010

2.12610

REPORT on the
INDUCED POLARIZATION/RESISTIVITY SURVEY
on the Reeves Joint Venture Property
of
GOLDROCK RESOURCES INC.
and
GLEN AUDEN RESOURCES LIMITED
Sewell, Reeves, Penhorwood and
Kenogaming Townships
Porcupine Mining Division, Ontario
by
Richard Lachapelle B.Sc. Ing. Jr.
February, 1989

TABLE OF CONTENTS

LIST OF FIGURES

I.P. PSEUDOSECTIONS

6+00N
6+00N
8+00N
12+00N
12+00N
0+00
2+00E
4+00E
6+00E
8+00E
27+00E
29+00E

2+00W
2+00W
3+00W
4+00W
5+00W
6+00W
6+00W ✓
7+00W
8+00W
8+00W ✓
9+00W
10+00W ✓
12+00W ✓

ABSTRACT

During the month of June, July and November 1988, a geophysical crew from R.S. Middleton Exploration Services Inc. completed an induced polarization survey on the Reeves Joint Venture Property in Sewell, Reeves, Penhorwood and Kenogaming Townships, Porcupine Mining Division, Ontario.

The induced polarization survey delineated a broad zone of high chargeability anomalies which are interpreted to be caused by pyritic, chlorite-carbonate schists marking a zone of high-strain deformation within mafic volcanic rocks.

Other IP anomaly axes located on the flanks of high magnetic signatures are interpreted to represent sulfide facies iron formations, or sulphide alteration of iron-oxide facies iron formation.

IP anomalies are also observed in areas of moderate magnetic signature, which are interpreted as representing zones of higher concentrations of disseminated sulfides within mafic volcanic units.

Several interpreted oxide facies iron formation are observed to be cross-cut by faults.

All the above-mentioned anomalies are potential diamond drill targets.

An extensive diamond drilling program, totalling $495,550 is recommended on the best anomalies to investigate the gold-bearing potential of this property.

INTRODUCTION

During the months of June, July and November, 1988, a geophysical crew from R.S. Middleton Exploration Services Inc. of Timmins, Ontario completed an induced polarization survey on the Reeves Joint Venture Property in Sewell, Reeves, Penhorwood and Kenogaming Townships, Porcupine Mining Division, Ontario for Goldrock Resources Inc., and Glen Auden Resources Limited of Toronto, Ontario.

This survey was intended as a follow-up to a previous magnetic survey (Burk, 1988a) carried out on 57 claims of the property, with the objective of delineating potentially auriferous zones within mafic volcanic rocks. The magnetic survey data enhanced the understanding of the geology of the property but only vaguely defined structural zones which had been recognized by geological mapping. Burk, (1988a) proposed that the potential gold-bearing structures could be identified using an induced polarization survey, since zones of disseminated sulfides are typically associated with gold mineralization and would constitute zones of high chargeability.

This survey has been followed by a stripping and trenching program (Burk, 1988b) which has identified the sources of many of the induced polarization anomalies described in this report.

LOCATION AND ACCESS

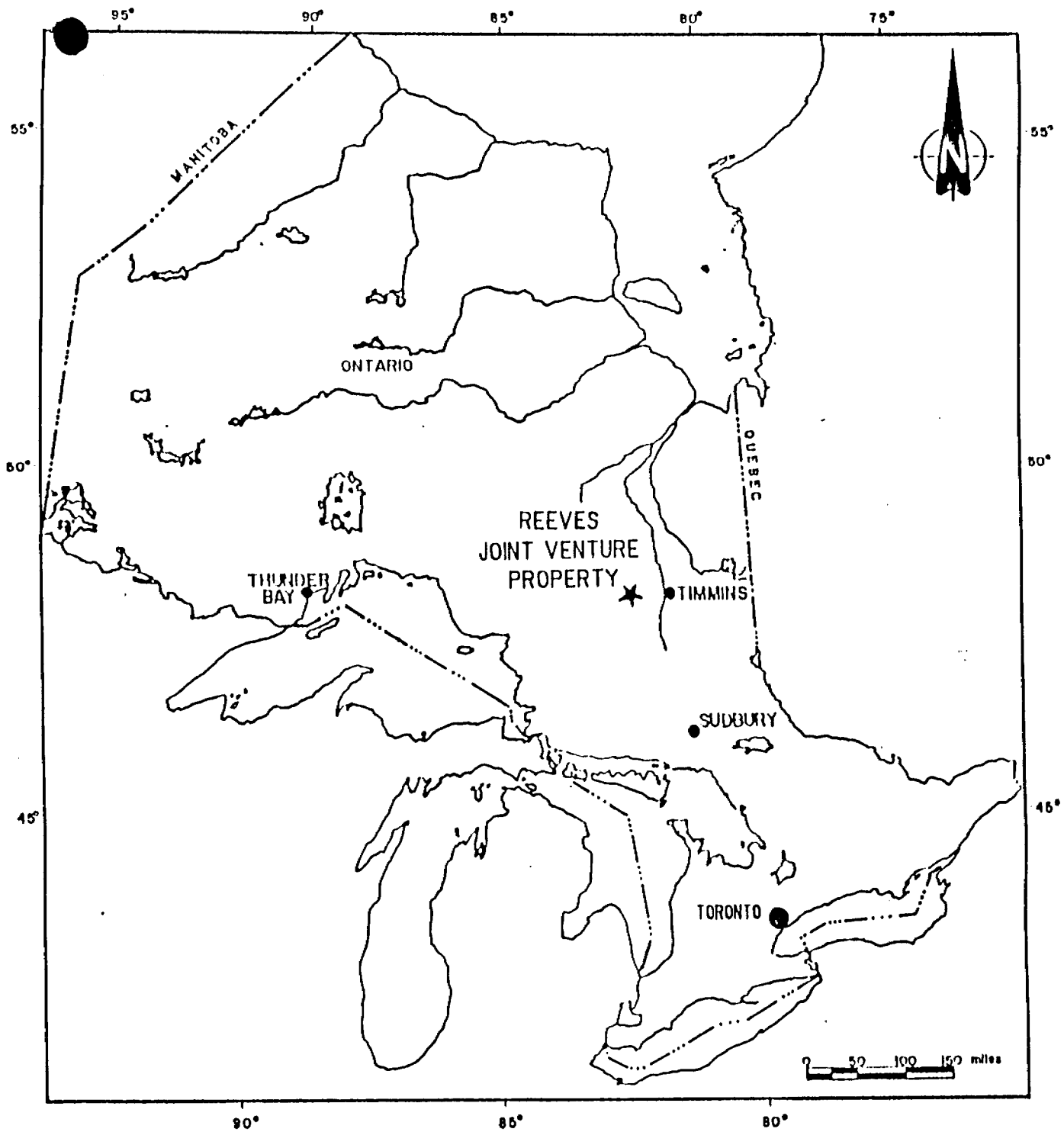
The Reeves Joint Venture (RJV) property encompasses approximately 6,850 hectares broadly centred on the four contiguous corners of Reeves, Sewell, Penhorwood and Kenogaming Townships, some 55 kilometers west of Timmins, Ontario (Figures 1 and 2). Access to the property is via Highway 101 which skirts the northern boundary of the property, and the Penhorwood logging road. A network of secondary logging roads allows good access to about three quarters of the property.

CLAIM GROUP

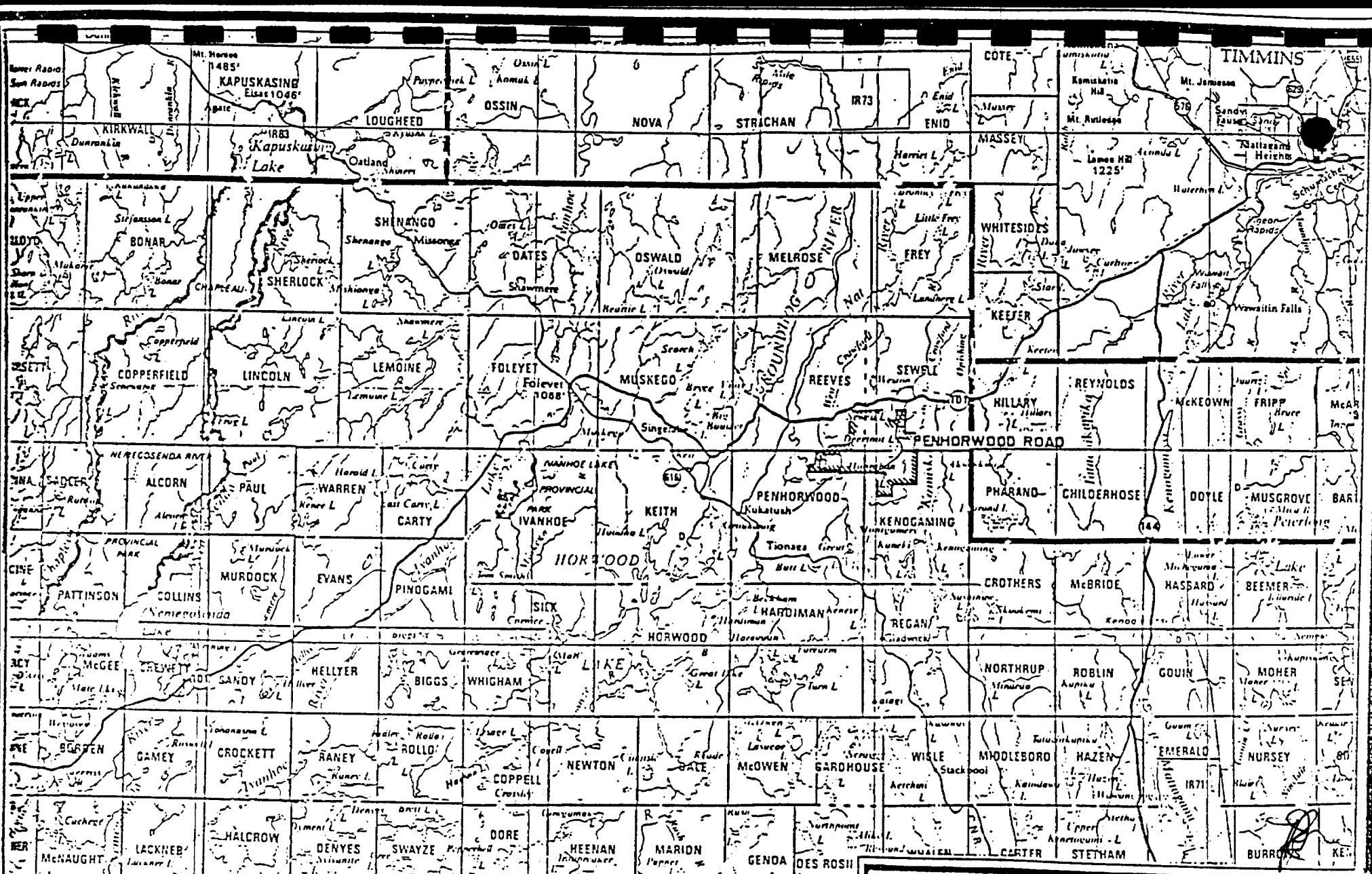
The induced polarization survey covers 66 of the 427 contiguous un-patented claims of the Reeves Joint Venture property in Sewell, Reeves, Penhorwood and Kenogaming Townships, Porcupine Mining Division, Ontario.

The claims are listed as follows:

CLAIM NUMBER	TOWNSHIP	NO.	RECORDING DATE
878419	Kenogaming	1	August 18, 1986
893527-9 incl.	Kenogaming	3	August 18, 1986
901327	Reeves	1	August 15, 1986
901329-37 incl.	Reeves	9	August 15, 1986
932074	Reeves	1	June 5, 1986
932075	Reeves	1	June 24, 1986
933528	Sewell	1	August 18, 1986
933545	Kenogaming	1	August 18, 1986
933560-2 incl.	Kenogaming	3	August 18, 1986
933563-4 incl.	Sewell	2	August 18, 1986
933565-70 incl.	Kenogaming	6	August 18, 1986
933571	Sewell	1	August 18, 1986
933572-6 incl.	Kenogaming	5	August 18, 1986



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDROCK RESOURCES INC./ GLEN AUDEN RESOURCES LTD. J.V.		
	Title PROPERTY LOCATION MAP Fig. 1		
	Date: Oct. 87	Scale: 1"=100mi.	N.T.S.:
	Drawn: B.S.B.	Approved:	File: M-223.



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for GOLDROCK RES. INC./ GLEN AUDEN RES.
	Title PROPERTY LOCATION - LOCAL
	Fig. 2
	Date: MAR/88 Scale: N.T.S.
	Drawn: S.S. Approved: File: M-223

CLAIM NUMBER	TOWNSHIP	NO.	RECORDING DATE
944882	Penhorwood	1	August 15, 1986
944889-90 incl.	Penhorwood	2	August 15, 1986
947085	Sewell	1	August 25, 1986
947089	Sewell	1	August 25, 1986
947096	Sewell	1	August 25, 1986
947148-50 incl.	Penhorwood	3	August 19, 1986
947251-3 incl.	Penhorwood	3	August 19, 1986
947255-60 incl.	Sewell	6	August 26, 1986
947263-5 incl.	Sewell	3	August 26, 1986
947267-8 incl.	Sewell	2	August 26, 1986
987253-7 incl.	Kenogaming	5	June 11, 1987
987281-2 incl.	Reeves	2	June 4, 1987
1029373	Reeves	1	January 20, 1988

TOTAL		66 Claims	

The claims are illustrated in Figure 3, Claim Map. The claims are held in trust by Glen Auden Resources Limited for Goldrock Resources Inc.

GENERAL GEOLOGY

The following is quoted from Burk, 1988a:

"The Reeves Joint Venture property lies in the northern part of the Archean-age Swayze Greenstone Belt and covers typical sequences of mafic submarine flows and less abundant intermediate to felsic volcanics. Exposures of sedimentary rocks are sparse on the property, though two prominent units of oxide and sulfide facies banded iron formation have been identified.

Intrusive sheets and pods of ultramafic and mafic rocks are common, particularly in the western and southeastern parts of the claim group."

PREVIOUS WORK

The following is quoted from Burk, 1988a:

"The most recent government geologic mapping of the property area was done by Milne (1972). At the request of the present claim holders, D. Pyke (1987) carried out a reconnaissance mapping and lithogeochemical study of the property area. He concluded that the supracrustal sequences in the northern part of the Swayze greenstone belt are similar, texturally and compositionally to the volcanic units of the Timmins mining camp, and therefore constitute a favourable geological environment for gold mineralization. The geology of the original 267 claims of the RJV property was mapped in the 1987 field season and is described by Burk (1987). The magnetometer survey discussed in this report was done within the limits of this claim block. The most important previous geophysical work done in the property area is an airborne magnetics-EM survey (Dighem, 1984) which

covers an area that encompasses all of the presently-held claims.

In addition to the geologic mapping that was done on the original RJV property, Glen Auden Resources/Goldrock Resources carried out mechanical outcrop stripping and trenching in the southeast corner of Reeves Township, eastern Penhorwood Township, and just west of Deerfoot Lake in Kenogaming Township (Garner, 1987). Two series of overburden pits were also excavated and sampled in these areas (Garner, 1987). The ground magnetometer survey reported on here covers these workings. A more comprehensive review of exploration work done on the Reeves Joint Venture property by Glen Auden/Goldrock as well as previous mining companies is given by Burk (1987)."

SURVEY PROCEDURE

INDUCED POLARIZATION/RESISTIVITY

Theory

The induced polarization (IP) and resistivity exploration methods are electrical methods based on measuring the response of the earth to an applied direct current.

The principle is to apply a known electric current to the earth, and measure the electric potential created by it at the survey location. The resistivity, a bulk property of the rock itself, is calculated from the difference between the applied current and the measured potential, corrected for the geometry of the current and potential electrode configuration.

The induced polarization measurement is based on the "over-voltage" effect. Most of the electric current carried by the earth is conducted by the flow of ions in the solutions filling the pore spaces in the rock. At the surface of any metallic particle in the path of current flow, the ionic flow in the solution is changed to an electronic flow in the metal. In the process of the change, an electric charge of trapped ions is built up at the surface of the metal, storing a small voltage. If the voltage increases, the apparent resistance of the rock also increases. If the applied current flow is decreased or stopped, the voltage will create a potential in the same direction to the original applied current.

In time domain induced polarization the applied current is abruptly stopped, and the reverse potential created by the over-voltage effect is measured over time as it quickly decays. The definition of chargeability is:

$$M = \frac{V\ (t = \infty) - V\ (t = 0)}{V\ (t = \infty)}$$

where V (t = 0) is the voltage at turnoff, and V (t =∞) is the late-time voltage. This is usually measured over a certain time period after turn-off as an integral of voltage over time, corrected for the length of the time period, and normalised to the voltage at time 0. It is usually expressed in millivolts per volt (mV/V).

The over-voltage charge takes time to build-up or decay, so that if the applied current is caused to oscillate more and more frequently, the apparent resistance will decrease, as the over-voltage does not have time to build at higher frequencies. This effect is used to measure the IP effect in frequency domain IP surveys, wherein the current is applied at two or more frequencies, and the "percent frequency effect" (PFE) is calculated from the change in resistivities (P) between the different frequencies.

$$PFE = \frac{P\ (low\ freq) - P\ (high\ freq)}{P\ (high\ freq)} \times 100\ \%$$

Although not identical, for most purposes the PFE is

approximately equal to the chargeability.

Because the IP effect responds to effects on small metallic particles, it is particularly useful for detecting disseminated metallic minerals. Also because of this, it will respond strongly to the "membrane polarisation" created by the electric charges resident on clay particles or layered or fibrous minerals.

Field Method

The survey was conducted using a pole-dipole array with a dipole length of 25m and array spacings of n = 1,2,3,4 dipoles. This array configuration involves having a dipole for the receiver measuring Vp, 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 bipolar on-off square wave with each on or off lasting two seconds. Measurements of resistivity and chargeability were taken.

PERSONNEL AND EQUIPMENT

A four-man crew was supplied by Robert S. Middleton Exploration Services Inc. to conduct the induced polarization survey. The apparatus which was used consisted of a Phoenix Instruments IPT-1 transmitter and a Scintrex IPR-11 time domain receiver. Specifications for these instruments are included in Appendix A.

SURVEY STATISTICS

The survey was done in three stages and comprised a total of 46.85 line kilometers surveyed by induced polarization. The survey required 41 days to complete, of which 3 days were lost due to inclement weather, 3 days were lost due to equipment failure and 5 days were used for camp mobilisation/demobilisation.

INTERPRETATION

Several of the induced polarization anomalies delineated during this survey have since been trenched during an extensive trenching and stripping program (Burk, 1988b). The location of the trenches, together with the locations of the induced polarization anomalies encountered are shown on the geophysical compilation maps, Figures 5, 6, 7 and 8.

The results of the third stage of induced polarization are

presented on Figure 8, induced polarization survey results.

The most important finding of the induced polarization survey is a very broad westerly trendin zone of high chargeability anomalies extending from stations 2+00S to 5+00N between lines 12+00W and 8+00E. This zone, denoted A, actually consists of a series of parallel undulating chargeability anomalies.

Airborne geophysical survey data by Dighem (1984) as well as geological ground investigation (Burk, 1987, Garner, 1987 and Burk, 1988b) indicate the existence of a major structural break coincident with Zone A. Trenching by Garner (1987) on the "Deerfoot Lake Deformation Zone", revealed highly sheared mafic volcanic rock which has undergone pervasive carbonate-chlorite alteration. Samples collected from this zone yielded anomalous concentrations of Au, Sb and As.

In a more recent trenching and stripping program Burk (1988b) where several trenches were excavated on zone A (trenches #1 to 10, Figures 4 and 5), it was determined that the induced polarization anomalies in this zone are caused by strongly foliated, and locally drag-folded, pyritic chlorite-ankerite schist in which disseminated grains and foliation-parallel lenses of pyrite constitute between 5 and 15 percent of the rock.

Several southwesterly trending IP anomaly axes, which are listed below, are spatially associated with axes of high magnetic

signature, specifically being located on the flanks of these high magnetic signatures. These IP anomalies are interpreted as representing sulfide facies iron formations, or sulphide alteration of iron-oxide facies iron formation. The latter case is particularily favorable as a host for gold mineralization. Chargeability anomalies related to narrow iron formations are located:

- *near station 9+00N on line 12+00W;*
- *from line 8+00W to line 2+00W between stations 3+00S and 1+50S, labelled as anomalous axis B;*
- *from station 12+00S on line 22+00E to station 9+00S on line 27+00E, labelled as anomalous axis D;*
- *from station 23+00S on line 12+00W to station 20+50S on line 2+00W, labelled as anomalous axis E;*
- *from station 16+00S on line 6+00E to station 8+00S on line 25+00E, labelled as anomalous axis F.*

Other IP anomalies are observed in areas of moderate magnetic signature which are interpreted to be mafic volcanic units. These IP anomalies are interpreted as representing zones of higher concentrations of disseminated sulphide horizons within mafic volcanic rocks. These anomalies are located:

- *from station 8+00S on line 14+00E to station 5+50S on line 20+00E, labelled as anomalous axis G;*
- *in a broad area between station 4+00S and the base line, from lines 12+00E and 25+00E; these anomalies do not appear to follow any given pattern.*

Several interpreted oxide facies iron formations are proposed to be cross-cut by faults, based on the displacement of linear magnetic features. Intersections between proposed faults

and iron formations occur:

- *near station 23+00S on line 10+00E,*
- *near station 21+00S between lines 15+00W and 16+00W,*
- *near station 23+00S on line 7+00W,*
- *near station 22+50S on line 21+00W,*
- *near station 10+00S between lines 16+00E and 20+00E.*

A "u-shaped" IP anomaly is observed from station 3+00N on line 14+00E to station 2+00N on line 25+00E. A trench dug on the former location (trench #12) revealed "a fine-grained mafic flow locally containing 1-3% pyrite and quartz-calcite stringers". (Burk, 1988b)

CONCLUSIONS AND RECOMMENDATIONS

The induced polarization survey delineated a series of sub-parallel, undulating high chargeability zones within a broad zone of "strongly foliated, and locally drag-folded, pyritic chlorite-ankerite schist..." (Burk, 1988b), and thin boudinaged iron formations which trends in a roughly easterly direction through the southeastern corner of Reeves Township.

The most recent trenching program (Burk, 1988b) uncovered an important gold showing located approximately at station 3+70N 10 meters east of line 3+00W. The showing is described by Burk as a "tightly folded chlorite-ankerite schist which likely represents highly deformed and altered mafic lava (sic) rock. The rock is strongly foliated and with the segregation of chlorite and iron carbonate displays a thinly laminated structure. The

configuration of asymmetric folds in the outcrop suggests the presence of a medium-scale westerly-verging fold. Based on the orientation of the small, parasitic folds and crenulations, the larger fold plunges roughly 50 degrees northeast. Native gold occurs as fine specks in a white quartz vein, 3 to 10 centimeters wide, which partially coats a fracture surface oriented at 125'/40' SW. The orientation of this vein-filled fracture is such that it is roughly orthogonal to the axial plunge of the large fold."

The possibility remains that an economically significant auriferous vein or vein system occurs between the IP anomalies and warrants testing. Therefore, a diamond drilling program is recommended on this broad zone by means of a series of four cross-section drill holes totalling 3200 ft. The proposed locations for the drill hole collars are as follows:

LINE	STATION	DIP	AZIMUTH	LENGTH(FT)	COMMENTS
8+00W	3+75N	-50	180	800	Cross-section of zone A.
8+00W	2+25N				
4+00W	2+75N				
4+00W	1+50N				

Other IP linear chargeability anomalies occuring the flanks of high magnetic signatures are interpreted as representing sulfide facies iron formations, or sulphide alteration of iron-oxide facies iron formation.

Several observations can be made such as:

- anomalous axis B is sub-parallel to zone A and may be therefore stratigraphically related to it, and even of the same nature.
- anomalous axis D is parallel to the interpreted (Pyke, 1987) continuation of the Destor-Porcupine fault zone, and has therefore possible economic potential.

Sulfide mineralization which is responsible for the IP anomalies could contain significant amounts of gold, especially is the sulfide mineralization is a hydrothermal replacement of oxide iron formation. Therefore a program comprising a series of 10 diamond drill holes totalling 8000 ft. is recommended.

The proposed locations for the drill hole collars are as follows:

LINE	STATION	DIP	AZIMUTH	LENGTH(FT)	COMMENTS
5+00W	2+25S	-50	180	800	Investigation of alteration zone of anomal axis B.
5+00W	3+50S				
8+00W	2+75S				
8+00W	3+50S				
2+00W	1+25S				
12+50W	8+50N	-50	90	800	Investigation of massive conductor.
22+00E	11+25S	-50	150	800	Investigation of alteration extent of anomal axis D.
10+00W	22+00S	-50	180	800	Investigation of anomal axis E.
22+00E	7+50S	-50	150	800	Investigation of anomal axis F.
10+00E	13+50S				

Less prominent IP anomalies located within areas of mafic

volcanic rock are interpreted to be zones of disseminated sulfides within volcanic units.

Several interpreted oxide facies iron formation are proposed to be cross-cut by faults. Hydrothermal and potentially mineralized fluids migrating along the faults would readily react with the iron formations. Therefore, these fault/iron formation intersections mark good targets for further exploration. Therefore a program comprising 2 diamond drill holes totalling 1600 ft. is recommended.

The proposed locations for the drill hole collars are as follows:

LINE	STATION	DIP	AZIMUTH	LENGTH(FT)	COMMENTS
16+00W 7+00W	21+50S 23+50S	-50	0	800	Investigation of cross-faulted areas.

The proposed budget for the program is as follows.

BUDGET

Diamond drilling: 12800 ft @ $35/ft (includes helicopter support, core splitting and assaying, supervision, logging, subsistence, etc.)	$448,000
Reports and filing	$ 2,500
SUB TOTAL	$450,500
10% contingency	$ 45,050
TOTAL	$495,550

Respectfully submitted

Richard Lachapelle ing. jr.

Richard Lachapelle, B.Sc.Ing.Jr.

REFERENCES

BURK, R.
1987 — *GEOLOGICAL REPORT on the Reeves Joint Venture Property of Goldrock Resources Inc. and Glen Auden Resources Limited, Reeves, Sewell, Penhorwood and Kenogaming Twps., Porcupine Mining Division. October, 1987*

1988a — *REPORT on MAGNETOMETER SURVEY on the Reeves Joint Venture Property of Glen Auden Resources Limited and Goldrock Resources Inc. August 8, 1988*

1988b — *REPORT on the OUTCROP STRIPPING and TRENCHING PROGRAM on the Reeves Joint Venture Property for Glen Auden Resources Limited. October, 1988*

DIGHEM LTD.
1984 — *Dighem survey of the Foleyet area, Ontario. Dighem Limited for MPH Consulting Ltd.*

GARNER, D.
1987 — *PROGRESS REPORT TRENCHING AND SAMPLING on the Reeves Joint Venture Property of Goldrock Resources Inc. and Glen Auden Resources Limited. Reeves, Sewell, Penhorwood and Kenogaming Twps. November, 1987*

MILNE, V.G.
1972 — *Ontario Division of Mines, Geological Report 97, Geology of the Kukatush-Sewell Lake Area District of Sudbury*

PYKE, D.R.
1987 — *Geological Report on the Kukatush River Area - Reeves, Sewell, Penhorwood, Kenogaming Townships for Robert S. Middleton Exploration Services Inc. May, 1987*

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 Reeves Joint Venture Property of Goldrock Resources Inc. and Glen Auden Resources Limited, Sewell, Reeves, Penhorwood and Kenogaming Townships, Province of Ontario and dated February 23, 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.Ing degree in Geological Engineering obtained in 1987.*

4. *I have been practising in Canada since 1987.*

5. *I have no direct interest in the properties, leases, or securities of Glen Auden Resources Limited, 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 23rd day of February, 1989
TIMMINS, Ontario

Richard Lachapelle ing.jr.

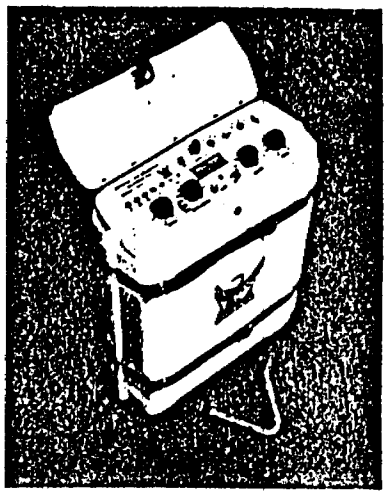
Richard Lachapelle, B.Sc. ing.jr.
Geophysicist

A P P E N D I X A

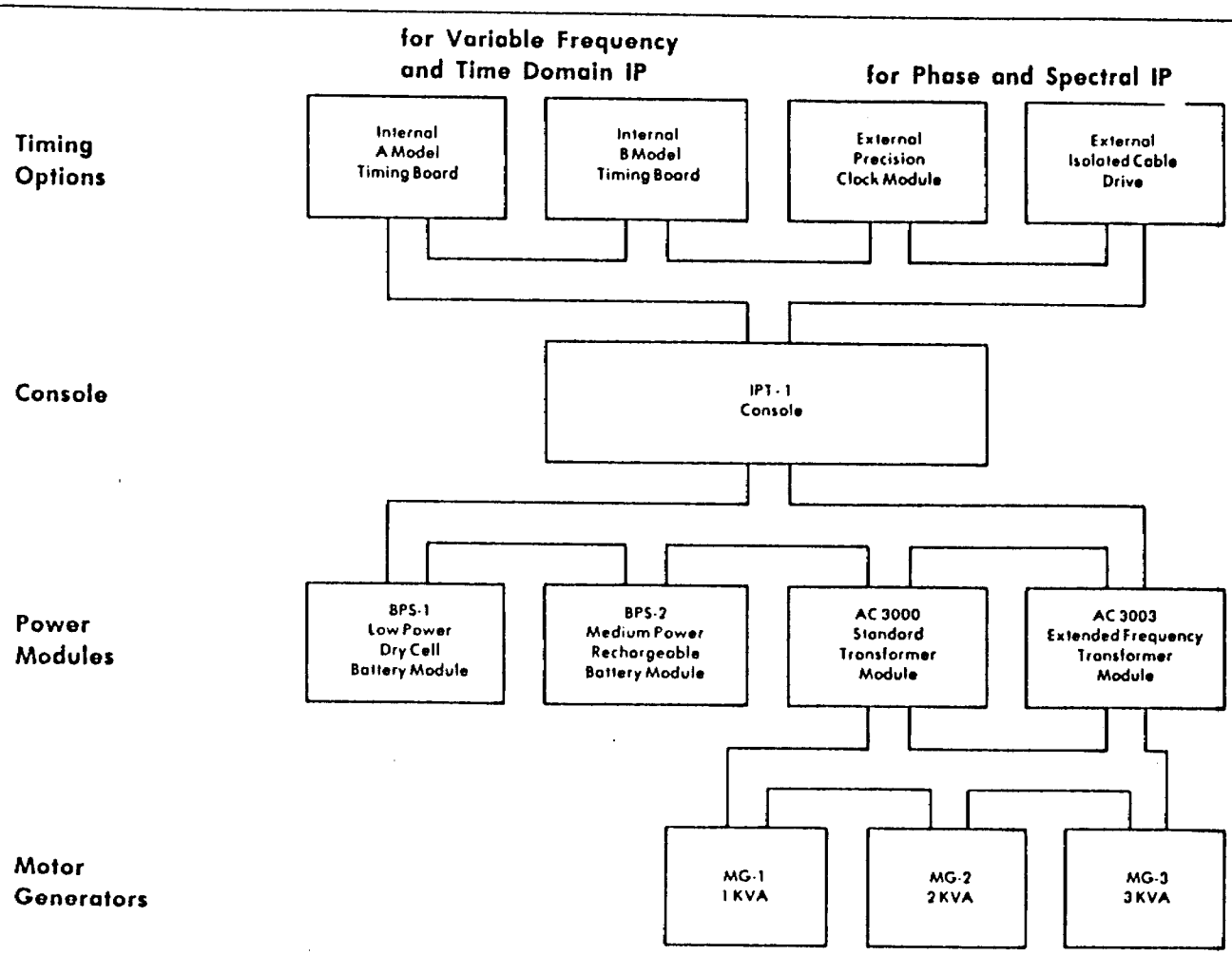
IPT-1

Variable Frequency, Time Domain and Phase IP Transmitter

- **Reliable:** Backed by twenty years experience in the design and worldwide operation of induced polarization and resistivity equipment
- **Versatile:** Can be used for resistivity, variable frequency IP, time domain IP or phase angle IP measurements
- **Stable:** Excellent current regulation
- **Lightweight, portable**
- **Wide selection of power sources**
- **Low cost**



Transmitter Configurations



PHOENIX

PHOENIX GEOPHYSICS LIMITED

Geophysical Consulting and Contracting, Instrument Manufacture, Sale and Lease.

Head Office: 200 Yorkland Blvd., Willowdale, Ontario, Canada M2J 1R5
Tel.: (416) 493-6350 Telex: 06-986856 Cable: PHEXCO TORONTO

Vancouver Office: 214 - 744 West Hastings Street, Vancouver, B.C., Canada V6C 1A6
Tel.: (604) 669-1070

Denver Office: 4891 Independence St., Suite 270, Wheat Ridge, Colorado, 80033, U.S.A.
Tel.: (303) 425-9393 Telex: 450690

Timing Options

INTERNAL TIMING BOARD

There are three available internal timing boards. Both have the same internally mounted crystal oscillator with a stability of 50 PPM over the temperature range -40°C to +60°C.

Model A :

STANDARD FREQUENCY SERIES
Frequency domain mode
±DC, .062, .125, .25, 1, 2 and 4 Hz.
Time domain mode
2 sec +, 2 sec off, 2 sec -, 2 sec off.
Simultaneous transmission mode
.25 and 4.0 Hz standard, other pairs available.

OPTIONAL FREQUENCY SERIES (change link on board)
Frequency domain mode
±DC, .078, .156, .313, 1.25, 2.5, and 5.0 Hz.
Time domain mode
1.6 sec +, 1.6 sec off, 1.6 sec -, 1.6 sec off.
Simultaneous transmission mode
.313 and 5.0 Hz standard, other pairs available.

Model B : The main difference between this timing board and the model A board is that the duty cycle is variable. Frequency domain operation is obtained by setting the duty cycle to 100% and selecting any of nine binary frequencies from 1/64 Hz to 4 Hz. Various time domain waveforms may be obtained by choosing any of the nine frequencies and a duty cycle of 25%, 50% or 75%. The standard 2 sec +, 2 sec off, 2 sec -, 2 sec off time domain waveform is chosen by selecting a duty cycle of 50% and a frequency of .125 Hz.

Model C : Time domain: 1, 2, 4, 8 second cycle. Frequency domain: 0.1, 0.3, 1.0, 3.0 Hz.

EXTERNAL HIGH PRECISION CRYSTAL CLOCKS

The IPT-1 may be driven by external high precision crystal clock modules such as the CL-1 and transmitter driver or CL-2 and transmitter driver. These clock modules were designed for use as a time reference between the IPT-1 or IPT-2 transmitters and the Phoenix IPV-2 phase IP receiver. The aging rate of the CL-1 clock module is 5×10^{-10}/day (0.11 mrad/hr at 1 Hz) and the stability of the CL-2 clock module is 10^{-7}/day (2.26 mrad/hr at 1 Hz). These clock modules weigh 7.5 kg., however space is provided for as much as 5 kg of additional internal batteries for operating the CL-1 oven heated clocks all day at -40°C. Clock modules produced by other manufacturers of induced polarization receivers are also compatible with the IPT-1.

