

4183

GEOPHYSICAL REPORT

of the

ELECTROMAGNETIC AND MAGNETIC SURVEYS

on some

IDA CLAIMS, NADINA LAKE AREA

93E/14E

OMENECA M.C.

N.T.S. 93E/15

Longitude 127°12'W

Latitude 53°47'N

owned by

JOREX LTD.

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4183 MAP.....</p>
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<u>CLAIM NAME</u>	<u>RECORD NUMBER</u>	<u>EXPIRY DATE</u>
IDA #12	116523	September 27, 1972
#31	116402	September 20, 1972
#32	116403	September 20, 1972
#33	116404	September 20, 1972
#34	116405	September 20, 1972

G. C. GUTRATH, P.ENG., GEOLOGIST
P. P. NIELSEN, B.Sc., GEOPHYSICIST
ATLED EXPLORATION MANAGEMENT LTD.
Vancouver, B. C.

January, 1973

4183

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INTRODUCTION

On September 26, 1972 a horizontal "shootback" electromagnetic survey and a magnetometer survey were carried out by the author on a small grid over some Ida claims owned by Jorex Ltd.

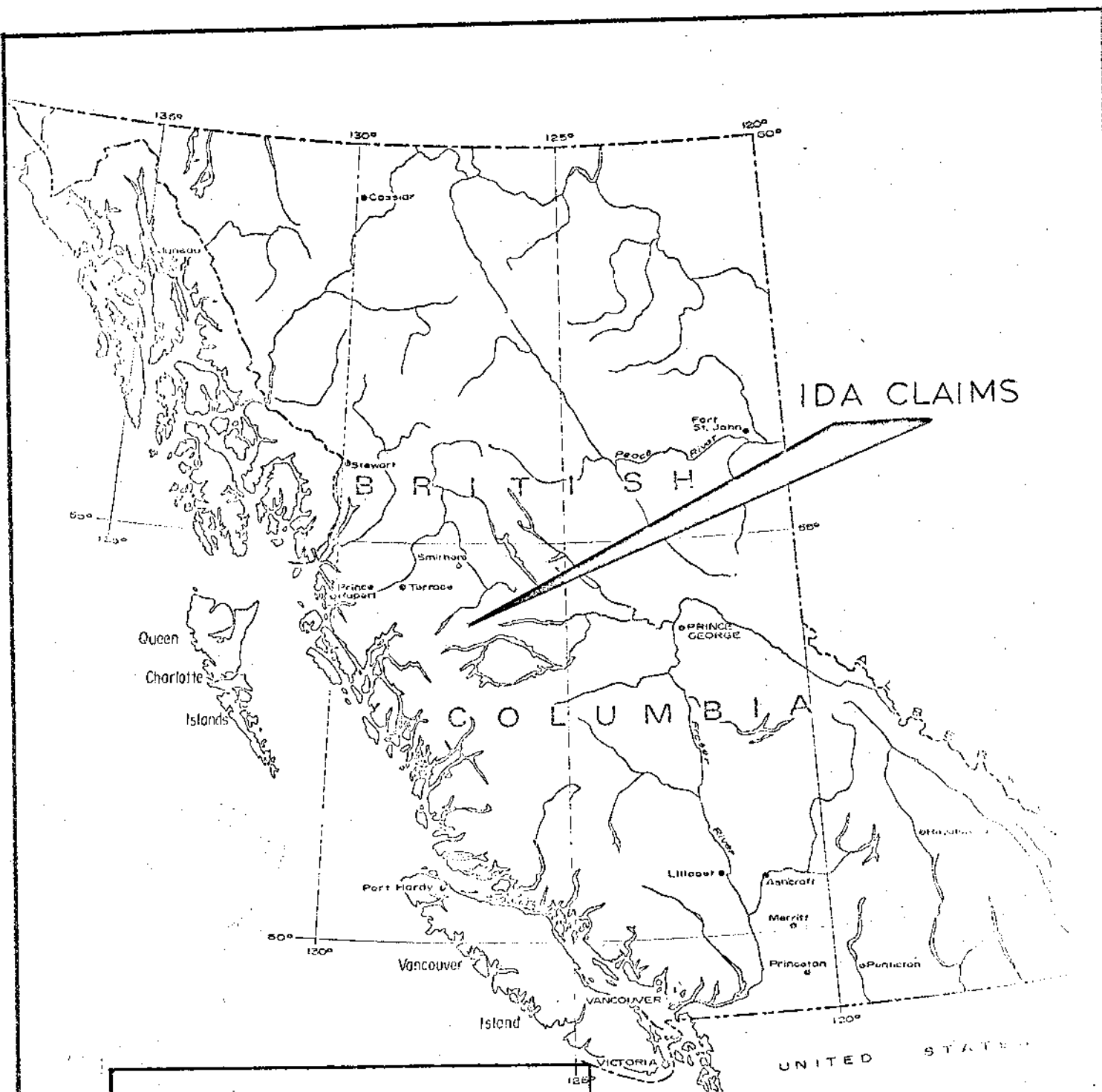
The purpose of the survey was to test for possible lead, zinc, copper, silver bearing veins, shoots or lenses similar to those being mined by the Bradina Joint Venture at Owen Lake or presently being developed by Kennco at Sam Goosly Lake to the northeast.

A total of 4,600 line feet of E.M. and 4,900 line feet of Magnetics were run over 5 lines spaced 400 feet apart.

LOCATION AND ACCESS

The property is located about 1/2 mile north of the northwest shore of Nadina Lake which is situated on the Houston-Tahtsa Lake road 46 miles SSW of Houston, B. C.

Access is via gravelled road from Houston southerly to the Nadina Lake Resort where a boat takes one across the lake. A short walk up a gentle slope following a small creek takes about 15 minutes.



Department of
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 NO. **4183** MAP **#4**

JOREX LTD.
 LOCATION MAP

PREVIOUS WORK

A well located grid had been installed previous to the geophysical investigations using pickets at 100 foot stations along blazed lines. A baseline was cut south easterly from station 0+00 to 16+00 and 5 lines were cut at right-angles to the baseline every 400 feet.

Other work has consisted of geology, prospecting and silt sampling.

