

ANVIL MINING CORPORATION LIMITED

P.O. BOX 2470
103 POLARIS BLOCK
WHITEHORSE, YUKON TERRITORY
CANADA



December 1967

Mr. G. McIntyre,
Chief Mining Recorder
Federal Building
Whitehorse, Y.T.

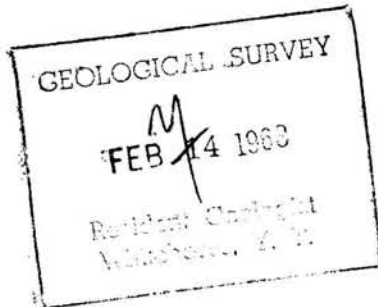
Dear Mr. McIntyre :

The accompanying I.P. report by Mr. Roger Watson, Hunter Limited, is submitted in support of applications for certificate of work in the MULTI claim group.

Hunter employees taking part in the survey may be contacted at 606-837 West Hastings Street, Vancouver 1, British Columbia.

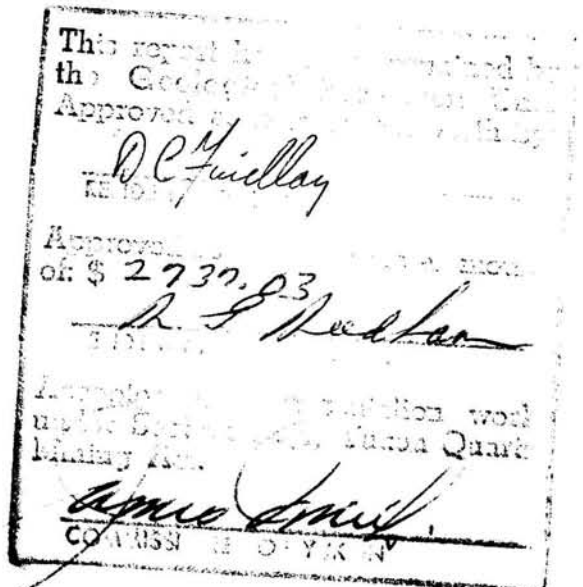
Yours truly,

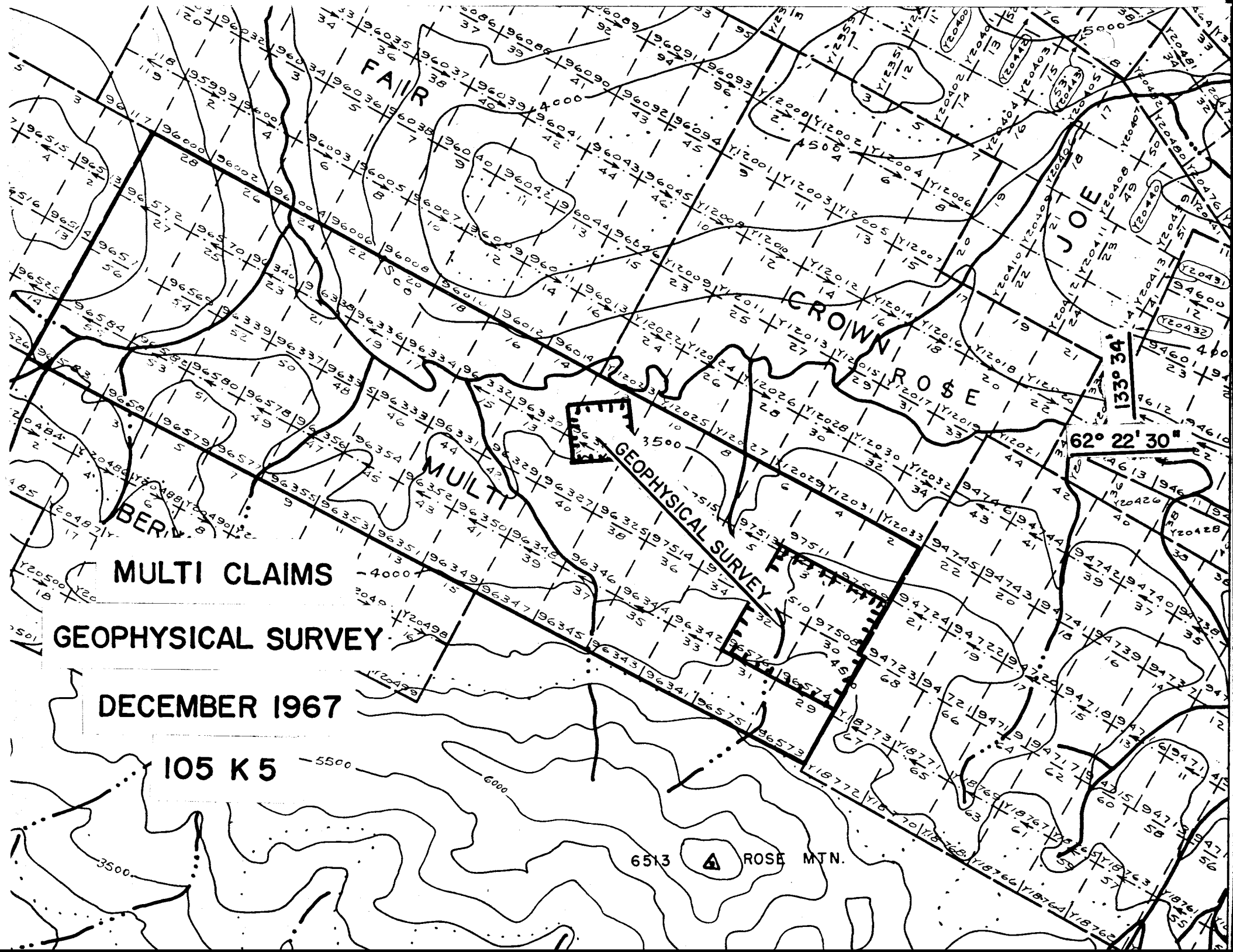
M.O. Hampton, P.Eng.
Chief of Exploration
ANVIL MINING CORPORATION LTD.



