4543

1973 Geophysical Report

TITLE	Shass Mountain Property (Kid Claims)
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DATE	August 1973
COMMODITY	Mo
LOCATION-Area	Fort Fraser
-Mining Division	Omineca
-Coordinates	54°21'N Latitude 124°55'W Longitude
-NTS	93 K 7

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ILLUSTRATIONS

SUMMARY

Five widespread induced polarization/resistivity traverses were completed on the Shass Mountain Property during the period July 8 - July 23, 1973. Chargeability anomalies obtained on several of the lines are interpreted to reflect 3 to 5% by volume sulphides. Pyrite mineralization is ubiquitous on the property and is probably the major polarizable responder.

INTRODUCTION

The Shass Mountain Molybdenum Property is located on the north side of the Sutherland River, 25 miles north-northeast of Endako, B.C. The property consists of 25 mineral claims owned by Amax Exploration, Inc. Molybdenite mineralization occurring with pyrite is exposed along a cliff face above a small creek bed.

Geological mapping of the occurrence is restricted by overburden cover. In an effort to determine the extent and intensity of subsurface of sulphide mineralization five induced polarization traverses were initiated. The following report describes the instrumentation, field procedure and results obtained from the survey.

Location and Access

The property lies on the north side of the Sutherland River between elevations 3000 and 3500 feet. Access is by the Top Lake Forestry Road and a four wheel drive road across the Sutherland River. By road the property is 38 miles from Highway 16 near the east end of Fraser Lake.

Grid Control

Claim lines and a baseline established during 1968 and 1969 were utilized for the survey. These lines were refurbished by axe and rechained. The claim lines are oriented

LOCATION MAP

N.T.S. File: 93 K 3
Fig. 1

north-south, while the connecting baseline strikes east-west (See Figure 2).

GENERAL GEOLOGY

Most of the property is underlain by sedimentary rocks of the Cache Creek Group. The group consists of argillite, phyllite, argillaceous quartzite, greenstone and limestone and generally trends north to northwest. Intrusive into these rocks is a serpentinite dyke, two separate plugs of quartz monzonite and a series of dykes related to the plugs. Molybdenite is associated with one of the plugs, termed the Shass quartz monzonite.

INDUCED POLARIZATION SURVEY

Introduction and Theory

During the period July 8 - July 23, 1973 six line miles of induced polarization/resistivity surveying were completed on the Shass Mountain Property. The survey was executed to test the subsurface polarizability near mineralized showings and to obtain a cursory impression of the possible extent and intensity of sulphide mineralization throughout the remainder of the claim group.

The term induced polarization means electric polarization (i.e. separation of charges) induced by an applied electric field. The cause of this polarization is changes in the mobilities of ions within a rock. At the interfaces between zones of different mobilities, excesses or deficiences of ions occur. The concentration gradients developed oppose the current flow and cause a polarizing effect. When mineral grains block the pore passages of rocks and a current is applied, a concentration of ions builds up at the electrolyte (water)-metal interface while awaiting an electrochemical

reaction which must occur before the electric charge can be transferred from an ion in the electrolyte to a free electron in the metal. The forces which oppose the current flow are said to polarize the interface and the added voltage necessary to drive the current across this barrier is known as "over-voltage".

In the pulse-transient or time domain method that was employed, the interfaces within the rock were polarized by applying a steady direct current. The current was then abruptly terminated and measurement was made of the small decaying voltage caused by the polarized charges returning to equilibrium.

Resistivity information is useful in inferring over-burden depths, defining abrupt lithological changes, and assessing the importance of any I.P. effects obtained.

Instrument and Procedure

AMAX's portable I.P. unit was used for the survey. The equipment consists of the IPR-7 Newmont-type receiver manufactured by Scintrex Ltd., and the 250 watt Newmont transmitter manufactured by Crone Geophysics. A 25 watt IPC-7 transmitter manufactured by Scintrex was also brought into the property as a back-up current source.

A 200 foot dipole-dipole array was employed and measurements were taken to two separations (n=1,2; a=200). The survey was executed by AMAX personnel.