THE MAGNETOMETER SURVEY

The magnetometer survey was executed using a Sharpe MF-1 vertical-force fluxgate instrument with readings being taken at 100 foot intervals. Lines were looped and tied into the previously read baseline.

The corrected results were plotted in profile form along with the E.M. results and also in contour form at a scale of 1" = 200 feet. Contour interval was 100 gammas.

ELECTRO-MAGNETIC SURVEY

A Crone C.E.M. instrument incorporating frequencies of 390 and 1,830 Hz. was used in the Horizontal Shootback mode. The

unit consists of two identical coils containing battery-powered transceivers capable of depth investigations up to 500 feet.

Two operators standing a fixed distance apart move in unison along the survey line each operator receiving and transmitting in turn. The two dip-angles are noted and added together. The resultant dip-angle equals "0" if no conductors are present. The station measured is the mid-point between the operators.

Because of the nature of the "shootback" instrument, all but extreme topographic effects are eliminated.

The data was plotted in profile and contour form. Positive resultant dip-angles are plotted above the profile line and negative angles below.

A study of profile widths, amplitudes, polarities, and frequency ratios at various frequencies and coil spacings assist in determining such conductor parameters as width, dip, depth and conductivity.

The contour E.M. map is an auxiliary guide to interpretation of the line-to-line correlation of the profile results.

RESULTS AND INTERPRETATION

(a) Magnetic and E.M. Profiles

(i) Line 0+00

Only one E.M. coil spacing and frequency was used on this line which makes interpretation somewhat difficult.

Resultant dip-angles greater than ± 4 degrees outline zones of interest although curve shape must also be studied.

The E.M. response on this line is either due to a narrow, near-vertical conductor at station 7+00NE at a depth greater than 150 feet or it is caused by a wider conductive zone between station 4+50NE and station 8+00NE where the southwest portion coincident with the creek is more conductive.

Further detail using other frequencies and coil spacings would remove this ambiguity.

The magnetic profile illustrates a dipolar response incomplete on the northeast side suggesting a contact or fault at station 6+00NE.

(ii) Line 4+00SE

The bimodal negative E.M. profile strongly indicates a moderate conductor between 100 and 150 feet wide at a depth of approximately 80 to 100 feet centered at station 5+50NE just NE of the creek.

A subtle local magnetic high within a larger scale gradient is coincident with this conductor.

(iii) Line 8+00SE

The E.M. on this line appears to reflect a broad conductive zone from station 6+00NE to station 3+00NE and possibly further to the southwest.

A narrow, near vertical, fair conductor is present at station 4+50NE. Depth to top is estimated to be 80 feet.

A small magnetic peak correlates well with the conductor at station 4+50NE. It again occurs on a larger magnetic gradient increasing to the northeast.

(iv) Line 12+00

A shortage of available time permitted that detail E.M. could only be carried out on one line. This line was chosen because it displayed the highest amplitude negative dip-angles as a result of the reconnaissance coil spacing (300 feet) used.

The 300 feet coil spaced traverse suggests a deep broad conductive zone from station 3+00NE to 8+50NE containing two narrow, more-highly conductive regions centered at station 4+50NE and station 7+50NE. A comparison between the 390 Hz. and 1,830 HZ

plots at this coil spacing is most perplexing, however. No explanation for this inverse correlation is given.

The two frequency plots for the traverse using a 200 foot coil spacing are quite straight forward. The positive and negative going profiles indicate a narrow, good conductor dipping about 45° NE from station 6+00NE which is coincident with the negative peak of 12° resultant dip angle for the 300 foot coil separation, 1830 Hz. traverse.

This conductor is also situated at about the inflection point of a dipolar magnetic feature similar to those observed on the lines mentioned above. The highest magnetic reading observed occurs at station 0+00 on this line. Further magnetic coverage to the southwest would be needed to delineate this feature.

(v) Line 16+00SE

Again a broad conductive zone is evidenced with the likelihood of a narrow steeply dipping conductor centered at station 6+50NE. There is a twin-peaked magnetic high greater than 400 gammas coincident with this conductive zone. The NE peak correlates well with the trough of the negative bi-modal E.M. response.

(b) Magnetic Contour Map

The relative magnetic values vary from a low of 220 gammas at line 16+00SE; station 9+00NE to a high of 1950 gammas at line 12+00SE; station 0+00 resulting in a total magnetic relief over the grid of 1730 gammas.

Generally the contours are elongated sub-parallel to the creek and baseline.

The 600 gamma contour could outline a distinct rock type although a contact and/or fault is interpreted and illustrated running the length of the grid roughly along the 500 gamma contour.

The observation that only one contour is enclosed indicates that the magnetic coverage should be extended to provide a meaningful interpretation.

However, the magnetometer survey appears to indicate the presence of a fault and/or contact roughly coincident with the E.M. conductors through the center of the grid.

(c) E.M. Contour Map

As mentioned above, this map is an auxiliary interpretative aid to the profiles and is primarily used to plot conductor axis from line to line or to outline flat-lying lenses.

The shaded areas indicate possible conductive zones while the heavy dashed lines represent narrower, near-vertical conductor axes.

The conductive zone generally lies between 450 and 550 gammas magnetically and appears to be related to the interpreted fault and/or contact which is also conformable to a creek depression.

The conductor axes may not continue from line to line as shown. Intermediate lines spaced 200 feet and possibly 100 feet apart would be required to substantiate these interpolations.

The nature of the conductive zone could change in the vicinity of Line 12+00SE and it is conceivable that line 16+00SE might prove more interesting after detail coverage. There appears to be widening of the zone to the southeast.

CONCLUSIONS

A narrow, near-vertical moderate conductor has been partially delineated trending across the grid on a north-westerly strike. It appears to be related to a fault and/or contact containing little or no magnetic material.

The broader conductive zone is open to the northwest but appears to be widening to the southeast. It is presently thought that this zone is due to disseminated sulphides or conductive clays in an overburden-filled creek depression or other clayey minerals along a shear or fault zone.

Geochemical soil results were not available to the writer but could shed more light on these suggestions.

