

1103  
ACTION:  
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COMINCO LTD.

EXPLORATION

WESTERN CANADA

NTS: 82F/2

5 October 1988

ASSESSMENT REPORT

ON A INDUCED POLARIZATION/RESISTIVITY SURVEY

FILMED

HALL PROPERTY

NELSON MINING DIVISION

LATITUDE: 49°17'N

LONGITUDE: 116°30'W

CLAIMS COVERED: HALL AND HALL 2

FIELD SURVEY EXECUTED BY SCOTT GEOPHYSICS LTD.

DURING SEPTEMBER 1 to 11, 1988

J. KLEIN  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,951

SCOTT GEOPHYSICS  
RECEIVED  
OCT 1988  
M.R. # .....  
VANCOUVER, B.C.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
GRID LOCATION.....	1
GEOPHYSICAL SURVEY.....	1
PRESENTATION OF DATA.....	1
DESCRIPTION OF RESULTS.....	2
RECOMMENDATIONS.....	2
APPENDIX I -        STATEMENT	
APPENDIX II-       EXHIBIT A TO APPENDIX I	
APPENDIX III-      CERTIFICATE OF QUALIFICATIONS	

- PLATE: 342-88-1-12 Pseudosections of IP/Resistivity data on  
          a Scale of 1:2,500
- 88-13 - Claim and Grid Map Scale 1:10,000
  - 88-14 - Chargeability Contour Plan n=2, Scale 1:7,500
  - 88-15 - Resistivity Contour Plan n=2, Scale 1:7,500

1.

## INTRODUCTION

An Induced Polarization/resistivity survey (IP/res) was executed by Scott Geophysics Ltd. on behalf of Cominco Ltd. during the period September 1 to 11, 1988 on the Hall Property.

The objective of the survey was to map the source of a Zn-Pb geochemical high detected previously.

This report presents the geophysical data obtained during the survey.

## GRID LOCATION

The Hall property is located in the upper portion of the Arrow Creek watershed, some 22 km north of Creston where the crew was based. Access to the grid is by four-wheel drive vehicle from a forestry road up Hall Creek. Elevation is between 1600 and 2000 m. (See Fig. 1 and Plate 13).

## GEOPHYSICAL SURVEY

A total of 12.1 line kilometres of IP/res data was collected along 12 lines some 250 m apart.

A Scintrex IPR-11 receiver in combination with a Scintrex TSQ-4 10 KW transmitter was used in the time-domain mode using a 2 sec ON/OFF reversed pulse. A pole-dipole array with an a-spacing of 50 m and n-separation 1 to 4 was used. The near current electrode was towards the east. Receiver windows M3 to M7 were integrated (from 120 to 1050 msec after current cessation) for the chargeability results.

The resistivity data is presented in ohmmetres. The values are calculated as follows:

$$\text{apparent resistivites } r_a = V/I \times K$$

where V is the receiver voltage ( $V_p$ , expressed in volts) across the measuring dipole during the current ON period and I is the applied current (in Amperes). K is a geometrical factor dependant on the a-spacing and n-separation.

$$\text{For the pole-dipole array } K = 2\pi a.n (n+1)$$

The survey was conducted by a crew operating under geophysicist, Dominique Berube.

## PRESENTATION OF DATA

The results of the survey are presented as follows:

Fig. 1 - General Location Plan Scale 1:250,000

2.

Plates 342-88-1 to 12: pseudosections of IP/res data on a horizontal scale of 1:2,500 for Lines 3000N to 250N.

Plate 13 - Claim and Grid Plan Scale 1:10,000.

14 - Chargeability contour plan for  $n=2$  data, on a scale of 1:7,500. Contour interval 2.5 msec.

15 - Resistivity Contour Plan for  $n=2$  data, on a scale of 1:7,500. Logarithmic contour interval.

Anomalous or high background chargeability values have been indicated on the pseudosections with a solid bar.

#### DESCRIPTION OF RESULTS

Resistivity values range from an average below 500 to an average above 3000 ohm. Well defined zones of high and low resistivities are visible on Plate 15.

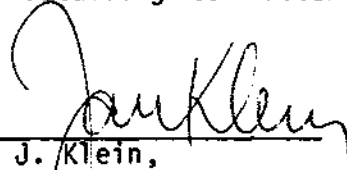
Chargeabilities correlate well with the resistivities. High chargeabilities e.g. 20 msec and over are associated with low resistivities e.g. 1000 ohm and less.

The combined high chargeability - low resistivity features have a good line to line correlation. An east west offset might be present near line 1500N, this could be a fault.

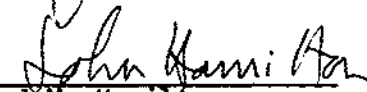
#### RECOMMENDATION

It is recommended to prospect and map in the areas of chargeability highs to try to determine what the sources of these highs are. If widespread overburden precludes effective mapping of bedrock in the anomalous areas, consideration should be given to diamond drilling or bulldozer trenching in order to effectively test the bedrock. Such physical testing, if deemed warranted, should be preceded by I.P. detailing to better resolve these I.P. responses.

Report by:

  
J. Klein,  
Chief Geophysicist

Approved for  
Release by:

  
J.M. Hamilton  
Manager, Exploration-  
Western Canada.

#### Distribution:

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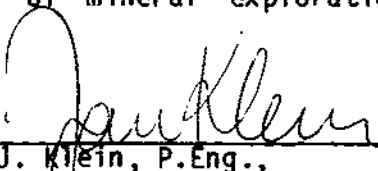
A P P E N D I X I

IN THE MATTER OF THE B.C. MINERAL ACT  
AND IN THE MATTER OF A GEOPHYSICAL PROGRAMME  
CARRIED OUT ON THE HALL AND HALL 2 CLAIM  
LOCATED 22 KM N OF CRESTON, B.C.  
IN THE NELSON MINING DIVISION OF THE  
PROVINCE OF BRITISH COLUMBIA, MORE PARTICULARLY  
N.T.S. 82F/2

S T A T E M E N T

I. JAN KLEIN, of the Municipality of Burnaby 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 annexed hereto and marked as "Exhibit A" to this statement is a true copy of expenditures incurred on a geophysical survey on the HALL and HALL 2 claims;
3. THAT the said expenditures were incurred between September 1 and October 3, 1988, for the purpose of mineral exploration of the above-noted claims.

  
\_\_\_\_\_  
J. Klein, P.Eng.,  
Chief Geophysicist, Cominco Ltd.

A P P E N D I X II


"EXHIBIT A"

STATEMENT OF EXPENDITURES (1988)

HALL and HALL 2 CLAIMS

1.	Contract Geophysical Costs by Scott Geophysics Ltd.	\$ 15,733.23
2.	R.W. Holroyd preparation and design of the survey 3 1/2 days at \$300	1,050.00
	J. Klein interpretation of the results 3 days at \$375	1,125.00
3.	Western Geographics Inc. Drafting	304.00
4.	Western Reproduction - reproduction of maps	45.02
	TOTAL:	<u>\$ 18,257.25</u>

I certify this to be a true statement of expenditures for the geophysical program on the Hall Claims in 1988.


  
\_\_\_\_\_  
J. Klein, P.Eng.  
Chief Geophysicist, Cominco Ltd.

