



42B01SE0035 2.12547 HORWOOD

010

BRIEF GEOPHYSICAL REPORT  
on the  
Blueberry Island Property  
of  
PELANGIO-LARDER MINES LTD.  
and  
BAYRIDGE DEVELOPMENT LTD.  
Joint Venture  
Horwood Township, District of Sudbury  
Porcupine Mining Division, Ontario  
by  
Richard Lachapelle, B.Sc. Ing. Jr.  
April, 1989

**RECEIVED**

JUN - 8 1989

**MINING LANDS SECTION**



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IP PSEUDOSECTIONS

L0+00, L1+00W, L2+00W, L3+00W, L4+00W, L5+00W, L7+00W, L8+00W

## INTRODUCTION

From March 12 to March 25, 1989 a program of induced polarization was conducted on the Blueberry Island Property for Pelangio-Larder Mines Ltd. and Bayridge Developments Ltd.

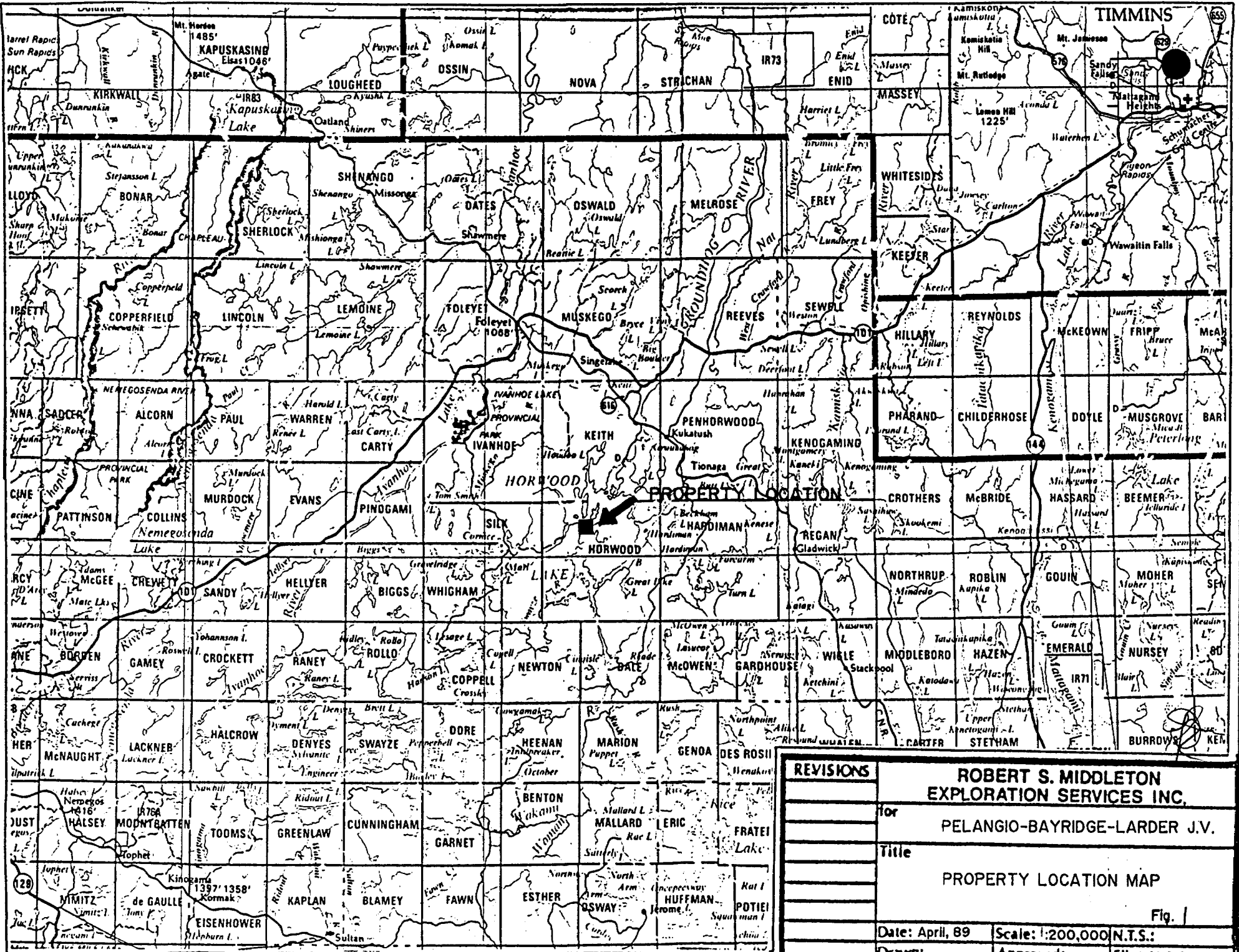
The geophysical surveying was conducted by Robert S. Middleton Exploration Services Inc. of Timmins, Ontario, and consisted of a time-domain induced polarization/resistivity survey. The survey was conducted as a follow-up and complimentary to a previous VLF-EM survey and extensive drilling program which delineated favourable geological settings worthy of further work.

## CLAIM GROUP AND LOCATION

The Blueberry Island Property consists of 39 un-patented contiguous mining claims in Horwood Township, Porcupine Mining Division, Ontario (Figure 1). The registered holder of these claims is Pelangio-Larder Mines Ltd. The survey was performed on the following 6 claims:

798703  
955556-58 inclusive  
995951-52 inclusive

The claims are illustrated on the compilation map, Figure 2.



REVISIONS	<b>ROBERT S. MIDDLETON EXPLORATION SERVICES INC.</b>	
	for <b>PELANGIO-BAYRIDGE-LARDER J.V.</b>	
	Title <b>PROPERTY LOCATION MAP</b>	
	Fig. 1	
Date: April, 89	Scale: 1:200,000 N.T.S.:	
Drawn:	Approved:	File: M-357

SURVEY PROCEDURE

INDUCED POLARIZATION/RESISTIVITY

Field Method

The survey was conducted using a pole-dipole array with a dipole length of 25m and array spacings of  $n=2, \dots, 5$  dipoles. This array configuration involves having a dipole for the receiver measuring  $V_p$ , the potential and a single current transmitter electrode on the grid, separated from the receiver dipole by each 'n' interval in turn. The other current electrode, 'the infinity' is situated 2 kilometers or more from the grid.

For this survey the measurements were taken in the time domain, so the transmitted current was a bi-polar on-off square wave with each on or off lasting two seconds. Measurements of resistivity and chargeability were taken every 25m.

PERSONNEL AND EQUIPMENT

The induced polarization was conducted by a four-man crew supplied by Robert S. Middleton Exploration Services Inc. of Timmins, Ontario. The crew chief was Mark Wilson of 136 Cedar Street South, Timmins, Ontario.

The equipment used consisted of a Scintrex IPR-11 time-domain induced polarization receiver and a Scintrex TSQ-3, 3Kw transmitter.

### SURVEY STATISTICS

The survey comprised a total of 5.55 line km of time-domain induced polarization/resistivity readings. The survey required 13.5 days to complete of which one day was lost due to equipment failure and 2.5 days were used for camp mobilization/demobilization.

### INTERPRETATION

The induced polarization survey delineated three weak to moderate sub-parallel easterly trending anomalies, denoted A-A, B-B and D-D, which are illustrated on the geophysical compilation map, Figure 2. The resistivity signature observed for the first two separations ( $n=2$  and  $n=3$ ) indicate a substantial thickness of conductive lake-bottom sediments. The presence of this conductive sediment layer can render precise readings difficult to obtain.

The general strike of the IP anomalies agrees well with previous diamond drill results done by Kerr Addison Mines Ltd. in 1960 (Darke, 1988). Based on these previous drilling results, the IP anomalies are interpreted to possibly represent "narrow, gold-bearing quartz-carbonate stringer veins/cherty horizons" in metavolcanic rocks.

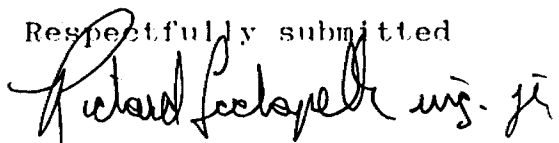
CONCLUSIONS AND RECOMMENDATIONS

The induced polarization survey delineated several weak to moderate sub-parallel anomalies. The presence of a substantial thickness of lake-bottom sediments has modified the true signature of these anomalies making them appear weaker than they really are, and in some cases, such as between lines 2+00W and 3+00W and between baseline and station 1+00N, rendered adequate readings impossible to obtain.

The induced polarization anomalies are on strike with promising gold-bearing horizons and should therefore not be dismissed as too weak and insignificant.

Therefore an extensive diamond drilling program is recommended on these anomalies, more specifically on the western extension of anomaly D-D, which has the highest chargeability signature of the three anomalies.

Respectfully submitted



Richard Lachapelle, B.Sc. Ing. Jr.

REFERENCES

DARKE, K.H.  
1988

GEOLOGICAL EXPLORATION REPORT on the BLUEBERRY  
ISLAND GOLD PROPERTY, HORWOOD TOWNSHIP,  
ONTARIO, Porcupine Mining Division, District  
of Sudbury for BAYRIDGE DEVELOPMENTS LTD.,  
March 4, 1988



CERTIFICATION

I, Richard Lachapelle, of 136 Cedar Street South, in the City of Timmins, Province of Ontario, certify as follows concerning my report on the Pelangio-Larder Mines Ltd. and Bayridge Development Ltd. joint venture Blueberry Island Property in Horwood Township, Province of Ontario and dated April 25, 1989.

1. I am a junior member in good standing of l'Ordre des Ingenieurs du Quebec.
2. I am a graduate of l'Universite de Sherbrooke, Sherbrooke, Quebec with a B.Sc. degree in Physics, obtained in 1984.
3. I am a graduate of l'Ecole Polytechnique de Montreal, Montreal, Quebec with a B.Eng. degree in Geological Engineering obtained in 1987.
4. I have been practising in Canada for the past 2 years.
5. I have no direct interest in the properties, leases, or securities of Pelangio-Larder Mines Ltd. or Bayridge Development Ltd. nor do I expect to receive any.
6. The attached report is a product of:
  - a) Examination of data included in the report which was collected on the property concerned.

Dated this 25th day of April  
TIMMINS, Ontario

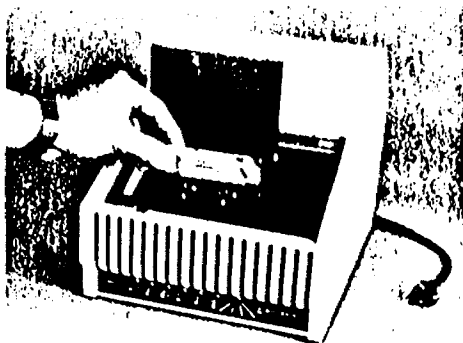
*Richard Lachapelle ing. jr.*  
Richard Lachapelle, B.Sc.Eng. Jr.  
Geophysicist

*True.  
2.11.658*

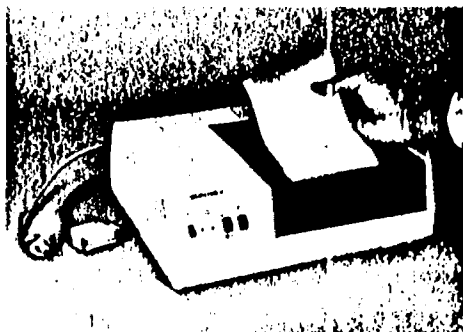
A P P E N D I X A

# Technical Description of the IPR-11 Broadband Time Domain IP Receiver

<b>Input Potential Dipoles</b>	1 to 6 simultaneously
<b>Input Impedance</b>	4 megohms
<b>Input Voltage (Vp) Range</b>	100 microvolts to 6 volts for measurement. Zener diode protection up to 50 V
<b>Automatic SP Bucking Range</b>	±1.5 V
<b>Chargeability (M) Range</b>	0 to 300 mV/V (mils or 0/00)
<b>Absolute Accuracy of Vp, SP and M</b>	Vp; ±3% of reading for Vp > 100 microvolts SP; ±3% of SP bucking range M; ±3% of reading or minimum ±0.5m V/V
<b>Resolution of Vp, SP and M</b>	Vp; 1 m V above 100 m V approaching 1 microvolt at 100 microvolt SP; 1 m V M; 0.1 m V/V except for M <sub>0</sub> to M <sub>3</sub> in 0.2 second receive time where resolution is 0.4 m V/V.
<b>IP Transient Program</b>	Ten transient windows per input dipole. After a delay from current off of t, first four windows each have a width of t, next three windows each have a width of 6t and last three windows each have a width of 12t. The total measuring time is therefore 58t. t can be set at 3, 15, 30 or 60 milliseconds for nominal total receive times of 0.2, 1, 2 and 4 seconds.
<b>Vp Integration Time</b>	In 0.2 and 1 second receive time modes; 0.51 sec In 2 second mode; 1.02 sec In 4 second mode; 2.04 sec
<b>Transmitter Timing</b>	Equal on and off times with polarity change each half cycle. On/off times of 1, 2, 4 or 8 seconds with ±2.5% accuracy are required.
<b>Header Capacity</b>	Up to 17 four digit headers can be stored with each observation.
<b>Data Memory Capacity</b>	Depends on how many dipoles are recorded with each header. If four header items are used with 6 dipoles of SP, Vp and 10 M windows each, then about 200 dipole measurements can be stored. Up to three Optional Data Memory Expansion Blocks are available, each with a capacity of about 200 dipoles.
<b>External Circuit Check</b>	Checks up to six dipoles simultaneously using a 31 Hz square wave and readout on front panel meters, in range of 0 to 200 k ohms.
<b>Filtering</b>	RF filter, spheric spike removal; switchable 50 or 60 Hz notch filters, low pass filters which are automatically removed from the circuit in the 0.2 sec receive time.
<b>Internal Calibrator</b>	1000 mV of SP, 200 mV of Vp and 24.3 mV/V of M provided in 2 sec pulses.
<b>Digital Display</b>	Two, 4 digit LCD displays. One presents data, either measured or manually entered by the operator. The second display; 1) indicates codes identifying the data shown on the first display, and 2) shows alarm codes indicating errors.
<b>Analog Meters</b>	Six meters for; 1) checking external circuit res- istance, and 2) monitoring input signals.
<b>Digital Data Output</b>	RS-232C compatible, 7 bit ASCII, no parity, serial data output for communication with a digital printer, tape recorder or modem.



Industry standard cassette recorders such as this  
MFE-2500 can be connected directly to the IPR-11.



DP-4 Digital Printer

# Technical Description of the IPR-11 Broadband Time Domain IP Receiver

<b>Standard Rechargeable Power Supply</b>	Eight Eveready CH4 rechargeable NiCad D cells provide approximately 15 hours of continuous operation at 25°C. Supplied with a battery charger, suitable for 110/230 V, 50 to 400 Hz, 10 W.
<b>Disposable Battery Power Supply</b>	At 25°C, about 40 hours of continuous operation are obtained from 8 Eveready E95 or equivalent alkaline D cells.  At 25°C, about 16 hours of continuous operation are obtained from 8 Eveready 1150 or equivalent carbon-zinc D cells.
<b>Dimensions</b>	345 mm x 250 mm x 300 mm, including lid.
<b>Weight</b>	10.5 kg, including batteries.
<b>Operating Temperature Range</b>	-20 to +55°C, limited by display.
<b>Storage Temperature Range</b>	-40 to +60°C.
<b>Standard Items</b>	Console with lid and set of rechargeable batteries, 2 copies of manual, battery charger.
<b>Optional Items</b>	Multidipole Potential Cables, Data Memory Expansion Blocks, Statistical Analysis Program, Crystal Clock, SPECTRUM Program, Digital Printer, Cassette Tape Recorder, Modem.
<b>Shipping Weight</b>	25 kg includes reusable wooden shipping case.