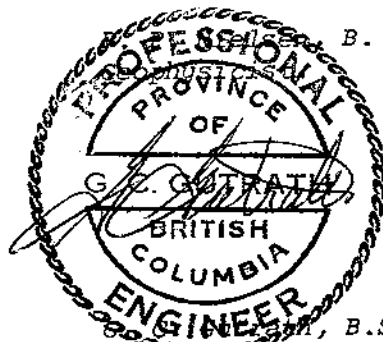
RECOMMENDATIONS

Should the geochemical results be positive the grid area should be further detailed and extended using lines spaced 200 feet apart, with E.M. coil spacings of 100 and 200 feet at both 390 and 1830 Hz.

A modest drill program capable of drilling to a minimum of 200 feet at angles up to -45° might then be warranted.

Respectfully submitted,

P. Nielsen



B. Sc.,

G. G. Strain, B.Sc., P. Eng.,
Geologist

PERSONNEL

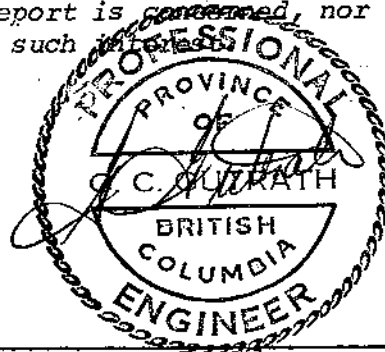
Electromagnetic and Magnetic Surveys

P. P. Nielsen - Geophysicist - Operator
G. C. Gutrath - Consulting Engineer

ENGINEER'S CERTIFICATE

I, GORDON C. GUTRATH, of 3636 Lakedale Avenue, in the Municipality of Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:-

1. That I am a consulting geologist with a business address of 420 - 475 Howe Street, Vancouver 1, British Columbia.
2. That I am a graduate of the University of British Columbia where I obtained my B. Sc. in geological science in 1960.
3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers in the Province of British Columbia.
4. That I have practised my profession as a geologist for the past ten years, and
5. That I have no interest, direct or indirect, in the property with which this report is concerned, nor do I expect to receive any such interest.



Gordon C. Gutrath, B.Sc., P.Eng.

DATED at the City of Vancouver, Province of British Columbia,
this 10 day of Jan. , 1972.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.

In the Matter of

THE COSTS INCURRED EXECUTING
GEOPHYSICAL SURVEYS ON THE IDA
CLAIM GROUP OWNED BY JOREX LTD.

To Wit:

I, Philip P. Nielsen

of 785 Premier Street, North Vancouver, B. C.

in the Province of British Columbia, do solemnly declare that the following work has been carried out and that these costs apply to this work:

1. (a) Electromagnetic Survey: .87 miles.....	\$ 250.00
(b) Magnetic Survey: .93 miles.....	100.00
2. Transportation and disbursements.....	146.92
3. Supervision and report.....	175.00
	<u> </u>
TOTAL COSTS	\$ 671.92
	<u> </u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

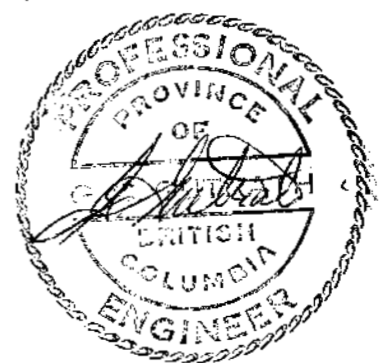
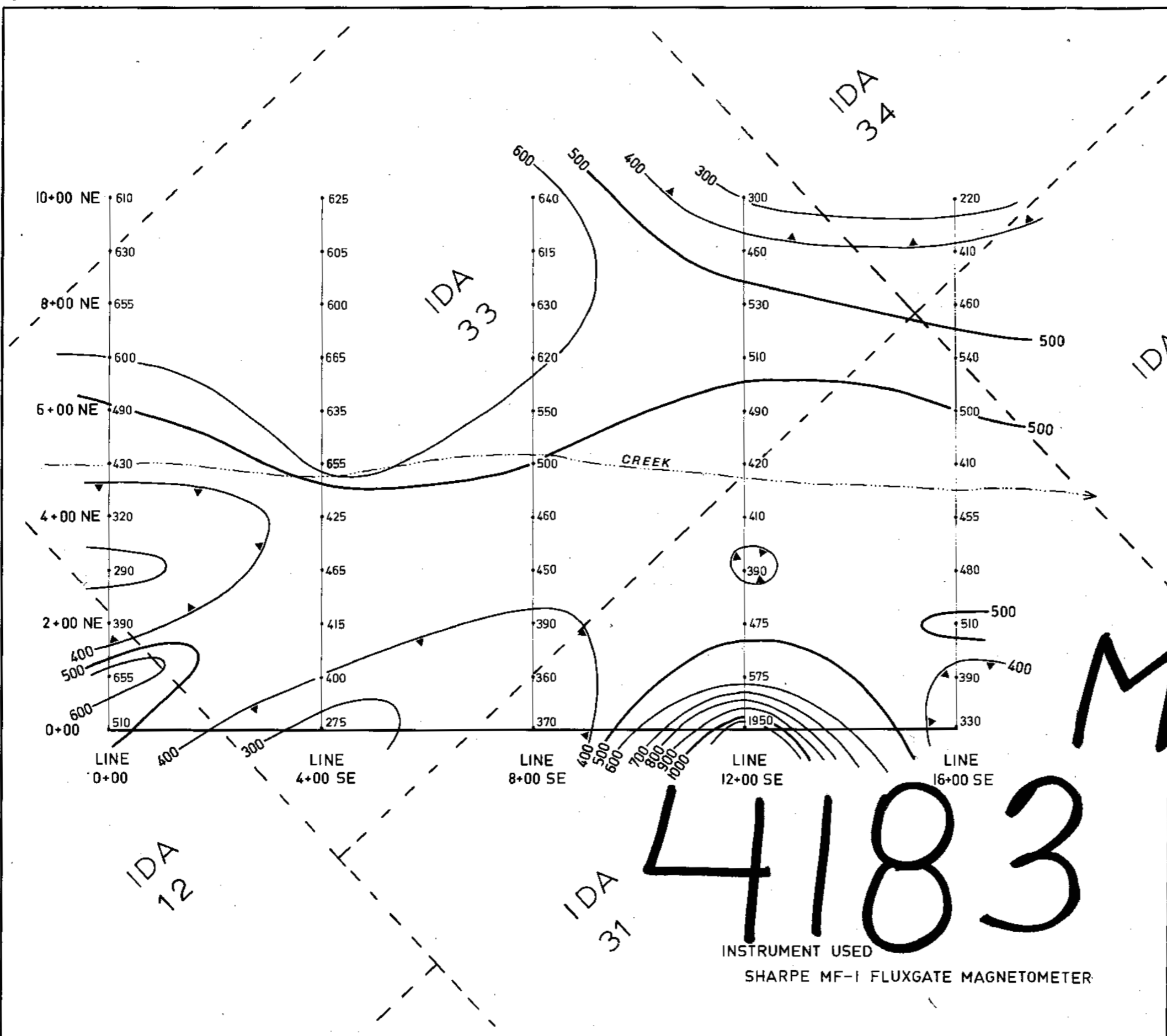
Declared before me at the city
of VANCOUVER, in the
Province of British Columbia, this 8th
day of January, 1973, A.D.