A P P E N D I X    I I I

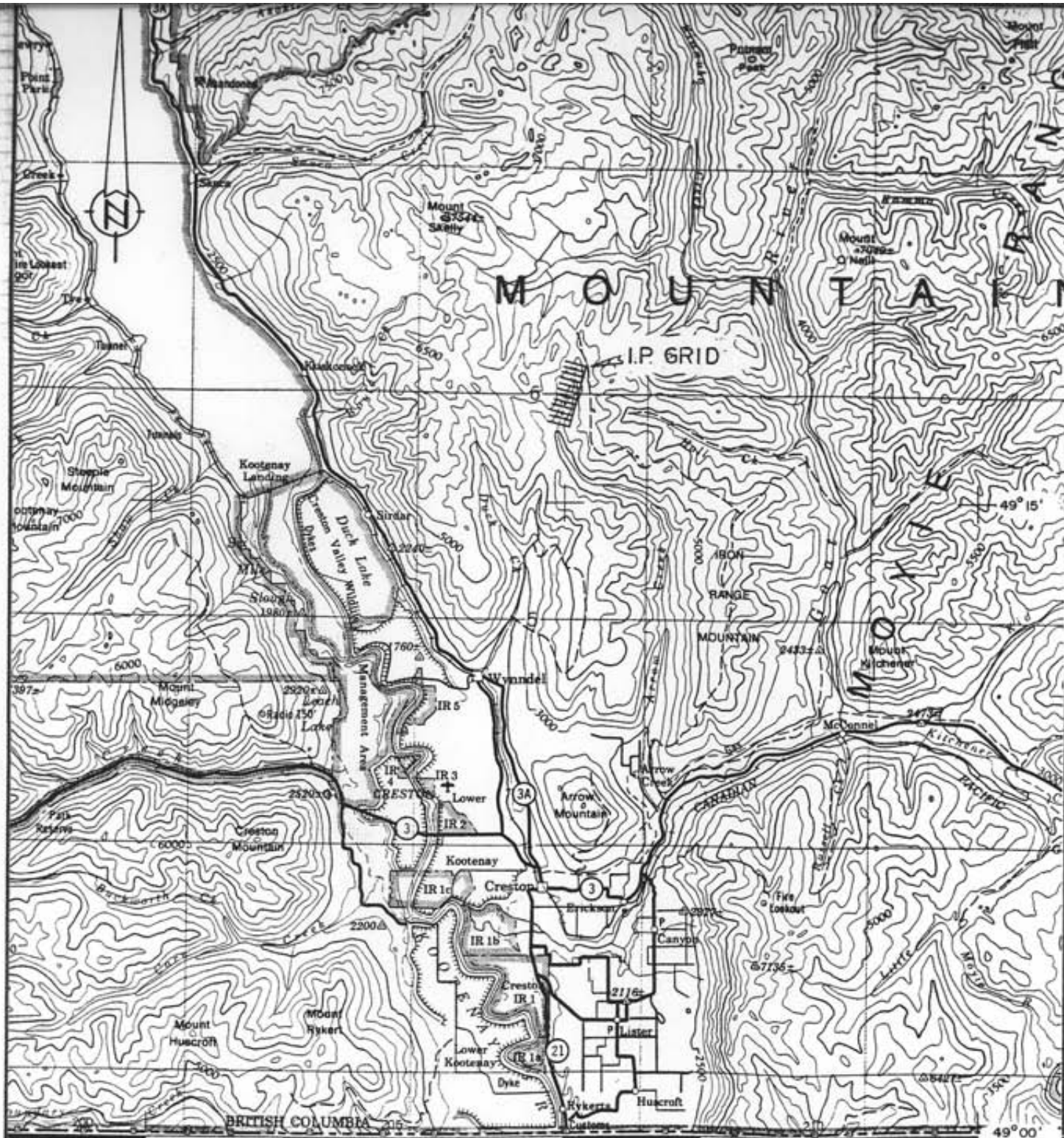
CERTIFICATE OF QUALIFICATIONS

I, JAN KLEIN, of 7025 Dunblane Avenue, in the Municipality of Burnaby, 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 twenty-three years.
4.    THAT I have been employed by Cominco Ltd. since 1974.

  
\_\_\_\_\_  
J. Klein, P.Eng.,  
Chief Geophysicist, Cominco Ltd.

Dated this 6<sup>th</sup> day of October, 1988  
at Vancouver, British Columbia



# HALL CLAIMS

NELSON M.D., B.C.



