

Box 10

94M/3W

TEXASGULF CANADA LTD.
REPORT ON GEOPHYSICAL WORK
NORTH MAG ANOMALY
BOYA PROPERTY, B.C.

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D.J. Londry

February 1980

TEXASGULF CANADA LTD.
REPORT ON GEOPHYSICAL WORK
NORTH MAG ANOMALY
BOYA PROPERTY, B.C.

INTRODUCTION:

The following report covers reconnaissance and follow up geophysical work on the North Mag Anomaly, Boya Property B.C.

During the spring of 1975 a reconnaissance line was cut across the airborne magnetic anomaly, 5000 meters north of the 8120 North base line on the Boya Property. Magnetic, V.L.F., induced polarization (I.P.) and limited seismic work were carried out along this line.

An I.P. anomaly was outlined and in the fall three grid lines were cut in a north-south direction. The same three surveys were run on these lines.

A hole was drilled to test the I.P. anomaly, however, it was abandoned at 100 feet, still in overburden.

SURVEY DESCRIPTIONS:

The reconnaissance line was cut at about $N33^{\circ}E$ from 9500N to 11000N. These coordinates are not related to those on the rest of the property.

A Crone 250 Watt transmitter and a Crone N-10 receiver were used in the I.P. work along this line. Readings were taken with a dipole-dipole electrode configuration at "n" values of 1, 2, and 3. A dipole

distance of 40 meters was used.

The seismic work over the I.P. anomaly was carried out with a Nimbus Instruments ES-100 seismograph.

The grid lines were cut north-south from 12980 North to 13460 North. They were turned off a base line at 13220 North which is in the same coordinate system as the rest of the property. Station 13220 North on Line 7067 East coincides with station 10500N on the reconnaissance line.

The I.P. survey was carried out along these lines with an Elliot 4500 Watt transmitter and an Elliot R-10A receiver. The same electrode configuration and "a" spacing were used, however, readings were taken at "n" values of 1 to 4.

All the magnetic work was carried out with a Geometrics G816 proton precession magnetometer. This instrument measures the earth's total magnetic field to an accuracy of ± 1 gamma.

During the V.L.F. survey, dip angles were measured at each station with a Crone RADEM. Along the reconnaissance line, Seattle Washington was used as the transmitter station and on the grid lines, Cutler Maine was used.

RESULTS:

The results for each line have been presented in geophysical sections on maps 1 - 4 at a scale of 1:2000. The magnetic and V.L.F. data is also shown on maps 5 & 6, respectively, at the same scale. The north part of the reconnaissance line has been plotted on the V.L.F. map to show its relationship to the grid. Two seismic profiles along the reconnaissance line are plotted in Figures 2 and 3 at a scale of 1:500.

I.P. SURVEY:

The strong I.P. anomaly outlined on the reconnaissance line is located at 13200 North on Line 7067 East. The same anomaly is seen on Lines 6945 East and 7180 East striking almost east-west. On Line 6854 East it is much weaker and on Line 7180 East the anomaly suggests a flat lying source.

Figure 1 is a scatter diagram of chargeability and resistivity using data from both the spring and fall. The correlation coefficient is -0.64 , indicating an inverse relationship between the two. The data along the reconnaissance line and the grid lines are repeated in Figures 4 and 5. Different symbols are used to designate different values of N. As the depth increases, the chargeability increases while the resistivity decreases.

MAGNETIC RESULTS:

The airborne magnetic high is partially outlined to the north of the I.P. anomaly on the grid map (Map #5). It is about 60 to 70 gammas above background on Line 6954 East. On the reconnaissance line the anomaly is centered at 10700 North.

High readings in the southeast corner of the grid suggest a magnetic source just off the grid in that direction. This anomaly was also traversed on the reconnaissance line between 10200 North and 10300 North. It appears as though this high is related to the "B" trend in the airborne interpretation by John Slankis.

V.L.F RESULTS:

The V. L. F. profiles along the grid lines are quite flat except

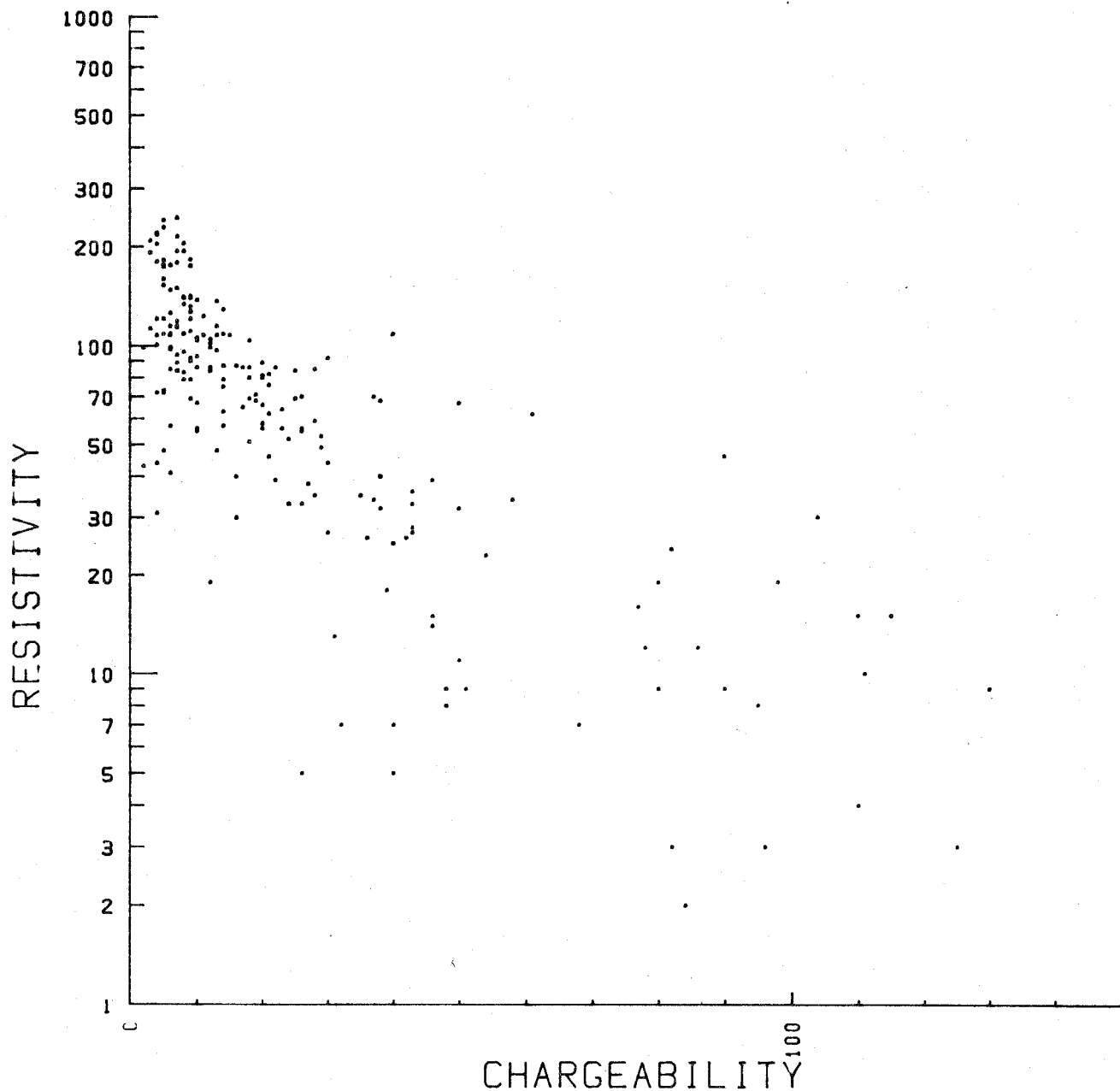


FIGURE 1 : I.P. DATA
NORTH MAG ANOMALY
BOYA PROPERTY, B.C.

