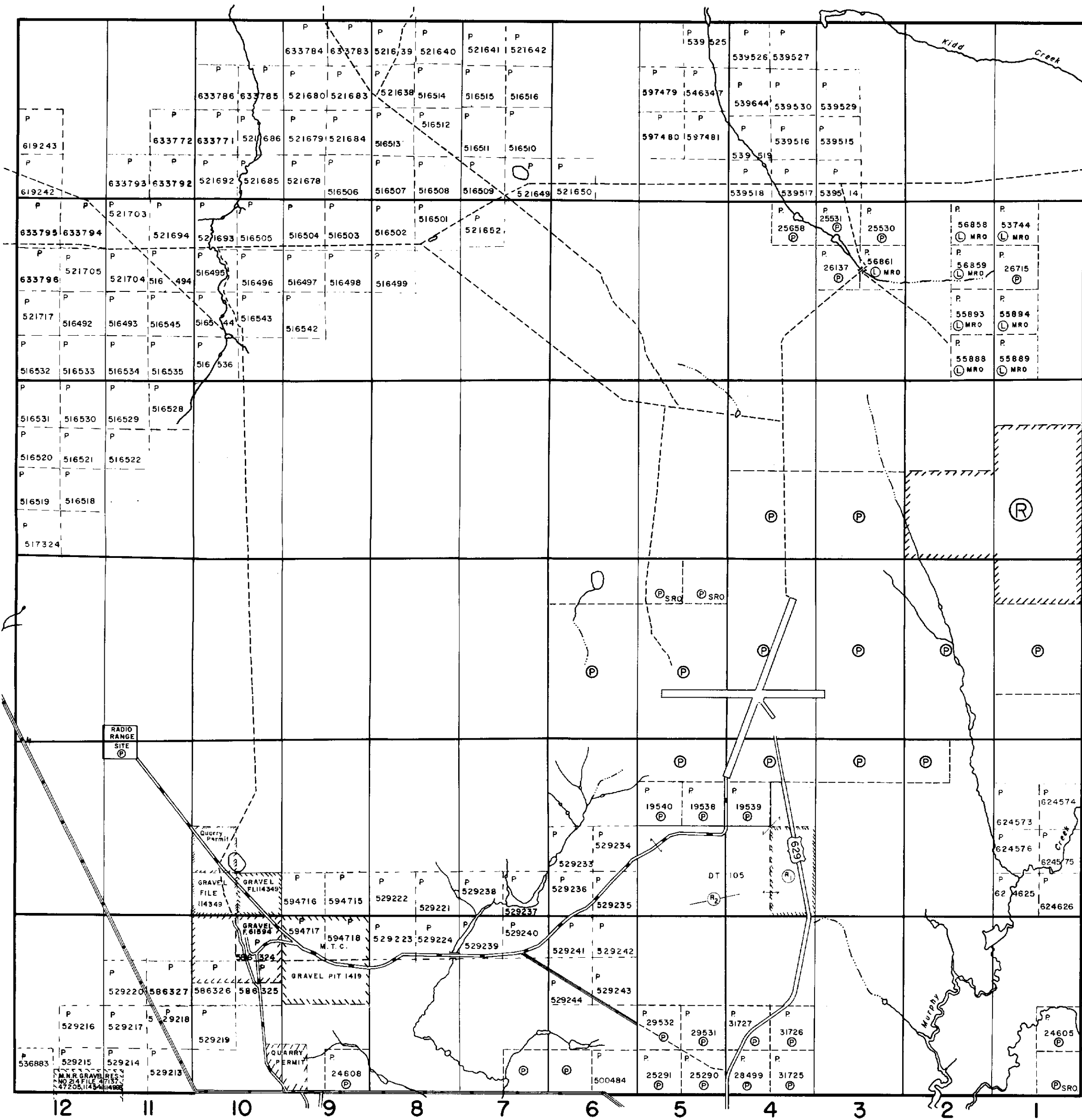
DATE OF ISSUE
JAN 25 1982
Ministry of Natural Resources
TORONTO