MOH/pp

Enclosure :





FAIR

CROWN ROSE

JOE

MULTI

MULTI CLAIMS

GEOPHYSICAL SURVEY

DECEMBER 1967

105 K 5

6513 ROSE MTN.

62° 22' 30"

133° 34'

REPORT ON
AN INDUCED POLARIZATION (I.P.) SURVEY
MULTI CLAIM GROUP
WHITEHORSE MINING DISTRICT, YUKON TERRITORY

FOR

ANVIL MINING CORPORATION LIMITED

BY

HUNTEC LIMITED
VANCOUVER B.C.
NOVEMBER 1967

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INTRODUCTION

General

This report contains the results of an Induced Polarization survey carried out by Huntex Limited for the Anvil Mining Corporation Limited on the Multi Claim Group in the Whitehorse Mining District, Yukon Territory.

The survey of this claim group was part of a larger program which was designed to test the capability of the Induced Polarization method for detecting the type of sulphide mineralization which has been found in commercial quantities during the last few years in this district, and to prospect for additional ore. Part of this test included several test profiles over the Faro ore body.

Field work was carried out between August 7th and August 12th, 1967. The field party chief was Mr. John James and the project was supervised from Vancouver by Mr. R. K. Watson.

The Property

The Multi Group lies about seven miles, in a direction approximately W 20° N, from the Anvil airstrip and base camp; access is by helicopter or on foot. The property lies within the Mississippian Formation, consisting mainly of quartz sericite schist, which is associated with most of the economic mineralization in the general area.

SURVEY SPECIFICATIONS

The Equipment

The Induced Polarization equipment used was a 2.5 kw pulse-type instrument manufactured in Toronto by Hunttec Limited. The following specifications apply:

Type of current	Direct Current broken at periodic intervals
Frequency	1.5 seconds "current on" and 0.5 seconds "current off". Alternate pulses have reverse polarity
Integrating time	400 milliseconds
Maximum power available	2.5 kw
Maximum current available	3.0 amps

Measurements taken in the field were:

1. The current flowing through the current electrodes C_1 and C_2 .
2. Primary voltage V_p between measuring electrodes during "current on" time.
3. Secondary voltage V_s between measuring electrodes during "current off" time.

The apparent chargeability (M_a) in milliseconds is calculated by dividing the secondary voltage by the primary voltage and multiplying by 400 which is the sampling time in milliseconds of the receiver unit. The apparent resistivity is calculated by dividing V_p by the current and multiplying by the geometrical factor appropriate to the electrode array being used.

Electrode Configuration

The entire survey was carried out using the pole-

dipole electrode configuration or array. In this array the current electrode C_1 and the two potential electrodes P_1 and P_2 are moved in unison along the line to be surveyed. The quantity "a" or "electrode separation" is the distance between C_1 and P_1 . The distance between P_1 and P_2 is kept at some convenient distance equal to "a" or a simple fraction of "a". For the reconnaissance phase of this survey the value of "a" was kept at 200 feet.

Since the value of "a" is a rough approximation to the depth penetration, detailing of anomalies discovered in the reconnaissance phase was done by profiling the anomalies at different electrode separations. This additional data provides information from which depth, dip and location may more easily be calculated than from a single profile.

Data Presentation

The data for the reconnaissance and detail phase of the survey are shown on Plate 1 located in the pocket inside the back cover of this report. The map shows profiles of apparent chargeability and resistivity at a horizontal scale of 1" to 200 ft. along with the outline of interpreted causative bodies. A plan map of the survey area at 1" to 200 ft. is also shown, indicating the approximate areal extent of these bodies. Fig. A shows the approximate location of the property surveyed relative to the Anvil airstrip.

RESULTS AND INTERPRETATION

Multi "A" Grid

Unusually high background noise was observed throughout this grid and the spurious electrical pick up interfered with the normal operation of the receiver unit. To overcome this, the signal from the transmitter was increased to the maximum available and alternative electrode arrays were also tried. However, due to the very low resistivity in the area, it was not possible to raise the signal to noise ratio to a satisfactory level and after considerable experimenting without success the survey was terminated.

Multi "B" Grid

On the Regional Geology Map the Multi "B" Grid lies in the banded quartz-sericite-schist formation No.7. There is no detailed geology or other geophysics available to the writers at the time of writing this report. Results are shown in profile form on Plate 1, together with an interpretation map. The interpretation map shows the outline of interpreted causative bodies with a notation describing the depth to the top of them, the approximate chargeability of the anomalous body and the approximate resistivity contrast.

