

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 92I/6

GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION  
SURVEY

ON THE

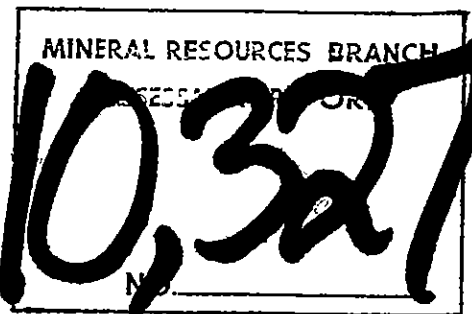
I S L A N D P R O P E R T Y

HIGHLAND VALLEY AREA KAMLOOPS M.D., B.C.

LATITUDE: 50°27'N  
LONGITUDE: 121°10'W

Field Work Performed: October 15 - 25, 1981

On Claims: Island 1, 2, 12A, 13, 15



22 DECEMBER 1981

J. KLEIN

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ATTACHMENTS

Plate 189-81-1a	General Location Map
Plate 189-81-2a	Claims and Grid Map
Plate 189-81-5a	Chargeability Contour Plan (n=1) - North Grid
Plate 189-81-16 to 18	Chargeability/Apparent Resistivity Pseudosections

REFERENCE

Scott, A.R., 1981      Geophysical Report on I.P. and Magnetic Surveys,  
ISLAND Property, Highland Valley Area (dated  
2 June 1981)

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

---NTS: 92I/6

GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION  
SURVEY

ON THE

ISLAND PROPERTY

INTRODUCTION

During the period October 15-25, 1981, some 15 line kilometers of reconnaissance scale multiseperation induced polarization survey work was completed over portions of the ISLAND property. The induced polarization (I.P.) work was conducted under contract for Cominco by Eagle Geophysics Ltd.

The ISLAND property is located in the Highland Valley area of B.C., some 6 kilometers west of the Lornex Mine. Plate 1a shows the general location of the property, and Plate 2a the location of the survey lines (of the present and a 1980 survey) with respect to the claims.

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

GEOPHYSICAL SURVEY

Induced Polarization

Two Huntec MK IV I.P. receivers in combination with a Huntec 7.5 kw motor generator/transmitter were used on the ISLAND survey. Readings were taken in the time domain using a 2 second current ON/2 second current OFF alternating square wave signal. A delay time of 120 milliseconds and total integration time of from 120 msec. to 1020 msec. was used to measure the I.P. effect. Chargeability values are given in units of milliseconds.

The survey was of a regional reconnaissance nature with survey lines 400 meters apart. A pole-dipole electrode array was used with an "a" spacing of 100 meters and "n" separations of 1, 2, 3 and 4. The current electrode was kept to the east of the potential dipole for Lines 0, 4S and 8S and was to the west along Line 144S.




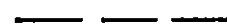
The apparent resistivity values are given in units of ohm meters and were calculated from the relation:

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

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

DISCUSSION OF RESULTS

The induced polarization survey results are plotted in pseudosection format on accompanying Plates 189-81-16 to 18. The chargeability response has been categorized on the sections in the following manner (which are the same as for the 1980 ISLAND survey):

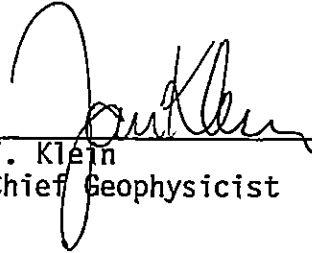
-  strong I.P. high ( > 10 msec. at near separation)
-  moderate I.P. high ( > 8 msec. at near separation)
-  weak I.P. high ( > 5 msec. at near separation)
-  > 5 msec. at further separations

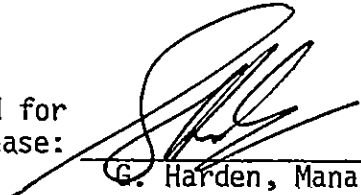
The n=1 chargeability results are also presented in contour plan form on Plate 189-81-5a (North Grid). Values of greater than 5 msec. are indicated by the stippled pattern, and anomaly symbols from the pseudosections are given on the plans.

The chargeability values of the four lines surveyed show only background levels ( < 5 msec.) with the odd value rising just above that level, e.g., Line 800S, Station 1000W.

CONCLUSIONS

A small induced polarization survey was executed over portions of the ISLAND property. The values measured were of background level only and uninteresting from an economic point of view. No further work can be recommended on those portions of the property covered by the present survey.