EXTERNAL ISOLATED CABLE DRIVE

The isolated cable drive option allows the IPT-1 to be driven by the timing circuitry of the IPV-3 spectral IP receiver. The maximum distance allowed between transmitter and receiver is 500m. For efficient spectral IP field surveying, the distance between the transmitter and receiver is always maintained at one electrode interval. Thus the maximum convenient electrode interval, using the isolated cable drive option, is 500m. The IPV-3 measures the current plus six voltage dipoles (n = 1,6) simultaneously.

Console

Ammeter Ranges : 30 mA, 100 mA, 300 mA, 1A, 3A and 10A full scale.

Meter Display : A meter function switch selects the display of current level, regulation status, input frequency, output voltage, control voltage and line voltage. An optional digital display presents all of the above, plus external circuit resistance.

Current Regulation : The change in output current is less than 0.2% for a 10% change in input voltage or electrode impedance.

Protection : The current is turned off automatically if it exceeds 150% full scale or if it is less than 5% full scale.

Internal Power Modules

BPS-1 DRY CELL BATTERY POWER MODULE

Output Voltage : 90V, 180V and 360V.

Output Current : 1 mA to 1A maximum.

Output Power : Recommended maximum output power is 30 watts. Absolute maximum output power is 100 watts.

Power Supply : 8x45V dry cell batteries (Eveready 482, Mallory 202 or equivalent). Normal field operation, with low output power, results in an average battery life expectancy of one month. Operation with the absolute maximum output power results in much shorter battery life.

Control Supply : 4 x 6V lantern batteries (Eveready 409, Mallory 908 or equivalent) connected in series/parallel are used to provide the 40 to 70 mA at 12V required for the control circuitry. Average battery life expectancy is six months.

Operating Temperature : 0°C to +60°C.

BPS-2 RECHARGEABLE BATTERY POWER MODULE

Output Voltage : 50V, 106V, 212V, 425V, and 850V.

Output Current : 3 mA to 3A.

Output Power : Maximum output power is 300 watts. Above this output power a protective cut-out is engaged to prevent battery and circuit damage.

Batteries : 4 x 12V rechargeable gell cell batteries connected in series/parallel have a capacity of 9 A-hr. External batteries (such as car or motorcycle batteries) may also be used. A special cord and plug are provided for this mode of operation. An adaptor cord connects the 12V batteries in parallel with the 12V charging unit.

Operating Temperature : -40°C to +60°C. Below 0°C the capacity of the batteries is significantly reduced (by 70% at -40°C).

AC 3000 TRANSFORMER POWER MODULE

Output Voltage : 75V, 150V, 300V, 600V and 1200V.

Output Current : 3 mA to 10A.

Output Power : Maximum continuous output power is 3KW with MG-3 motor generator, 2KW with MG-2 motor generator and 1KW with MG-1 motor generator.

Input Power : Three phase, 400 Hz (350 to 1000 Hz), 60V (50V to 80V) is standard. Three phase, 400 Hz (350 to 1000 Hz), 120V (100V to 160V) is optional.

Current Regulation : Achieved by feedback to the alternator of the motor generator unit.

Operating Temperature : -40°C to +60°C.

Thermal Protection : Thermostat turns off at 65°C and turns back on at 55°C internal temperature.

AC 3003 TRANSFORMER POWER MODULE

Same as AC 3000 except for:

Output Voltage : 44V, 87V, 175V, 350V and 700V.

Frequency Range : DC to 3000 Hz under external drive (all other power modules have a maximum frequency of 5 Hz).

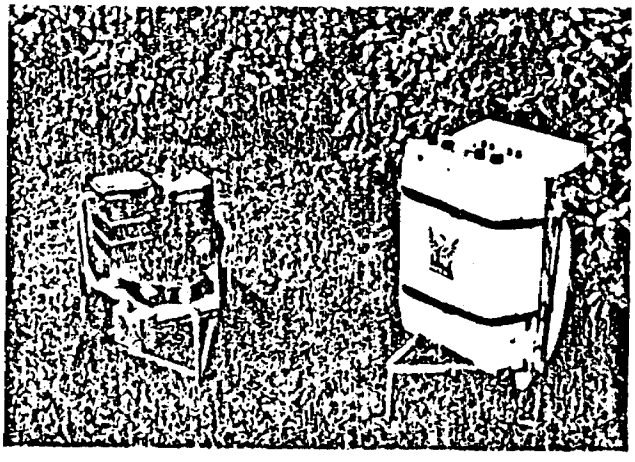
(Note: AC 3003 is not intended for extended time domain operation)

General

Dimensions : 20 x 40 x 55 cm (9 x 16 x 22 in).

Weight : 13 kg (29 lb) with BPS-1.
13 kg (29 lb) with BPS-2.
17 kg (37 lb) with AC-3000.
18 kg (40 lb) with AC-3003.

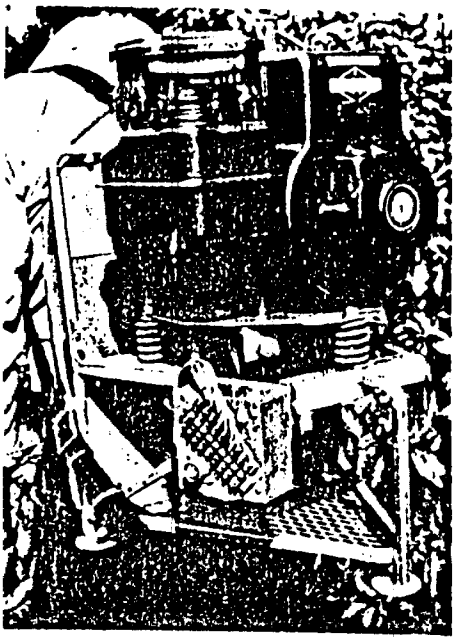
Standard Accessories : Pack frame, manual. At least one of the four possible power modules is required. The transformer power modules in turn require one of the three external 1KVA, 2KVA, 3KVA, motor generators and a connecting cable.



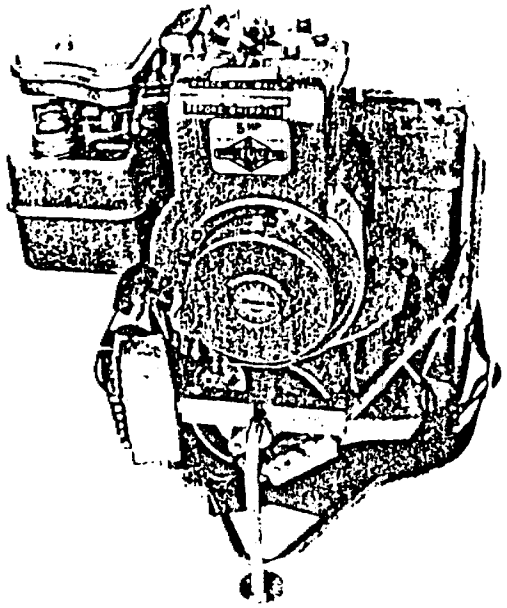
Motor Generators

There are three motor generators, differing in weight and power, which can be used with the transformer power modules. All three supply three phase, 0 Hz (350 to 600 Hz), 60V (45V to 80V). The voltage is regulated by feedback from the transmitter.

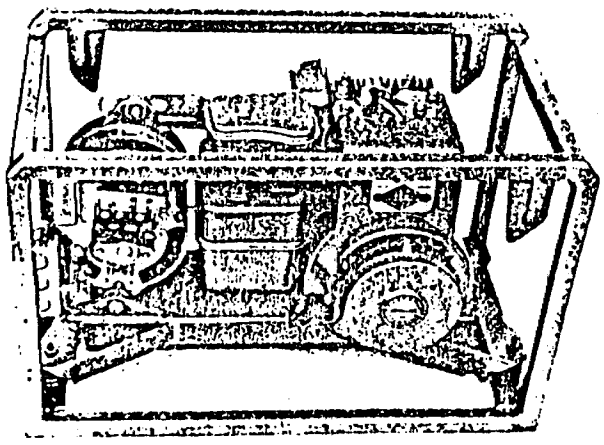
MG-1: This lightweight unit is designed for easy portability in areas of moderately high resistivity. It is well suited for massive sulfide exploration in Northern Canada, Europe and Asia, as well as general IP and resistivity surveys in rugged, mountainous areas around the world. The motor is a 4-cycle Briggs and Stratton which produces 3 HP at 3600 rpm. The dimensions of the unit, including packframe, are 40 x 45 x 60 (16 x 18 x 24 in). Total weight is 25 kg (55 lb).



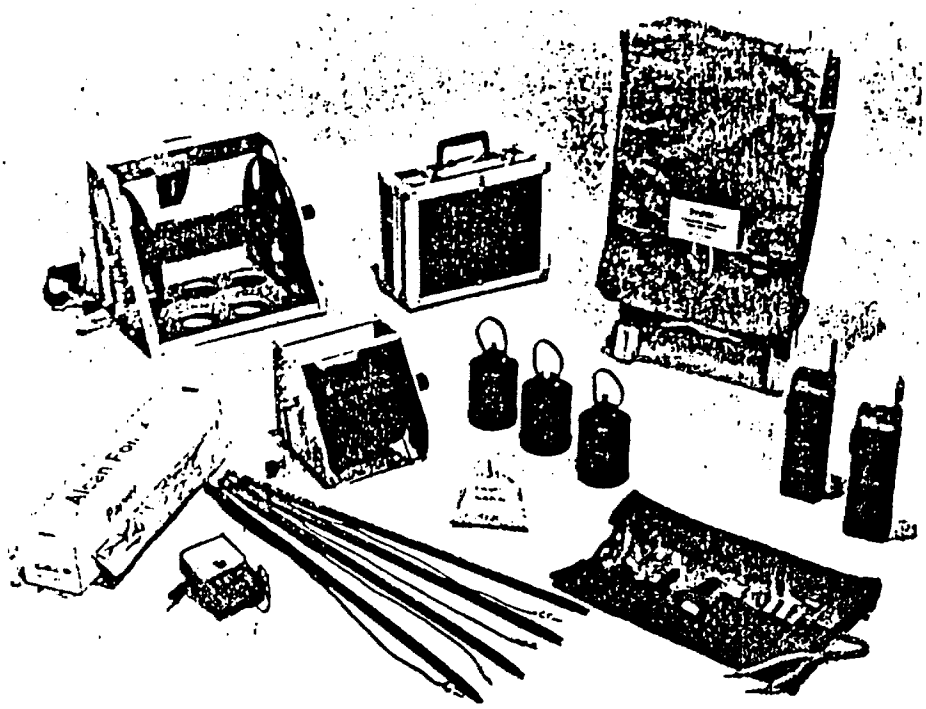
MG-2: 2KVA motor generator. This versatile unit is adequate for the vast majority of IP and resistivity surveys conducted worldwide. It is light enough to be carried by one man, yet powerful enough for most survey requirements. The motor is a 4-cycle Briggs and Stratton which produces 5 HP at 3600 rpm. The dimensions of the unit, including packframe, are 40 x 45 x 60 cm (16 x 18 x 24 in). Total weight is 34 kg (75 lb).



MG-3: 3KVA motor generator. This two-man portable unit is designed for surveys in areas which require additional power. The motor is a 4-cycle Briggs and Stratton which produces 8 HP at 3600 rpm. The unit is mounted in a square frame with dimensions 40 x 48 x 75 cm (16 x 19 x 29 in). Total weight is 55 kg (120 lb).



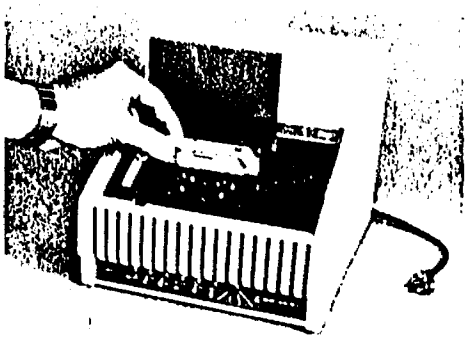
Survey Accessories



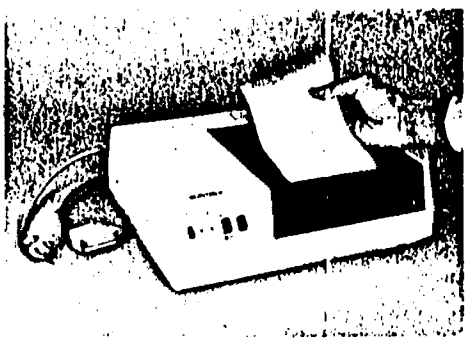
Accessory Packsack	:	Trapper Nelson #3 packboard with packsack.
Receiver Transport Case	:	Aluminum, foam lined, 13 x 32 x 44 cm.
Stake Electrodes	:	Mild steel rods with hard tapered end, 1.6 cm diameter, 75 cm or 120 cm long.
Foil Electrode Material	:	Heavy duty industrial aluminum foil, 0.0025 cm x 46 cm x 137 m.
Field Wire	:	Black, low friction, polyethylene plus nylon jacket. Four copper plus three steel strands. Tensile strength 40 kg. Total resistance 76 ohm/km. External diameter 0.213 cm.
Geo Reel	:	Two speed aluminum winder with packstraps, 35 x 40 x 50 cm.
Geo Reel Spool	:	Capacity for 3000m of field wire.
Speedwinder	:	Aluminum winder, 20 x 25 x 30 cm.
Speedwinder Spool	:	Capacity for 600m of field wire.
Porous Pots	:	Plastic with porous osbestos bottom. Coiled copper wire makes contact with saturated copper sulfate solution.
Copper Sulfate	:	450 g. .
Multimeter	:	Resistance, voltage and current.
Tool Kit	:	Soldering iron, wrenches, screwdrivers.
Radios	:	Transmitter-receivers.

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

Input Potential Dipoles	1 to 6 simultaneously
Input Impedance	4 megohms
Input Voltage (Vp) Range	100 microvolts to 6 volts for measurement. Zener diode protection up to 50 V
Automatic SP Bucking Range	±1.5 V
Chargeability (M) Range	0 to 300 mV/V (mils or 0/00)
Absolute Accuracy of Vp, SP and M	Vp; ±3% of reading for Vp > 100 microvolts SP; ±3% of SP bucking range M; ±3% of reading or minimum ±0.5m V/V
Resolution of Vp, SP and M	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_0 to M_3 in 0.2 second receive time where resolution is 0.4 m V/V.
IP Transient Program	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.
Vp Integration Time	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
Transmitter Timing	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.
Header Capacity	Up to 17 four digit headers can be stored with each observation.
Data Memory Capacity	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.
External Circuit Check	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.
Filtering	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.
Internal Calibrator	1000 mV of SP, 200 mV of Vp and 24.3 mV/V of M provided in 2 sec pulses.
Digital Display	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.
Analog Meters	Six meters for; 1) checking external circuit resistance, and 2) monitoring input signals.
Digital Data Output	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

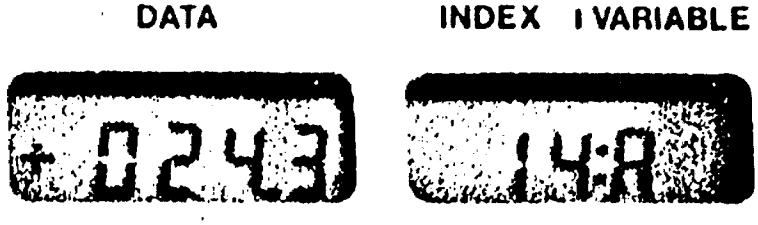
Standard Rechargeable Power Supply	Eight Eveready CH4 rechargeable NiCad D cells provide approximately 15 hours of continuous operation at 25°C. Supplied with a battery charger, suitable for 110/230 V, 50 to 400 Hz, 10 W.
Disposable Battery Power Supply	At 25°C, about 40 hours of continuous operation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

SCINTREX

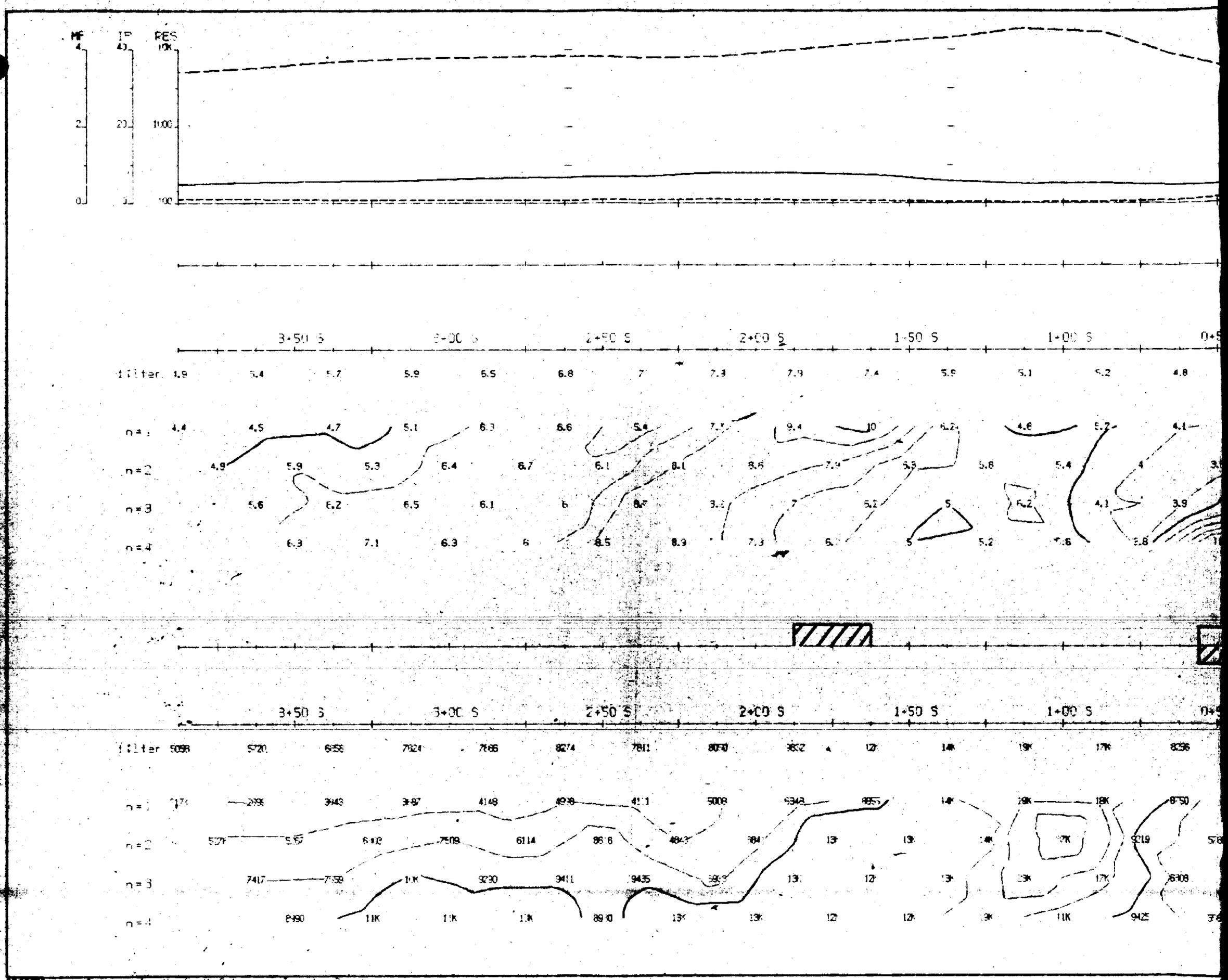
222 Snidercroft Road
Concord Ontario Canada
L4K 1B5

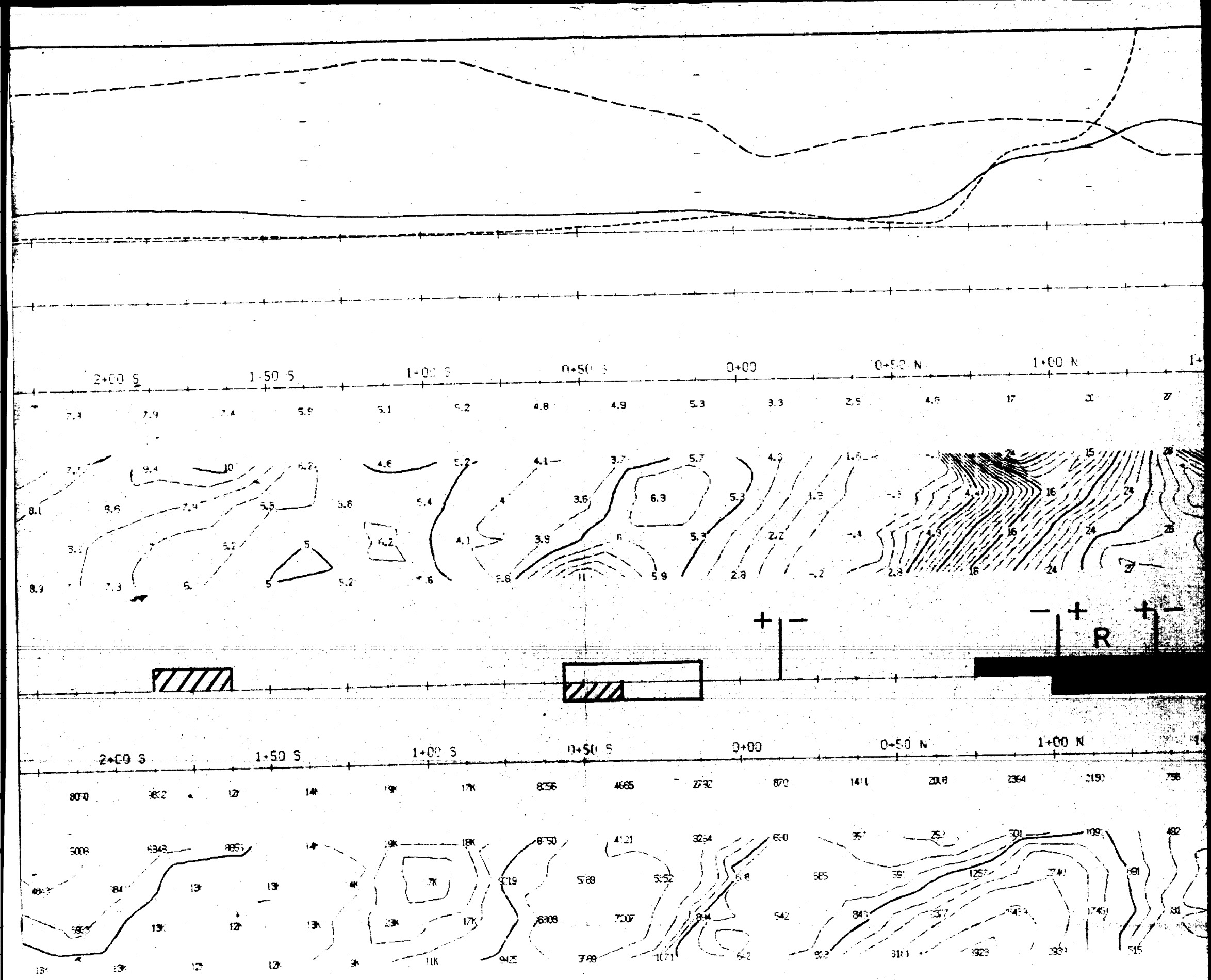
Telephone: (416) 669-2280
Cable: Geoscint Toronto
Telex: 06-964570

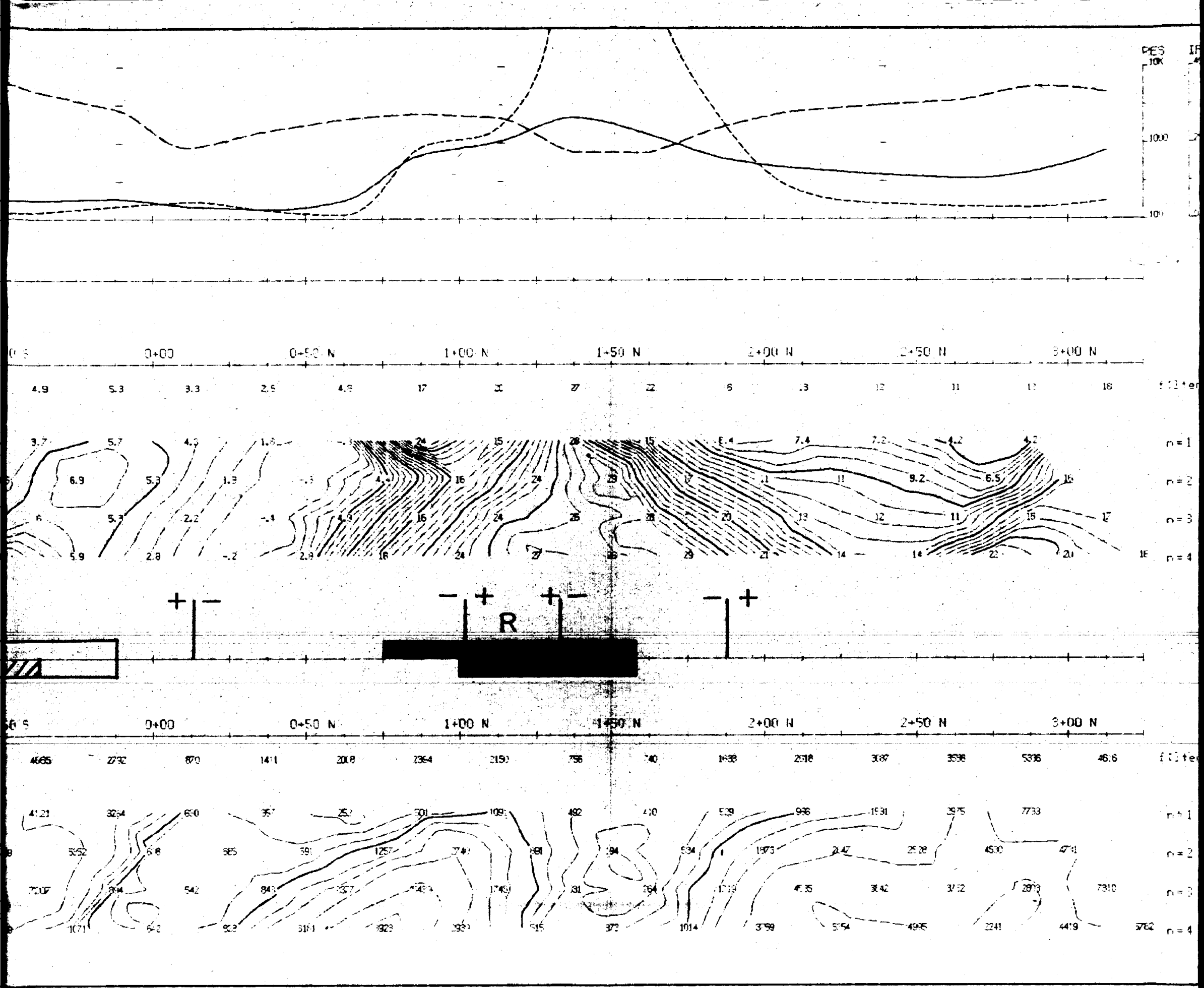
Geophysical and Geochemical
Instrumentation and Services

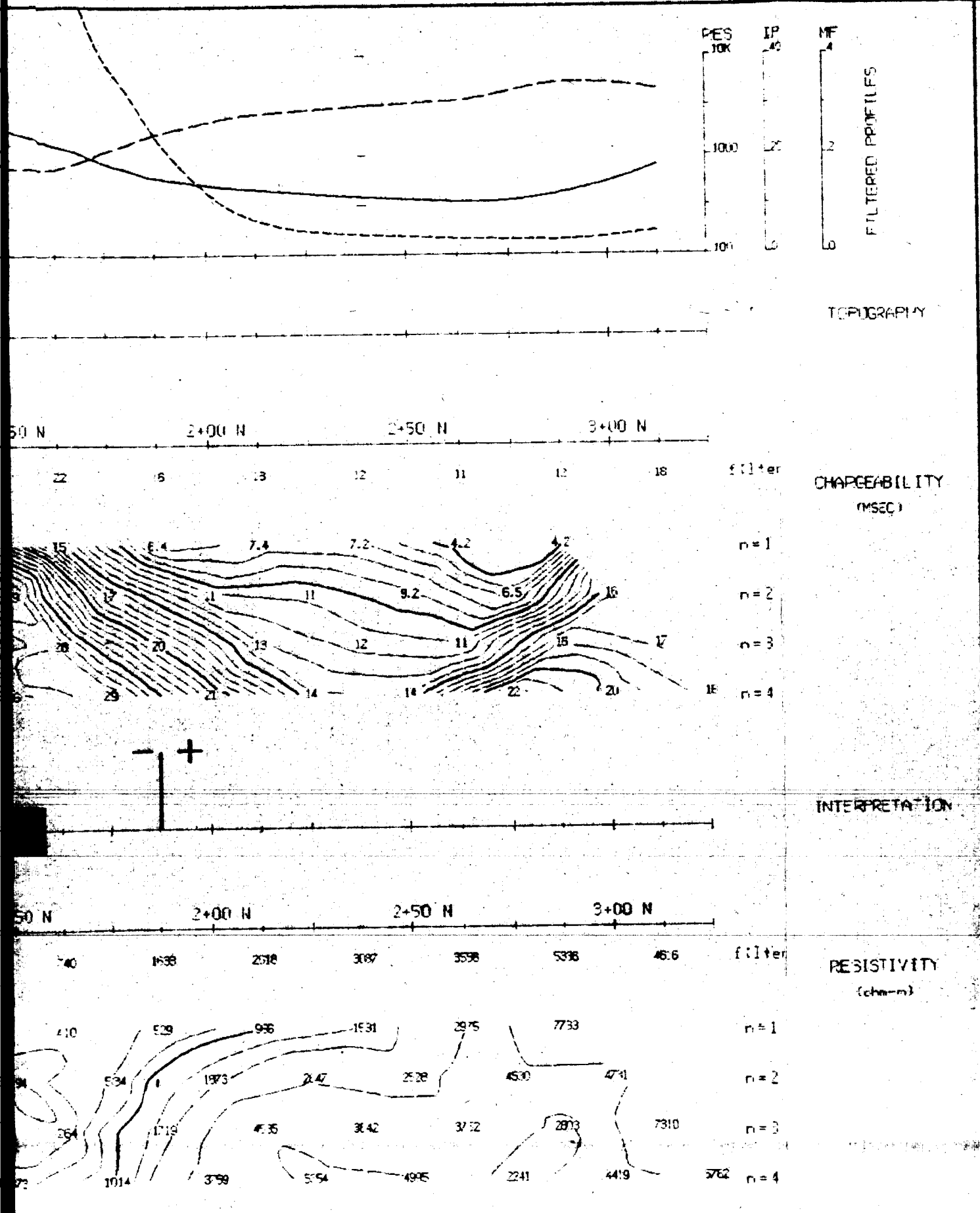


IPR-11 LCD displays, actual size



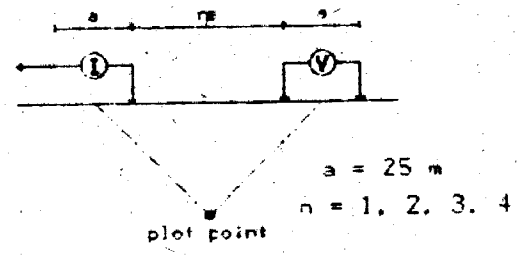

2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
R


PES
IP
10K
1000
100
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
n = 1
n = 2
n = 3
n = 4
R



2+00W

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

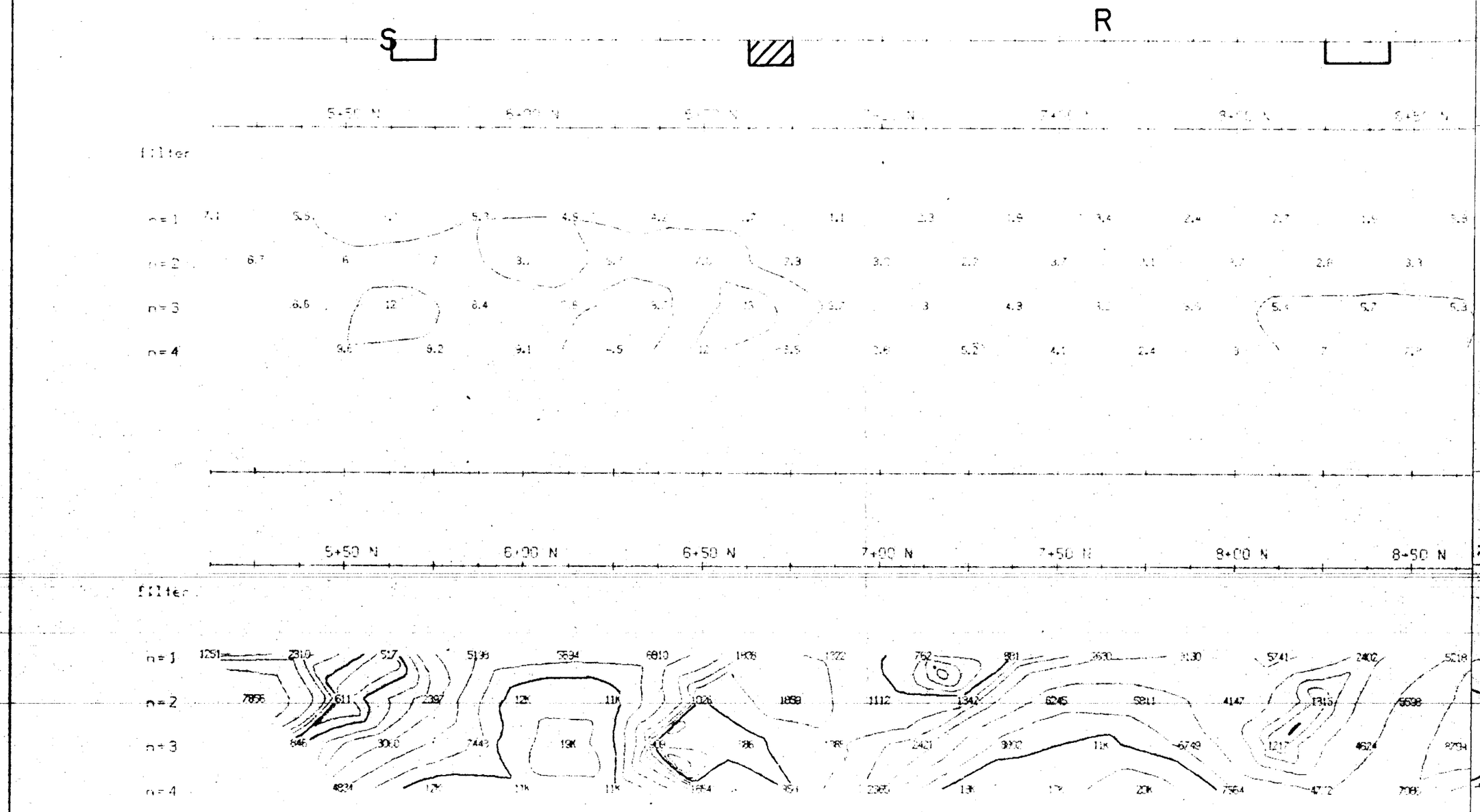
- Strong increase in polarization accompanied by marked decrease in resistivities.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- Low resistivity feature.

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title: Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT
Sewell Lake, Ont.