TRANSMITTER: CRONE 250 WATT IP TRANSMITTER
 RECEIVER: CRONE N-10 I.P. RECEIVER
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES
 CORRELATION COEFFICIENT = -0.64

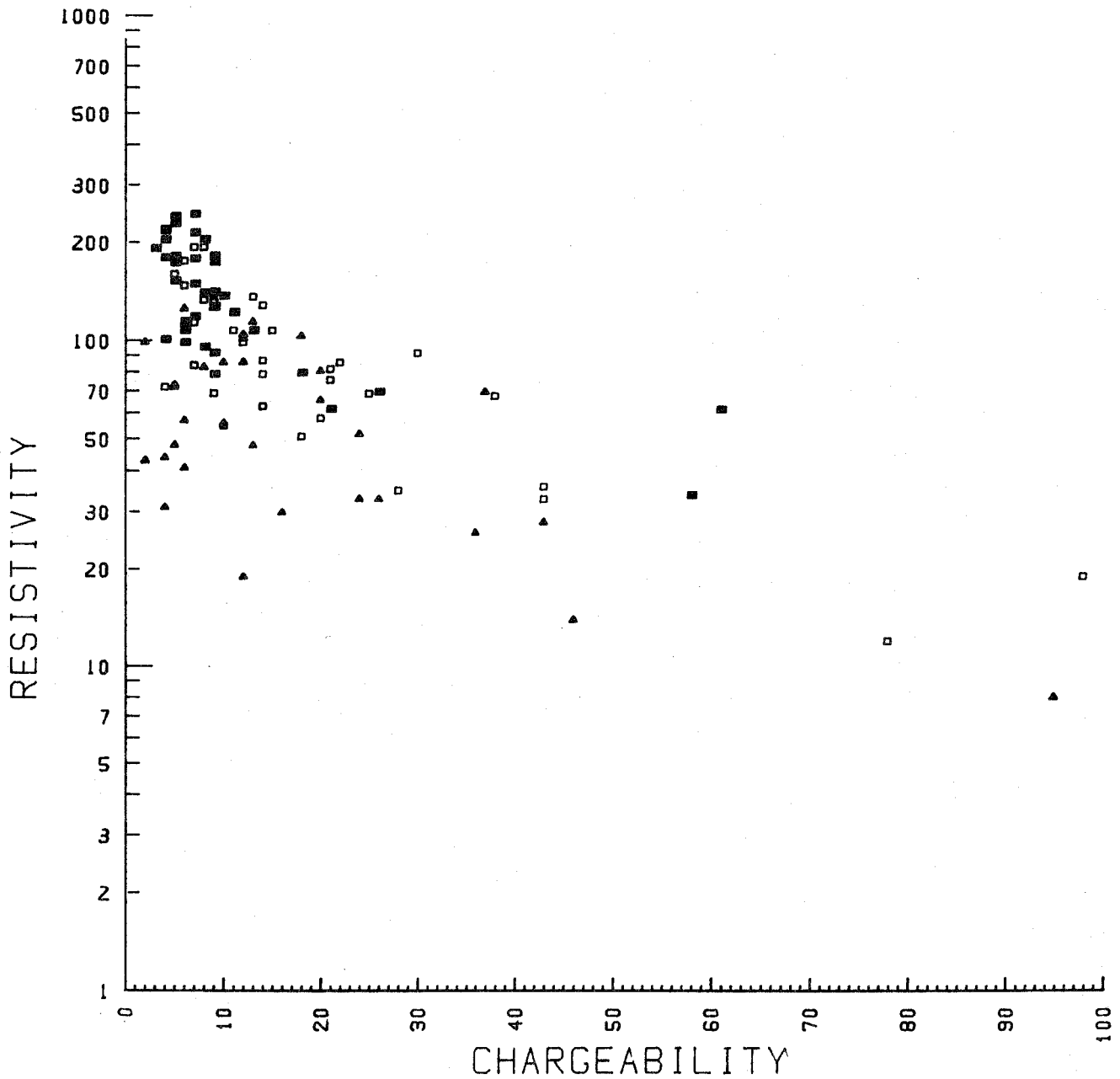


FIGURE 4 : I.P. DATA
RECONNAISSANCE LINE
NORTH MAG ANOMALY, BOYA PROPERTY, B.C.

TRANSMITTER: CRONE 250 WATT IP TRANSMITTER
 RECEIVER: CRONE N-10 I.P. RECEIVER
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES
 CORRELATION COEFFICIENT = -0.54