Report by:   
J. Klein  
Chief Geophysicist

Approved for  
Release:   
G. Harden, Manager  
Exploration  
Western District

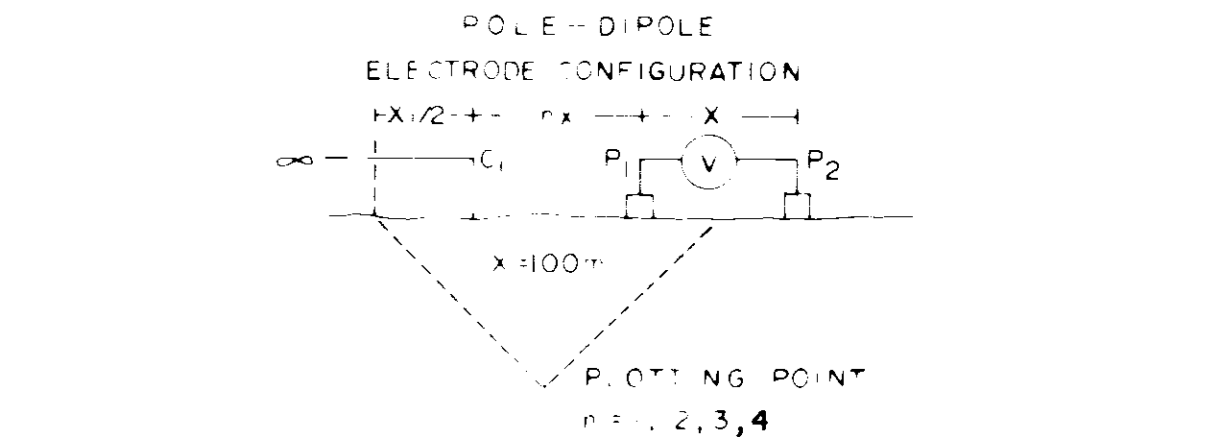
JK/jel

DISTRIBUTION:

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Western District	(1)
Vernon Office	(1)
Administration	(1)
Geophysics	(1)

COMINCO LTD.  
ISLAND PROPERTY  
NICOLA M.D., B.C.

LINE NO. 0.0 S  
LINE NO. 4+00 S



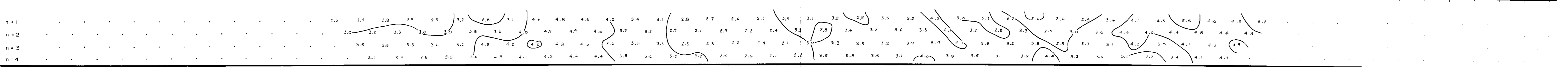
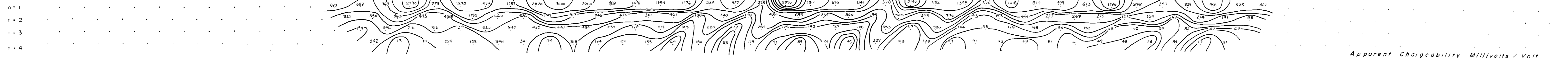
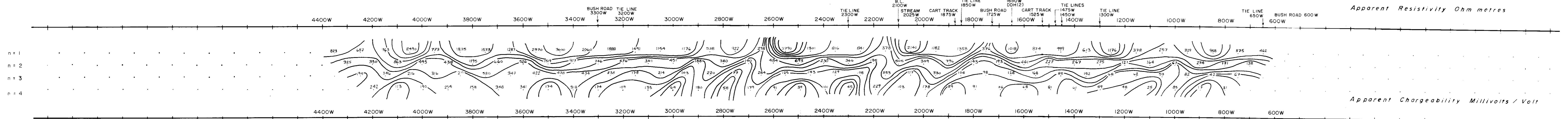
CURRENT ELECTRODE EAST OF POTENTIAL D POLE  
 CONTOUR INTERVALS:  
 [Solid line] STRONG CHARGEABLE TO HIGH  
 [Dashed line] MODERATE CHARGEABLE TO HIGH  
 [Wavy line] WEAK CHARGEABLE TO HIGH  
 [Dotted line] WEAK CHARGEABLE TO LOW  
 [Blank] APPARENT RESISTIVITY INTERPRETATION

SCALE 6000  
 DATE SURVEYED LINE 0.0 S 20, 21 OCT 81  
 LINE 4+00 S 18, 19 OCT 81  
 APP RES 5.2, 3.1, 7.5  
 APP CHARG = 10 MSec

