

COMINCO LTD.

EXPLORATION
NTS: 82E/4W

WESTERN DISTRICT

GEOPHYSICAL REPORT

ON AN

INDUCED POLARIZATION
SURVEY

ON THE

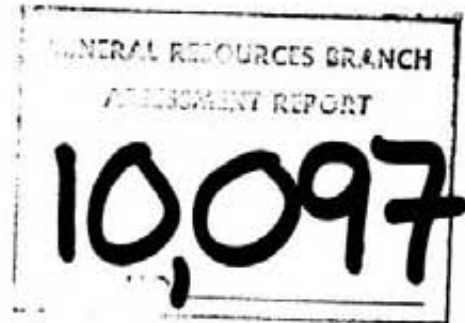
OK PROPERTY

KEREMEOS AREA, OSOYOOS MINING DIVISION, B.C.

LATITUDE: 49⁰02'N
LONGITUDE: 119⁰52'W

Field Work Performed: September 1-28, 1981

On Claims: OK 1 - 14, UC Claim



17 DECEMBER, 1981

J. KLEIN

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KEREMEOS AREA, OSOYOOS MINING DIVISION, B.C.

INTRODUCTION

During the period September 1 - 28, 1981, a geophysical contract crew from Peter E walcott & Associates Ltd. completed some 23 kilometers of multi-separation induced polarization over the S.W. portion of the OK property.

The OK claim group is located immediately north of the United States-Canada boundary at the headwaters of Snehumption Creek. Access is by helicopter only, with Penticton the closest helicopter base, 52 km to the N.N.E. Elevation ranges from 1600 to 2600 meters with open forests at lower levels giving way to alpine meadows at higher elevations. The working season lasts from May to October (see Figure 1).

COMINCO owns 14 claims - OK 1 to 14 (102 units) and options the UC claim (16 units) from Mr. C. Brewer.

This report describes the procedures used on the survey, presents the data and discusses the results.

GEOLOGY

Regional geology in the vicinity of the OK claim group consists of Permo-Triassic marine sediments and volcanics of the Barslow, Independence, Shoemaker and Old Tom Formations intruded by units of the Cretaceous-Similkameen batholith. These sedimentary and volcanic units generally strike northerly and dip easterly. The igneous units are part of the widespread Nelson Plutonic Rocks.

The geology of the I.P. grid area consists mainly of a medium-grained porphyritic quartz monzonite phase of the Similkameen batholith (Unit 6a on Plate 1). Two gossans, one located on the UC claim and the other in the southwest corner of the OK-13 claim are the most prominent alteration features found within the grid area. The main gossan on the UC claim contains some 3-5% pyrite.

Mineralization in the area consists of pyrite, scheelite and molybdenite.

INDUCED POLARIZATION SURVEY

A Crone IPR-4 I.P. receiver in combination with a Hunttec 7.5 kw motor generator/transmitter were used on the OK survey. Readings were taken in the time domain using a 2 second ON/2 second OFF alternating square wave signal. The Crone receiver uses a delay time of 450 milliseconds and integration time of 450 msec. The Crone values are higher than values obtained with more recently manufactured equipment by a factor of 1.5. The chargeability values are given in units of milliseconds.

The survey was of a reconnaissance nature with survey lines 200 meters apart. A pole-dipole electrode array was used with an "a" spacing of 50 meters and "n" separations of 1, 2, 3, and 4. The current electrode was kept to the west of the potential electrodes on all survey lines.

The apparent resistivity values are given in units of ohm meters and were calculated from the relation:

$$\text{apparent resistivity} = (V/I).K,$$

where V is the voltage across the measuring dipole during the current (I) on period, and K is a geometric factor dependent on the "a" spacing and "n" separation.

PRESENTATION OF DATA

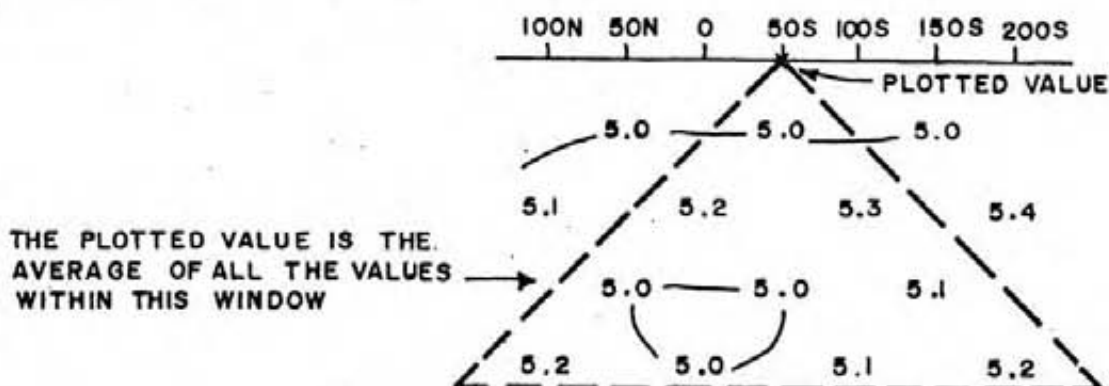
Figure 1 shows on a scale of 1:125,000 the general location of the OK property.

Plate 1 (= 220-81-1) on a scale of 1:10,000 shows the claim and grid layout superimposed on a topographic base showing also some geology.

The induced polarization and resistivity data are computer processed and plotted.

Plates 2, 3 and 4 on a scale of 1:10,000 show in plan the resistivity (n=1 data) in ohm meters; induced polarization (n=1 data) in milliseconds; and induced polarization (average n=1-4 data) in milliseconds respectively.

Plate 4 is a contour plan of the simple average of a moving 10 point window of one n=1 value, two n=2 values, three n=3 values and four n=4 values as indicated below.



Plates 5 - 9 show the induced polarization and resistivity results for the individual lines in pseudosection format.

DISCUSSION OF RESULTS

The induced polarization survey results are plotted in pseudosection format on accompanying Plates 219-81-5 to 9. The chargeability response has been categorized on the sections using the following response levels:-

██████████	strong I.P. high (20 msec. at near separations)
■■■■■■■■■■	moderate I.P. high (15-20 msec at near separations)
// // // // //	weak I.P. high (10-15 msec. at near separations)
— — — — —	> 10 msec.

