

REPORT ON
AN INDUCED POLARIZATION SURVEY
BARNES LAKE AREA, BRITISH COLUMBIA
ON BEHALF OF
THOR EXPLORATIONS LIMITED

9241/645

by

Peter J. Fominoff, B.A.Sc.

and

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

September 15, 1971

CLAIMS:

Name

PYRITE 1, 2, 4-6,
14-16, 18

LOCATION:

About 5 miles east of Ashcroft, British Columbia
Kamloops Mining Division
121° 50' NE

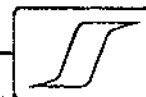
DATES:

August 26 to September 1, 1971

3247

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(in envelope)	
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3 Plate 3 - Grid and Claims Map	1 inch = 400 feet

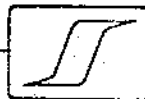


SUMMARY

The present induced polarization survey has revealed two areas of increased chargeabilities. The area interpreted to be of higher priority lies near an intrusive-volcanic contact. The source of the increased chargeabilities contains the equivalent of 2 percent to 3 percent by volume of metallicly conducting material.

The second area is coincident with a geochemical copper anomaly. The source of the increased chargeabilities contains less than 1 percent by volume of metallicly conducting material.

Two diamond drill holes totalling 800 feet have been recommended for further exploration.



REPORT ON
AN INDUCED POLARIZATION SURVEY
BARNES LAKE AREA, BRITISH COLUMBIA
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THOR EXPLORATIONS LIMITED

INTRODUCTION

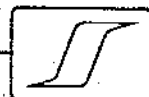
During the period August 26 to September 1, 1971, a geophysical field party under the direction of Mr. Tony Guernier executed an induced polarization survey in the Barnes Lake area, British Columbia on behalf of Thor Explorations Limited.

As shown on Plate 1, on the scale of 1 inch = 4 miles, the property lies approximately 5 miles east of Ashcroft, British Columbia. The topography of the area surrounding the property may be described as very rugged. Adequate electrode contact was difficult to establish at some stations because of lack of overburden and very dry ground conductions. Access was by truck over a good road.

The claims covered by the present survey are listed on the cover page of this report and are shown on Plate 3, on the scale of 1 inch = 400 feet.

Seigel Mk VII time domain (pulse-type) induced polarization equipment has been employed on this property. The transmitting unit had a rating of 2.5 kilowatts 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 metallicly conducting mineralization beneath the grids covered. In the present area such mineralization could include



pyrite, chalcopyrite, molybdenite and other metallic sulphide minerals. As well, minerals such as magnetite, sericite, chlorite and others may contribute to chargeability responses and may not always be distinguishable from responses due to sulphides.

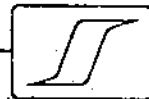
The three electrode array was employed for the survey. For this electrode array, one current electrode and two potential electrodes traverse the profiles with an interelectrode spacing called "a". The second or "infinite" current electrode is placed a distance greater than 5a from the measuring point which is defined as the midpoint between the moving current electrode and the near potential electrode. For the reconnaissance survey observations were taken for a = 400 feet and a = 200 feet with 200 foot station intervals. For additional detail on parts of some profiles readings were taken with a = 100 feet and 100 foot station intervals.

A grid as shown on Plate 3, totalling about 2.6 line miles was surveyed. The base line was oriented northwest-southeast and lines at 400 foot and 500 foot separations were established perpendicular to it.

GEOLOGY

A description of the regional geology of the area including and surrounding the present claims is found in G.S.C. Memoir 262 "Ashcroft Map Area, British Columbia" by S. Duffell and K. C. McTaggart, 1952.

The property lies near or on a contact between Miocene or Earlier volcanic rocks of the Kamloops group and Lower Jurassic rocks of the Guichon Creek Batholith. The volcanic rocks consist of basalt, andesite and rhyolite and associated tuffs and breccias. The rocks of the Guichon Creek Batholith consist of granite, granodiorite, quartz diorite and diorite.



A local geology map has been made available to the writers by Mr. Dave Arscott of Thor Explorations Limited. Coarse dioritic rocks of the Guichon Creek Batholith have been mapped on the eastern ends of all grid lines. Rhyolite and rhyolite porphyry rocks of the Kamloops group and altered andesites of the Nicola (?) group have been mapped over all of the central and western parts of the grid.

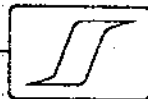
Some disseminated sulphides, mainly pyrite, have been observed in the rocks.

