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PRELIMINARY
REPORT ON
INDUCED POLARIZATION SURVEYS
ENDAKO AREA, BRITISH COLUMBIA
ON BEHALF OF
ATLAS EXPLORATIONS LIMITED

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REPORT ON
INDUCED POLARIZATION SURVEYS
ENDAKO AREA, BRITISH COLUMBIA
ON BEHALF OF
ATLAS EXPLORATIONS LIMITED

by

Richard O. Crosby, B.Sc., P.Eng.

LOCATION:

About 35 miles south of Burns Lake, B. C.
Endako area, British Columbia
Omineca Mining Division
125° 54° SE

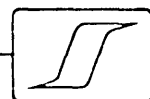
DATES:

April 28 to May 16, 1970

SUMMARY

An induced polarization survey has revealed areas of moderately above background chargeability responses. The amplitude of the observed responses could be caused by a subsurface concentration of approximately 1% by volume of metallicly conducting material.

Detailed geological and geochemical investigations of the anomalous areas are warranted. If these investigations are favourable, diamond drilling will be warranted.



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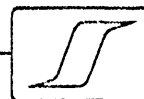
INTRODUCTION

During the period April 28 to May 16, 1970, a geophysical field party executed induced polarization surveys in the Endako area, British Columbia on behalf of Atlas Explorations Limited. The field survey was under the direction of Mr. Francis Bourqui, an experienced geophysical operator on the staff of Seigel Associates Limited. Mr. Mauro Berretta provided overall supervision and represented Mercury Explorations Ltd., the owner of the properties.

The properties included in the survey are located in the general Endako area and include the following mineral claims:- FORT, BONUS, TAT and COUNT.

Seigel Mk VI time domain (pulse-type) induced polarization equipment has been employed on this property. The transmitting unit had a rating of 2.5 kw. and equal on and off times of 2.0 seconds. The receiving unit was a remote, ground-pulse type triggered by the rising and falling primary voltages set up in the ground by the transmitter. The integration of the transient polarization voltages takes place for 0.65 seconds after a 0.45 second delay time following the termination of the current-on pulse.

The purpose of an induced polarization survey is to map the subsurface distribution of metallically conducting mineralization beneath the grids covered. In the present area such mineralization could include bornite, chalcopyrite, molybdenite, pyrite and other metallic sulphide



minerals. As well, metallic conductors such as graphite and artificial installations such as pipelines, fences etc., can give responses not always distinguishable from sulphide mineralization. These latter anomalous sources are not expected to occur on this property.

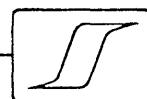
The accompanying copy of H. O. Seigel's paper entitled "Three Recent Irish Discovery Case Histories Using Pulse Type Induced Polarization" gives a description of the phenomena involved in this type of survey, the equipment employed, the field procedures and the nature of the results obtained over various base metal ore bodies.

DISCUSSION OF RESULTS

COUNT Claim - One line was surveyed extending from 12 S to 24 N. Electrode spacings were 100', 300', 600' and 800'. A maximum chargeability of 13.0 milliseconds was recorded at 10 N. The chargeability decreased slightly with 300' electrode spacings and the peak was displaced 400' to the north. Progressively wider electrode spacing was accompanied by lower chargeability responses, indicating a shallow source to the chargeable material indicated by the 100' electrode spacing. The resistivity profiles suggest a change in rock type at Station 2 N.

TAT Claims - Lines 0, 10 SW, 20 SW, 30 SW, 40 SW, 50 SW, 60 SW, 70 SW and a line referred to as Line West were surveyed with the 3 electrode array with various electrode spacings. Different symbols explained in the legend indicate the various spacings employed. An area of increased chargeability was recorded in the vicinity of the baseline on L 20 SW and 30 SW.

The data as plotted show a zone of increased chargeability directly under the above on L 40 SW and 50 SW, however the baseline



is shifted to the west. Without a map of the surveyed lines, the relation of the two areas of increased chargeability is unknown.

A maximum chargeability response of 16.0 milliseconds was observed at 16 E on L 40 SW with an electrode spacing of 200'. Chargeabilities for the 400' spacings are less, suggesting a decrease in percentage of chargeable material with depth. The reverse is true on L 30 SW where the 400' electrode spacing gave a slightly higher response. The resistivity profiles indicate a rise in resistivity associated with the chargeability increase.

With a background of about 5.0 to 7.0 milliseconds a uniform distribution of 1% by volume of metallicly conducting mineralization in the subsurface would be expected to add approximately 10.0 milliseconds to the background level. Chargeabilities in excess of about 12.0 milliseconds may be considered worthy of further investigation since deposits of very low concentrations of copper and molybdenum of sufficient dimensions may have economic significance.

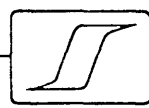
profile @ 12.0

An area of increased chargeability was also recorded on L 60 SW extending between 36 E and 58 E. A maximum chargeability of 20.0 milliseconds was observed at 52 E with electrode spacings of 200'.

BONUS Claim - One line was completed using varying electrode spacing on the BONUS Claim. A maximum chargeability of 15.0 milliseconds was recorded with electrode spacing of 600'.