SYMBOLS: ■ N 1
 □ N 2
 ▲ N 3

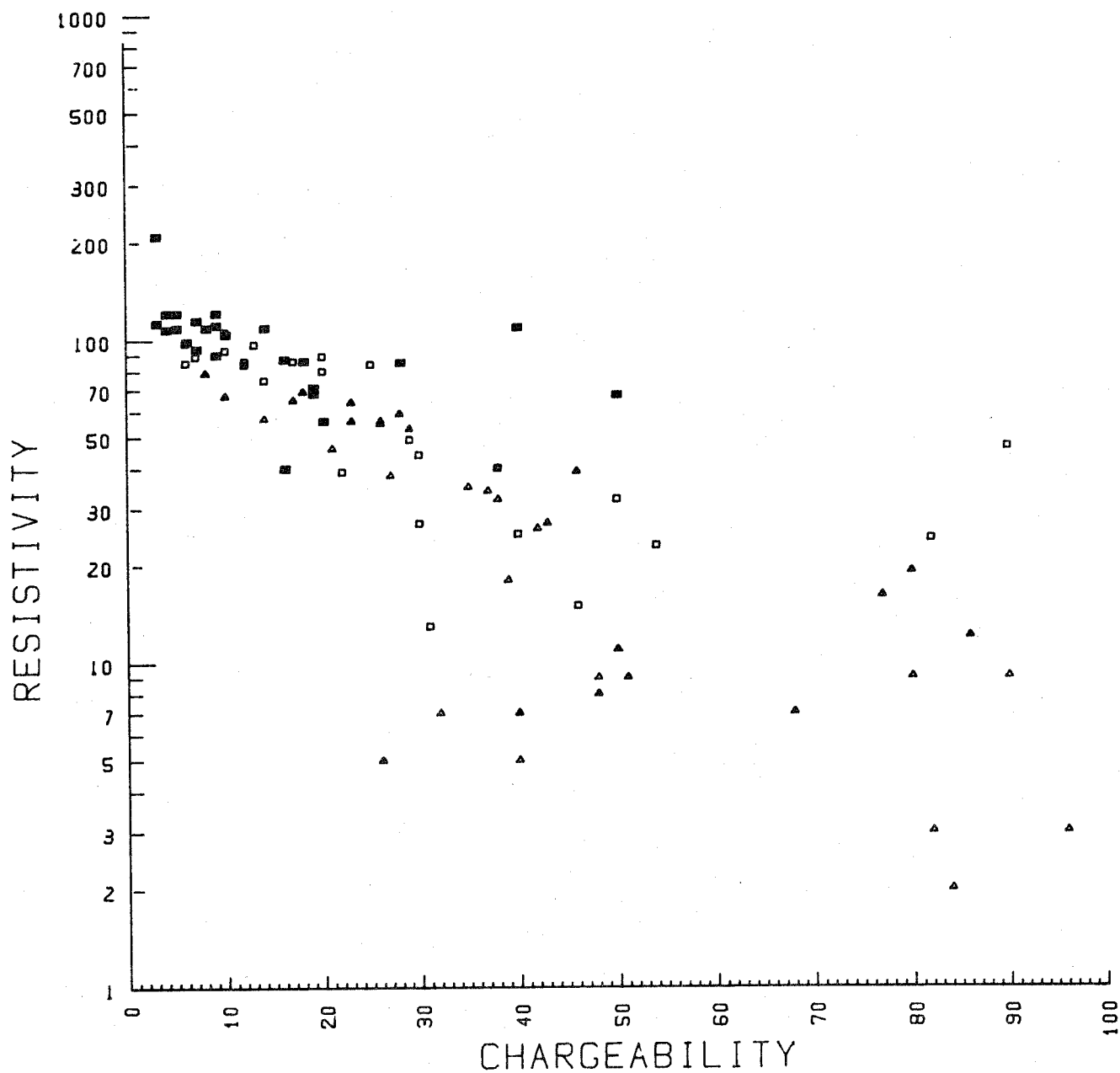


FIGURE 5 : I.P. DATA
GRID LINES
NORTH MAG ANOMALY, BOYA PROPERTY, B.C.

TRANSMITTER: ELLIOT 4.5 KILOWATT IP TRANSMITTER
 RECEIVER: ELLIOT R-10A I.P. RECEIVE
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES
 CORRELATION COEFFICIENT = -0.75

SYMBOLS: ■ N= 1
 □ N= 2
 ▲ N= 3
 △ N= 4

for two very weak trends. The overburden in this area is too deep for them to be caused by a bedrock source. To the south of the grid area, along the reconnaissance line, the V.L.F. profile reflects the topography of the land.

SEISMIC SURVEY:

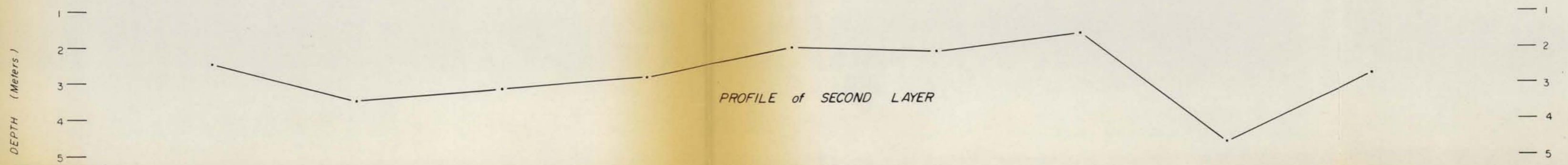
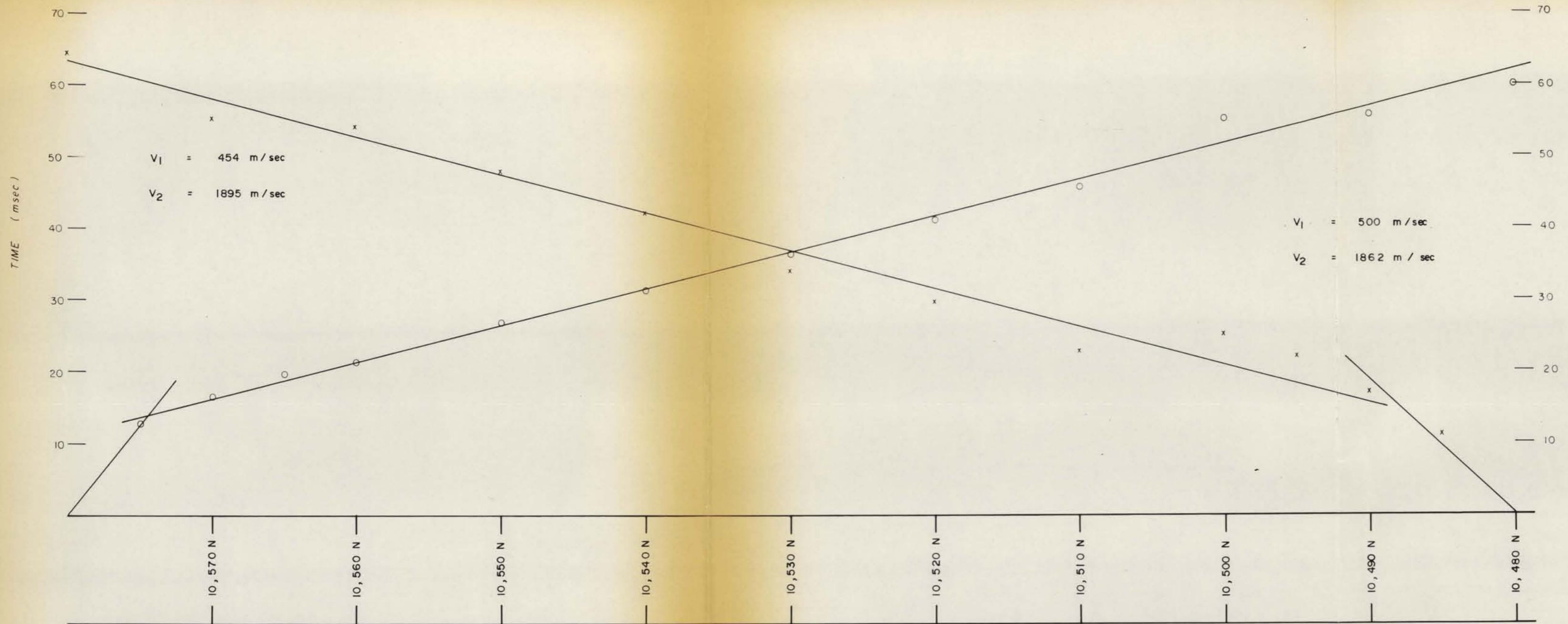
The seismic survey was carried out on the reconnaissance line over the I.P. anomaly. A second layer was detected about three meters below the surface. As the drilling indicated overburden depth in excess of 100 feet, this must represent a layering within the overburden.

COMMENTS:

The I.P. anomaly is located in an area of thick conductive overburden, as suggested by the drill hole and the I.P. survey using a wide electrode spacing.