NTS  
82-F/2

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

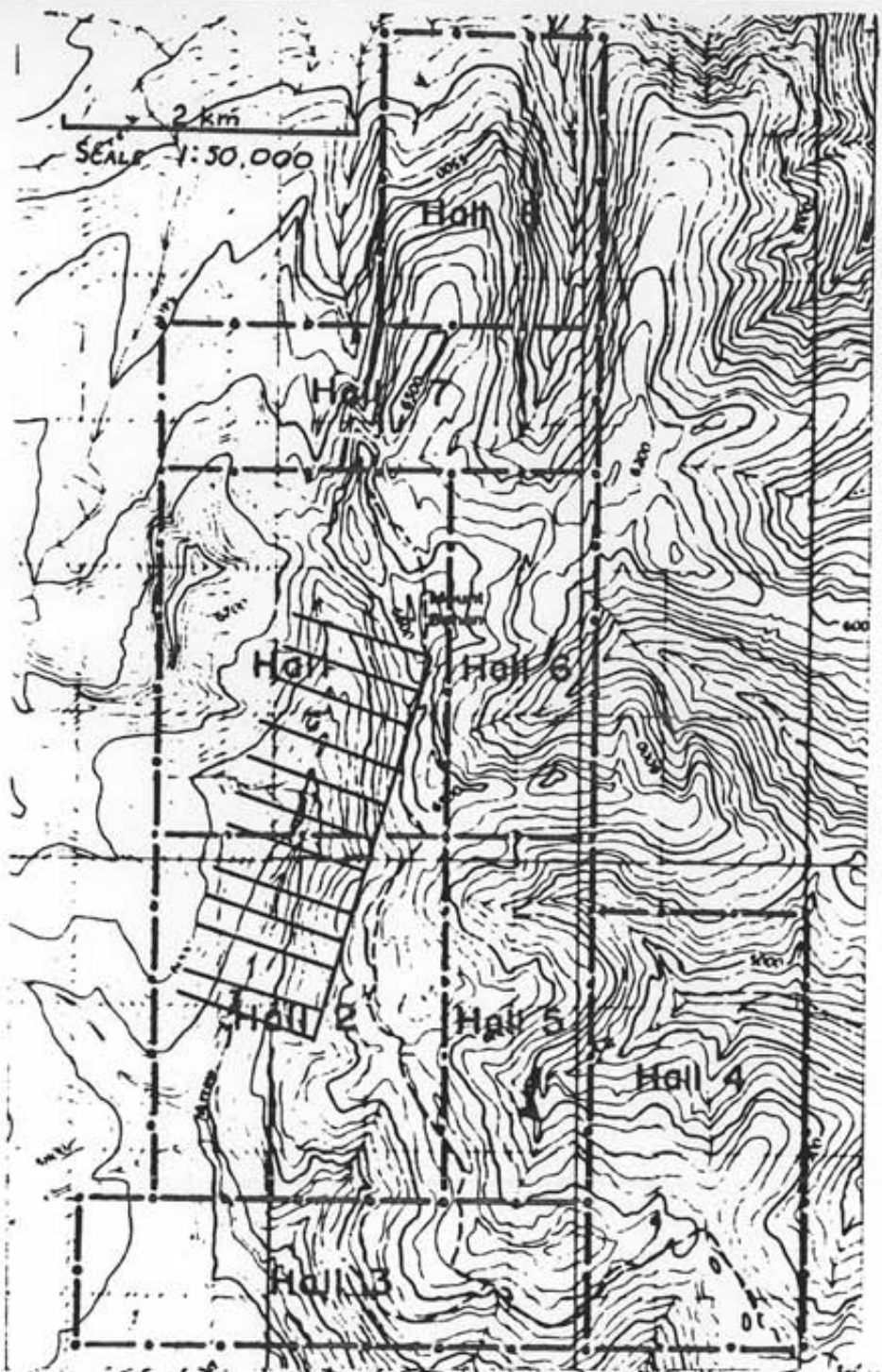
## GRID LOCATION MAP

Scale: 1 : 250,000

Date: SEPT. '88

Figure 1

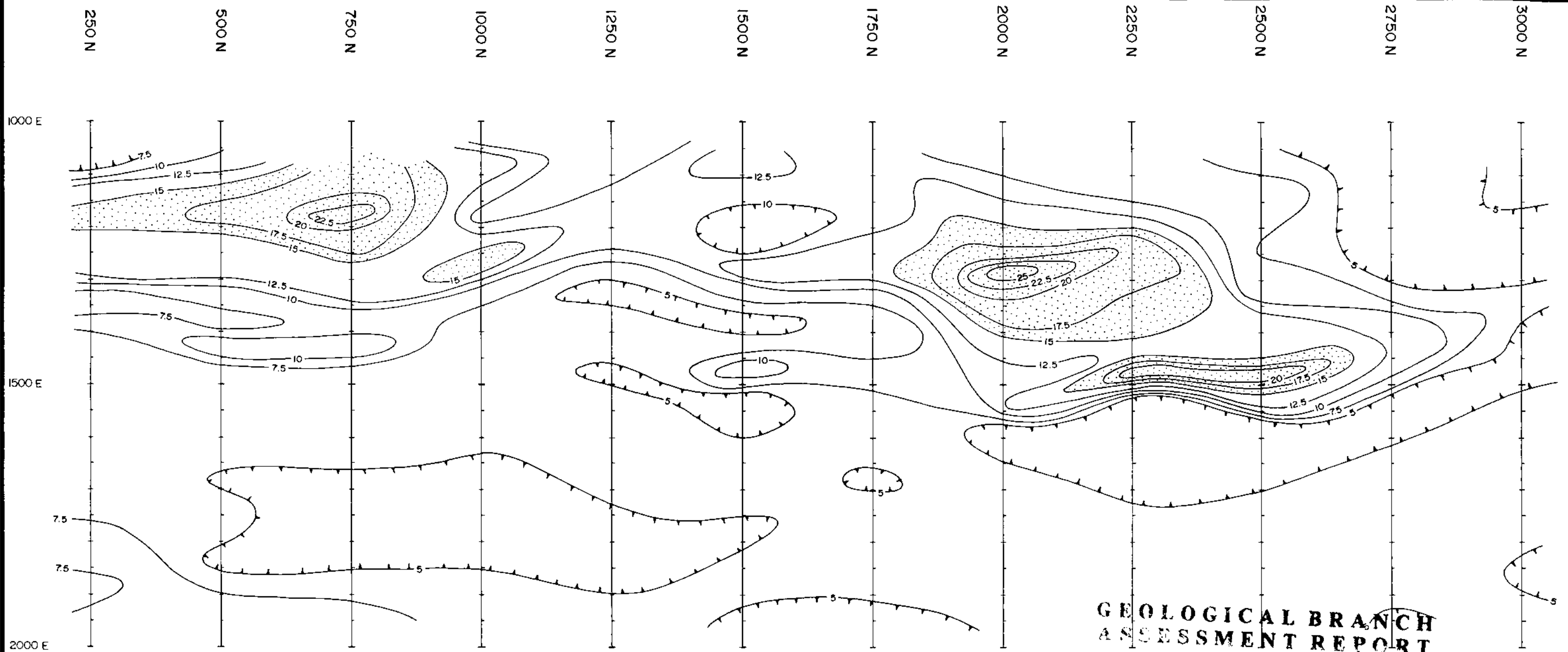




Drawn by:	FMC	Traced by:	
Revised by:	Date	Revised by:	Date


HALL PROPERTY  
1988 WORK  
LINE CUTTING

Scale: As Shown      Date: Oct. 1988      Plate:



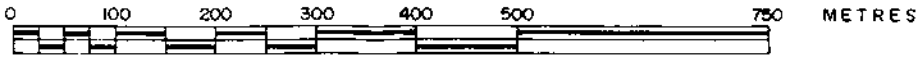
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17-951**

 Chargeability High >15 milliseconds

Total Field I.P.  
Contour Interval - 2.5 milliseconds  
Station Interval - 50 metres

C1 pos: E Dir: W  
For n=2 posted values, see sections. (Plates 342-88-01 to 12)



Survey by : SCOTT GEOPHYSICS LIMITED

<b>HALL CLAIMS</b>				NELSON M.D., B.C.		N.T.S. 82-F/2	
Drawn by :		Traced by : <i>GeoGraphics</i>		INDUCED POLARIZATION SURVEY POLE - DIPOLE ARRAY			
Revised by	Date	Revised by	Date				
				<b>CHARGEABILITY n = 2</b>			
Scale : 1 : 7500		Date : Sept. 1988		Plate : 342-88-14			