The chargeability values range from slightly negative (due to geometrical factors) via varying background levels from 3-10 msec to weakly and strongly anomalous values (> 20 msec). The strongest values correlate with the known gossan and reflect the known pyrite distribution (see zone A, Plate 4). Several broad but somewhat weaker anomalies (avg. 13-14 msec) occur to the east and southeast of the main anomaly.


The resistivity values vary over a wide range from 200 - > 3000 ohm meters. There appears a weak correlation between the higher chargeability and resistivity values.

CONCLUSION

A portion of the OK property was surveyed with multiseperation time-domain I.P. in the Fall of 1981. One zone of anomalous I.P. was detected coinciding with a known gossan. Two weaker I.P. highs were detected as well.


Further field work to explain these weaker zones is recommended.

Report by:



J. Klein
Chief Geophysicist

Approved for
Release:



G. Harden, Manager
Exploration
Western District

JK/jel

DISTRIBUTION:

Mining Recorder (2)
Western District (1)
D.L. Cooke (1)
C. Brewer (1)
Administration (1)
Geophysics (1)

APPENDIX I


IN THE MATTER OF THE B.C. MINERAL ACT
AND IN THE MATTER OF A GEOPHYSICAL PROGRAMME
CARRIED OUT ON PORTIONS OF THE OK AND UC MINERAL CLAIMS
ON THE OK PROPERTY
LOCATED SOUTH OF KEREMEOS, IN THE OSOYOOS MINING DIVISION
OF THE PROVINCE OF BRITISH COLUMBIA, MORE PARTICULARLY
N.T.S.: 82E/4W

S T A T E M E N T

I, Jan Klein, of the Corporation of Richmond, in the Province of British Columbia, make oath and say:-

1. THAT I am employed as a geophysicist by Cominco Ltd. and, as such have a personal knowledge of the facts to which I hereinafter depose;
2. THAT the annexed hereto and marked as "Appendix II" to this statement is a true copy of expenditures incurred on geophysical survey on the OK property;
3. THAT the said expenditures were incurred for the purpose of mineral exploration of the above-noted claims between the 1st day and 28th day of September 1981.

Signed: _____


J. Klein
Chief Geophysicist

APPENDIX II

STATEMENT OF EXPENDITURES

OK PROPERTY

INDUCED POLARIZATION SURVEY

SEPTEMBER 1 - 28, 1981


1.	Contract Services by Peter E. Walcott & Assocs. Ltd. 605 Rutland Court, Coquitlam, B.C.		
	- grid preparation, I.P. surveying, local camp, food		\$ 23,882.56
2.	Okanagan Helicopters		
	- service flights from Keremeos to the property		3,268.84
3.	Computer Plotting, Interpretation and Reporting		
	- J. Klein 3 days @ \$200/day	\$ 600.00	
	- 23 km @ \$61.95/km	1,425.00	2,025.00
			<hr/>
			\$ 29,176.40
			<hr/> <hr/>

APPENDIX III

C E R T I F I C A T I O N

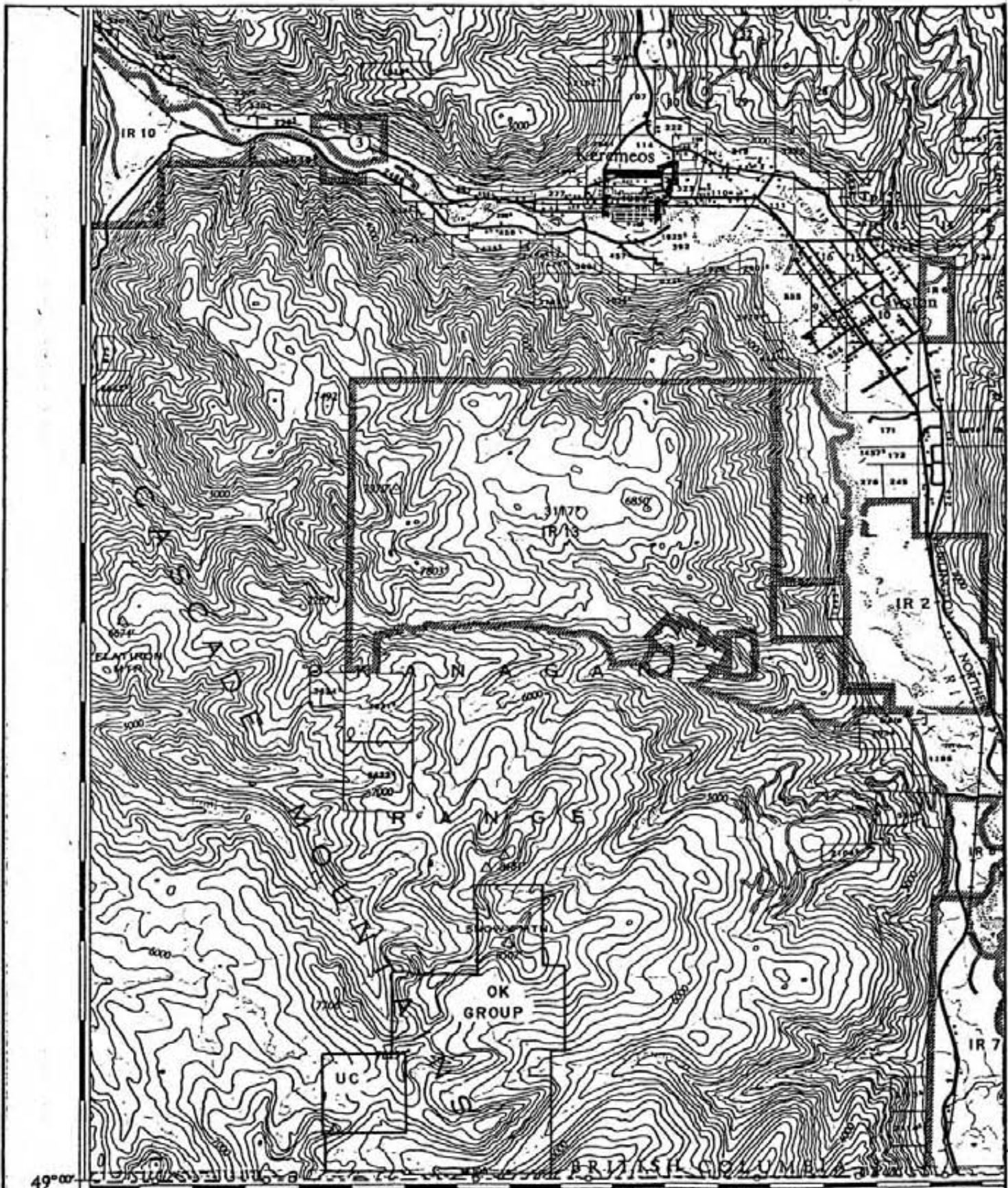
I, JAN KLEIN, of 4371 Coventry Drive, in the Corporation of Richmond in the Province of British Columbia, do hereby certify:-