The Highland Valley area, centred on the Guichon Creek Batholith, is well known for disseminated copper deposits. The target of the present survey was one of these low grade, large tonnage deposits the upper surface of which would occur within 300 feet of ground surface.

DISCUSSION OF RESULTS

Plate 2, on the scale of 1 inch = 400 feet shows the geophysical profiles. The profiles consist of chargeability (the induced polarization characteristic of the rock) and resistivity data. The vertical scales for these profiles are 1 inch = 10.0 milliseconds for chargeability, and 2 inches = 1 logarithmic cycle with base line taken as 1000 ohm-meters for resistivity.

The profiles indicate that the background chargeability range is from 1.0 to 6.0 milliseconds, a normal response range for most rock types. With this background a subsurface distribution of 1 percent by volume of metallicly conducting mineralization would be expected to add approximately 10.0 milliseconds to the background level. Chargeabilities in excess of 8.0 milliseconds could in some cases be considered worthy of further investigations since deposits of very low concentrations of copper of



sufficient dimensions may have economic significance.

Chargeability increases in excess of 8.0 milliseconds occur east of roughly 10 E on Lines 28 N to 54 N. The area containing these increases is not delimited to the south or to the east, but the source of the responses is in the order of 1000 feet in width. The increased chargeability responses are believed to be in the vicinity of a contact between intrusive rocks to the east and volcanics to the west. The source of the chargeability increases contains the equivalent of about 2 percent to 3 percent by volume of metallicly conducting material.

Chargeability responses obtained with the 400 foot electrode spacings average about 2.0 milliseconds greater than the responses obtained with the 200 foot electrode spacings. Since overburden on the property is shallow with many bedrock outcrops, the bedrock chargeability can be interpreted to increase with depth.

Chargeability increases of more than 8.0 milliseconds also occur on Line 48 N between 4 W and 8 W and are not delimited to the north. The increases are coincident with geochemical copper increases. However, the source of the chargeability increases is interpreted to contain less than 1 percent by volume of metallicly conducting material.

The apparent resistivities range from a minimum of about 100 ohm-meters to a maximum of about 2000 ohm-meters. The values are similar for both the 200 foot and 400 foot electrode spacings indicating a uniform resistivity with increasing depth.

There is a small resistivity depression over the areas of increased chargeability responses however there is no definite correlation between the resistivities and chargeabilities.



CONCLUSIONS AND RECOMMENDATIONS

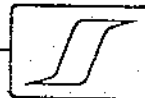
The present induced polarization survey has revealed an area of increased chargeabilities extending from Line 28 N to 54 N east of about 10 E. The source of the chargeability increases contains the equivalent of about 2 percent to 3 percent by volume of metallically conducting material. Part of the chargeability increases may be due to disseminated pyrite that is known to occur over the area.

Since chargeability responses of the order of 20.0 milliseconds are common over many Highland Valley type of large tonnage ore deposits, the above area should be of high priority in further investigations. The proximity of the intrusive-volcanic contact may also be favourably regarded in further exploration work.

A zone of increased chargeability responses occurs on Line 48 N between 4 W and 8 W. The zone is coincident with a geochemical copper anomaly, but its metallically conducting material content is less than 1 percent by volume. This zone would be of lower priority in further exploration work.

The following two diamond drill holes, based solely on the present induced polarization data, are recommended to investigate the source of the increased chargeability responses.

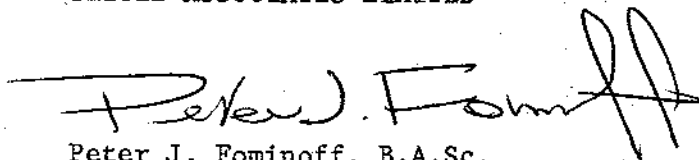
<u>COLLAR</u>	<u>DIP</u>	<u>DIRECTION</u>	<u>MINIMUM LENGTH</u>
L 36 N; 11 E	-45°	Easterly along grid line	400 ft.
L 42 N; 15 E	-45°	Westerly along grid line	400 ft.



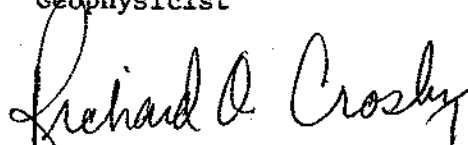
Further exploration can be recommended based upon the results of the first two drill holes.