The results show a generally active chargeability background over the area that was surveyed with an average background value of about 7 milliseconds. Several anomalies were seen on lines 8 and 12E and the interpreted bodies causing these anomalies are shown on the profiles and in the interpretation plan map.

Anomaly No. 1 appears most strongly on the profile which was measured with a 400 ft. electrode spacing and

its cause is interpreted as a relatively deep chargeable mass with virtually no conductivity contrast to the surrounding host rock. The depth to the upper surface is most probably between 150 feet and 250 feet. Its most likely cause is disseminated particles of sulphide or graphite.

Anomaly No. 2 is seen only on the 100 ft. electrode spacing profile and is interpreted as a relatively shallow and narrow chargeable mass coming to within 50 feet from ground surface and having a true chargeability of more than 25 milliseconds. The resistivity response shows that it has no resistivity contrast with background and its cause is interpreted as disseminated conductor particles.

Anomaly No. 3 is similar in that it is seen mainly on the 100 ft. electrode spacing. This indicates it to be caused by a relatively narrow shallow chargeable body. It also has a coincident resistivity low indicating that the conductive particles must be joined to provide some electrical continuity. Its cause could be sulphides and/or graphite.

Anomaly No. 4 is complex and the interpreted causative body can only be considered very approximate. It is believed to be resolved into two separate possibly shallow bodies as shown on the profile with a depth between 50 feet and 100 feet and a chargeability greater than 20 milliseconds. They are probably composed of disseminated particles as shown by the absence of a resistivity anomaly.

It is possible that Anomalies Nos. 2, 3 and 4 may be joined as shown on the interpretation map. It is not possible to determine this directly without an intermediate line between lines 8 and 12E.

SUMMARY AND CONCLUSIONS

1. No I.P. survey work was carried out over the Multi "A" grid owing to high background noise and low apparent resistivity.
2. The Induced Polarization survey on the Multi "B" grid covered 9,400 feet of I.P. and resistivity profiling and resulted in four anomalies which rise significantly above the active background chargeability.
3. Anomalies 1, 2 and 4 are believed to be caused by disseminated conductive particles which could be sulphides, and Anomaly 3 is believed caused by conductors with some electrical continuity.
4. A decision to investigate these further by drilling should be preceded by Magnetic surveys to determine if magnetite is playing a part in the chargeability response.



HUNTEC LIMITED

A handwritten signature in cursive script that reads "R. K. Watson".

R. K. Watson, B.A.Sc., P.Eng.
Geophysicist

APPENDIX A

ASSESSMENT CREDIT DATA

<u>Miles Surveyed:</u>		<u>Line-Miles</u>
<u>"A" Grid</u>	- Reconnaissance Phase	Nil
<u>"B" Grid</u>	- Reconnaissance Phase	1.9
	Detail Phase	<u>1.7</u>
	Total	3.6

Personnel:

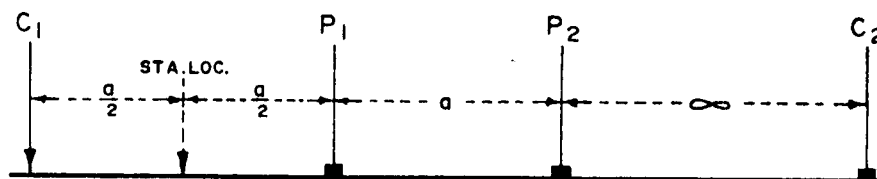
<u>Name</u>	<u>Occupation</u>	<u>Dates</u>
J. James	Operator/Party Chief	Aug.7 - Aug.12, 1967
M. Samilski	Operator	Aug.7 - Aug.12, 1967
A. Hovi	Helper	Aug.7 - Aug.12, 1967
P. Bucholtz	"	Aug.7 - Aug.12, 1967
F. Rice	"	Aug.7 - Aug.12, 1967
E. Helkio	Drafting	Nov.3, 6, 7, 1967
R. K. Watson	Geophysicist	Nov.2, 3, 1967
W. A. Finney	Geophysicist	Nov.3, 6, 1967
M. Vatcher	Typing	Nov. 6, 1967

ANVIL MINING CORPORATION LIMITED.

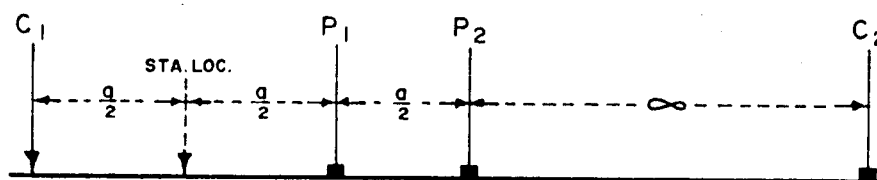
(MULTI-"B" GRID)

PLATE --- I.

3 - ELECTRODE ARRAY



POLE - DIPOLE ARRAY



NOTE:

P₁ P₂ are Receiver Electrodes.
C₁ C₂ are Transmitter Electrodes.