PLAN NO. **M.289**

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Jamieson Twp. - M.288

Murphy Twp. - M.303

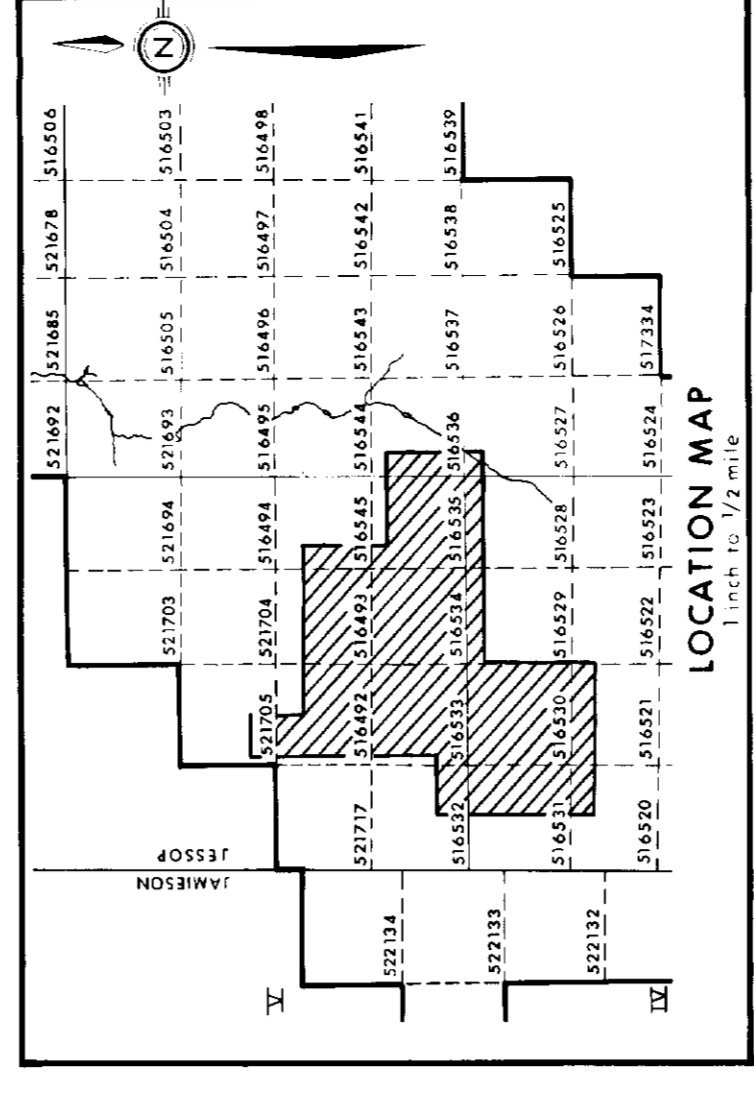
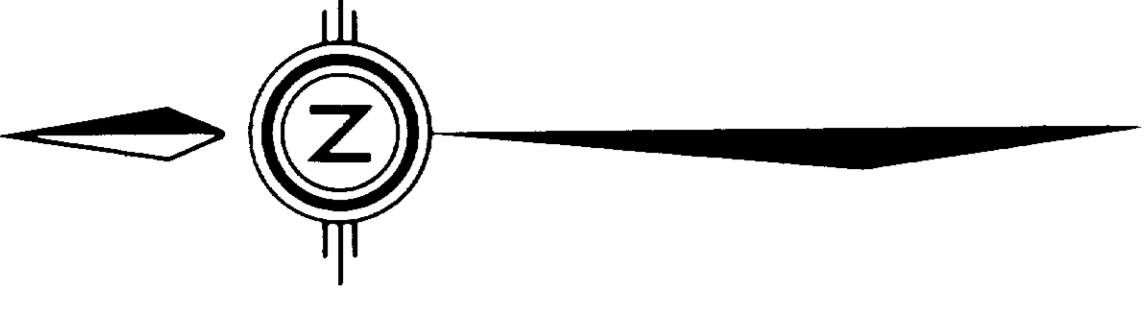


Mountjoy Twp. - M.302



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LEGEND

Conductor Axis
In Phase Profile: Scale 1cm = 10m
Quadrature Profile: Scale 1cm = 10m
Depth Estimate: metres / 10m
Conductivity: microhm/cm