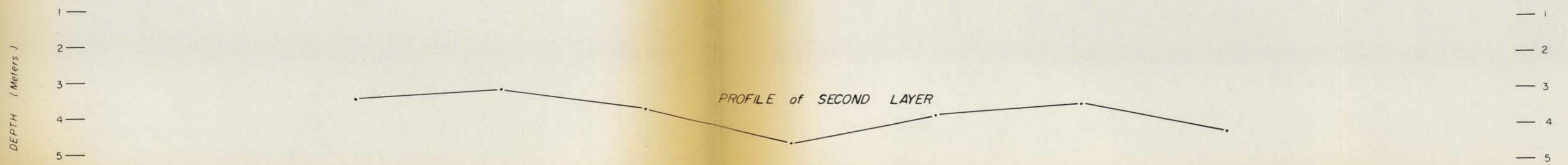
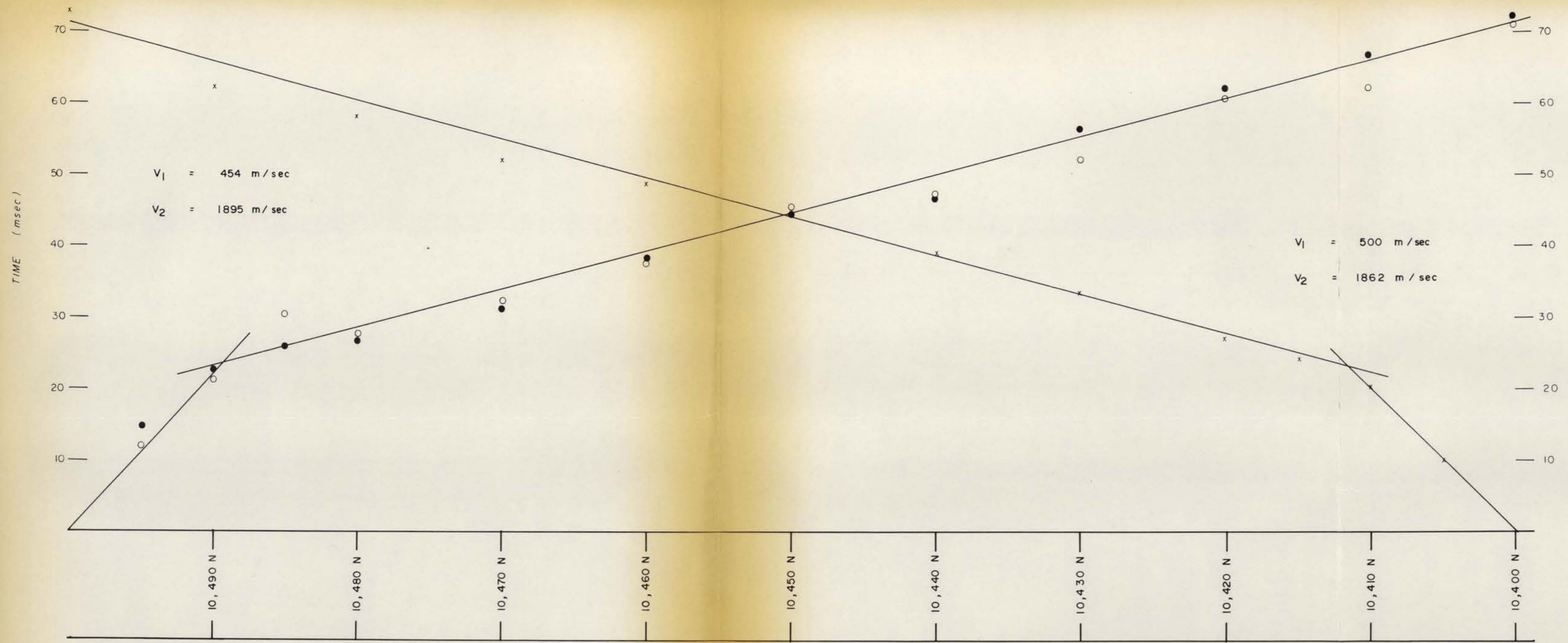
The true nature of the anomaly should be determined without a doubt so as to set a precedent for future work in areas of thick overburden on the property. I feel that more seismic work with a larger unit for greater penetration would be most practical for determining true overburden thicknesses.

Extending the grid in all directions would give a better picture of the two magnetic anomalies and their relationship to each other. Longer lines to the south would cover John Slankis' trend "B".



TEXASGULF Inc.	
Minerals Exploration Division	Timmins, ONTARIO
BOYA PROPERTY	
SEISMIC SURVEY	
RECONNAISSANCE LINE	
NORTH MAG ANOMALY	
SCALE	1 : 500
Data by : DEL	Project No : 62

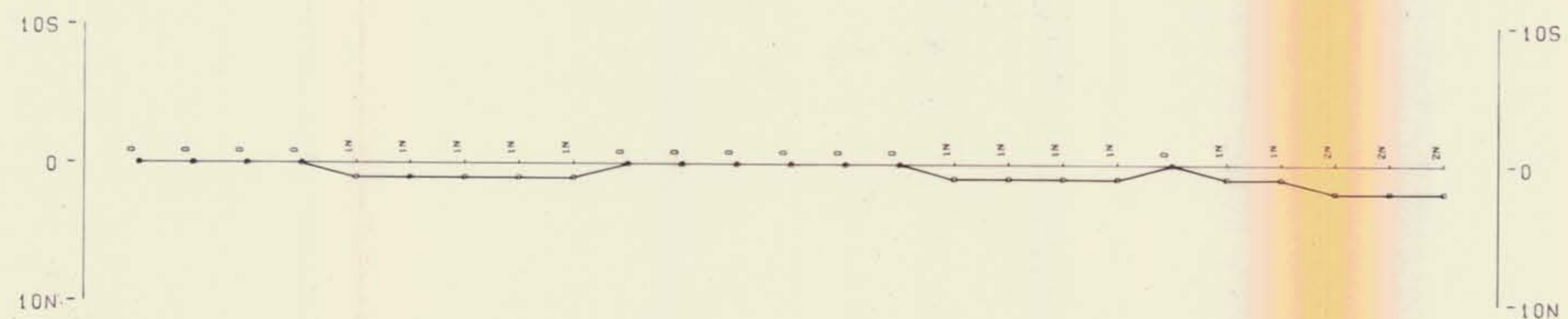
FIGURE 3



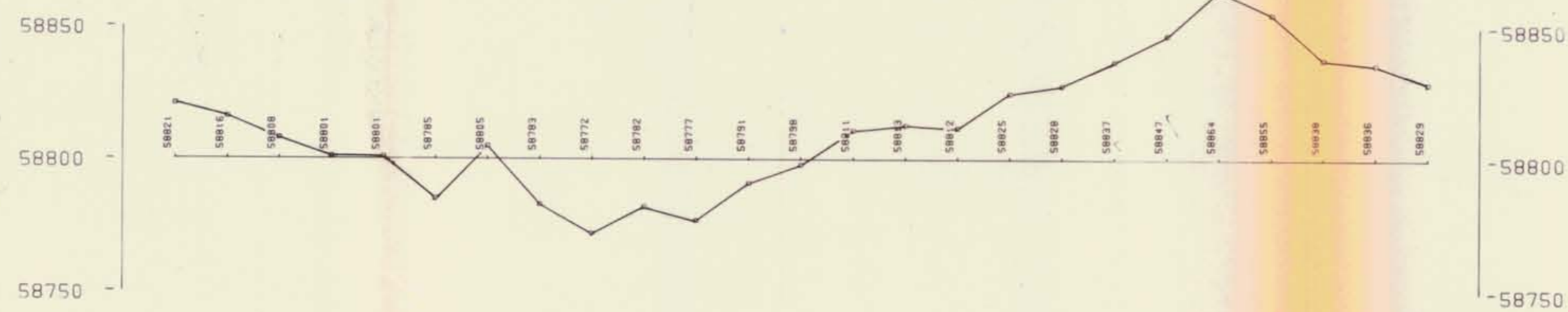
TEXASGULF Inc.	
Minerals Exploration Division	Timmins, ONTARIO
BOYA PROPERTY	
SEISMIC SURVEY	
RECONNAISSANCE LINE	
NORTH MAG ANOMALY	
SCALE	1 : 500
Drawn by	DEL
Data by	DL
Project No	62