Respectfully submitted,

SEIGEL ASSOCIATES LIMITED

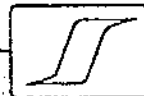


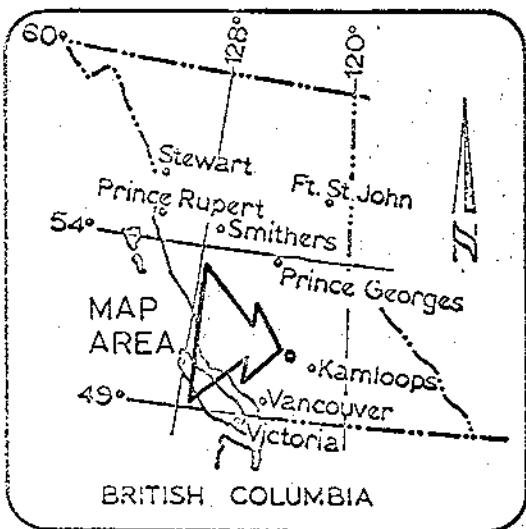
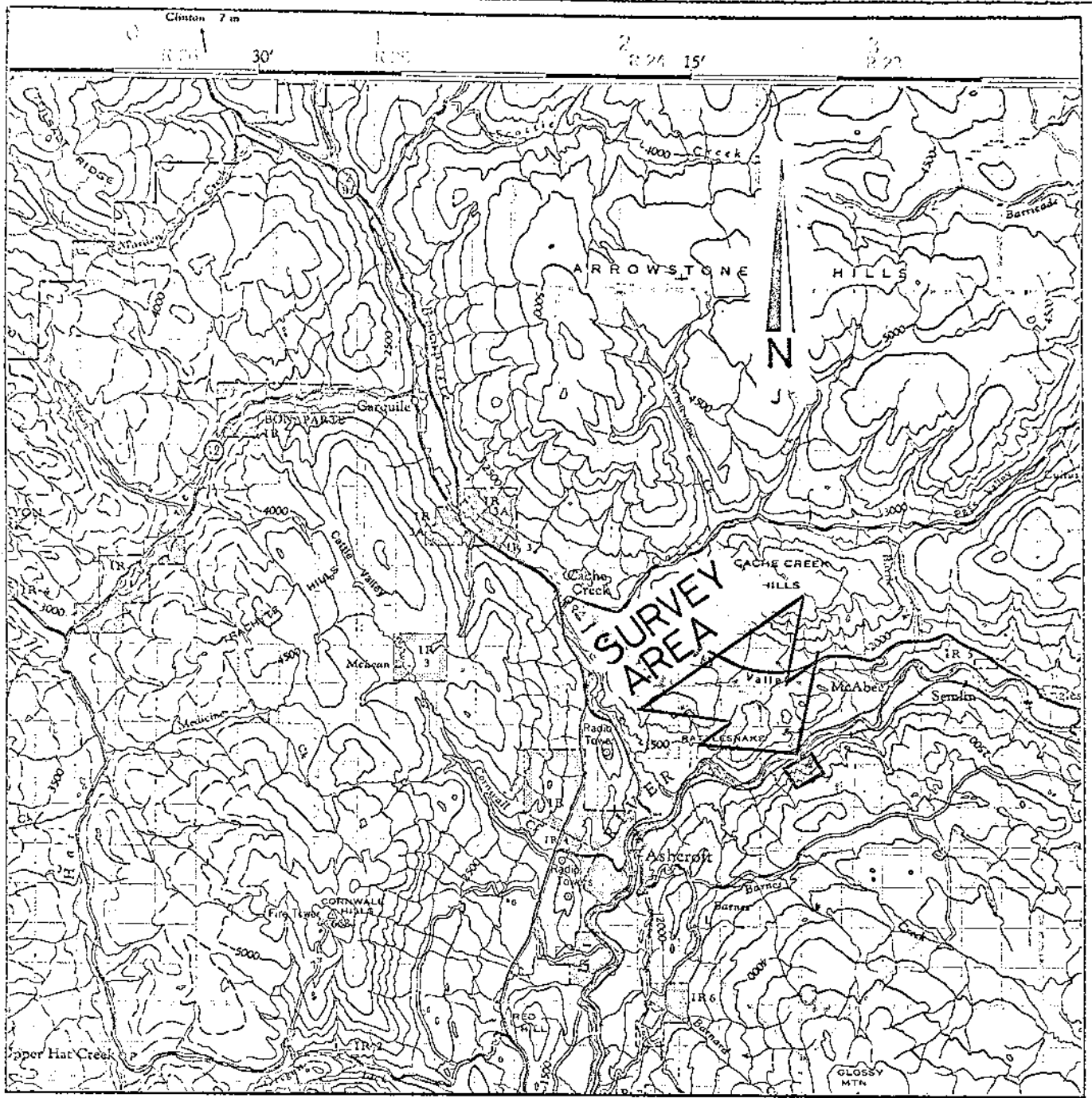
Peter J. Fominoff, B.A.Sc.
Geophysicist