## SCINTREX

222 Snidercrott Road  
Concord Ontario Canada  
L4K 1B5

Telephone: (416) 669-2280  
Cable: Geosclnt Toronto  
Telex: 06-964570

Geophysical and Geochemical  
Instrumentation and Services

DATA



INDEX | VARIABLE



*IPR-11 LCD displays, actual size*

## 2. TSQ-3 Transmitter Console & Motor - Generator Specifications

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### Transmitter Console

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Output Power	3000 VA maximum
Output Voltages	300, 400, 500, 600, 750, 900, 1050, 1200, 1350 and 1500 volts, switch selectable
Output Current	10 amperes maximum
Output Current Stability	Automatically controlled to within $\pm 0.1\%$ for up to 20% external load variation or up to $\pm 10\%$ input voltage variations.
Stabilization Over-range Protection	High voltage shuts off automatically if the control range of 20% is exceeded.
Digital Display	Light emitting diodes permit display up to 1999 with variable decimal point; switch selectable to read input voltage, output current, external circuit resistance, dual current range, switch selectable.
Current Reading Resolution	10 mA on coarse range (1-10A). 1 mA on fine range (0-2A)
Frequency Domain Waveform	Square wave, approximately 6% off at each polarity change
Frequency Domain	Standard: 0.1, 0.3, 1.0 and 3.0 Hz, switch selectable. Optional: any number of frequencies in range 0.1 to 5 Hz.
Time Domain Cycle Timing	t:t:t:t; on:off:on:off: automatic
Time Domain Polarity Change	Each 2t; automatic
Time Domain Pulse Durations	Standard: t=1,2,4,8,16 and 32 seconds Optional: any other timings
Time and Frequency Stability	Crystal controlled to better than 0.1% with external clock option better than 20 ppm over operating temperature range.
Efficiency	.78

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Operating Temperature Range -30°C to +50°C

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Overload Protection Automatic shut-off at 3000 VA.

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Underload Protection Automatic shut-off at current below 85 mA

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Thermal Protection Automatic shut-off at internal temperature of 85°C

---

Dimensions 350 mm x 530 mm x 320 mm

---

Weight 25.0 kg

---

**Motor-Generator**

---

Type Motor flexibly coupled to alternator and installed on a frame with carrying handles.

---

Motor Briggs and Stratton, four stroke, 8 HP

---

Alternator Permanent magnet type, 800 Hz, three phase 230 V AC at full load.

---

Output Power 3500 V A maximum

---

Dimensions 520 mm x 715 mm x 560 mm.

---

Weight 72.5 kg.

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**Total System**

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Shipping Weight 150 kg includes transmitter console, motor-generator, connecting cables and reusable wooden crates.

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- 1. Type of Survey ..... Induced Polarization .....
- 2. Township or Area ..... Horwood Twp .....
- 3. Numbers of Mining Claims Traversed by Survey ..... 6 claims .....
- P 798703, P 955556, P 955557, P 955558, P 995951, P 995952 .....
- 4. Number of Miles of Line Cut ..... 5.55 km ..... Flown .....
- \*5. Number of Stations Established ..... 5.55 km .....
- \*6. Make and type of Instrument Used I PR-11, Scintrex ISQ3 .....
- \*7. Scale Constant or Sensitivity ..... .1 MV/V .....
- \*8. Frequency Used and Power Output 2 on 2 off, 8 second bipolar, / .3 kwatt .....

9. Summary of Assessment Credits (details on reverse side)

Total 8 hour Technical Days (Include Consultants, Draughting etc.) 44 ..... 42 .....

Total 8 hour Line-Cutting Days ..... 6 .....

Calculation

$$\frac{44}{\text{Technical}} \times 7 = \frac{308}{\text{Line-cutting}} + \frac{6}{\text{Number of claims}} = \frac{314}{\text{Number of claims}} = \frac{52.33}{\text{Assessment credits per claim}}$$

The dates listed on this form represent working time spent entirely within the limits of the above listed claims  Check  
 If otherwise, please explain .....

Dated: May 19, 1982 .....

Signed:  .....

Maurice Hibbard

- Note:
- (A) \* Complete only if applicable.
  - (B) Complete list of names, addresses and dates on reverse side.
  - (C) Submit separate breakdown for each type of survey.
  - (D) Submit in duplicate.



**Report of Work**  
(Geophysical, Geological,  
Geochemical and Expenditures)

**DOCUMENT No.**  
**W 8906-293**

Instructions: - Please type or print.  
- If number of mining claims traversed exceeds space on this form, attach a list.  
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.  
- Do not use shaded areas below.

July 8

**Mining Act**

Type of Survey(s) <b>I.P. Survey</b>	<b>2.1254<sup>1/2</sup></b>	Township or Area <b>Horwood Twp</b>
Claim Holder(s) <b>Pelanqio-Larder Mines Ltd.</b>	Prospector's Licence No. <b>T 971</b>	
Address <b>220 Bay Street, Suite 701. TORONTO, Ont. M5J 1P8</b>		
Survey Company <b>Robert S. Middleton Exploration Services</b>	Date of Survey (from & to) <b>12 03 89   25 03 89</b>	Total Miles of line Cut <b>6 Miles</b>
Name and Address of Author (of Geo-Technical report) <b>Richard Lachapelle, 136 Cedar St. S. Timmins, Ont.</b>		

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other I.P.	<b>52.3</b>
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	798703				
	995556				
	995557				
	995558				
	995951	<b>52.3</b>			
	995952	<b>52.8</b>			
	955556	<b>20</b>			
	955557	<b>20</b>			
	955558	<b>20</b>			

**RECEIVED**

JUN - 1 1989

MINING LANDS SECTION

**RECORDED**

MAY 19 1989

ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILES  
OFFICE  
SEP 08 1989  
RECEIVED

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total **154.6** (MAY 19 1989) + 15 =

Total number of mining claims covered by this report of work. **6**

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded <b>164.6</b>	Date Recorded <b>MAY 19 1989</b>	Mining Recorder <i>[Signature]</i>
Date Approved as Recorded <b>Aug 4 / 89</b>	Branch Recorder <i>[Signature]</i>	

Date **MAY 19 1989**

Recorded Holder or Agent (Signature) *[Signature]*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

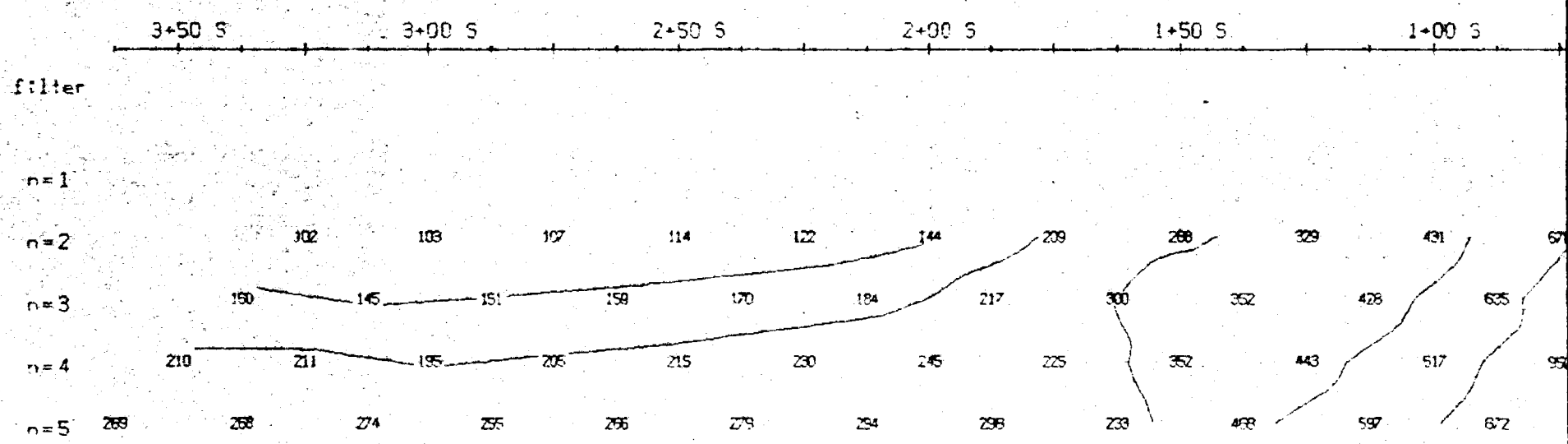
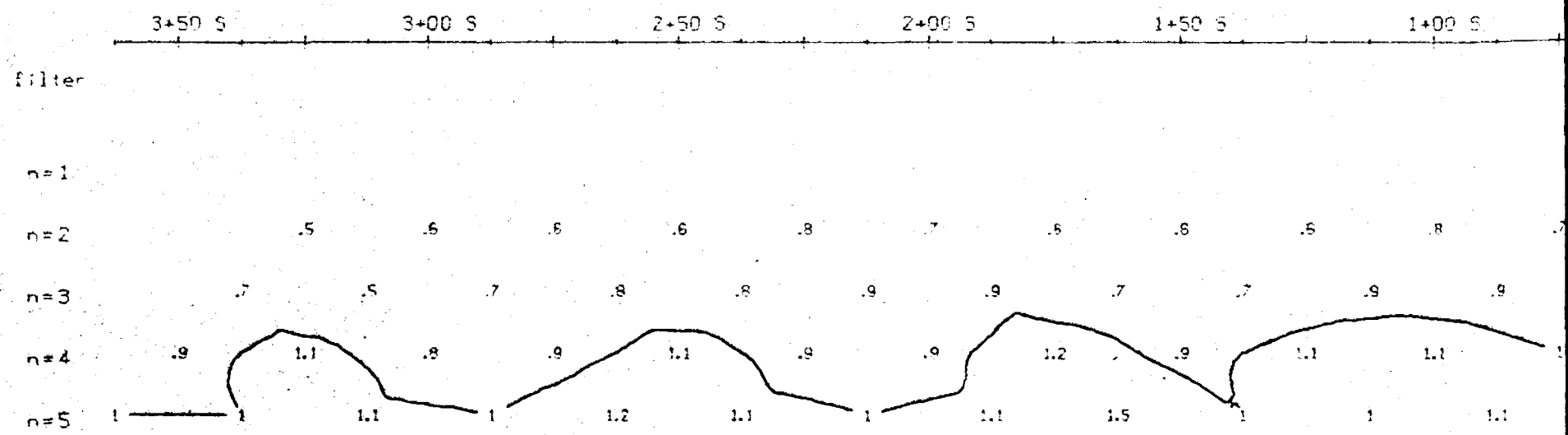
Name and Postal Address of Person Certifying  
**MAURICE HIBBARD**  
**CEDAR HILL CONNAUGHT Ont.**

Date Certified **May 19, 1989**

Certifying (Signature) *[Signature]*



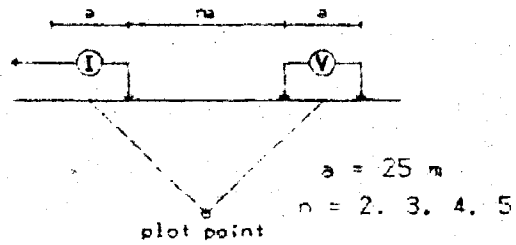




8+00 W

INTERPRETATION

Pole-Dipole Array



CHARGEABILITY (MSEC)

Filtered Profiles

Resistivity	-----	filter
Chargeability	=====	* *
Metal Factor	-----	* * *
		* * * *

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

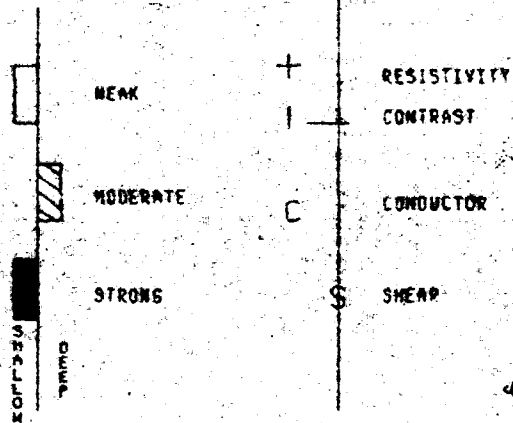
Instrument: IPR-11

Transmitter: TSG - 3

Operator: M. Wilson

TOPOGRAPHY

I.P. ANOMALIES



0+50 S

filter

n=1

n=2

n=3

n=4

n=5

RESISTIVITY (ohm-p)

0+50 S

filter

n=1

n=2

n=3

n=4

n=5

ROBERT S. MIDDLETON  
EXPLORATION SERVICES INC.