HALL PROPERTY

LINE NUMBER: 3000

"A": 50.0 METRES

N=1 TO 4

SCINTREX 1PA-11 RECEIVER

TX PULSE TIME: 2.0 SEC

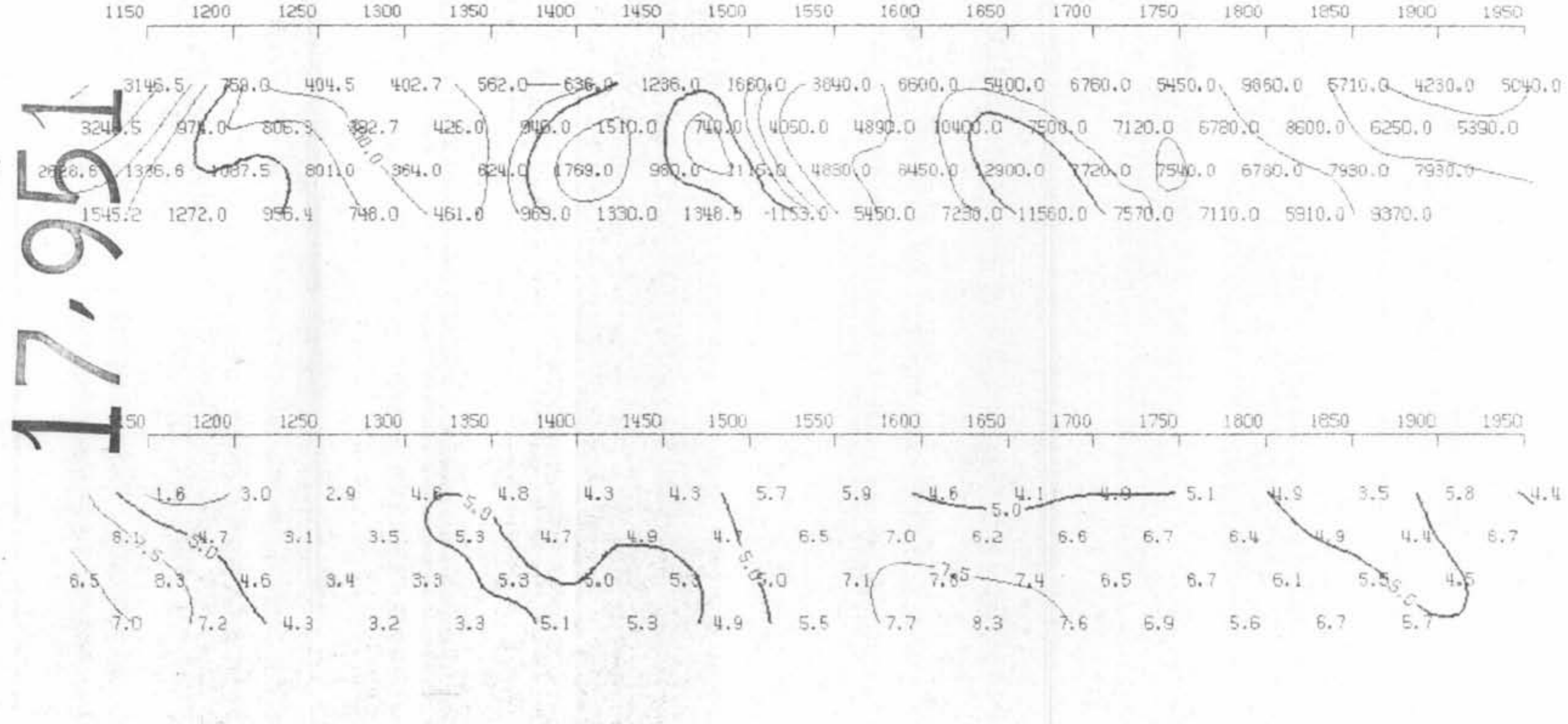
POLE-DIPOLE ARRAY

RECEIVE TIME: 2.0 SEC

SCALE 1: 2500

SLICE 3 to 7

RESISTIVITY  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT



COMINCO LTD.  
HALL PROPERTY  
17,915  
LINE NUMBER: 2750  
"A": 50.0 METRES

N=1 TO 4

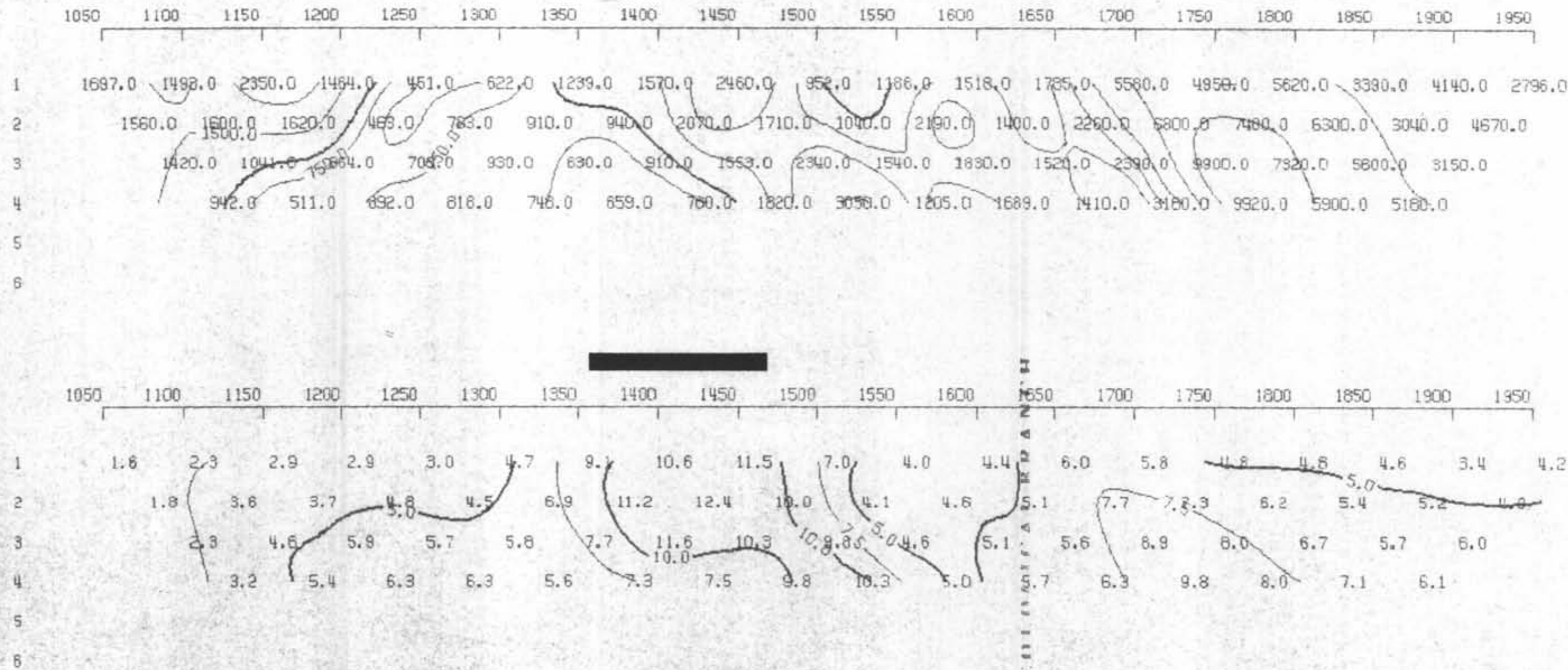
TX PULSE TIME: 2.0 SEC  
RECEIVE TIME: 2.0 SEC

SCINTREX JPR-11 RECEIVER  
POLE-DIPOLE ARRAY

SCALE 1: 2500

SLICE 3 to 7

RESISTIVITY



HALL PROPERTY

LINE NUMBER: 2500

"A": 50.0 METRES

N=1 TO 4

SCINTREX IPA-11 RECEIVER

TX PULSE TIME: 2.0 SEC

GEOELECTRICAL BRANCH

RECEIVE TIME: 2.0 SEC

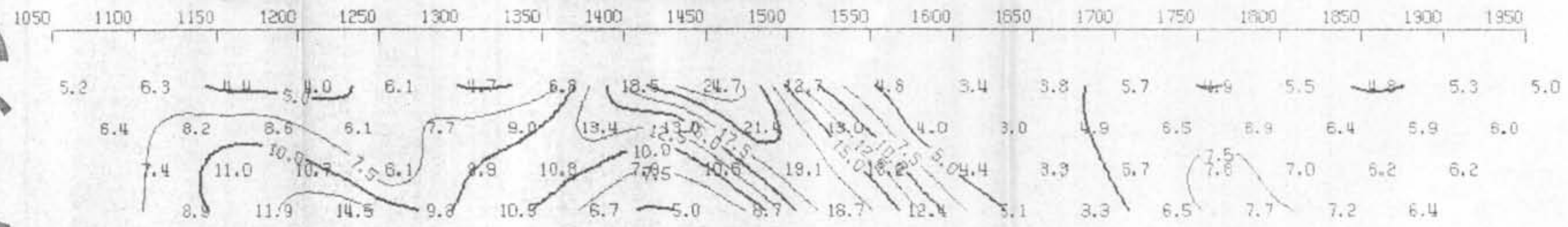
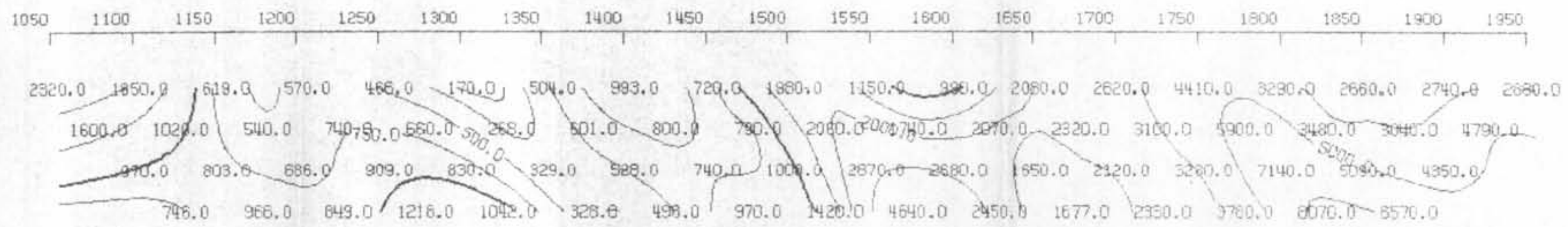
ASSESSMENT REPORT

SCALE 1: 2500

SLIT 3 TO 7  
**17951**

RESISTIVITY

1  
2  
3  
4  
5  
6



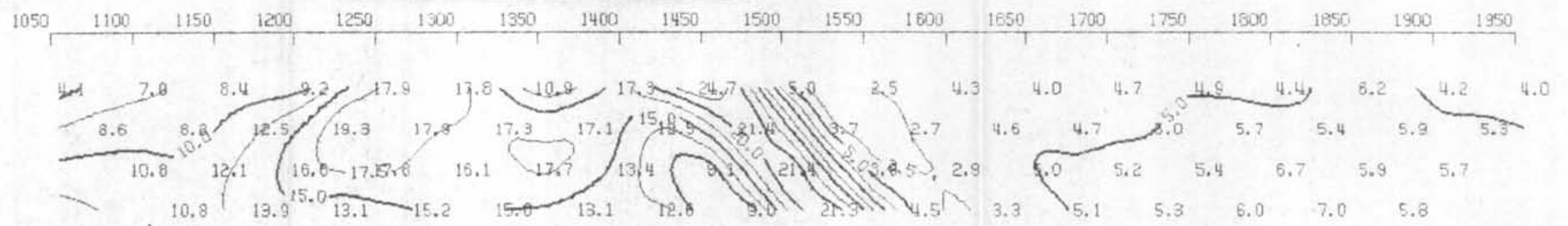
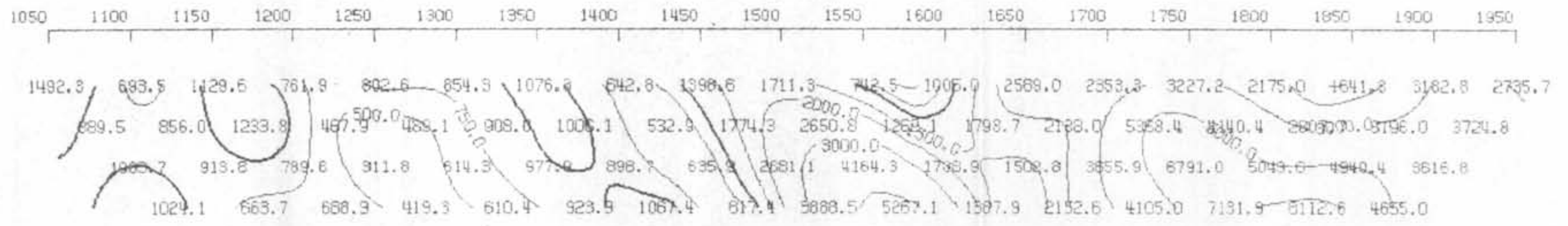
HALL PROPERTY  
 LINE NUMBER: 2250  
 "A": 50.0 METRES  
 SCINTREX 1PR-11 RECEIVER  
 POLE-DIPOLE ARRAY