- 1) THAT I graduated from the Technological University of Delft Netherlands in 1965 with a M.Sc. in Geophysics;
- 2) THAT I am a member of the Association of Professional Engineers of the Province of British Columbia, the Society of Exploration Geophysicists of America, and the British Columbia Geophysical Society;
- 3) THAT I have been practising my profession for the past sixteen years.

Signed: 

J. Klein
Chief Geophysicist

17 DECEMBER 1981



49°00' 120°00' **KILOMETRES** 0 1 2 3 4 **WASHINGTON** 45' To Orville U.S.A.

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

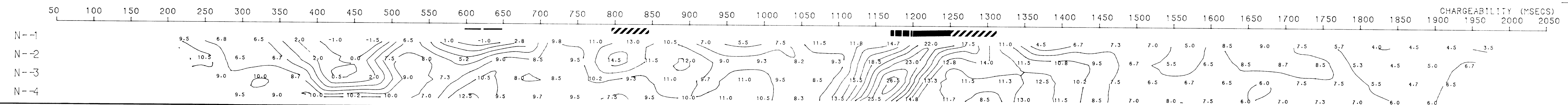
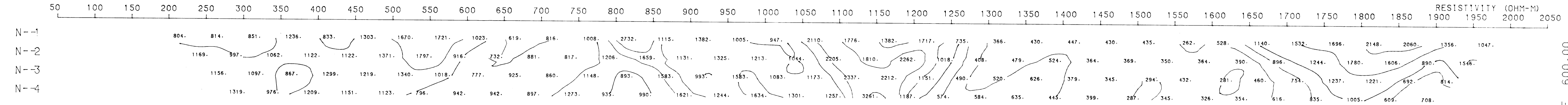
**OK PROPERTY
LOCATION MAP**

OSOYOOS M.D., B.C.

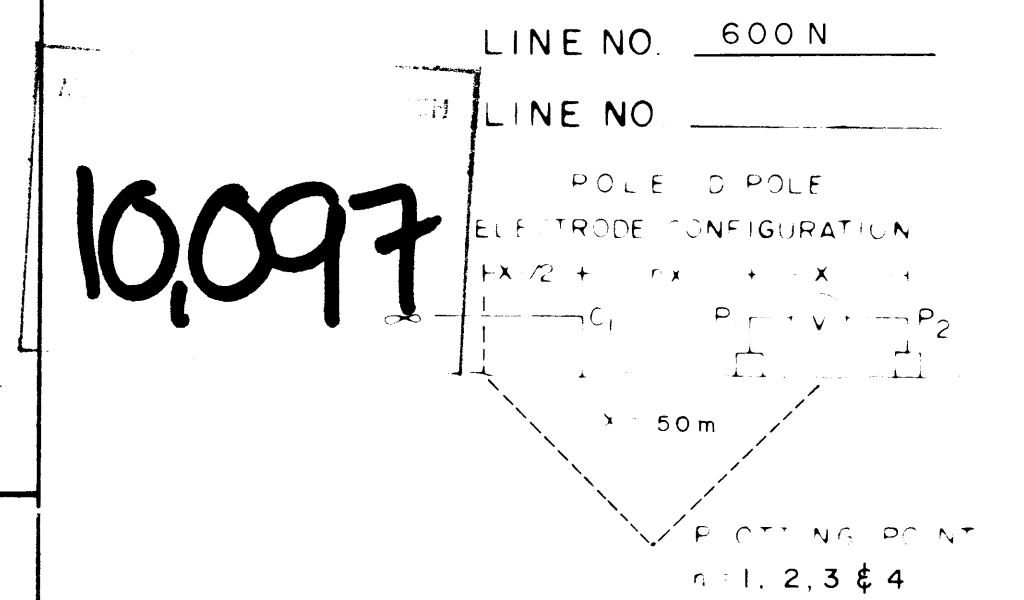
NTS
82 E/4W

Fig 1

Scale: 1:125000 Date: SEPT. 1981 Plate:



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O K PROPERTY
OSOYOOS M.D., B.C.



CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE
 INTERPRETATION
 APPARENT RESISTIVITY INTERPRETATION

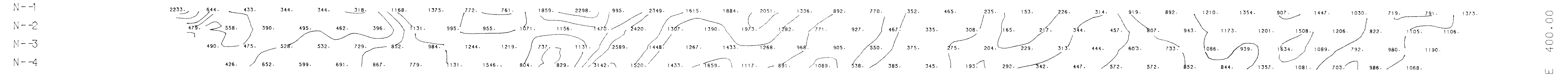
SCALE 1:2500 DATE SURVEYED SEPT. 1981
 CONTOUR INTERVAL
 APP. RES. 1, 1.5, 2, 3, 5, 7.5, 10 ohm metres
 APP. CHARGE 2.0 M/SEC

TRANSMITTER HUNTEC 7.5 Kw
 RECEIVER CRONE IPR-4

INDUCED POLARIZATION AND RESISTIVITY SURVEY
 SURVEYED BY PETER E. WALCOTT & ASSOC. LTD.