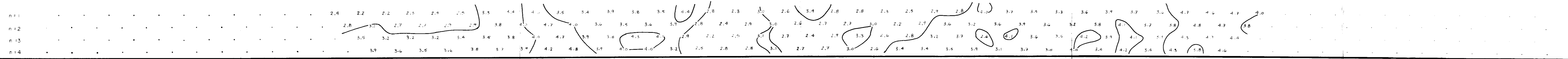
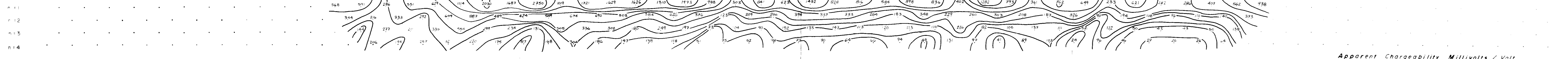
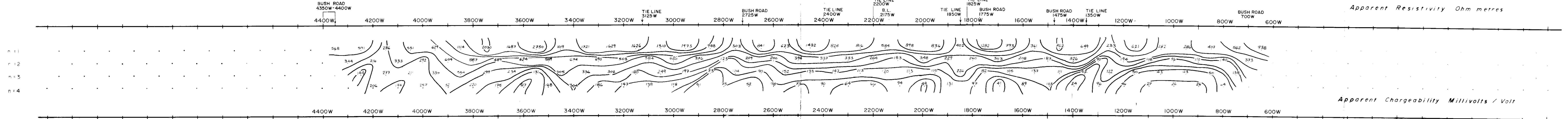
DATE APRIL 1982  
 TRANSMITTER - MUNTEC 7.5 KW UNIT  
 RECEIVER - n=1,2 Mk 4 1004  
 n=3,4 Mk 4 1036  
 INDUCED POLARIZATION AND RESISTIVITY SURVEY  
 SURVEYED BY COMINCO LTD., EXPLORATION DIVISION

10,327

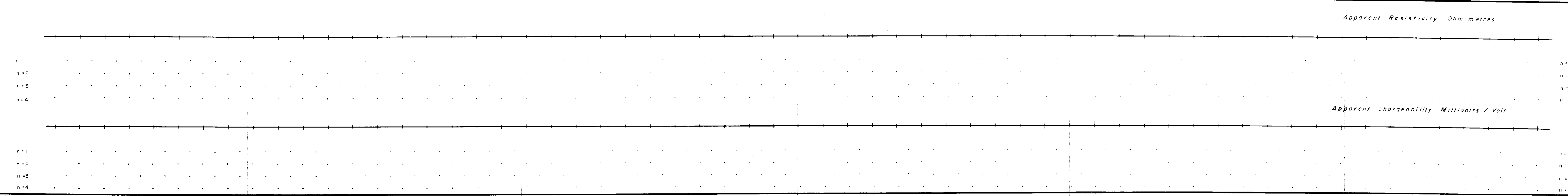
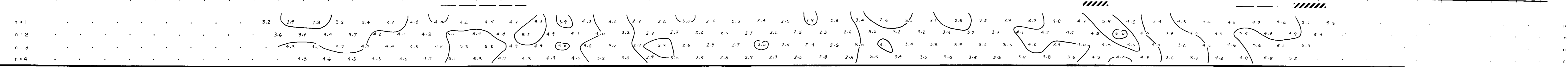
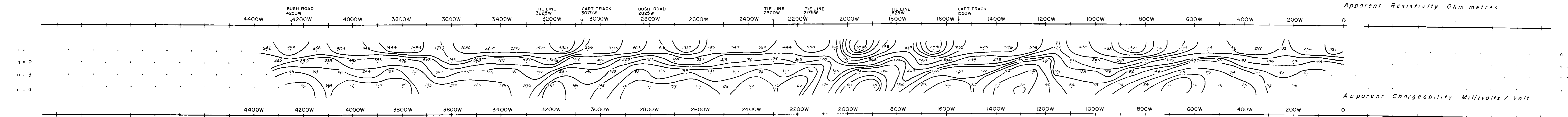
LINE 0.0 S