LEGEND

- ——— ● a = 50'
- ——— ○ a = 100'
- X ——— X a = 200'
- ——— ■ a = 300'
- △ ——— △ a = 400'
- ▲ ——— ▲ a = 600'
- ——— □ a = 800'

Horizontal Scale: 1 inch = 200 feet.

Vertical Scales:

Chargeability 1 inch = 5.0 milliseconds.

Resistivity 2 inches = 1 logarithmic cycle (ohm-meters)

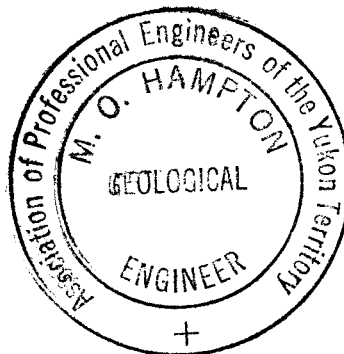
DATE: NOV. 1967.
JOB N^o: PH.-666/67.

STATEMENT OF COSTS

Geophysical (I.P.) Survey
MULTI Claim Group

Hunter Limited

Operators & Equipment 6 days @ \$206/day	\$1,236.00
Helpers 12 man days @ \$16.	\$ 192.00
Maintenance	
24 m.d. at \$6.80	\$ 163.20
Transport, helicopter	
(Aug. 7-13) 10hrs.25mins.	
@ \$110/hr.	\$1,145.83
	<hr/>
	\$2,737.03
	<hr/>



M. O. Hampton

A F F I D A V I T

SUPPORTING STATEMENT OF COSTS
Geophysical (I.P.) Survey
August 7 - 13, 1967

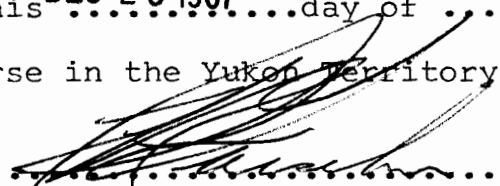
I, Murray O, Hampton, Chief of Exploration for ANVIL MINING CORPORATION LIMITED, have compiled the Statement of Costs as presented in this report "Geophysical (I.P.) Survey MULTI Claim Group", DO MAKE OATH AND SAY AS FOLLOWS :

THAT to the best of my knowledge and belief, the Statement of Costs as presented is a true and an accurate presentation of expenditures to be applied as representation work on the MULTI mineral claims.