RESISTIVITY (OHM-M)

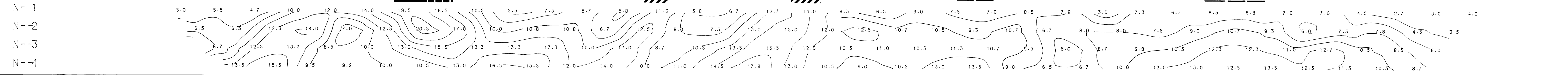
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LINE 400.00

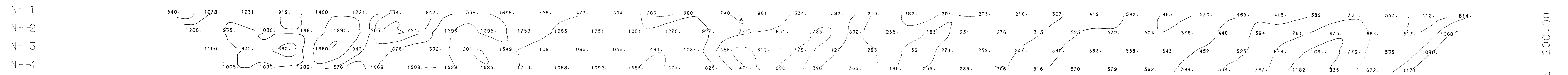
CHARGEABILITY (MSECS)

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RESISTIVITY (OHM-M)

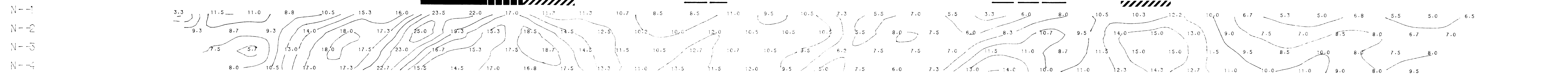
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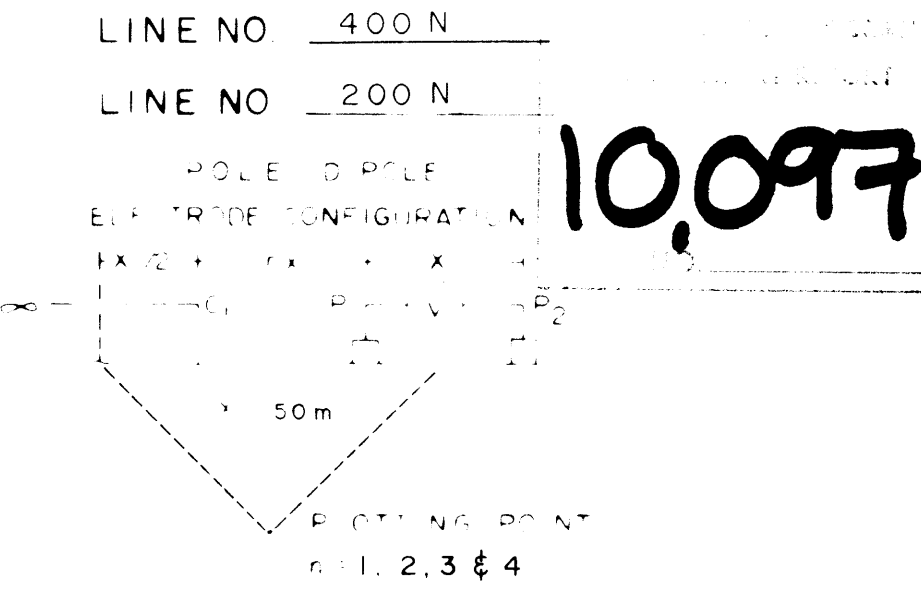
LINE 200.00

CHARGEABILITY (MSECS)

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COMINCO LTD.
OK PROPERTY
OSOYOOS M.D., B.C.



CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE

CHARGEABILITY INTERPRETATION

APPARENT RESISTIVITY INTERPRETATION

SCALE 1:2500 DATE SURVEYED SEPT. 1981

CONTOUR INTERVAL

APP. RES. 1, 1.5, 2, 3, 5, 7.5, 10 ohm metres APPROVED

APP. CHARG. 2.0 M/SEC

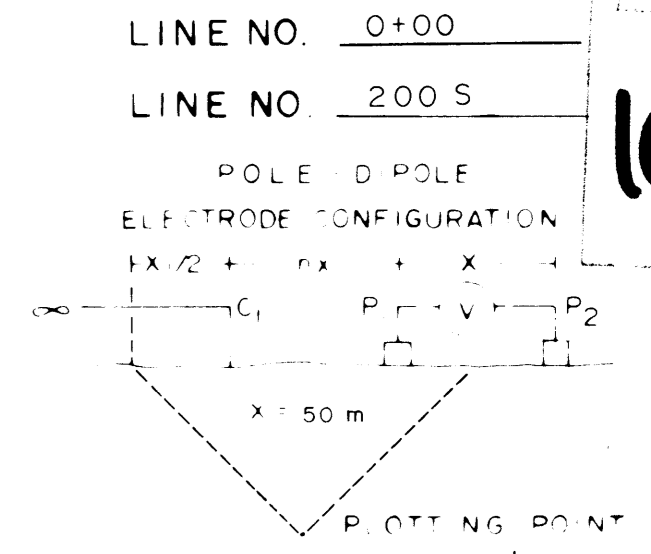
DATE

TRANSMITTER HUNTEC 75 Kw
RECEIVER CRONE IPR-4

INDUCED POLARIZATION AND RESISTIVITY SURVEY
SURVEYED BY PETER E. WALCOTT & ASSOC. LTD

COMINCO LTD.
OK PROPERTY
OSOYOOS M.D., B.C.