17951  
 N 1 TO 4  
 TX PULSE TIME: 2.0 SEC  
 RECEIVE TIME: 2.0 SEC

SCALE 1: 2500

SLICE 3 to 7

RESISTIVITY



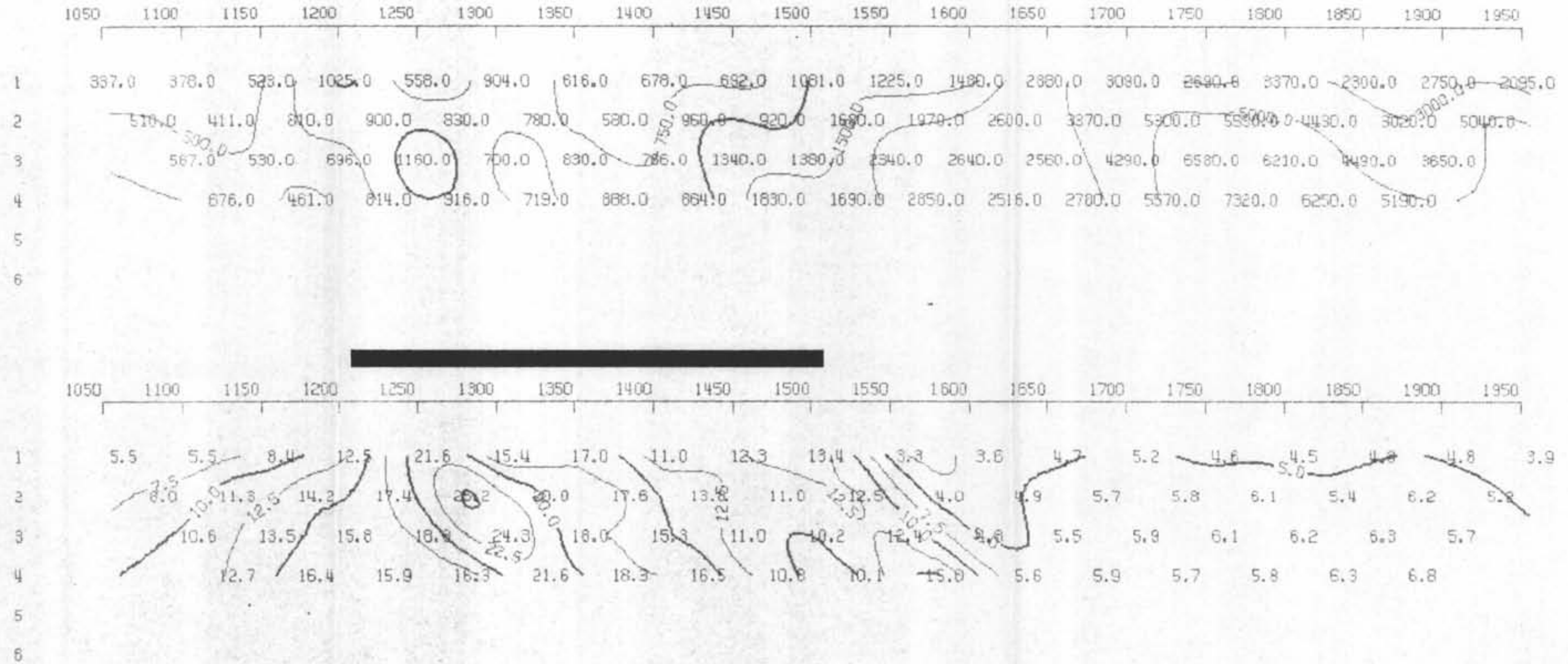
HALL PROPERTY  
LINE NUMBER: 000  
"A": 50.0 METRES  
SCINTREX IPA-11 RECEIVER  
POLE-DIPOLE ARRAY