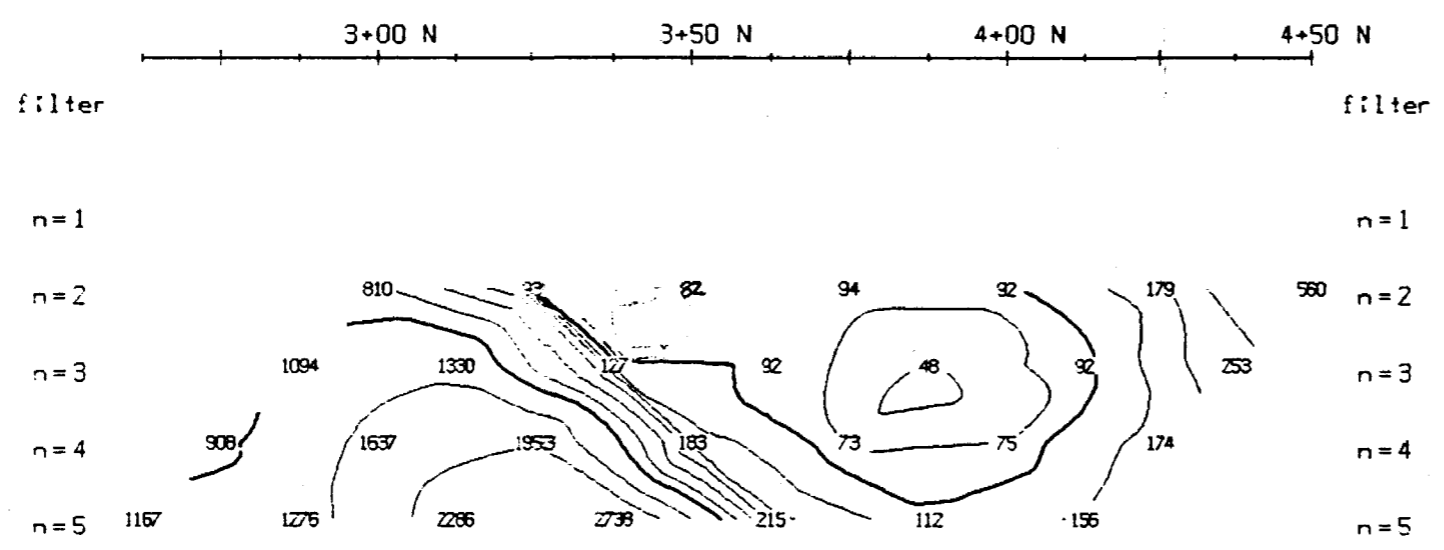
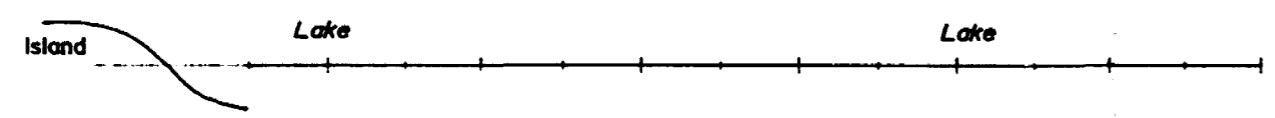
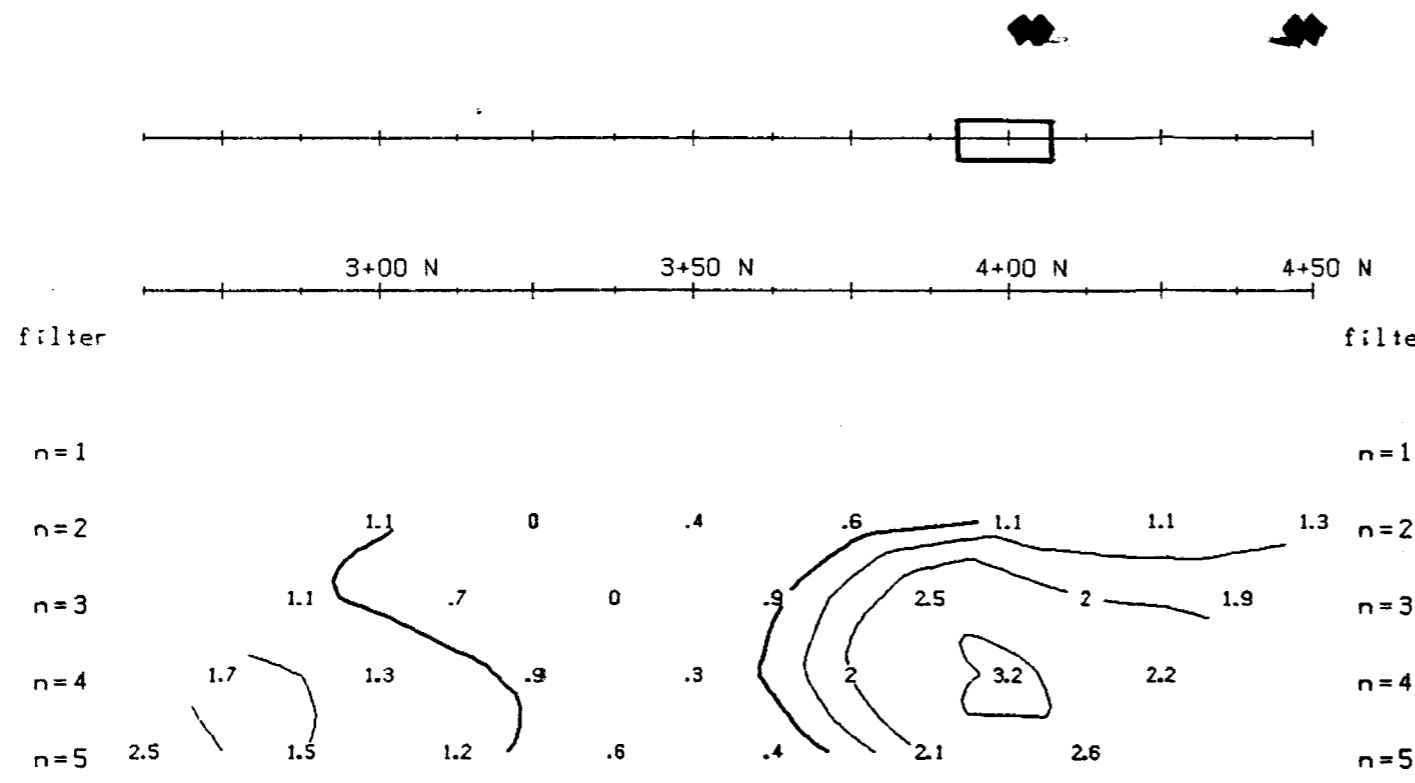
for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
INDUCED POLARIZATION SURVEY  
Blueberry Island Gold Property  
Horwood Twp. Ont.

Date: Mar. 21, 1989 Scale = 1 : 1250

Interp. by: R. L. Job # M-357

2.12547



INTERPRETATION

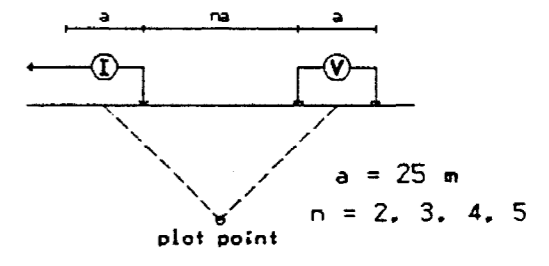
CHARGEABILITY (MSEC)

TOPOGRAPHY

RESISTIVITY (ohm\_m)

7+00 W

Pole-Dipole Array



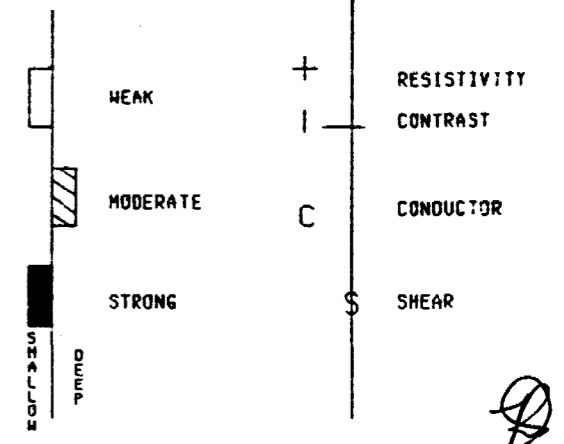
Filtered Profiles

Resistivity ----- filter \*  
 Chargeability ===== \*\*  
 Metal Factor - - - - - \*\*\*  
 \* \* \* \*

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: TSO - 3  
 Operator: M. Wilson

I.P. ANOMALIES



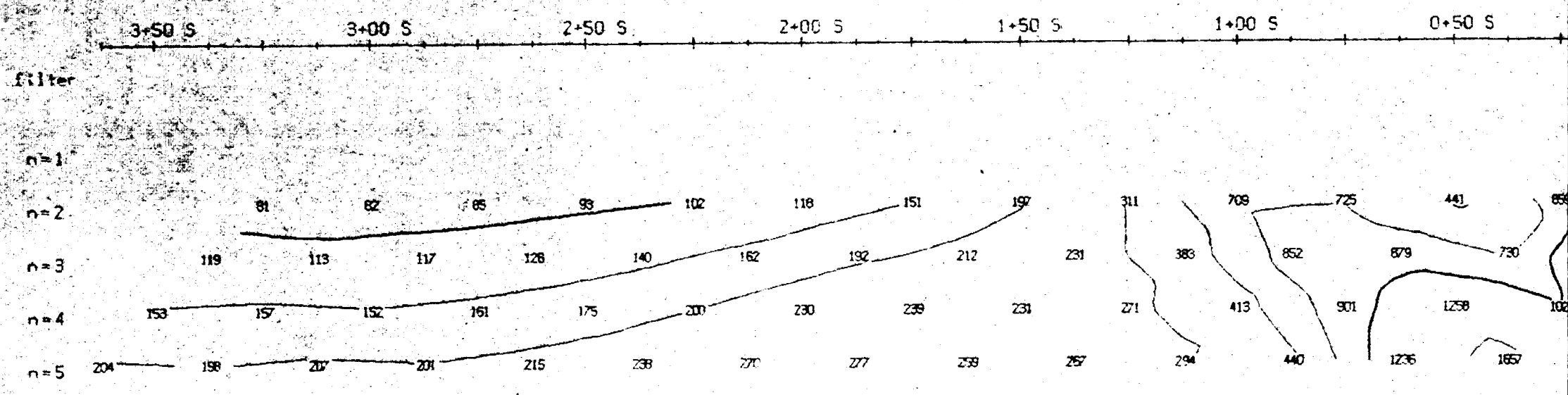
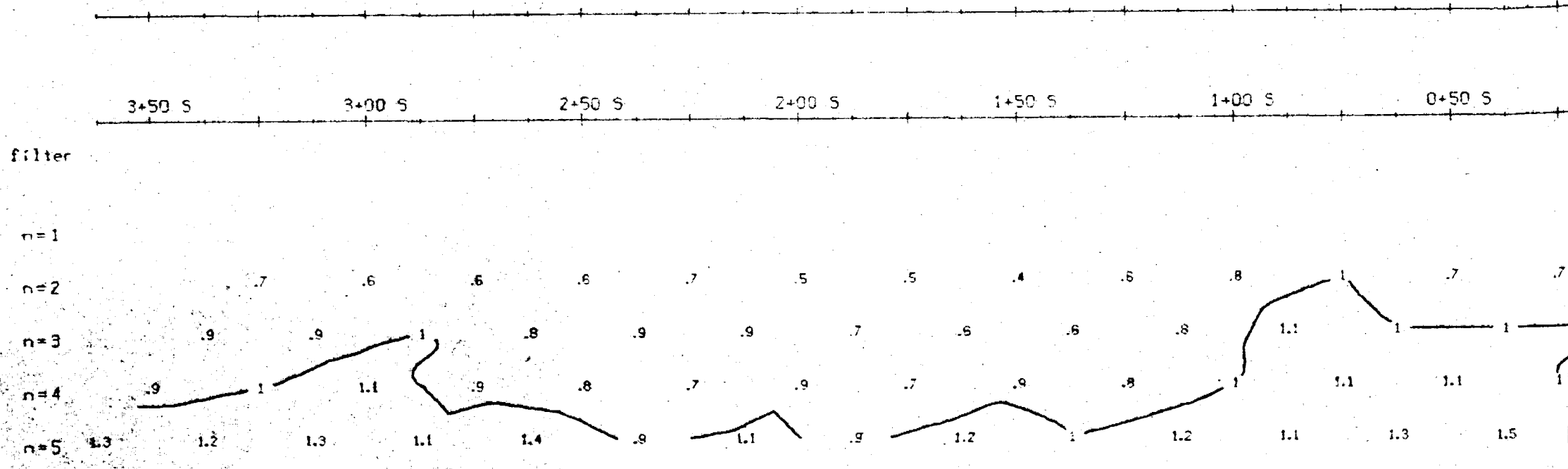
ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

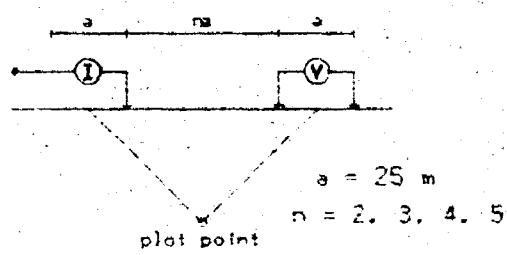
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 Interp. by: R. L. Job # M-357

2.12547



7+00 W

Pole-Dipole Array



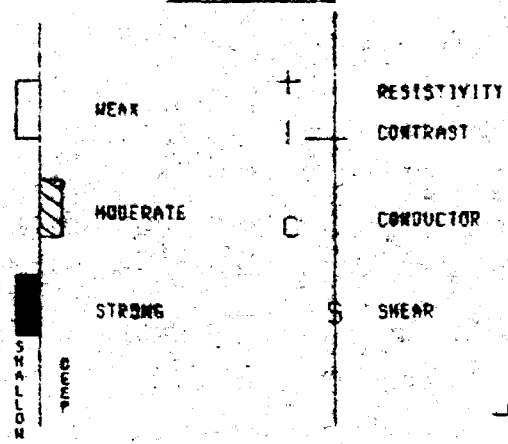
Filtered Profiles

Resistivity	-----	filter
Chargeability	=====	* *
Metal Factor	-----	* * *
		* * * *

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: TSO - 3  
 Operator: M. Wilson

I.P. ANOMALIES



INTERPRETATION

CHARGEABILITY (MSEC)

TOPOGRAPHY

RESISTIVITY (ohm\_m)

0+00

filter

n=1

.7

n=2

1

n=3

n=4

n=5

0+00

filter

n=1

864

n=2

n=3

n=4

n=5

1379

2.12547

ROBERT S. MIDDLETON  
EXPLORATION SERVICES INC.

for PELANGIO - BAYRIDGE J.V.

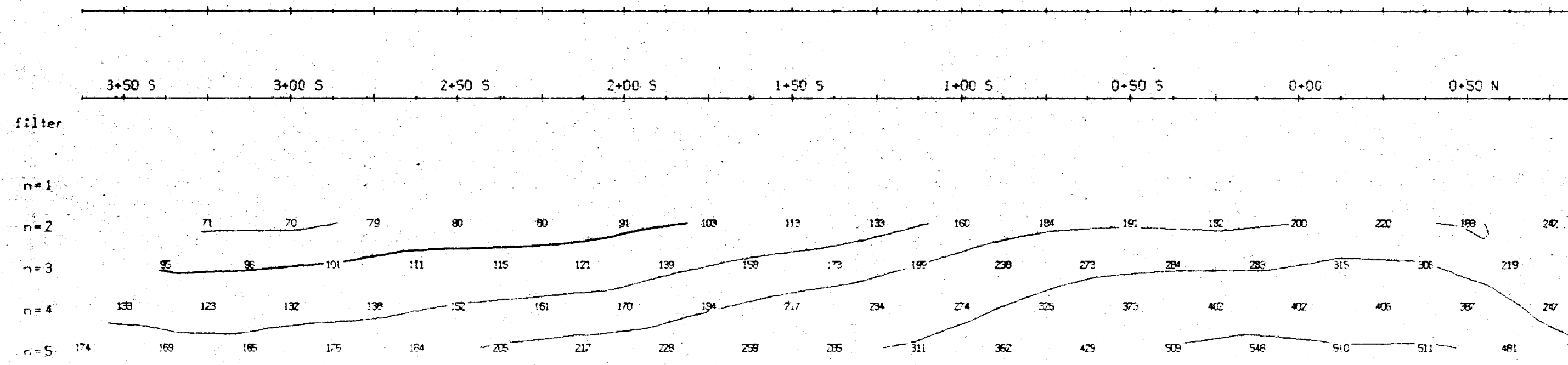
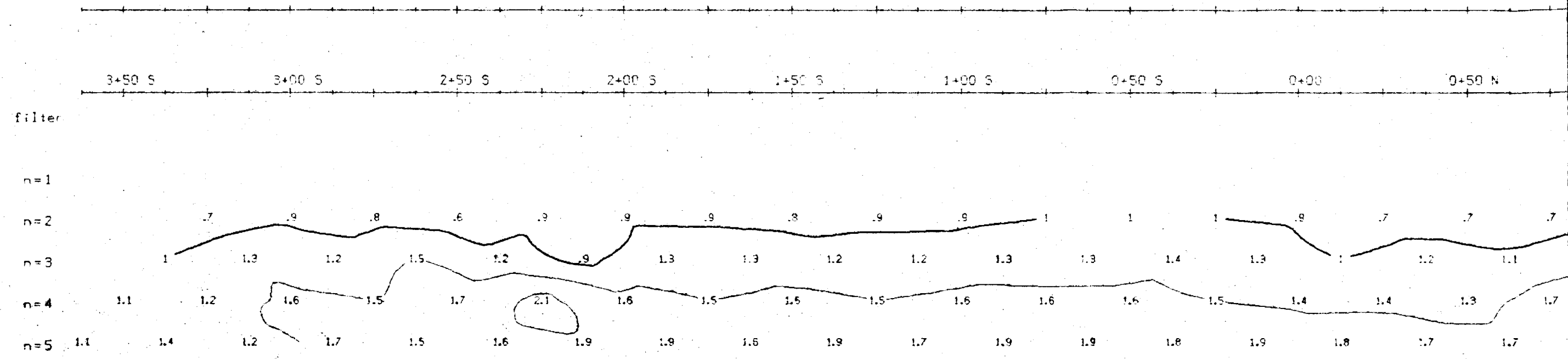
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 Blueberry Island Gold Property  
 Horwood Twp. Ont.