Instrument: Apex Formance; MAX-MIN II

KEY

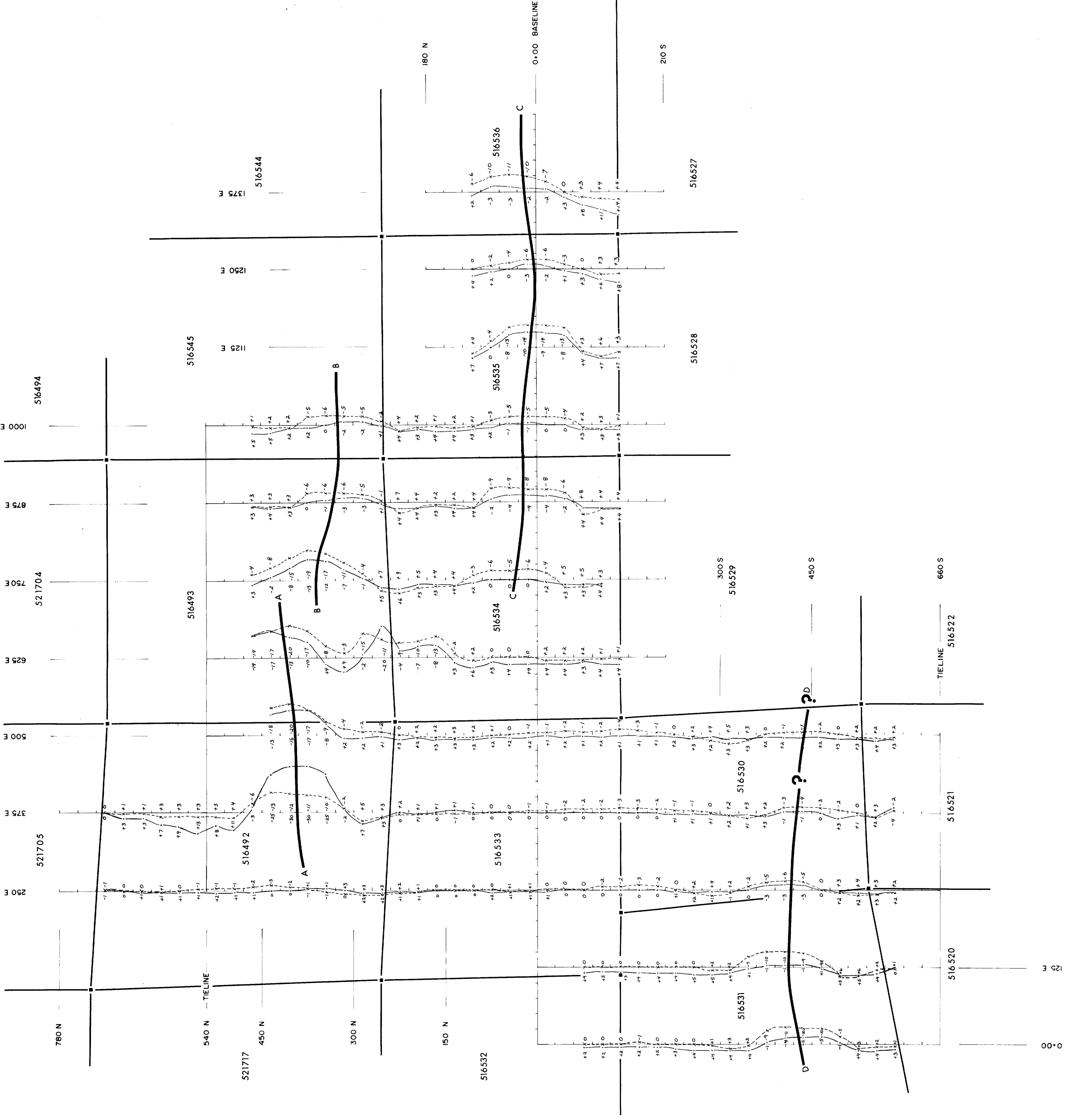
Close P.W.P. Creek Clean Line Bush Road
Lake Trail Previous Drill Hole
Swamp Recommended Drill Hole
Rock Outcrop