LINE 4+00 S

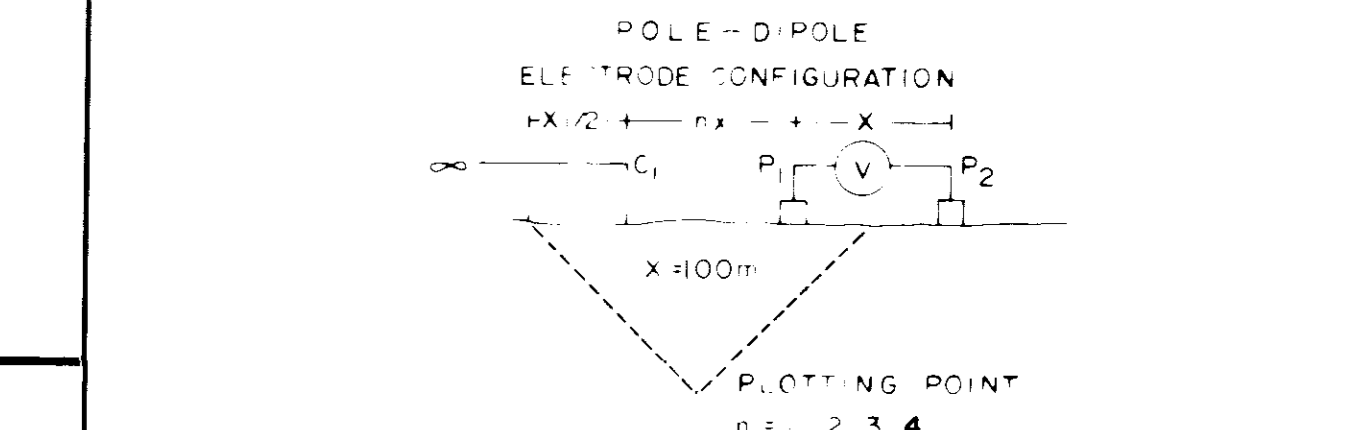


LINE 8+00 S



COMINCO LTD.  
ISLAND PROPERTY  
NICOLA M.D., B.C.

LINE NO. 8+00 S  
LINE NO.



CURRENT ELECTRODE EAST OF POTENTIAL DIPOLE  
CHARGEABILITY (PP) INTERPRETATION  
APPARENT RESISTIVITY INTERPRETATION

SCALE 1:6000 DATE SURVEYED 16, 17 OCT. 81  
CONTOUR INTERVALS:  
APP. RES. 5, 2, 3, 5, 7.5, 10 Ohm m APPROVED  
APP. CHARG. 10 MSec

DATE APRIL 1982  
TRANSMITTER - HUNTEC 7.5 Kw UNIT  
RECEIVER - n=1,2 Mk 4 1004  
n=3,4 Mk 4 1036  
INDUCED POLARIZATION AND RESISTIVITY SURVEY  
SURVEYED BY COMINCO LTD., EXPLORATION DIVISION

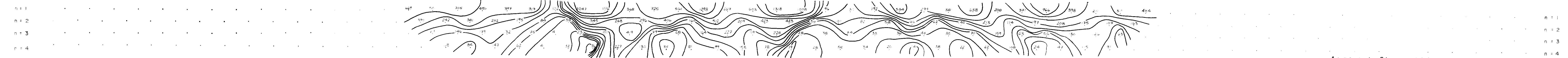
10327

LINE 144 S

BUSH ROAD  
1000E

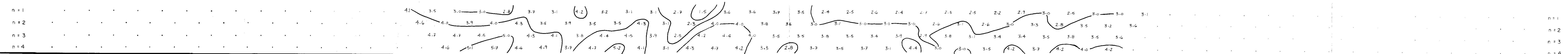
Apparent Resistivity Ohm metres

1000E 1200E 1400E 1600E 1800E 2000E 2200E 2400E 2600E 2800E 3000E 3200E 3400E 3600E 3800E 4000E 4200E



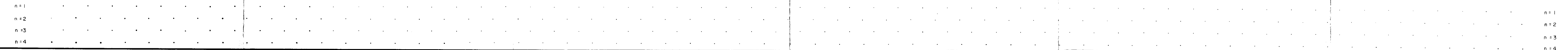
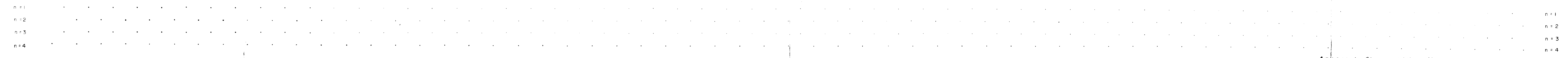
Apparent Chargeability Millivolts / Volt

1000E 1200E 1400E 1600E 1800E 2000E 2200E 2400E 2600E 2800E 3000E 3200E 3400E 3600E 3800E 4000E 4200E



Apparent Resistivity Ohm metres

Apparent Chargeability Millivolts / Volt



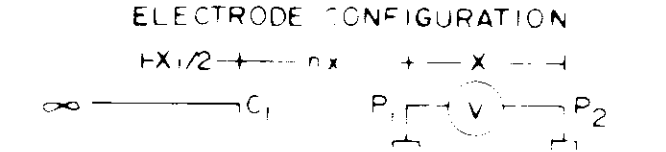
N.T.S. 92-1-6 DWG NO 189-81-18

COMINCO LTD.  
ISLAND PROPERTY  
NICOLA M.D., B.C.