Survey procedure required the preparation of aluminum foil electrodes at two hundred foot intervals along each survey line. Once the electrodes had been emplaced measurements were taken utilizing four men equispaced 200 feet apart along the line. The advance man pulled the receiving dipole wire and connected its leading end to the aluminum foil electrodes. The second man coordinated the survey and operated the receiver.

The third man on the line operated the transmitter and pulled the transmitting wire while the fourth man established connection of the trailing end of the transmitting wire to the ground electrodes. Communication between the receiver and transmitter operators was maintained by short range radio transceivers.

Results and Discussion

A plan portrayal of the chargeability anomalies is shown in Figure 2 and a pseudosection plot of each traverse is shown in Figures 3 (a,b,c).

In Figure 2 chargeability values ranging from 20-30 milliseconds have been denoted as possibly anomalous while chargeability values greater than 30 milliseconds are definitely anomalous.

Background chargeability values ranging between 8-15 milliseconds were noted near the mineralized showings at 17+00E in the baseline (Figure 3a).

Pyrite mineralization has been observed in both the quartz monzonite and also the Cache Creek Group rocks and is interpreted to be the main source of the induced polarization response.

G.M. DePaoli, Geophysicist, B.Sc.

J.F. Allan, P.Eng. (B.C.)

AMAX Vancouver

Shass Mountain Property - Amax Exploration, Inc.

APPENDIX I — STATEMENT OF COSTS

Record No.	Claim No.	Due Date	Group
62123-62130 incl.	Kid 1-8 incl.	August 26,1973	A
62132	Kid 10	August 26,1973	A
62136	Kid 14	August 26,1973	A
62138	Kid 16	August 26,1973	A
62140	Kid 18	August 26,1973	A
62149	Kid 27	August 26,1973	A
62151	Kid 29	August 26,1973	A
62153-62156 incl.	Kid 31-34 incl.	August 26,1973	A
62158	Kid 36	August 26,1973	A
62163	Kid 41	August 26,1973	A
62165	Kid 43	August 26,1973	A
62167	Kid 45	August 26,1973	A
62168	Kid 46	August 26,1973	A
79024	Kid 48	August 6,1973	A
79027	Kid 51	August 6,1973	A