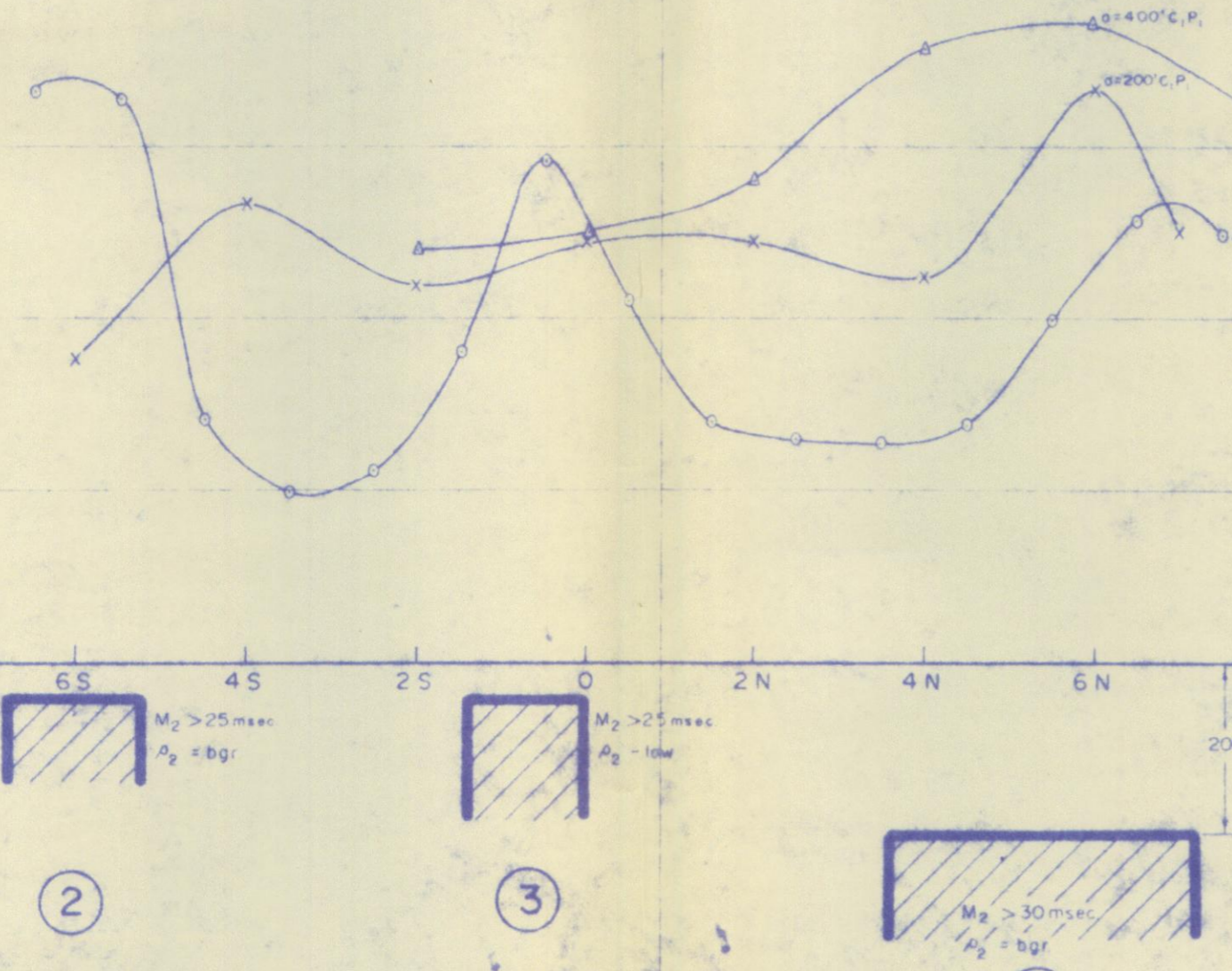
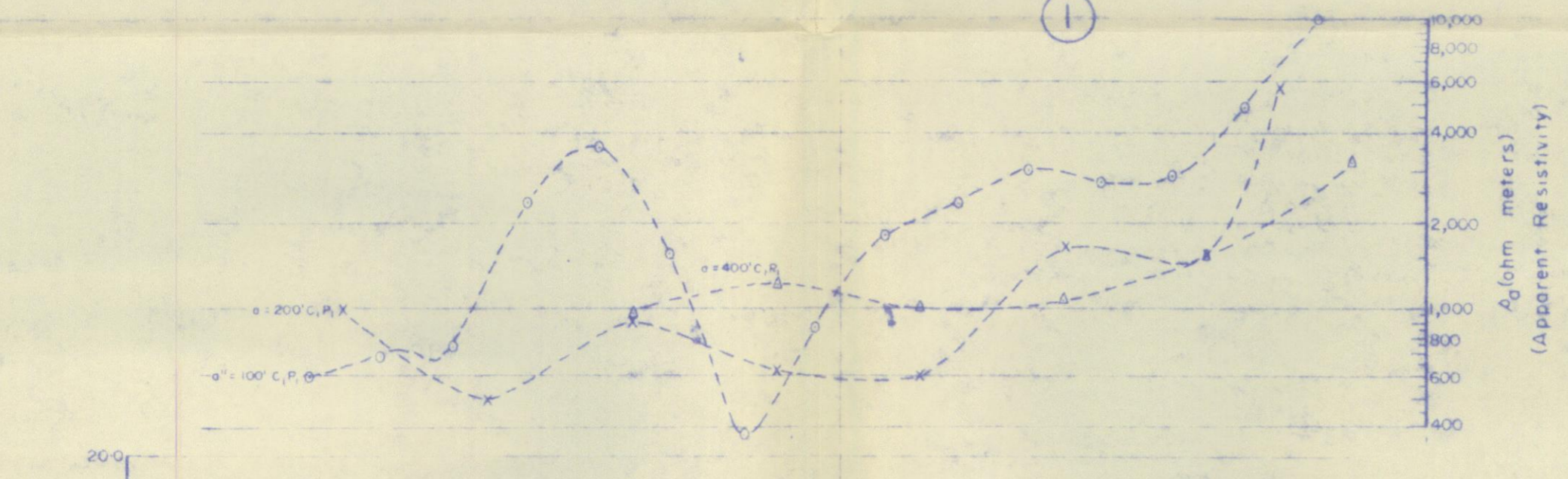
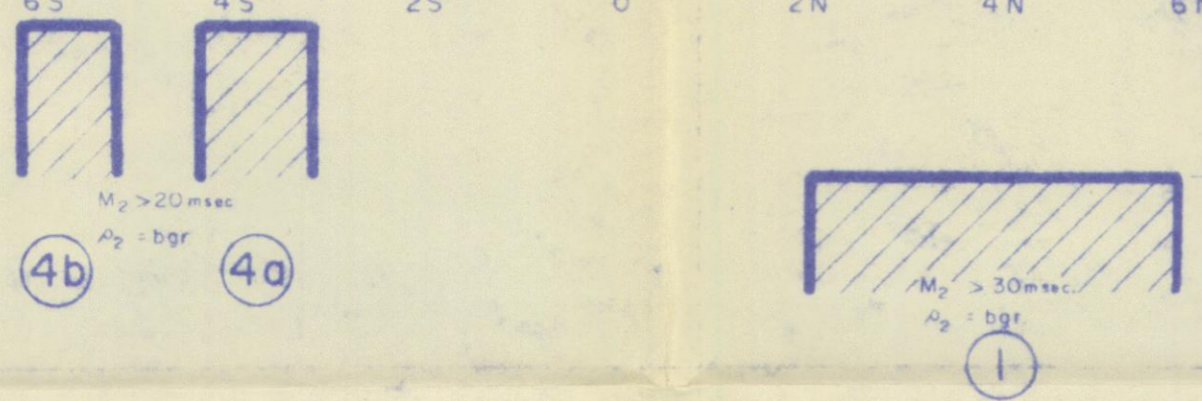