FORT Claims - Three lines were surveyed on the FORT Claims. The chargeabilities range from 10.0 to 5.0 milliseconds which is well within the range of non-metallic chargeabilities for intrusive or volcanic rocks.

to section - N 1/2 ONLY



CONCLUSIONS AND RECOMMENDATIONS

The present induced polarization profiles have revealed areas of modest chargeability increases which may be due to a broad dissemination of approximately 1% by volume of metallicly conducting material. The anomalous areas warrant close geological and geochemical investigation. If the results of these investigations are favourable, exploratory drill holes may be proposed.

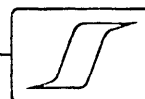
Respectfully submitted,

SEIGEL ASSOCIATES LIMITED

Richard O. Crosby per se

Richard O. Crosby, B.Sc., P.Eng.
Geophysicist

Vancouver, B. C.



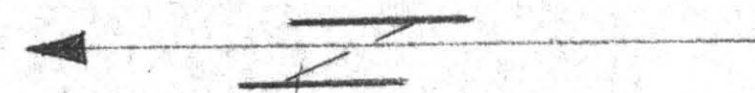
2 chapters

Geochem: 200' intervals
800' lines

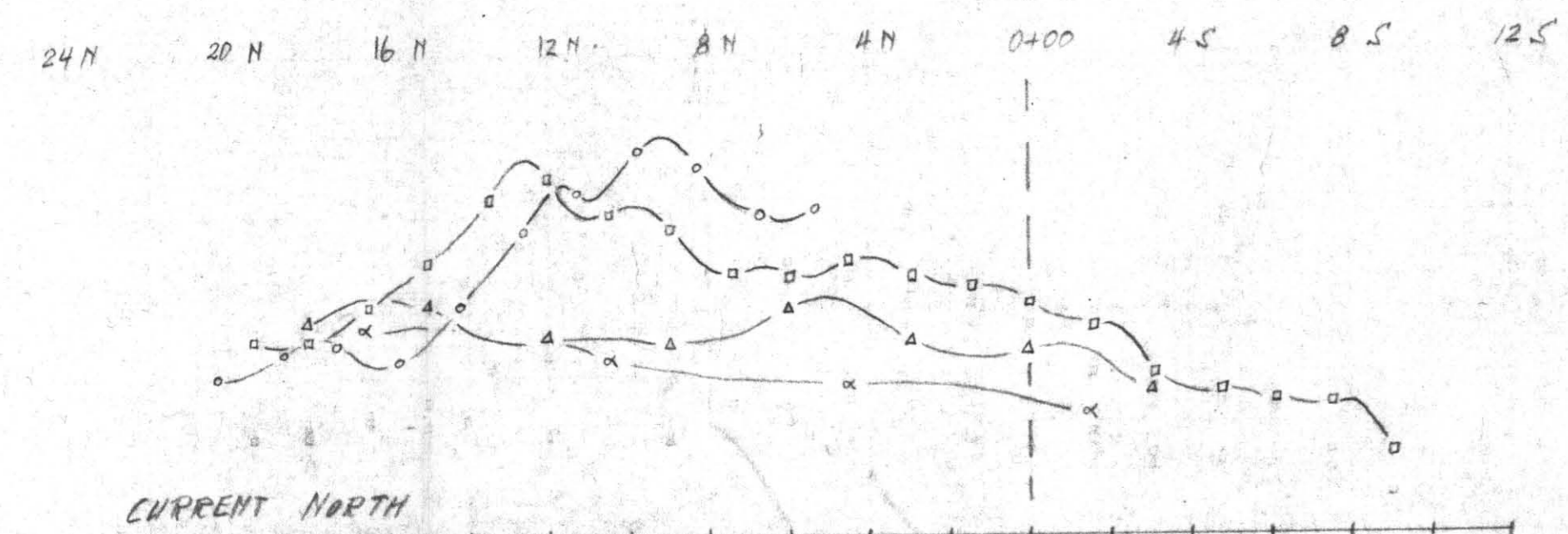
① FORT - N $\frac{1}{2}$ ONLY

② TAT - LINES EXTENDING
WEST BEYOND IP
ANNUALLY

COUNT - CLAIM



CHARGEABILITY
LINE - ROAD / COUNT CLAIM
1 INCH = 5 MILLISECONDS



LEGEND

CHARGEABILITY 1" = 5 MILLISECONDS

- α = 100' ○ — ○ — ○
- α = 300' □ — □ — □
- α = 600' Δ — Δ — Δ
- α = 800' × — × — ×