Philip P. Nielsen

P. H. H. H.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4183** MAP #1



M-1

To Accompany Report by:
 P.P. Nielsen, B.Sc. Geophysicist,
P.P. Nielsen
 &
 G.C. Gutrath, P.Eng., Geologist

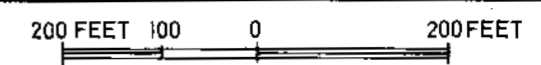
4183

INSTRUMENT USED
 SHARPE MF-1 FLUXGATE MAGNETOMETER

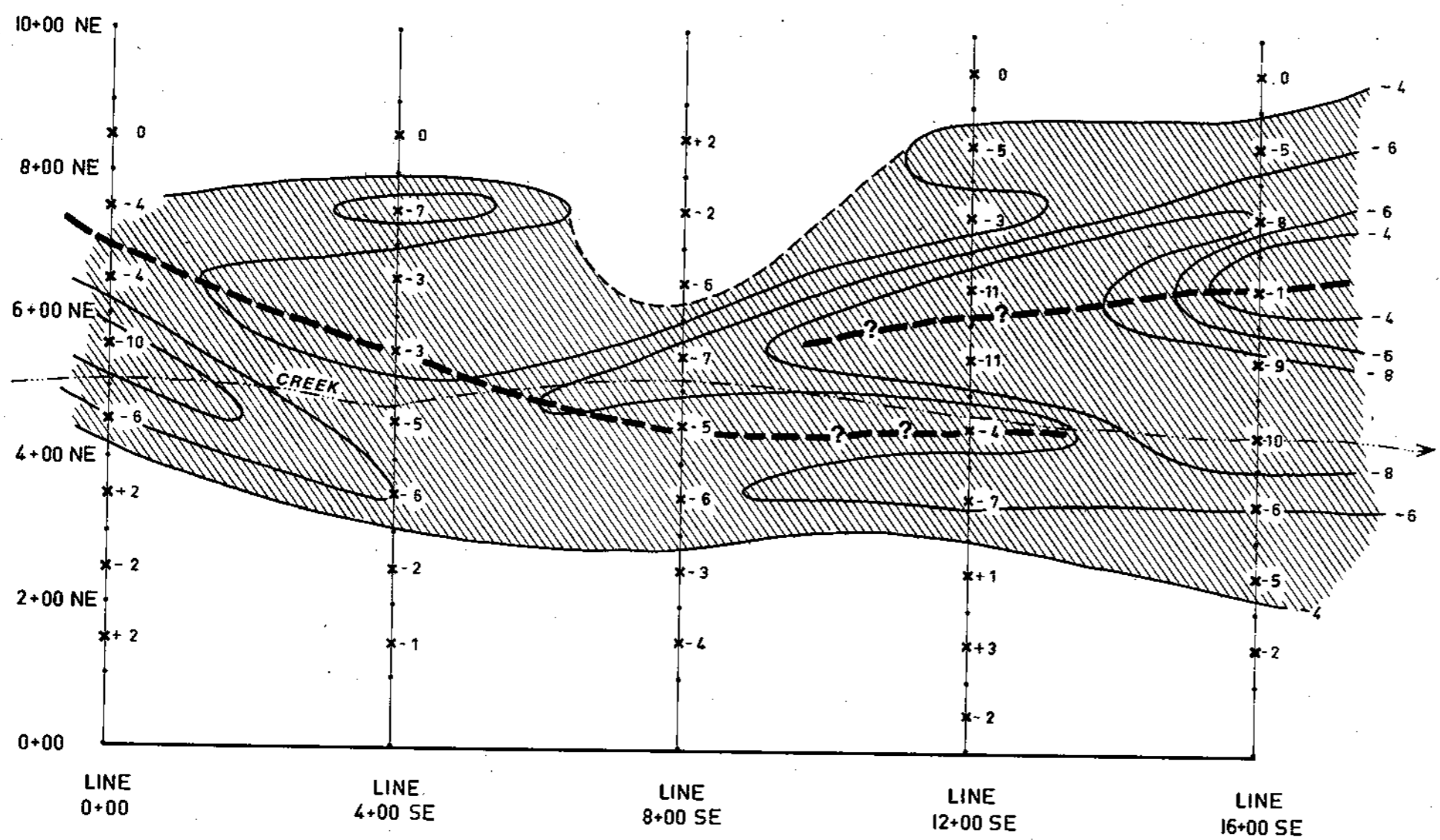
JOREX LTD. (N.P.L.)
 IDA CLAIMS NADINA LAKE AREA
 GROUND MAGNETOMETER SURVEY
 CONTOUR MAP

OMINECA M.D. N.T.S. 93/E 15

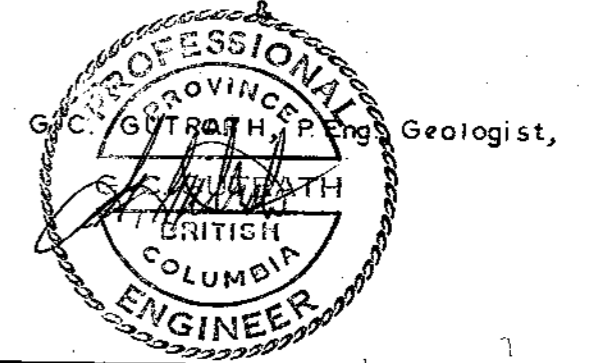
ATLED EXPLORATION MANAGEMENT LTD



DATE: JAN. 1973. Drawn by: NLC



To Accompany Report by:
 P.P. NIELSEN, B.Sc., Geophysicist,
P.P. Nielsen



NOTE: Values in Degrees resultant dip angle
 Operating frequency = 1830 Hz
 Coil Separation = 300 feet
 Contour Interval = 2° above background