Date: July 5, 1988	N.T.S.:
Interp. by:	Job # M-223



S S

\+ − − +

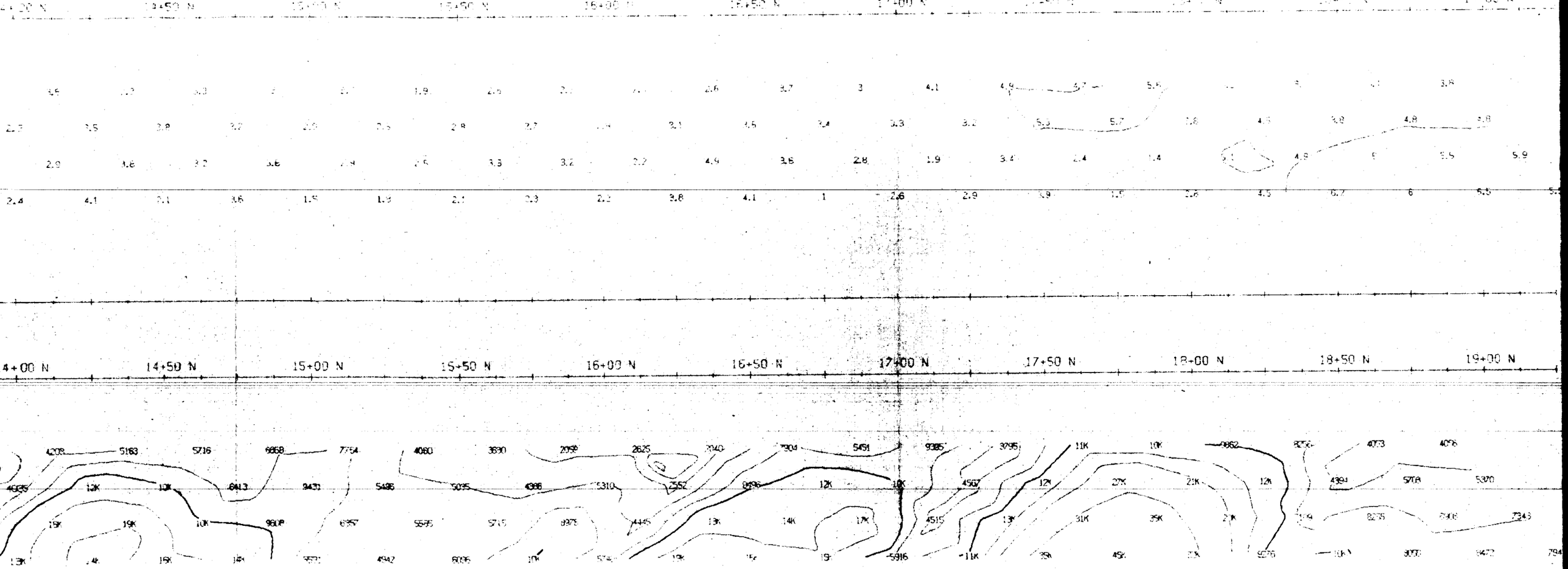
9+00 N 9+50 N 10+00 N 10+50 N 11+00 N 11+50 N 12+00 N 12+50 N 13+00 N 13+50 N 14+00

R

S

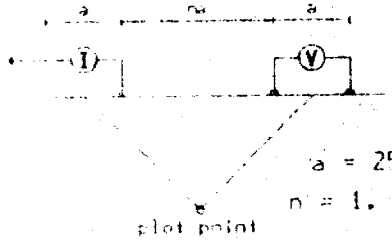
R

14+00 N | 14+50 N | 15+00 N | 15+50 N | 16+00 N | 16+50 N | 17+00 N | 17+50 N | 18+00 N | 18+50 N | 19+00 N



2+00 W

Pole Dipole Array



Filtered Profiles

	filter
Resistivity	*
Chargeability	* *
Norm. Factor	* * *
	* * * *

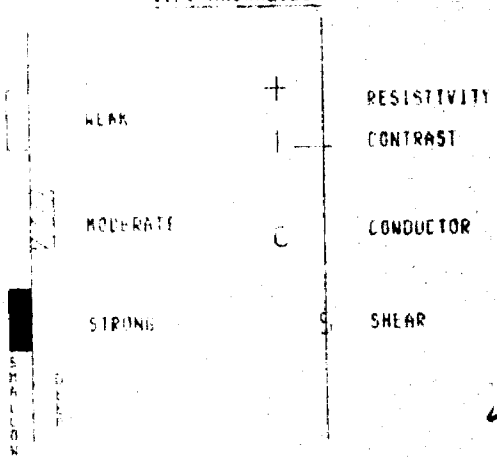
Logarithmic Contours: .1, .15, .2, .3, .5, .75, 1.0,...

Instrument: IFR-11

Transmitter: TSQ-3

Operator: I.P. Rothfischer

I.P. ANOMALIES

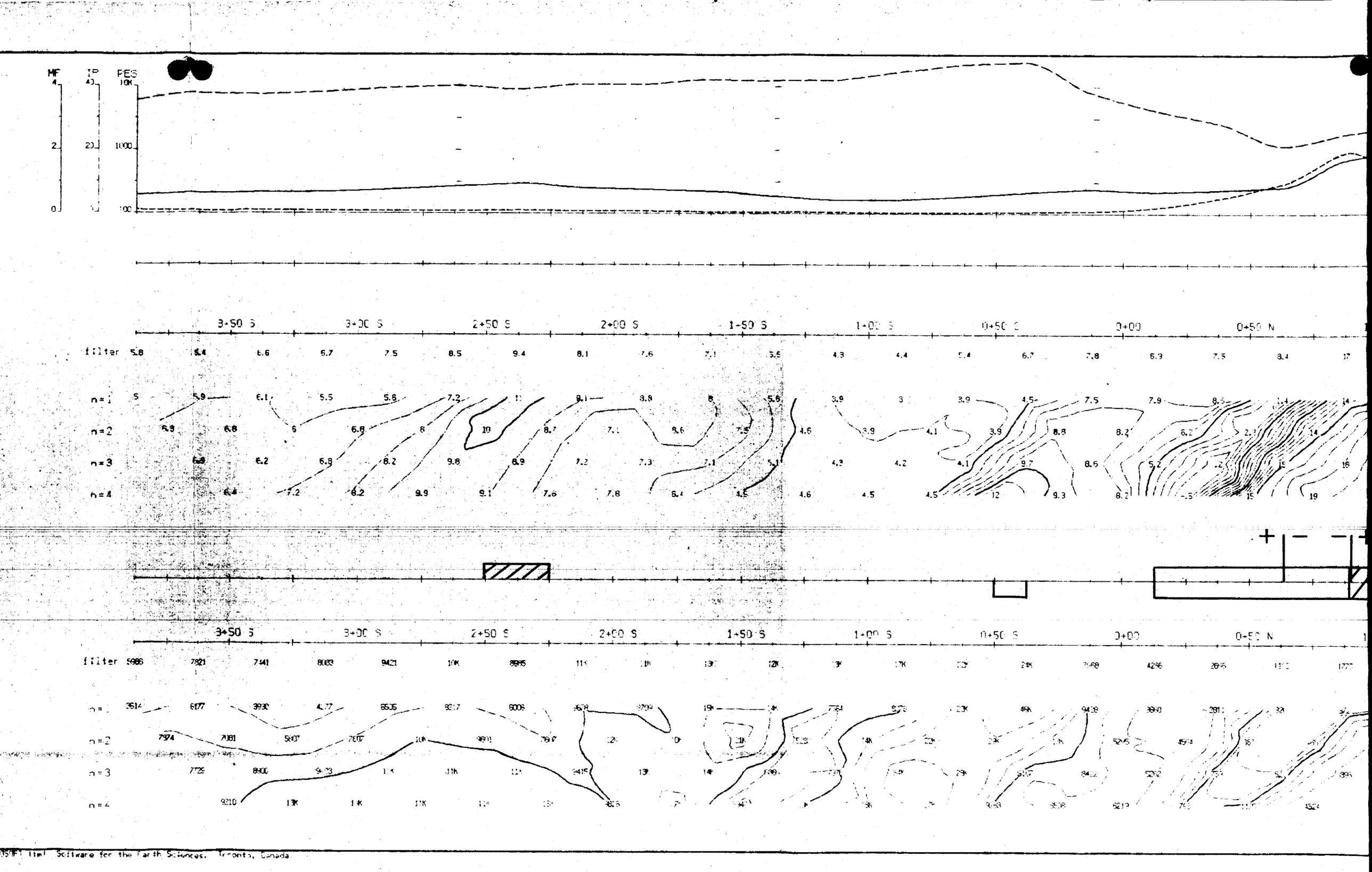


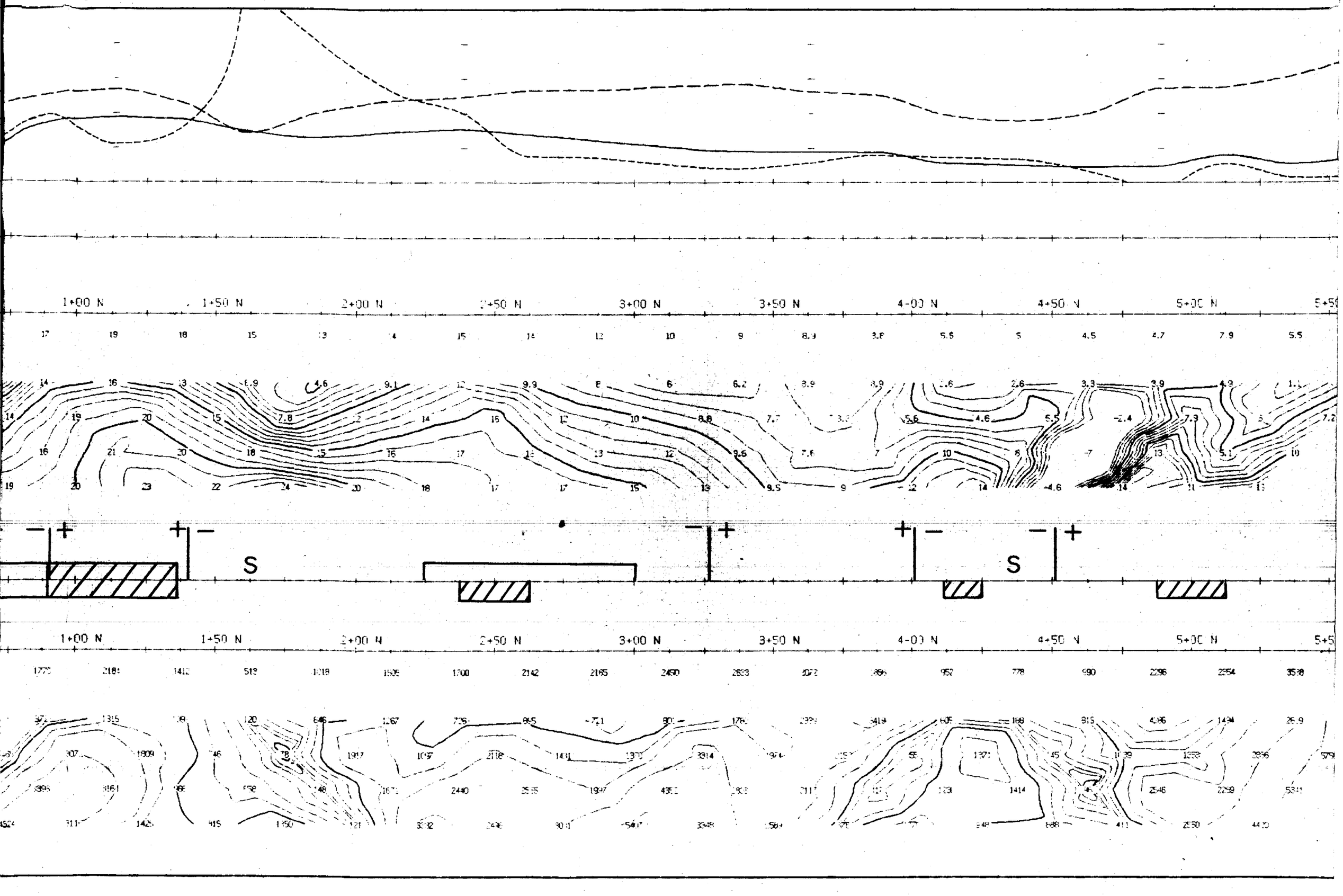
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN / GOLDROCK

Title: Time Domain
INDUCED POLARIZATION SURVEY
CHUBB LAKE
Reeves Twp., Ont.

Date: NOv 18, 1988	Scale= 1 : 1250
Interp. by: J. P. R.	Job #




1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4+00 N
4+50 N
5+00 N
S
S
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4+00 N
4+50 N
5+00 N

RES 10K 1000 100

IP 40 20 0

MF 4 2 0

FILTERED PROFILES

TOPOGRAPHY

0 N

7.4 filter

CHARGEABILITY

(MSEC)

5.1 r = 1

r = 2

r = 3

r = 4

INTERPRETATION

0 N

690 filter

RESISTIVITY

(ohm-m)

7793 r = 1

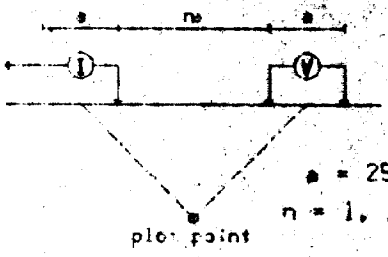
r = 2

r = 3

r = 4

3+00W

Pole-Dipole Array



a = 25 m

n = 1, 2, 3, 4

Filtered Profiles

	filter
Resistivity ————	*
Chargeability ————	* *
Metal Factor - - - - - - - -	* * *
	* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

▣ Well defined increase in polarization without marked resistivity decrease.

□ Poorly defined polarization increase with no resistivity signature.

▼ Low resistivity feature.

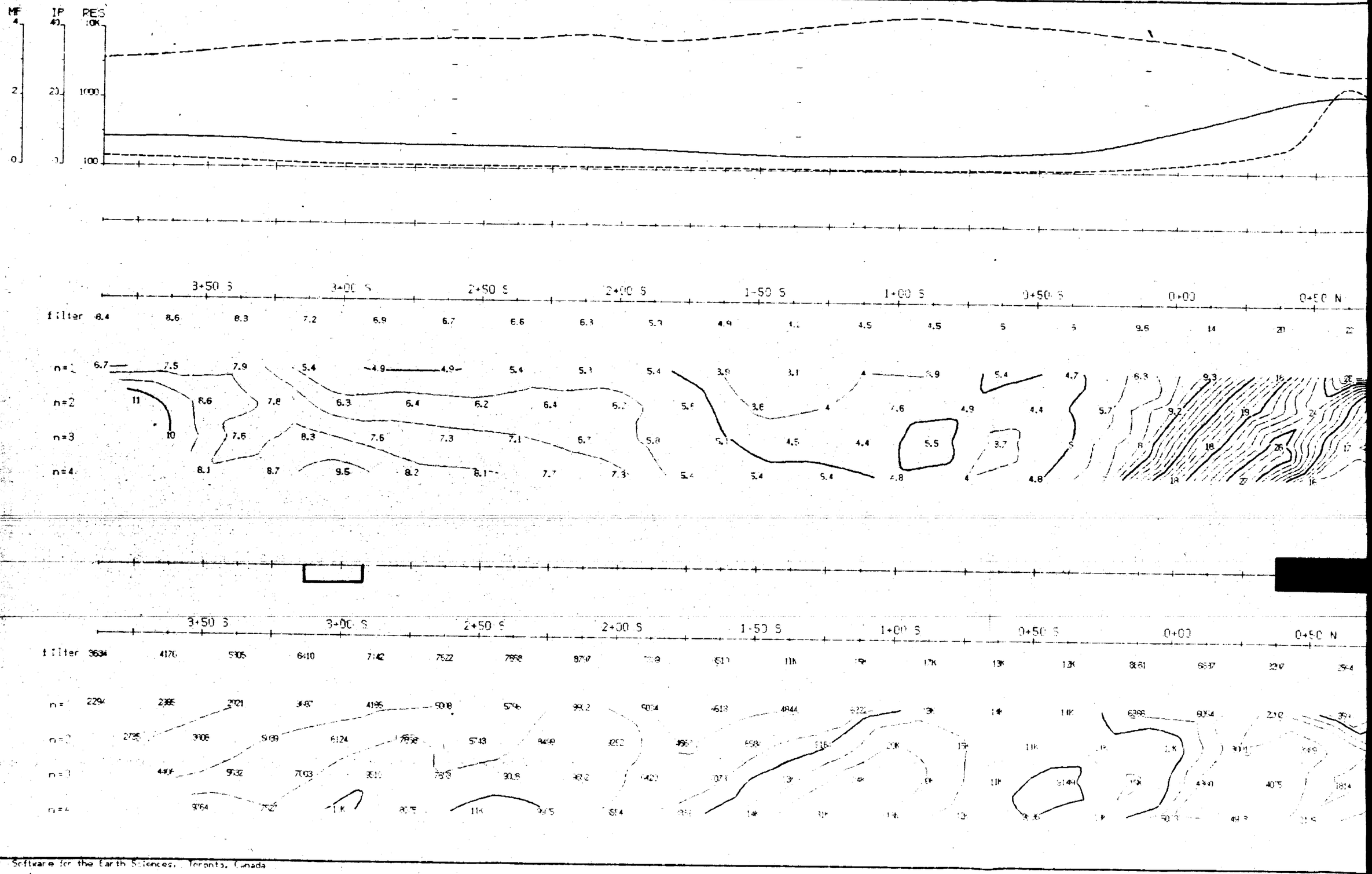
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

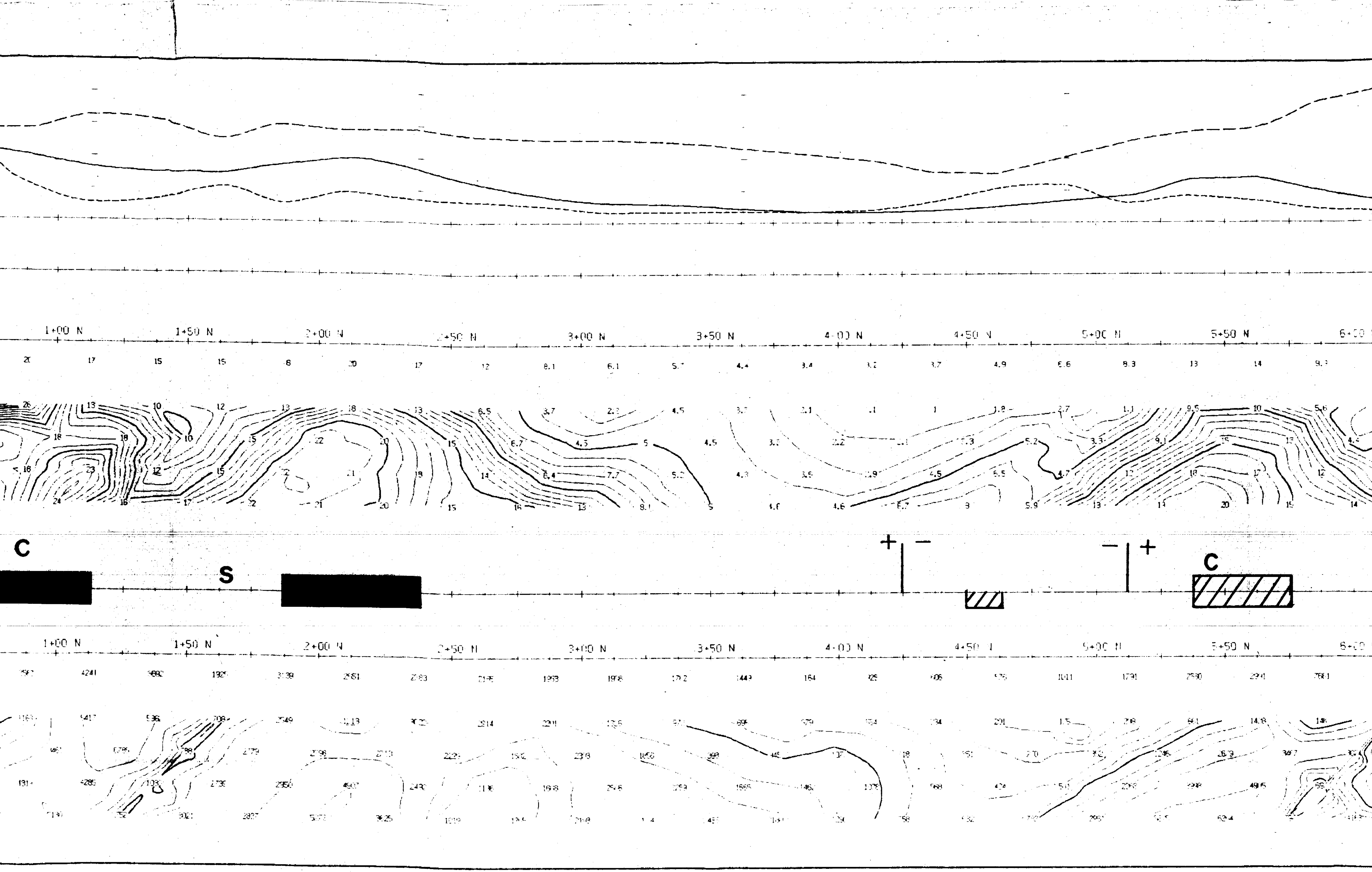
for GLEN AUDEN-GOLDROCK J.V.

Title

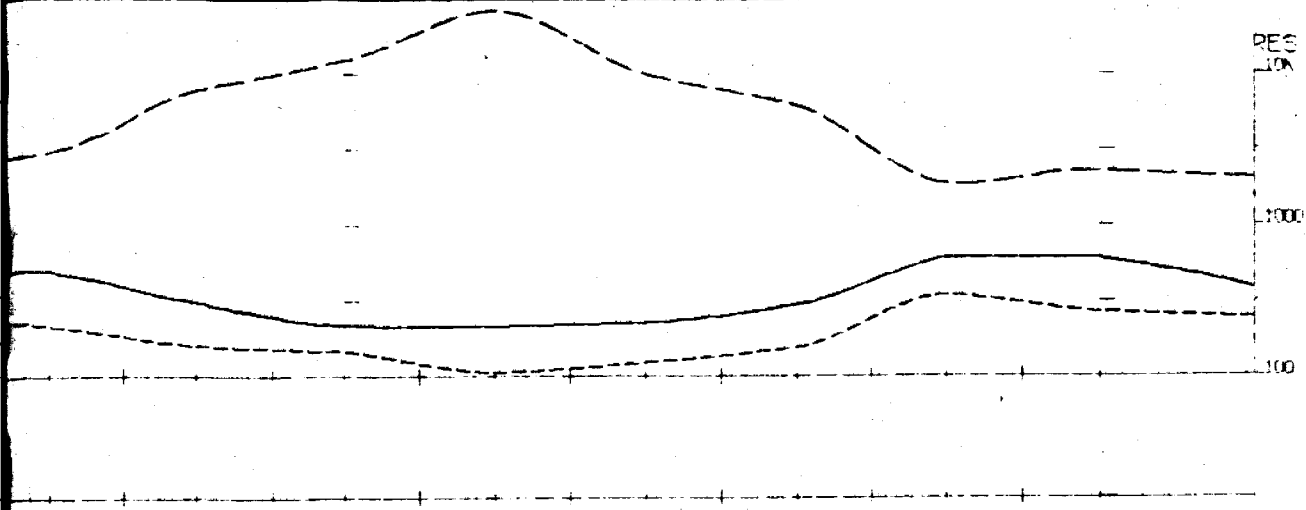
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July ~~8~~ 7 1988	N.T.S.:
Interp by: 5.6	Job # M-223

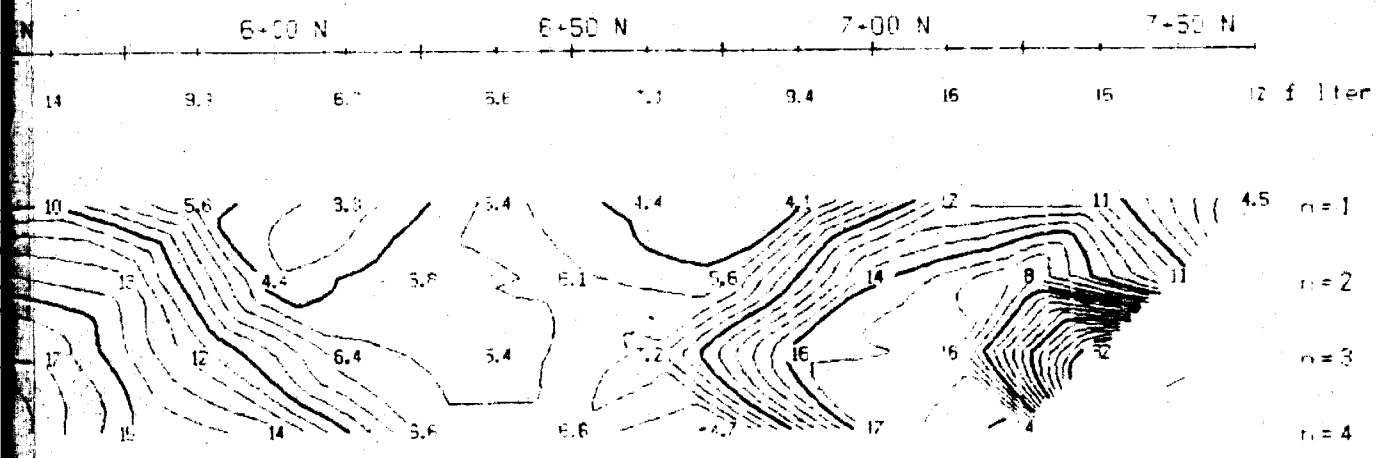

MF
IP
PES
3+50 S
3+00 S
2+50 S
2+00 S
1-50 S
1+00 S
0+50 S
0+00
0+50 N
filter
n=1
n=2
n=3
n=4



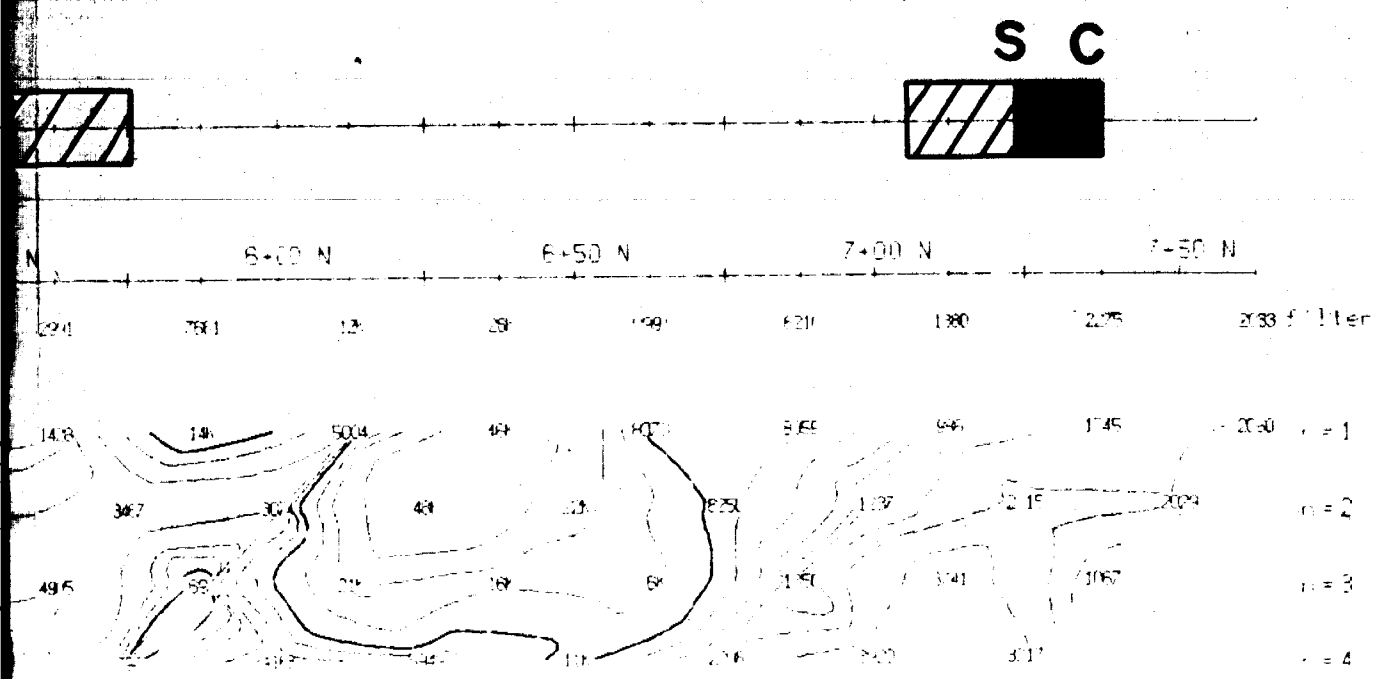
1+00 N
1+50 N
2+00 N
3+00 N
3+50 N
4+50 N
5+50 N
C
S
C



TOPOGRAPHY



CHARGEABILITY
(MSEC)

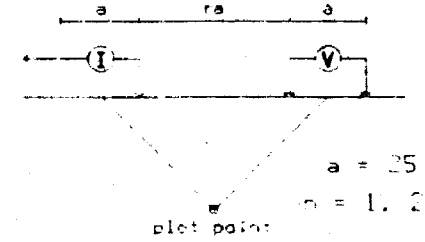


INTERPRETATION

RESISTIVITY
(ohm-m)

4+00W

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: C. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

▪ Well defined increase in polarization without marked resistivity decrease.

□ Poorly defined polarization increase with no resistivity signature.

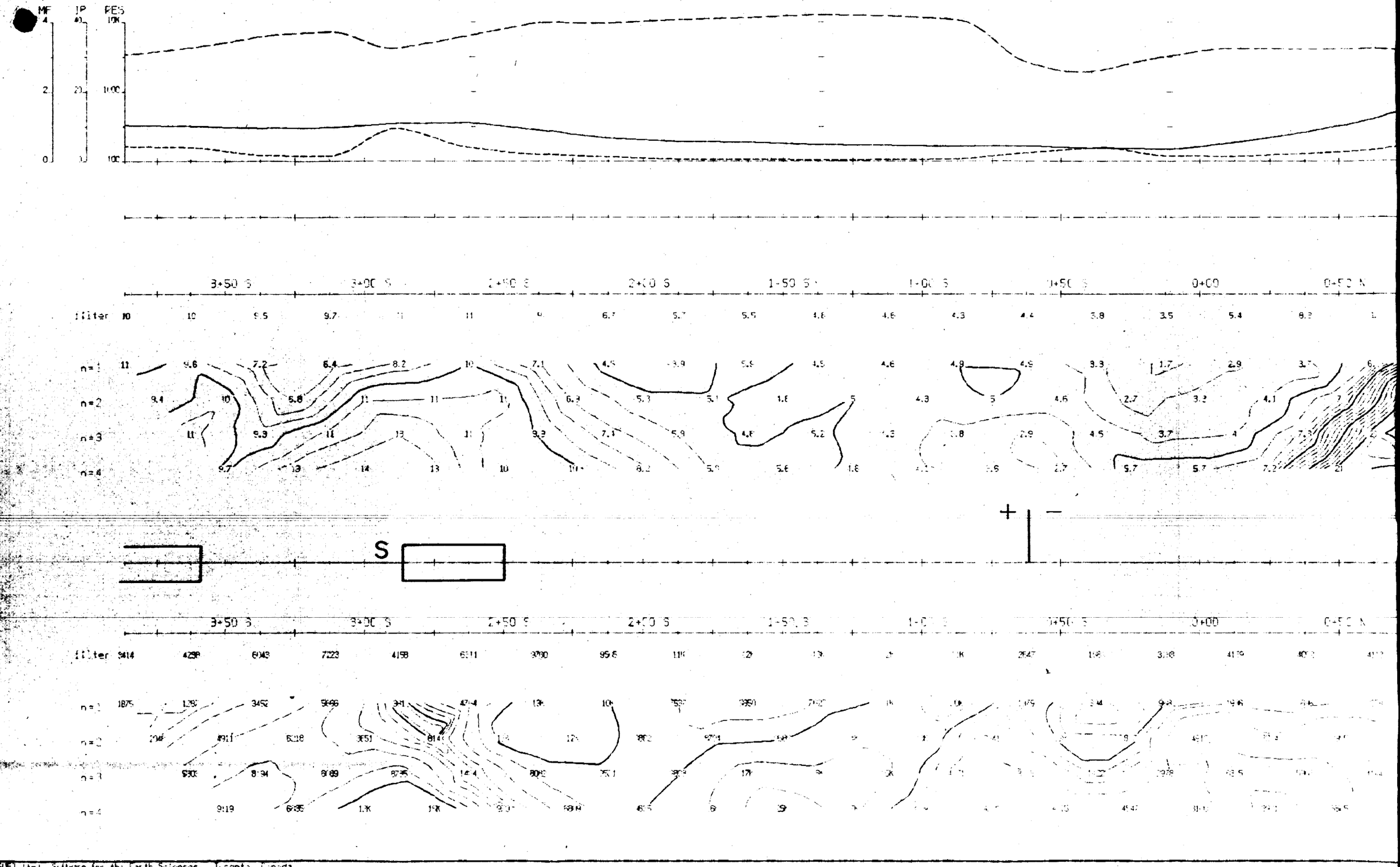
▼ Low resistivity feature.