RESISTIVITY

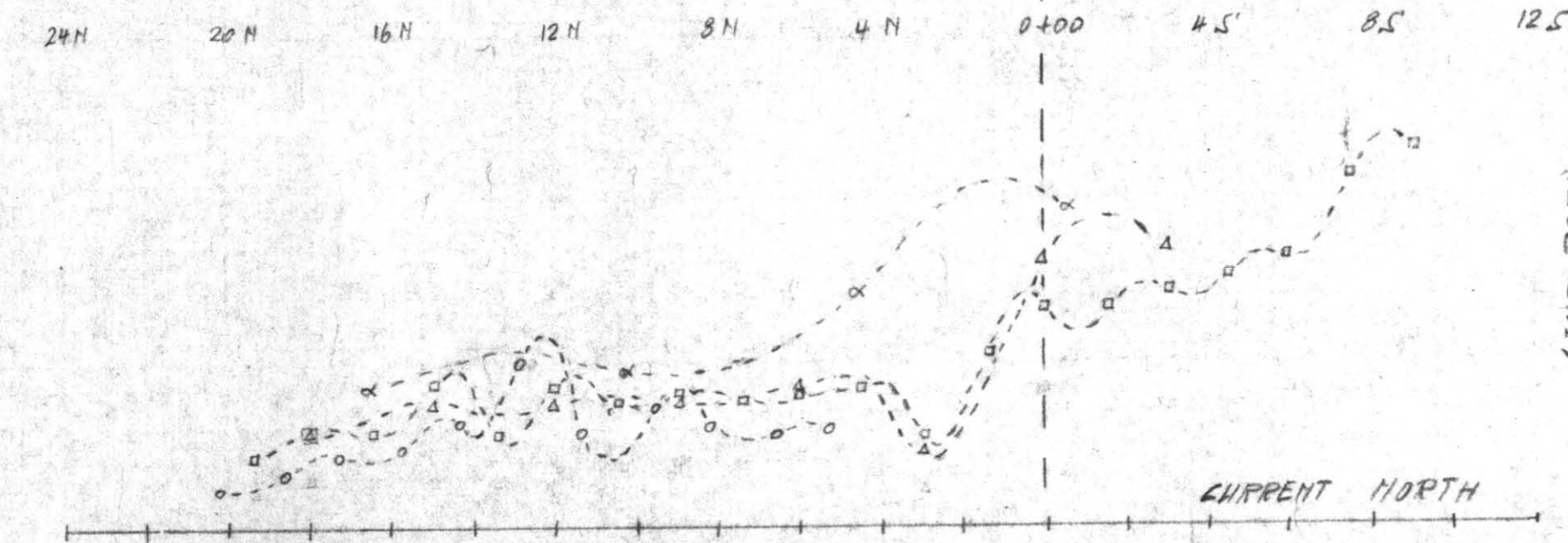
1" = 250 OHM-METRES

- ρ = 100' ○ — ○ — ○
- ρ = 300' □ — □ — □
- ρ = 600' Δ — Δ — Δ
- ρ = 800' × — × — ×