LINE NO. 144 S

LINE NO. \_\_\_\_\_

POLE-DIPOLE ELECTRODE CONFIGURATION



X=100m

PLOTTING POINT  
n=1, 2, 3, 4

CURRENT ELECTRODE WEST OF POTENTIAL DIPOLE

- CHARGEABILITY (CP) INTERPRETATION
- STRONG CHARGEABILITY HIGH
- Moderate Chargeability High
- Weak Chargeability High
- High at Further Separation
- APPARENT RESISTIVITY INTERPRETATION
- APPARENT RESISTIVITY LOW

SCALE 6000 DATE SURVEYED 23, 24 OCT. 1981

CONTOUR INTERVALS:

APP. RES. 1.5, 2, 3, 5, 7.5, 10 Ohm metres APPROVED \_\_\_\_\_

APP. CHARG. 1.0 MSec.

TRANSMITTER - HUNTEC 7.5 KW UNIT

RECEIVER - n=1, 2 Mk 4 1004

n=3, 4 Mk 4 1036

DATE APRIL 1982  
10,327

INDUCED POLARIZATION AND RESISTIVITY SURVEY  
SURVEYED BY COMINCO LTD., EXPLORATION DIVISION



APPENDIX I

IN THE MATTER OF THE B.C. MINERAL ACT  
AND IN THE MATTER OF A GEOPHYSICAL PROGRAM  
CARRIED OUT ON PORTIONS OF THE ISLAND MINERAL CLAIMS  
ON THE ISLAND PROPERTY  
LOCATED IN THE HIGHLAND VALLEY AREA, NICOLA MINING DIVISION, B.C.  
OF THE PROVINCE OF BRITISH COLUMBIA, MORE PARTICULARLY  
N.T.S.: 92I/6

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 ISLAND Property;
- 3) THAT the said expenditures were incurred for the purpose of mineral exploration of the above-noted claims between the 15th day of October and the 25th day of October, 1981.

Signed: \_\_\_\_\_

  
J. Klein  
Chief Geophysicist

22 December 1981

APPENDIX II

STATEMENT OF EXPENDITURES

ISLAND PROPERTY

(Induced Polarization Survey; October 15 - 25, 1981)

1.	Contract Services by Eagle Geophysics Ltd.	\$ 20,638.46
2.	Drafting 15 km @ \$ 62.33/km	935.00
3.	Interpretation and Reporting	
	J. Klein 1 day @ \$190.00/day	190.00
		<hr/>
		\$ 21,763.46