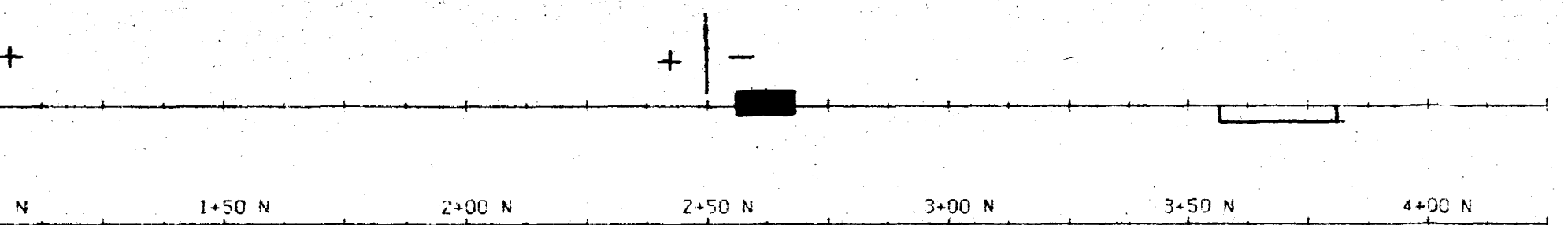
Date: Mar. 22. 1989

Scale: 1 : 1250

Interp. by: R. L.

Job # M-957





INTERPRETATION

filter

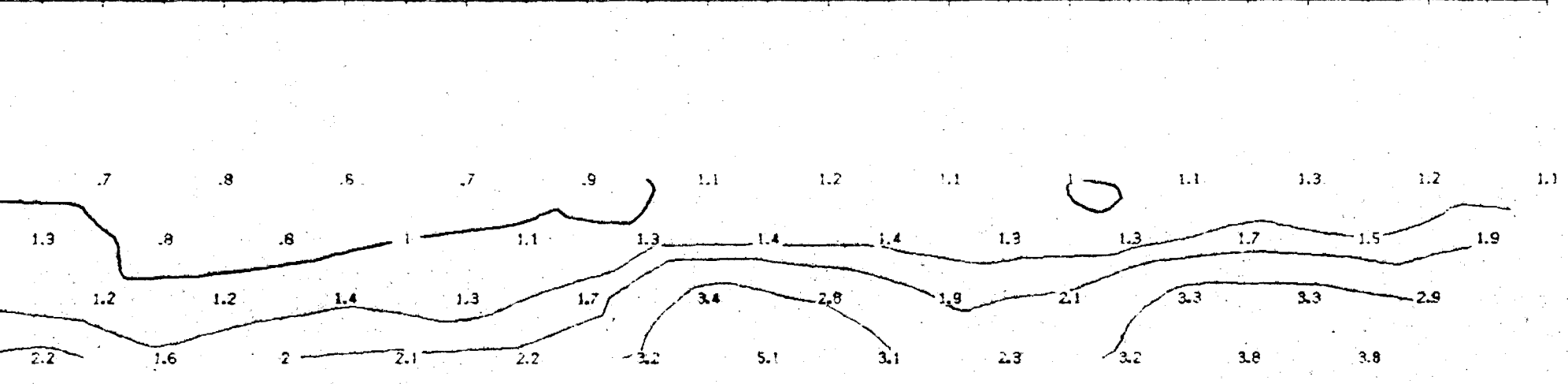
n=1

n=2

n=3

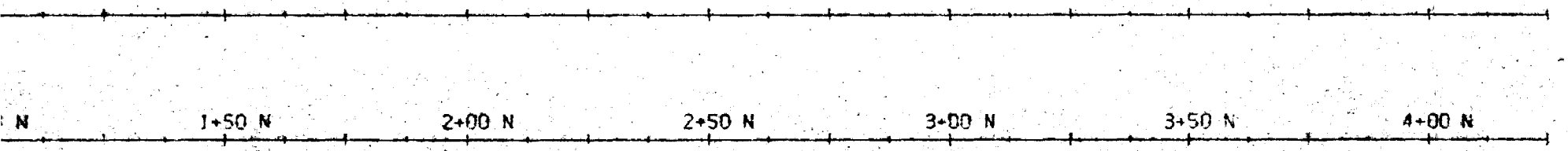
n=4

n=5



CHARGEABILITY  
(MSEC)

TOPOGRAPHY



RESISTIVITY  
(ohm.m)

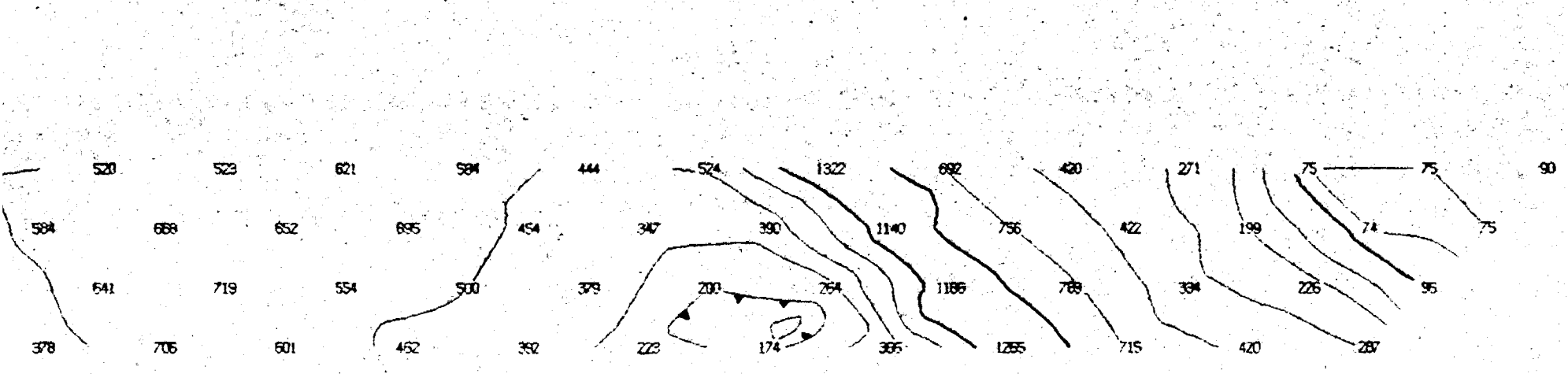
n=1

n=2

n=3

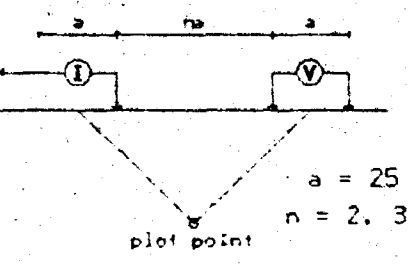
n=4

n=5



6+00 W

Pole-Dipole Array



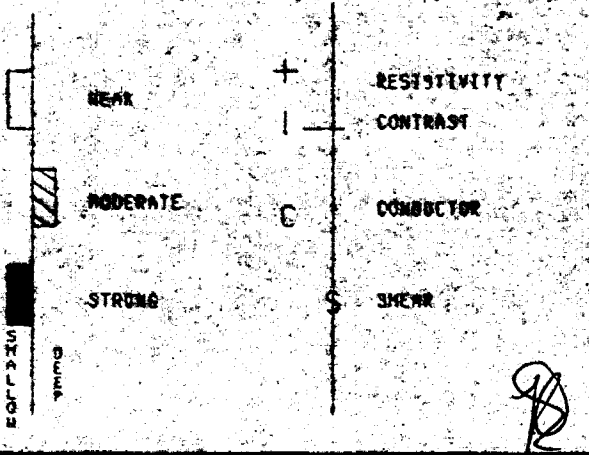
Filtered Profiles

Resistivity filter  
 Chargeability \*  
 Metal Factor \*\*

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument: IPR-11  
 Transmitter: TSD - 3  
 Operator: M. Wilson

I.P. ANOMALIES



ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

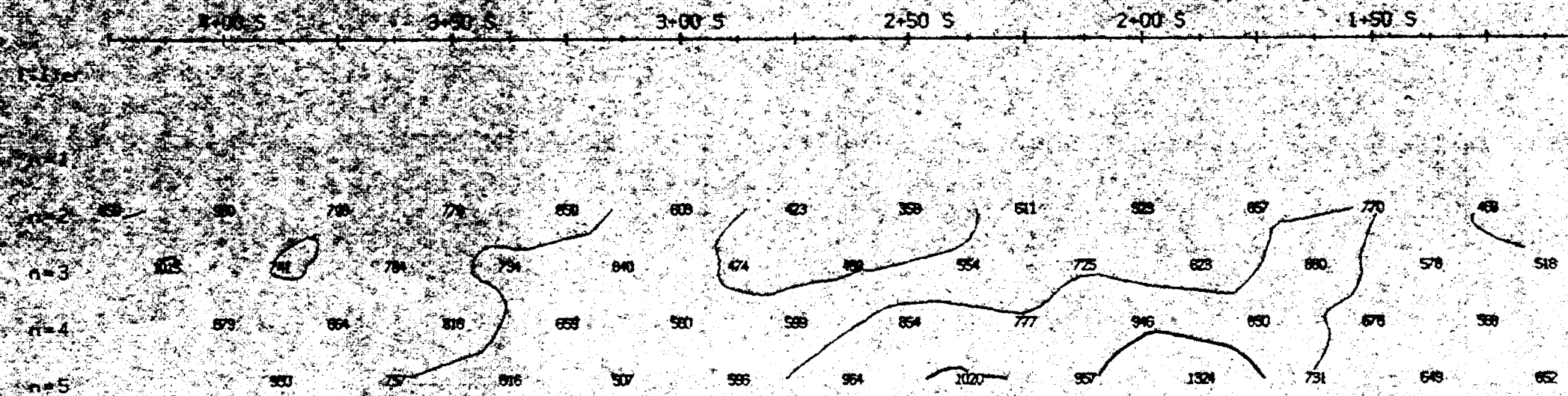
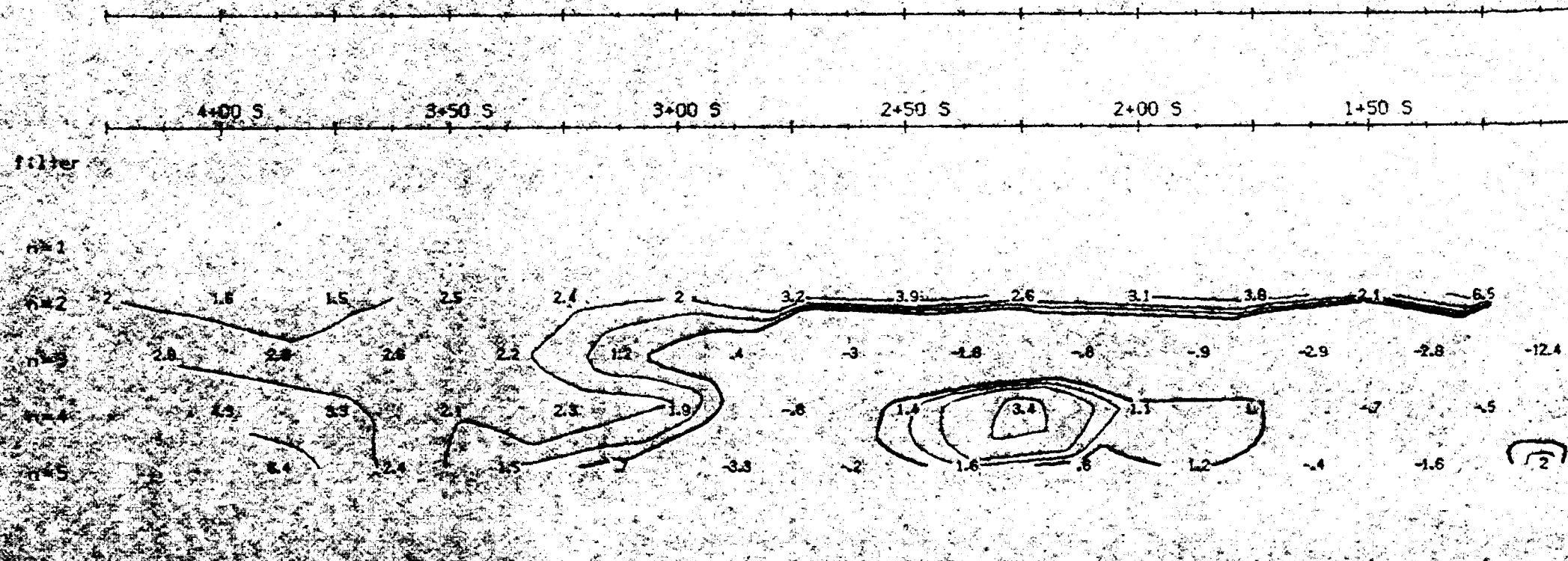
for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

Date: Mar. 21, 1989 Scale: 1 : 1250  
 Interp. by: R. L. Job # M-357

2.12547

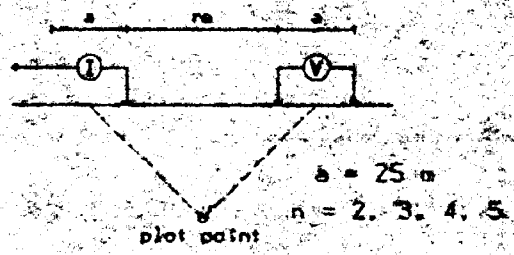




0+00

INTERPRETATION

Pole-Dipole Array



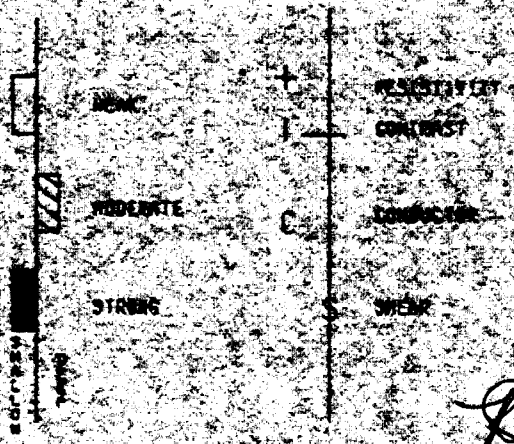
Filtered Profiles

Resistivity \_\_\_\_\_ filter \*  
 Chargeability \_\_\_\_\_ filter \*\*  
 Metal Factor \_\_\_\_\_ filter \*\*\*

Logarithmic  
 Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument: IPR-II  
 Transmitter: 950 -- 3  
 Operator: N. Wilson

L. J. MIDDLETON



ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Harwood Twp., Ont.

