



42A03NE0040 2.745 BARTLETT

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Texas Gulf Sulphur Company
Report on Geophysical Work
in
Bartlett and McArthur Townships.

Claims: P297885-P297889, P297892-P297898,
P297900-P297907, P297909-P297914,
P297916-P297918, P313801.

A geophysical survey, consisting of magnetic and horizontal loop traverses, was carried out over this group of 30 contiguous claims, located in Lots 4, 5 and 6 of Con. I, McArthur Twp. and Lots 4, 5 and 6 of Con V and VI, Bartlett Twp.

Most of the electromagnetic survey (24.5 miles) was performed by the Jean Alix Co. Ltd. under the supervision of Mr. J. Leclair. The remainder of the electromagnetic work (2.7 miles) as well as all of the magnetometer survey was carried out by Texas Gulf Sulphur Company personnel. All field work was directed by Texas Gulf Sulphur staff.

JANUARY, 1972

MAGNETIC:

The magnetic survey was performed using an Askania torsion magnetometer. This instrument measures the relative intensity of the vertical magnetic field with an accuracy of about 20 gammas. Readings were taken every 100 feet with 50 foot spacings used to detail anomalous areas.

RESULTS:

The results show several magnetic highs that trend between N and N 20° W. The intensity of the anomalies (up to 40000 gammas above background) suggests that they are caused by magnetite-rich iron formation. In a few instances there are indications that some of the wider anomalies are due to multiple bands of high susceptibility material. The bands are either vertical or dip steeply to the east.

Because of the possibility of multiple sources, it is difficult to estimate the depth of burial with any accuracy. However, the relatively steep magnetic field gradients on the flanks of many of the anomalies suggests that overburden thickness does not exceed 100 feet and locally may be only a few feet.

The background magnetic field strength is very uniform and does not reflect any possible changes in the type of country rock.

HORIZONTAL LOOP:

Both parts of the horizontal loop survey were carried out using a Geonics EM-17 unit. The cable length was 300 feet and the station interval 100 feet, decreasing to 50 feet over anomalous areas.

The presence of high tension power lines 100 feet west of the base line made it impossible to survey a 400 foot wide strip in the central part of the claim group.

RESULTS:

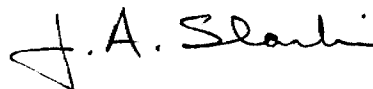
The conductors detected are all in magnetically anomalous areas. However, the conductivity anomalies cannot be directly attributed to the iron formation as it has poor conductivity and, also, the width of the conductors is in most cases much smaller than the indicated width of the magnetic zones. It is probable that the conductivity anomalies are caused by bands of graphite and/or metallic sulphides that are associated with the iron formation. The horizontal loop profiles suggest that the conductive zones are less than 100 feet below the surface and generally dip steeply to

the east.

CONCLUSIONS:

The spatial association of the conductive zones and the iron formation makes it impossible to deduce the magnetic characteristics of the conductors. Similarly, because of the relatively small width of the zones, no other geophysical methods seem capable of distinguishing between graphite and metallic sulphides as possible anomaly sources.

ks:



J. A. Slankis,
Geophysicist.

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

MAG: 1797

MAG: 1973

EM: 1470

EM: 1513

Number of Stations _____ Number of Readings _____

Station interval 100 FEET; 50 FEET OVER ANOMALIES

Line spacing 300 FEET

Profile scale or Contour intervals EM: 1" = 20%
(specify for each type of survey)

MAGNETIC

Instrument ASKANIA TORSION MAGNETOMETER (VERTICAL FIELD)

Accuracy - Scale constant 20 GAMMAS, 250 GAMMAS/ SCALE DIVISION

Diurnal correction method LOOPING

Base station location AT BASE LINE ON LINE 54 + 00 S

ELECTROMAGNETIC

Instrument GEONICS EM-17

Coil configuration HORIZONTAL LOOP

Coil separation 300 FEET

Accuracy ± 2% FOR IN-PHASE AND QUADRATURE

Method: Fixed transmitter Shoot back In line Parallel line

Frequency 1600 Hz
(specify V.L.F. station)

Parameters measured IN-PHASE AND QUADRATURE COMPONENTS OF SECONDARY FIELD AS PERCENT OF TRANSMITTED SIGNAL.