10,097



LINE NO. 0+00
LINE NO. 200.5

CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE

CONDUCTIVITY INTERPRETATION
 STRONG CHARGEABILITY HIGH
 MODERATE CHARGEABILITY HIGH
 LOW CHARGEABILITY HIGH
 IF HIGH AT FURTHER SEPARATION
 APPARENT RESISTIVITY INTERPRETATION
 APPARENT RESISTIVITY LOW

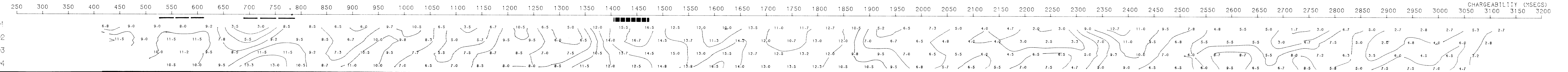
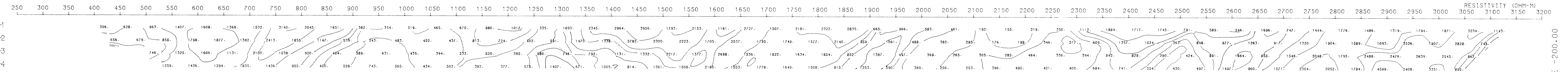
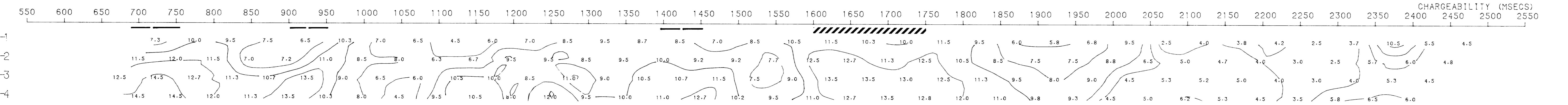
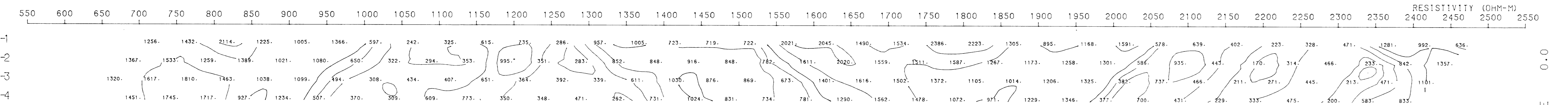
SCALE 1:2500 DATE SURVEYED SEPT. 1981

CONTOUR INTERVALS
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 APP. CHARG. 2.0 M/SEC

DATE _____

TRANSMITTER HUNTEC 7.5 Kw
 RECEIVER CRONE IPR-4

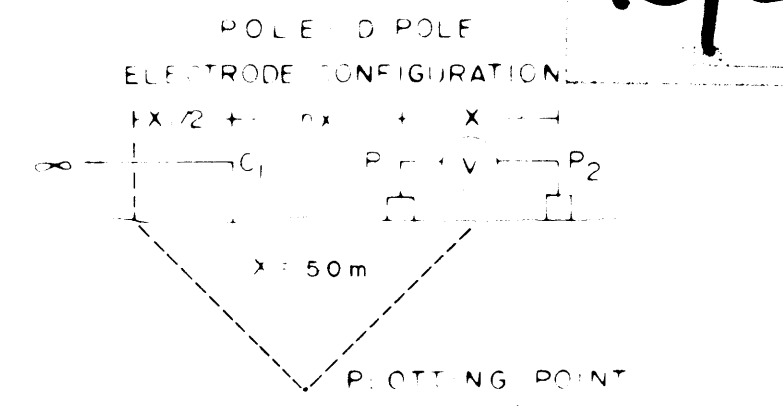
INDUCED POLARIZATION AND RESISTIVITY SURVEY
 SURVEYED BY PETER E. WALCOTT & ASSOC. LTD.



COMINCO LTD.
OK PROPERTY
OSOYOOS M.D., B.C.

LINE NO. 600 S
LINE NO. 400 S

10,097

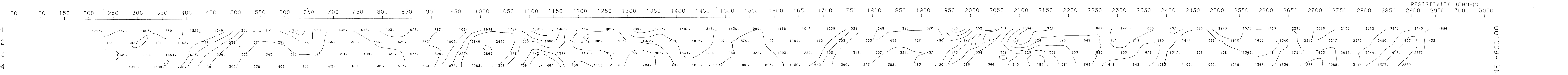


CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE
 APPARENT RESISTIVITY INTERPRETATION
 HIGH CHARGEABILITY HIGH APPARENT RESISTIVITY
 HIGH CHARGEABILITY LOW APPARENT RESISTIVITY
 LOW CHARGEABILITY HIGH APPARENT RESISTIVITY
 LOW CHARGEABILITY LOW APPARENT RESISTIVITY

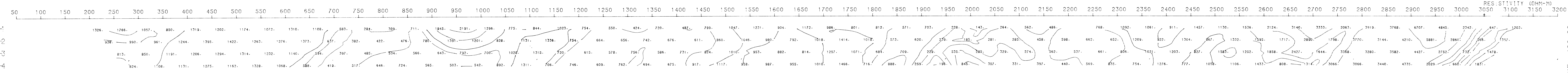
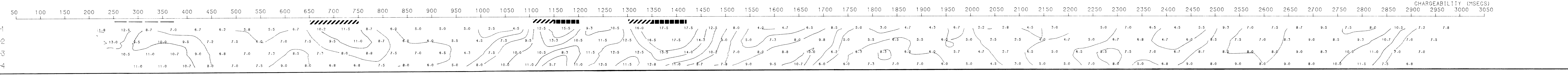
SCALE 1:2500
 DATE SURVEYED _____
 CONTOUR INTERVALS _____
 APP RES. 5.00 MSEC. APPROVED _____
 APP CHARG. 2.0 MSEC.

DATE _____
 TRANSMITTER - HUNTEC 7.5 KW
 RECEIVER - CRONE IPR-4

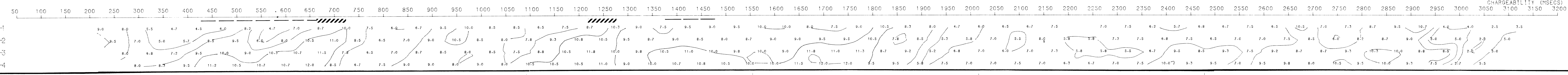
INDUCED POLARIZATION AND RESISTIVITY SURVEY
 SURVEYED BY PETER E. WALCOTT & ASSOC. LTD.



LINE - 600.00



LINE - 400.00



COMINCO LTD.
OK PROPERTY
OSOYOOS M.D., B.C.