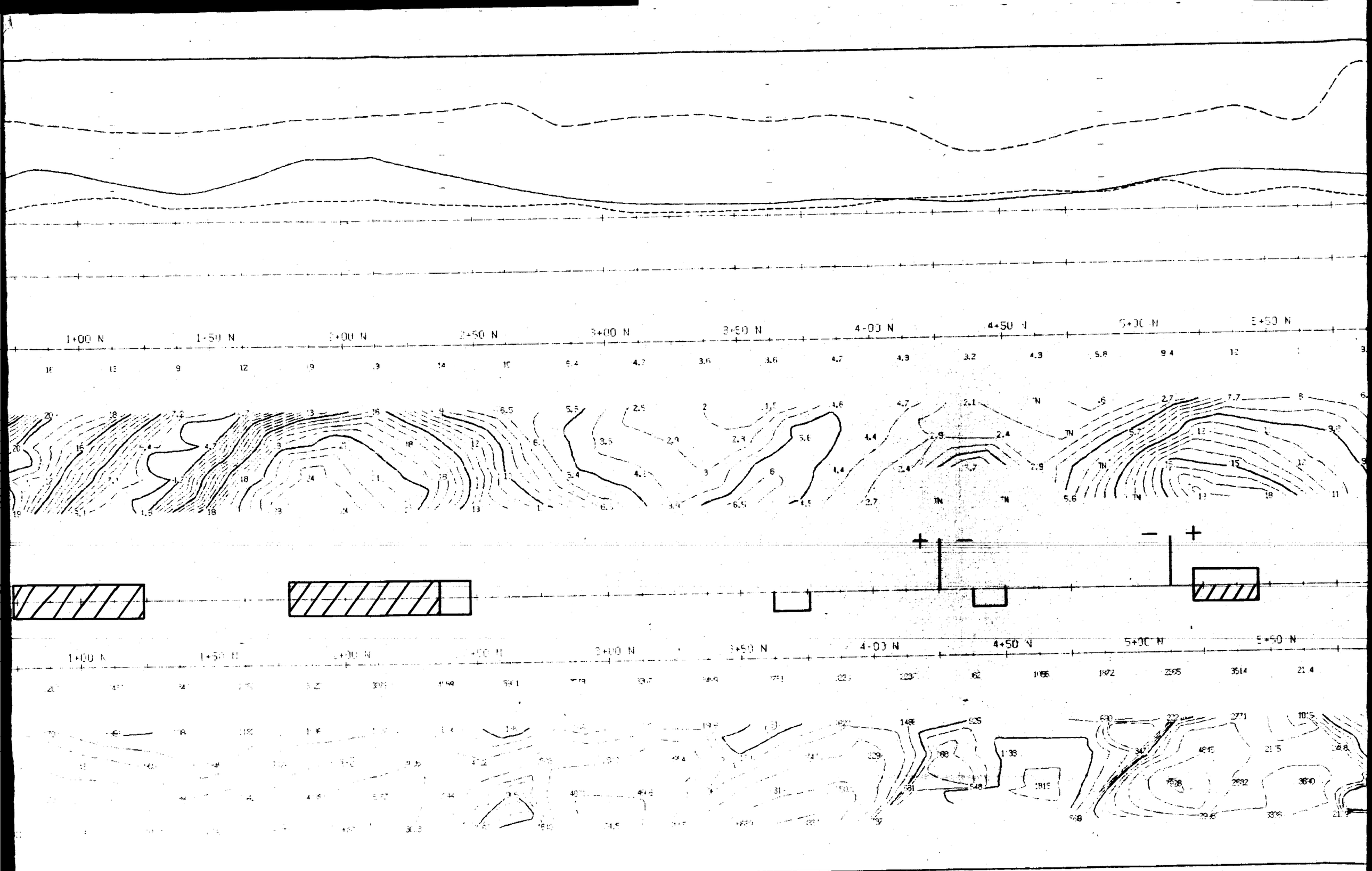
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

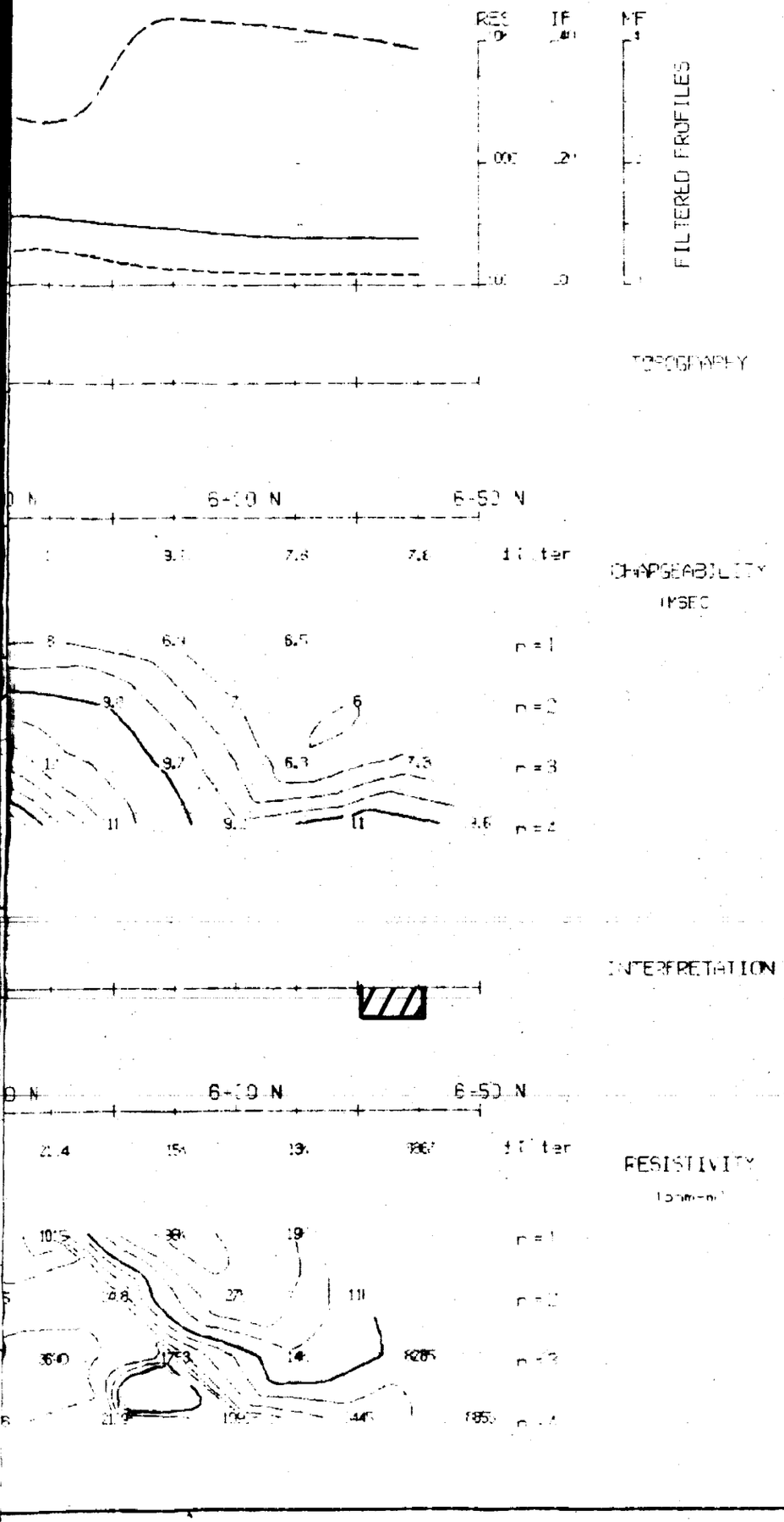
For GLEN AUDEN-GOLDROCK J.V.

Title
Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 6, 1983	N.T.S.:
Interp. by:	Job # M-223


MF
IP
RES
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
filter
n=1
n=2
n=3
n=4
S
+
−
filter
n=1
n=2
n=3
n=4


1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4-00 N
4+50 N
5+00 N
5+50 N
+
−
−
+



5+00W

Pole-Dipole Array

a = 25 m

n = 1, 2, 3, 4

Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

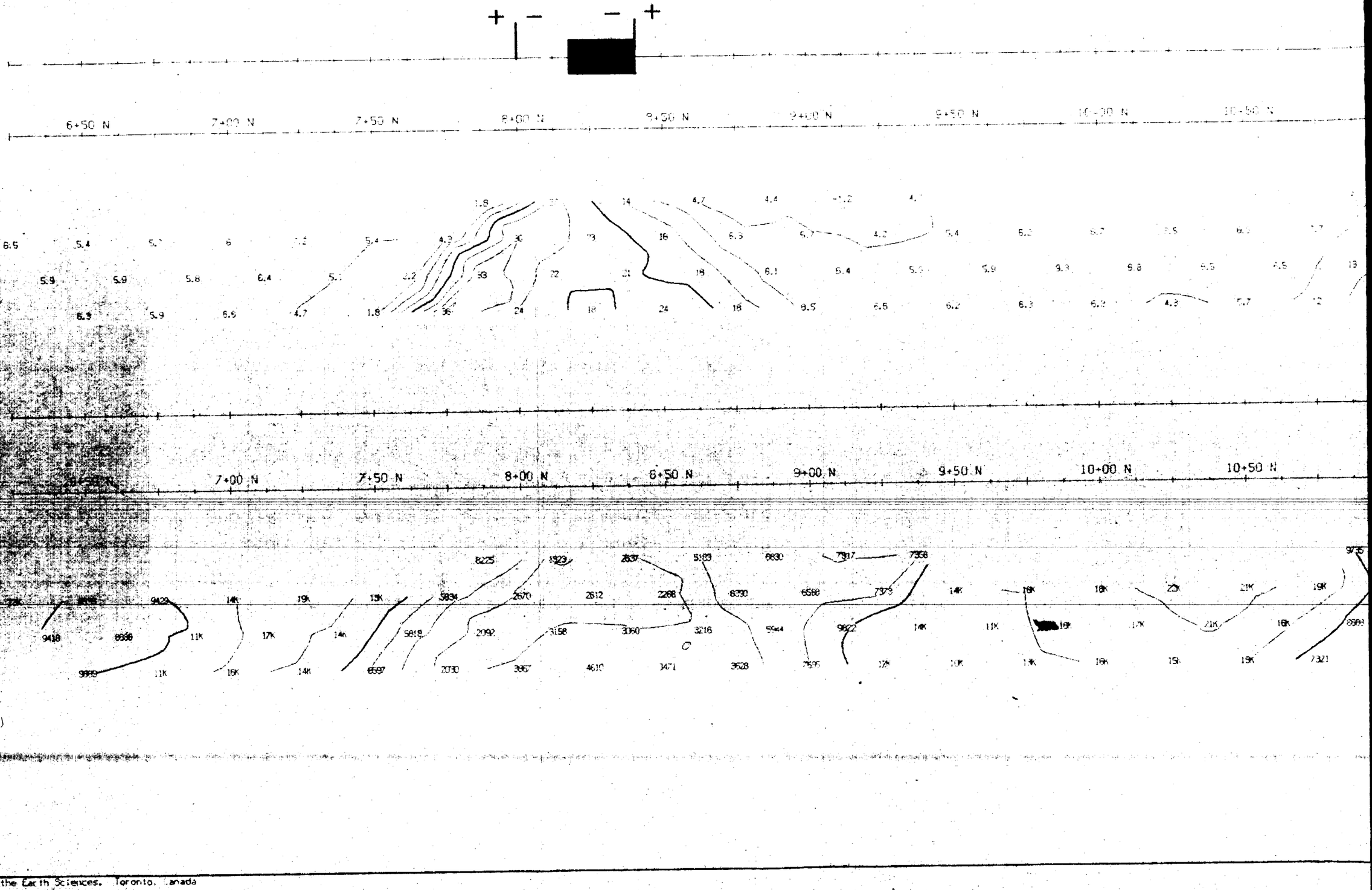
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- ❑ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

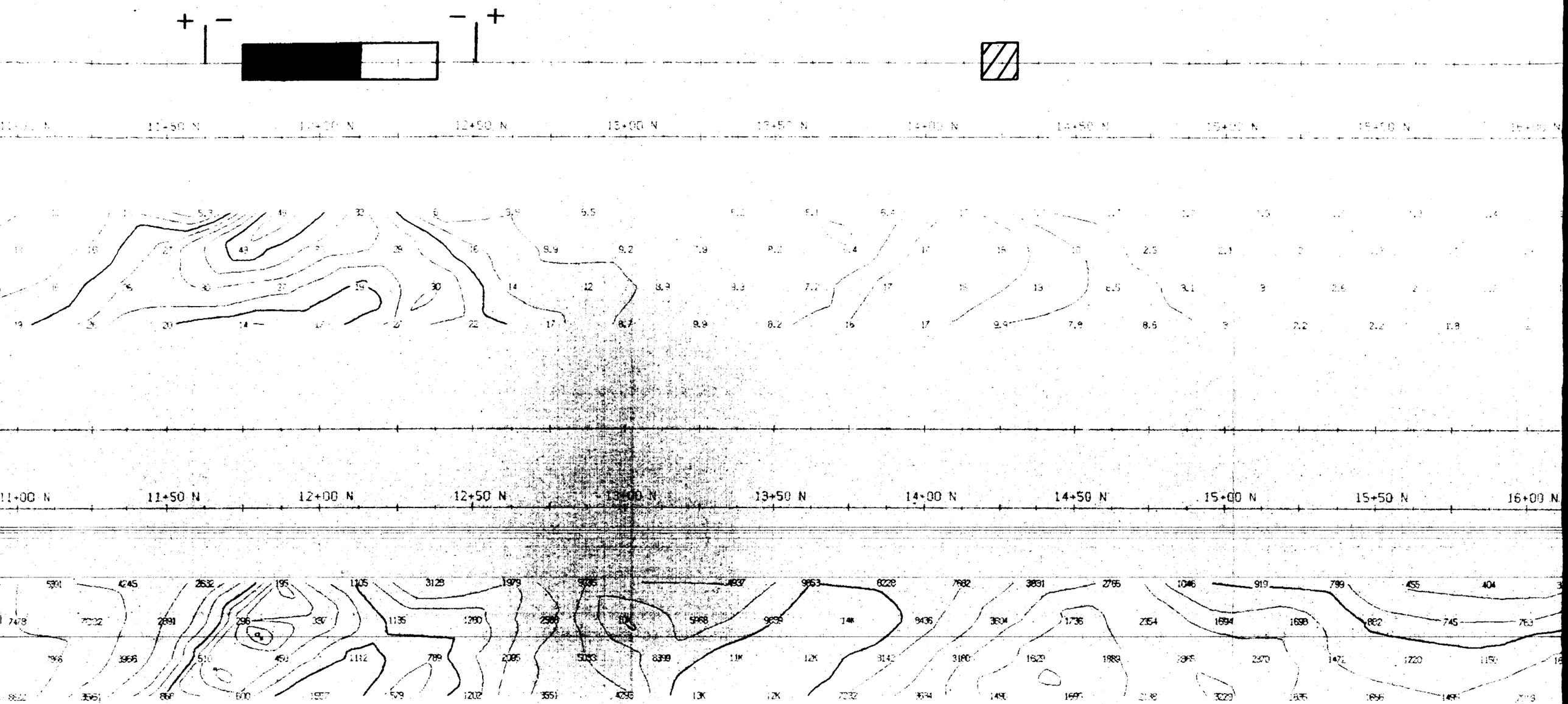
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

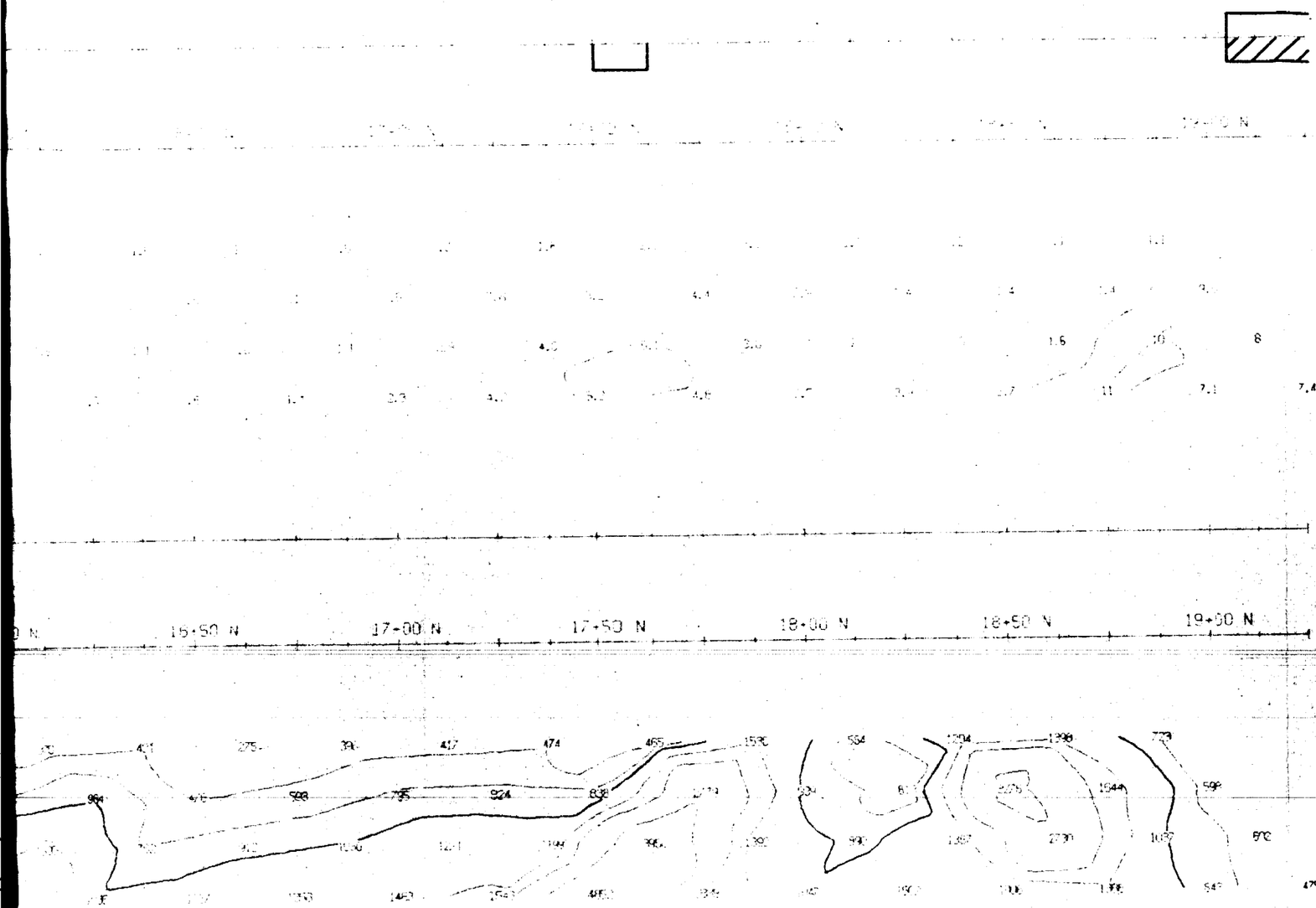
For: GLEN AUDEN-GOLDROCK J.V.

Title: Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 7,8 1988	N.T.S. :
Interp. by:	Job # M-225




+
−
−
+
11+50 N
12+00 N
12+50 N
13+00 N
13+50 N
14+00 N
14+50 N
15+00 N
15+50 N
11+00 N
11+50 N
12+00 N
12+50 N
13+00 N
13+50 N
14+00 N
14+50 N
15+00 N
15+50 N
16+00 N



6+00 W

Pole-Dipole Array

a = 25 m
n = 1, 2, 3, 4
Plot point

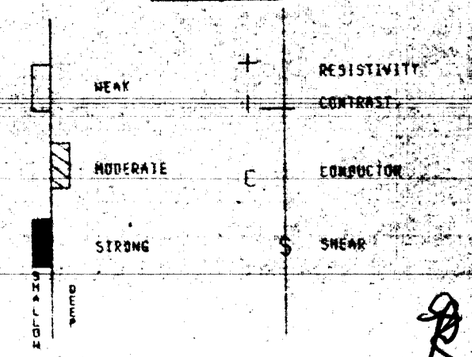
Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: TSQ-3
Operator: J.P. Rothfischer

I.P. ANOMALIES

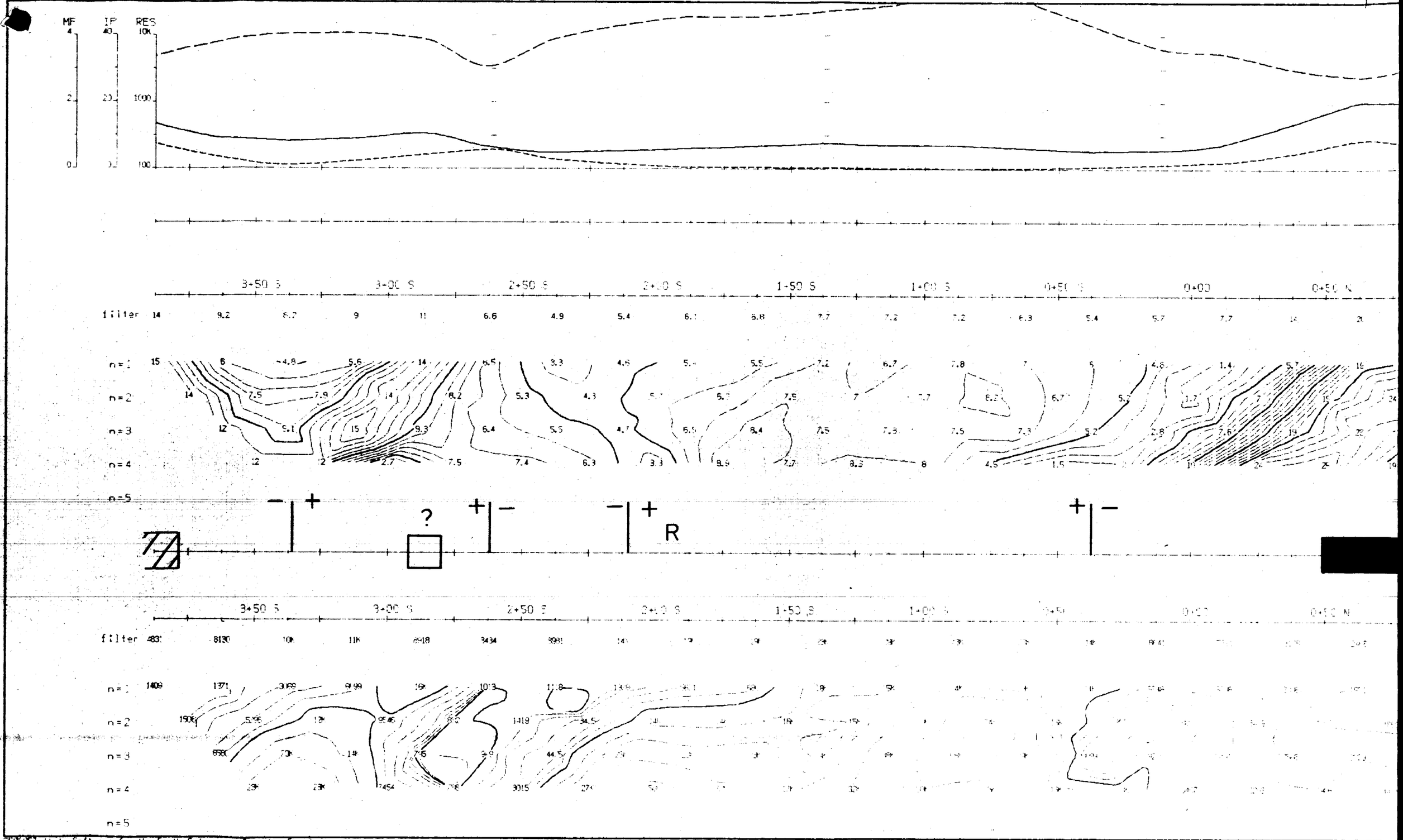


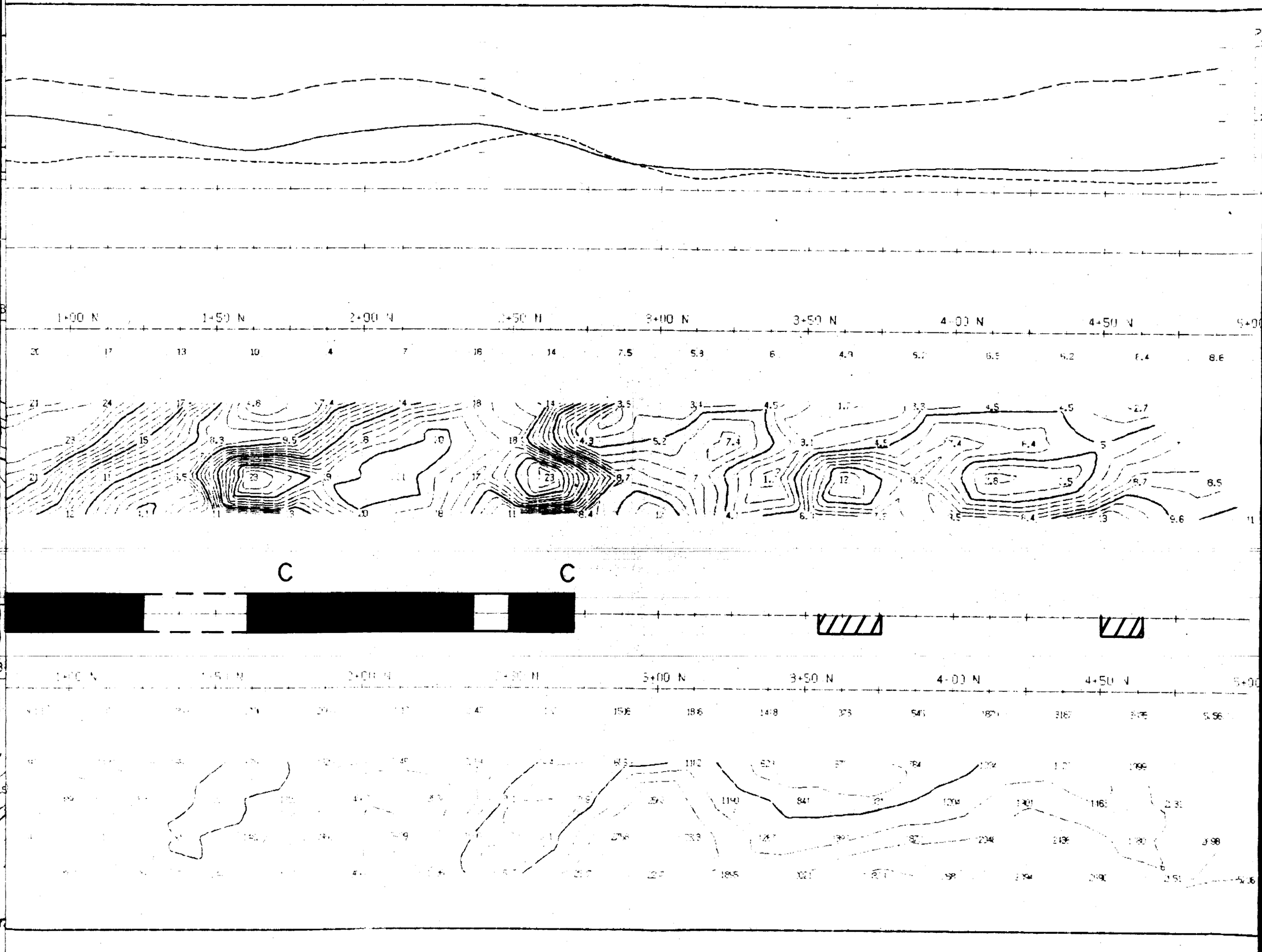
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

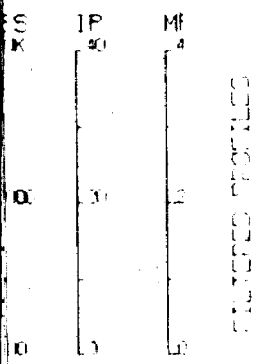
for GLEN AUDEN / GOLDROCK

Title **Time Domain**
INDUCED POLARIZATION SURVEY
CHUBB LAKE
Reeves Twp., Ont.

Date: NOV 22, 1988	Scale: 1 : 1250
Interp. by: J. P. R.	Job #


MF
IP
RES
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
filter
n=1
n=2
n=3
n=4
n=5
?
R


1+00 N
1+50 N
2+00 N
3+00 N
3+50 N
4+00 N
4+50 N
C
C



TOPOGRAPHY

filter

CHARGEABILITY
MSEC

n = 1

n = 2

n = 3

n = 4

n = 5

INTERPRETATION

filter

RESISTIVITY
Ohm-m

n = 1

n = 2

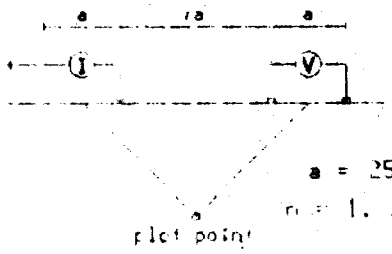
n = 3

n = 4

n = 5

6+00W

Pole-Dipole Array



Filtered Profiles

		filter
Resistivity	————	*
Chargeability	————	* *
Metal Factor	- - - - - - - -	* * *
		* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: E. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

□ Well defined increase in polarization without marked resistivity decrease.

◫ Poorly defined polarization increase with no resistivity signature.

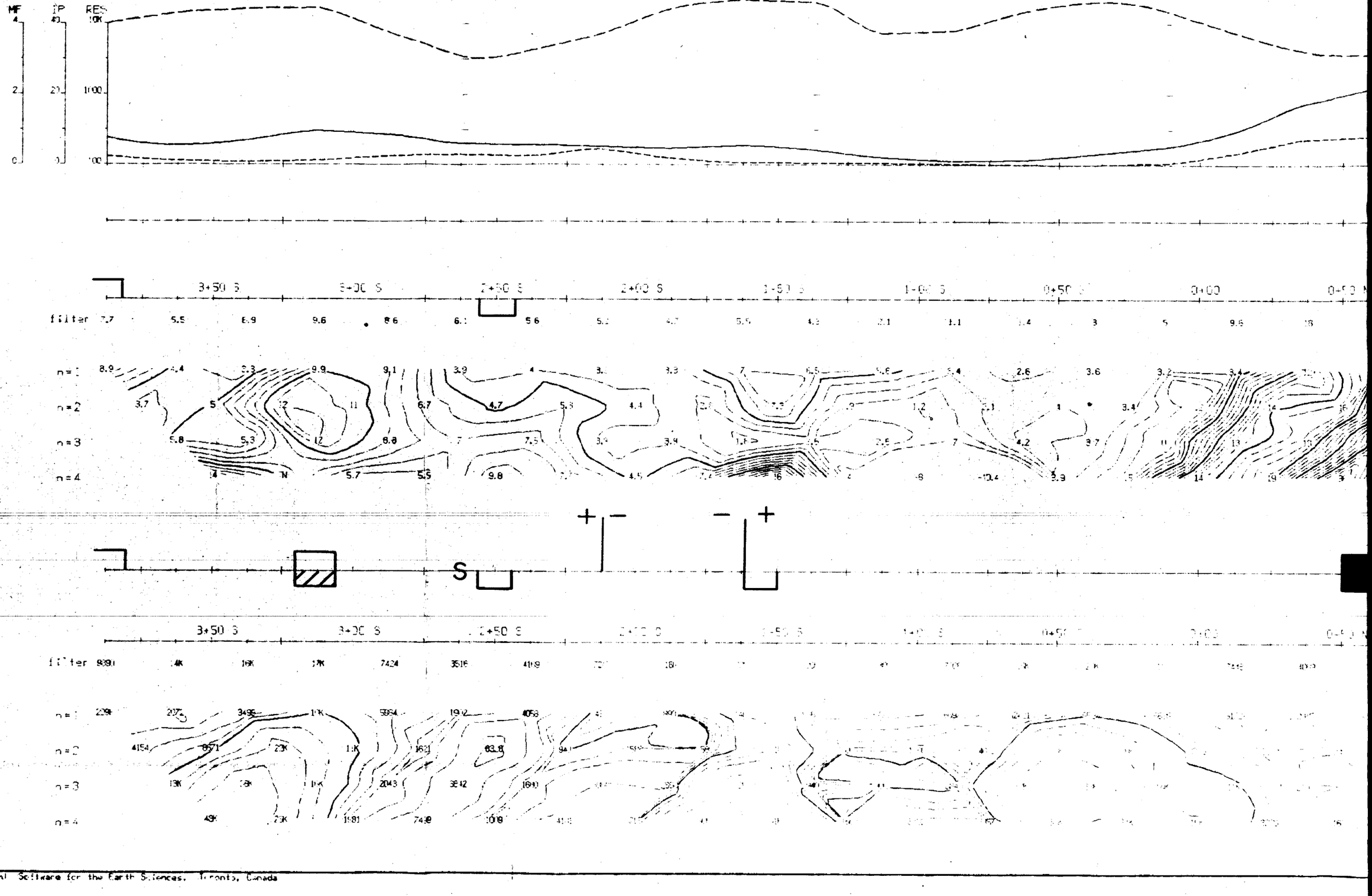
▼ Low resistivity feature.

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

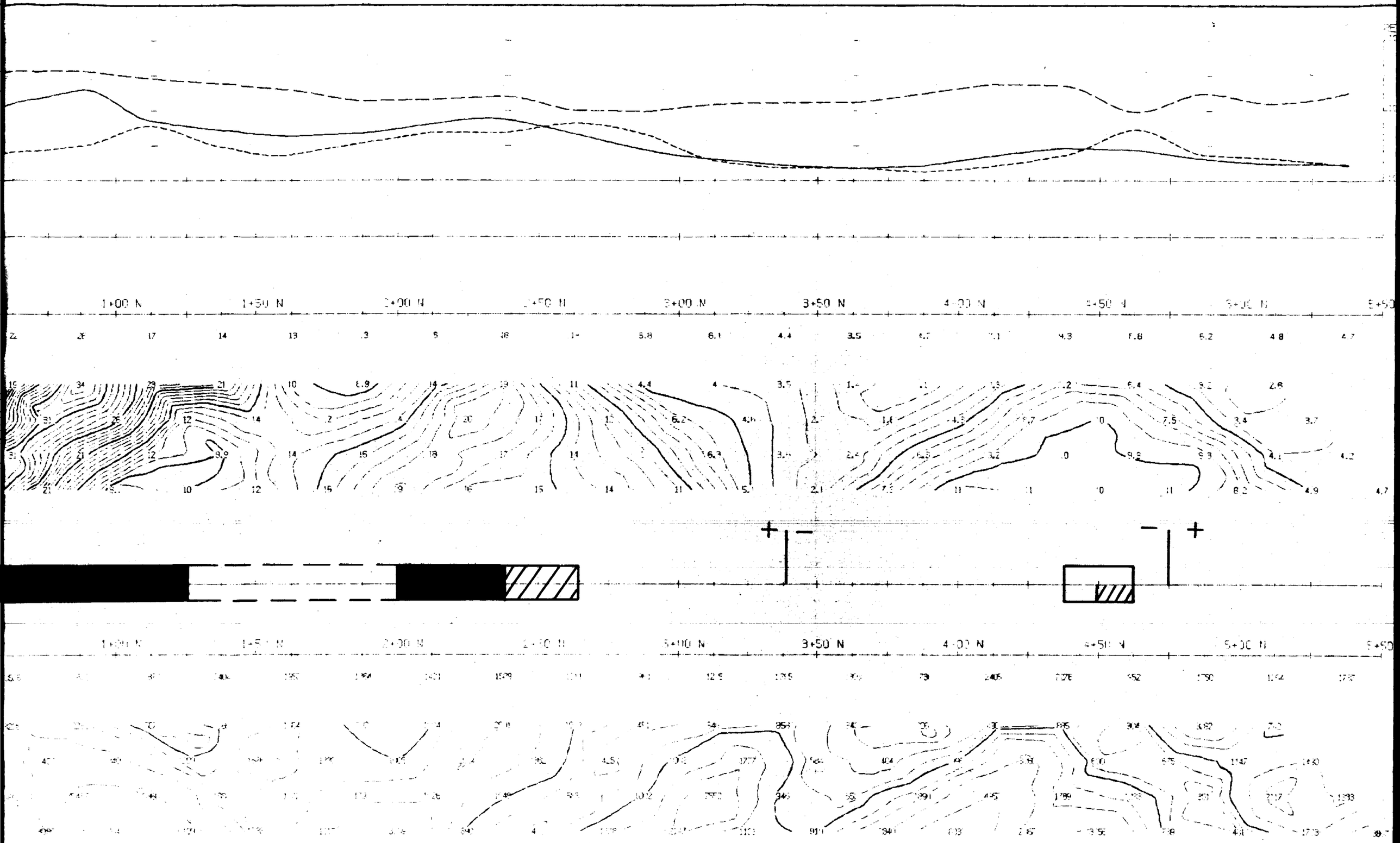
for: GLEN AUDEN-GOLDROCK J.V.

Title: **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 8,9 1988	N.T.S.:
Interp. by:	Job # M-223



GEOSOFT Util Software for the Earth Sciences, Toronto, Canada


1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4+00 N
4+50 N
5+00 N
5+50
+
−
−
+

IF MF

FILTERED PROFILES

TOPOGRAPHY

N

filter

CHARGEABILITY
(MSEC)

n = 1

n = 2

n = 3

n = 4

INTERPRETATION

N

filter

RESISTIVITY
(ohm-m)

n = 1

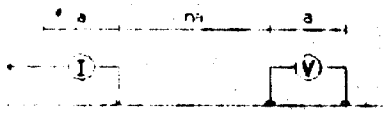
n = 2

n = 3

n = 4

7+00W

Pole-Dipole Array



a = 25 m

n = 1, 2, 3, 4

plot point

Filtered Profiles

		Filter
Resistivity	———	*
Chargeability	———	* *
Metal factor	———	* * *
		* * * *

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

Instrument: IPP-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

□ Well defined increase in polarization without marked resistivity decrease.