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

Vancouver, B. C.
September 15, 1971





THOR EXPLORATIONS LIMITED

LOCATION MAP
Richard O. Crosby

ASHCROFT AREA - BRITISH COLUMBIA

SCALE
 1 : 250,000



Survey by
 SEIGEL ASSOCIATES LIMITED

PLATE 1



DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To Wit:

In the Matter of a geophysical survey on behalf of
Thor Explorations Limited

I, P. J. Fominoff for Seigel Associates Limited
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 some PYRITE claims, Barnes Lake area, British Columbia between August 26 to September 1, 1971. The following expenses were incurred:

(1) Wages;			
T. Guernier	7 days @ \$35.00/day	\$245.00	
M. Vallee	8 days @ \$27.50/day	220.00	
R. Van Buiten	7 days @ \$27.50/day	192.50	
H. Muller	7 days @ \$27.50/day	192.50	
E. Novotny	7 days @ \$27.50/day	192.50	
		<u>1,042.50</u>	\$1,042.50
(2) Transportation & shipping to the job			74.64
(3) Transportation on the job			467.67
(4) Food & living expenses			756.48
(5) Use of geophysical equipment			
7 days @ \$30.00/day			210.00
(6) Paid to Seigel Associates Limited to cover geophysicist's supervision, calculating, plotting and fairdrawing data and preparation of final reports.			
			<u>1,109.99</u>
			\$3,661.28

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 23rd
day of September, 1971, A.D.