FIGURE 2

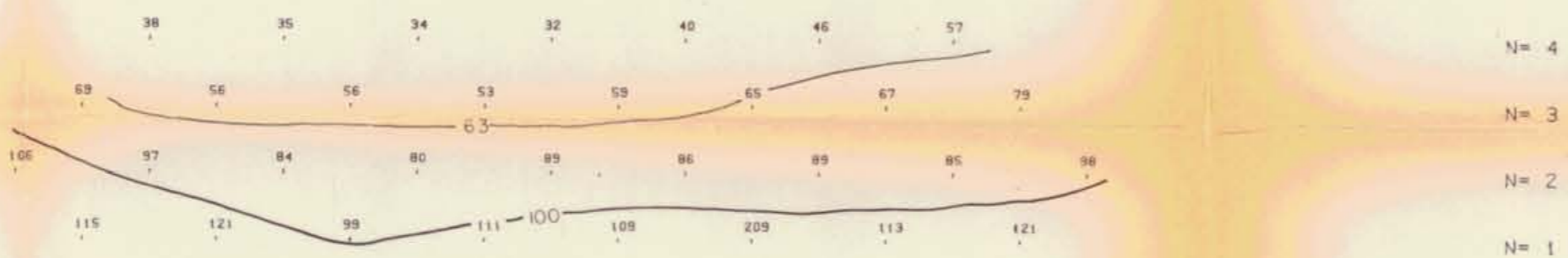
VLF
 INSTRUMENT: CRONE RADEM
 STATION: CUTLER, 17.8 KHZ
 READINGS: DIP ANGLE



MAGNETIC
 INSTRUMENT: GEOMETRICS G816
 TYPE: PROTON PRECESSION, TOTAL FIELD
 READINGS IN GAMMAS



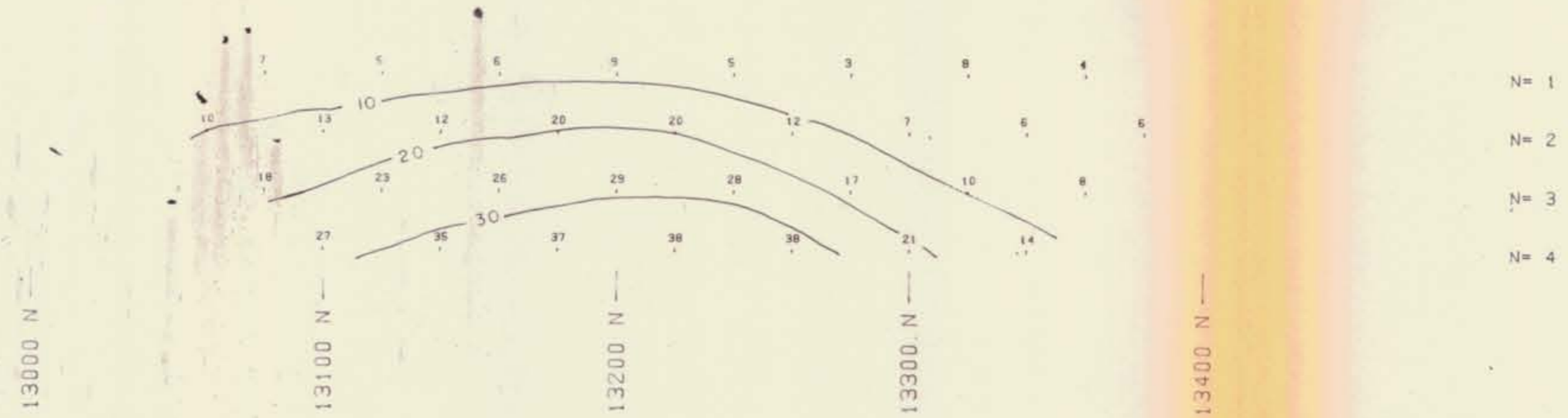
RESISTIVITY



IP

TRANSMITTER: ELLIOT 4.5 KILOWATT TRANSMITTER
 RECEIVER: ELLIOT R-10A I.P. RECEIVER
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES

CHARGEABILITY



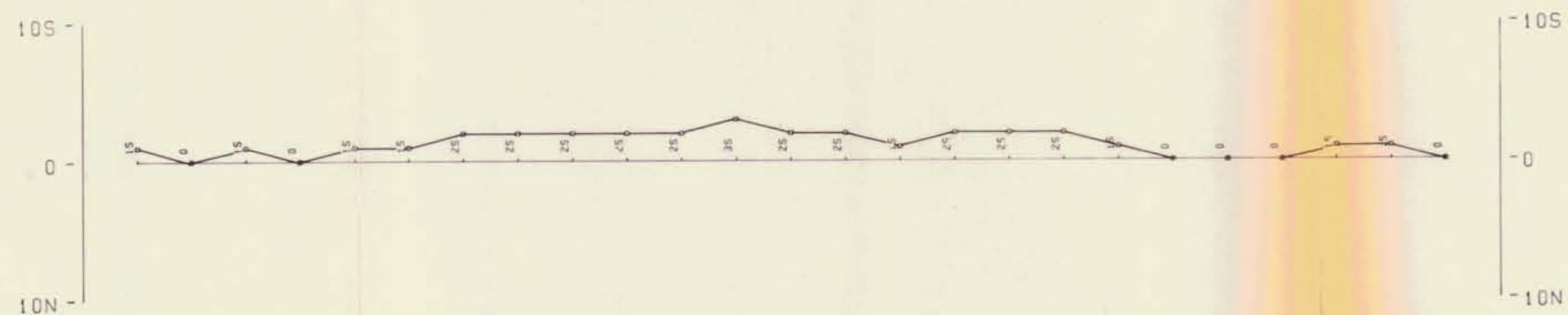
KEY MAP



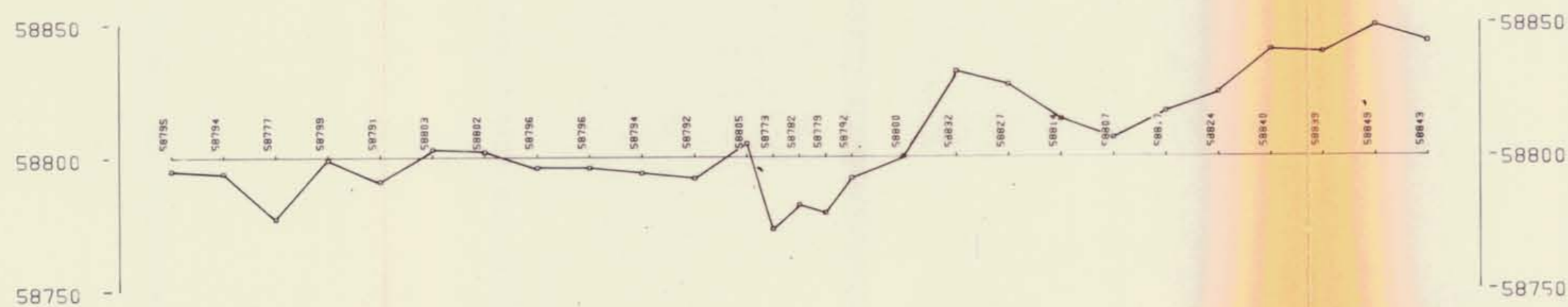
TEXASGULF CANADA LTD.
 GEOPHYSICAL SECTIONS
 BOYA
 NORTH MAG ANOMALY
 LINE 6954 EAST