C Poorly defined polarization increase with no resistivity signature.

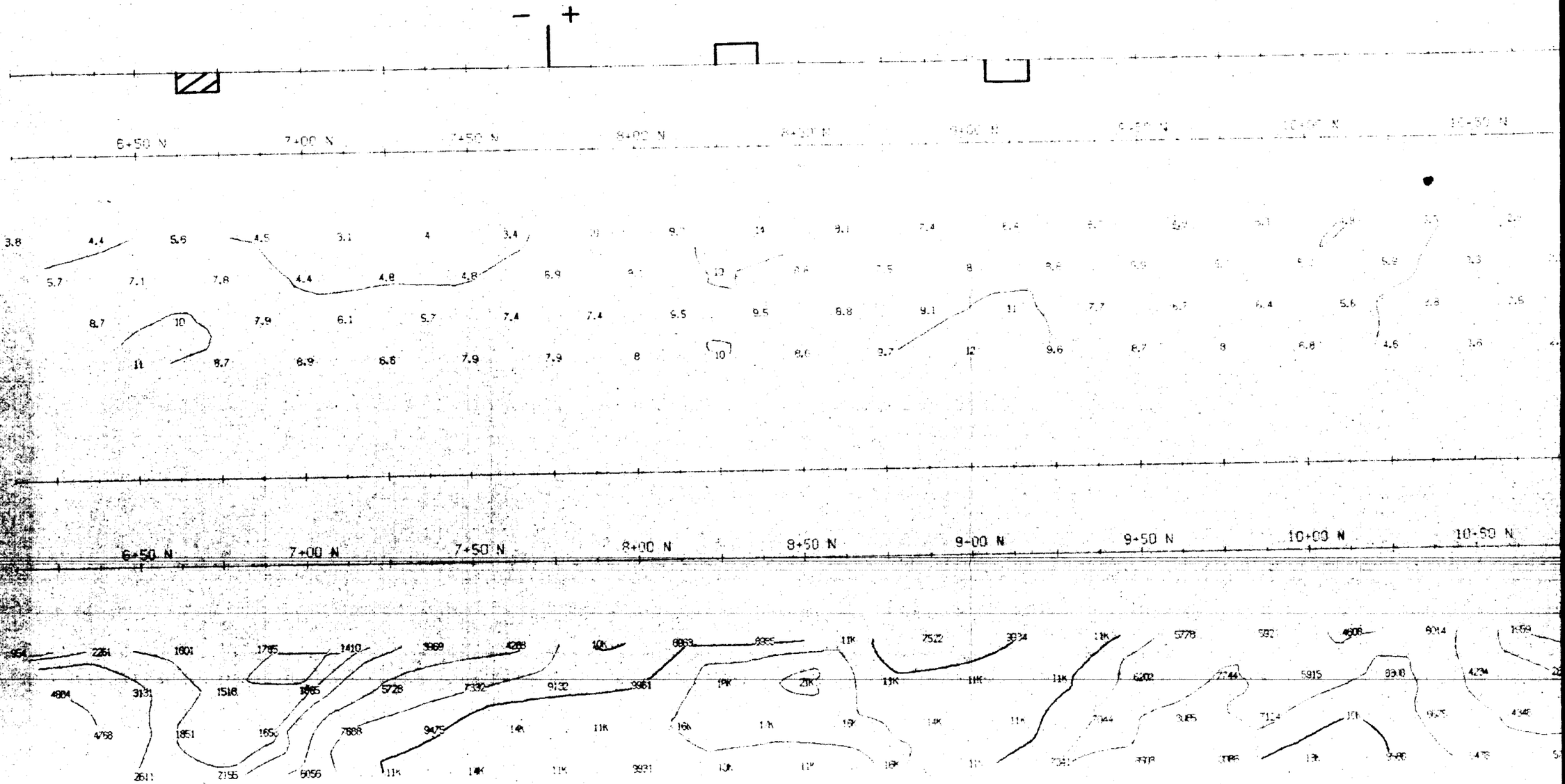
▼ Low resistivity feature.

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title: **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 9,10 1988	N.T.S.:
Interp. by:	Job # M-223

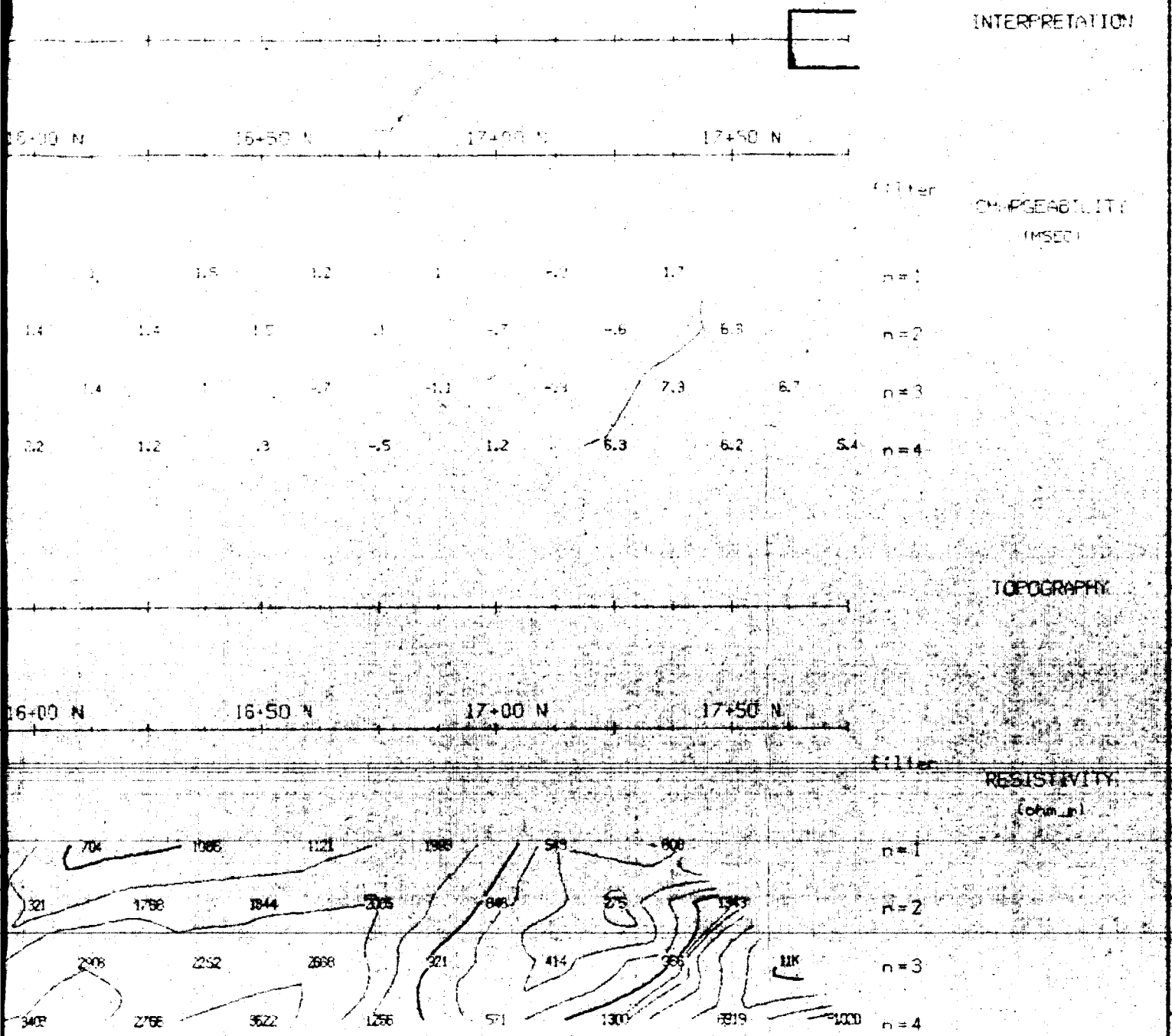

-
+
6+50 N
7+00 N
7+50 N
8+00 N
8+50 N
9+00 N
9+50 N
10+00 N
10+50 N
filter
n=1
n=2
n=3
n=4

R

+ −

11+00 N | 11+50 N | 12+00 N | 12+50 N | 13+00 N | 13+50 N | 14+00 N | 14+50 N | 15+00 N | 15+50 N

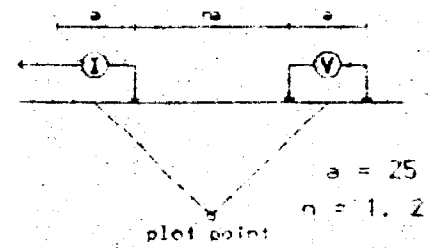
11+00 N | 11+50 N | 12+00 N | 12+50 N | 13+00 N | 13+50 N | 14+00 N | 14+50 N | 15+00 N | 15+50 N



INTERPRETATION

8+00 W

Pole-Dipole Array

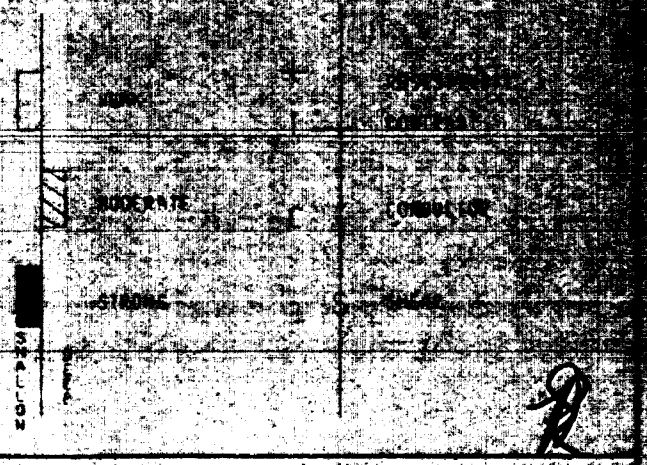


Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: TSQ-3
Operator: J.P., Rotheisher

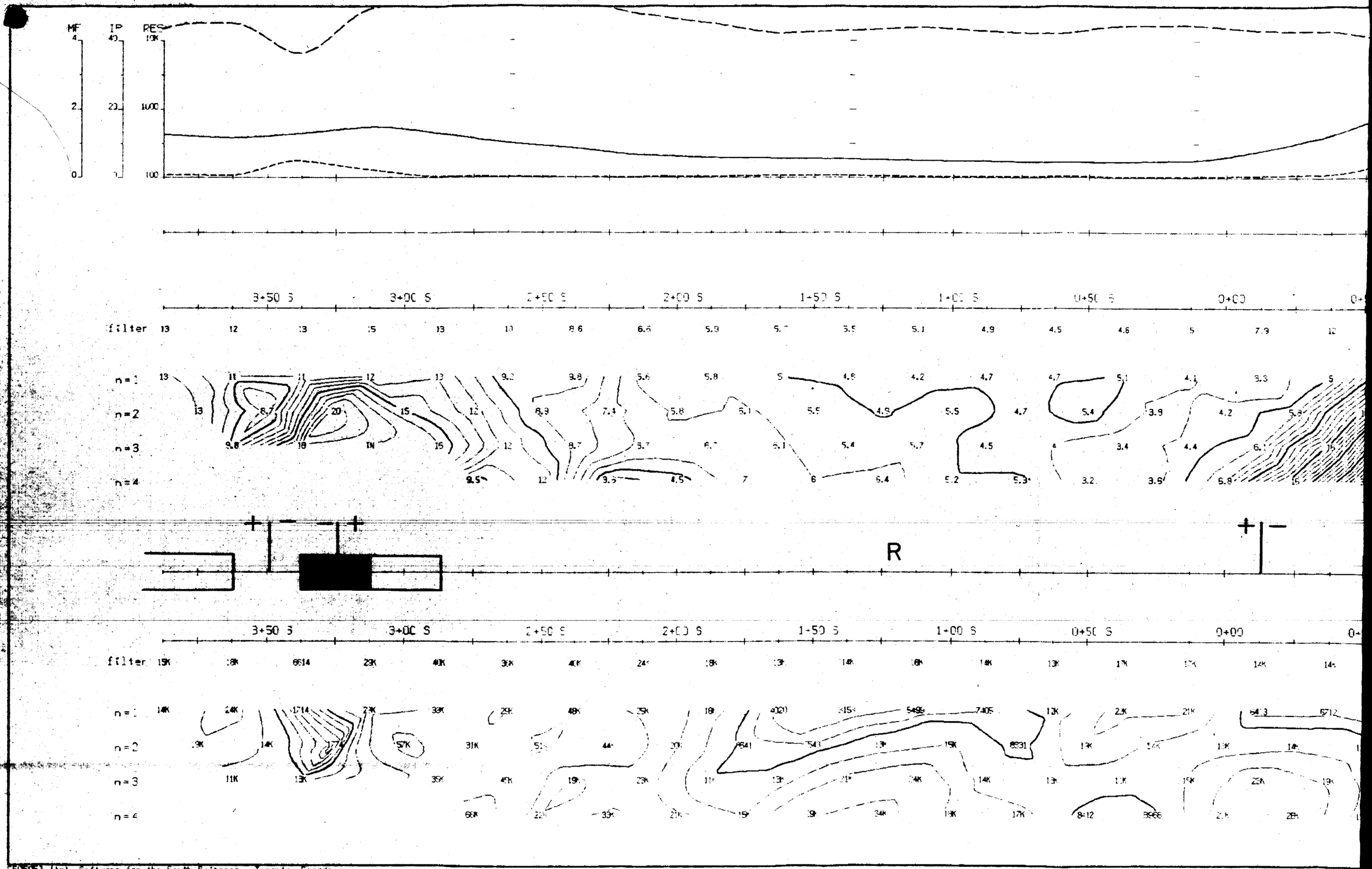


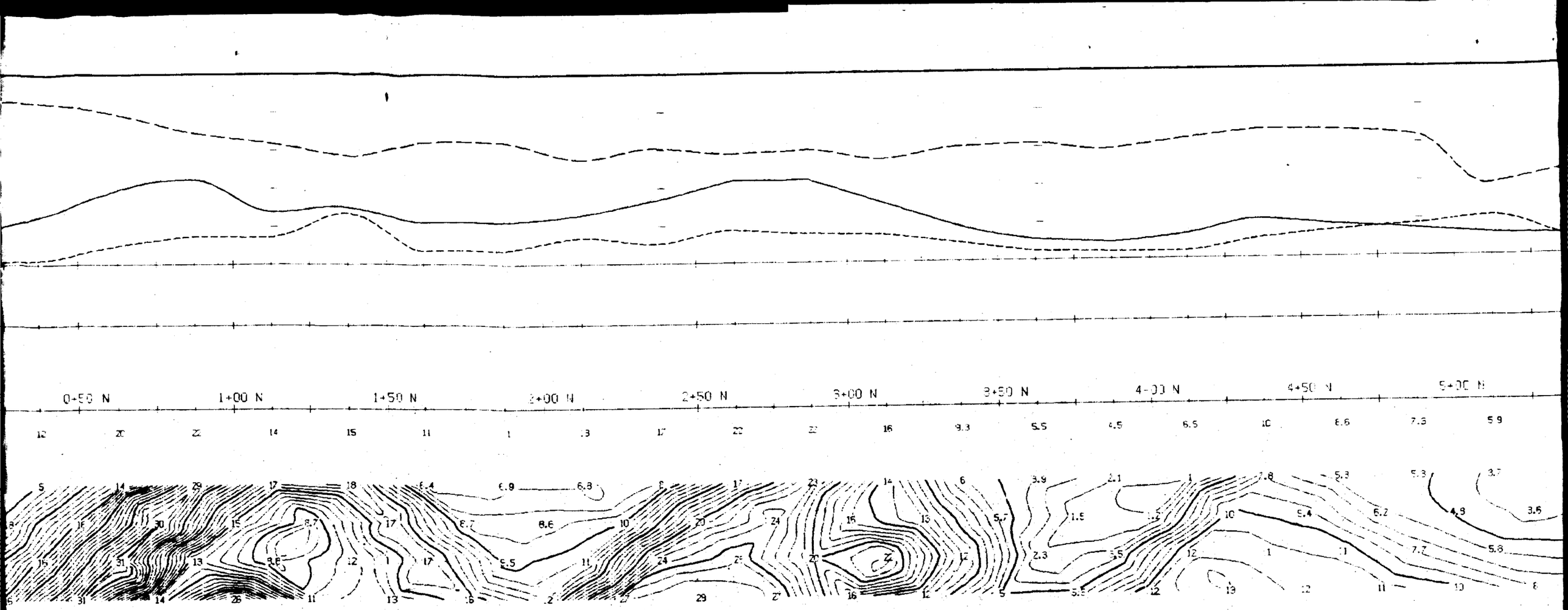
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

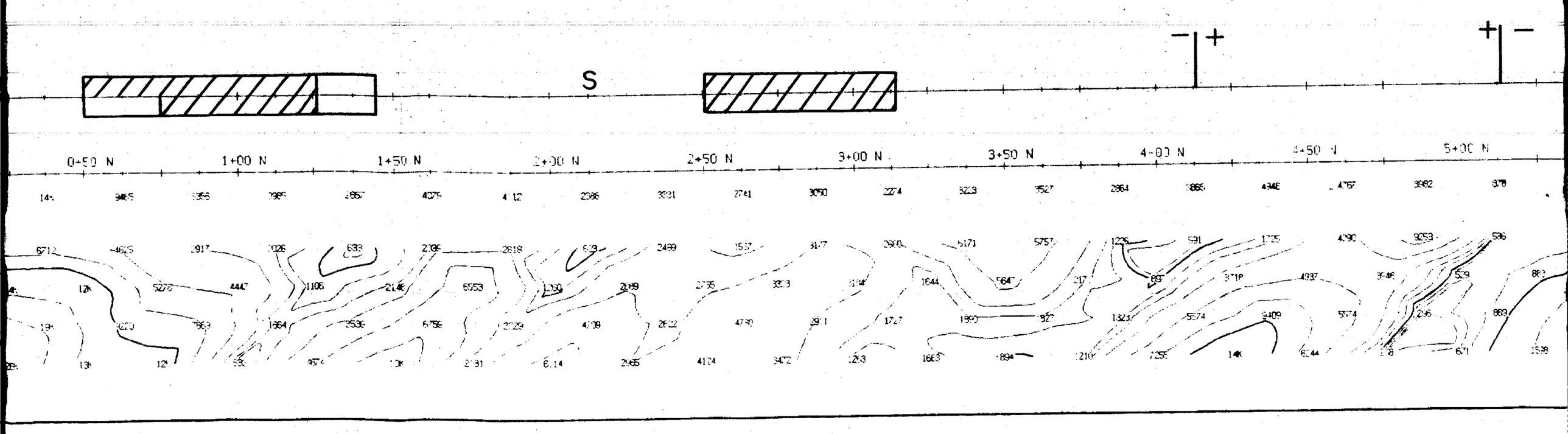
for GLEN AUDEN / GOLDROCK

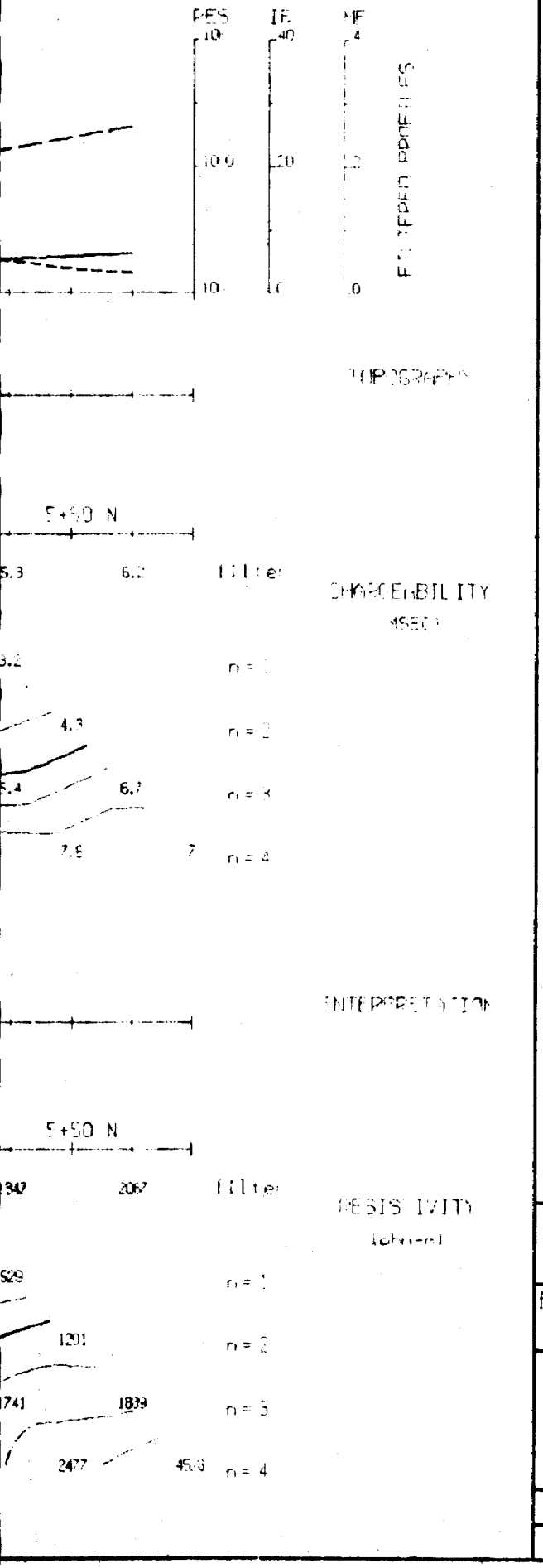
Title: Line Domain
INDUCED POLARIZATION SURVEY
CHUBB LAKE
Peeves Twp., Ont.

Date: NOV 25, 1988	Scale: 1 : 1250
Interp. by: J. P. R.	Job #



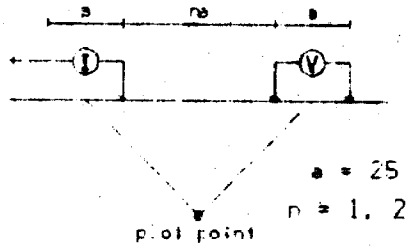

0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4+00 N
4+50 N
5+00 N


S
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3+50 N
4+00 N
4+50 N
5+00 N



8+00W

Pole-Dipole Array



Filtered Profiles

		filter
Resistivity	————	*
Chargeability	————	* *
Metal Factor	- - - - - - - -	* * *
		* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

▣ Well defined increase in polarization without marked resistivity decrease.

□ Poorly defined polarization increase with no resistivity signature.

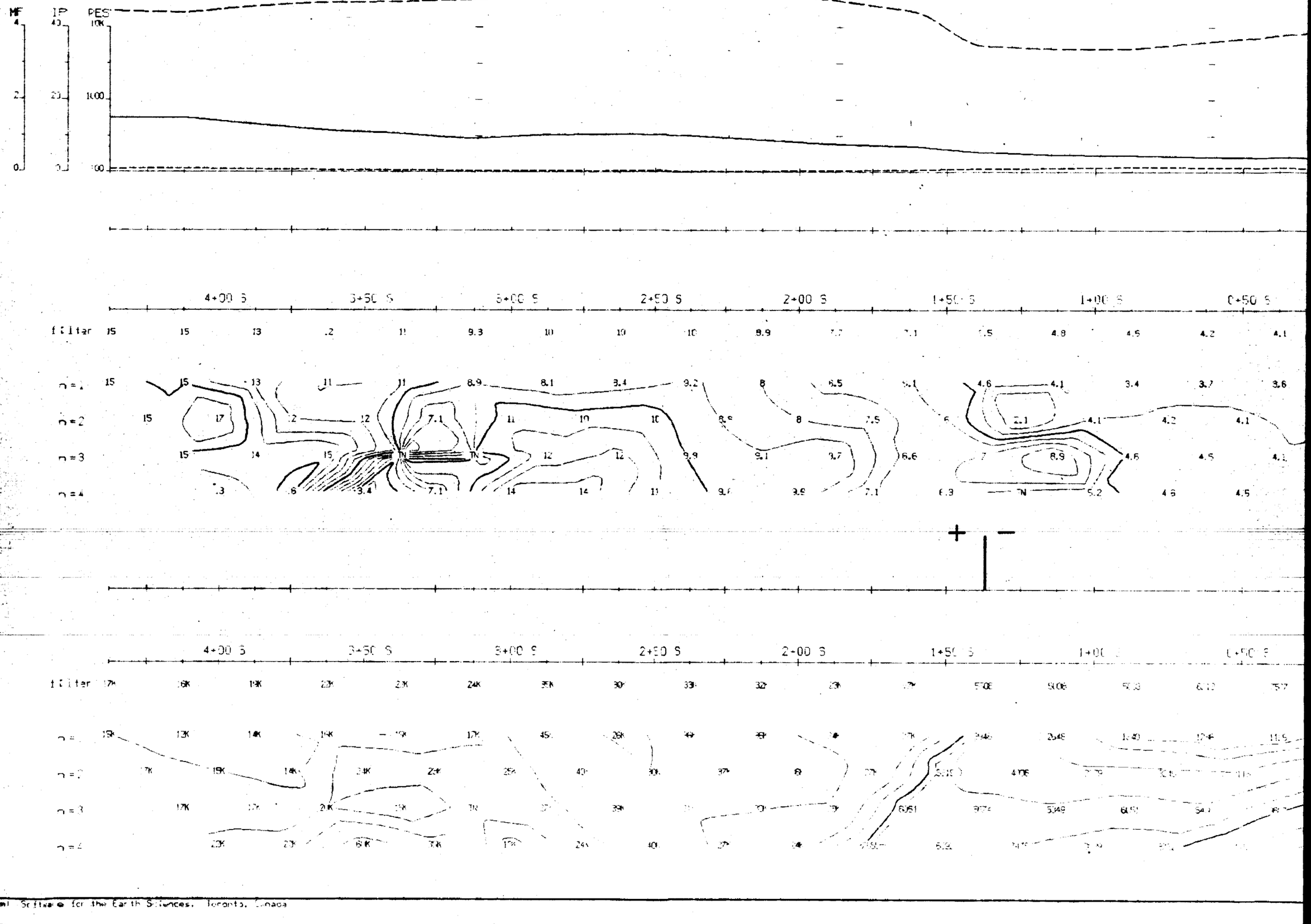
▼ Low resistivity feature.

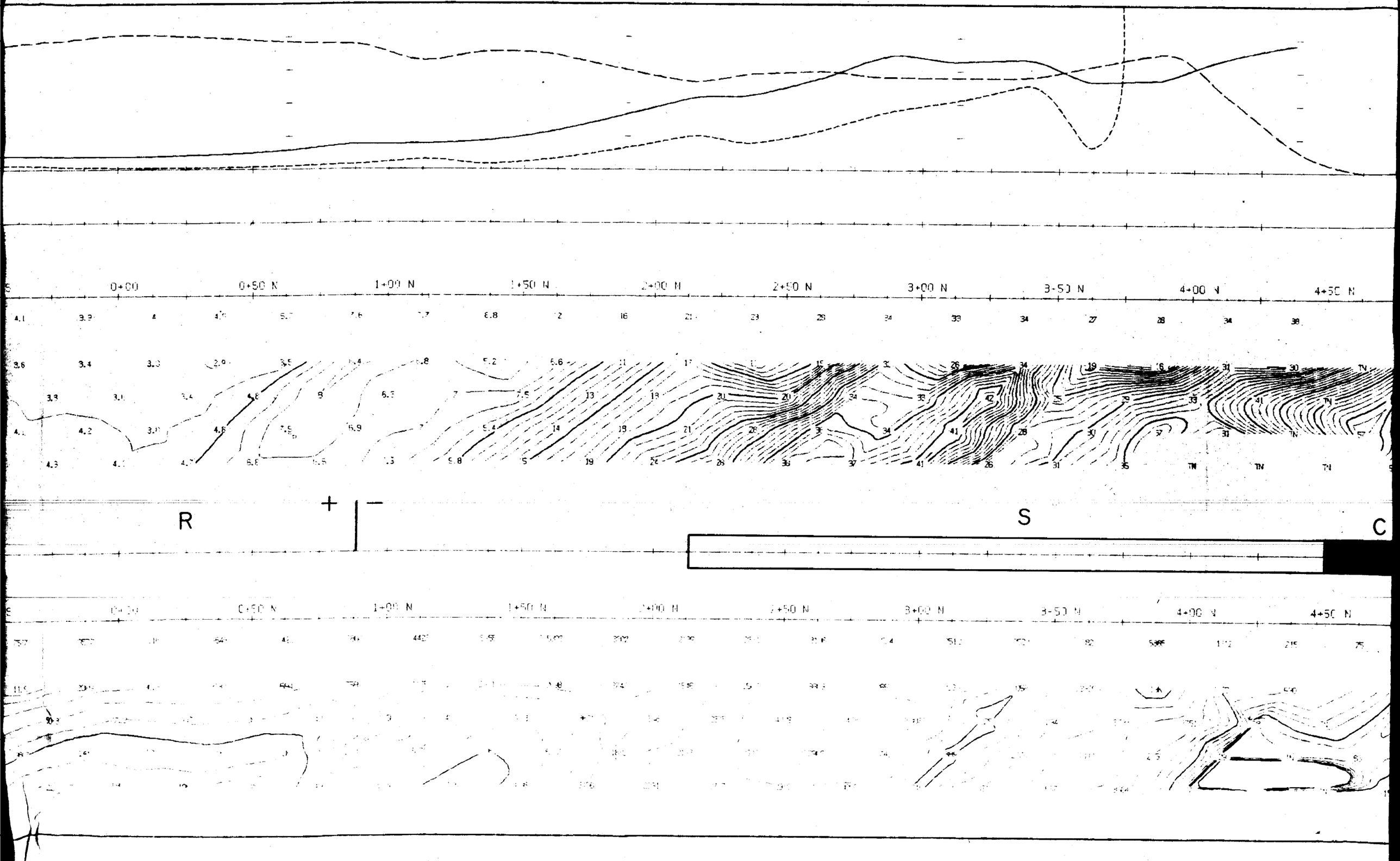
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

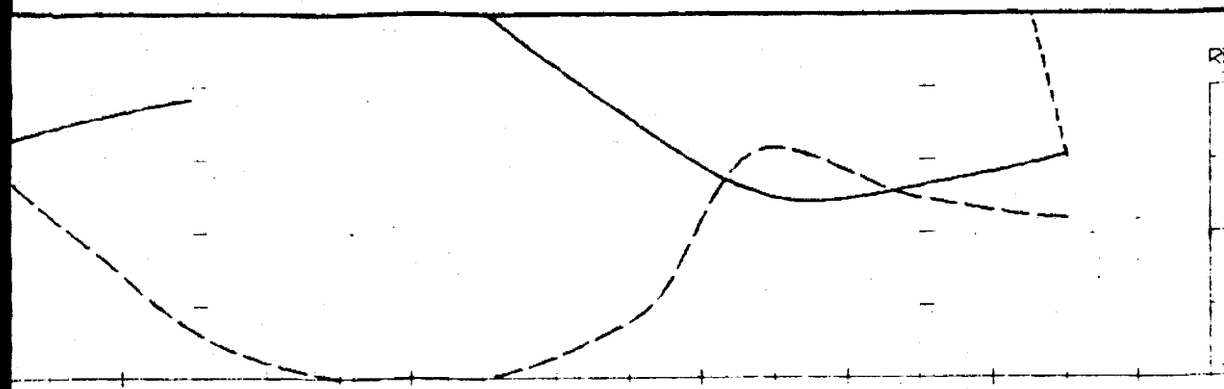
for GLEN AUDEN-GOLDROCK J.V.

