

1795

REPORT ON  
INDUCED POLARIZATION SURVEY  
~~ALAMEDA~~ ALAMEDA PROPERTY  
MERRITT AREA, BRITISH COLUMBIA  
ON BEHALF OF  
ZULCO EXPLORATIONS LTD.

92I/7E

by

Jon G. Baird, B.Sc., P.Eng.

April 3, 1969

CROWN GRANTS:

4501, 4503, 4504, 4505, 4508  
4891, 4893, 4894

LOCATION:

Near Swakum Mountain  
About twelve miles NNE of Merritt,  
British Columbia  
Nicola Mining Division  
120° 50' SW

DATES:

March 19 to March 28, 1969

SUMMARY

The present induced polarization survey has revealed three sections of increased chargeability response along reconnaissance profiles.

Surface examinations, perhaps aided by bulldozer trenching and geochemical soil sampling, are recommended for the anomalous areas. If these investigations reveal that the present indications may have economic importance, diamond drill holes may be proposed on the basis of the present data.

Further induced polarization surveying on lines flanking the present anomalies may be warranted to allow better quantitative interpretation of the anomalous sources and to delineate their areal extent.

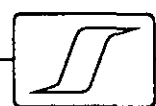


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PLATES:

(in text)

Plate 1 - Property Location Map      1" = 4 miles

(in envelope)

Plate 2 - Induced Polarization Survey      1" = 400' #1



REPORT ON  
INDUCED POLARIZATION SURVEY  
ALAMEDA PROPERTY  
MERRITT AREA, BRITISH COLUMBIA  
ON BEHALF OF  
ZULCO EXPLORATIONS LTD.

INTRODUCTION

During the period from March 19 to March 28, 1969, a geophysical field party under the direction of Mr. Tony Guernier executed an induced polarization survey on the Alameda property on behalf of Zulco Explorations Ltd.

The property lies near Swakum Mountain about twelve miles north northeast of Merritt, British Columbia. The property is reached from Merritt by paved highway to Nicola and thence by unimproved road northwards to the property.

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 two 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 .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 metallicly conducting mineralization beneath



the grids covered. In the present area such mineralization could include chalcopyrite, pyrite, pyrrhotite, and other metallic sulphide minerals as well as magnetite, graphite and other minerals not always distinguishable from sulphides by their electrical characteristics alone.

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 results obtained over various base metal ore bodies.

On the present property a baseline 6,000 feet in length was cut oriented east-west. One grid line 2,800 feet in length was laid out northwards from the centre of the baseline while a second grid line 4,500 feet in length was cut southwards from the west end of the baseline. The grid layout is shown on Plate 2.

The three electrode array with electrode spacings of 200' was employed for reconnaissance purposes on this property. Station intervals were 200'. In addition, the three electrode array with electrode spacings of 100' was employed in two areas for additional detail.

GEOLOGY

The geology of the present claims and the surrounding area is found in G.S.C. Memoir 249 "Geology and Mineral Deposits of Nicola Map Area" by W. E. Cockfield, 1961. Map No. 886A on the scale of 1" = 4 miles accompanies Cockfield's report.

The Alameda property is seen to lie within a large area underlain by rocks of the Upper Triassic Nicola Group. The mineral deposits



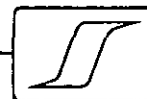
of the Swakum Mountain area include veins and replacement deposits in limestone and greenstone. Some high grade gold-silver-copper-lead mineralization has been taken from deposits in the Swakum Mountain area.

#### DISCUSSION OF RESULTS

Plate 2, on the scale of 1" = 400', shows the geophysical results in profile form. Two parameters are plotted, chargeability (the induced polarization characteristic of the rock) and resistivity. The vertical scales for these profiles are 1" = 20.0 milliseconds for chargeability and 2" = 1 logarithmic cycle with the line trace taken as 1000 ohm-metres for resistivity.

The east and west ends of the baseline and much of L 23 W are seen to exhibit chargeabilities in the 5.0 millisecond range which is a normal non-metallic chargeability response for many rock types. In the central portion of the baseline and on Line 0, however, chargeabilities rise to above the 20.0 millisecond level. A peak chargeability of 55.0 milliseconds has been observed at station 20 N on L 0. This high chargeability indication seen on both the 200' and 100' electrode spacings is coupled with a distinct resistivity low. The geophysical responses in this area are interpreted to be due to a body containing a fairly high percentage of well interconnected metallicly conducting material. The body is centred about station 19 N and comes within a few feet of the ground surface.