WORK BY _____ DATE
 1979

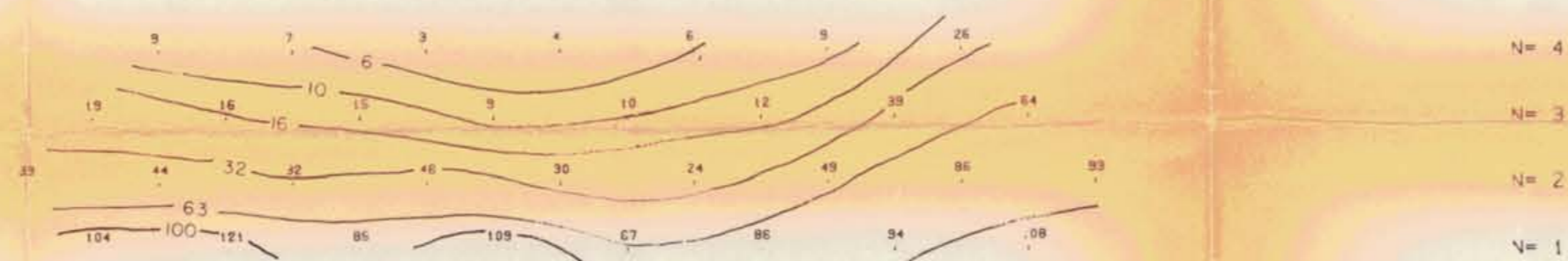
VLF
 INSTRUMENT: CRONE RADEM
 STATION: CUTLER, 17.8 KHz
 READINGS: DIP ANGLE



MAGNETIC
 INSTRUMENT: GEOMETRICS GB16
 TYPE: PROTON PRECESSION, TOTAL FIELD
 READINGS IN GAMMAS



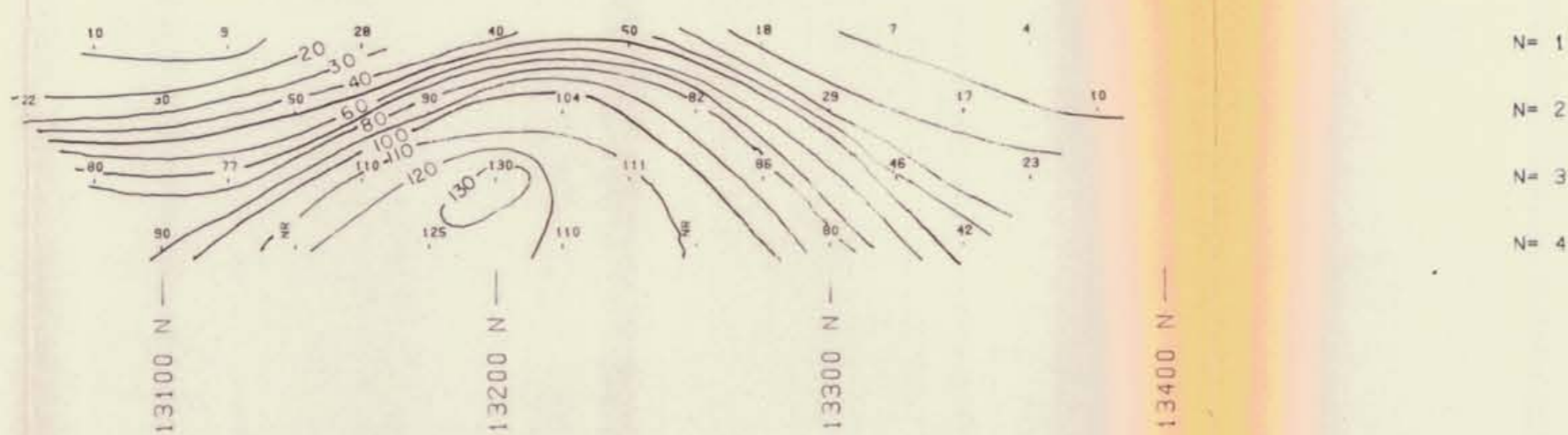
RESISTIVITY



IP

TRANSMITTER: ELLIOT 4.5 KILOWATT TRANSMITTER
 RECEIVER: ELLIOT R-10A I.P. RECEIVER
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES

CHARGEABILITY



KEY MAP

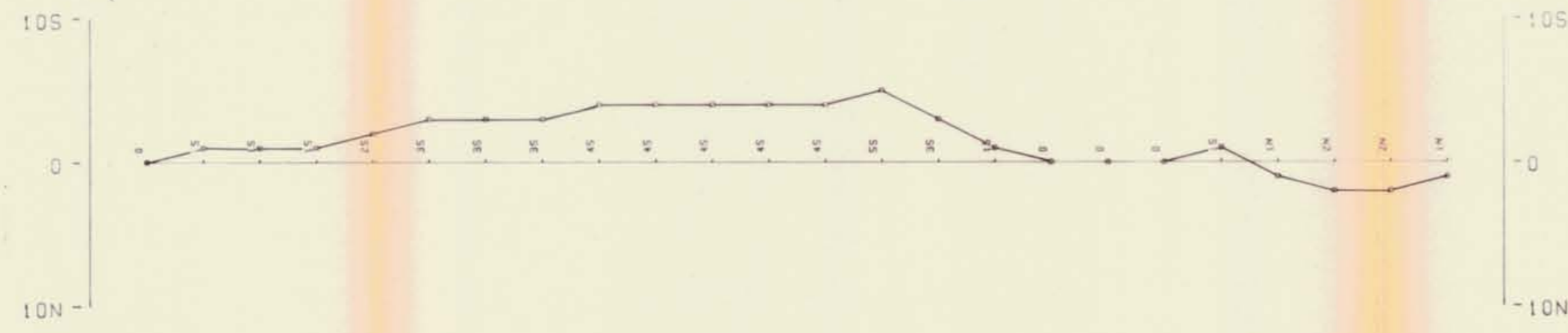


0 40 80 120 160 200
 METRES (1:2000)

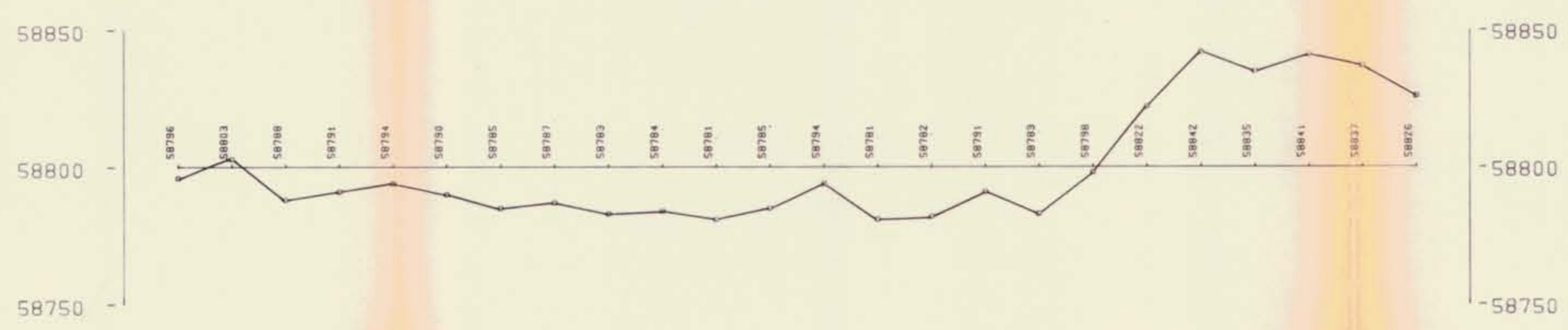
TEXASGULF CANADA LTD.
 GEOPHYSICAL SECTIONS
 BOYA
 NORTH MAG ANOMALY
 LINE 7067 EAST