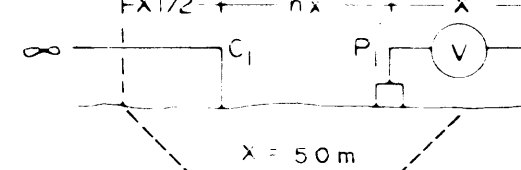
MINI-INDUCED POLARIZATION
APPARENT RESISTIVITY REPORT

10,097

LINE NO. 800 S
LINE NO. 1000 S

POLE-DIPOLE

ELECTRODE CONFIGURATION



PIOTTING POINT
n = 1, 2, 3 & 4

CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE

- CHARGEABILITY (IP) INTERPRETATION
- STRONG CHARGEABILITY HIGH
- MODERATE CHARGEABILITY HIGH
- WEAK CHARGEABILITY HIGH
- IP HIGH AT FURTHER SEPARATIONS
- APPARENT RESISTIVITY INTERPRETATION
- APPARENT RESISTIVITY LOW

SCALE 1:2500 DATE SURVEYED SEPT. 1981

CONTOUR INTERVALS:

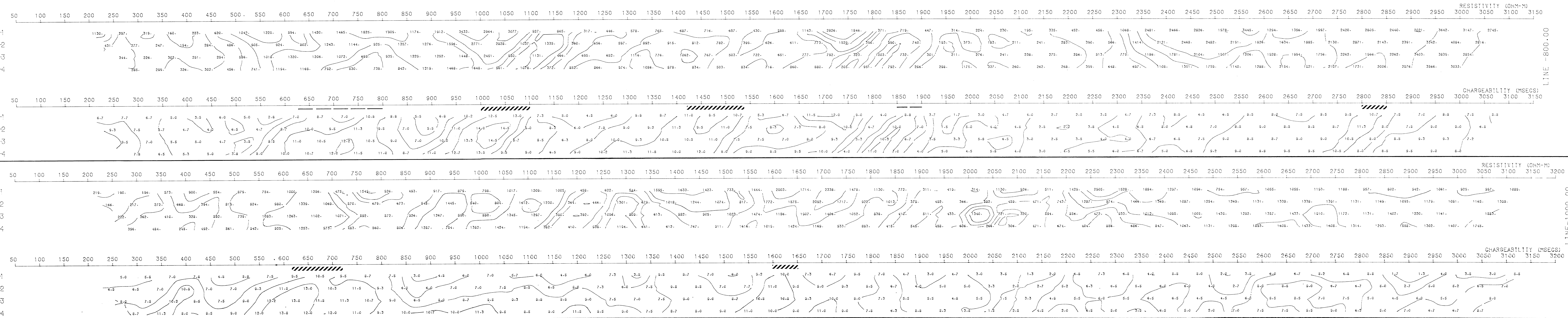
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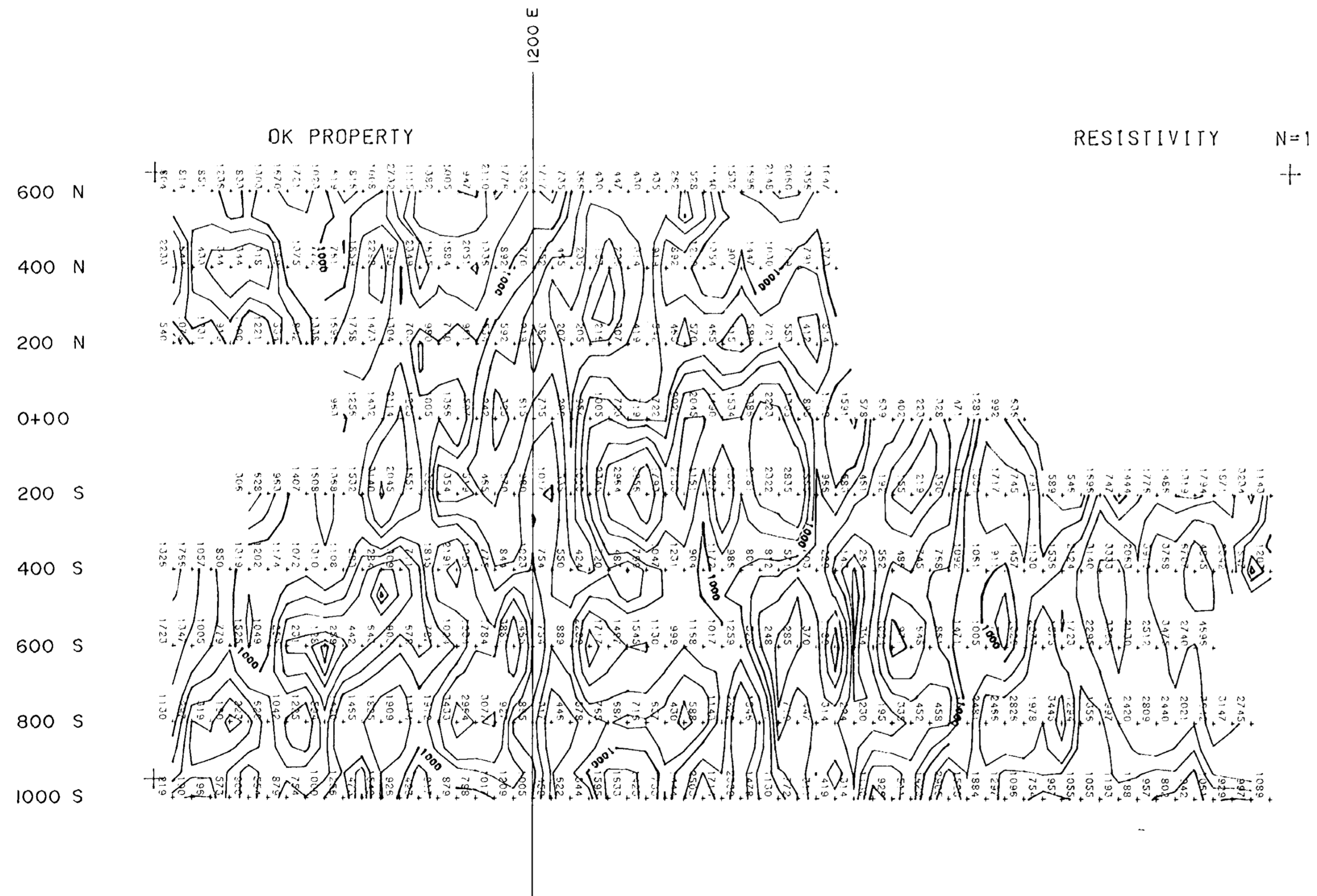
APP CHARG = 2.0 M/SEC

DATE _____

TRANSMITTER - HUNTEC 7.5 Kw
RECEIVER - CRONE IPR-4

INDUCED POLARIZATION AND RESISTIVITY SURVEY
SURVEYED BY PETER E. WALCOTT & ASSOC. LTD.