Date: Mar. 15, 1969 Scale: 1:1250

Interp. by: R. L. Job # M-357

+00 S

filter

CHARGEABILITY (MSEC)

- n=1
- n=2
- n=3
- n=4
- n=5

TOPOGRAPHY

+00 S

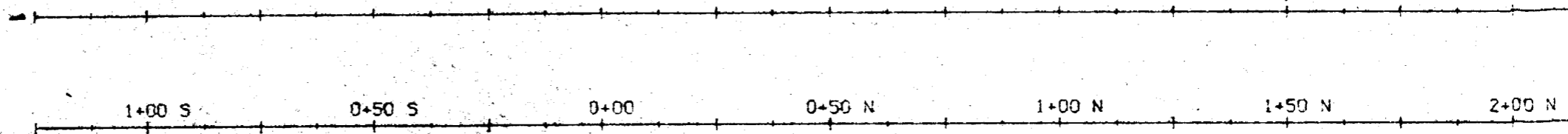
filter

RESISTIVITY (ohm-cm)

- n=1
- n=2
- n=3
- n=4
- n=5

2.12547

- | +



filter

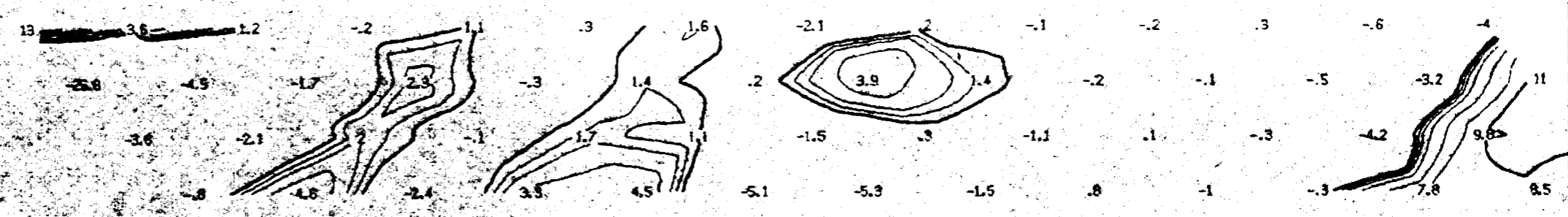
n=1

n=2

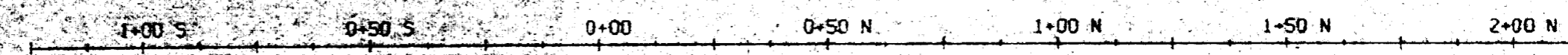
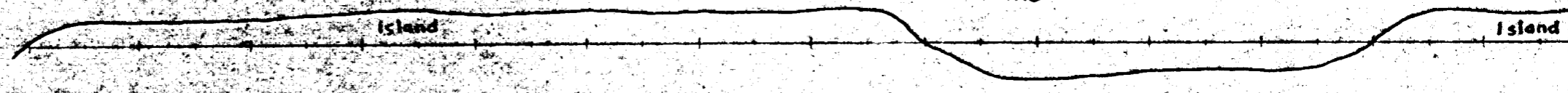
n=3

n=4

n=5



Lake



filter

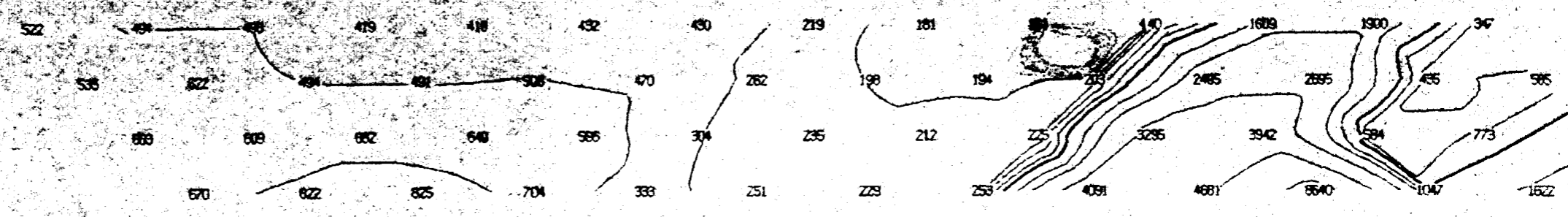
n=1

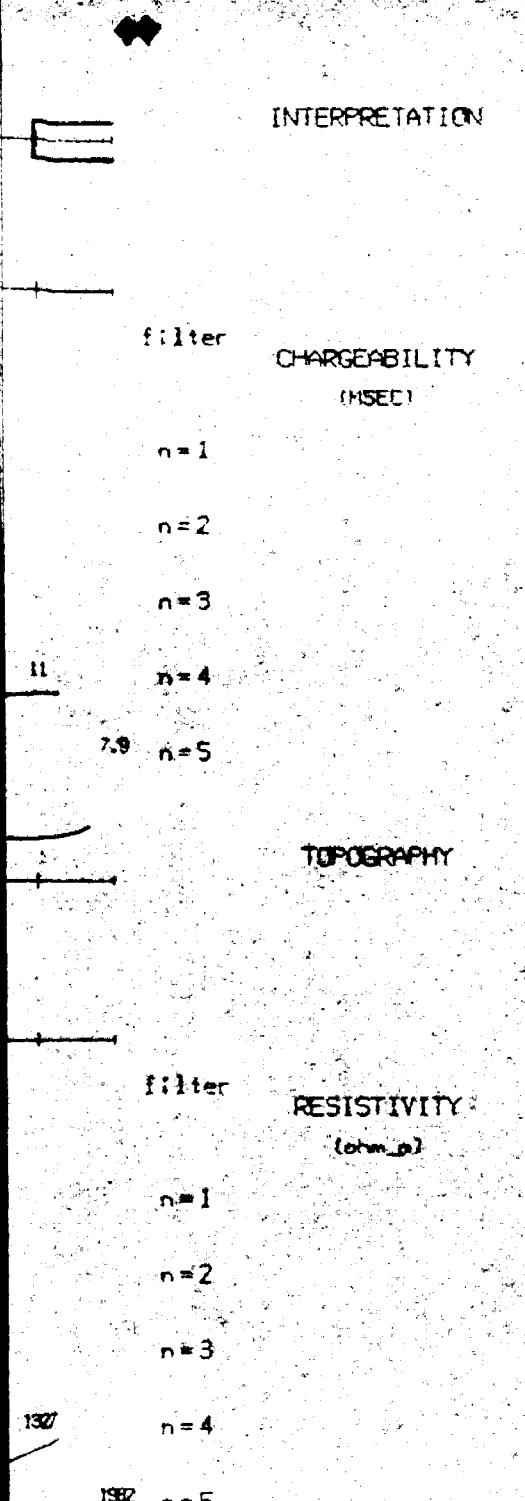
n=2

n=3

n=4

n=5





INTERPRETATION

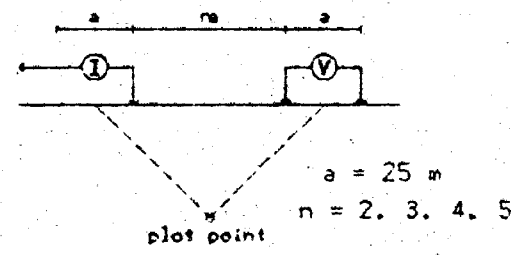
CHARGEABILITY  
(MSEC)

TOPOGRAPHY

RESISTIVITY  
(ohm\_m)

0+00

Pole-Dipole Array



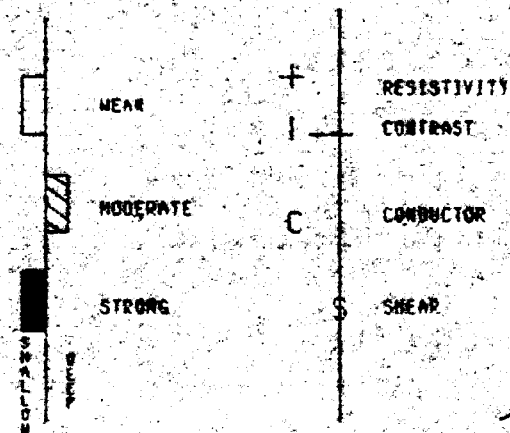
Filtered Profiles

Resistivity	-----	filter
Chargeability	=====	* *
Metal Factor	- - - - -	* * *
		* * * *

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument: IPR-11  
 Transmitter: TSO - 3  
 Operator: M. Wilson

I.P. ANOMALIES



ROBERT S. MIDDLETON  
EXPLORATION SERVICES INC.

for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

Date: Mar. 16, 1989	Scale = 1 : 1250
Interp. by: R. L.	Job #: M-357

2.12547



3+00 S      2+50 S      2+00 S      1+50 S      1+00 S      0+50 S      0+00      0+

filter

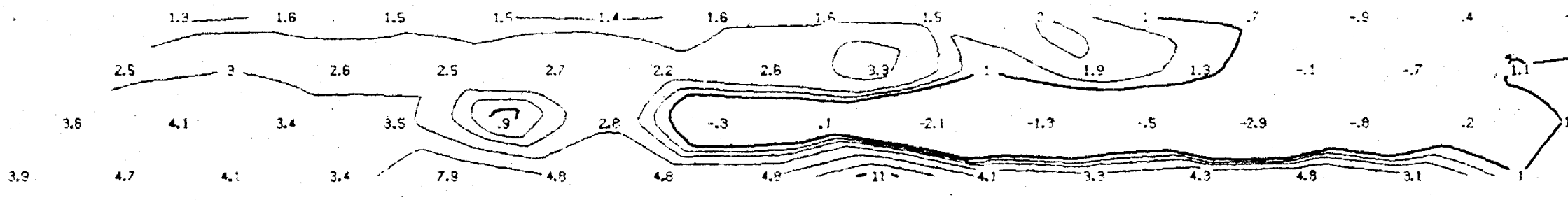
n=1

n=2

n=3

n=4

n=5



3+00 S      2+50 S      2+00 S      1+50 S      1+00 S      0+50 S      0+00      0+

filter

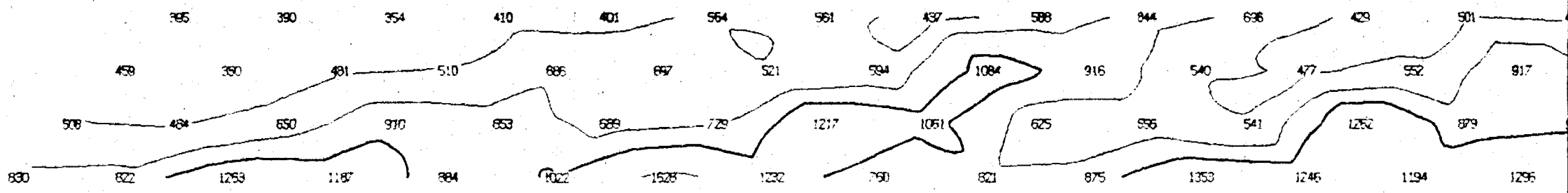
n=1

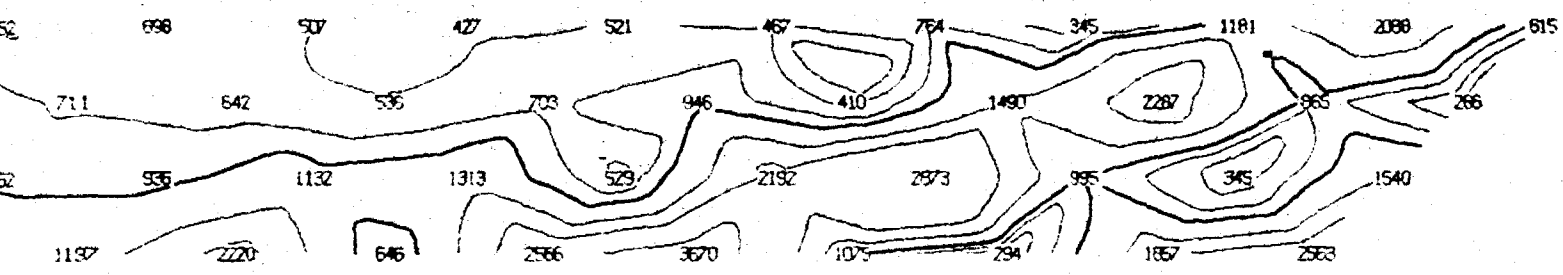
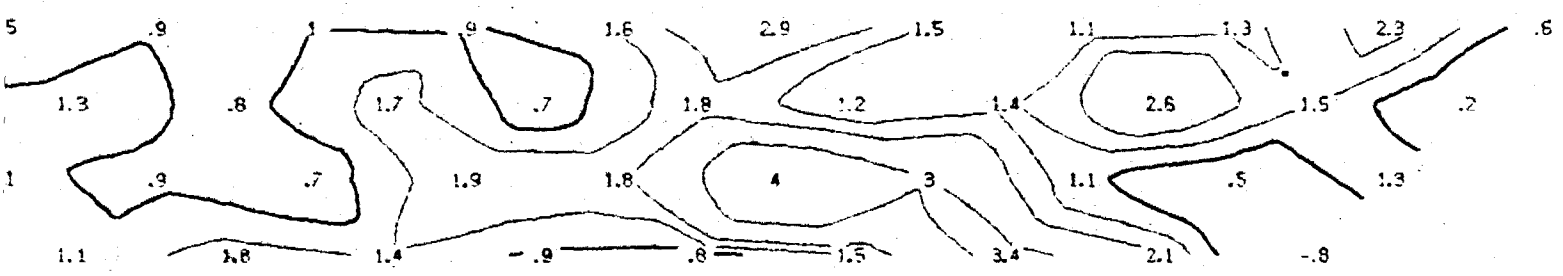
n=2

n=3

n=4

n=5





INTERPRETATION

filter  
 n=1  
 n=2  
 n=3  
 n=4  
 n=5

CHARGEABILITY (MSEC)

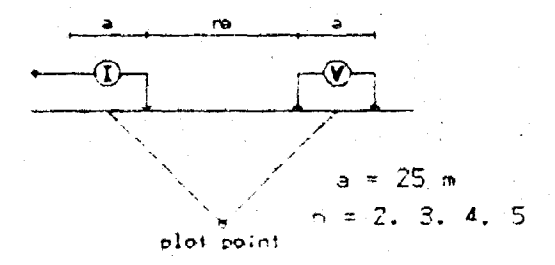
TOPOGRAPHY

RESISTIVITY (ohm\_m)

filter  
 n=1  
 n=2  
 n=3  
 n=4  
 n=5

1+00 W

Pole-Dipole Array



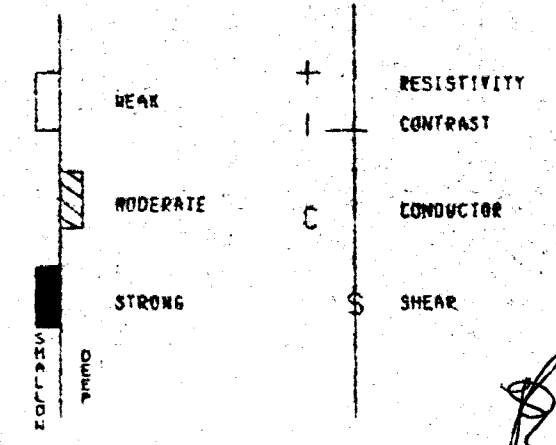
Filtered Profiles

Resistivity filter \*  
 Chargeability \*\*  
 Metal Factor \*\*\*  
 \*\*\*\*

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: TSO - 3  
 Operator: M. Wilson

I.P. ANOMALIES



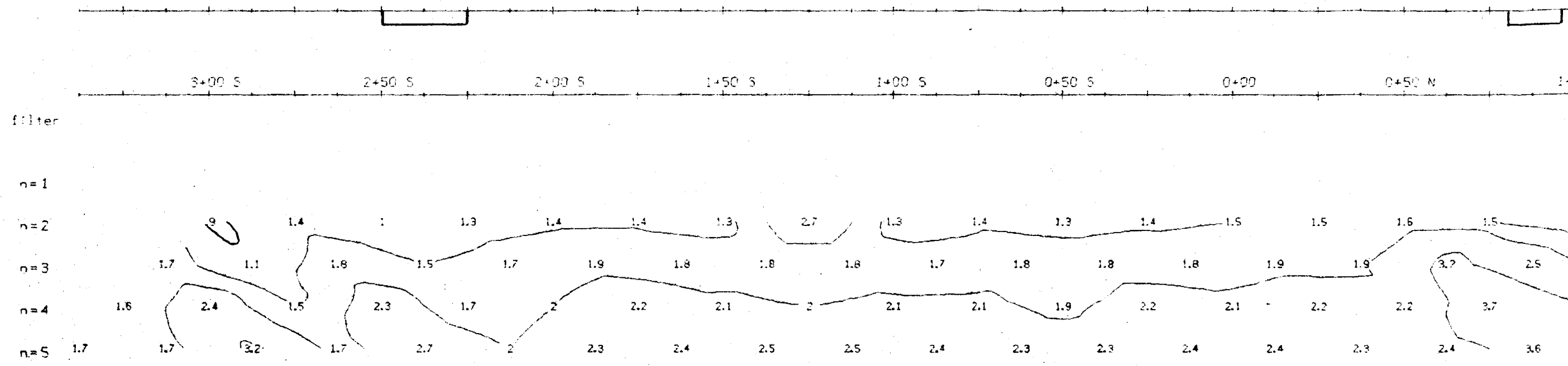
ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

for PELANGIO - BAYRIDGE J.V.