WORK BY	DATE
	1979

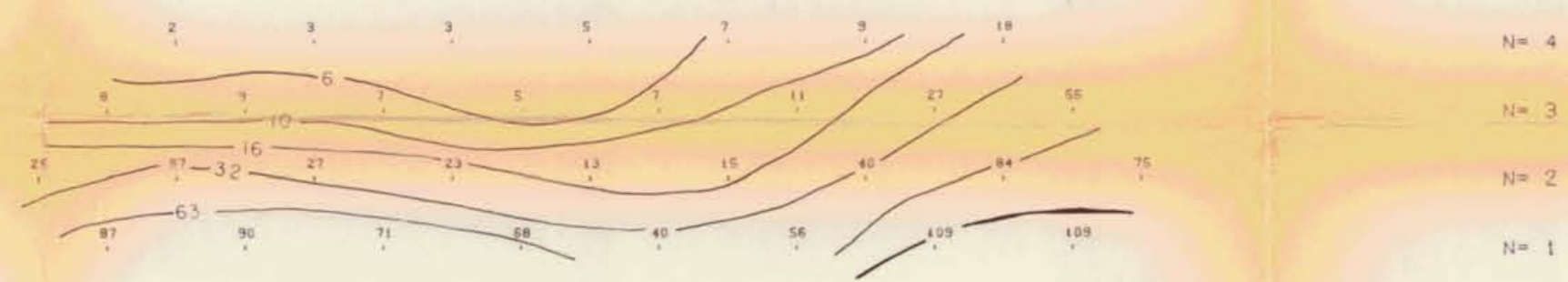
VLF
 INSTRUMENT: CRONE RADAR
 STATION: CUTLER, 17.8 KHZ
 READINGS: DIP ANGLE



MAGNETIC
 INSTRUMENT: GEOMETRICS G816
 TYPE: PROTON PRESSION, TOTAL FIELD
 READINGS IN GAMMAS



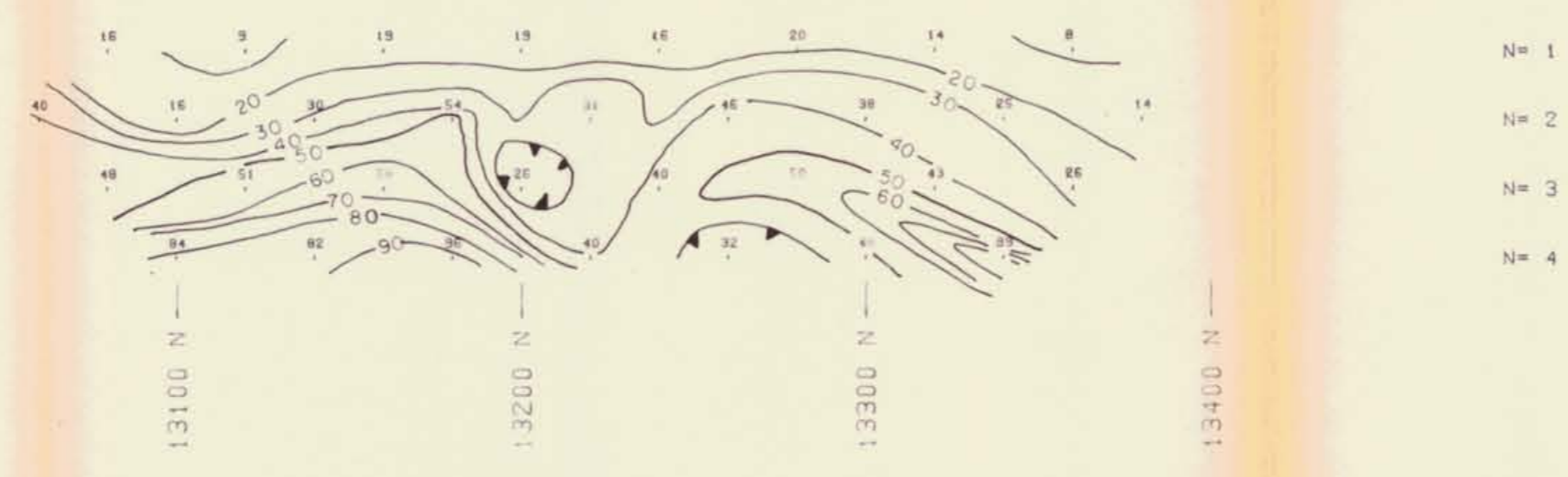
RESISTIVITY



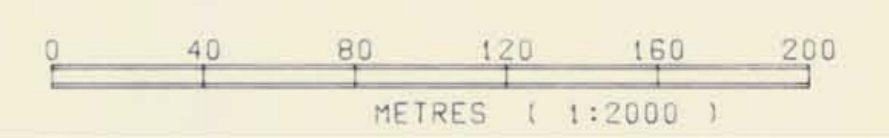
IP

TRANSMITTER: ELLIOT 4.5 KILOWATT TRANSMITTER
 RECEIVER: ELLIOT R-10A I.P. RECEIVER
 ELECTRODE CONFIGURATION: DIPOLE-DIPOLE
 A = 40 METRES