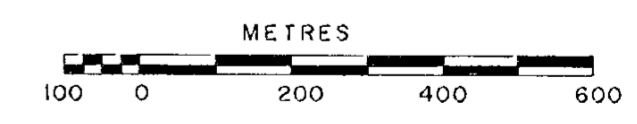




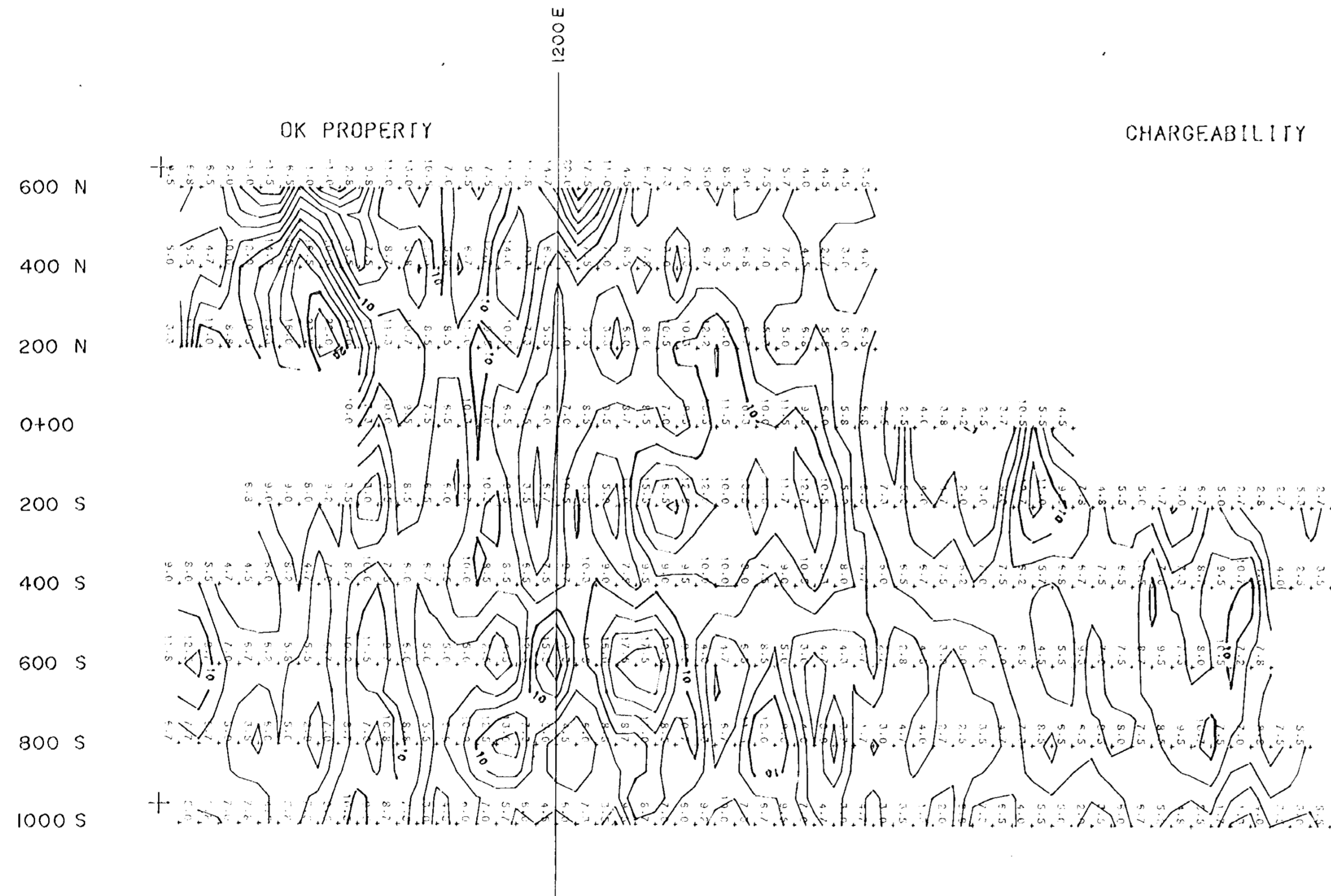
ASSESSMENT NUMBER
10097

INSTRUMENT:
 TRANSMITTER — HUNTEC 7.5 Kw
 RECEIVER — IPR-4

CONTOUR INTERVAL:
 1, 1.5, 2, 3, 5, 7.5, 10 OHM METRES

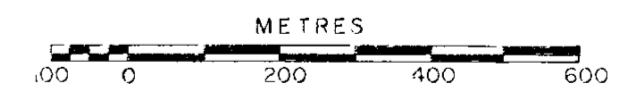


OK PROPERTY				NTS 82 E/4 W
Drawn by:		Traced by:		RESISTIVITY N=1 X = 50 m OSOY00S M.D., B.C.
Revised by:	Date	Revised by:	Date	
				Scale: 1:10000
				Date: SEPT. 1981
				Plate: 220-81-2