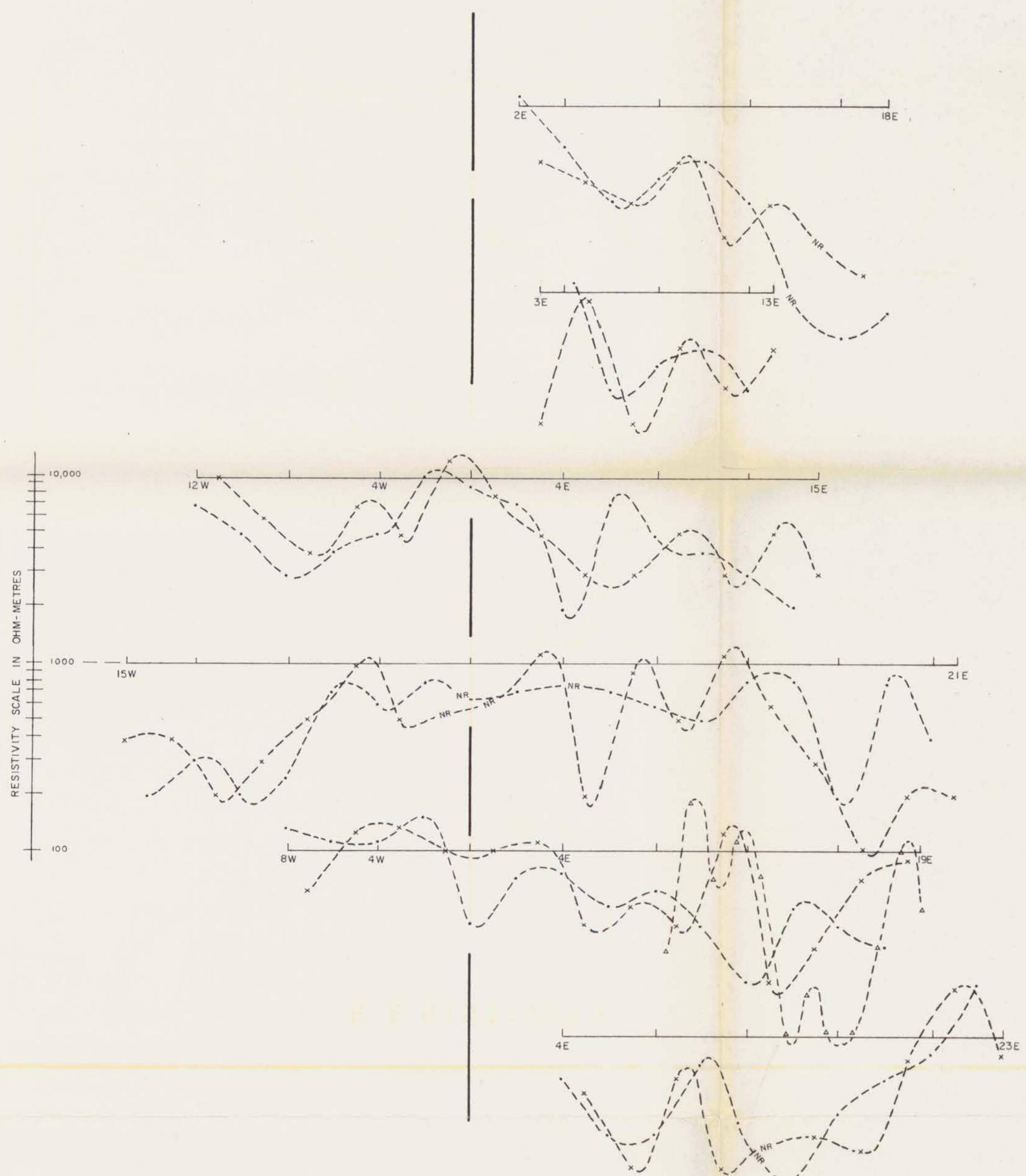
P. J. Fominoff

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

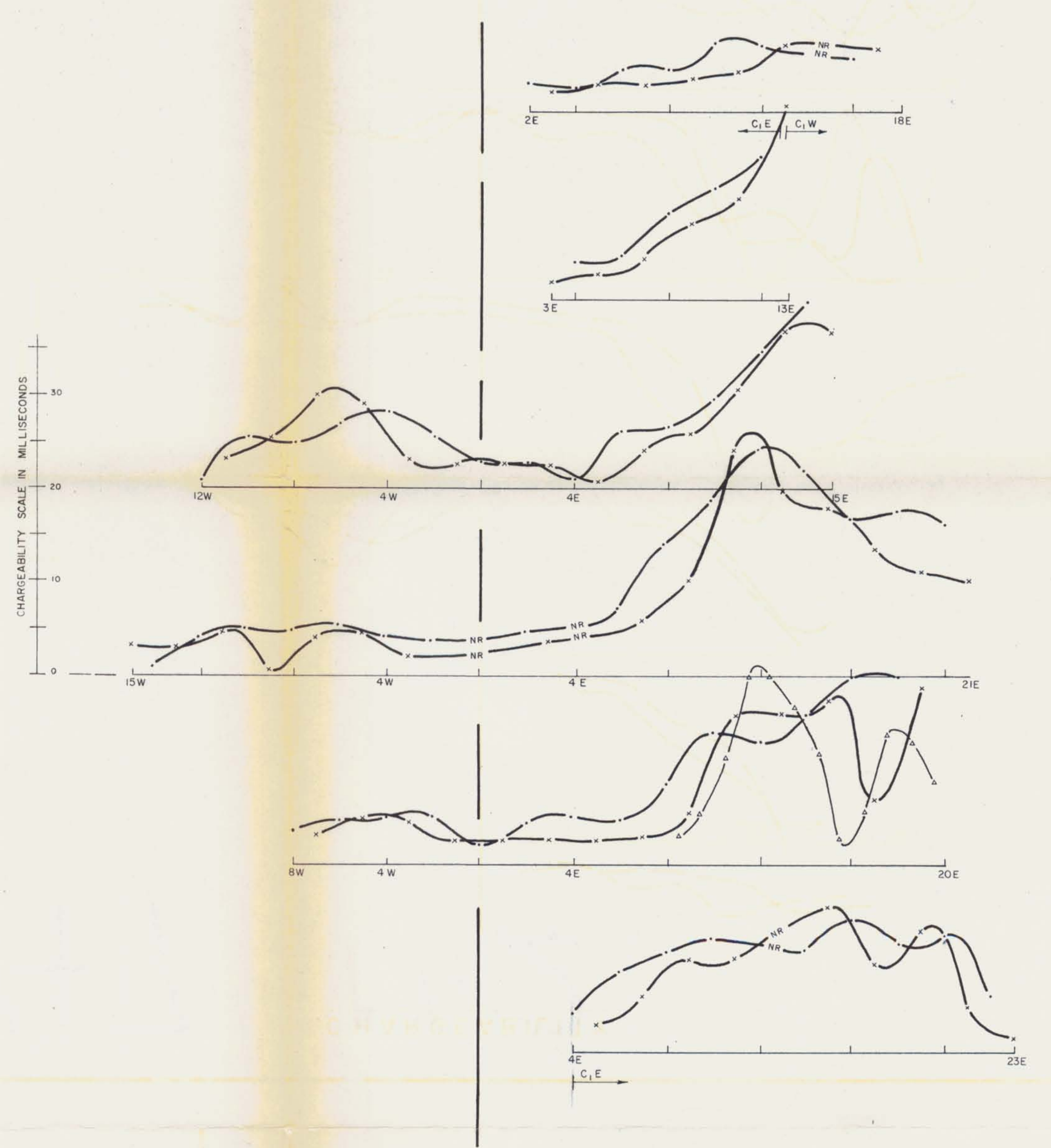
Sub-mining Recorder

R E S I S T I V I T Y

C H A R G E A B I L I T Y



F-384
L-60N
F-454
L-54N
L-48N
F-384
L-42N
F-384
L-36N
L-28N



3547

3247

M-2

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3247 MAP #2

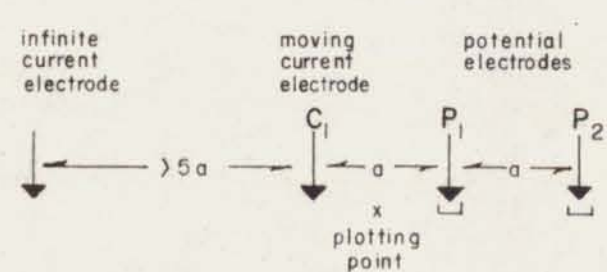
LEGEND

RESISTIVITY SCALE	2 inches = 1 LOGARITHMIC CYCLE WITH LINETRACE TAKEN AS 1000 OHM-METRES	CHARGEABILITY SCALE	1 inch = 10 MILLISECONDS
ELECTRODE SPACING	a = 400' - - - - - a = 200' - x - - - - - a = 100' - Δ - - - - -	ELECTRODE SPACING	a = 400' - - - - - a = 200' - x - - - - - a = 100' - Δ - - - - -

INTERLINE SPACING NOT TO SCALE

NOTES

SCINTREX MK VII INDUCED POLARIZATION INSTRUMENTATION