CHARGEABILITY

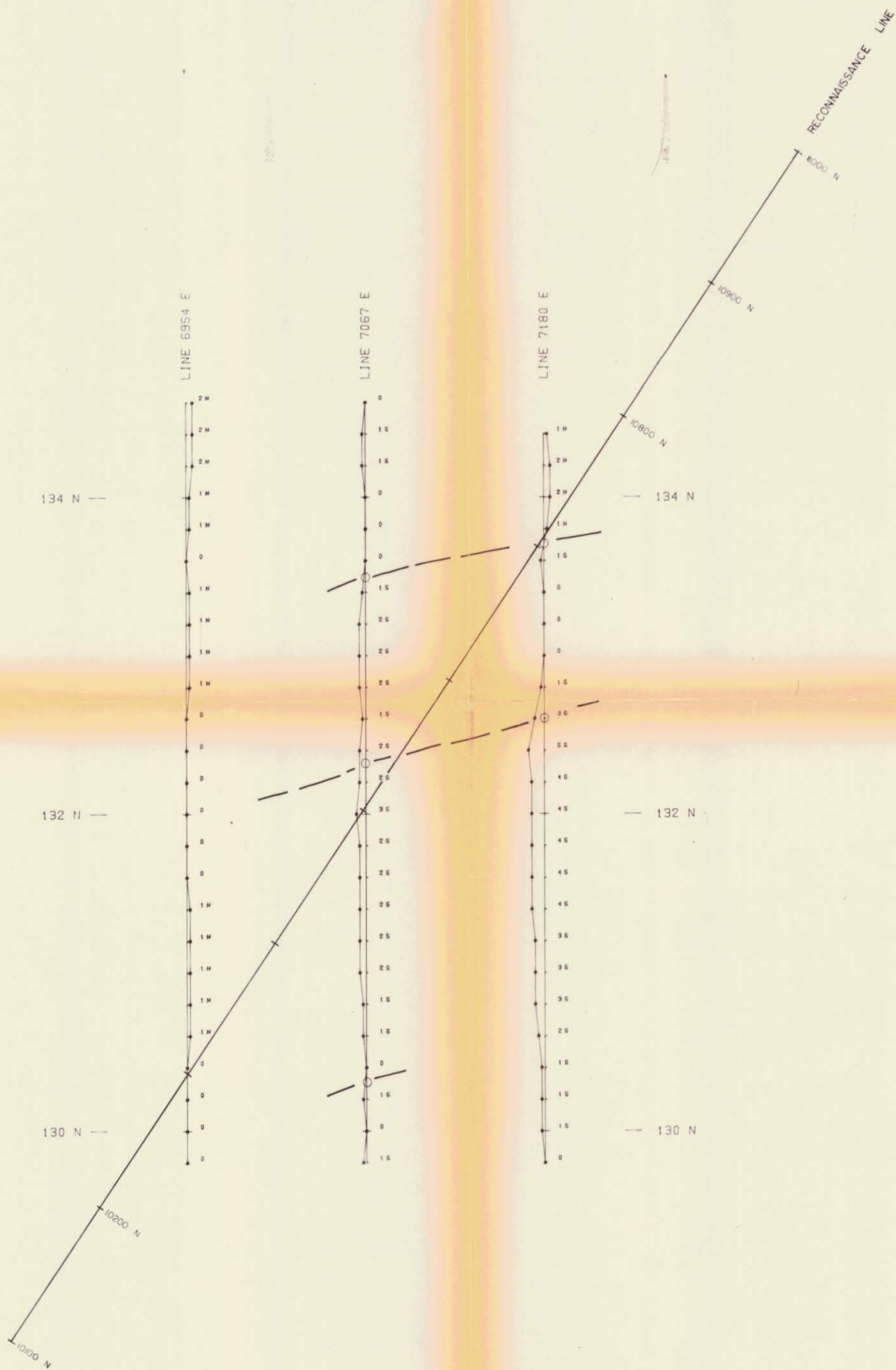


KEY MAP

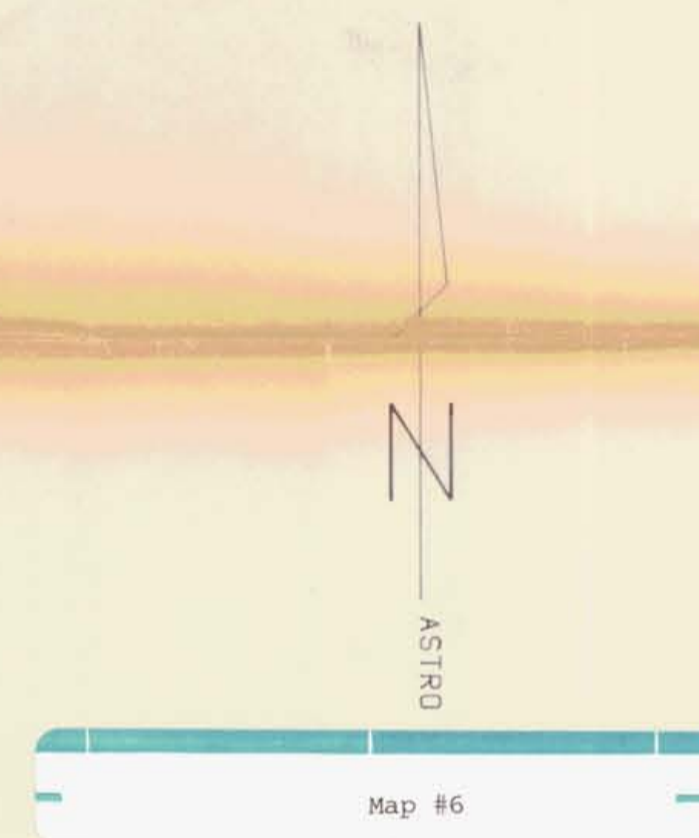


TEXASGULF CANADA LTD.
 GEOPHYSICAL SECTIONS
 BOYA
 NORTH MAG ANOMALY
 LINE 7180 EAST

WORK BY	DATE
	1979



KEY MAP



LEGEND

DIP ANGLE (DEGREES)

12 N

INSTRUMENT : CRONE RADEM
 STATION : CUTLER, 17.8 KHz
 PROFILE SCALE : DIP ANGLE 1 CM = 10°

← S DIPS N DIPS →



TEXASGULF CANADA LTD.

V L F SURVEY

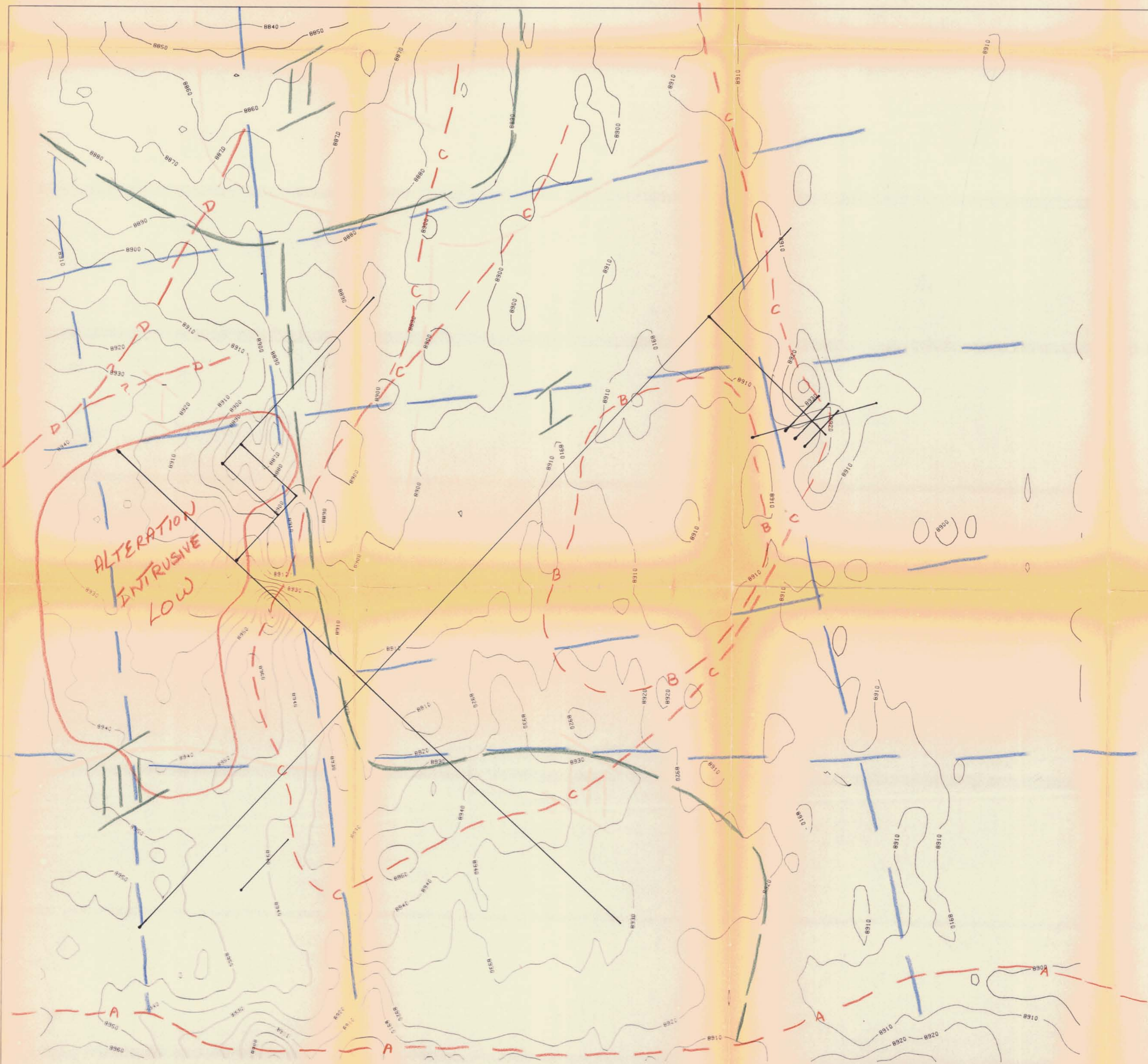
BOYA

NORTH MAG ANOMALY

WORK BY

DATE

1979



KEY MAP



0 400 800 1200 1600 2000
METRES (1:20000)

TEXASGULF INC.
AEROMAGNETIC SURVEY
BOYA CLAIMS
ALL HARMONICS

WORK BY	DATE
	1979