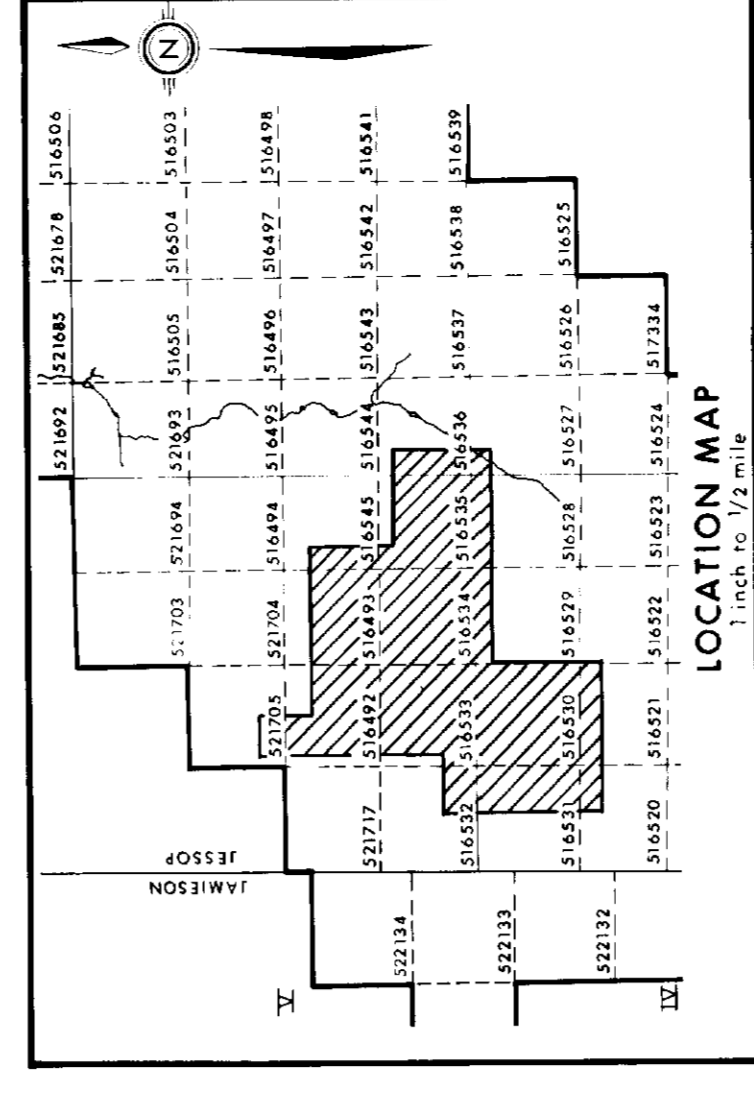
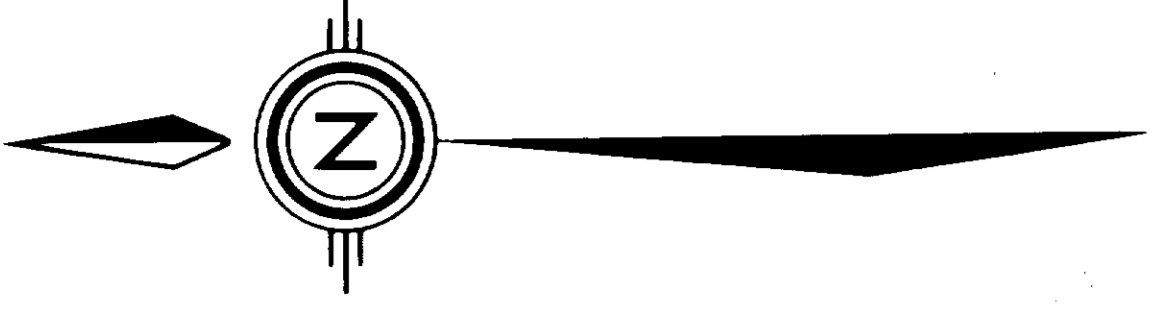
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TIMMINS JOINT VENTURE

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

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

Scale 1: 2500





LEGEND

Conductor Axis
In Phase Profile (Scale 1 in = 10%)
Quadrature Profile (Scale 1 in = 10%)
Depth Estimate (meters) (D)
Conductivity (microhm/cm) (C)