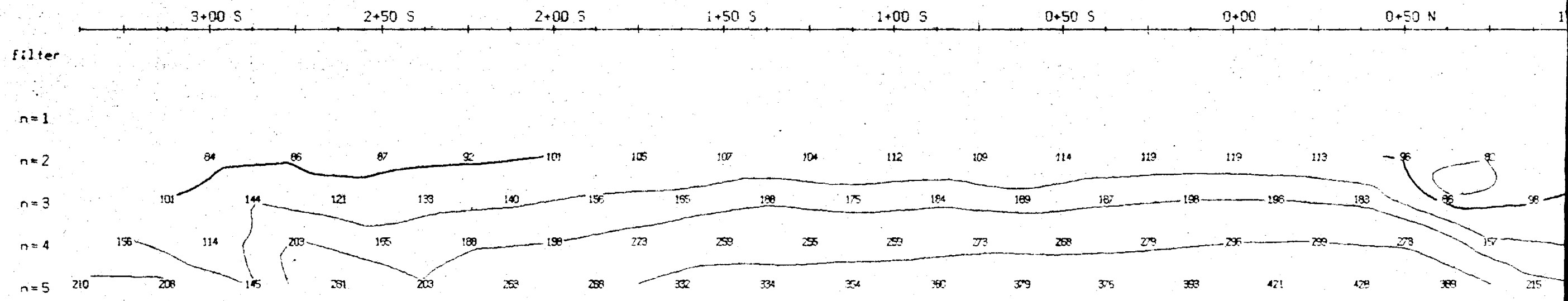
Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

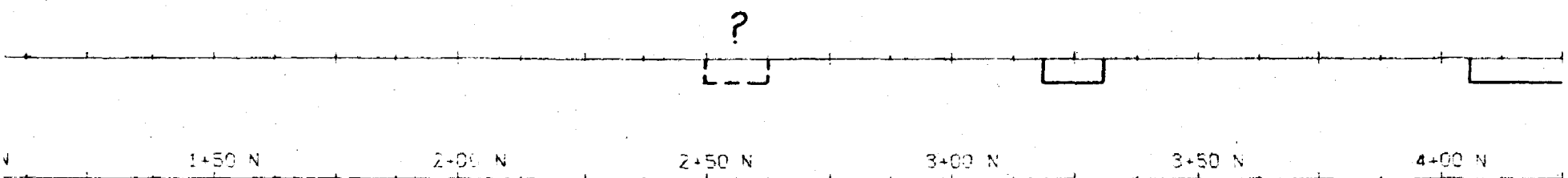
Date: Mar. 17, 1989 Scale: 1 : 1250  
 Interp. by: R. L. Job # M-357

2.12547

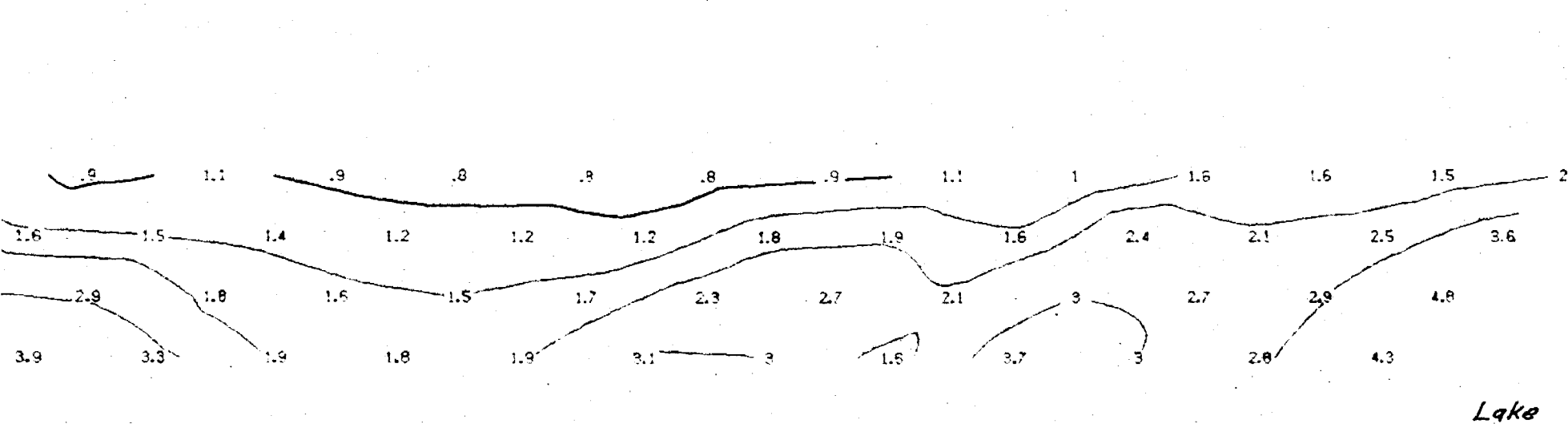


Lake

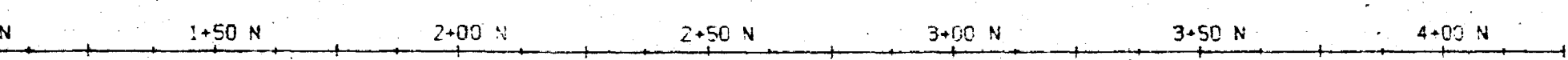




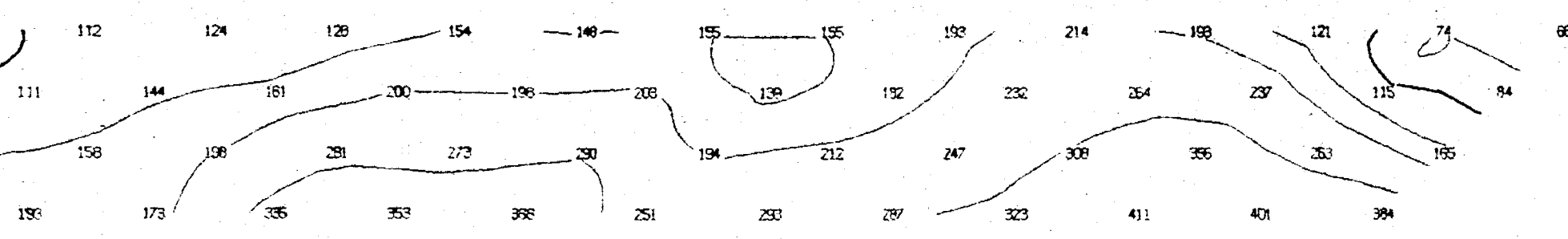
INTERPRETATION



filter  
CHARGEABILITY  
(MSEC)  
n=1  
n=2  
n=3  
n=4  
n=5



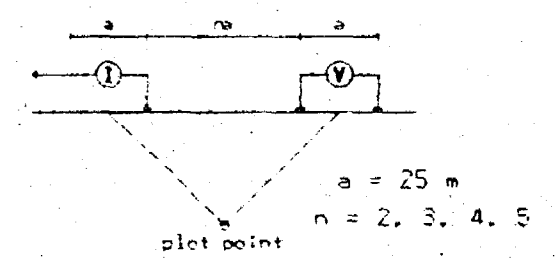
TOPOGRAPHY



filter  
RESISTIVITY  
(ohm-m)  
n=1  
n=2  
n=3  
n=4  
n=5

5+00 W

Pole-Dipole Array



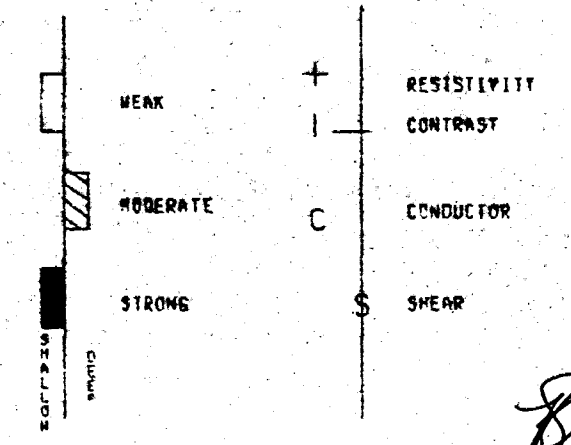
Filtered Profiles

Resistivity filter \*  
Chargeability \*\*  
Metal Factor \*\*\*  
\*\*\*\*

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10....

Instrument: IPR-11  
Transmitter: TSD - 3  
Operator: M. Wilson

I.P. ANOMALIES



ROBERT S. MIDDLETON  
EXPLORATION SERVICES INC.

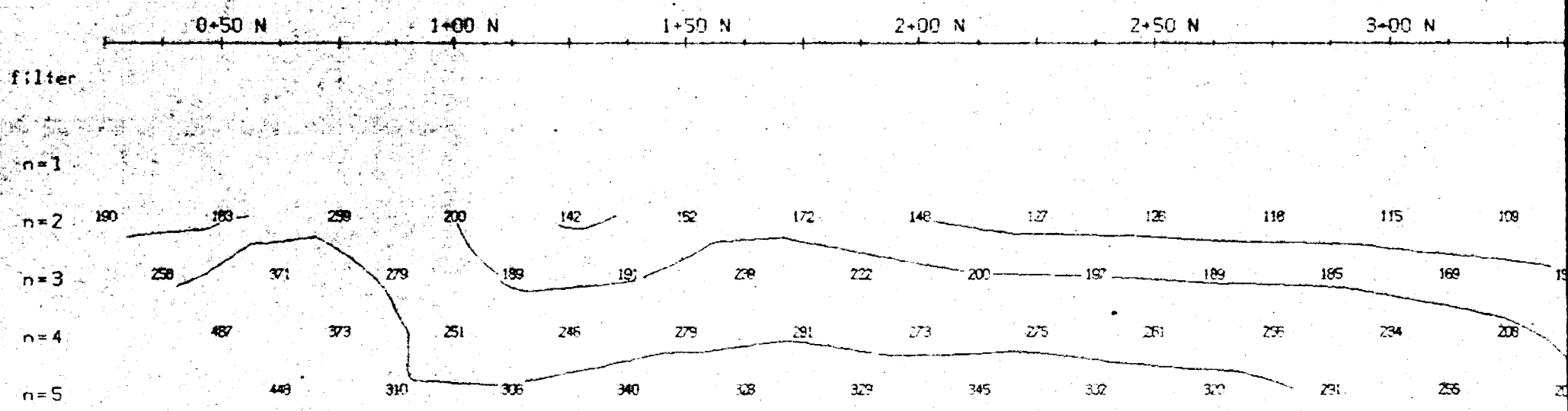
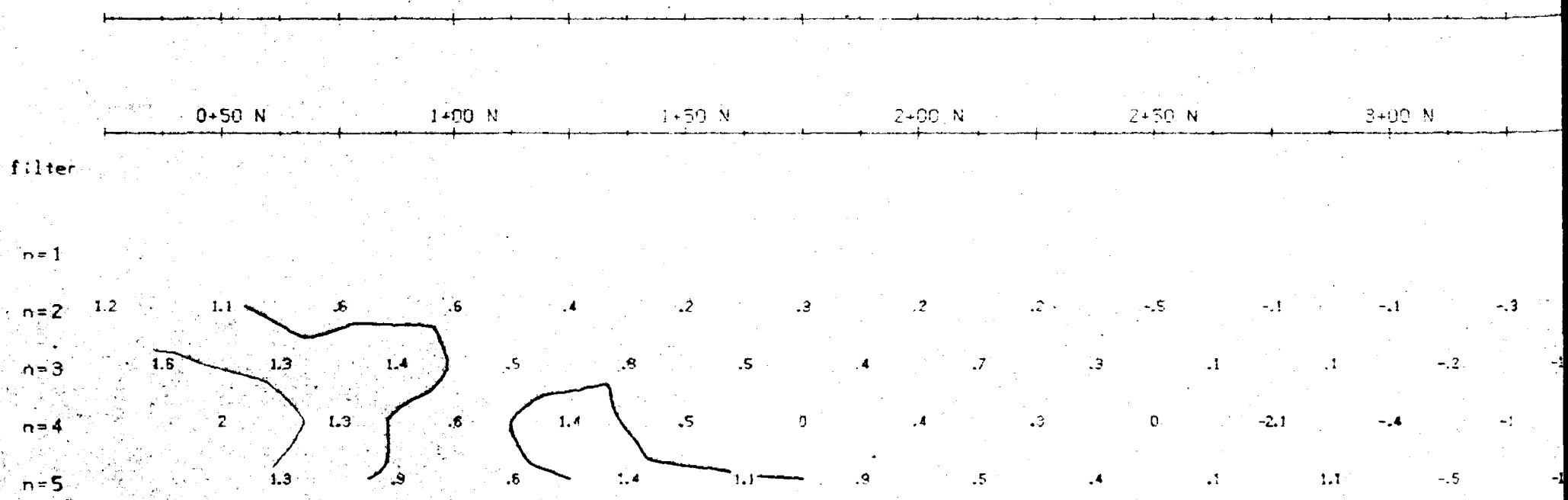
for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
INDUCED POLARIZATION SURVEY  
Blueberry Island Gold Property  
Horwood Twp. Ont.