THREE ELECTRODE ARRAY



TO ACCOMPANY A GEOPHYSICAL REPORT BY:
P.J. FOMINOFF AND R.O. CROSBY, DATED SEPT. 15, 1971

PLATE 2
THOR EXPLORATIONS LTD.

BARNES LAKE AREA, BRITISH COLUMBIA

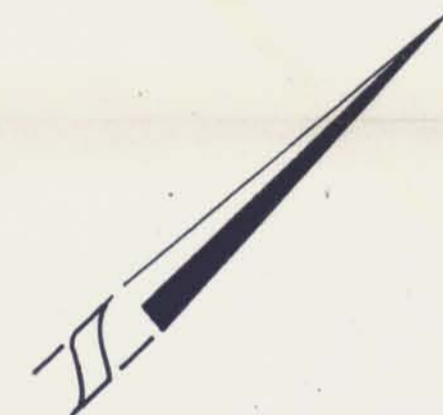
INDUCED POLARIZATION SURVEY
CHARGEABILITY AND RESISTIVITY PROFILES

SCALE 1 inch = 400 feet
400 feet 0 400 feet

SURVEY BY SEIGEL ASSOCIATES LIMITED

AUG. 1971

Richard O. Crosby



16 W 12W 8W 4W B.L. 4E 8E 12E 16E 20E 24E

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3247 MAP #3

PLATE 3
THOR EXPLORATIONS LTD.
BARNES LAKE AREA, BRITISH COLUMBIA
INDUCED POLARIZATION SURVEY
GRID AND CLAIMS
SCALE 1 inch = 400 feet
400 feet 0 400 feet
SURVEY BY SEIGEL ASSOCIATES LIMITED AUG 1971 *Richard O. Crosby*

TO ACCOMPANY A GEOPHYSICAL REPORT BY P.J. FOMINOFF & R.O. CROSBY
DATED SEPT. 15 1971