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

INDUCED POLARIZATION - RESISTIVITY

Instrument _____

Time domain _____ Frequency domain _____

Frequency _____ Range _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

S.S.S.N

S.S.S.N

BARTLETT TWP

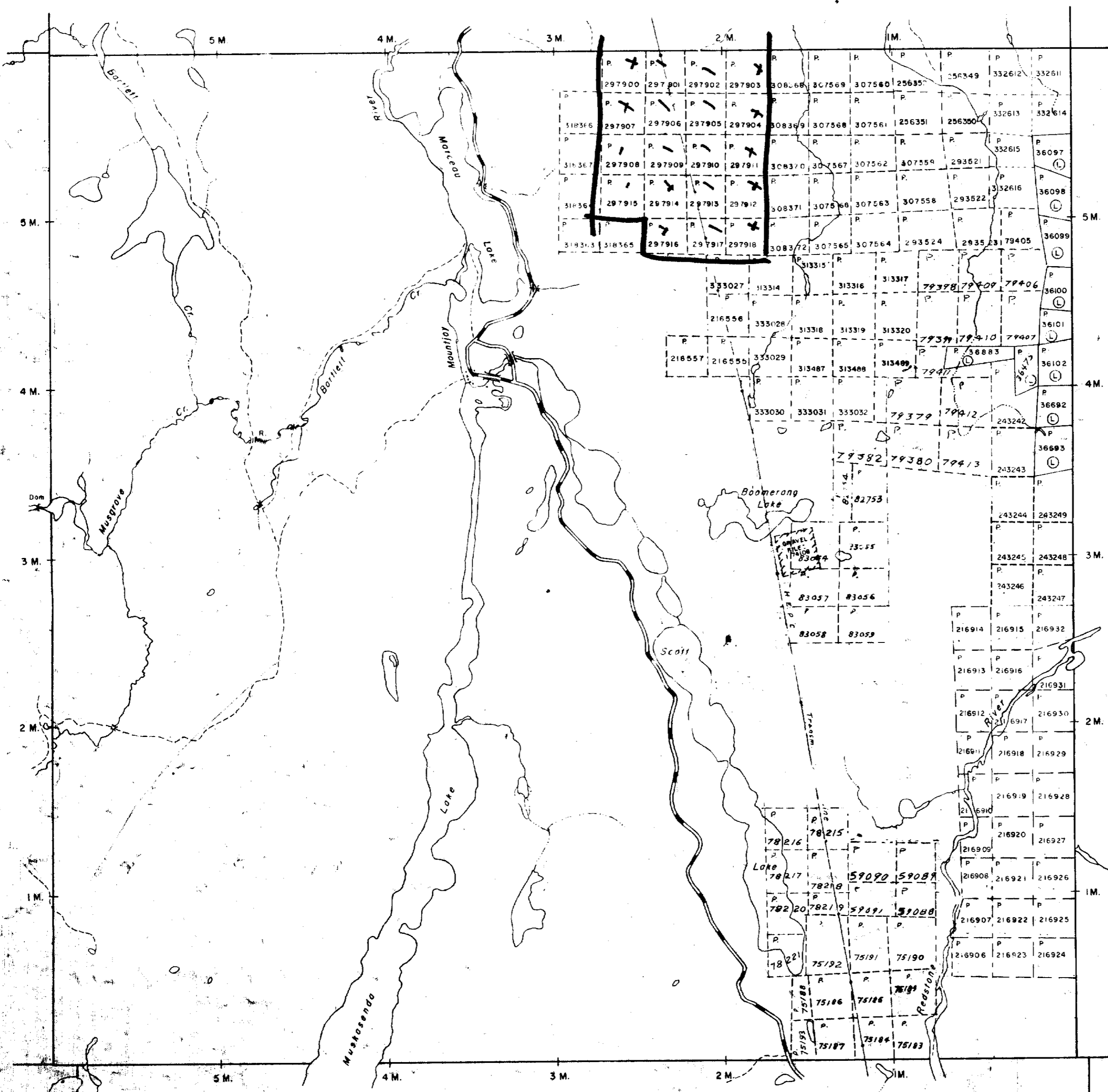
BARTLETT TWP

Musgrove Twp. - M. 304

Geikie Twp. - M. 320

McArthur Twp. - M. 298

THE TOWNSHIP OF
OF
BARTLETT
DISTRICT OF
TIMISKAMING
PORCUPINE
MINING DIVISION
SCALE: 1-INCH=40 CHAINS



English Twp. - M. 787

LEGEND

- PATENTED LAND Ⓢ
- CROWN LAND SALE C.S.
- LEASES Ⓛ
- LOCATED LAND L.C.
- 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 MUSKOG —
- MINES —
- CANCELLED —

NOTES

This township lies within the
TIMAGAMI PROVINCIAL FOREST

400' Surface Rights Reservation around
all Lakes and Rivers.