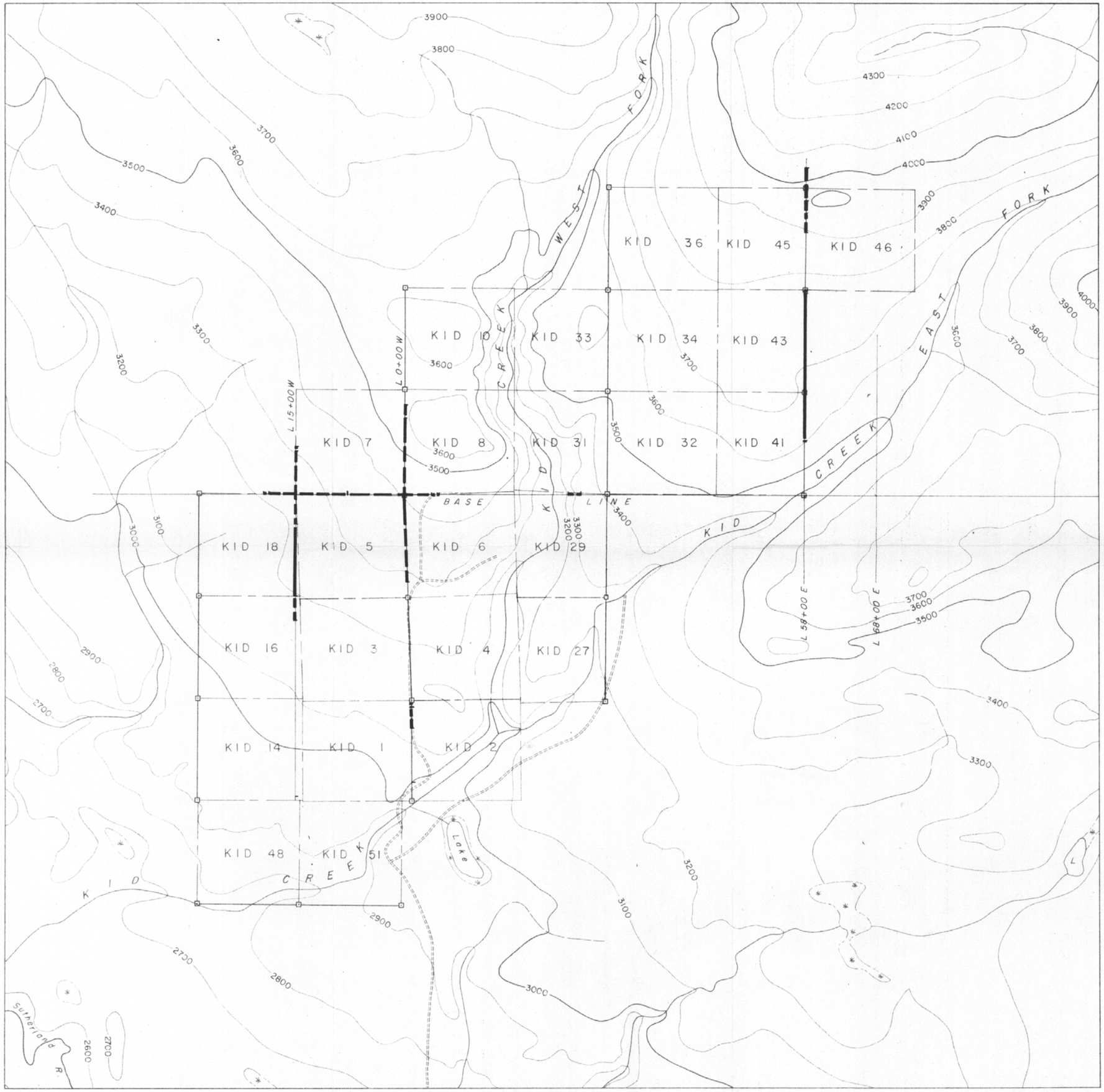
Period Of Work - July 8 - July 23, 1973

Summary of Work - 4.5 miles line refurbishing and chaining
4.5 line miles I.P. surveying

Personnel

G.M. DePaoli - 601-535 Thurlow Street, Vancouver 5, B.C.		
Geophysicist	16 days @ $54.00/day	$864.00
Colin King - 2141 Quince Street, Prince George, B.C.		
Geophysical Assistant	11 days @ $32.00/day	352.00
Antonio Lucarino - 2648 E 19th Avenue, Vancouver, B.C.		
Geophysical Assistant	13 days @ $32.00/day	416.00
Michele Caldarone - 1287 E 17th Avenue, Vancouver, B.C.		
Geophysical Assistant	13 days @ $32.00/day	416.00
Room and Board - 50 man days @ $10.00/day		500.00
I.P. Rental - Scintrex IPR-7 Receiver	Minimum 2 weeks	394.00
Scintrex IPC-7 25 watt	Minimum 2 weeks	240.00
Crone 250 watt transmitter	Minimum 2 weeks	140.00
Vehicle - 3/4 ton 4x4 Pick-up	13 days @ $20.00/day	260.00
Report Preparation and Drafting		200.00
	Total	$3,782.00

The work is to be applied for one year on
Kid 1,14,27,29,32,34,36,41,43,45,46,48 and 51
and to be applied for two years on
Kid 2-8 incl.,10,16,18,31 and 33.



L E G E N D

- Picket line.
- Claim post, claim location line.
- Claim boundary.
- Road.
- 3500 Topographic contour.
- Stream.
- Swamp, swamp boundary.

- < 20 milliseconds
- 20 – 30 "
- > 30 "