Title **Time Domain INDUCED POLARIZATION SURVEY SEWELL TOWNSHIP PROJECT. Sewell Lake, Ont.**

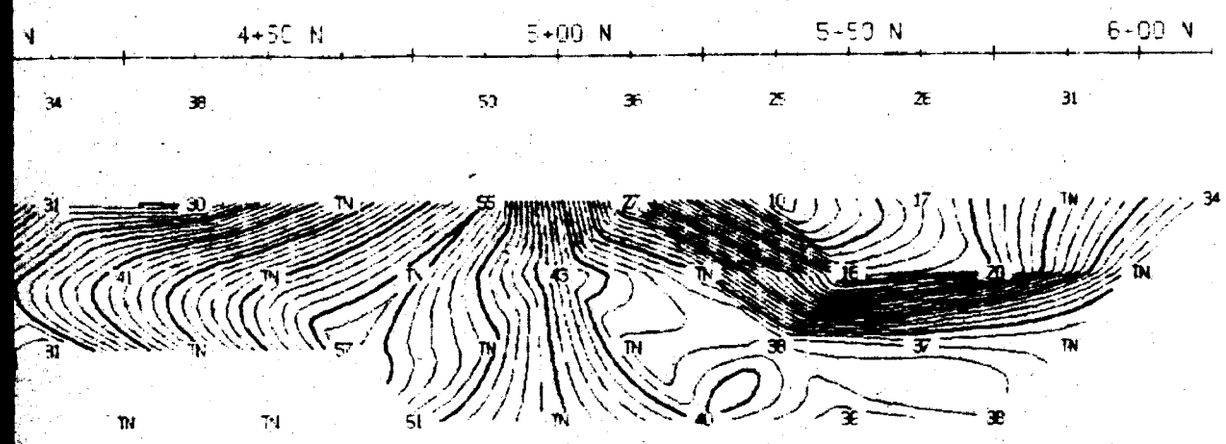
Date: July 10, 1988	N.T.S.:
Interp. by:	Job # M-223



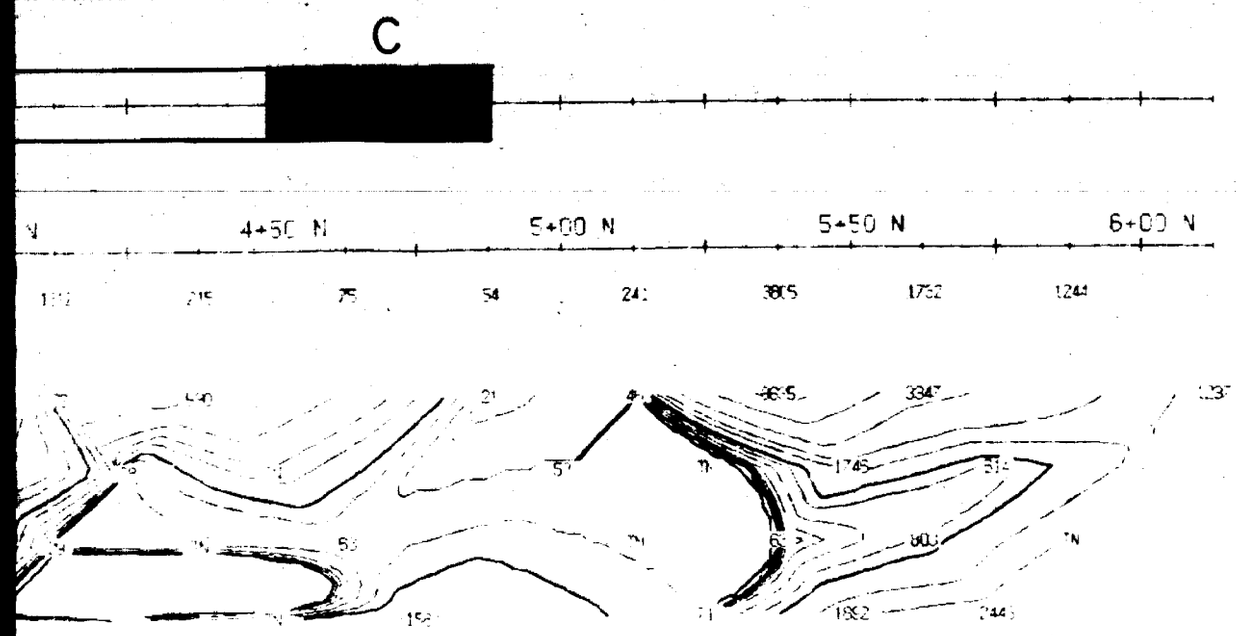

0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3-50 N
4+00 N
4+50 N
R
+
−
S
C



TOPOGRAPHY



CHARGEABILITY
msec

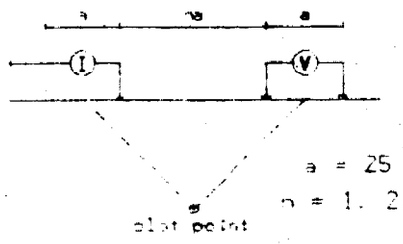


INTERPRETATION

RESISTIVITY
ohm-m

9+00W

Pole-Dipole Array



Filtered Profiles

	filter
Resistivity ————	*
Chargeability ————	* *
Metal Factor - - - - - - - -	* * *
	* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: J. Miles

INTERPRETATION

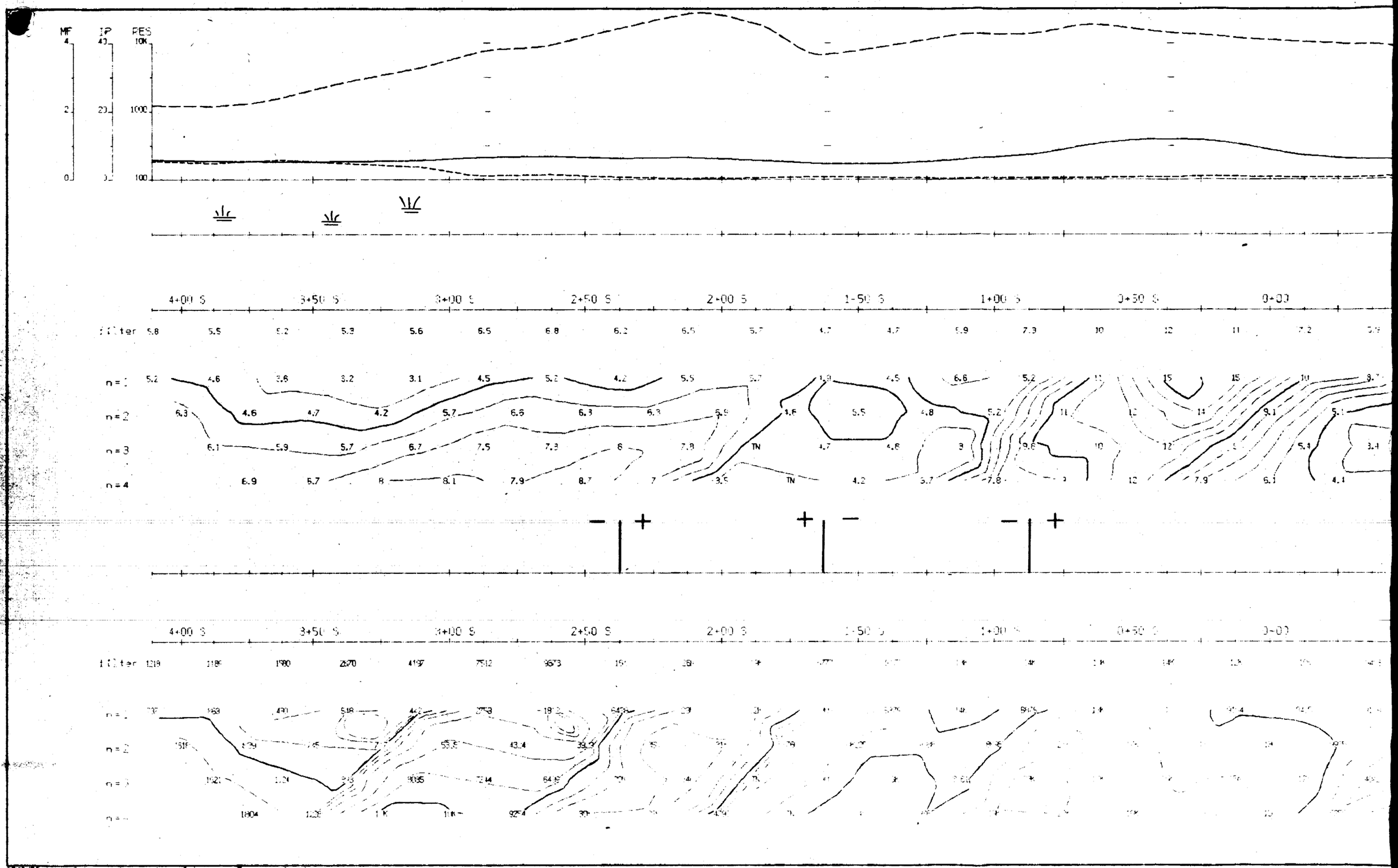
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

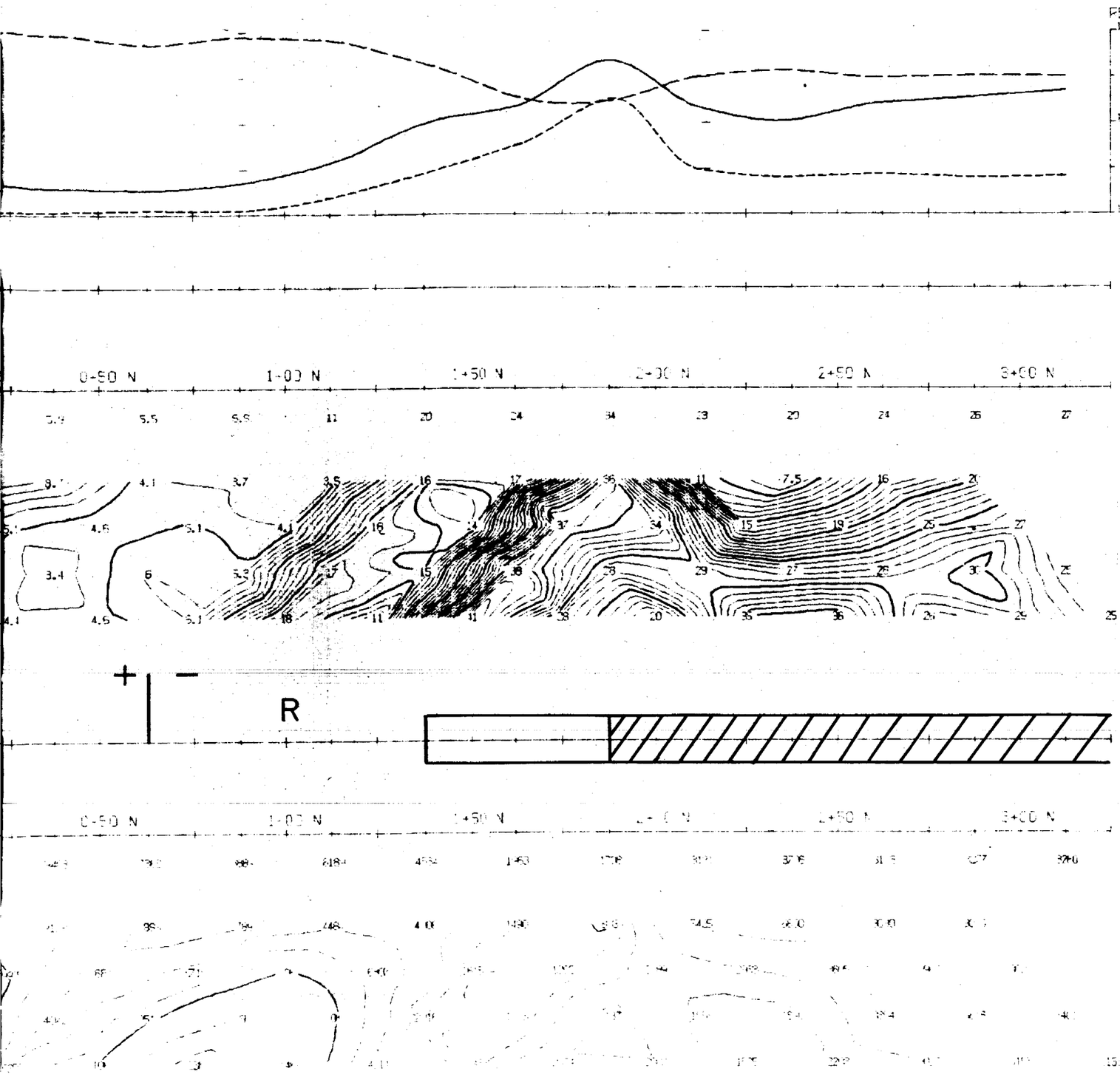
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

GLEN AUDEN-GOLDROCK J.V.

Title **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

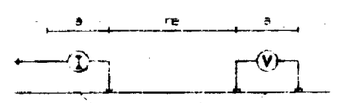
Date: July 12, 1988	N.T.S.:
Interp. by:	Job # M-228





10+00W

Pole-Dipole Array



a = 25 m
n = 1, 2, 3, 4
plot point

Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

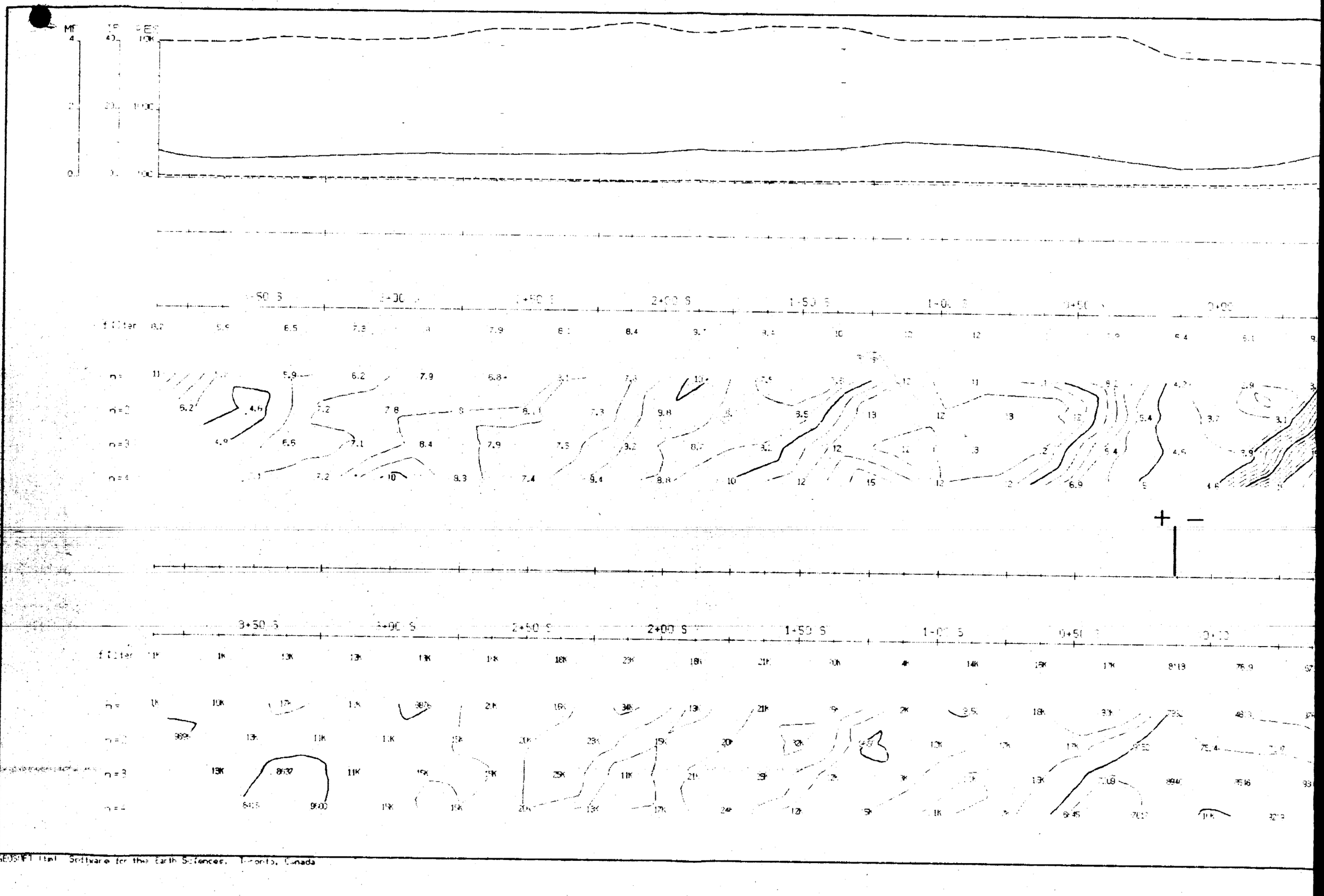
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

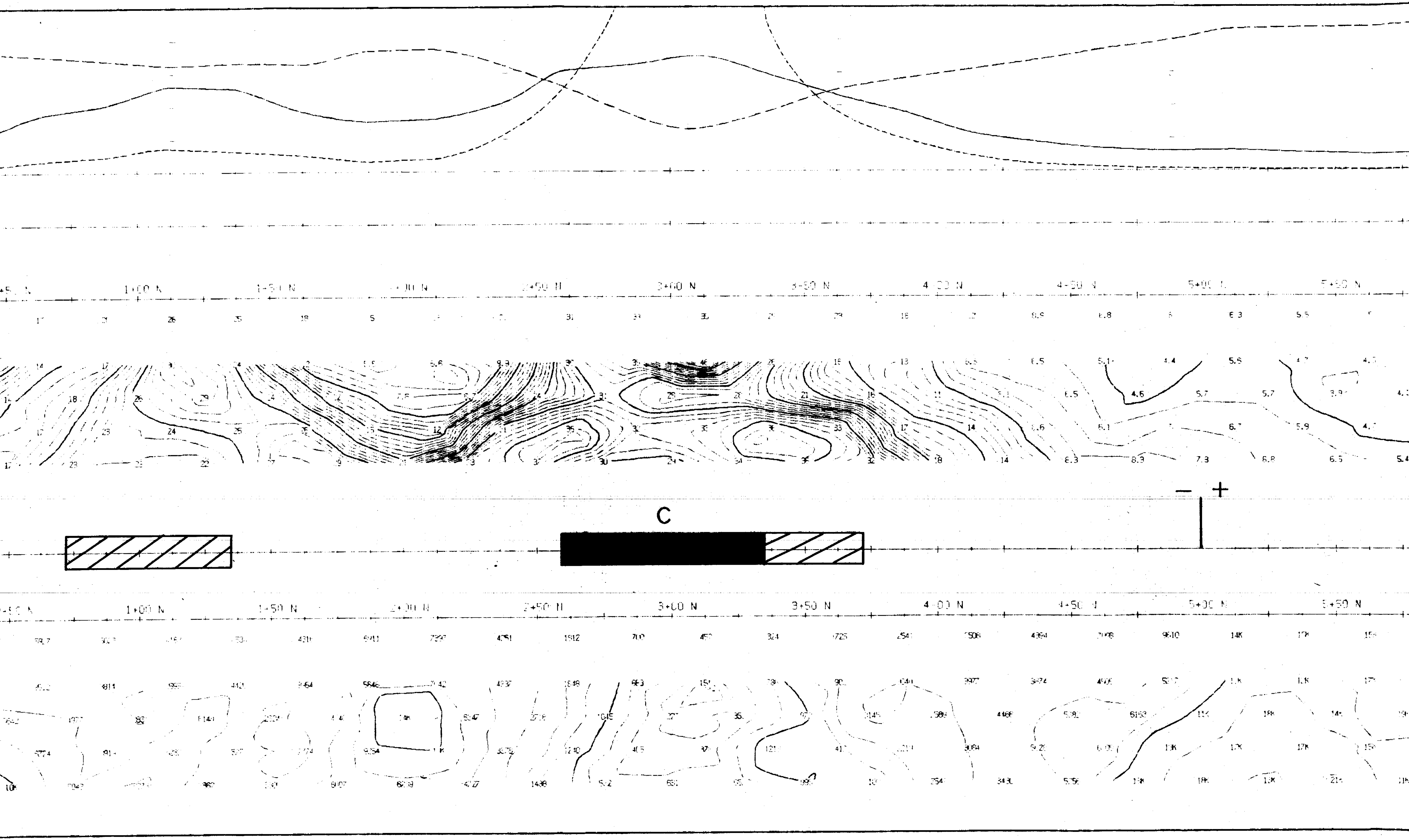
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

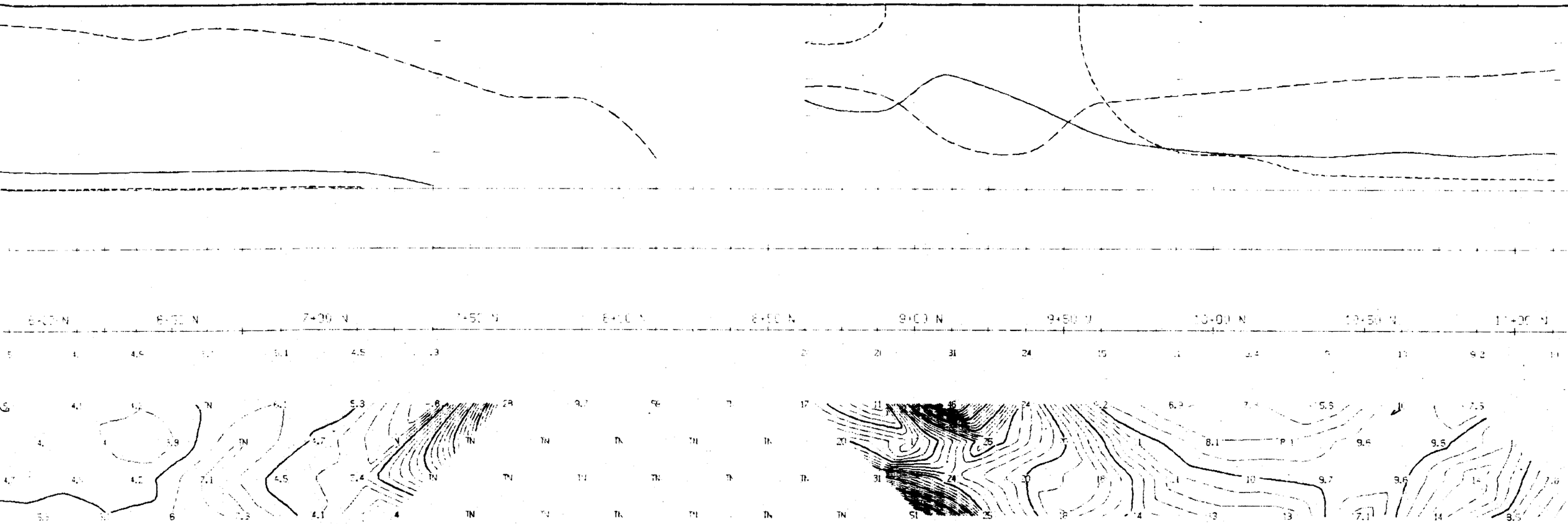
for GLEN AUDEN-GOLDROCK J.V.

Title **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

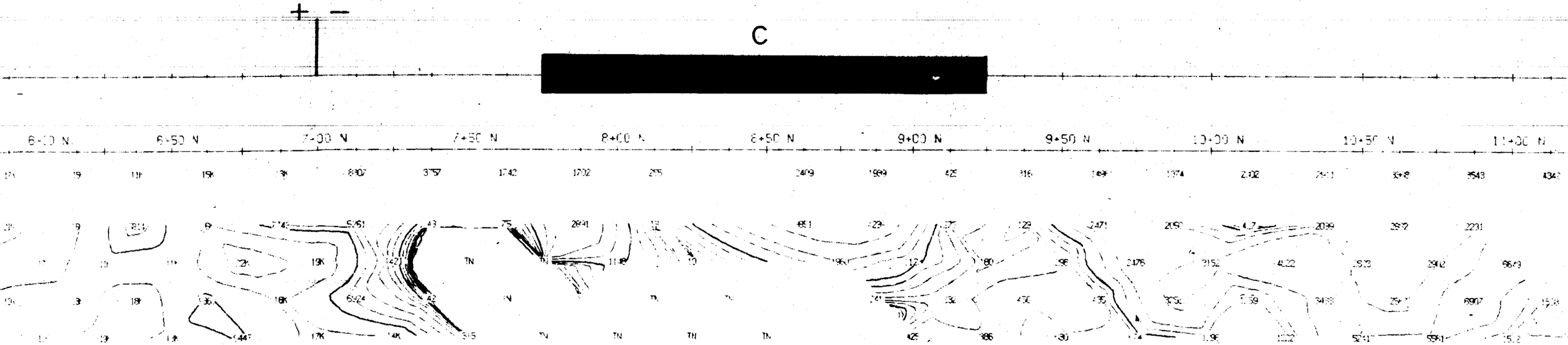
Date: July 13, 1988	N.T.S.:
Interp. by:	Job # M-220





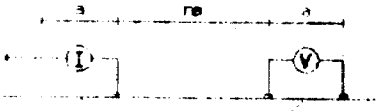

6+00 N
6+50 N
7+00 N
7+50 N
8+00 N
8+50 N
9+00 N
9+50 N
10+00 N
10+50 N
11+00 N

C


6+00 N
6+50 N
7+00 N
7+50 N
8+00 N
8+50 N
9+00 N
9+50 N
10+00 N
10+50 N
11+00 N

12+00W

Pole-Dipole Array



a = 25 m

n = 1, 2, 3, 4

plot point

Filtered Profiles

		filter
Resistivity	———	*
Chargeability	———	* *
Metal factor	- - - - - - -	* * *
		* * * *

Depth Levels: 1, 1.5, 2, 3, 5, 7.5, 10,...

Instrument: IPR-11
Transmitter: IPT-1
Operator: J. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

◘ Well defined increase in polarization without marked resistivity decrease.

□ Poorly defined polarization increase with no resistivity signature.

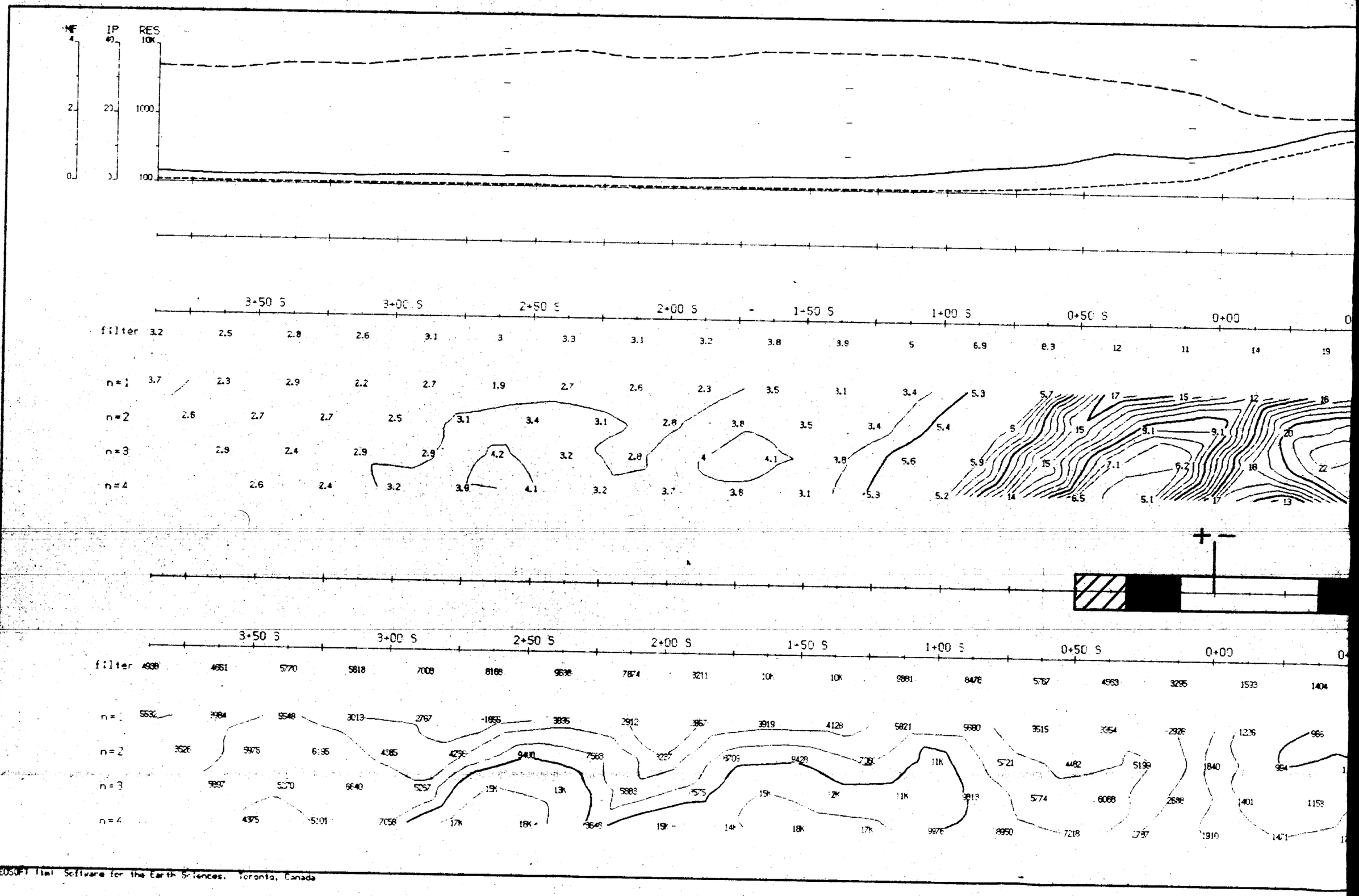
▼ Low resistivity feature.

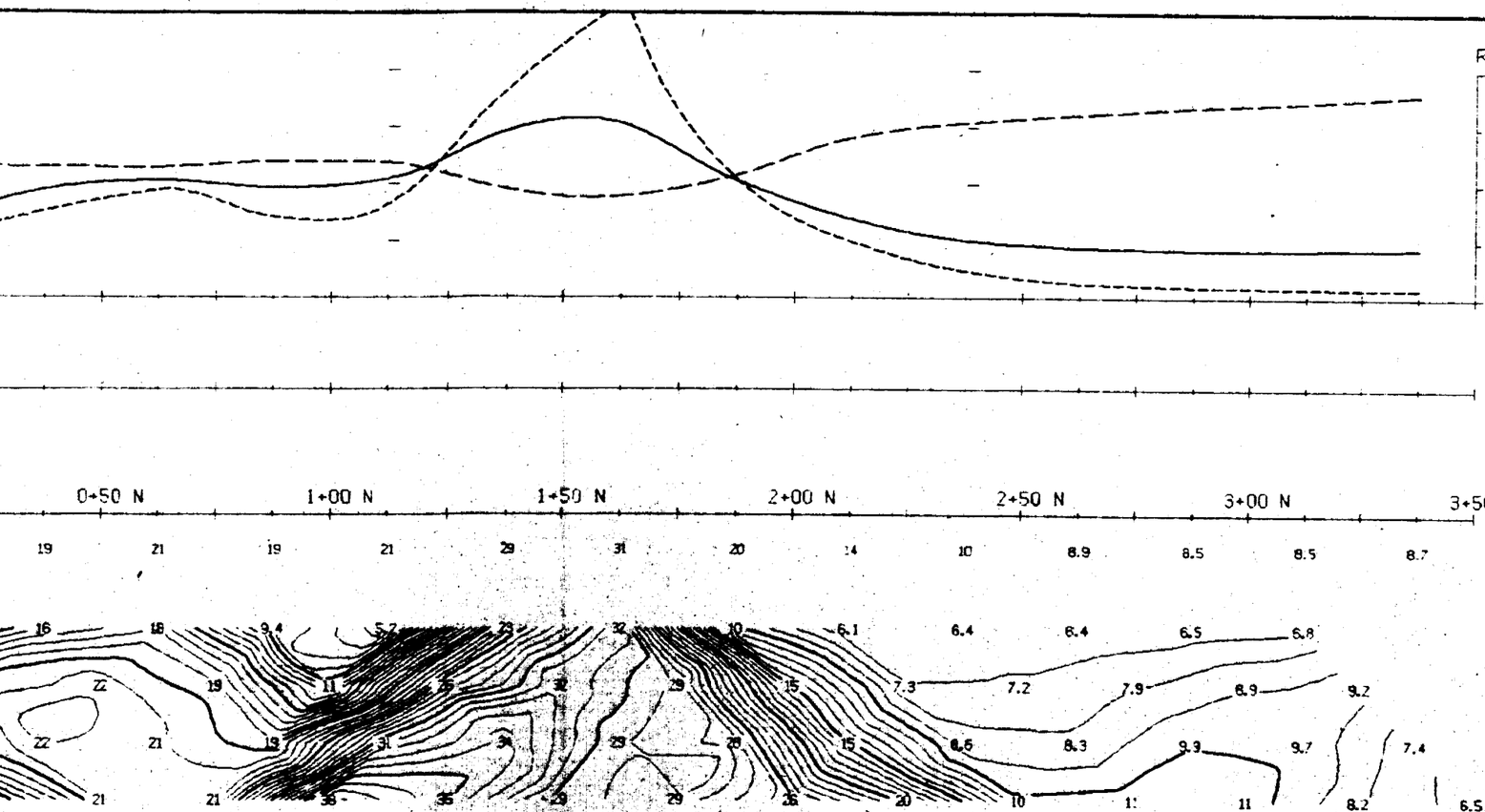
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

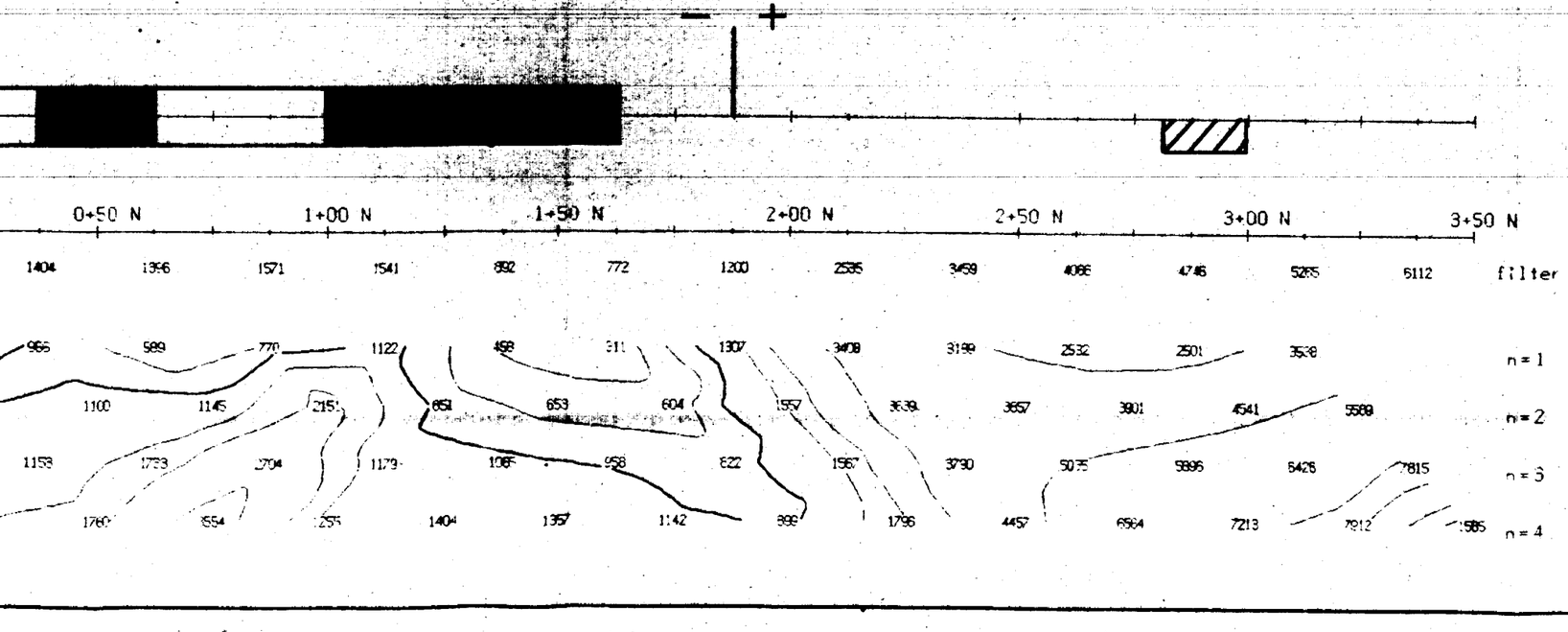
for GLEN AUDEN-GOLDROCK J.V.

title **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 13,14 1986	N.T.S.:
Interp. by:	Job # M-223

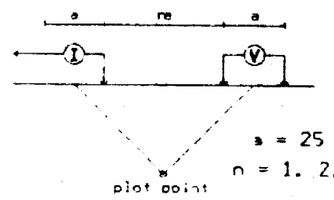






0+00E

Pole-Dipole Array



a = 25 m
n = 1, 2, 3, 4

Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

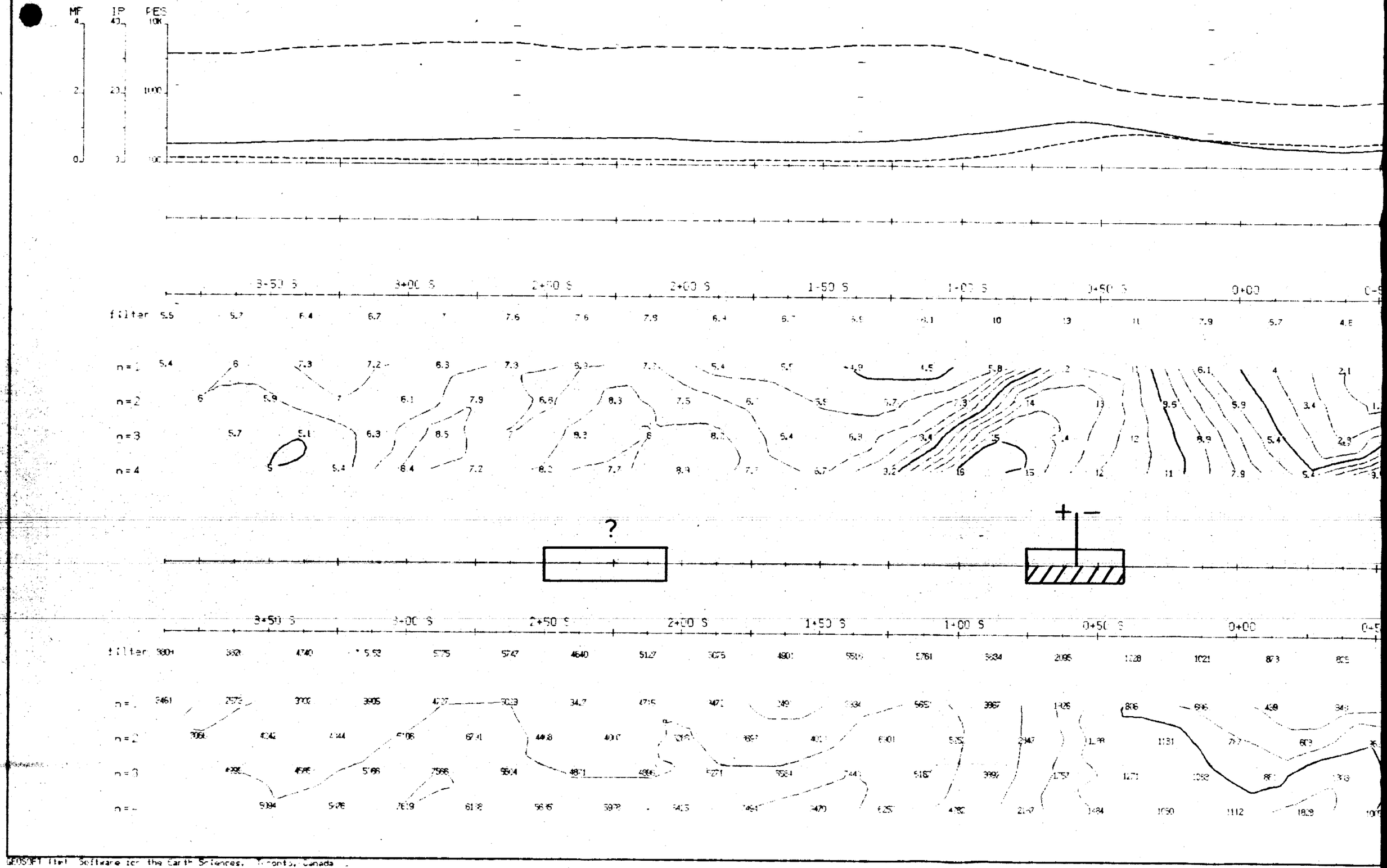
- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- Low resistivity feature.