NOTES

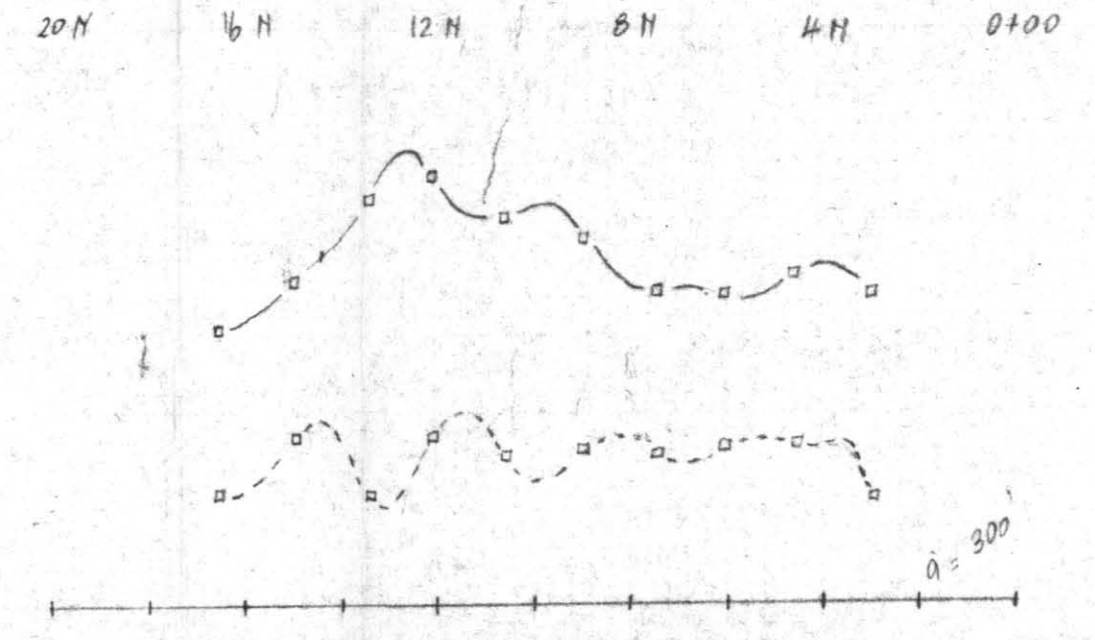
MKVI IP INSTRUMENTATION
THREE ELECTRODE ARRAY CONFIGURATION

RESISTIVITY
LINE - ROAD / COUNT CLAIM
1 INCH = 250 OHM-METRES



TO ACCOMPANY A GEOPHYSICAL REPORT
BY R.O. CROSBY DATED MAY 25 - 1970

LINE - ROAD
COUNT CLAIM



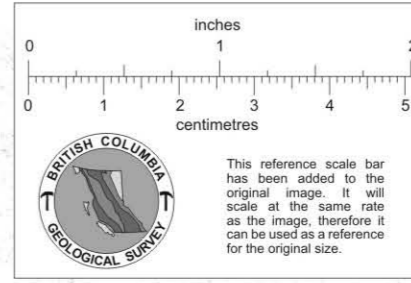
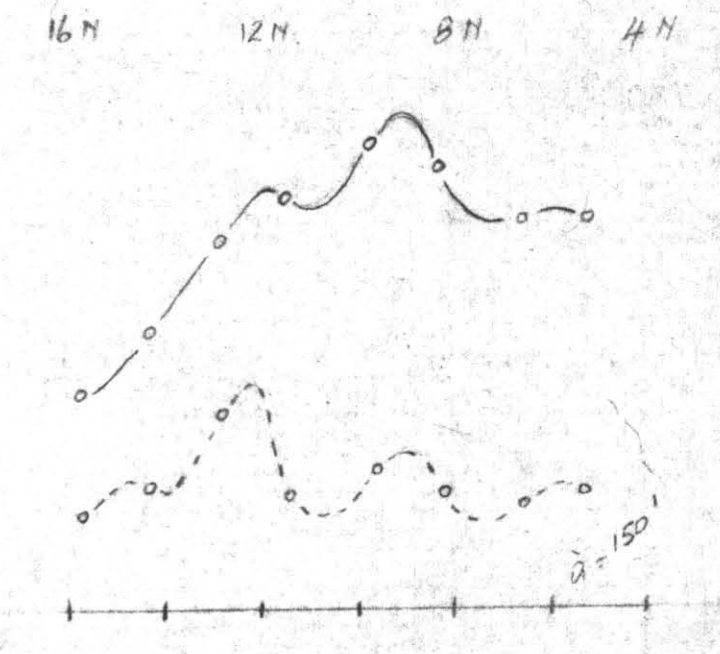
ATLAS EXPLORATION LTD
ENAKO AREA - BRITISH COLUMBIA

**COUNT CLAIMS
INDUCED POLARIZATION SURVEY**

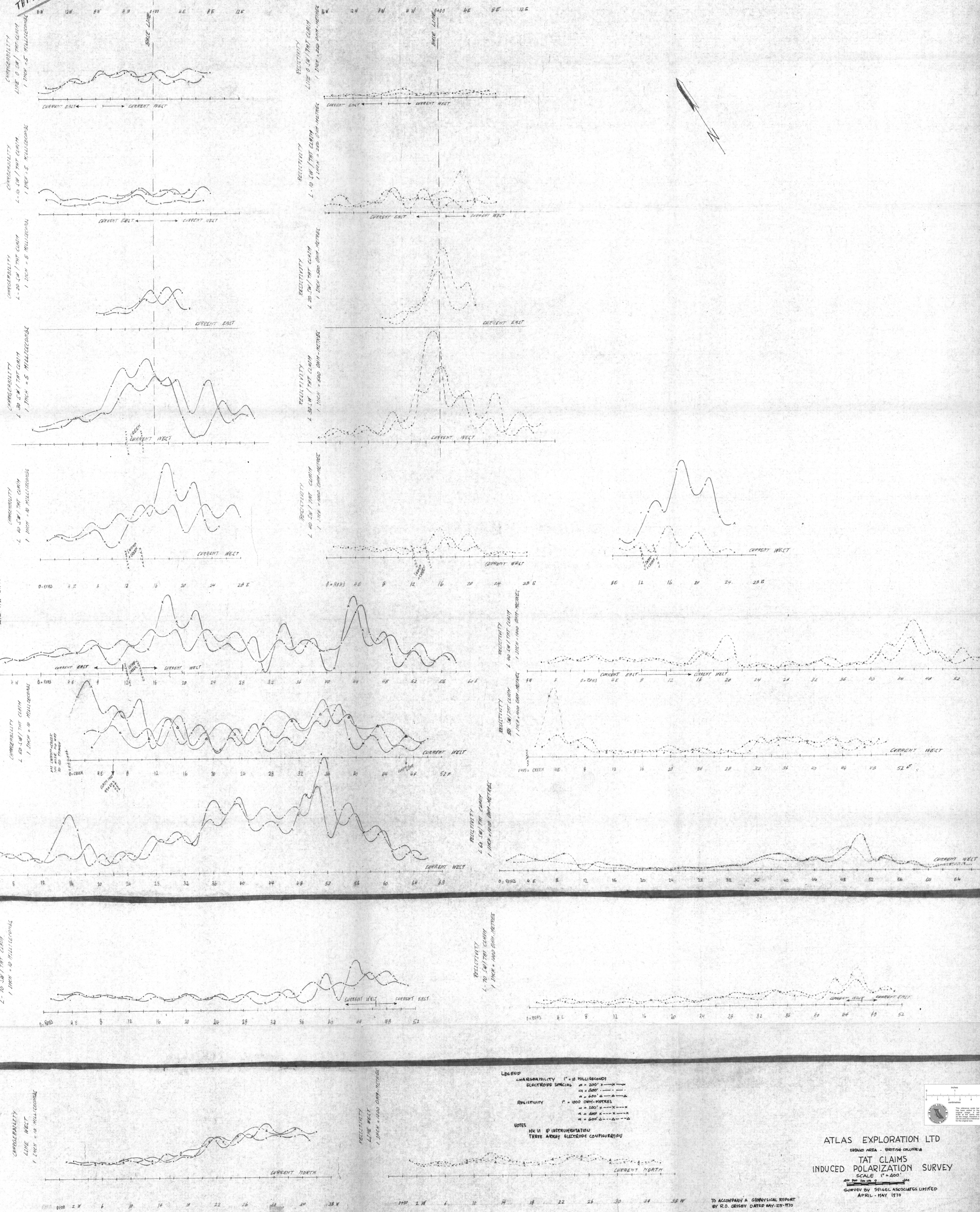
SCALE 1" = 400'