LEGEND
 POSSIBLE CONDUCTIVE ZONE
 NEAR VERTICAL CONDUCTOR AXIS

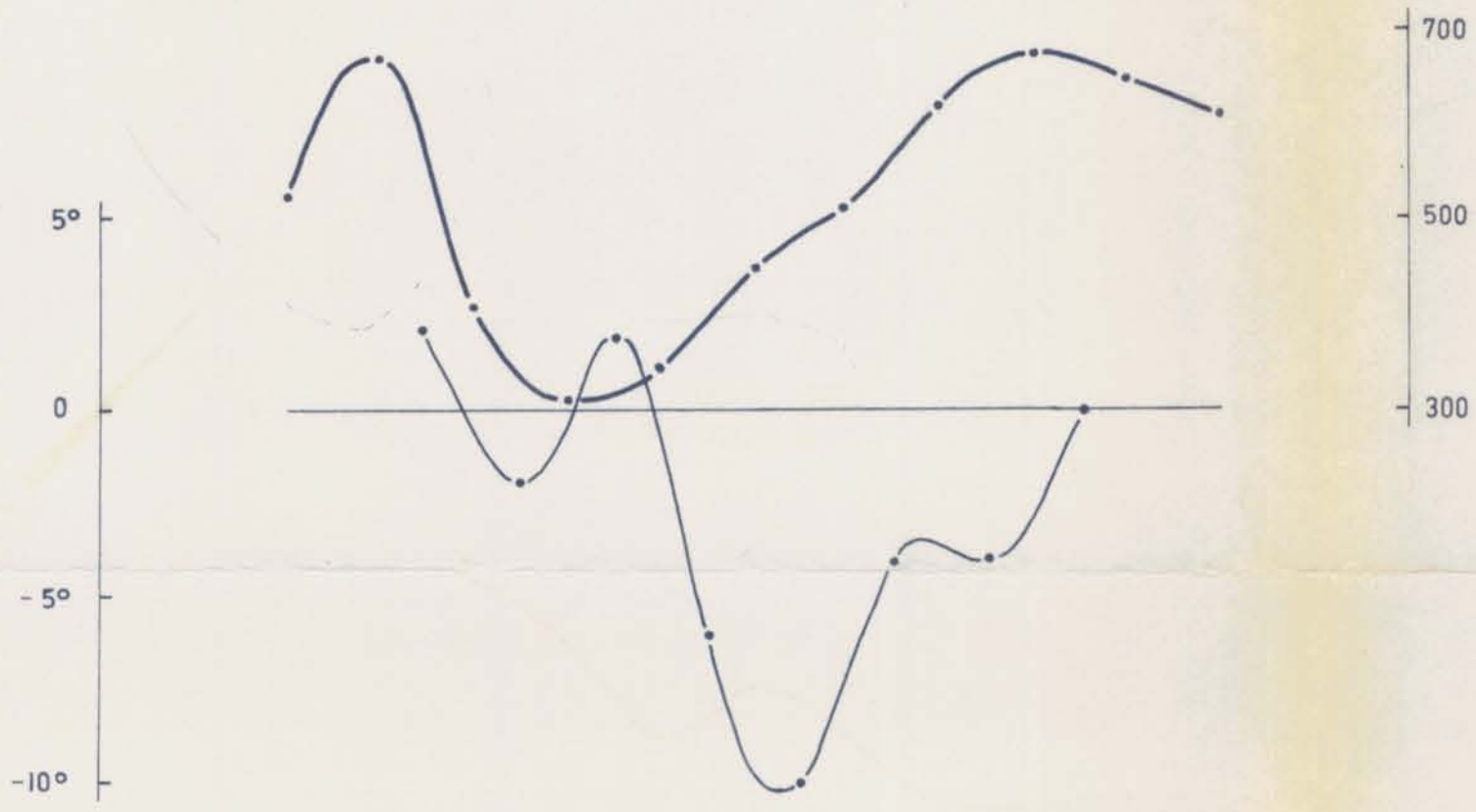
INSTRUMENT USED:
 Crone C.E.M. Shootback Unit