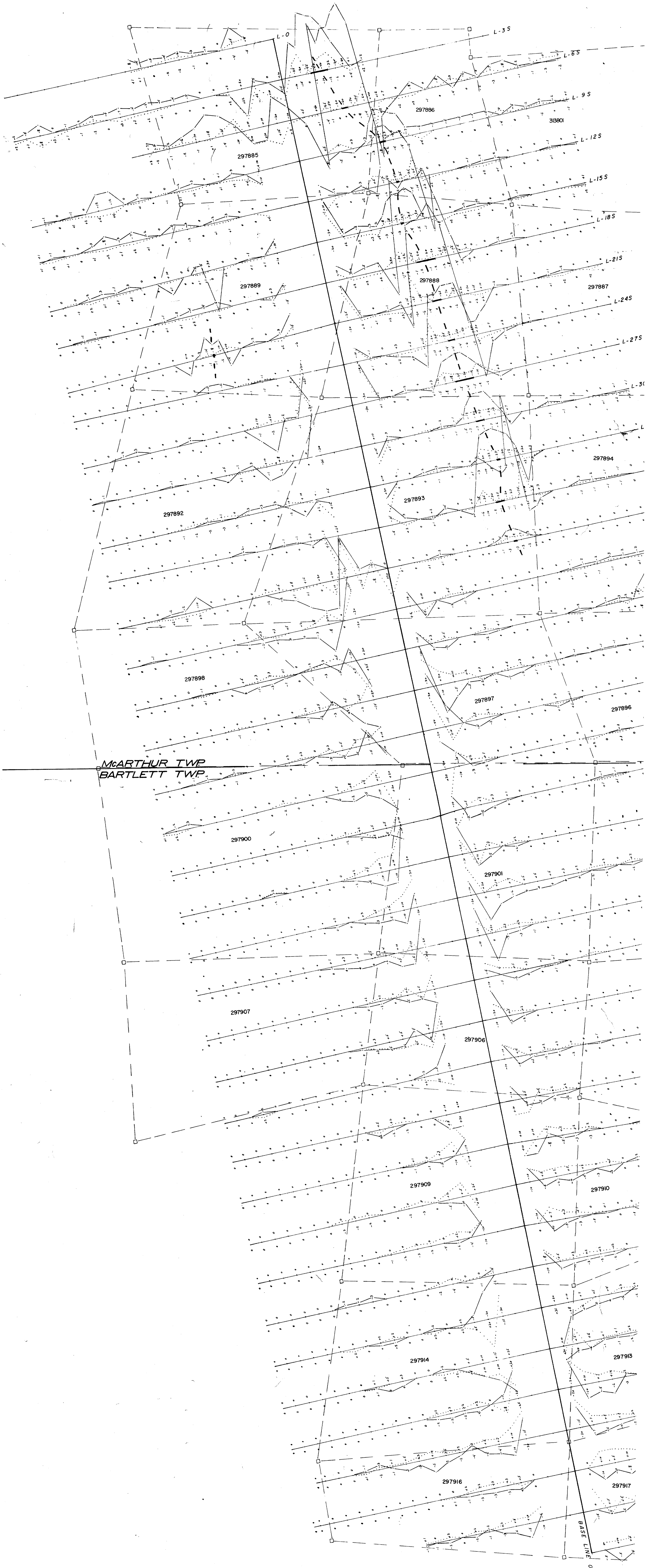
2.745

DATE OF ISSUE
FEB - 1972
ONT. DEPT. OF MINES
AND NORTHERN AFFAIRS

PLAN NO. - M-262

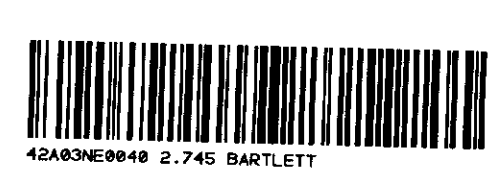
ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS

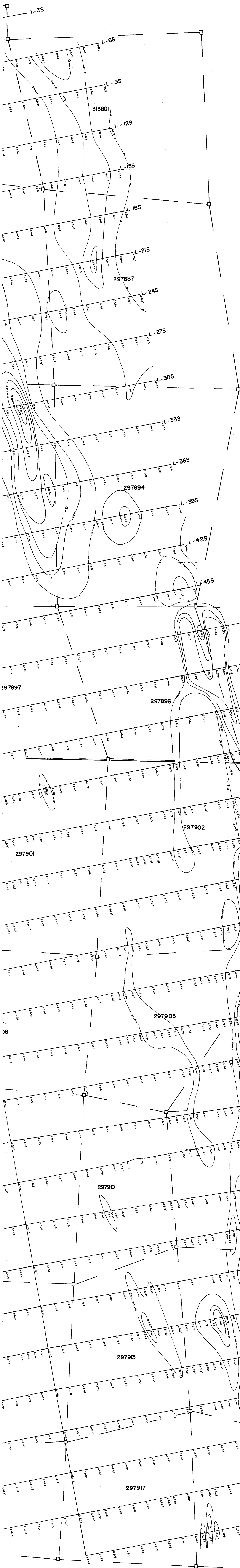




McARTHUR TWP
BARTLETT TWP

BASE LINE
0





MAGNETOMETER SURVEY

TEXAS GULF SULPHUR CO. LTD.

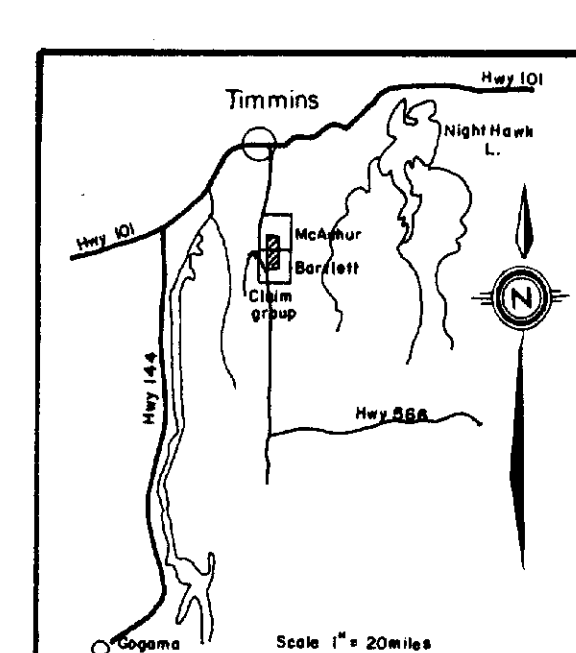
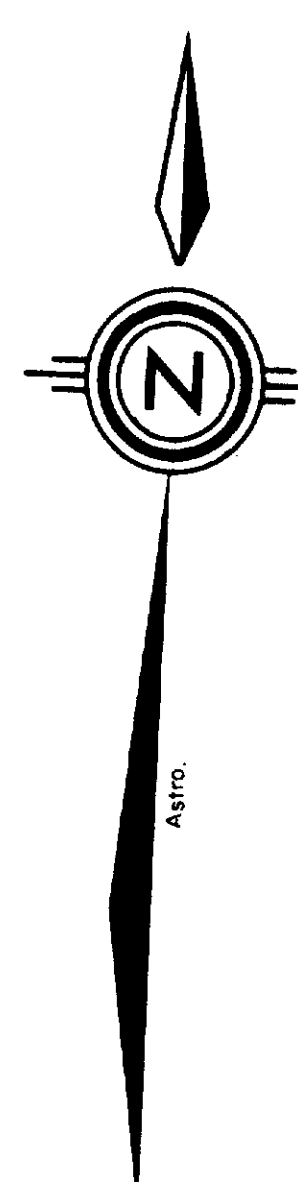
BARTLETT & McARTHUR TWP.