SURVEY BY SEIGEL ASSOCIATES LIMITED
APRIL - MAY 1970

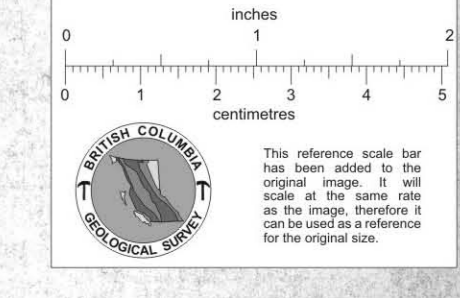


TAT CLAIM



LEGEND
 CHARGEABILITY 1" = 10 MILLIVOLTS
 ELECTRODE SPACING
 a = 200' x
 a = 400' x
 a = 600' x
 a = 800' x
 a = 1000' x
 RESISTIVITY 1" = 1000 OHM-METRES
 a = 200' x
 a = 400' x
 a = 600' x
 a = 800' x
 a = 1000' x

NOTES
 HK VI IP INSTRUMENTATION
 THREE ARRAY ELECTRODE CONFIGURATION



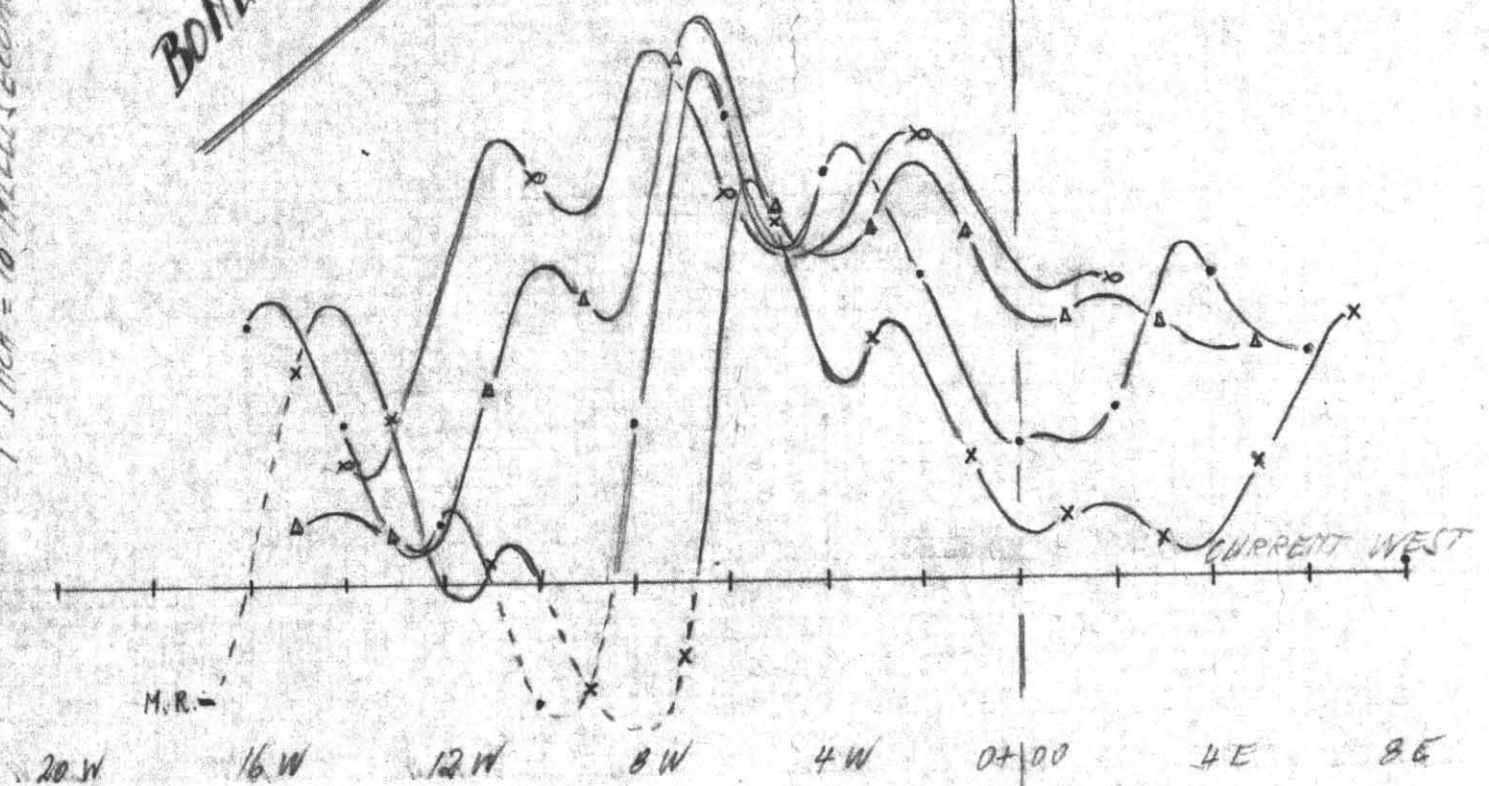
ATLAS EXPLORATION LTD
 BRAND AREA - BRITISH COLUMBIA
 TAT CLAIMS
 INDUCED POLARIZATION SURVEY
 SCALE 1" = 400'
 SURVEYED BY SEIGEL ASSOCIATES LIMITED
 APRIL - MAY 1970