APPENDIX III

CERTIFICATION

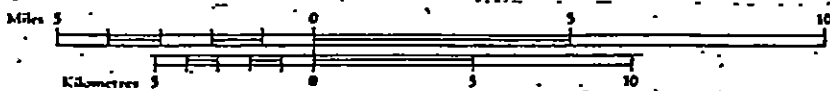
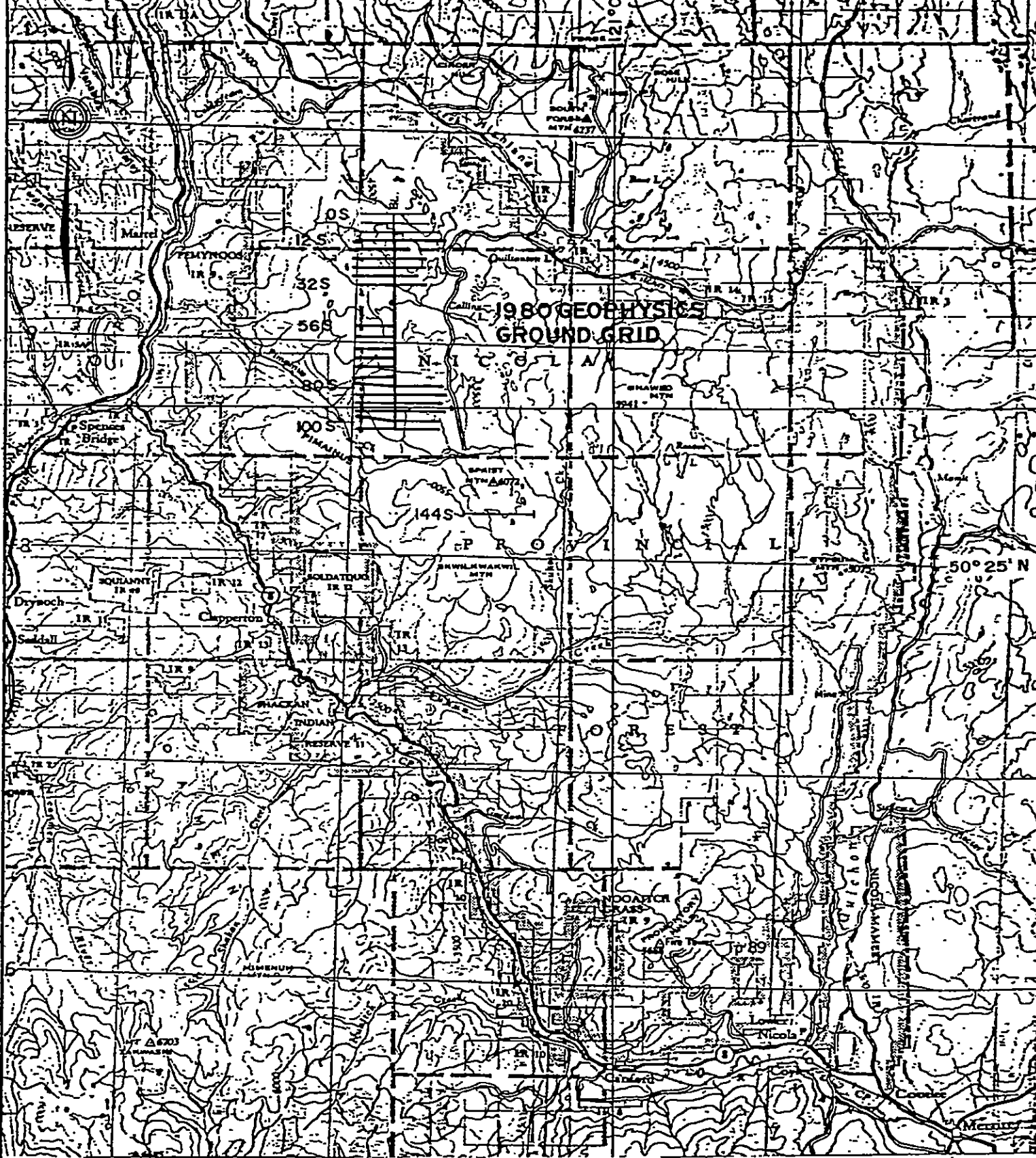
I, JAN KLEIN, of 4371 Coventry Drive, in the Corporation of Richmond, in the Province of British Columbia, do hereby certify:-

- 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.