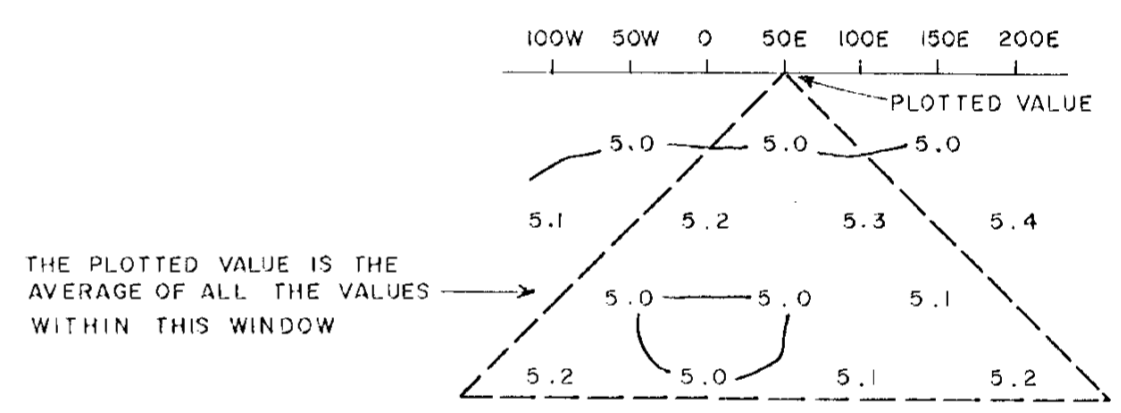
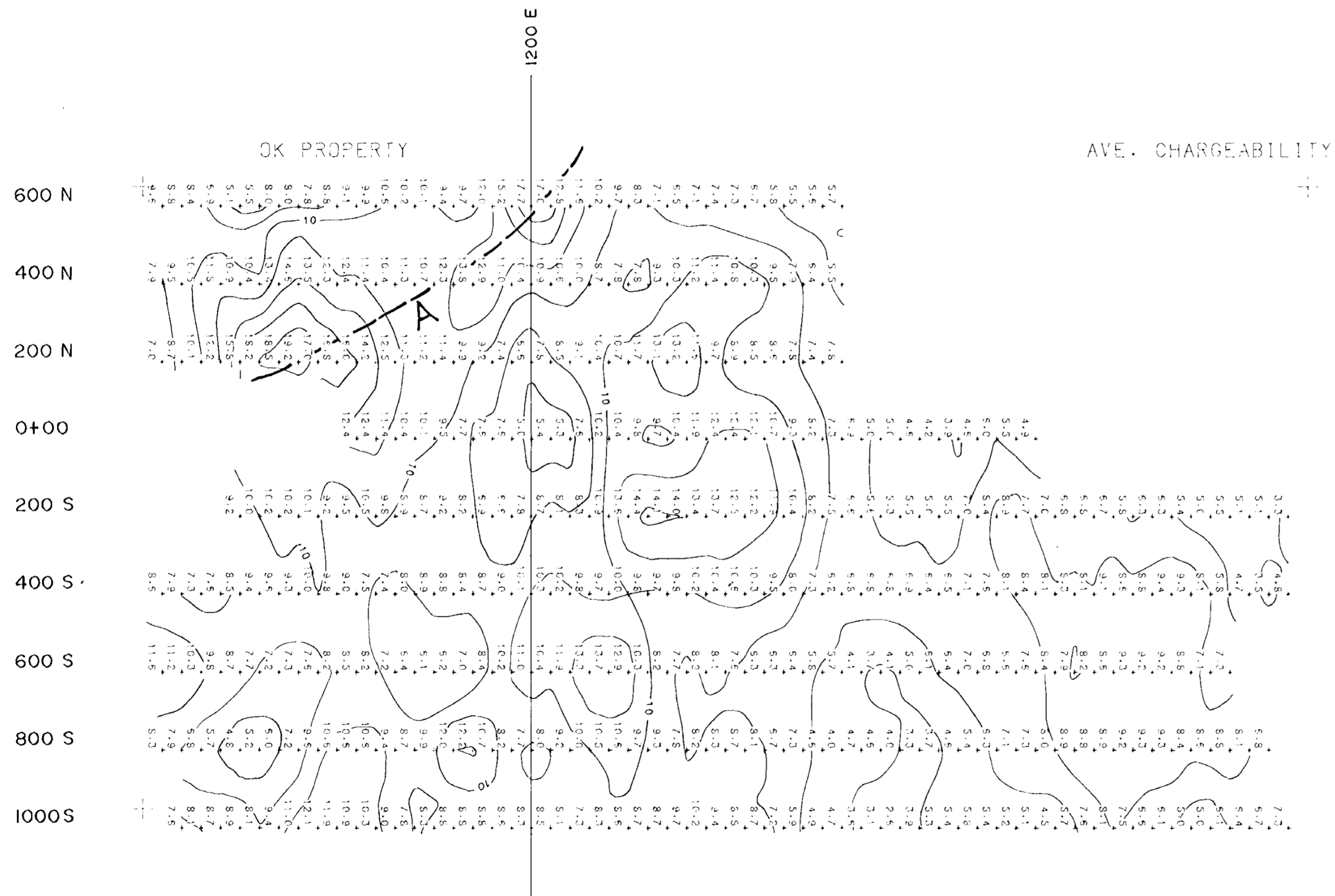


MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
10,097
 NO.

INSTRUMENT:
 TRANSMITTER — HUNTEC 7.5 Kw
 RECEIVER — CRONE IPR-4
 CONTOUR INTERVAL — 2.0 M/SEC

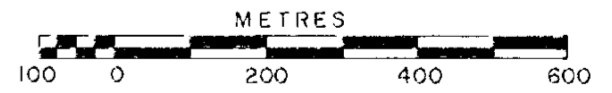


OK PROPERTY				NTS 82E/4W	
Drawn by:		Traced by:		IP CHARGEABILITY N=1 X = 50m OSOYOOS M.D., B.C.	
Revised by	Date	Revised by	Date		
Scale: 1:10,000		Date: SEPT. 1981		Plate: 220-B1-3	



INSTRUMENT:
 TRANSMITTER — HUNTEC 7.5 Kw
 RECEIVER — CRONE IPR-4
 CONTOUR INTERVAL: 2.0 M/SEC

10,097



OK PROPERTY				NTS Cominca 82E/4W
Drawn by:		Traced by:		AVERAGE CHARGEABILITY N = 1,2,+3 X = 50 m OSOYOOS M.D., B.C.
Revised by	Date	Revised by	Date	
Scale: 1:10000		Date: SEPT. 1981		Plate: 220-81-4