TO ACCOMPANY A GEOPHYSICAL REPORT
 BY R.O. GROSSBY DATED MAY 25-1970

CHARGEABILITY

L. 2000 / BONUS - CLAIM
1 INCH = 10 MILLISECONDS

BONUS - CLAIM

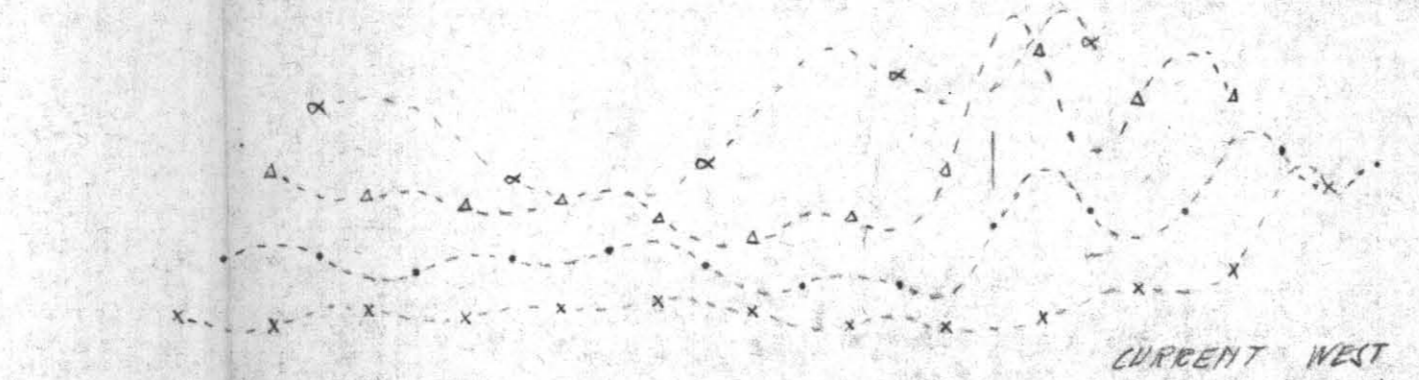


LEGEND
 CHARGEABILITY 1" = 10 MILLISECONDS
 ELECTRODE SPACING a = 200' x---x---x
 a = 400' -.-.-
 a = 600' Δ---Δ---Δ
 a = 800' α---α---α

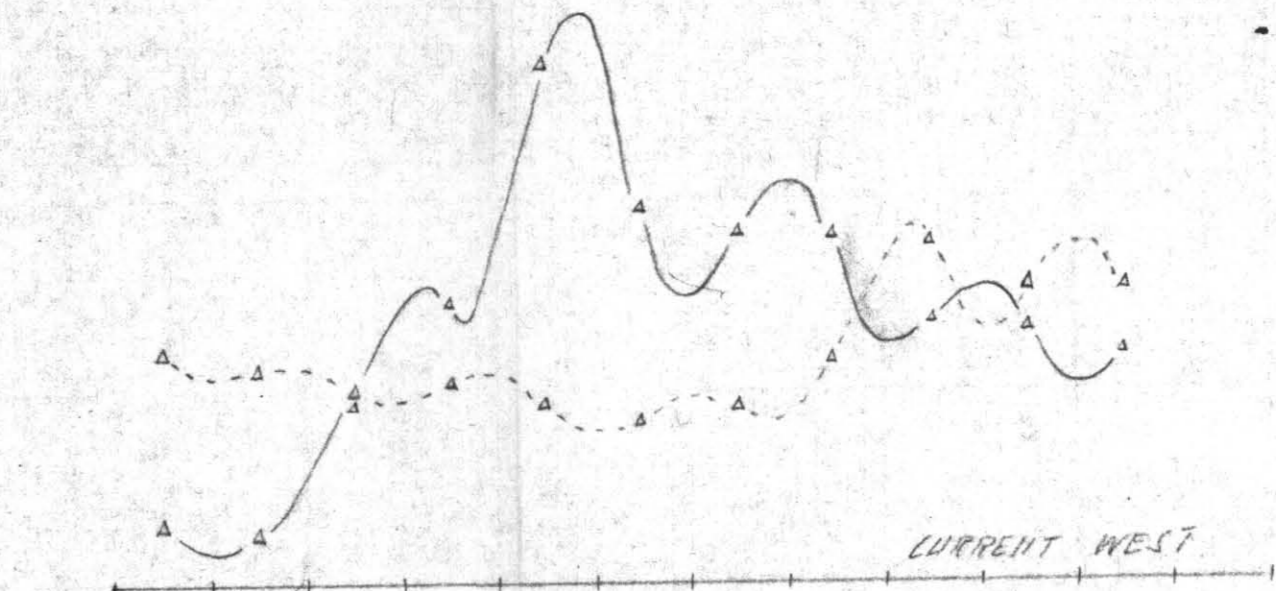
RESISTIVITY 1" = 250 OHM-METRES
 ELECTRODE SPACING a = 200' x---x---x
 a = 400' -.-.-
 a = 600' Δ---Δ---Δ
 a = 800' α---α---α