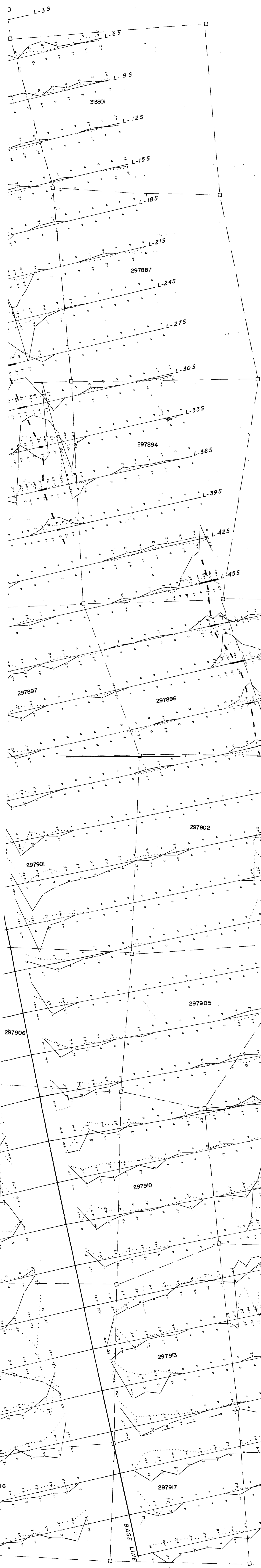
PORCUPINE MINING DIVISION

SCALE : 200 Feet = 1 Inch

LEGEND

*Askania Torsion Magnetometer
(Vertical field)
Zero level arbitrary*





ELECTROMAGNETIC SURVEY

TEXAS GULF SULPHUR CO. LIMITED

BARTLETT & McARTHUR TOWNSHIPS

PORCUPINE MINING DIVISION

SCALE : 200 Feet = 1 Inch

- LEGEND -

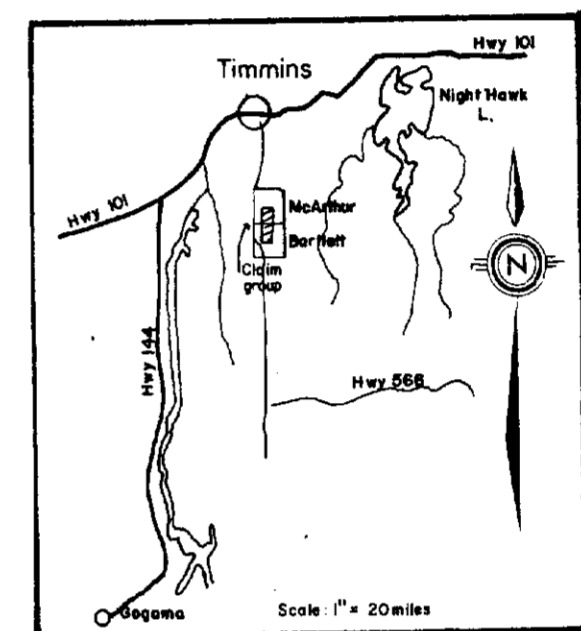
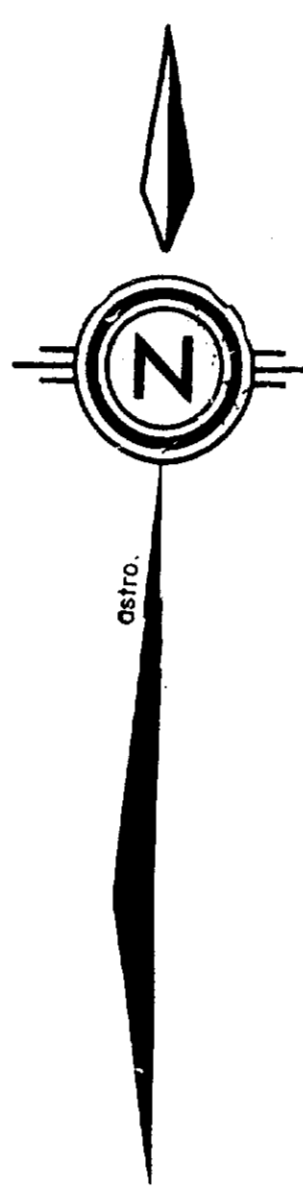
E.M.17 Horizontal Loop 300' Cable

in phase component

out of phase component

Profile Scale : 1" = 20 %

Operator : J. Leclair



J. A. Seaver
12/1/72