17951  
N=1  
TX PULSE TIME: 2.0 SEC  
RECEIVE TIME: 2.0 SEC

SCALE 1: 2500

SLICE 3 to 7

RESISTIVITY





HALL PROPERTY

LINE NUMBER: 1750

"A": 50.0 METRES

N=1 TO 4

SCINTREX IPR-11 RECEIVER

TX PULSE TIME: 2.0 SEC

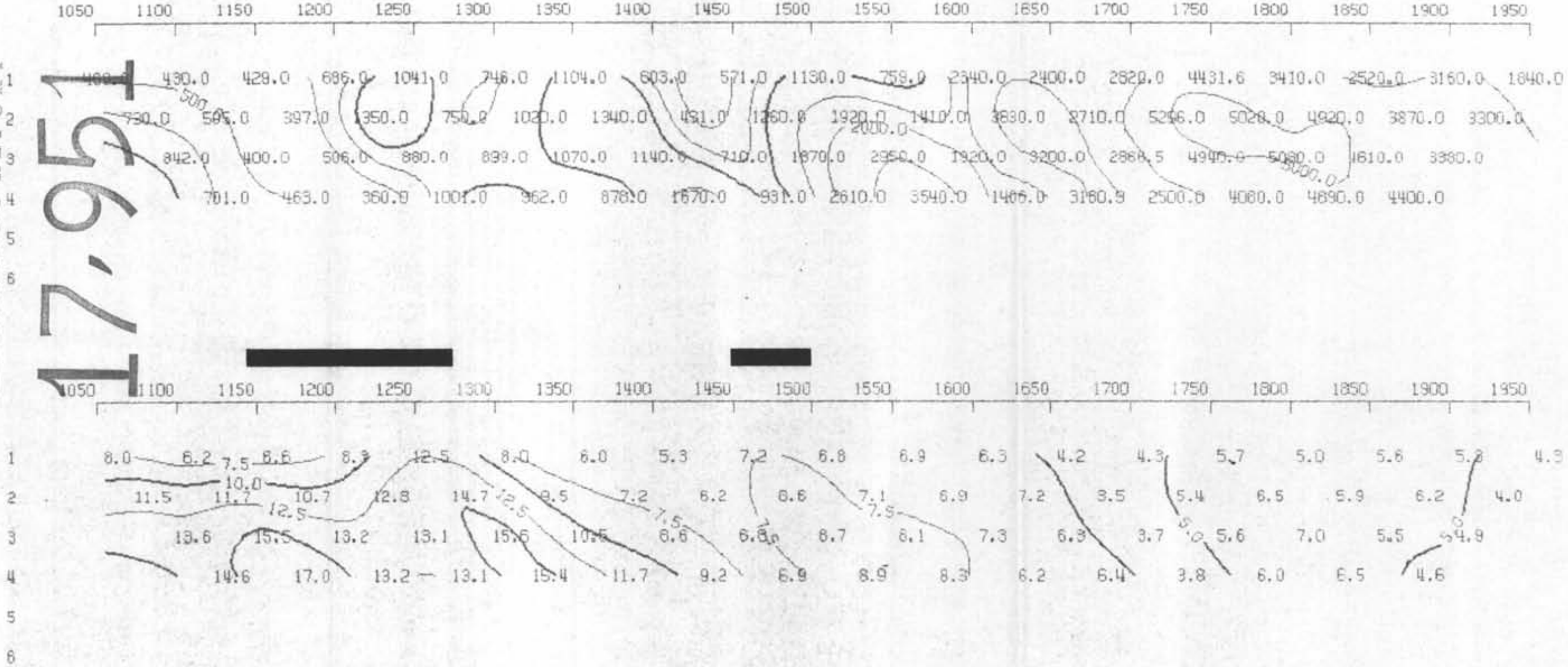
POLE-DIPOLE ARRAY

RECEIVE TIME: 2.0 SEC

SCALE 1: 2500

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

SLICE 3-7



HALL PROPERTY

LINE NUMBER: 1500

"A": 50.0 METRES

N=1 TO 4

SCINTREX IPA-11 RECEIVER

TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY

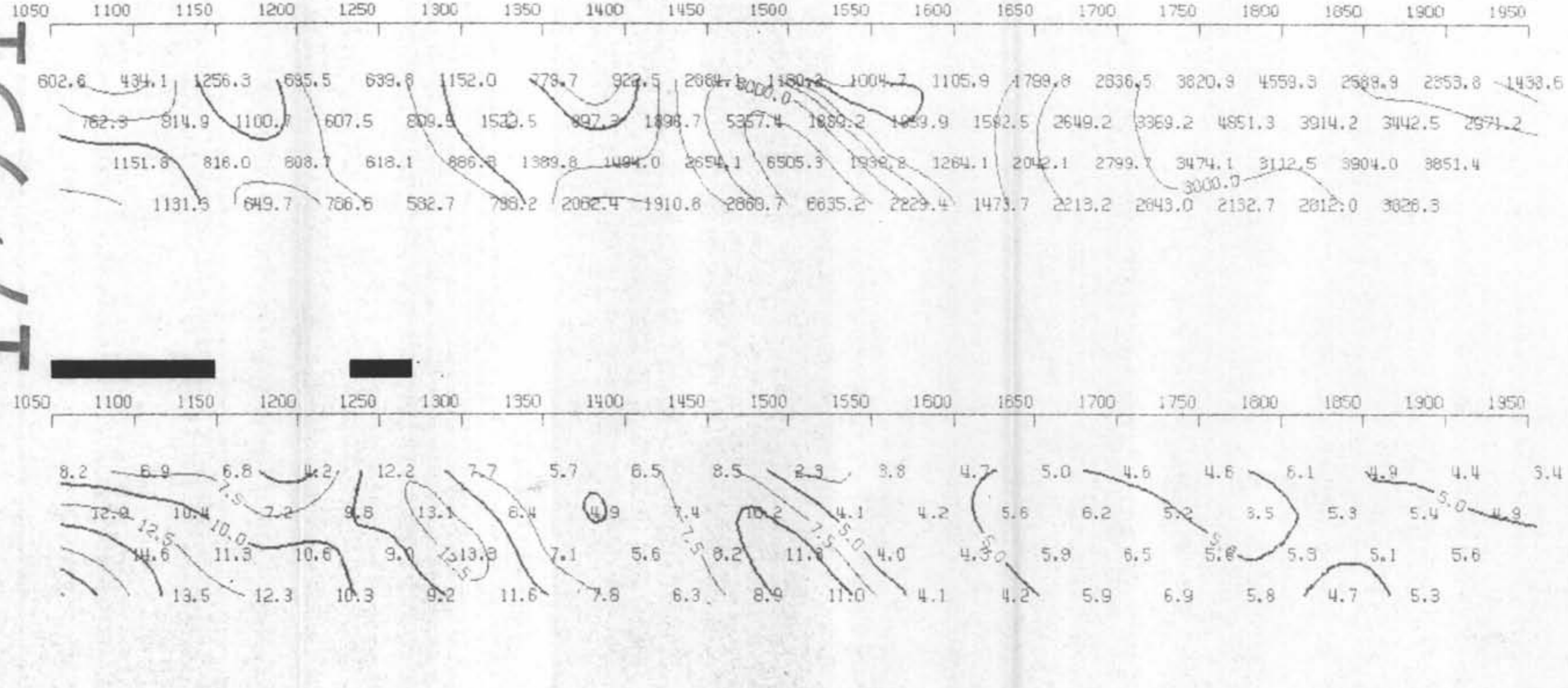
RECEIVE TIME: 2.0 SEC

GEOLOGICAL BRANCH  
SECTION REPORT

SLICE 3-7

RESISTIVITY

17,951



COMINCO LTD.

HALL PROPERTY

LINE NUMBER: 1250

"A": 50.0 METRES

N=1 TO 4

SCINTREX IPA-11 RECEIVER

2.0 SEC

POLE-DIPOLE ARRAY

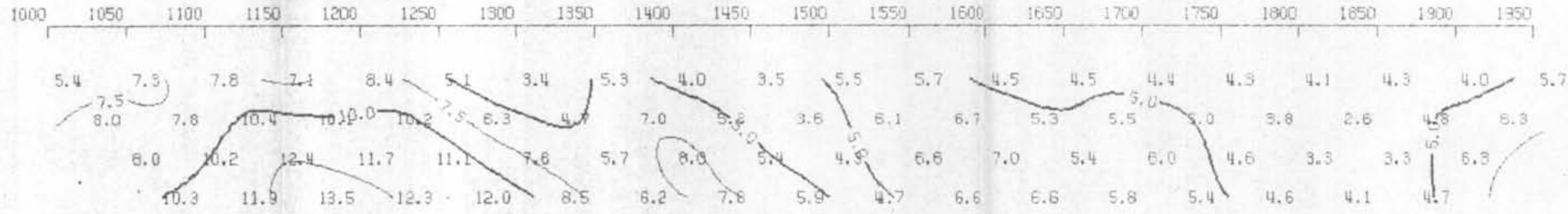
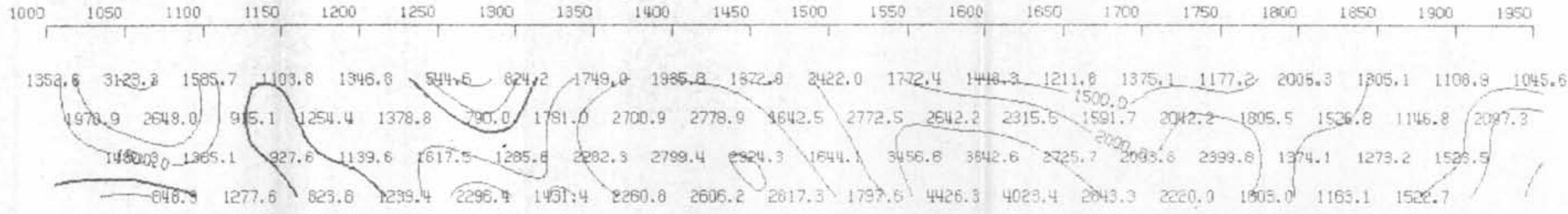
ASSIGNMENT TIME: 2047