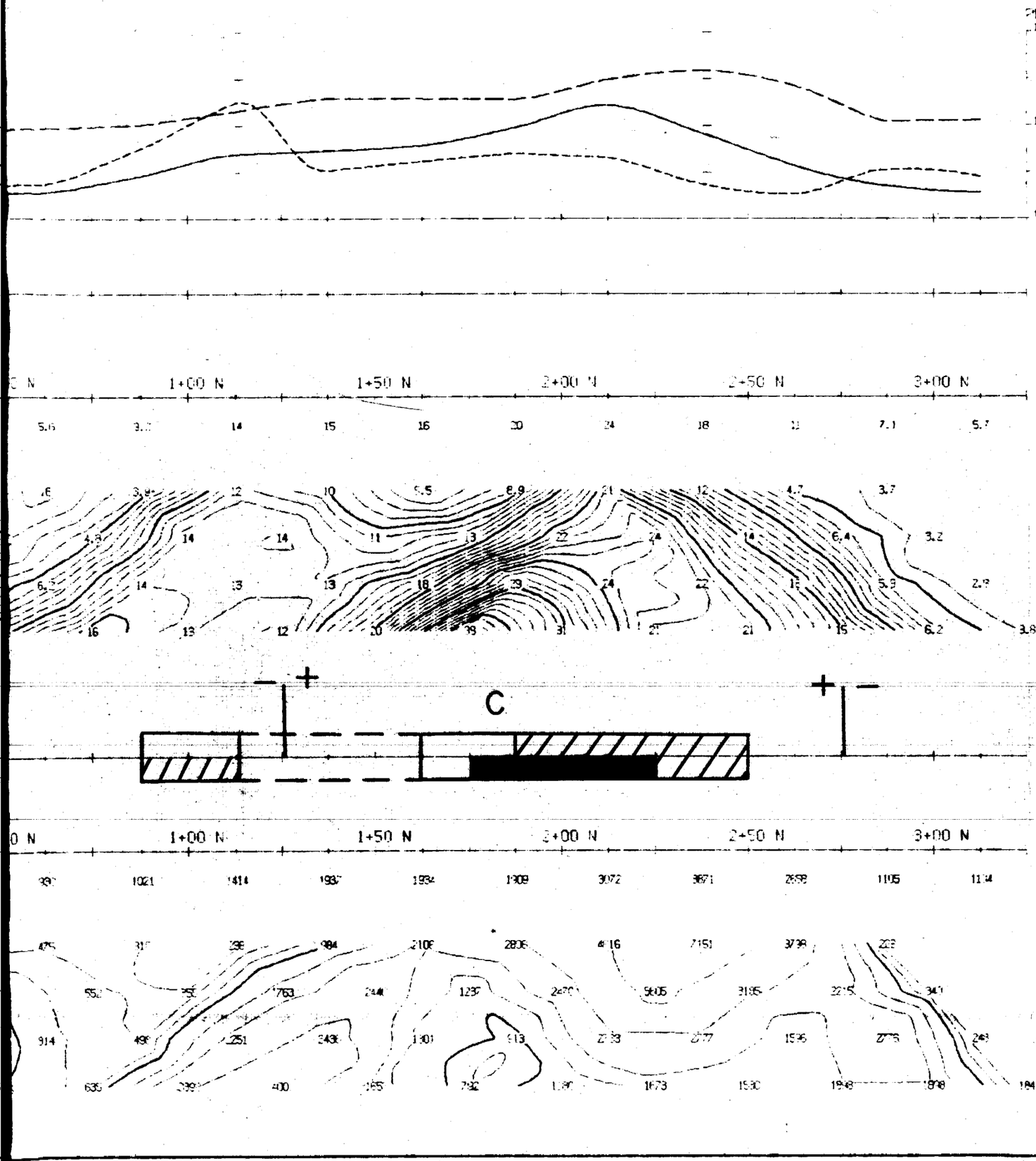
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title: Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

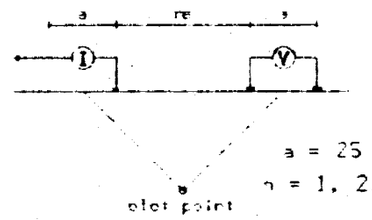
Date: July 2 1988	N.T.S.:
Interp. by:	Job # M-223





2+00E

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: O. Miles

INTERPRETATION

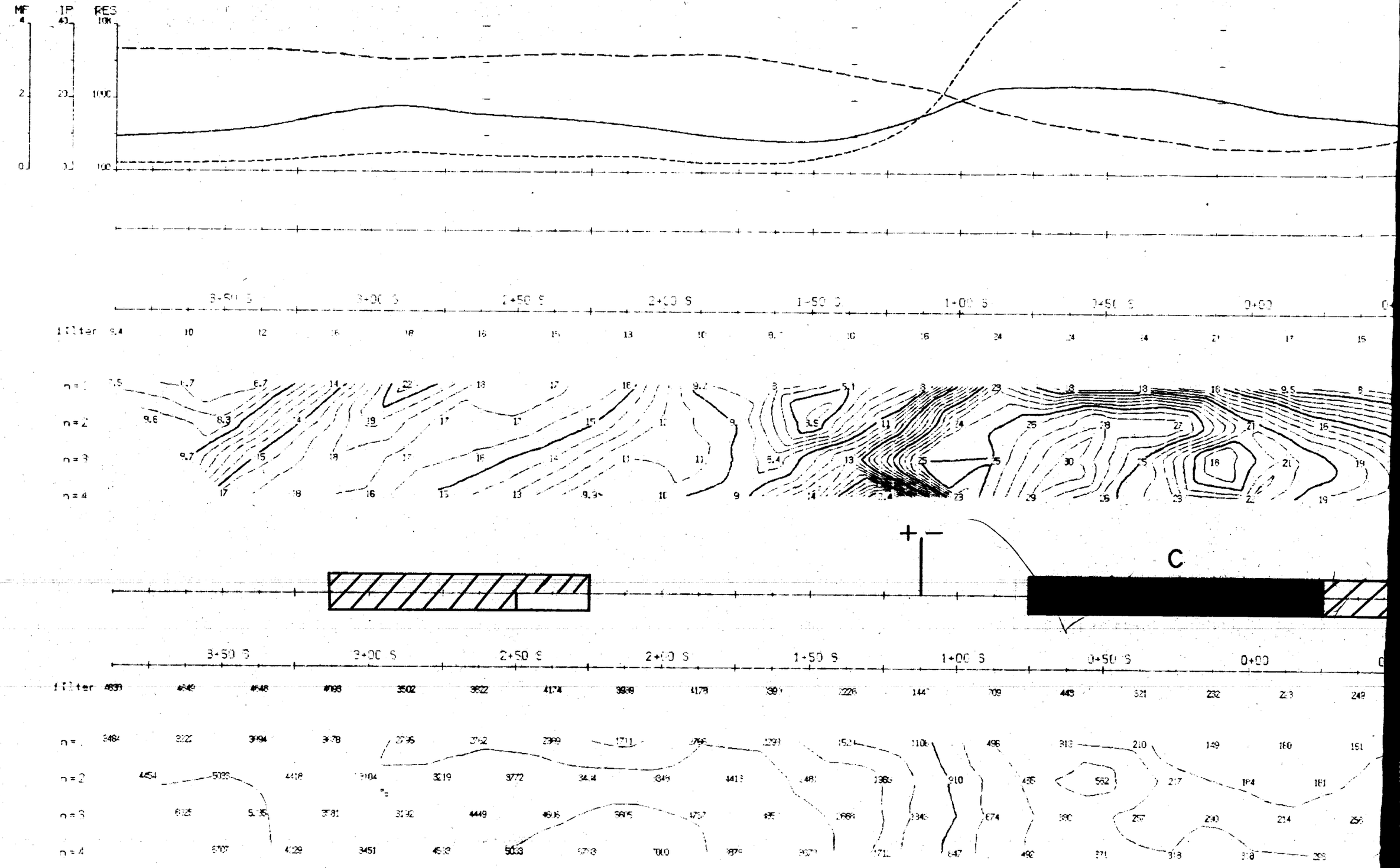
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

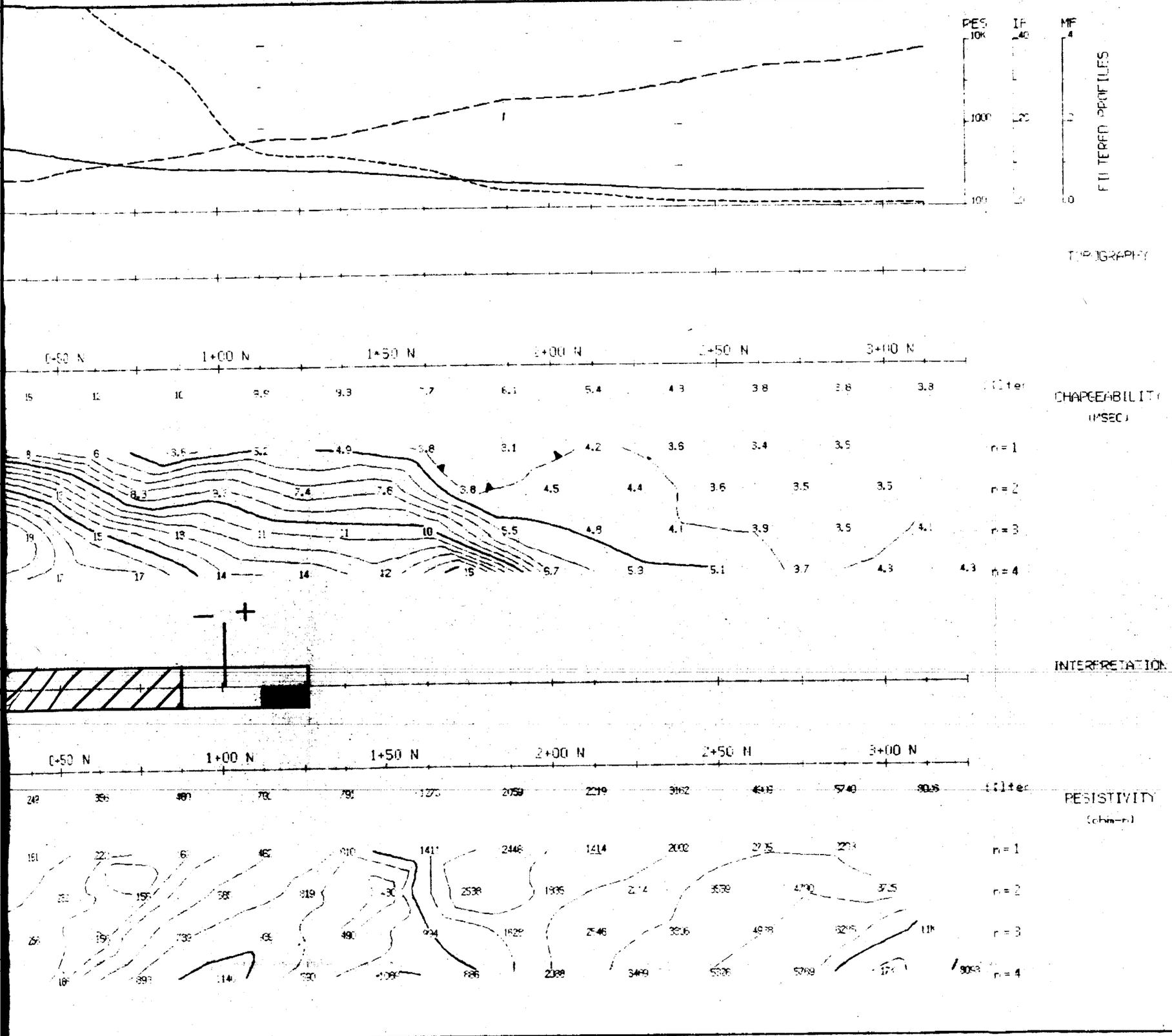
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

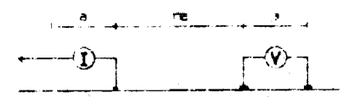
Date: July 3, 1988	N.T.S.:
Interp. by:	Job # M-223





4+00E

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

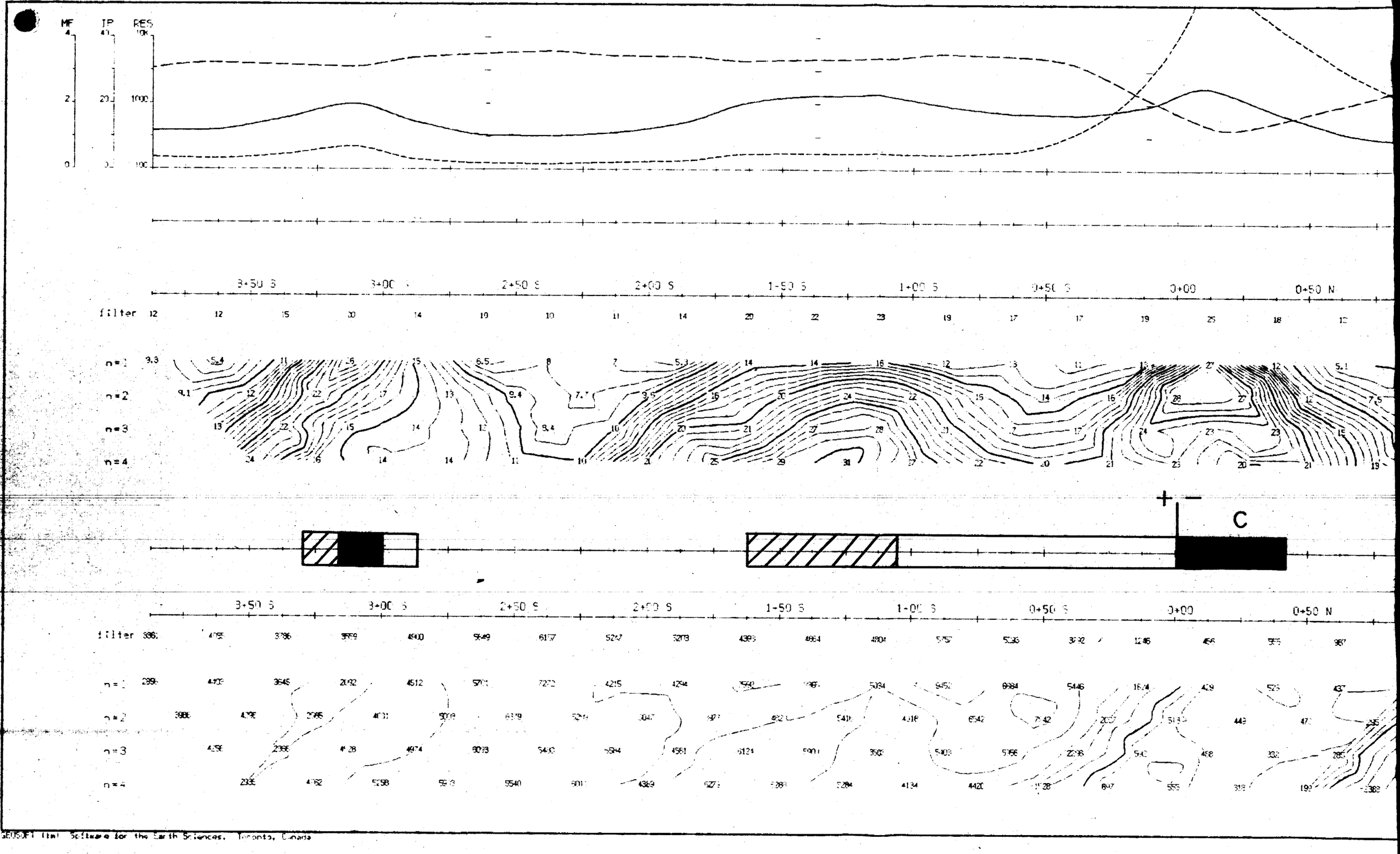
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

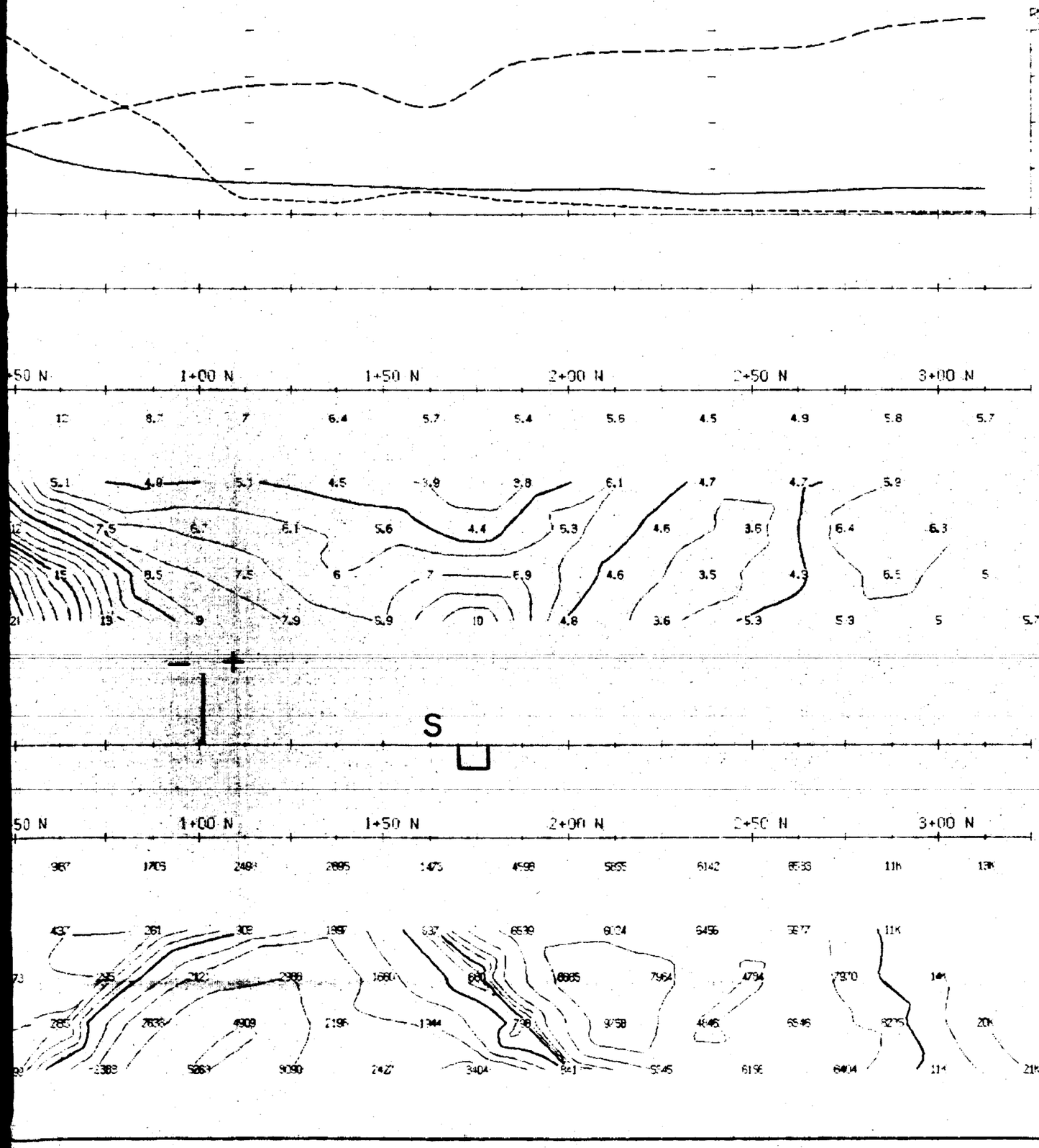
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title
Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

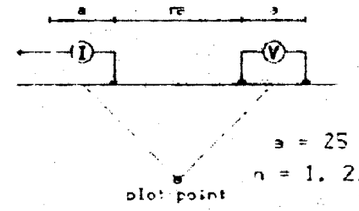
Date: July 3, 1988	N.T.S.:
Interp. by:	Job # M-223


MF
IP
RES
4
2
0
40
20
0
100K
1000
100
3+50 S
3+00 S
2+50 S
2+00 S
1-50 S
1+00 S
0+50 S
0+00
0+50 N
filter
n=1
n=2
n=3
n=4
+
−
C



6+00E

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

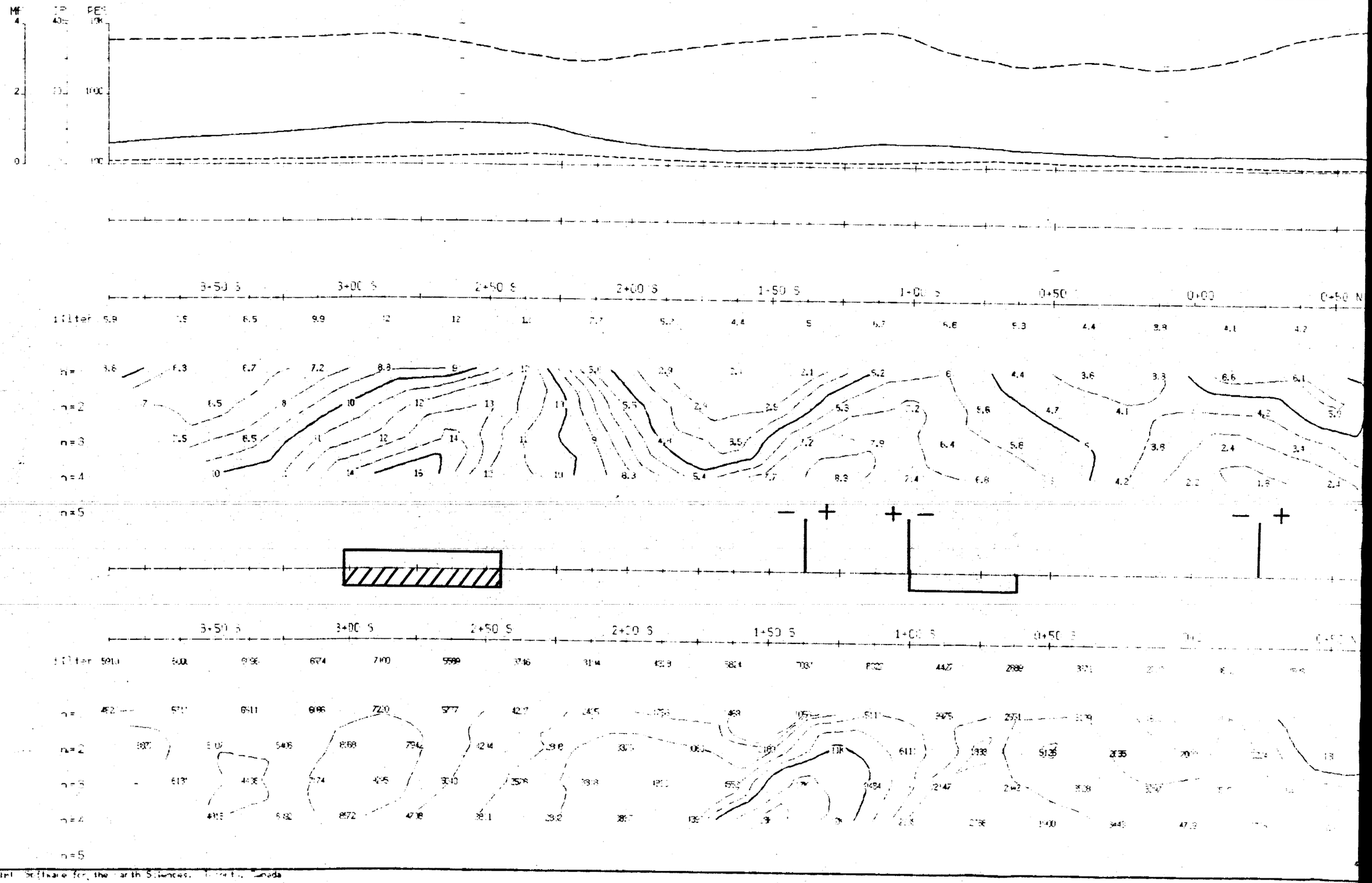
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

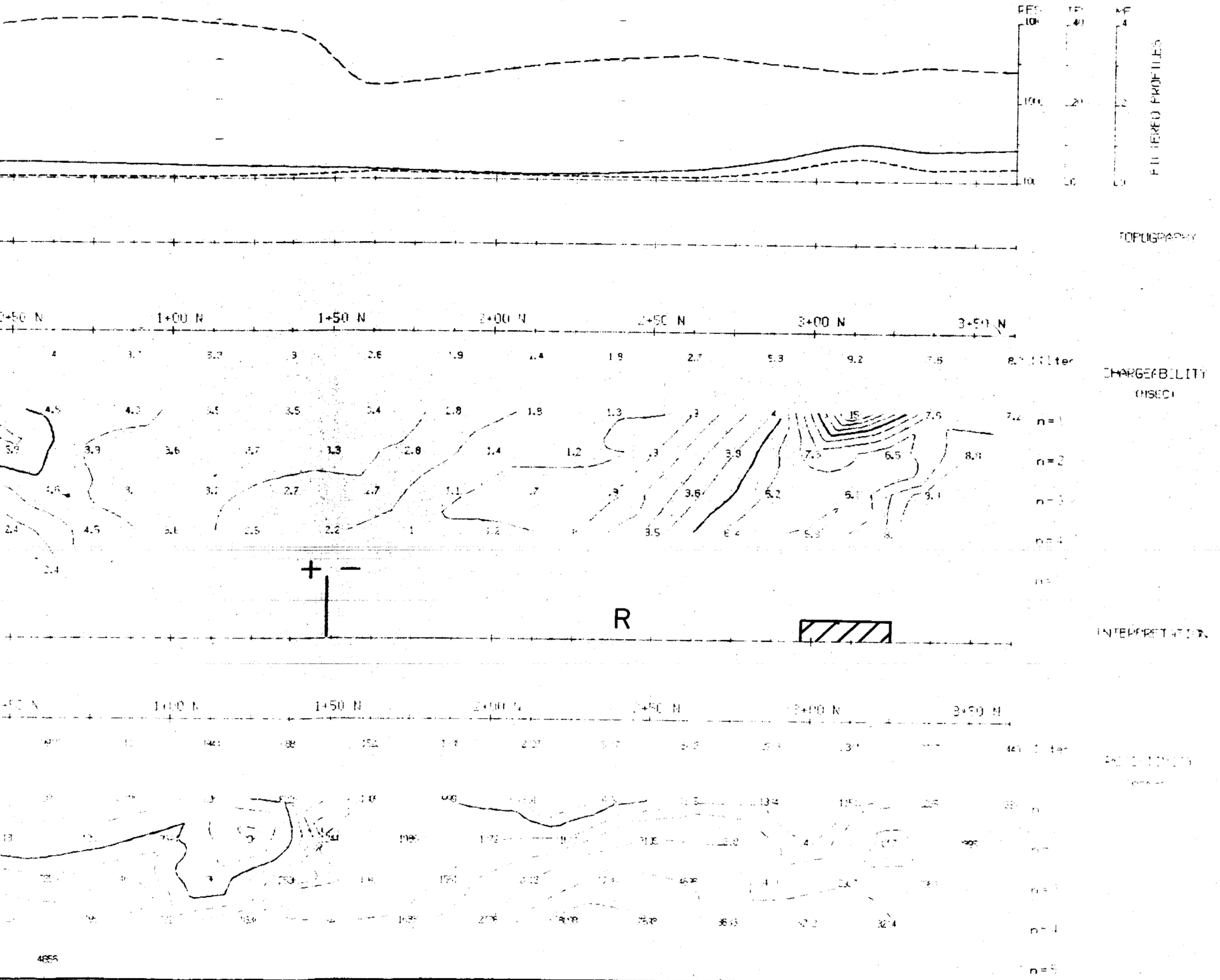
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

Title: Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 4 1988	N.T.S.:
Interp. by:	Job # M-223


3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50
0+00
0+50 N
n=1
n=2
n=3
n=4
n=5



8+00E

Pole-Dipole Array

a = 25 m

n = 1, 2, 3, 4

plot point

Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- ⊐ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

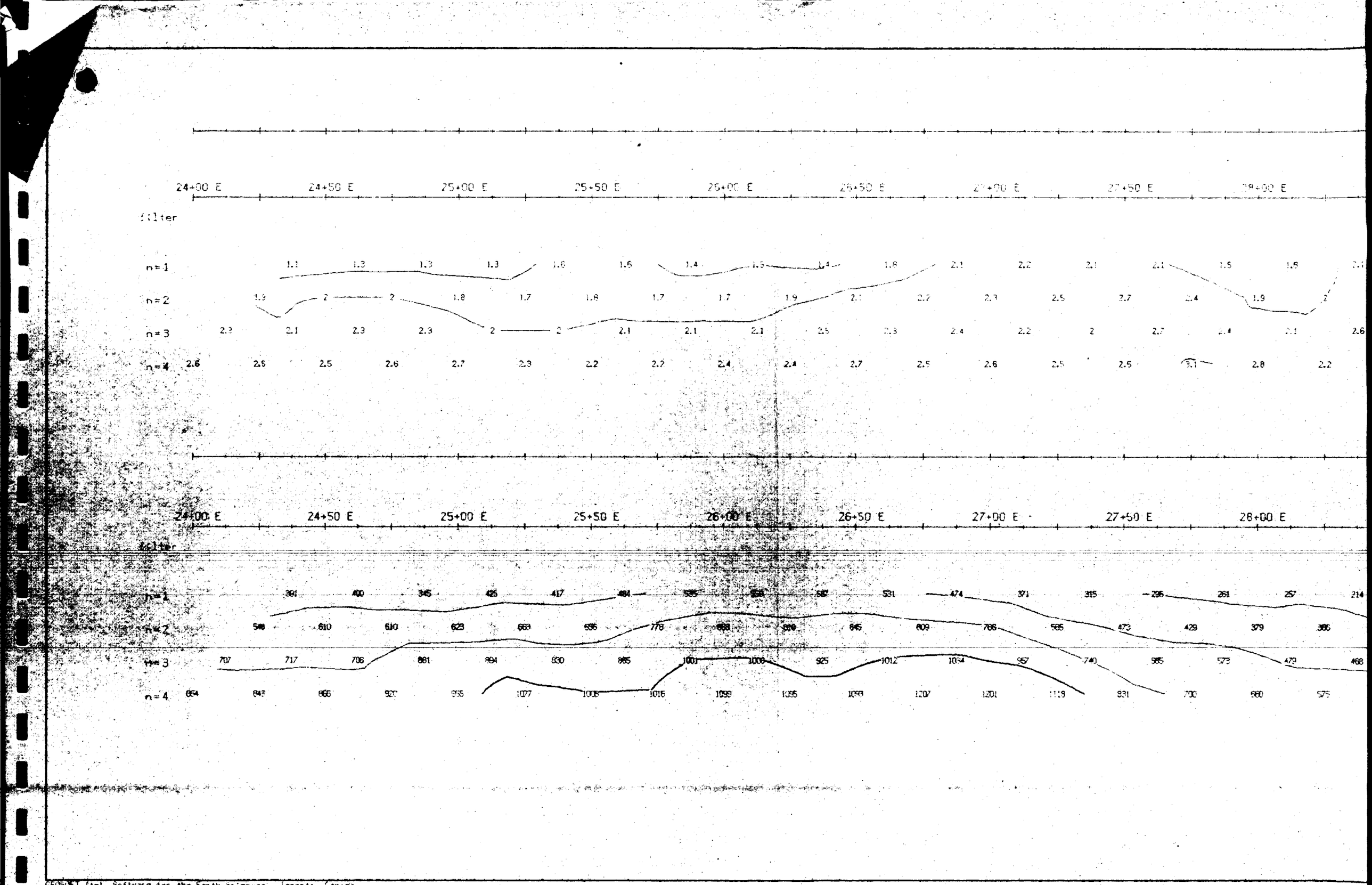
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

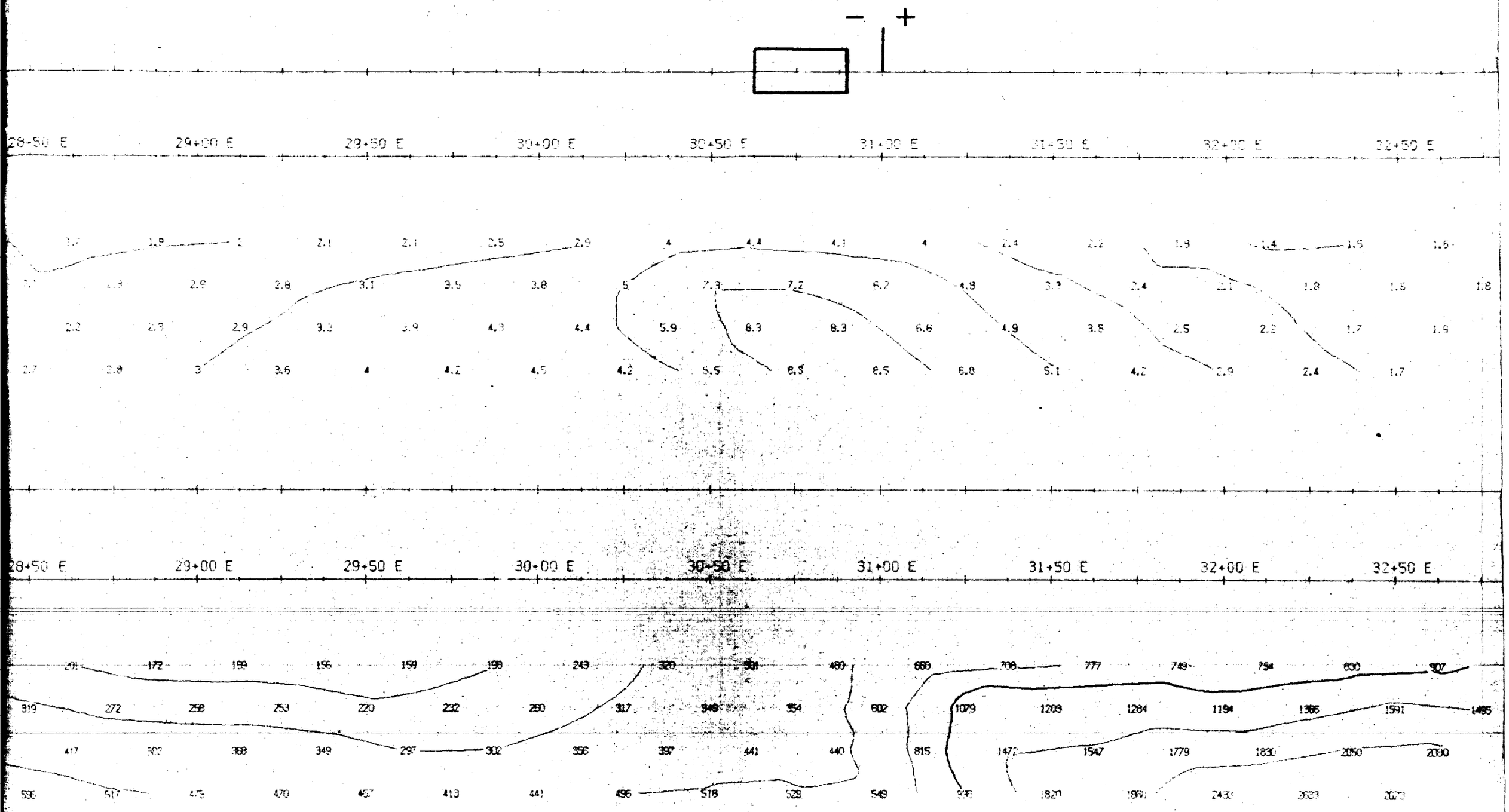
for: GLEN AUDEN-GOLDROCK J.V.