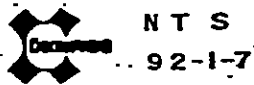
Signed: \_\_\_\_\_

  
J. Klein  
Chief Geophysicist

22 December 1981



ISLAND  
PROPERTY

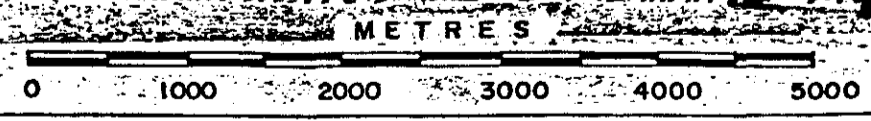
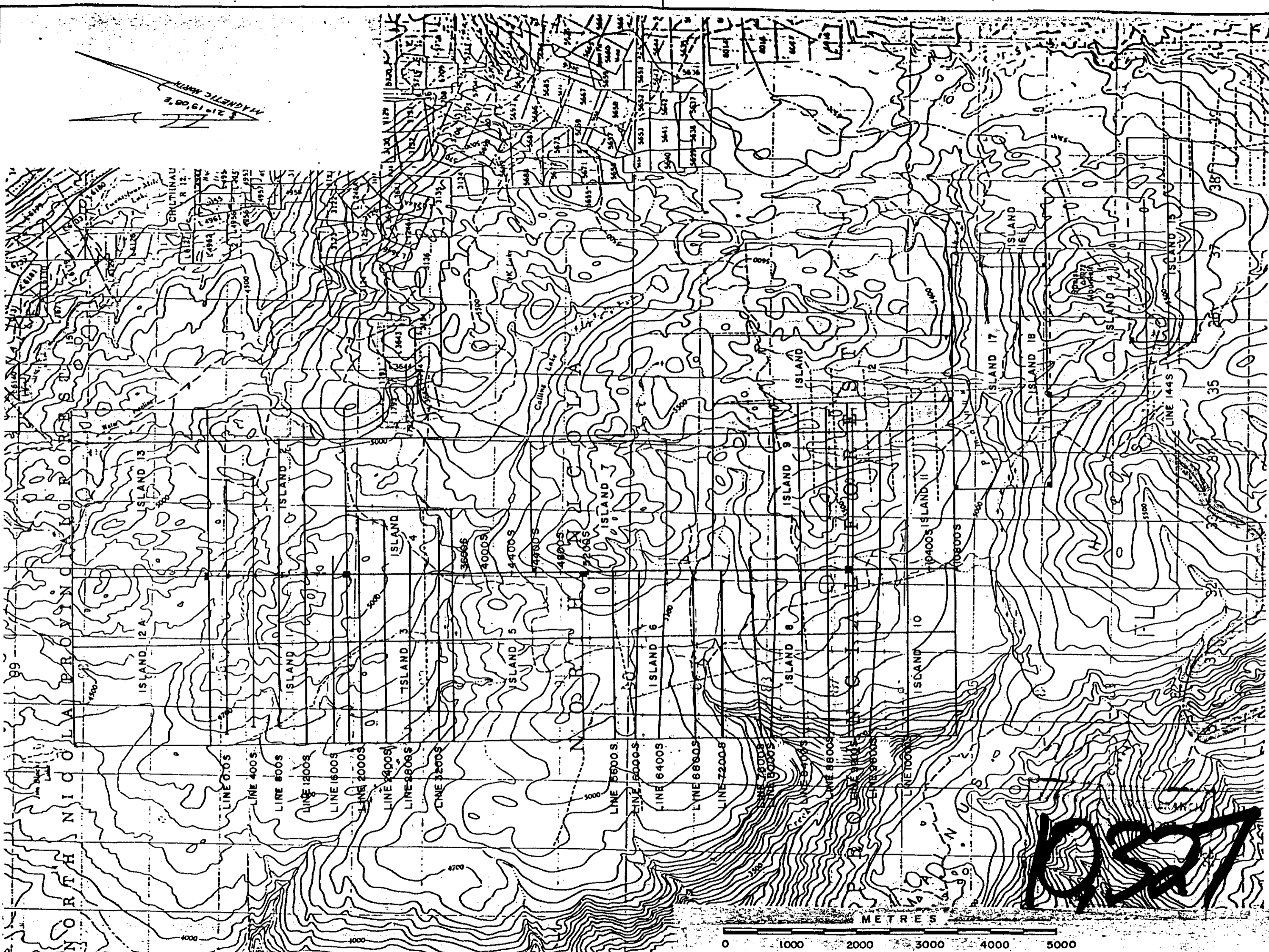


Drawn by:		Traced by:	
Revised by	Date	Revised by	Date
G.E.I.	April 1982		

LOCATION MAP  
NICOLA M.D., B.C.