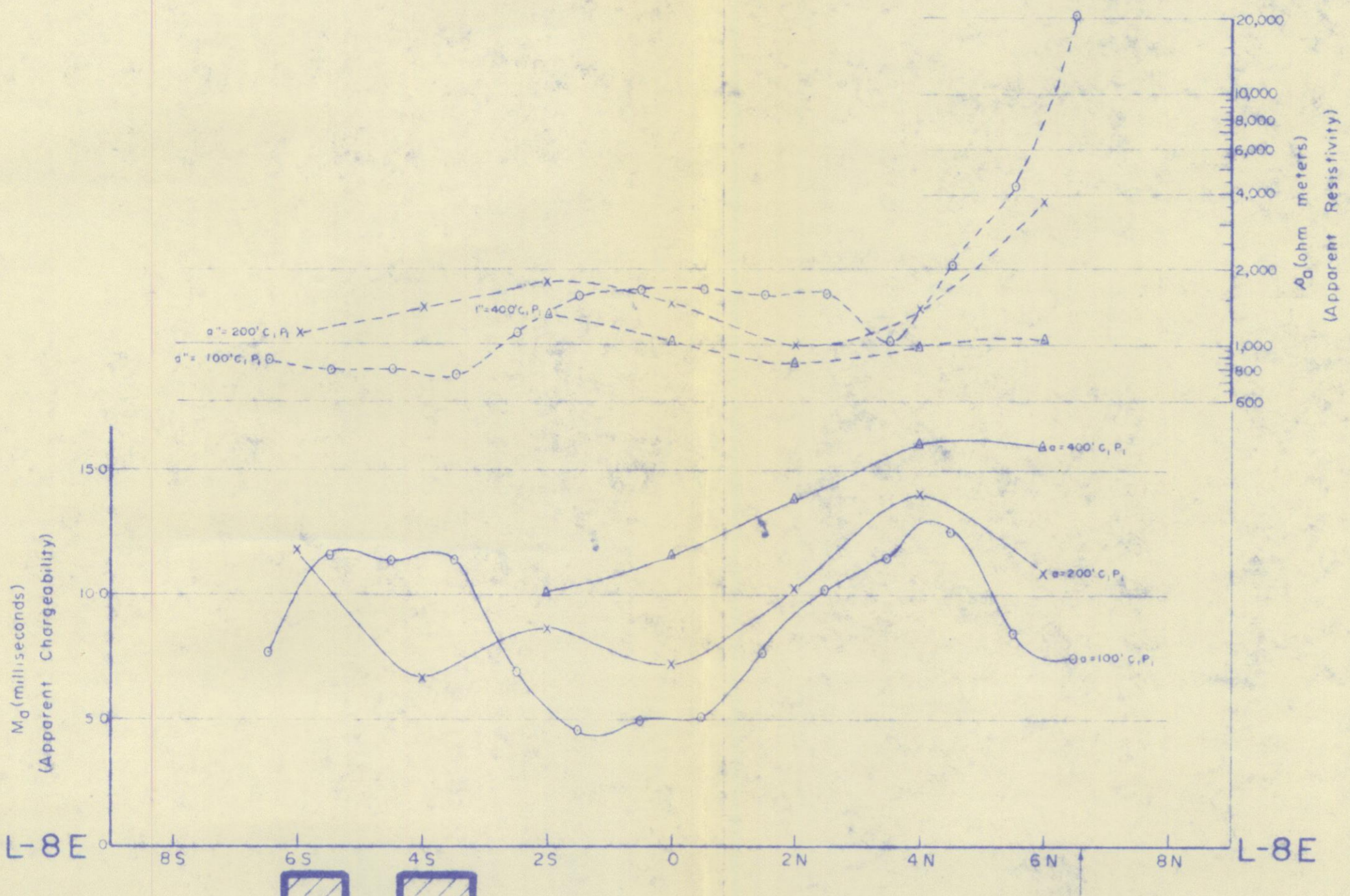
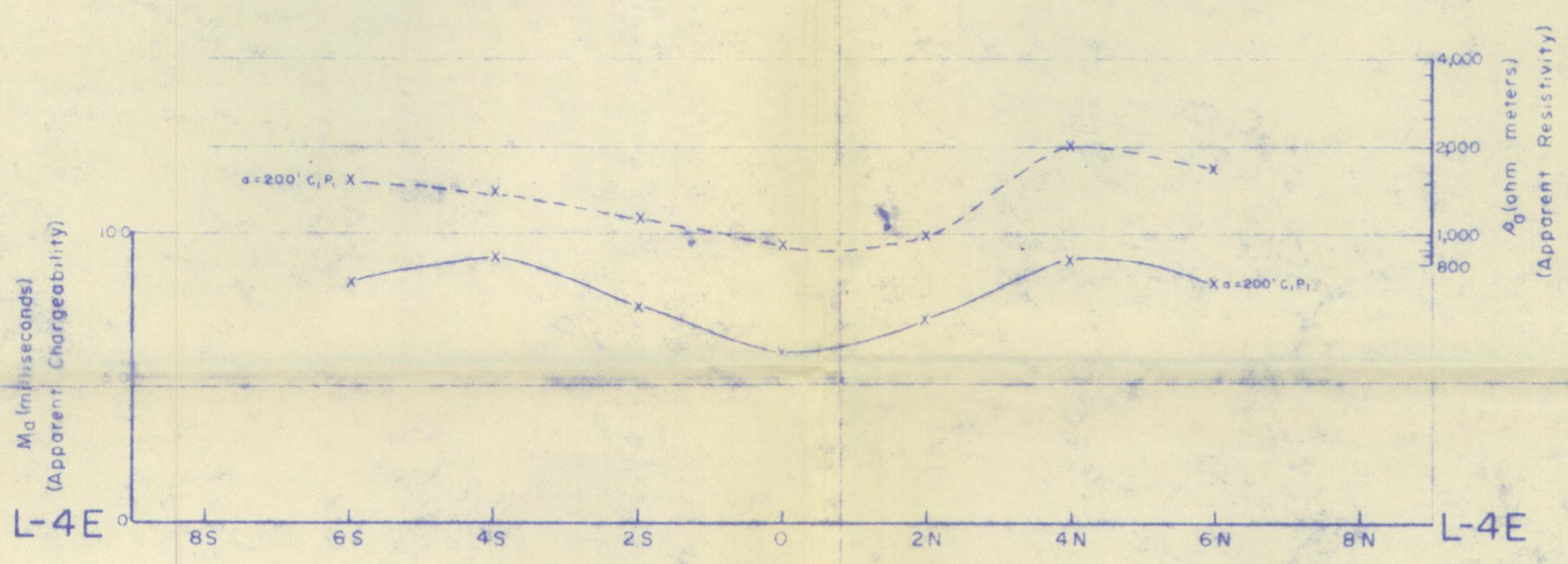
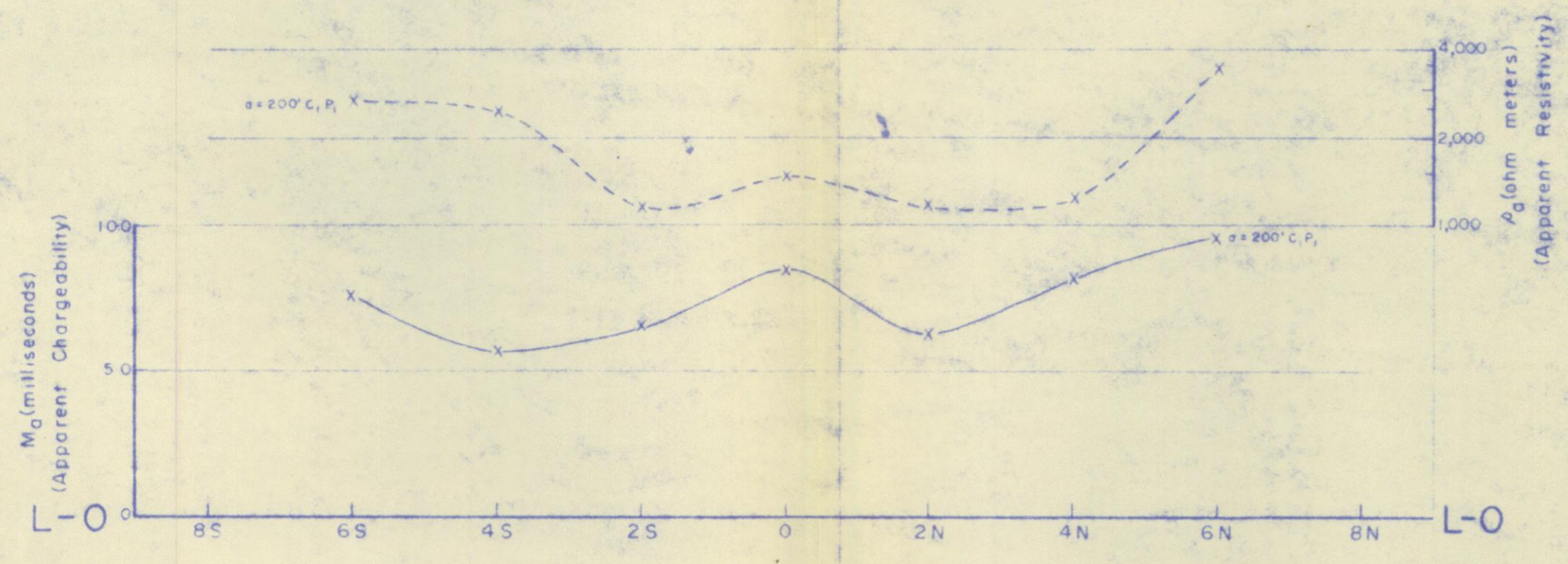
Murray O. Hampton, B.A.Sc., P.Eng.
Chief of Exploration for
ANVIL MINING CORPORATION LIMITED.