SCALE 1: 2500

SLICE 3 TO 7

17,951

RESISTIVITY



HALL PROPERTY

LINE NUMBER: 1000

"A": 50.0 METRES

N=1 TO 4

SCINTREX IPR-11 RECEIVER

TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY

GEOLOGICAL BRANCH

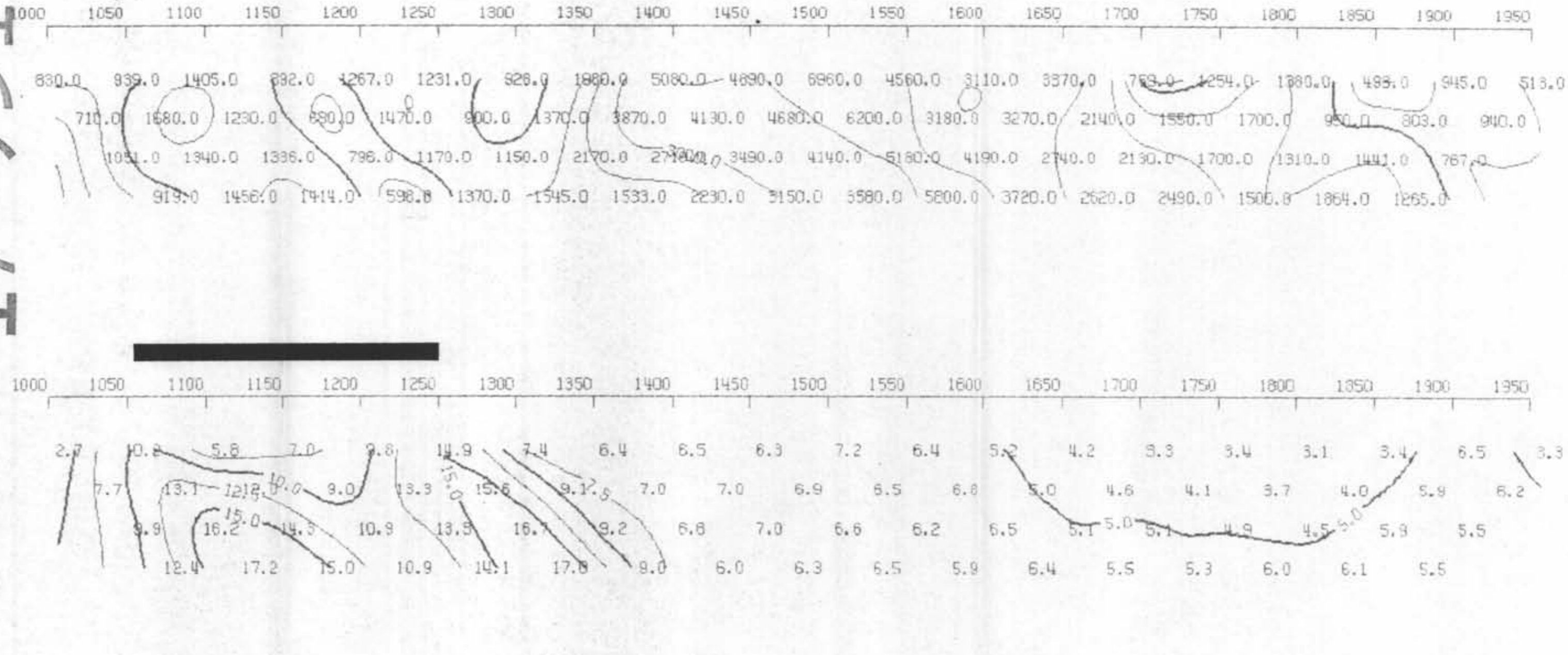
ASSESSMENT REPORT

SCALE 1:2500

SLICE 3 to 7

RESISTIVITY

17,951



HALL PROPERTY

LINE NUMBER: 750

"A": 50.0 METRES

N=1 TO 4

SCINTREX 1PA-11 RECEIVER

TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY

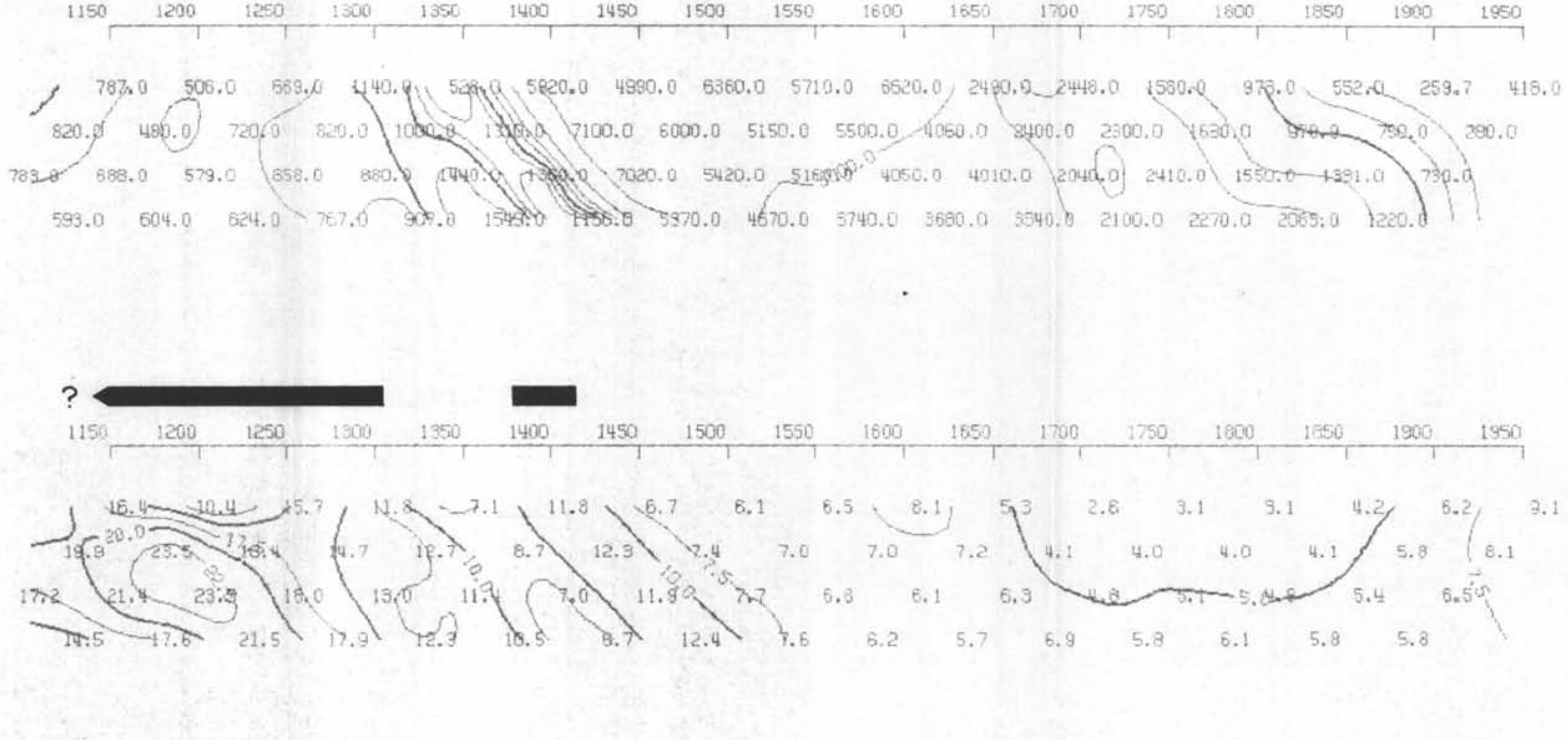
GEOELECTRIC TRENCH

ASSESSMENT REPORT

SCALE 1: 2500

SLICE 3 to 7

17,951



HALL PROPERTY  
LINE NUMBER: 500

"A": 50.0 METRES  
SCINTREX 1PA-11 RECEIVER  
POLE-DIPOLE ARRAY

N=1 TO 4

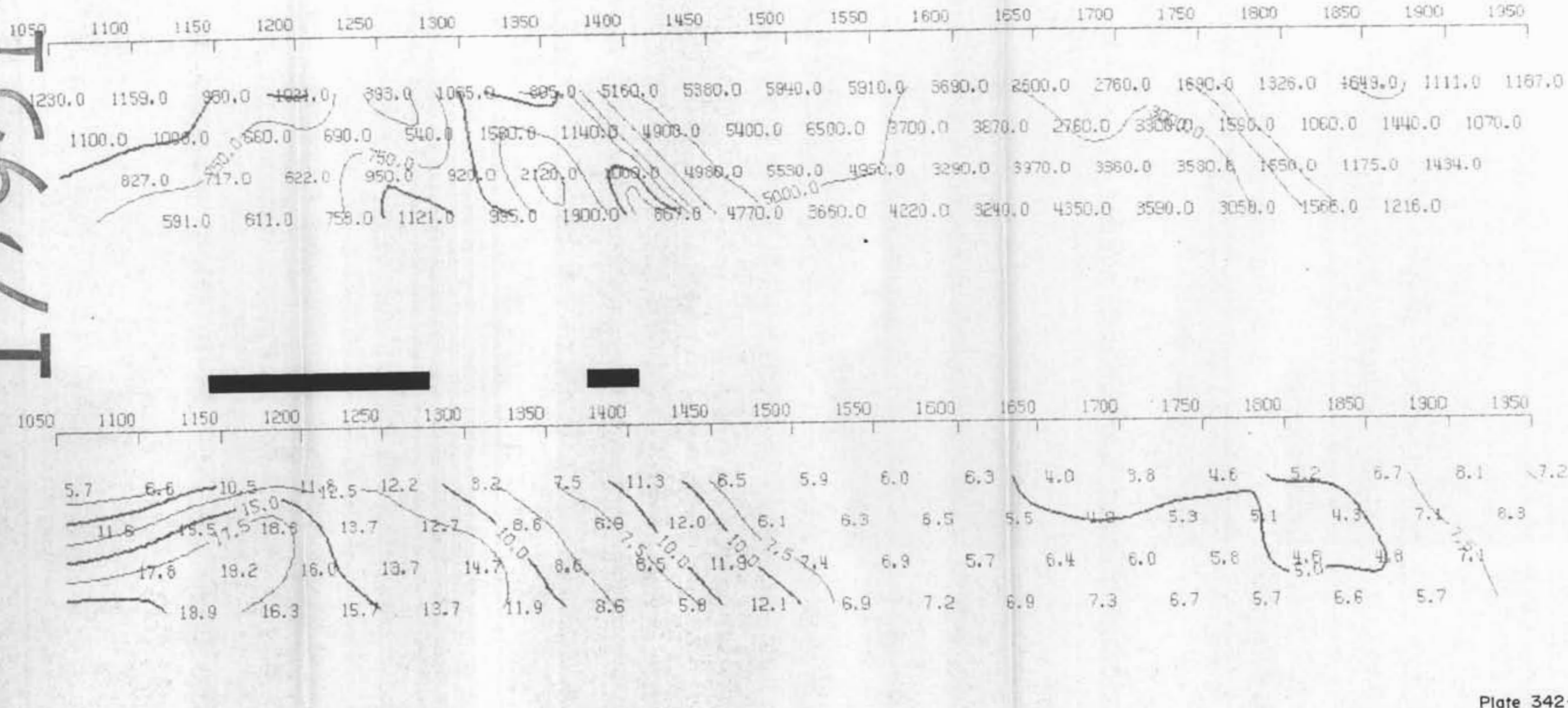
TX PULSE TIME: 2.0 SEC  
RECEIVE TIME: 2.0 SEC