Date: Mar. 21, 1989 Scale: 1 : 1250  
Interp. by: R. L. Job # M-357

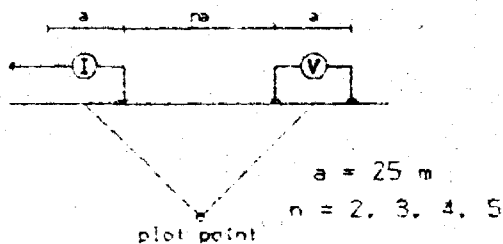
2.12547





4+00 W

Pole-Dipole Array



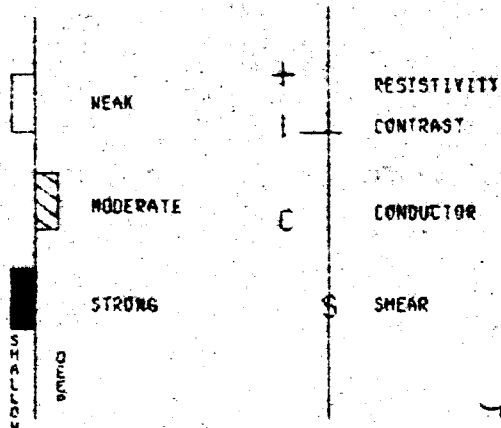
Filtered Profiles

Resistivity	-----	filter	*
Chargeability	=====		**
Metal Factor	-----		***
			****

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: T50 - 3  
 Operator: M. Wilson

I.P. ANOMALIES



INTERPRETATION

CHARGEABILITY (MSEC)

filter

n=1

n=2

n=3

n=4

n=5

TOPOGRAPHY

RESISTIVITY (ohm\_m)

filter

n=1

n=2

n=3

n=4

n=5

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

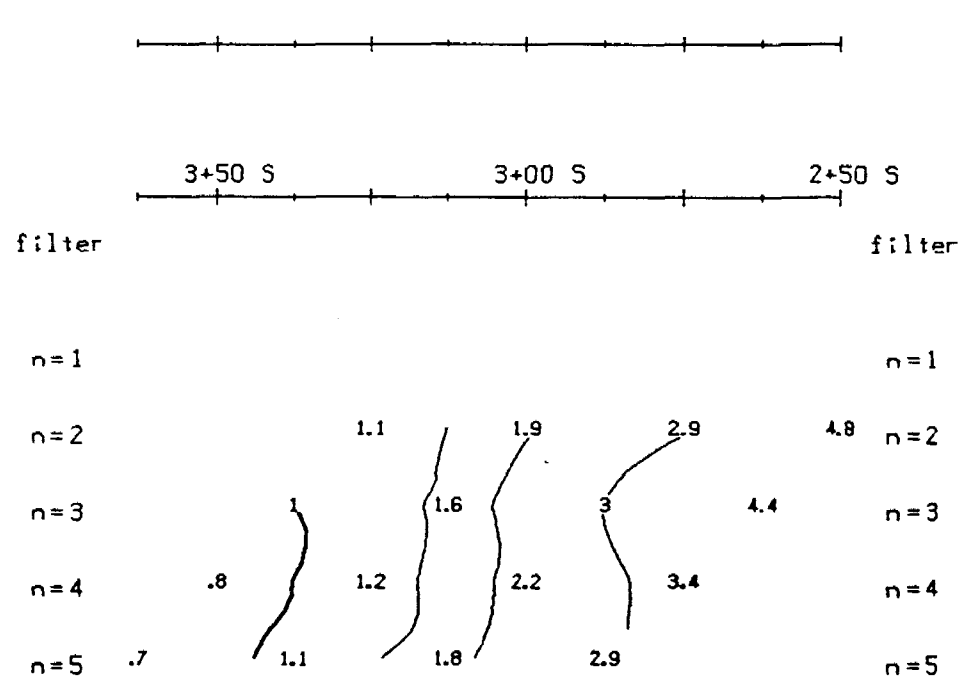
Date: Mar. 18, 1989

Scale: 1 : 1250

Interp. by: R. L.

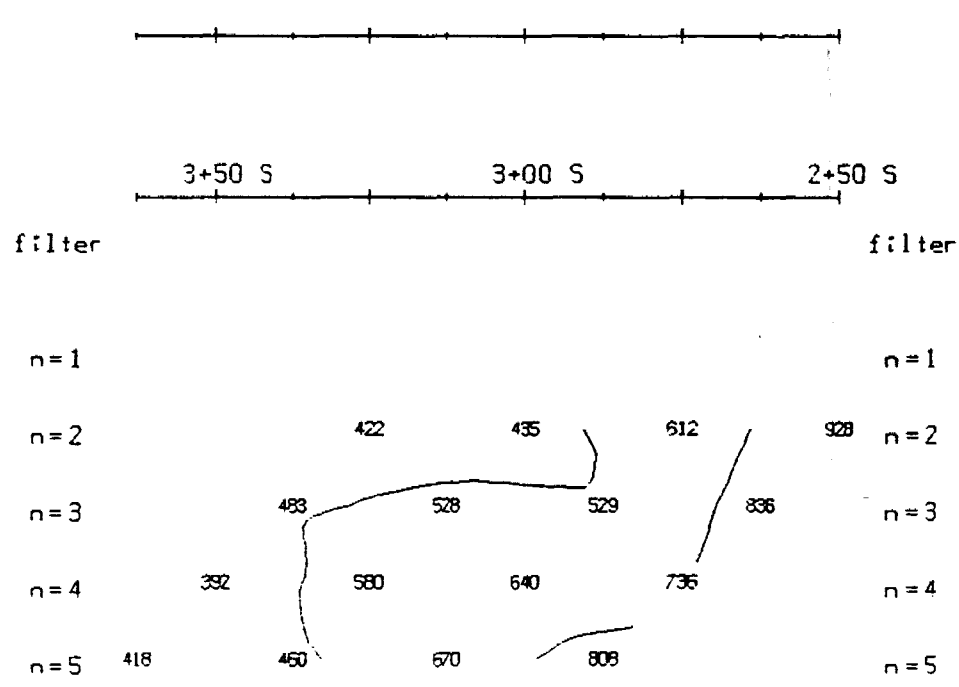
Job # M-357

2.12547



INTERPRETATION

CHARGEABILITY (MSEC)

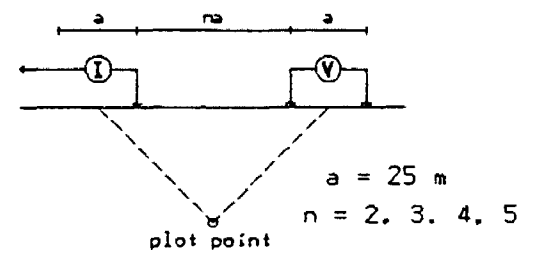


TOPOGRAPHY

RESISTIVITY (ohm\_m)

3+00 W

Pole-Dipole Array



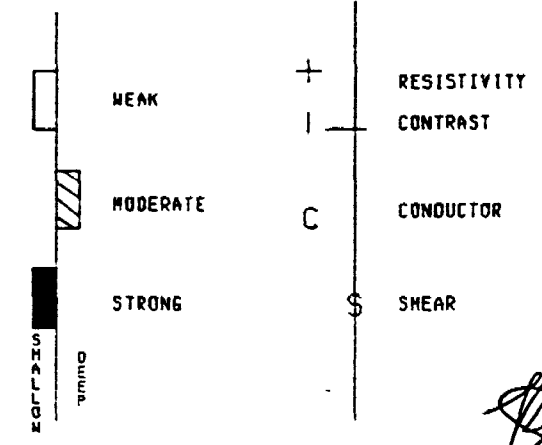
Filtered Profiles

Resistivity ----- filter \*  
 Chargeability ===== \*\*  
 Metal Factor - - - - - \*\*\*  
 \* \* \* \* \*

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: TSQ - 3  
 Operator: M. Wilson

I.P. ANOMALIES



ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

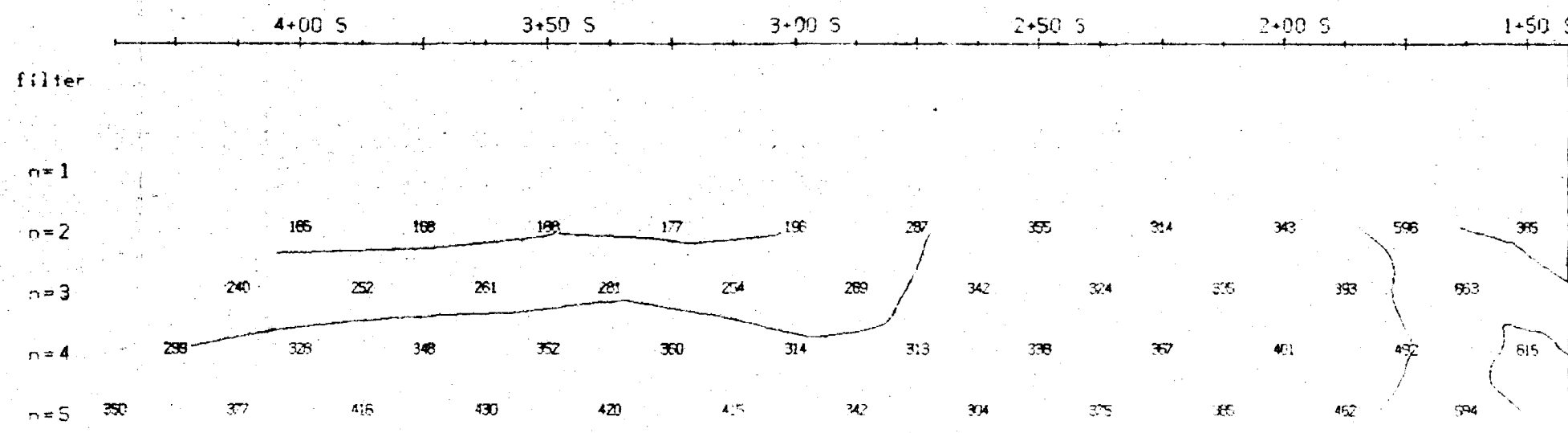
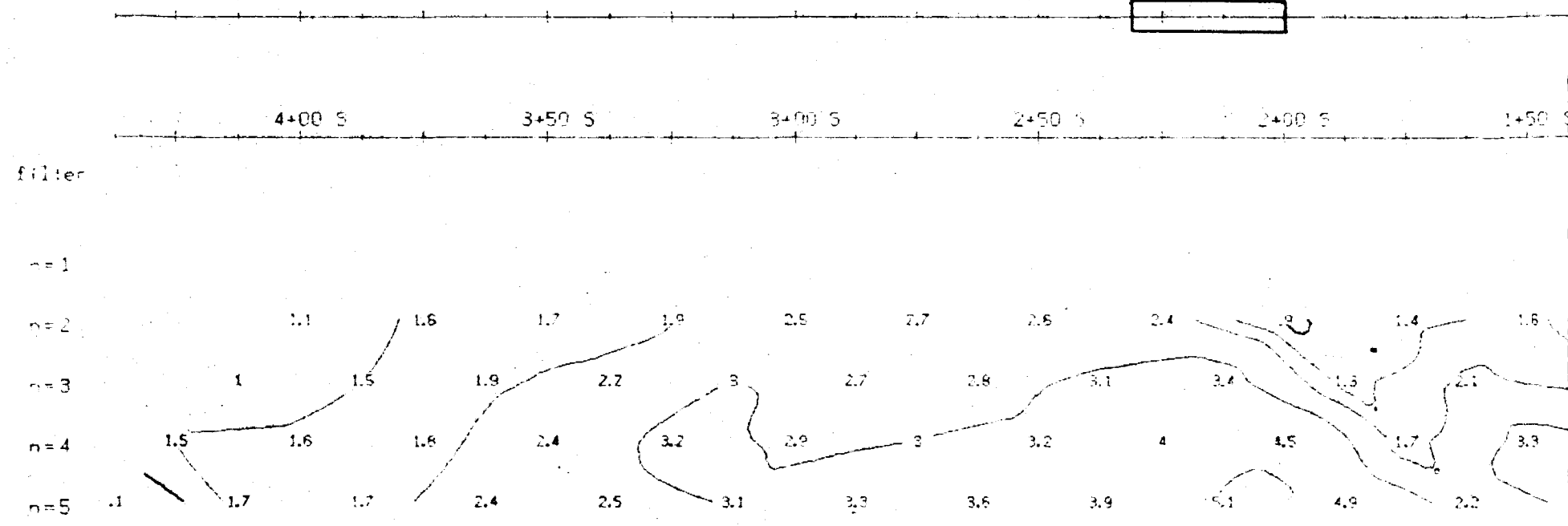
for PELANGIO - BAYRIDGE J.V.

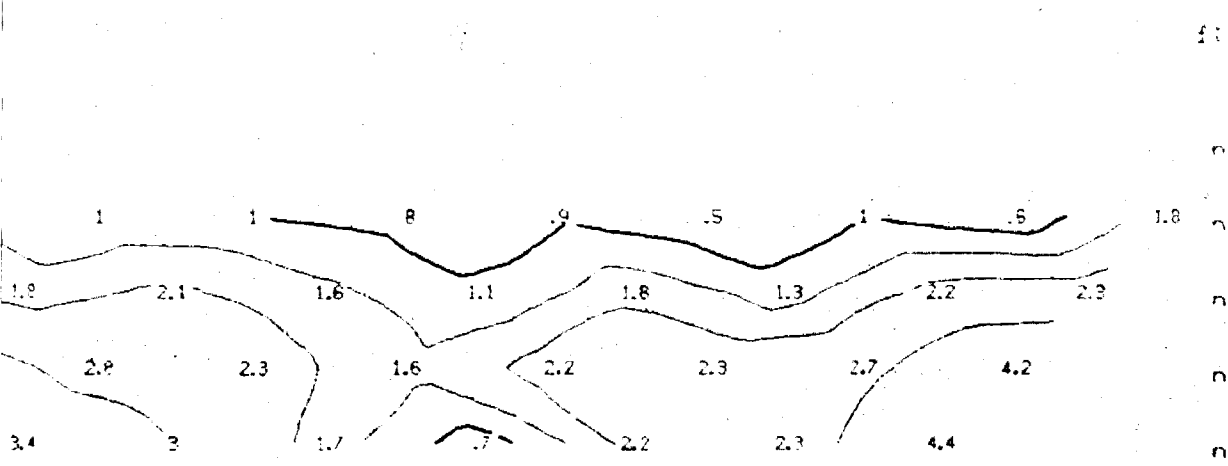
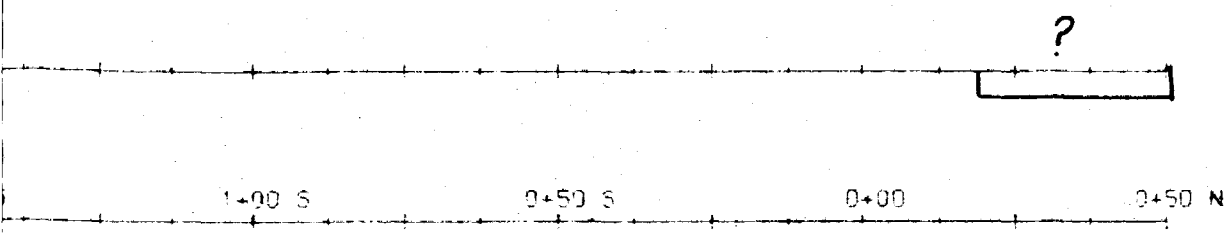
Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

Date: Mar. 23, 1989 Scale: 1 : 1250  
 Intern. bu: P. L. Job # M-357

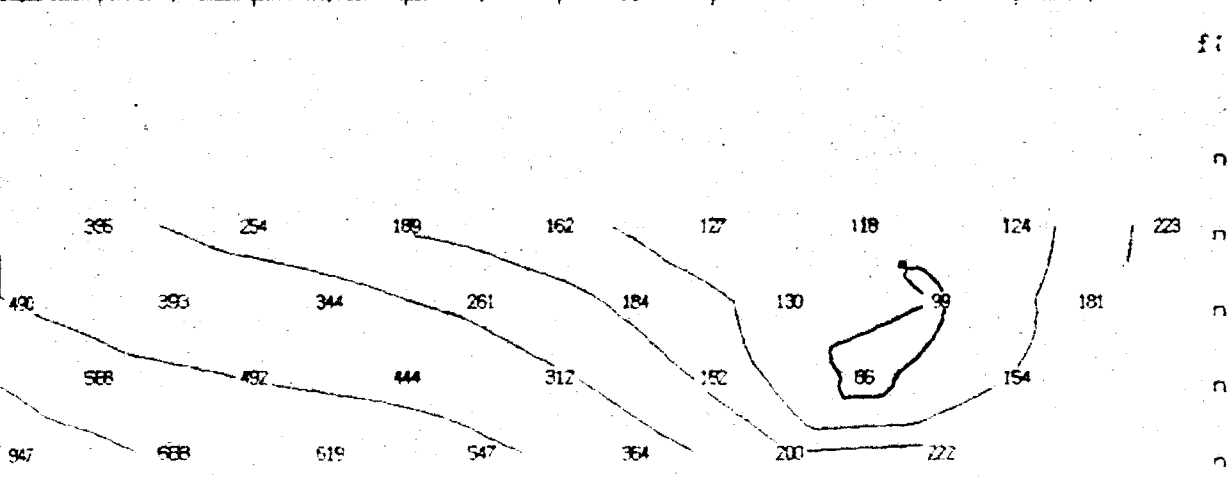
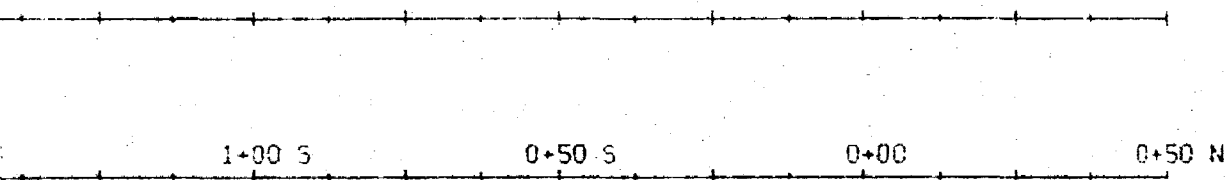
2.12548

R





Lake



INTERPRETATION

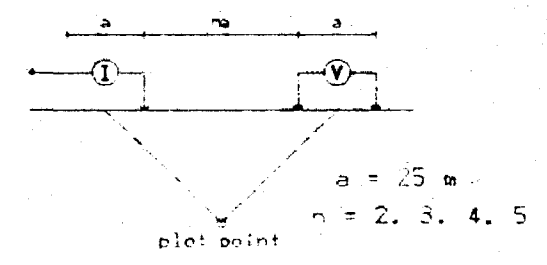
CHARGEABILITY (MSEC)

TOPOGRAPHY

RESISTIVITY (ohm\_m)

4+00 W

Pole-Dipole Array



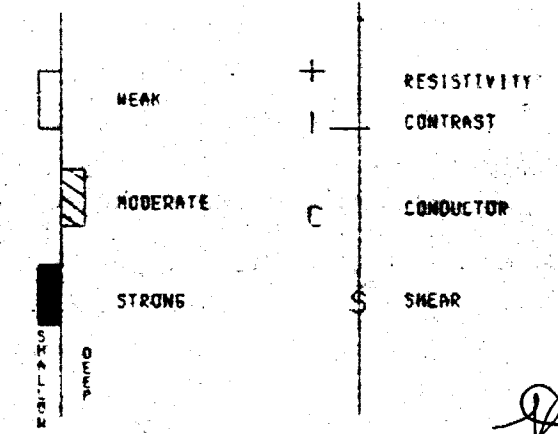
Filtered Profiles

Resistivity	-----	filter	*
Chargeability	=====		**
Metal Factor	-----		***
			****

Logarithmic Contours 1. 1.5. 2. 3. 5. 7.5. 10....