Sworn before me this **DEC 20 1967**day of1967,
in the City of Whitehorse in the Yukon Territory.

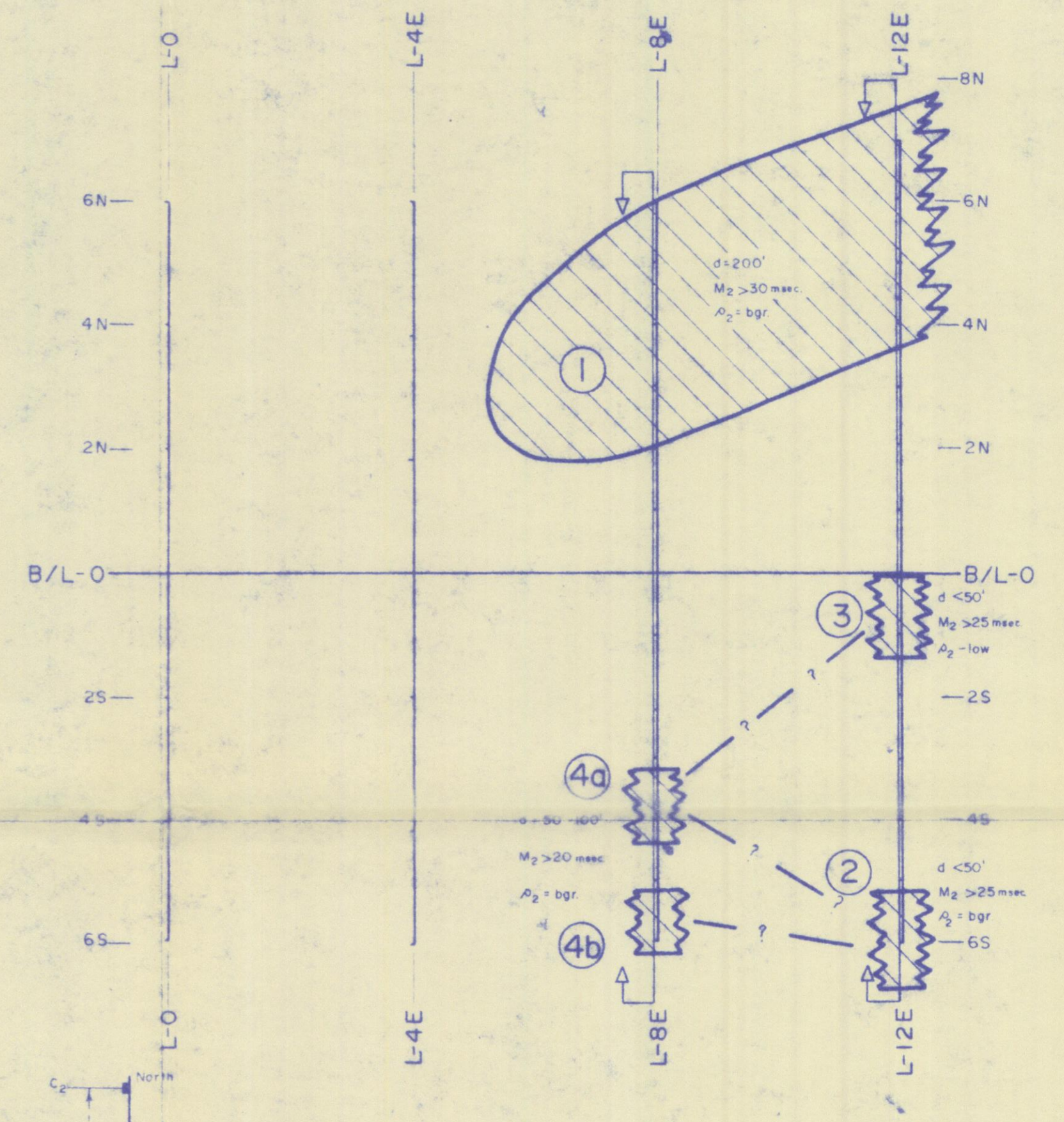


.....
A Commissioner for taking oaths in
and for the Territory of Yukon.

DETAIL PROFILES



DETAIL PROFILES



INTERPRETATION MAP

LEGEND

- Outline of Interpreted Anomalous Body
- Anomalous Body
- Distance of Line Covered by Detail

NOTE

d - Depth to Top of Interpreted Anomalous Body in Feet
 M_2 - Interpreted Chargeability Contrast in Milliseconds of Anomalous Body
 A_2 - Interpreted Resistivity Contrast of Anomalous Body, i.e. low, high or bgr (equal to background)

ANVIL MINING CORPORATION LIMITED
 (MULTI-"B" GRID)
 WHITEHORSE MINING DISTRICT, -Y T

INDUCED POLARIZATION SURVEY
 of
 DETAIL PROFILES & INTERPRETATION MAP

To accompany report by: *R. K. Watson*
 R. K. Watson, B.A.Sc., P.Eng., Geophysicist

HUNTEC LIMITED VANCOUVER - CANADA

SCALE: 1" = 200'
 DRAWN: E. H.
 DATE: NOV. 1967.
 JOB NO: PH - 666 / 67



NOTE
 MAP DRAWN FROM NATIONAL TOPOGRAPHIC SERIES
 FIRST EDITION, SHEET 105K

ANVIL MINING CORPORATION LIMITED (MULTI - "B" GRID) WHITEHORSE MINING DISTRICT, - Y. T.	
SURVEY LOCATION MAP.	
To accompany report by. <i>R. K. Watson</i> R. K. Watson, B.A.Sc., P.Eng., Geophysicist.	
HUNTEC LIMITED	VANCOUVER - CANADA
SCALE: 1 inch = 4 miles	LEGEND
DRAWN: E. H.	Approx. Area Surveyed.
DATE: NOV 1967	
JOB NO: PH-666/67	FIG - A