Instrument: Asep Resonance; MAX-MIN II

KEY

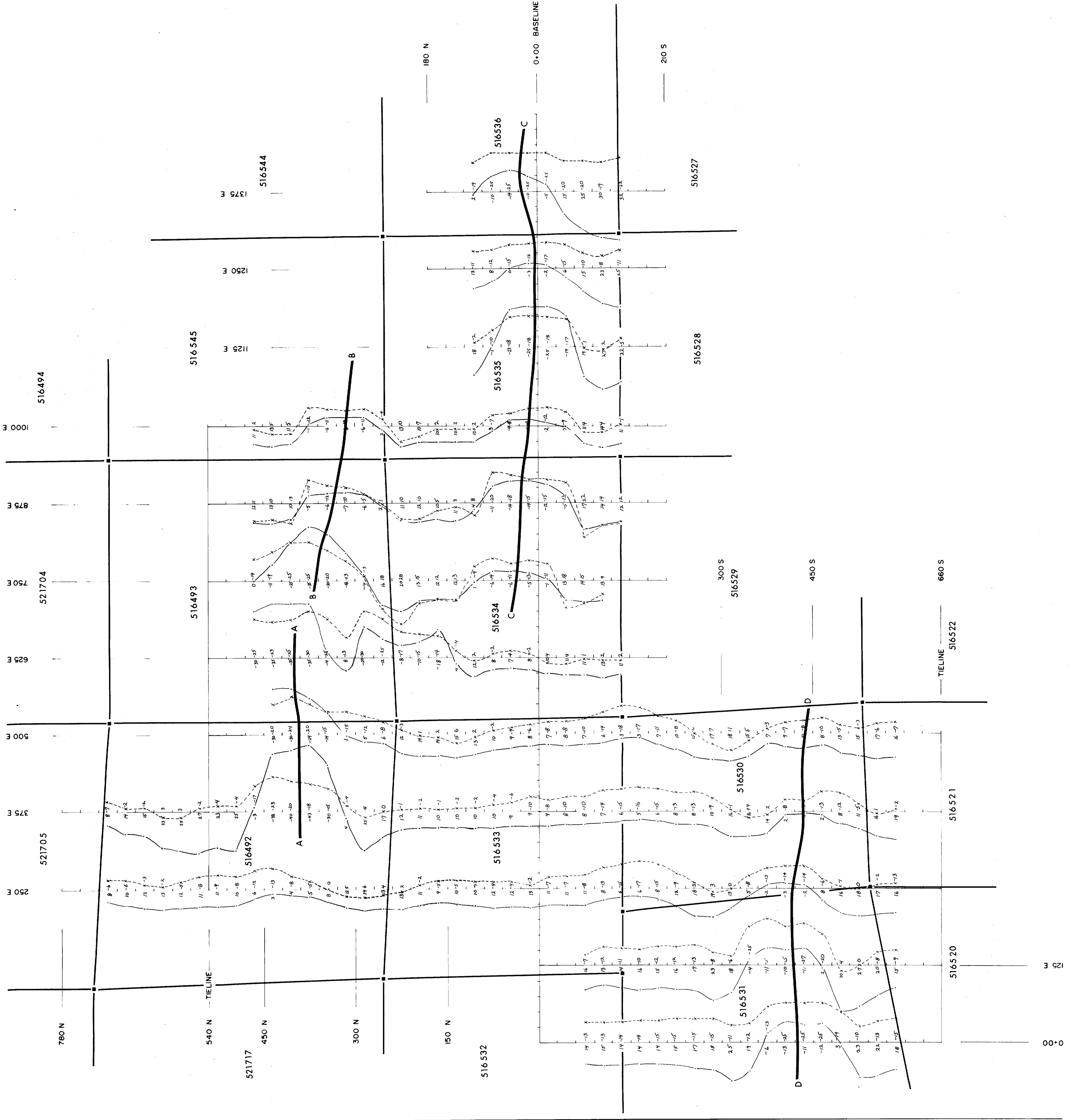
Claim Post, W.P.
Creek
Lake
Swamp
Rock Outcrop
Claim Line
Bulk Road
Trail
Previous Drill Hole
Recommended Drill Hole