Instrument: IPR-11  
 Transmitter: 150 - 3  
 Operator: M. Wilson

I.P. ANOMALIES



ROBERT S. MIDDLETON  
 EXPLORATION SERVICES INC.

for PELANGIO - BAYRIDGE J.V.

Title Time Domain  
 INDUCED POLARIZATION SURVEY  
 Blueberry Island Gold Property  
 Horwood Twp. Ont.

Date: Mar. 18. 1989

Scale = 1 : 1250

Interp. by: R. L.

Job # M-357

2.12547

**REFERENCES**

**AREAS WITHDRAWN FROM DISPOSITION**

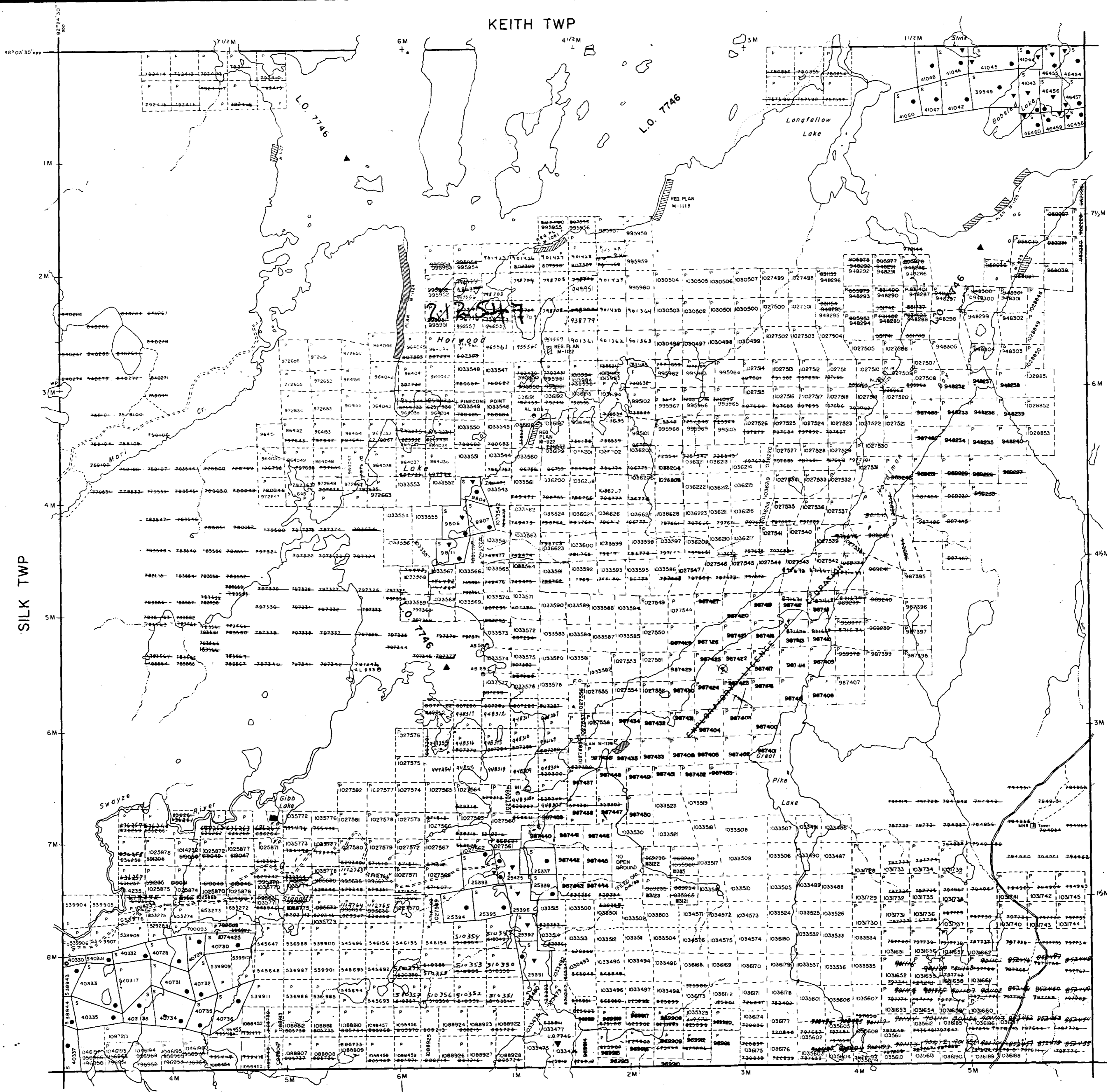
M.R.O. - MINING RIGHTS ONLY				
S.R.O. - SURFACE RIGHTS ONLY				
M.+S. - MINING AND SURFACE RIGHTS				
Description	Order No.	Date	Disposition	File
SEC 36/80	W 2782	MAY 1982	M.R.O.	3/82
BLO 14901	NRD 22185	JUNE 7, 85	M.R.+S.R.	RE-ORGANIZED
			JUNE 17, 85	7-00 A.M.

**FLOODING**

FLOODING RIGHTS ON HORWOOD LAKE & HARDIMAN TWP TO CONTOUR ELEV. 1117 FEET ARE RESERVED TO THE SPRUCE FALLS POWER AND PAPER CO. LTD. File: 75166 L.O. 7746



200



**LEGEND**

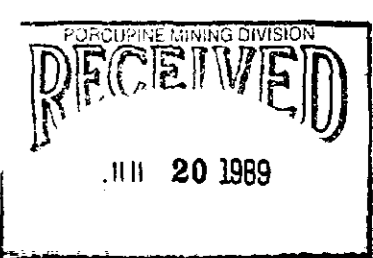
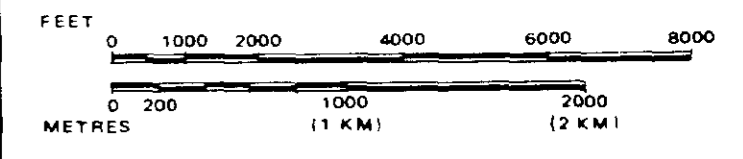
- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES: TOWNSHIPS, BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES: LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKIEG'
- MINES
- TRAVERSE MONUMENT

**DISPOSITION OF CROWN LANDS**

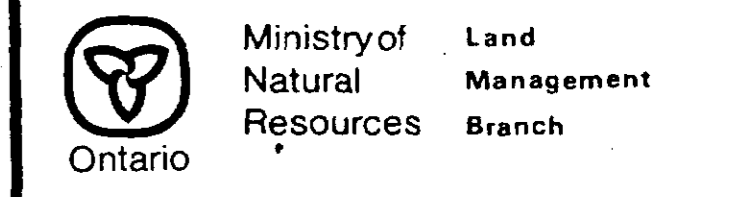
TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◼
" MINING RIGHTS ONLY	◻
LICENCE OF OCCUPATION	▽
ORDER-IN-COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊘
SAND & GRAVEL	⊗

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1

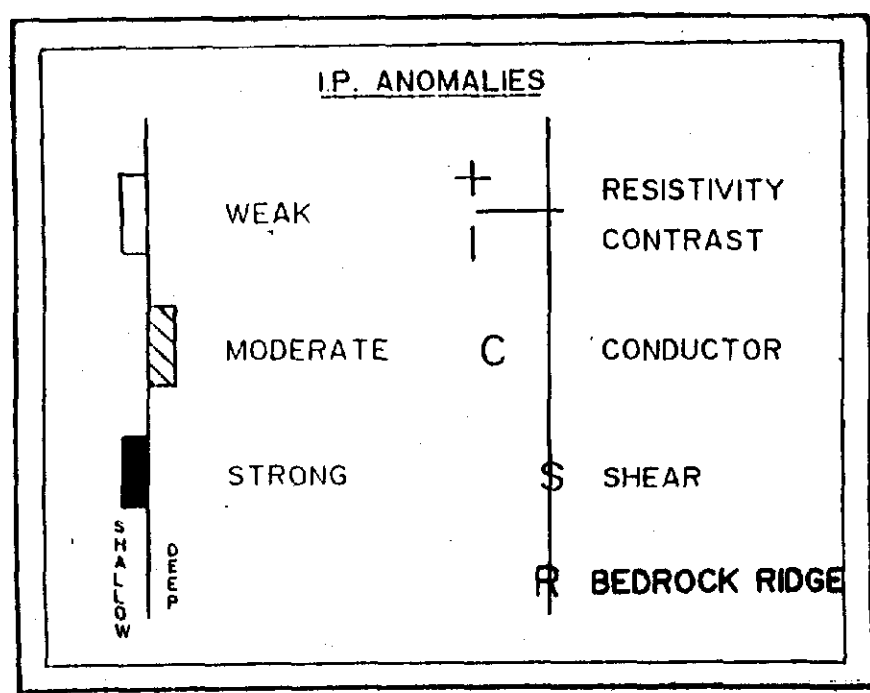
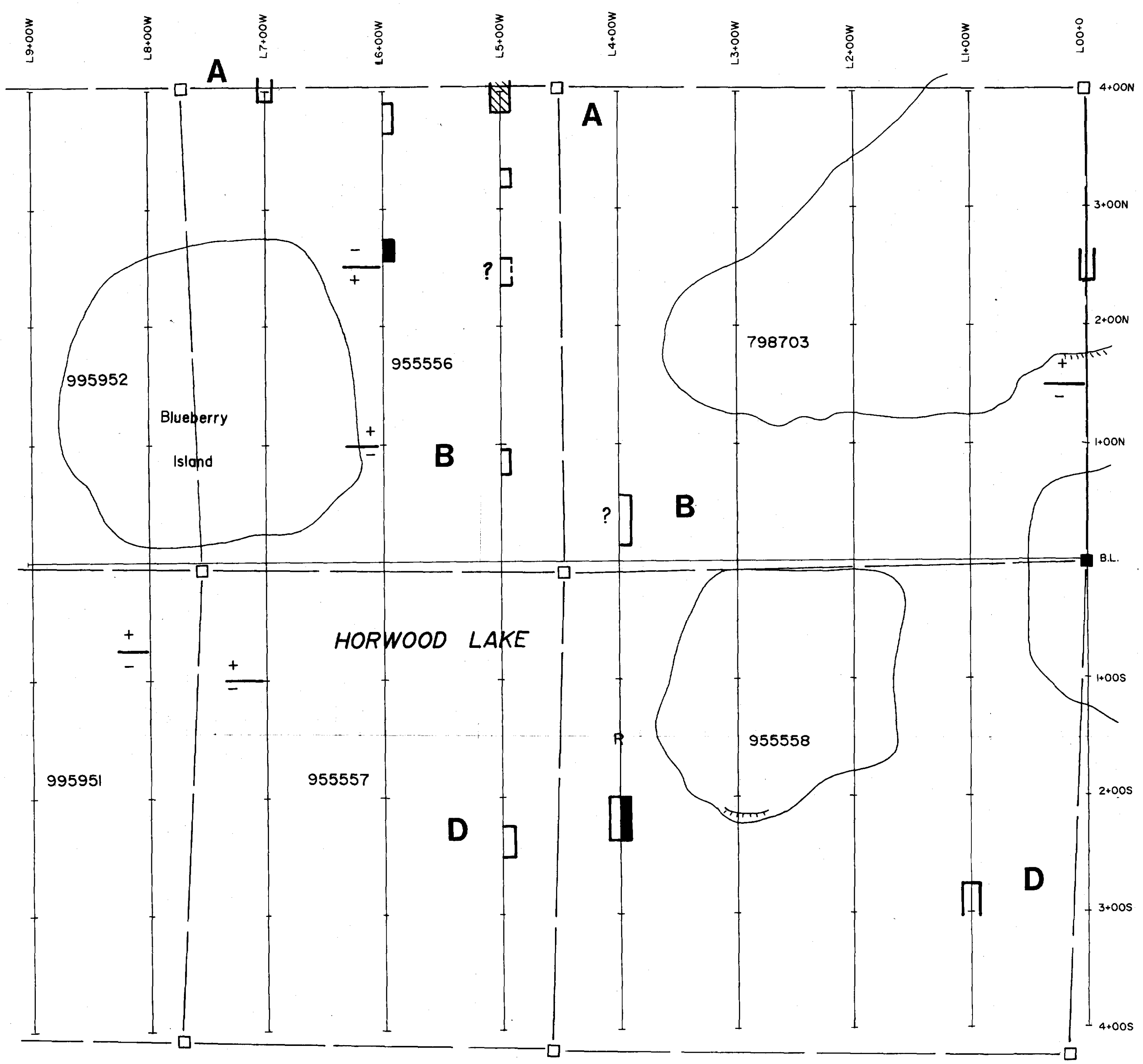
SCALE: 1 INCH = 40 CHAINS



TOWNSHIP  
**HORWOOD**  
M.N.R. ADMINISTRATIVE DISTRICT  
CHAPLEAU  
MINING DIVISION  
PORCUPINE  
LAND TITLES / REGISTRY DIVISION  
SUDBURY



Date MARCH 1985  
Number G-3228



□ Claim post (assumed)  
 ■ Claim post (known)

2.12547

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
for	PELANGIO-BAYRIDGE J. V.		
Title	I.P. SURVEY PRELIMINARY INTERPRETATION BLUEBERRY ISLAND GOLD PROPERTY HORWOOD TWP. ONT. FIG. 2		
Date: March, 89	Scale: 1:2500	N.T.S.:	
Drawn: A.M.	Approved: R.L.	File: M-357	