A rise in the reconnaissance chargeability response to 12.0 milliseconds has been observed at the south end of L 23 W and has been confirmed with a 100' spacing profile. This increased chargeability response is also associated with a distinct resistivity low.



CONCLUSIONS AND RECOMMENDATIONS

Since the present geophysical results were taken along randomly oriented lines rather than a system of parallel grid lines it is difficult to interpret the geological significance of the observed responses. The chargeability increases near the centre of the baseline and on the south end of L 23 could, for example, be due to geological formations having high inherent chargeabilities. The sharp chargeability peak with coincident resistivity low near the north end of L 0 appears more characteristic of an anomalous body which may contain sulphide mineralization.

Since the source appears to be near surface, it is recommended that trenching and surface examinations be carried out along L 0 from approximately station 16 to station 22 N. Similar investigations may be executed along the anomalous portions of the baseline and L 23 W. In addition, geochemical soil sampling of the anomalous areas may yield useful information.

If further investigation then appears warranted, diamond drilling may be proposed on the basis of the present geophysical results. Further induced polarization surveying may be warranted on lines flanking the anomalous sections to permit better quantitative interpretations of the anomalous bodies.

Respectfully submitted,

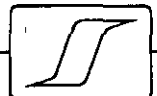
SEIGEL ASSOCIATES LIMITED

*Jon G. Baird*

Jon G. Baird, B.Sc., P.Eng.  
Geophysicist

*Richard A. Crasby*

Vancouver, B. C.  
April 3, 1969



DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
TO WIT:

In the Matter of a geophysical survey on behalf of  
Zulco Explorations Ltd.

I, **Jon G. Baird**

of **750 - 890 West Pender Street, Vancouver**

in the Province of British Columbia, do solemnly declare that an induced polarization survey has been executed on the Alameda claim group situated 12 miles NNE of Merritt, B. C. between March 19 and March 28, 1969. The following expenses were incurred.

1. Wages		
A Guernier	10 days @ \$40.00 per day	\$ 400.00
R. Konig	10 days @ \$30.00 per day	300.00
L. Greider	10 days @ \$30.00 per day	300.00
A. Schagic	10 days @ \$30.00 per day	300.00
2. <u>Transportation from Vancouver to Merritt and Return</u>		<u>50.00</u>
3. Transportation from Merritt to job daily and return		50.00
4. Room		217.25
5. Board		246.69
6. Consulting		<u>136.06</u>
	<b>Total</b>	<b><u>2,000.00</u></b>

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."