NOTES HK VI IP INSTRUMENTATION
 THREE ARRAY ELECTRODE CONFIGURATION

RESISTIVITY
FOR BONUS - CLAIM
1 INCH = 250 OHM-METRES



1 INCH = 250 OHM-METRES

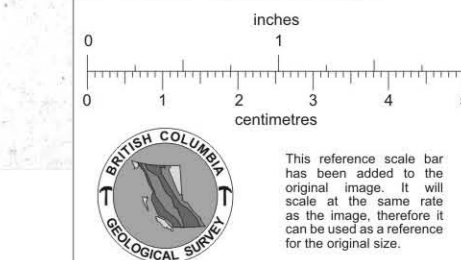


TO ACCOMPANY A GEOPHYSICAL REPORT
 BY R.O. CROSBY DATED MAY 25, 1970

ATLAS EXPLORATION LTD
 ENDAKO AREA, BRITISH COLUMBIA
**BONUS CLAIMS
 INDUCED POLARIZATION SURVEY**

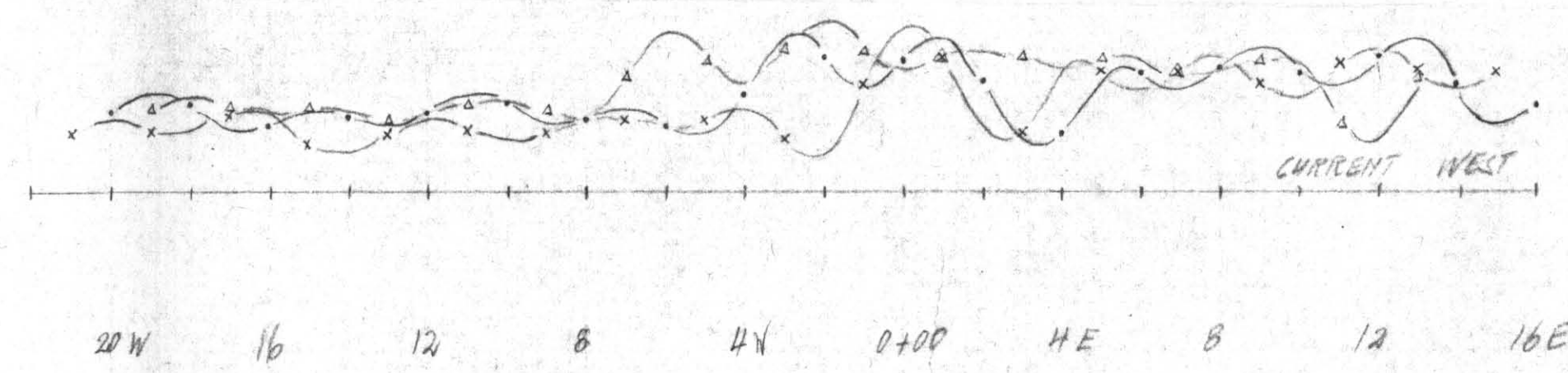
SCALE 1" = 400'
 400 200 100 0 400

SURVEY BY SEIGEL ASSOCIATES LIMITED
 APRIL - MAY - 1970

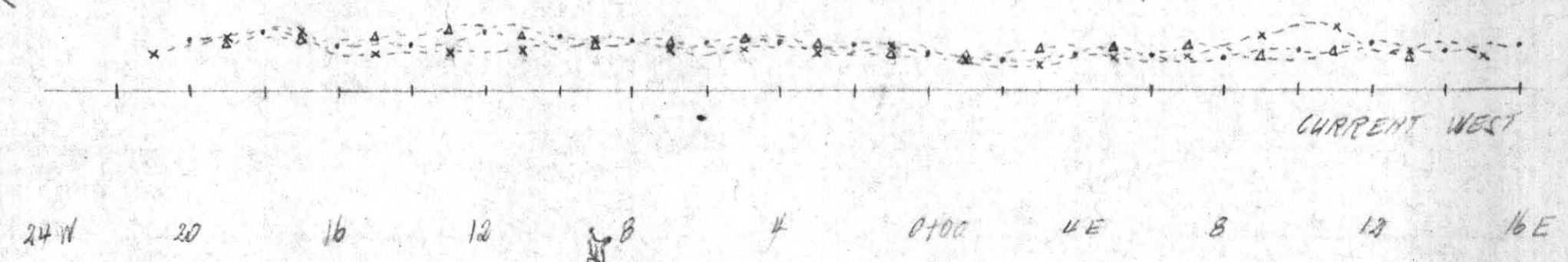


FORT CLAIMS

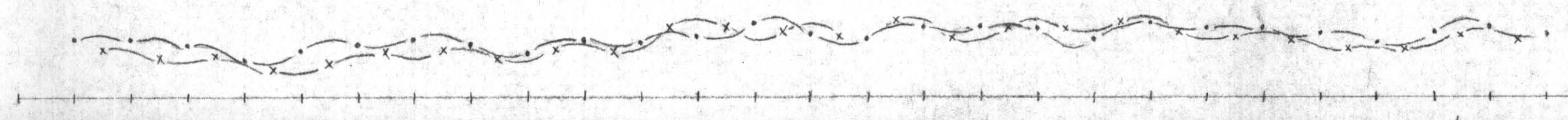
CHARGEABILITY
 LINE 2 - FORT CLAIM
 1 INCH = 10 MILLISECONDS



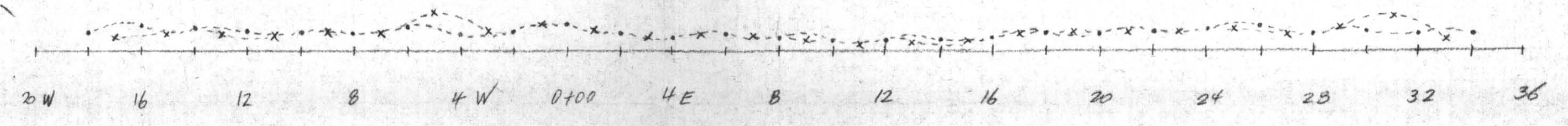
RESISTIVITY
 LINE 2 - FORT CLAIM
 1 INCH = 500 OHM-METRES



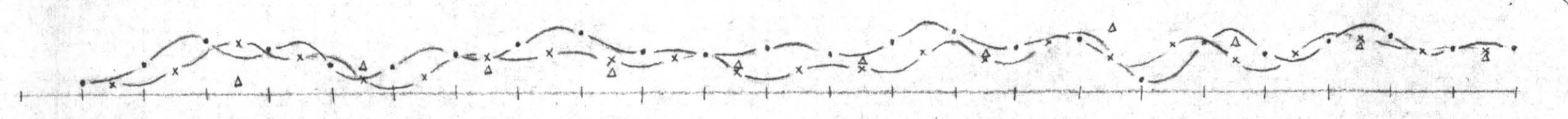
CHARGEABILITY
 LINE 3 - FORT CLAIM
 1 INCH = 10 MILLISECONDS



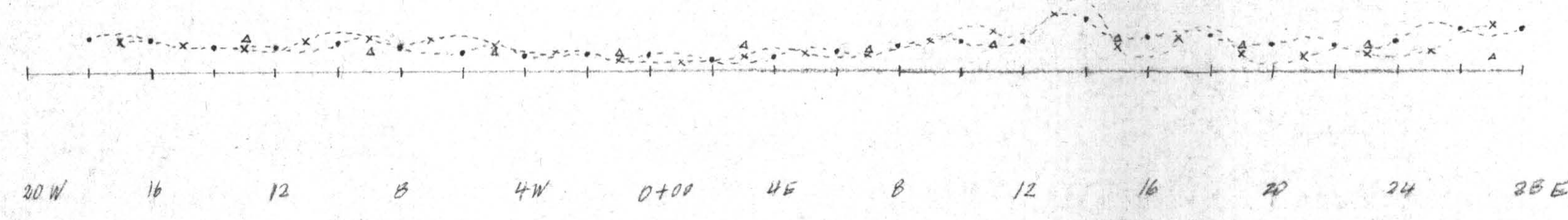