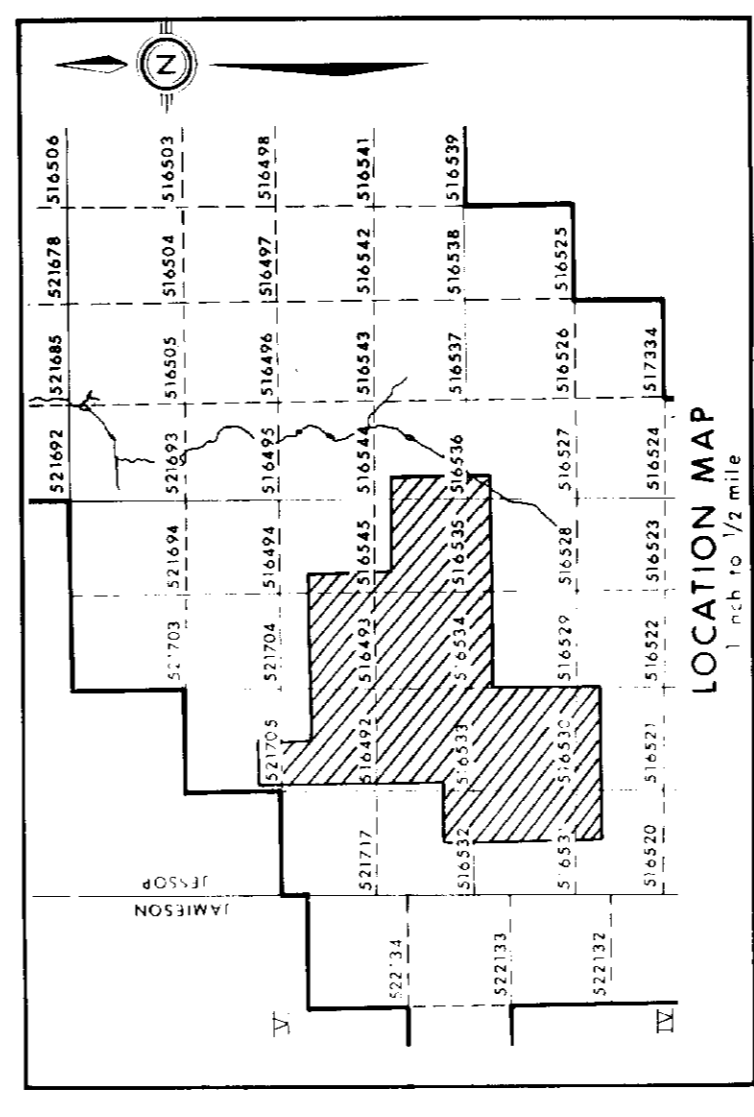
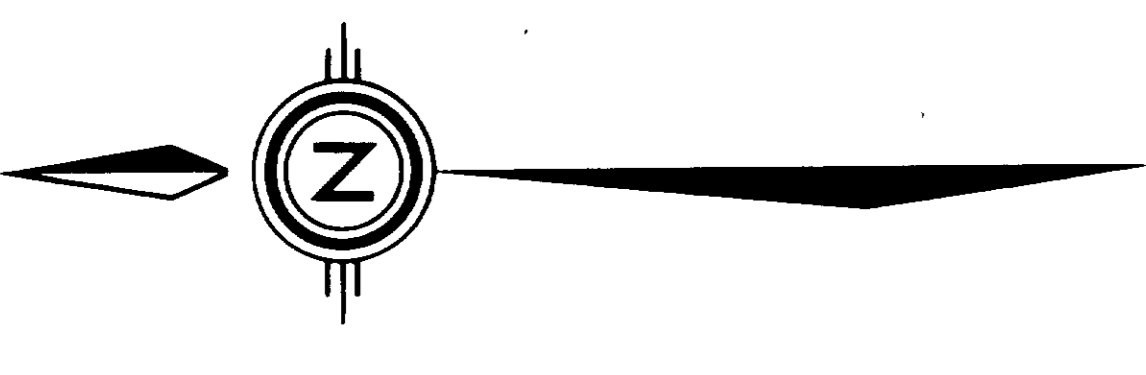
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Energy Resources Limited
TIMMINS JOINT VENTURE

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

Cable Length: 150 metres
Conductor: Esrics Exploration Ltd
Survey Date: March, 1981
Inspection: John Grant

Scale 1: 2500





LEGEND

Total Magnetic Field in gammas
Base Station Location
Magnetic Contour: 500, 1000, 50 gammas
Magnetic Depression

KEY

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

Norcen
TIMMINS JOINT VENTURE

SURVEY TYPE: **MAGNETOMETER**
GRID: **AIRPORT C-G**
TCWNSHIP: JF SSCP
N1S: 42 A / 11

Contract Interval: 100 x 500 ft
Survey Date: March, April 1981
Contractor: Ensis, Exploration Ltd.
Interpreter: John Grant

Scale 1:2500