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4543 MAP #2

AMAX POTASH LIMITED

SHASS MOUNTAIN PROPERTY

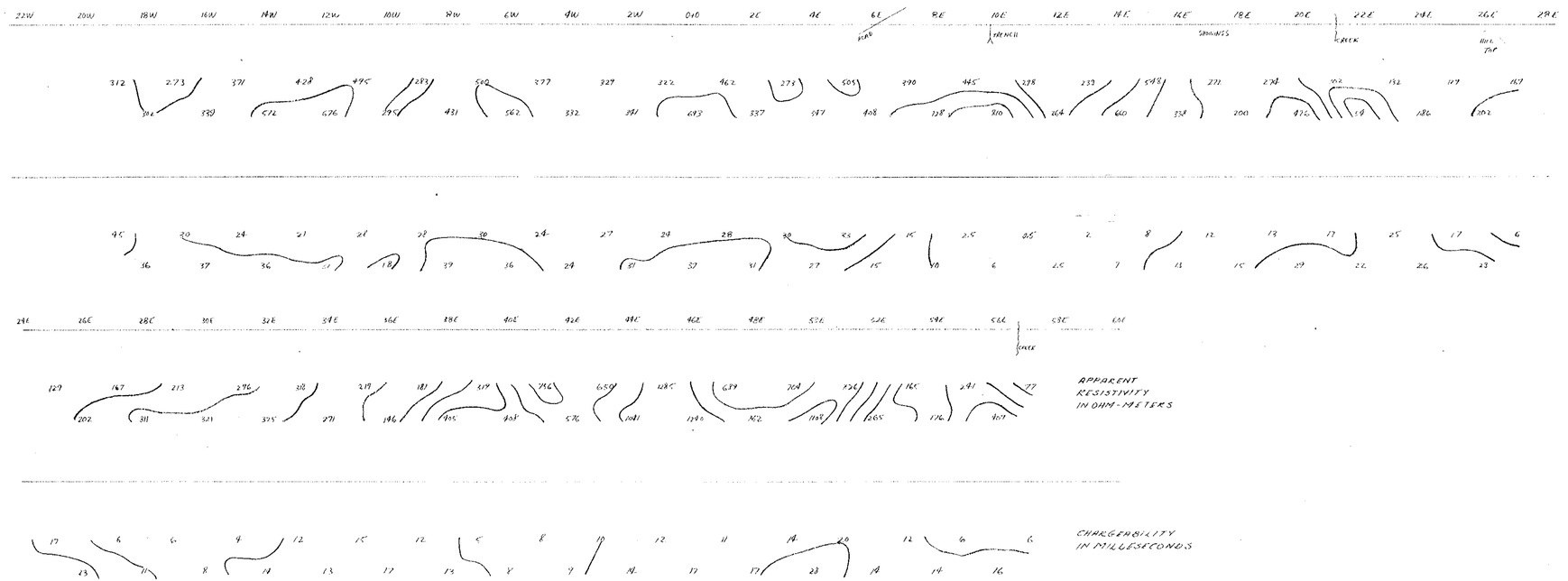
OMINECA MINING DIVISION — BRITISH COLUMBIA

CLAIM MAP AND INDUCED POLARIZATION PLAN

SCALE 1" = 1,000'

DATE REVISED		DATE PRINTED		Drawn by	FIG. 2
				Date	
				N.T.S. File 93 K 7	

To accompany "GEOPHYSICAL REPORT ON THE SHASS MOUNTAIN PROPERTY" by: G. M. De Paoli and J. F. Allan.



INSTRUMENT	Battery power, time domain
ARRAY	Dipole - Dipole a=200 n=1,2
CURRENT CYCLE	2 seconds
OPERATOR	G. M. De Paoli
DATE	July, 1973

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#3

AMAX POTASH LIMITED

SHASS MOUNTAIN PROPERTY
OMINECA MINING DIVISION — BRITISH COLUMBIA

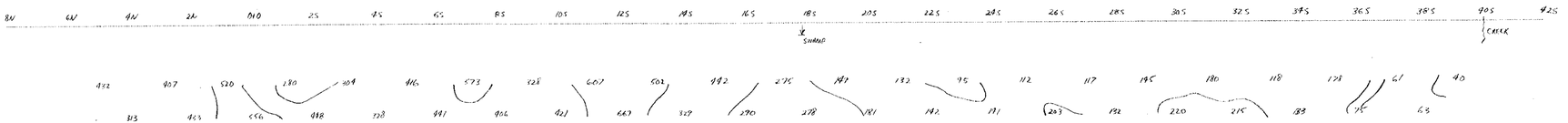
INDUCED POLARIZATION SURVEY

BASE LINE

SCALE 1" = 200'

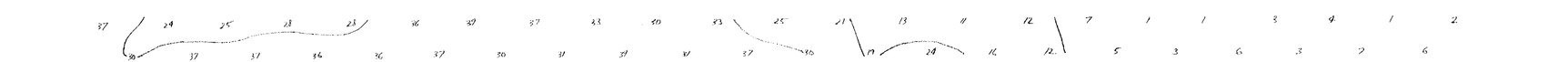
To accompany "GEOPHYSICAL REPORT ON THE SHASS MOUNTAIN PROPERTY" by: G. M. De Paoli and J. F. Allan.