RESISTIVITY
 LINE 3 - FORT CLAIM
 1 INCH = 1000 OHM-METRES



CHARGEABILITY
 LINE 1 - FORT CLAIM
 1 INCH = 10 MILLISECONDS



RESISTIVITY
 LINE 1 - FORT CLAIM
 1 INCH = 1000 OHM-METRES



LEGEND

- CHARGEABILITY 1" = 10 MILLISECONDS
- ELECTRODE SPACING
- a = 100' o---o
 - a = 200' x---x
 - a = 300' □---□
 - a = 400' .---.
 - a = 600' Δ---Δ
 - a = 800' α---α
 - a = 900' L---L

- RESISTIVITY 1" = 1000 OHM-METRES
- ELECTRODE SPACING
- a = 100' o---o
 - a = 200' x---x
 - a = 300' □---□
 - a = 400' .---.
 - a = 600' Δ---Δ
 - a = 800' α---α
 - a = 900' L---L

NOTES:

NK 11 IP INSTRUMENTATION
 THREE ARRAY ELECTRODE CONFIGURATION

TO ACCOMPANY A GEOPHYSICAL REPORT
 BY R.O. CROSBY, DATED MAY 25, 1970

ATLAS EXPLORATION LTD
 ENDAKO AREA, BRITISH COLUMBIA
FORT CLAIMS
 INDUCED POLARIZATION SURVEY
 SCALE 1" = 400'
 400 300 200 100 0
 SURVEY BY SEIGEL ASSOCIATES LIMITED
 APRIL - MAY 1970