JOREX LTD. (NPL.)
 IDA CLAIMS NADINA LAKE AREA
GROUND ELECTROMAGNETIC SURVEY
DIP ANGLE CONTOUR MAP

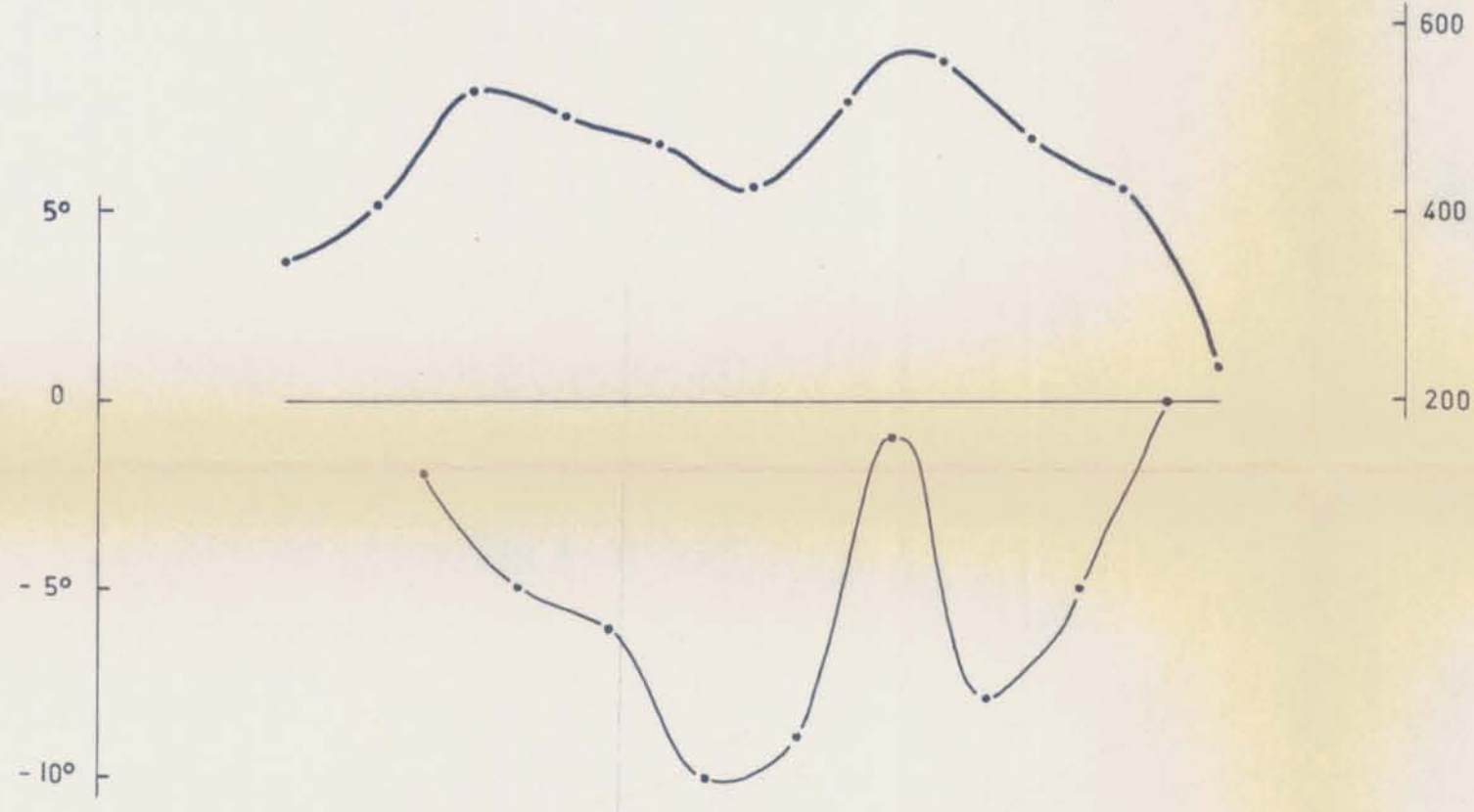
OMINECA M.D. N.T.S. 93/E 15
ATLED EXPLORATION MANAGEMENT LTD