FIG. 3a

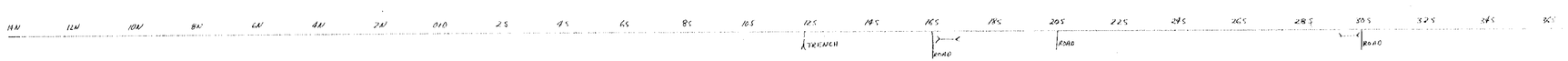


ρ_a IN OHM-METERS

LINE 15+00 W

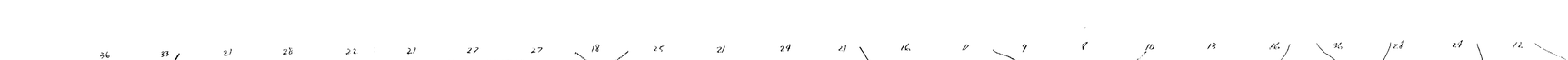


M IN MILLISECONDS



ρ_a IN OHM-METERS

LINE 0+00 E



M IN MILLISECONDS

INSTRUMENT	Battery power, time domain
ARRAY	Dipole - Dipole a = 200 n = 1,2
CURRENT CYCLE	2 seconds
OPERATOR	G. M. De Pooli
DATE	July, 1973

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SHASS MOUNTAIN PROPERTY

OMINECA MINING DIVISION — BRITISH COLUMBIA

INDUCED POLARIZATION SURVEY

SCALE 1" = 200'

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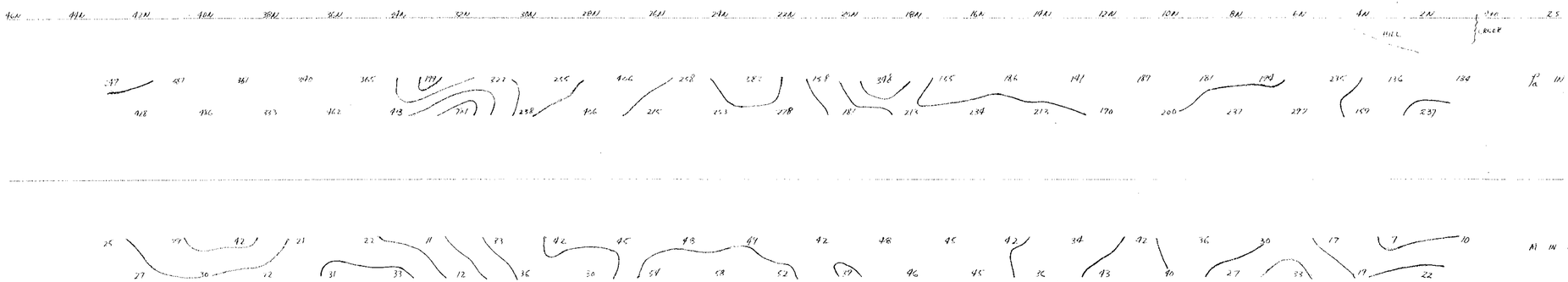
FIG. 3b



INSTRUMENT	Battery power, time domain
ARRAY	Dipole - Dipole a = 200 n = 1, 2
CURRENT CYCLE	2 seconds
OPERATOR	G. M. De Paoli
DATE	July, 1973

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SHASS MOUNTAIN PROPERTY

OMINECA MINING DIVISION — BRITISH COLUMBIA

INDUCED POLARIZATION SURVEY

SCALE 1" = 200'

To accompany "GEOPHYSICAL REPORT ON THE SHASS MOUNTAIN PROPERTY" by: G.M. De Paoli and J. F. Allan.

FIG. 3c