GEOLOGICAL BRANCH  
SCALE - SESSMENT REPORT

RESISTIVITY

SLICE 3 to 7

17,951



COMINCO LTD.

HALL PROPERTY

LINE NUMBER: 250

50.0 METRES

N=1 TO 4

SCINTREX IPA-11 RECEIVER

TX PULSE TIME: 2.0 SEC

POLE-DIPOLE ARRAY

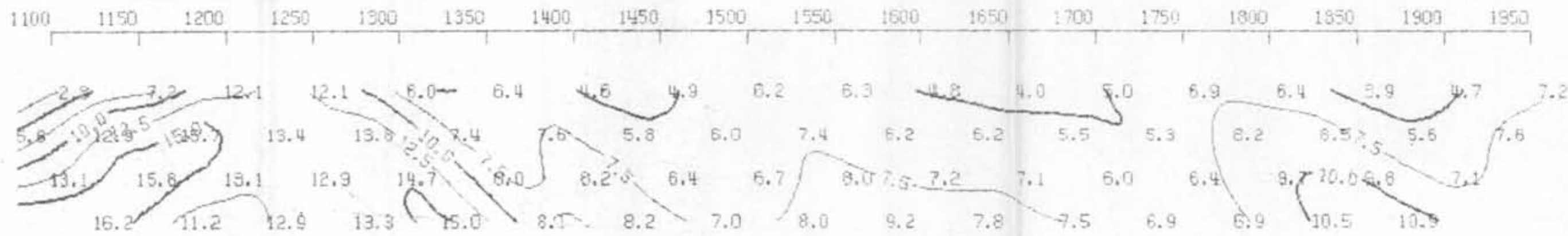
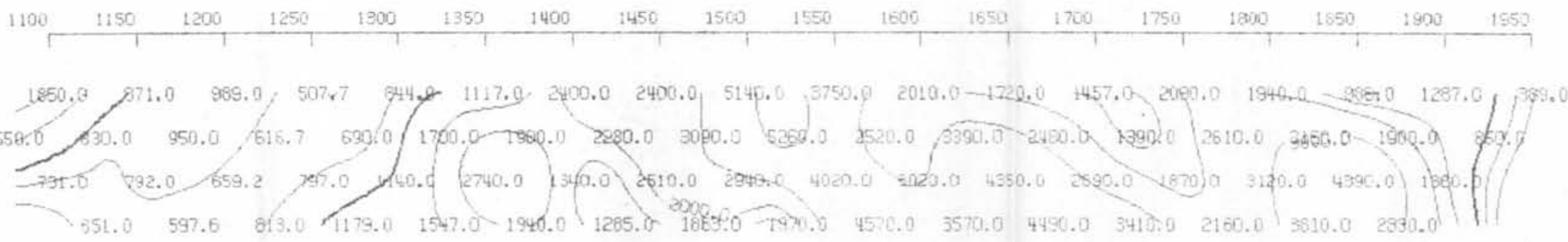
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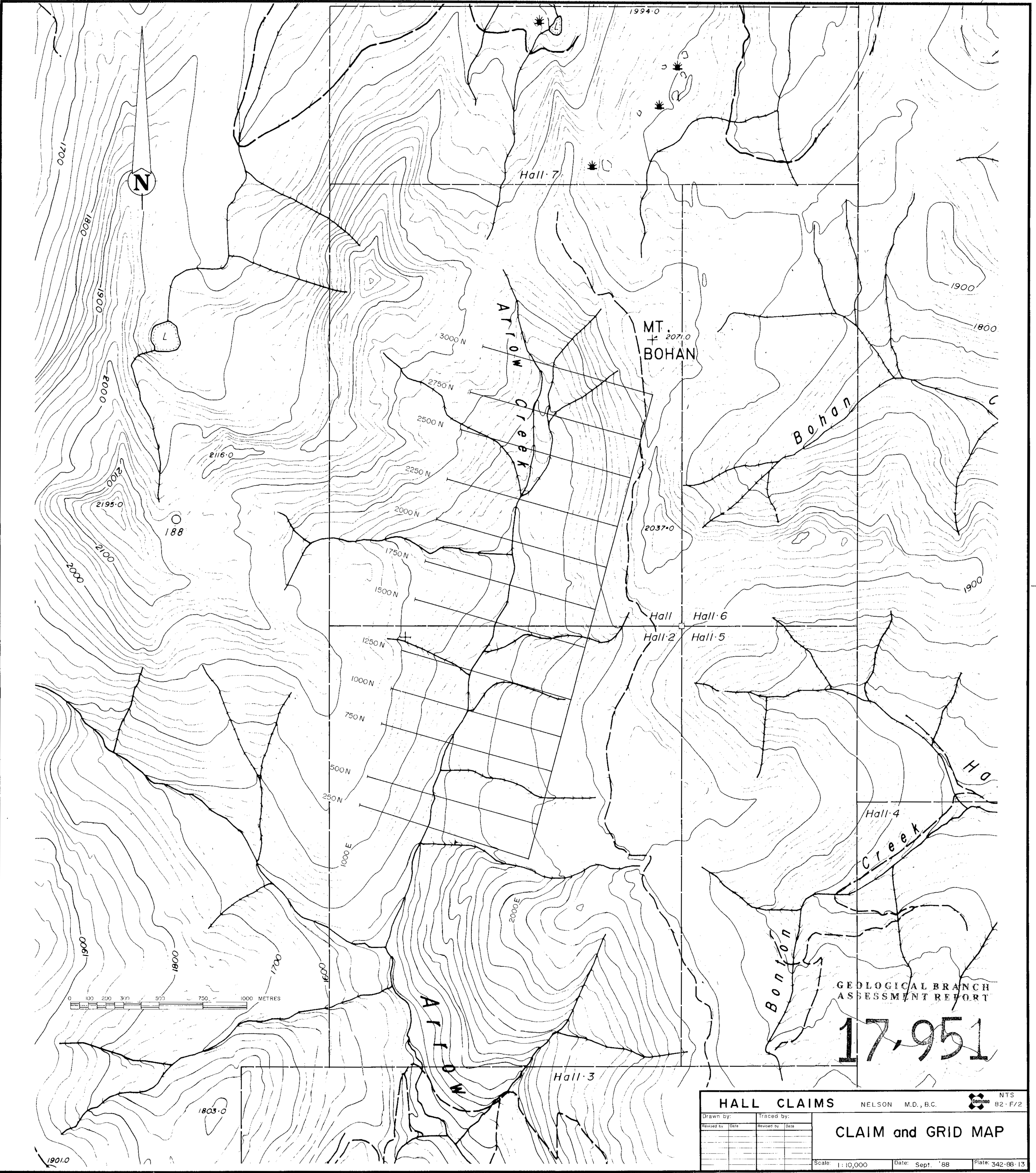
GEOLOGICAL BRANCH  
SCALE ASSESSMENT REPORT

SLICE 3 to 7

RESISTIVITY

17.951



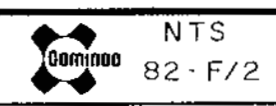


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,951**

**HALL CLAIMS**

NELSON M.D., B.C.



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

**CLAIM and GRID MAP**

Scale: 1:10,000 Date: Sept. '88 Plate: 342-88-13

FORM 210 0556