Scale: 1:250,000      Date: JAN 1981      Plate: 189-81-1a

MAGNETIC NORTH  
21° 19' 08" E

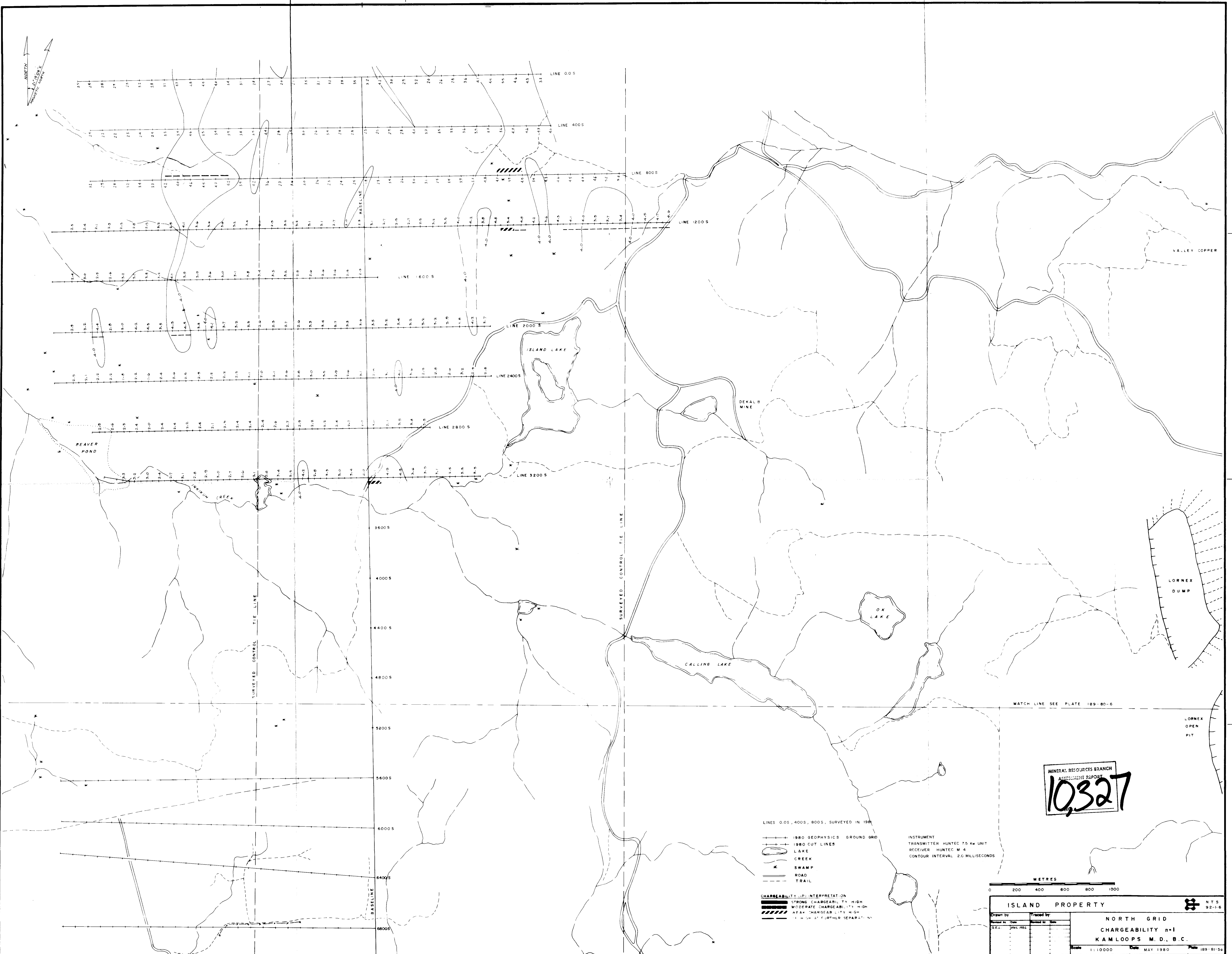
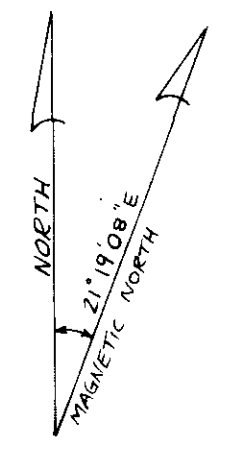


ISLAND PROPERTY



Drawn by:		Traced by:	
Revised by	Date	Revised by	Date
S.E.J.	APR 1982		

CLAIM MAP  
KAMLOOPS M.D., B.C.



VALLEY COPPER

LORNEK DUMP

LORNEK OPEN PIT

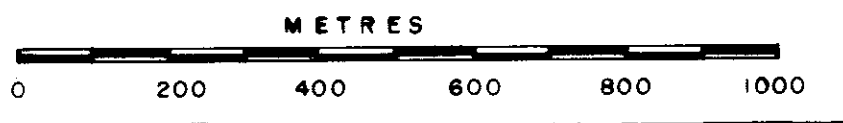
MATCH LINE SEE PLATE 189-80-6

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**10,327**

- LINE 0.0S, 400S, 800S, SURVEYED IN 1988
- 1980 GEOPHYSICS GROUND GRID
- 1980 CUT LINES
- LAKE
- CREEK
- SWAMP
- ROAD
- TRAIL

INSTRUMENT  
TRANSMITTER HUNTEC 7.5 KW UNIT  
RECEIVER HUNTEC M 4  
CONTOUR INTERVAL 2.0 MILLISECONDS

CHARGEABILITY (PI) INTERPRETATION  
 STRONG CHARGEABILITY HIGH  
 MODERATE CHARGEABILITY HIGH  
 AREA CHARGEABILITY HIGH  
 (1 M. OR 2' FURTHER SEPARATION)



ISLAND PROPERTY

Drawn by	Traced by
Checked by	Checked by
Date	Date

NORTH GRID  
CHARGEABILITY n=1  
KAM LOOPS M. D., B. C.

Scale 1:10000 Date MAY 1980 Plate 189-81-5a