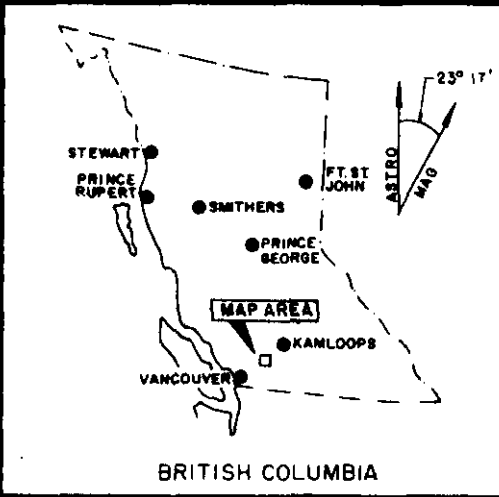
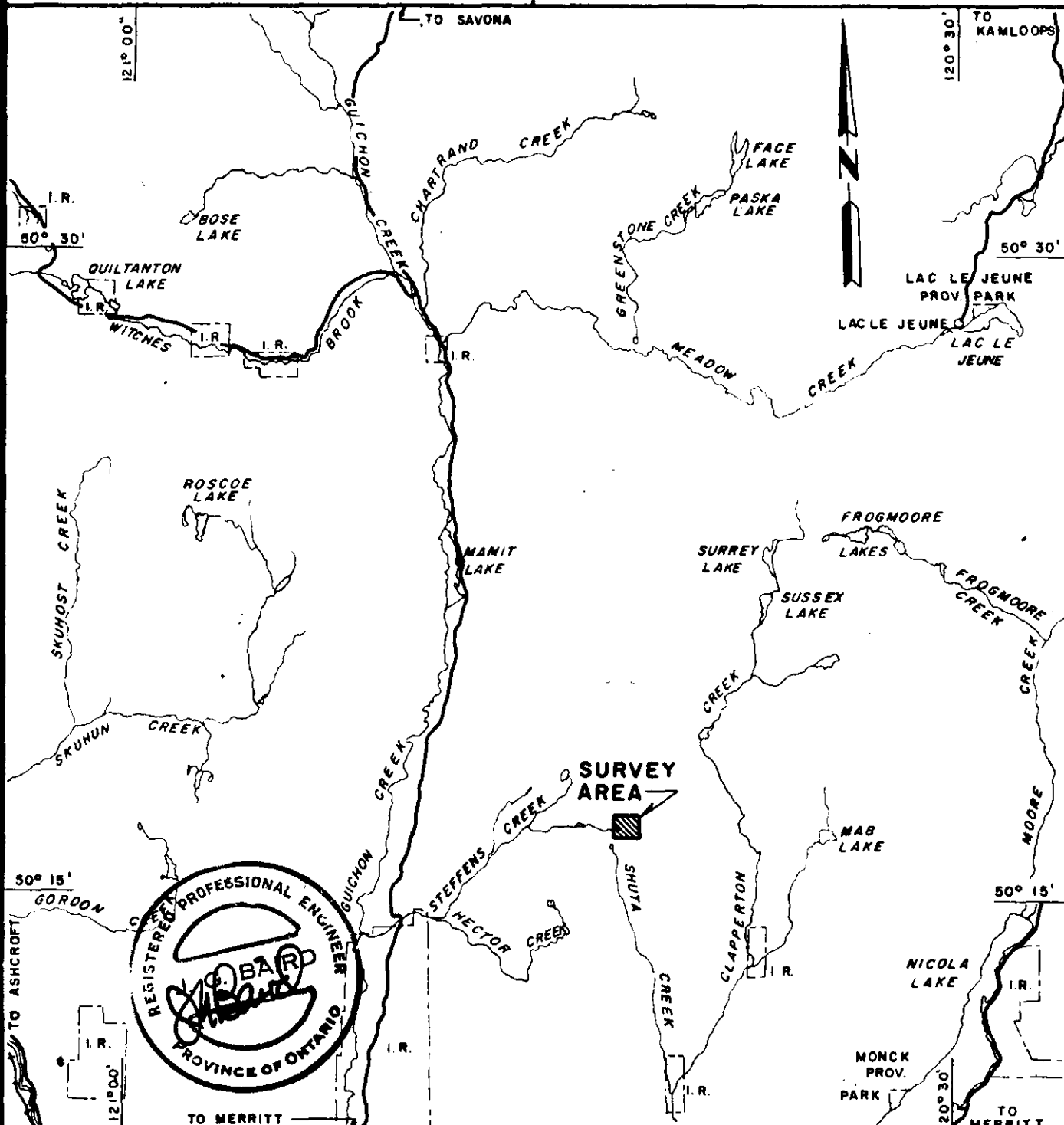
Declared before me at the **city**  
of **Vancouver**, in the  
Province of British Columbia, this **9**  
day of **April, 1969**, A.D.

*Jon G. Baird*

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

NOTARY PUBLIC





ZULCO EXPLORATIONS LTD.