200 FEET 100 0 200 FEET

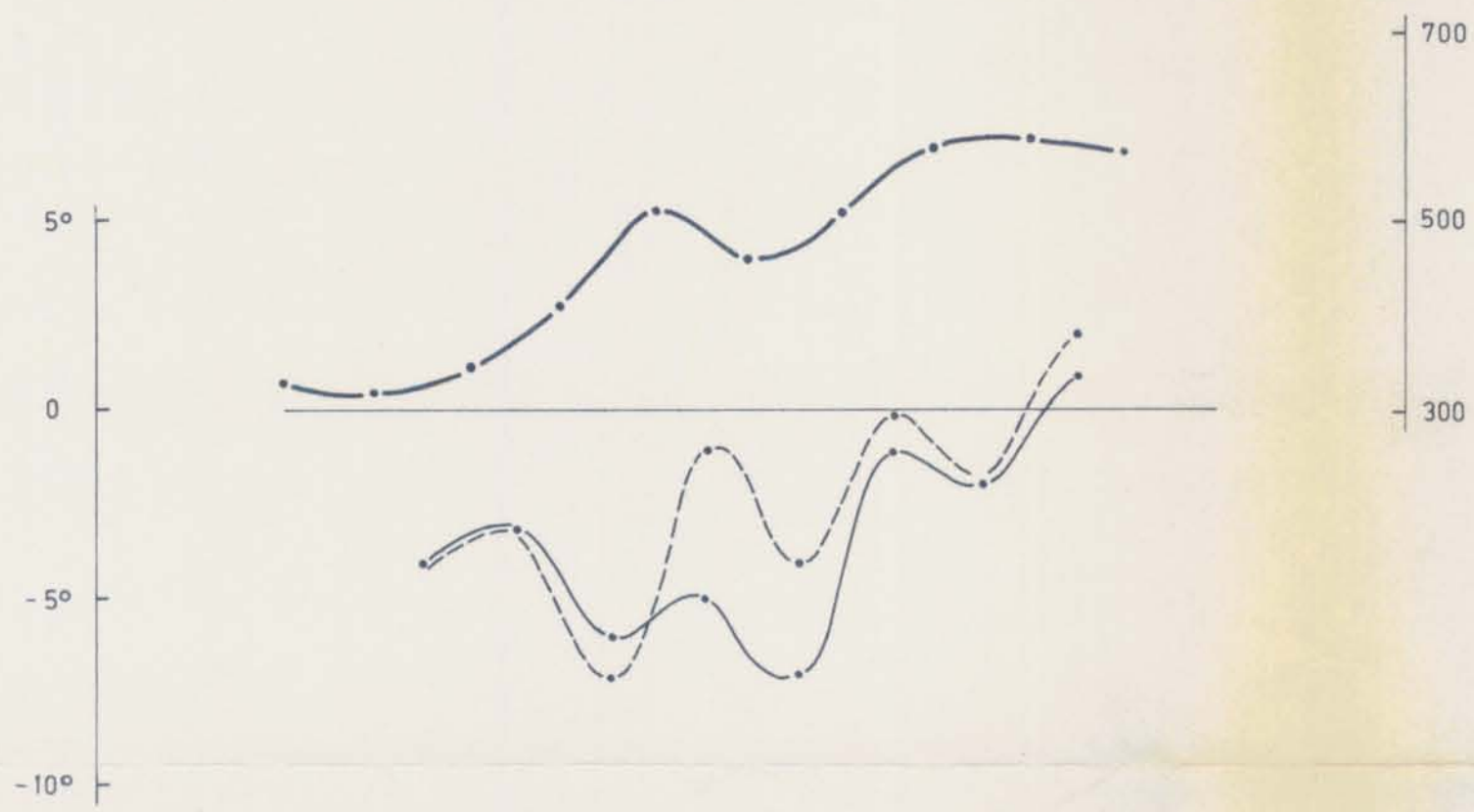
DATE: JAN. 1973. Drawn by: NLC



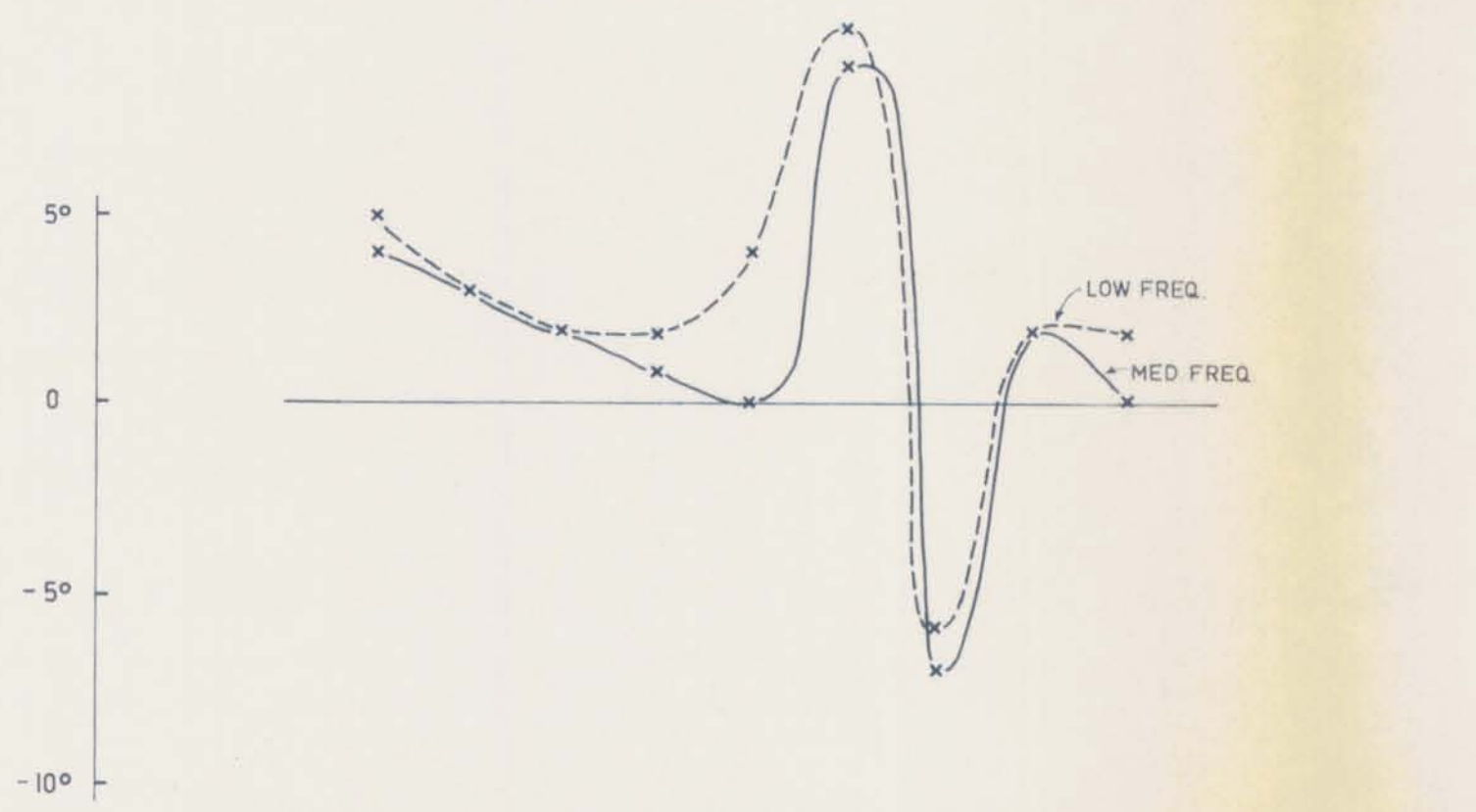
LINE 0+00
a = 300 FEET



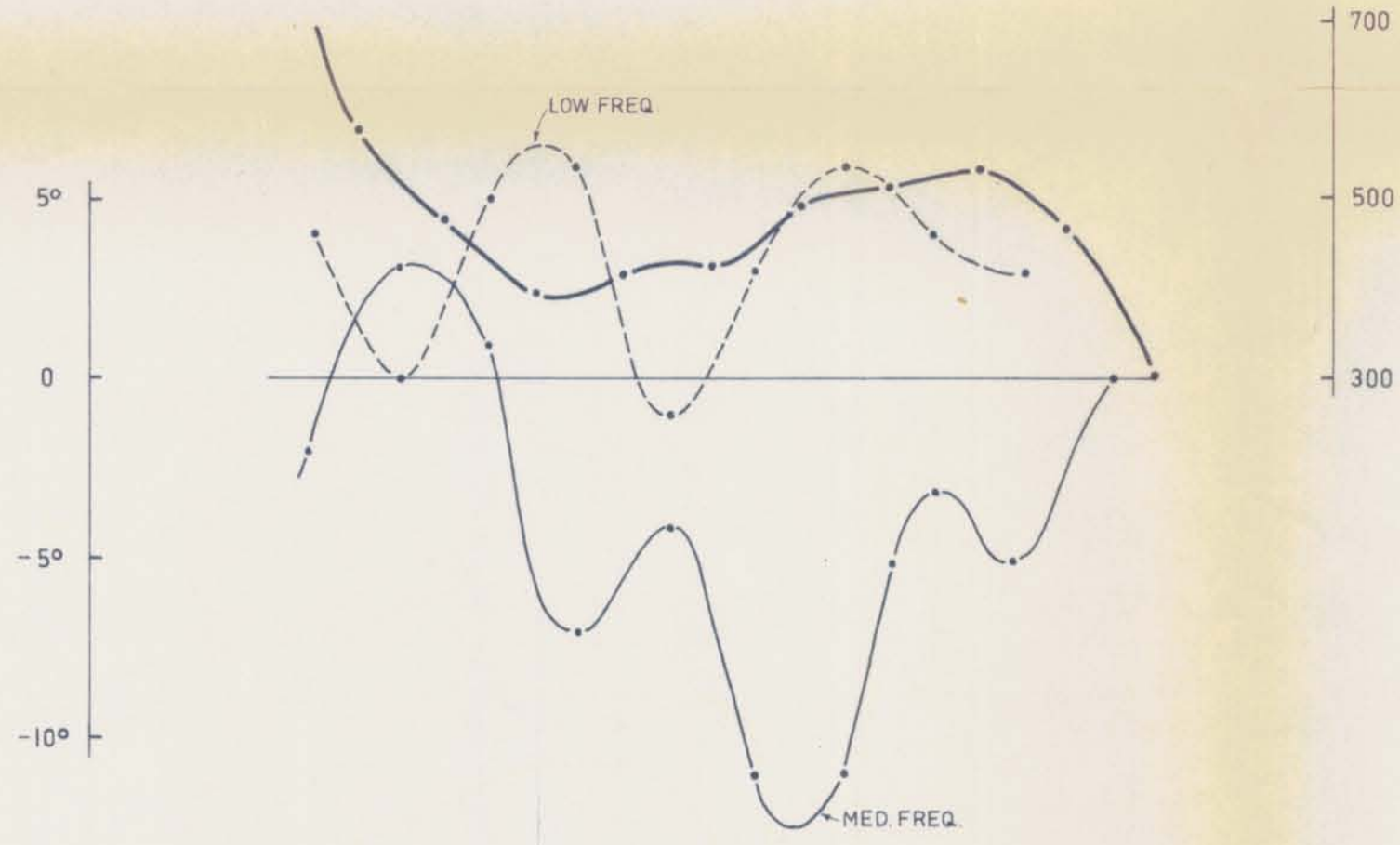
LINE 4+00 SE
a = 300 FEET



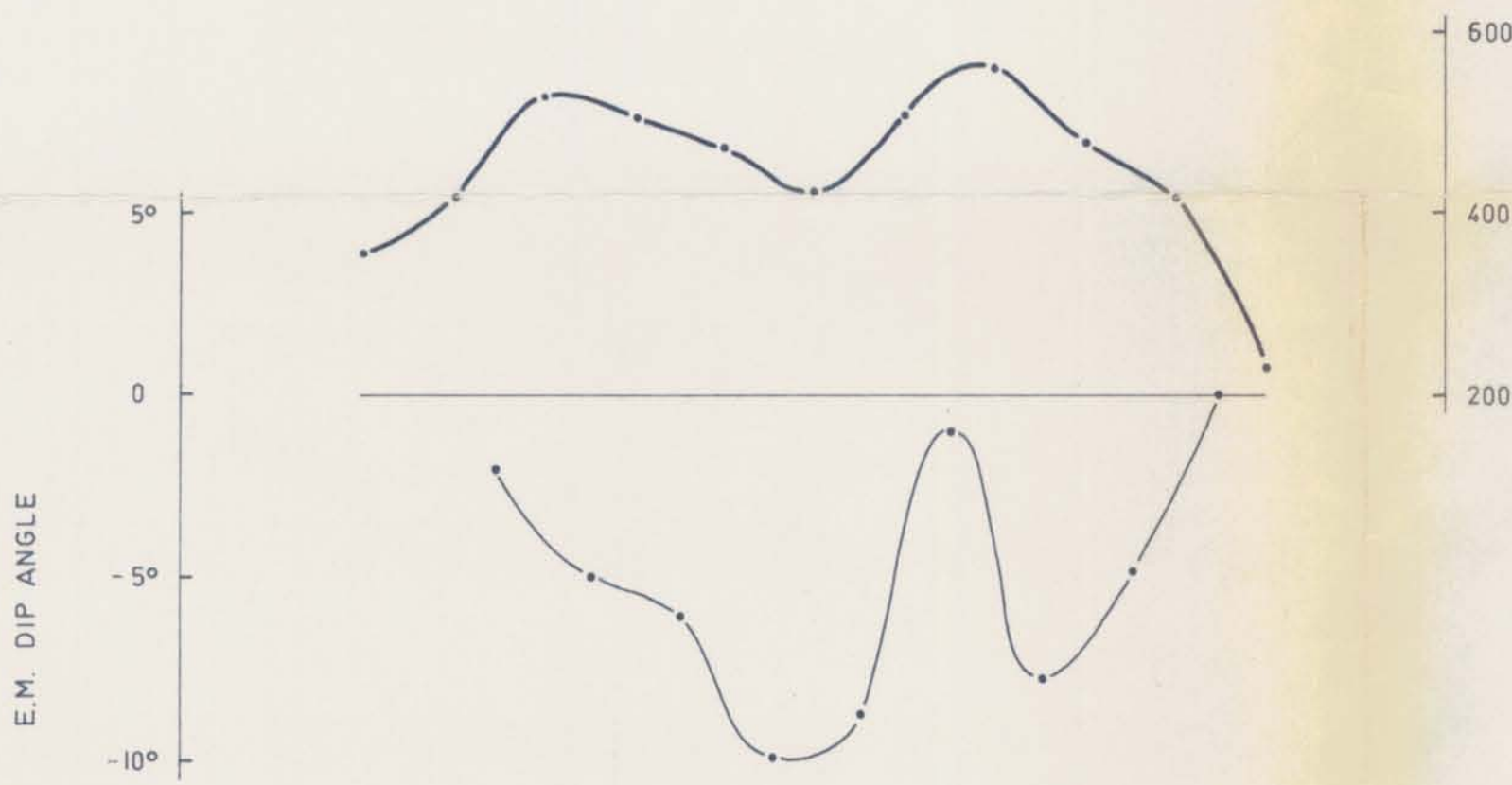
LINE 8+00 SE
a = 300 FEET



LINE 12+00 SE
a = 200 FEET



LINE 12+00 SE
a = 300 FEET



LINE 16+00 SE
a = 300 FEET



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4183 MAP #3

To Accompany Report by:
P.P. Nielsen, B.Sc. Geophysicist

G. C. Gutrath, P. Eng., Geologist

JOREX LTD. (NPL)
IDA CLAIMS NADINA LAKE AREA
PROFILES
E.M. & MAGNETOMETER SURVEY
OMINECA MD. NTS. 93/E 15
ATLED EXPLORATION MANAGEMENT LTD.
200 FEET 100 0 200 FEET
DATE: JAN. 1973. Drawn by: NCL

Instruments Used
E.M. }
Mag } as on contour map