LOCATION MAP

*R. Crockett*

MERRITT AREA, BRITISH COLUMBIA



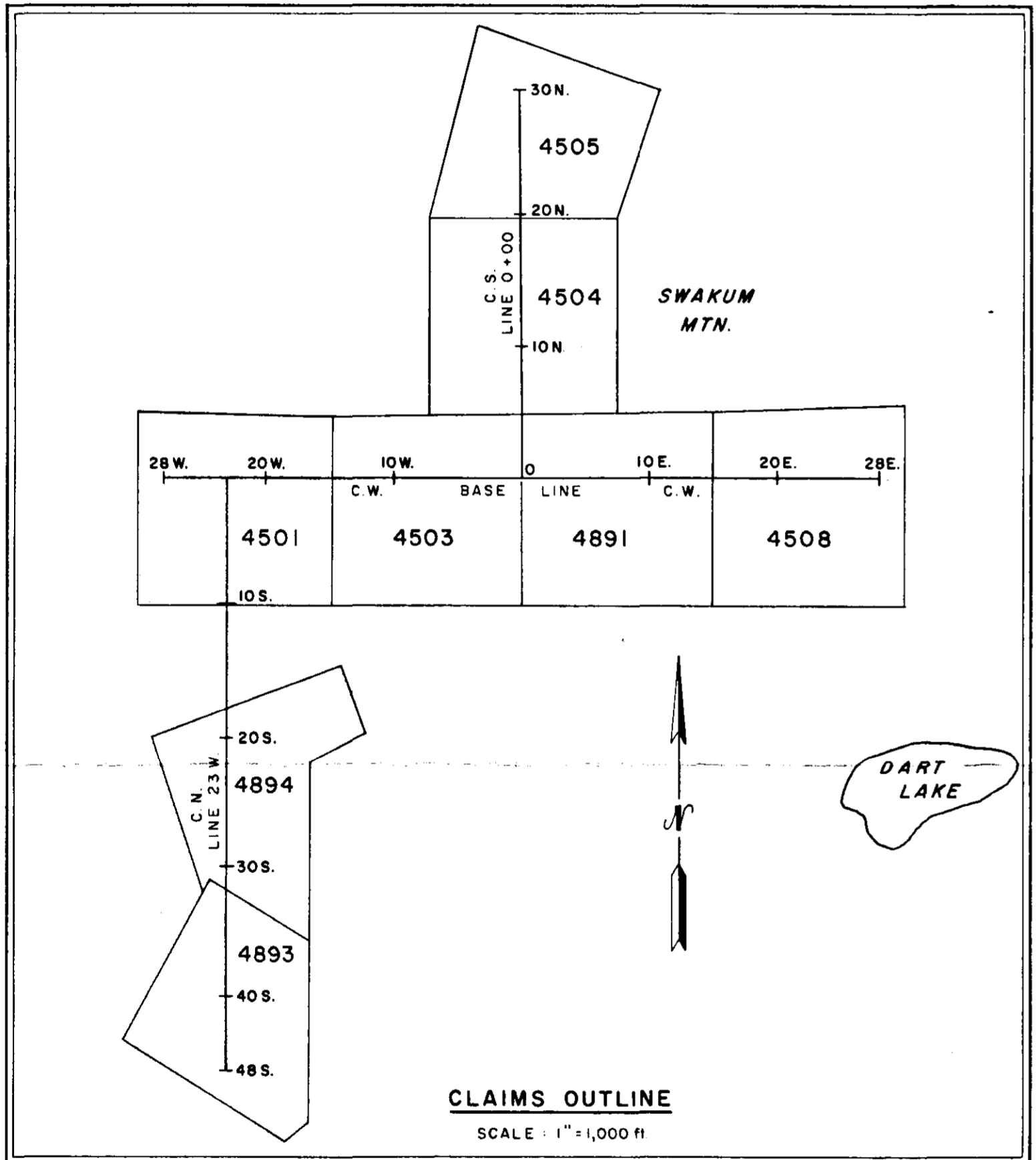
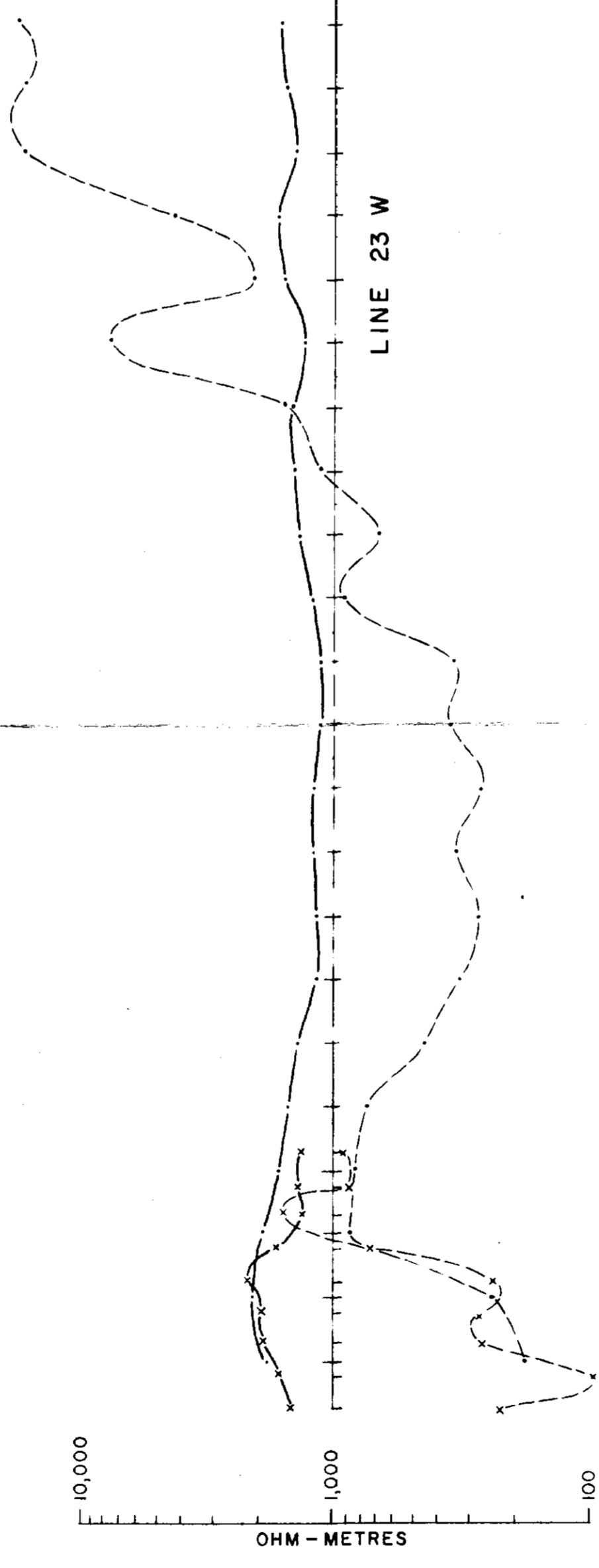
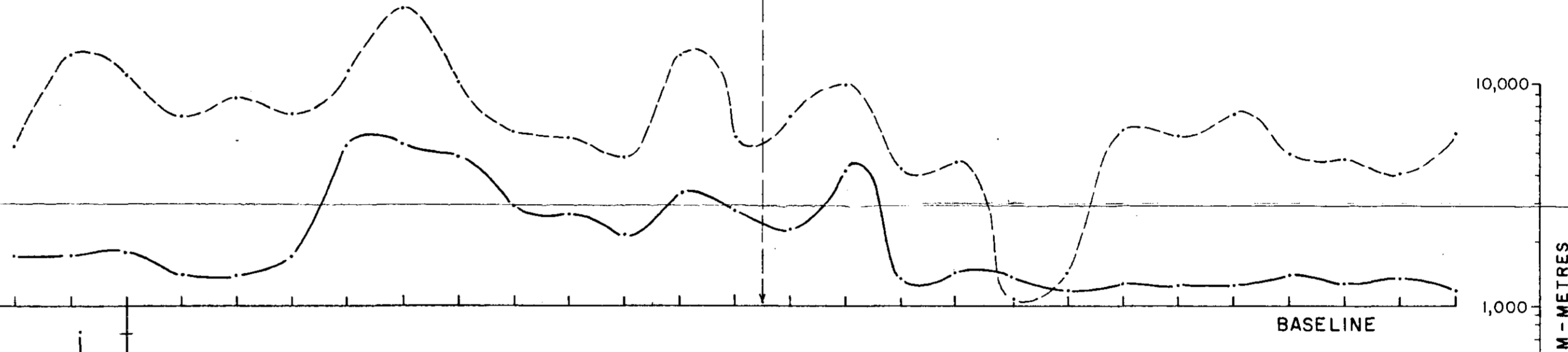
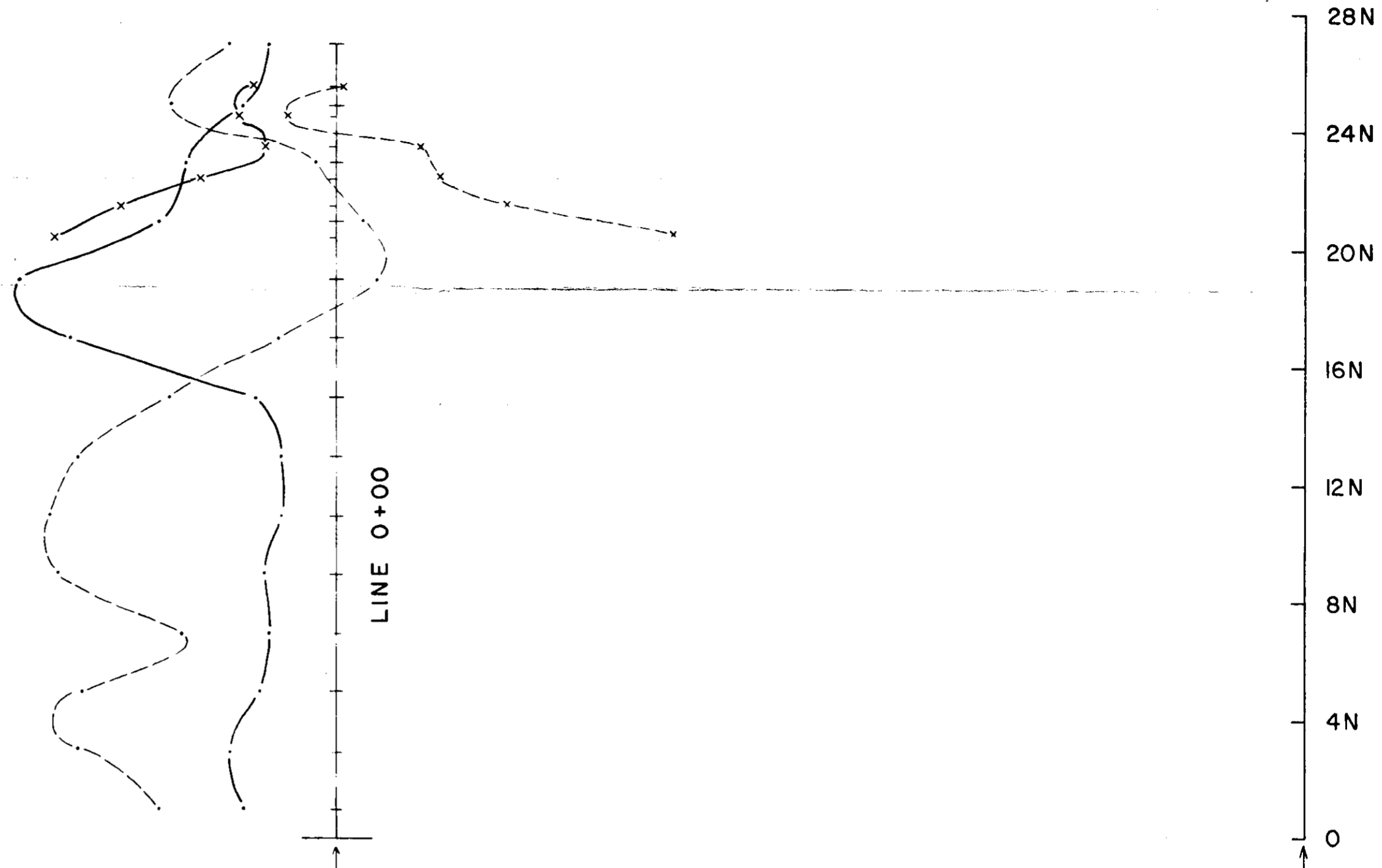
SURVEY BY SEIGEL ASSOCIATES LIMITED MARCH, 1969

PLATE I

32W 28W 24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E 28E



OHM - METRES  
10,000  
1,000  
100



**LEGEND**

CHARGEABILITY, SCALE 1" = 20 MILLISECONDS  
ELECTRODE SPACING a = 200' ---  
a = 100' x---x  
RESISTIVITY, SCALE 2" = 1 LOGRITHMIC CYCLE  
ELECTRODE SPACING a = 200' ---  
a = 100' x---x  
NOTES: THREE ELECTRODE ARRAY  
SEIGEL MK VI INDUCED POLARIZATION DATA  
ELECTRODE SPACING AS INDICATED

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1795 MAP 1

PLATE 2  
**ZULCO EXPLORATIONS LTD.**  
MERRITT AREA, BRITISH COLUMBIA  
**INDUCED POLARIZATION SURVEY**

TO ACCOMPANY A GEOPHYSICAL REPORT  
BY J.G. BAIRD DATED APRIL 3, 1969

SCALE: 1" = 400'  
SURVEY BY SEIGEL ASSOCIATES LIMITED  
MARCH, 1969