Title:

INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 4, 1988	N.T.S.:
Interp. by	Job # M-223




−
+
28+50 E
29+00 E
29+50 E
30+00 E
30+50 E
31+00 E
31+50 E
32+00 E
32+50 E
28+50 E
29+00 E
29+50 E
30+00 E
30+50 E
31+00 E
31+50 E
32+00 E
32+50 E

INTERPRETATION

filter

CHARGEABILITY
(MSEC)

1.6 n = 1

n = 2

n = 3

n = 4

TOPOGRAPHY

filter

RESISTIVITY
(ohm-m)

112 n = 1

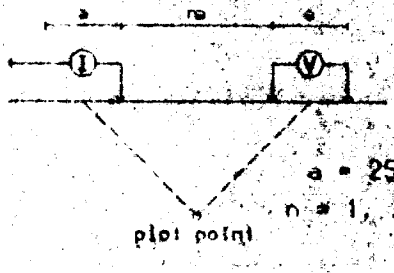
n = 2

n = 3

n = 4

6+00 N

Pole-Dipole Array



Filtered Profiles

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

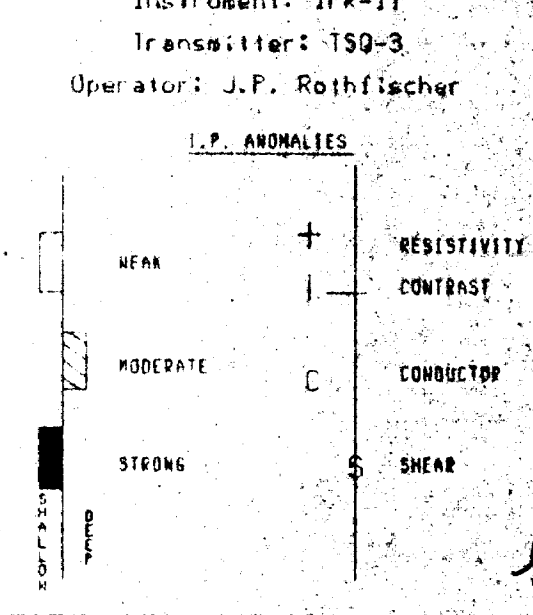
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

Instrument: IPR-11

Transmitter: TSQ-3

Operator: J.P. Rothfischer

I.P. ANOMALIES

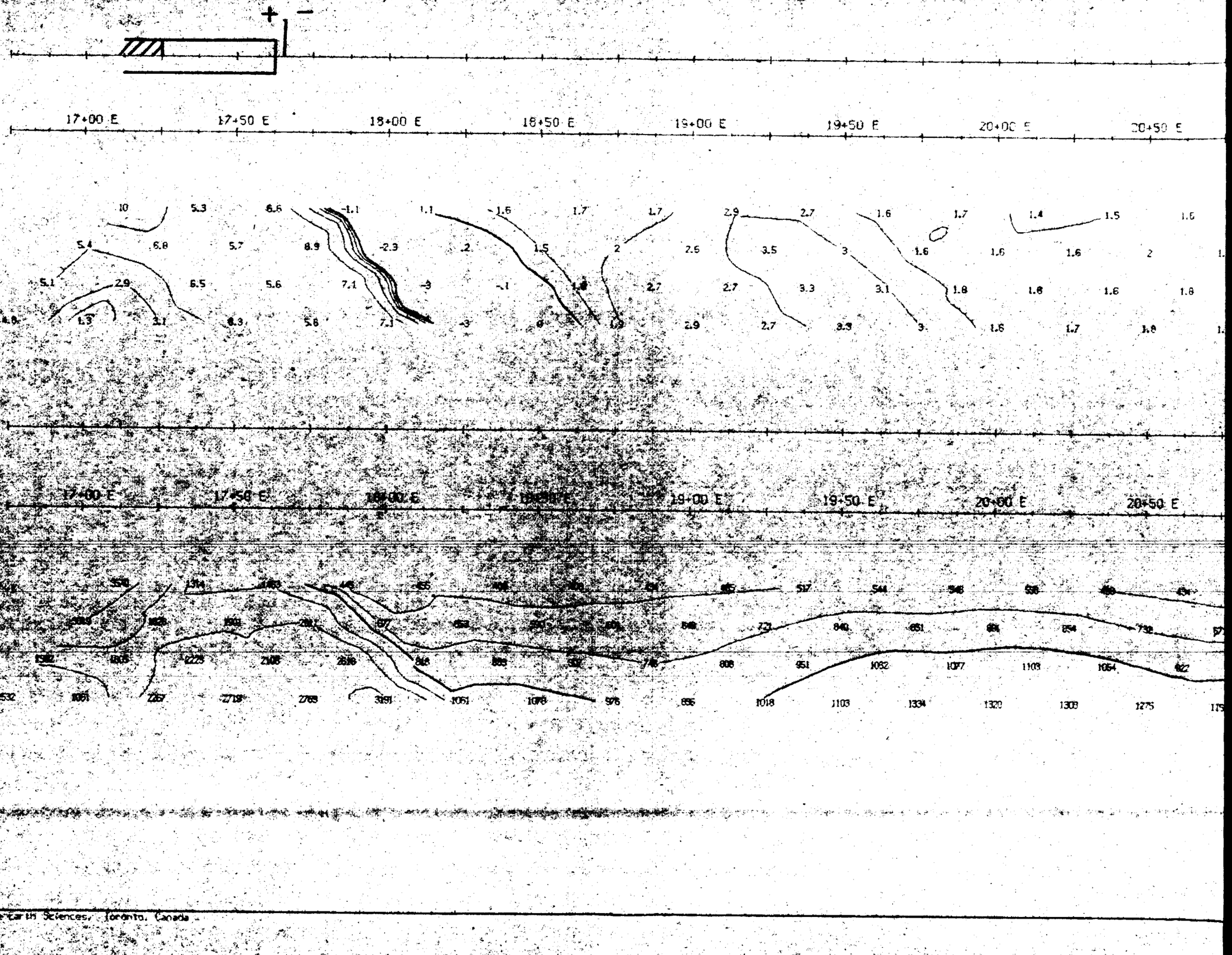


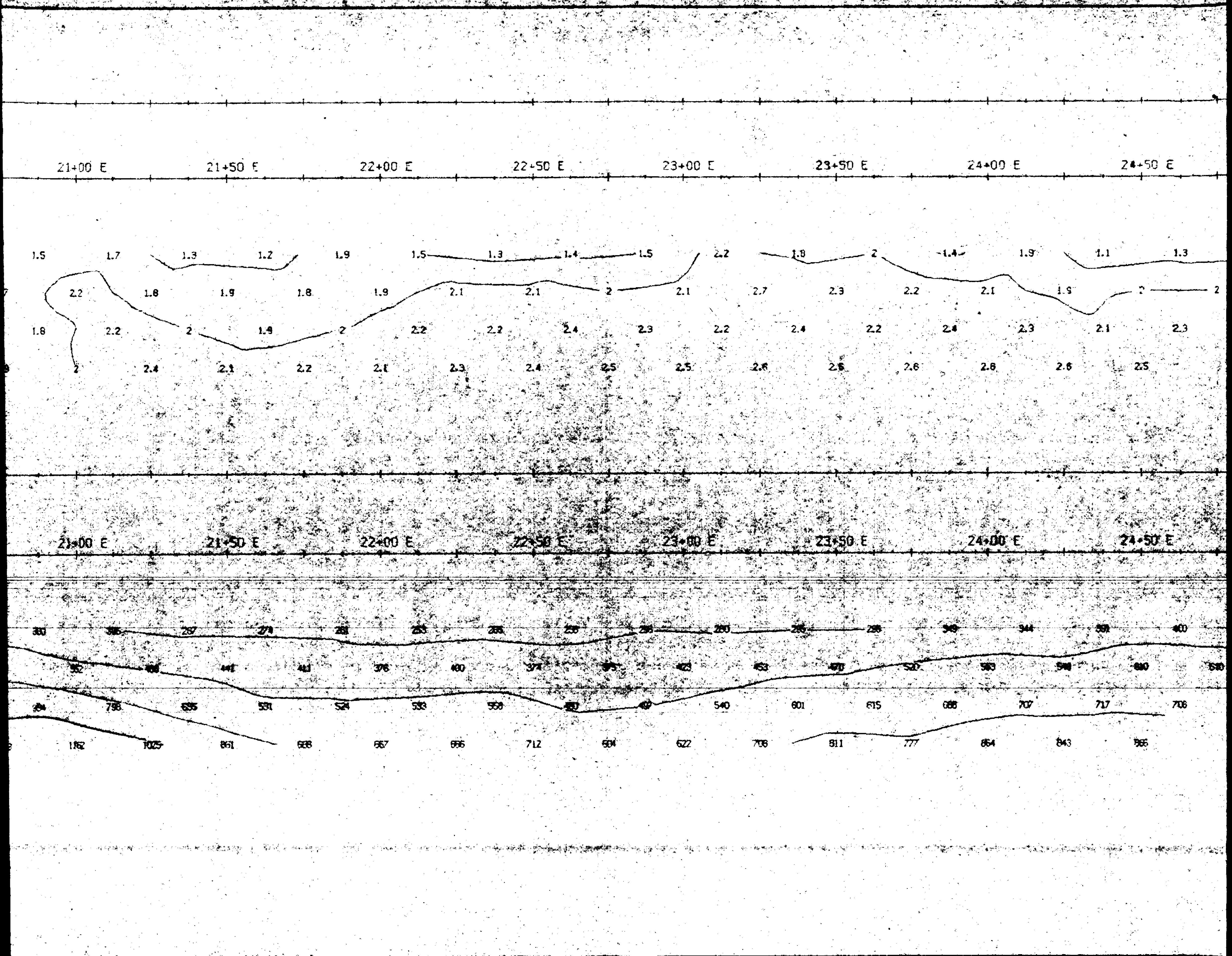
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN / GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
DEERFOOT LAKE
Sewell Twp., Ont.

Date: NOV 27, 1988	Scale: 1 : 1250
Interp. by: J. P. R.	Job #





21+00 E
21+50 E
22+00 E
22+50 E
23+00 E
23+50 E
24+00 E
24+50 E
21+00 E
21+50 E
22+00 E
22+50 E
23+00 E
23+50 E
24+00 E
24+50 E

INTERPRETATION

filter

CHARGEABILITY (MSEC)

1.3 n = 1

n = 2

n = 3

n = 4

TOPOGRAPHY

filter

RESISTIVITY (ohm-m)

345 n = 1

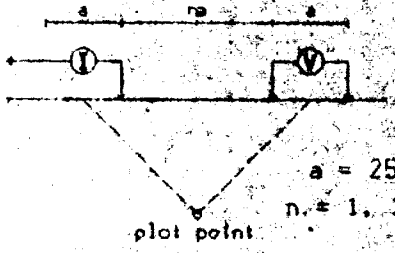
n = 2

n = 3

n = 4

6+00 N

Pole-Dipole Array



Filtered Profiles

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

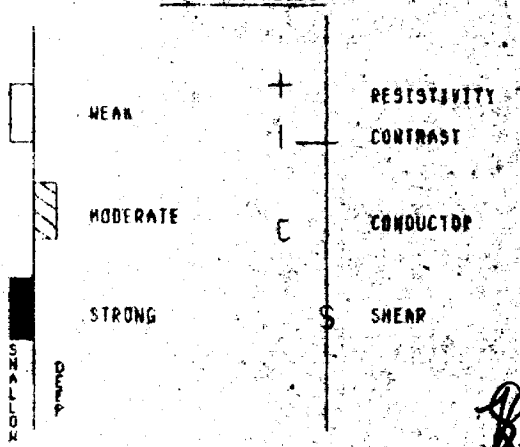
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

Instrument: IPR-11

Transmitter: TSQ-3

Operator: J.P. Rothfischer

I.P. ANOMALIES



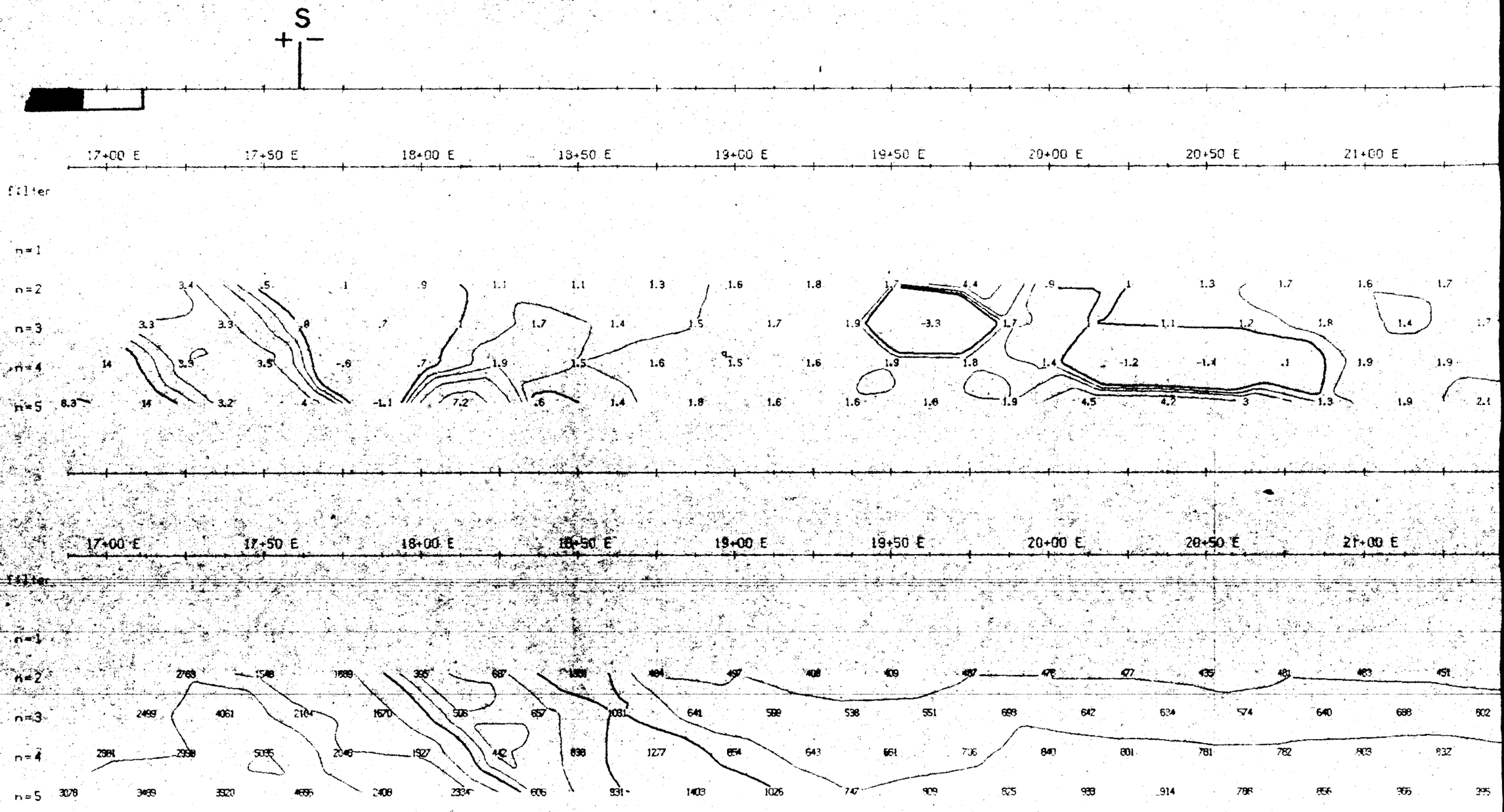
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

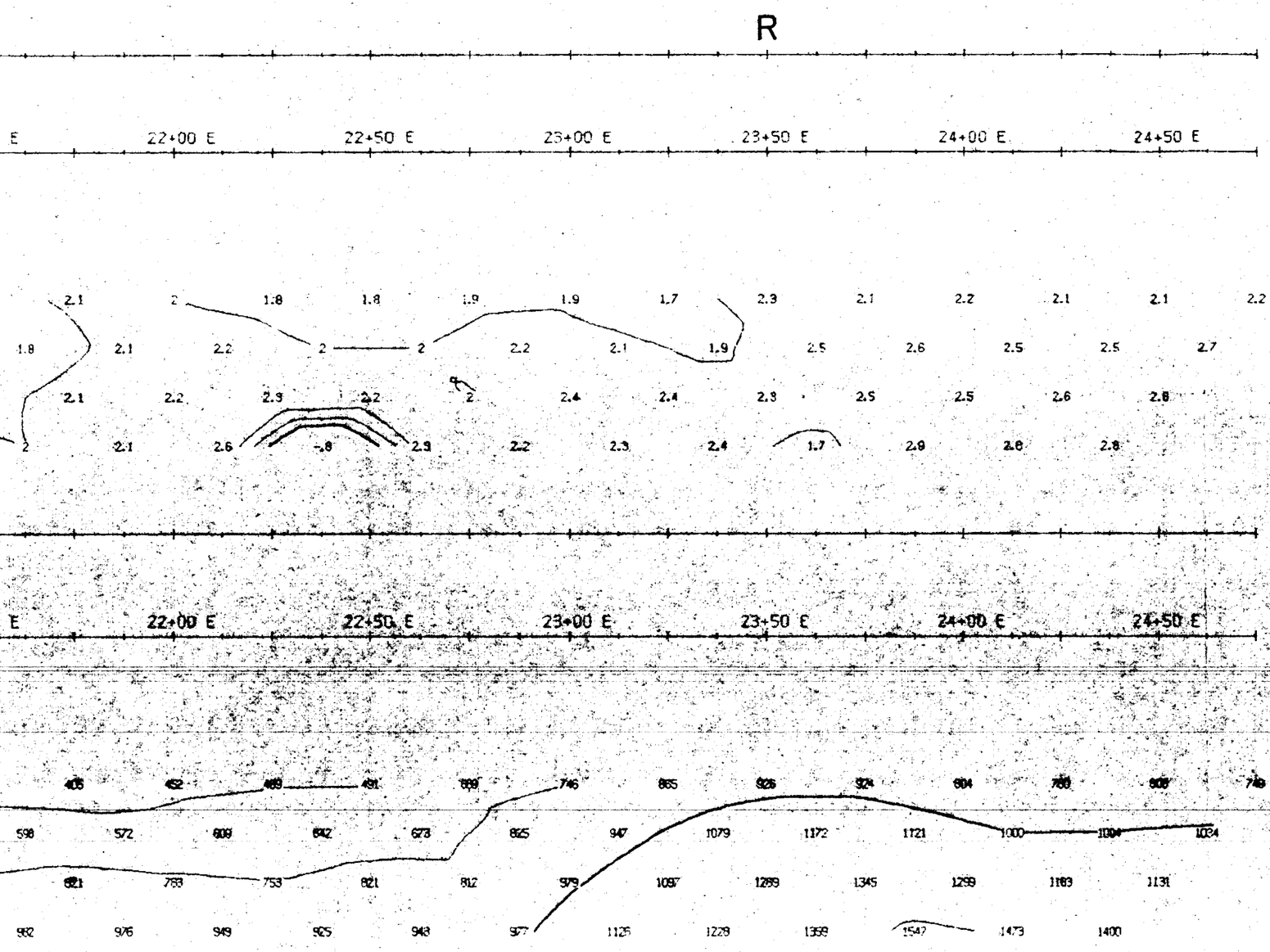
for GLEN AUDEN / GOLDROCK

Title

Time Domain
INDUCED POLARIZATION SURVEY
DEERFOOT LAKE
Sewell Twp., Ont.

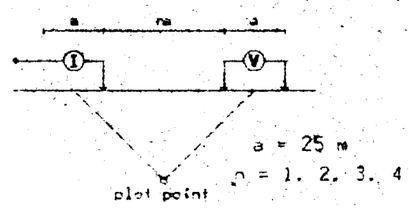
Date: NOV 27, 1988	Scale 1 : 1250
Interp. by: J. P. R.	Job #


S
+
−
17+00 E
17+50 E
18+00 E
18+50 E
19+00 E
19+50 E
20+00 E
20+50 E
21+00 E
filter
n=1
n=2
n=3
n=4
n=5
17+00 E
17+50 E
18+00 E
18+50 E
19+00 E
19+50 E
20+00 E
20+50 E
21+00 E
filter
n=1
n=2
n=3
n=4
n=5



8+00 N

Pole-Dipole Array



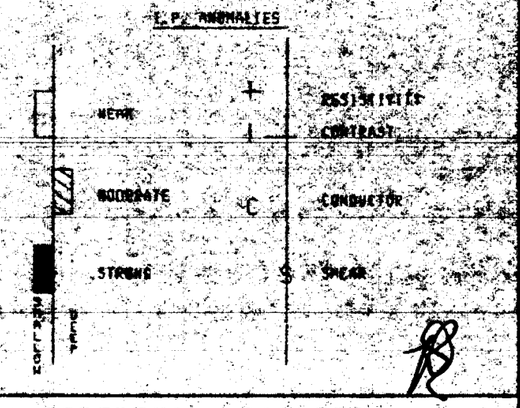
Filtered Profiles

Resistivity
Chargeability
Metal Factor

filter
*
* *
* * *
* * * *

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

Instrument: IPR-11
Transmitter: TSQ-3
Operator: J.P. Rothfischer

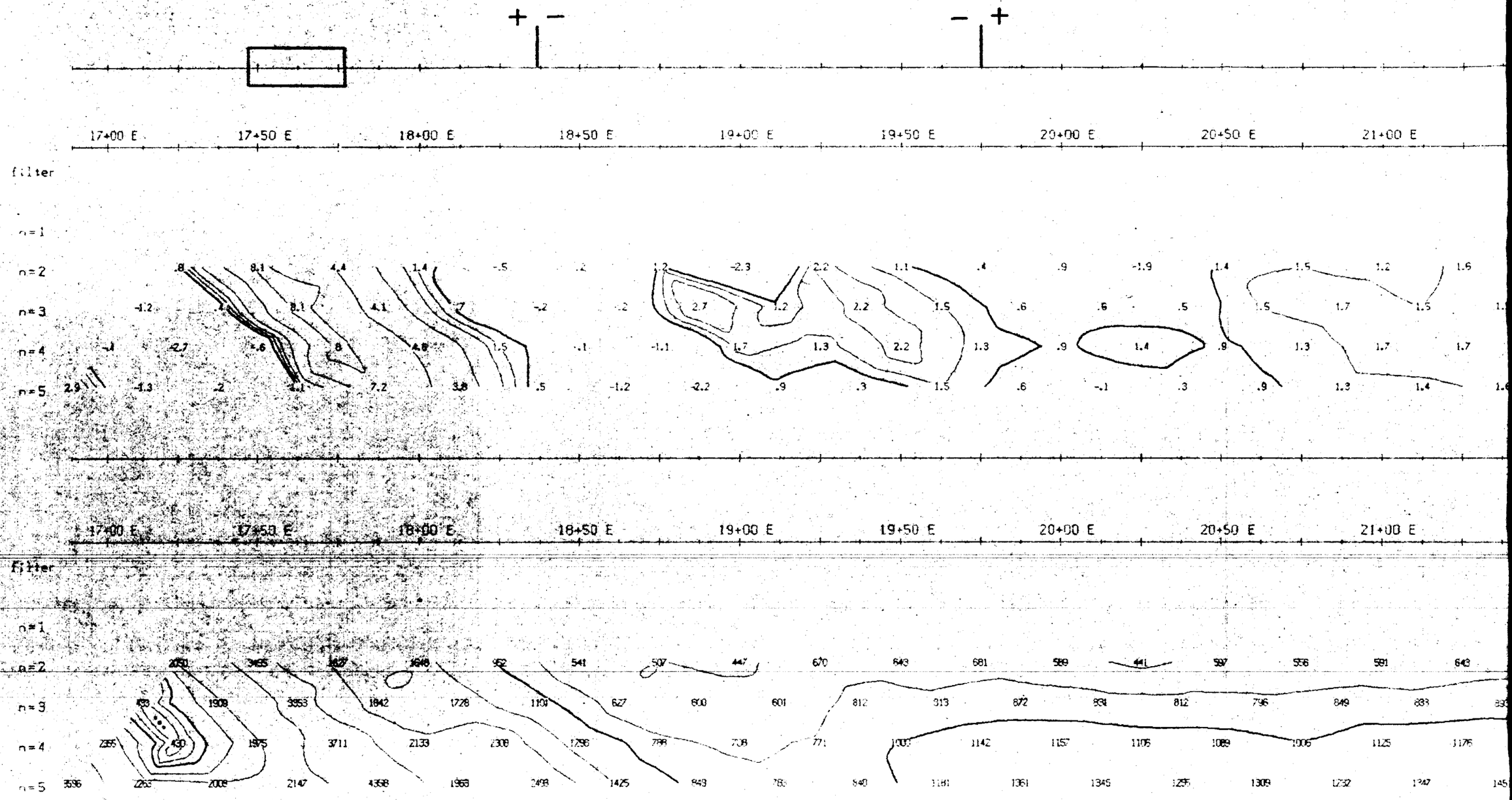


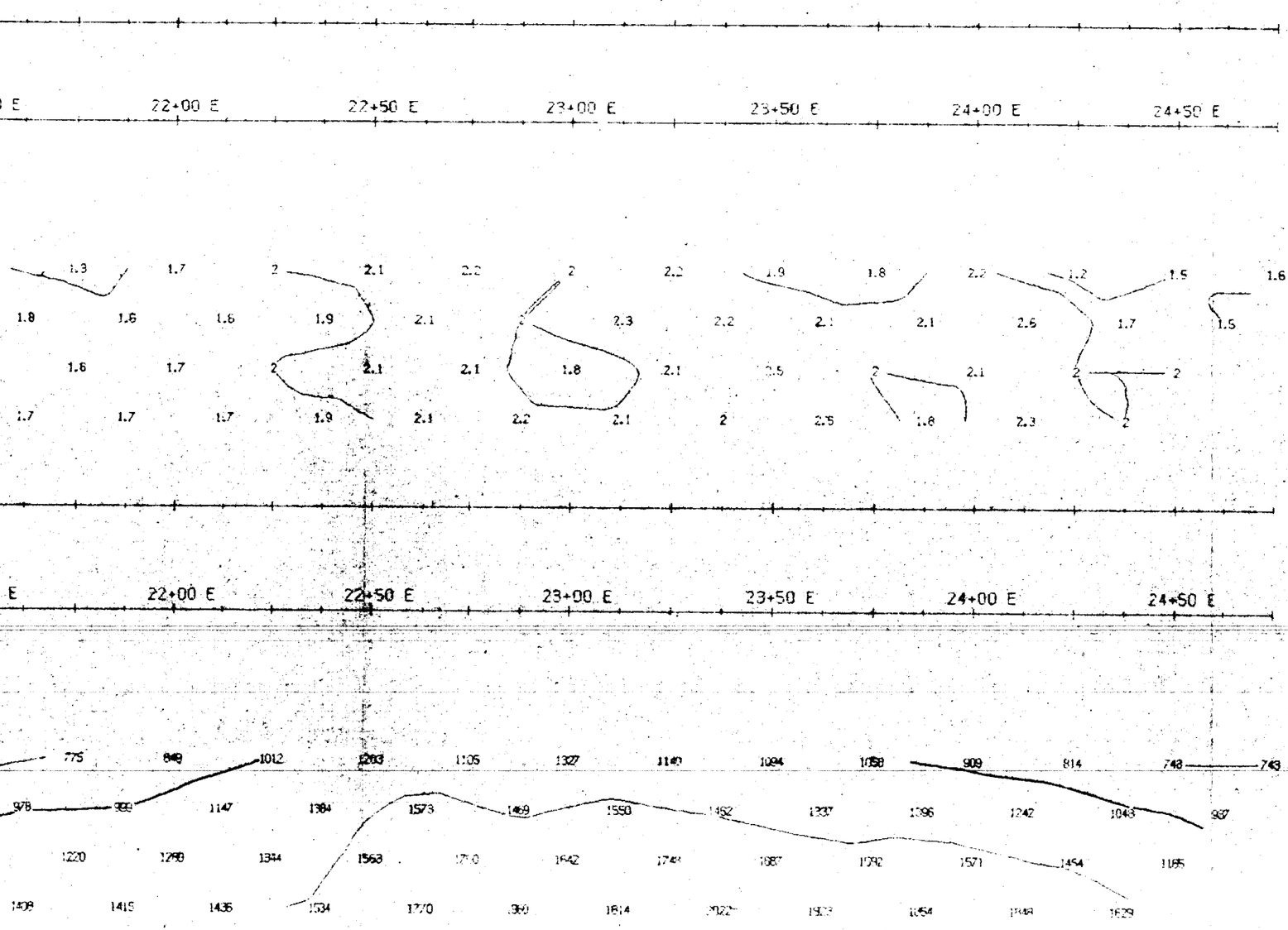
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN / GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
DEERFOOT LAKE
Sewell Twp., Ont.

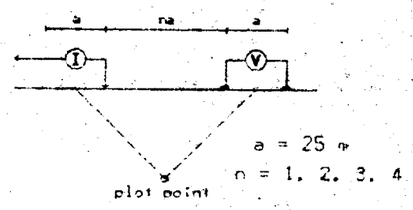
Date: NOV 29, 1988	Scale= 1 : 1250
Interp. by: J. P. R.	Job #





12+00 N

Pole-Dipole Array



Filtered Profiles

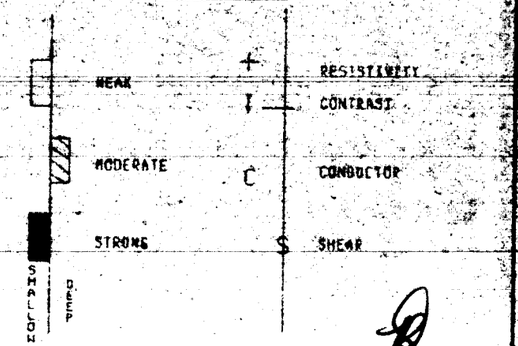
Resistivity
Chargeability
Metal Factor

filter
*
* *
* * *
* * * *

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

Instrument: IPR-11
Transmitter: TSQ-3
Operator: J.P. Rothfischer

I.P. ANOMALIES

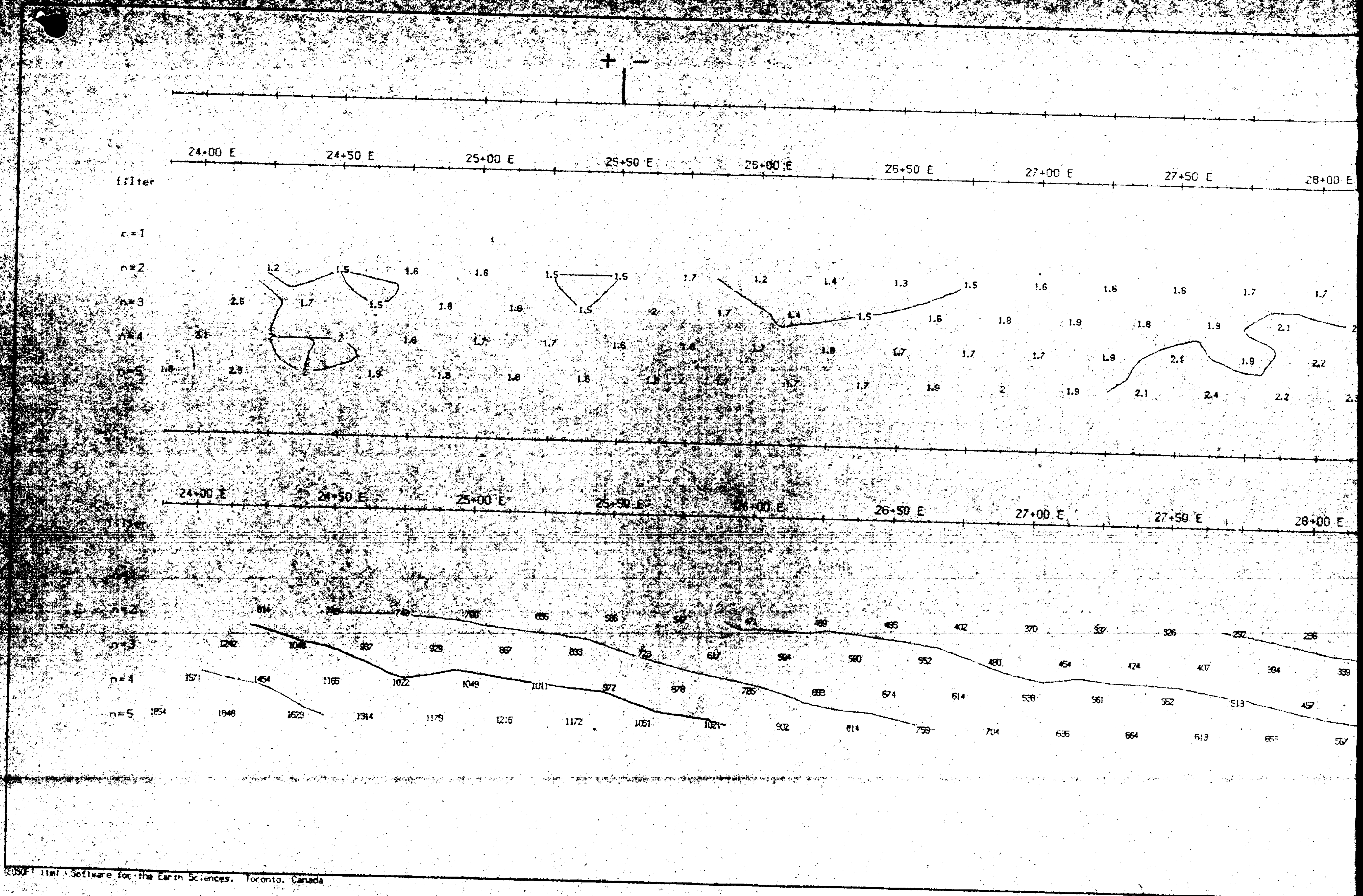


ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

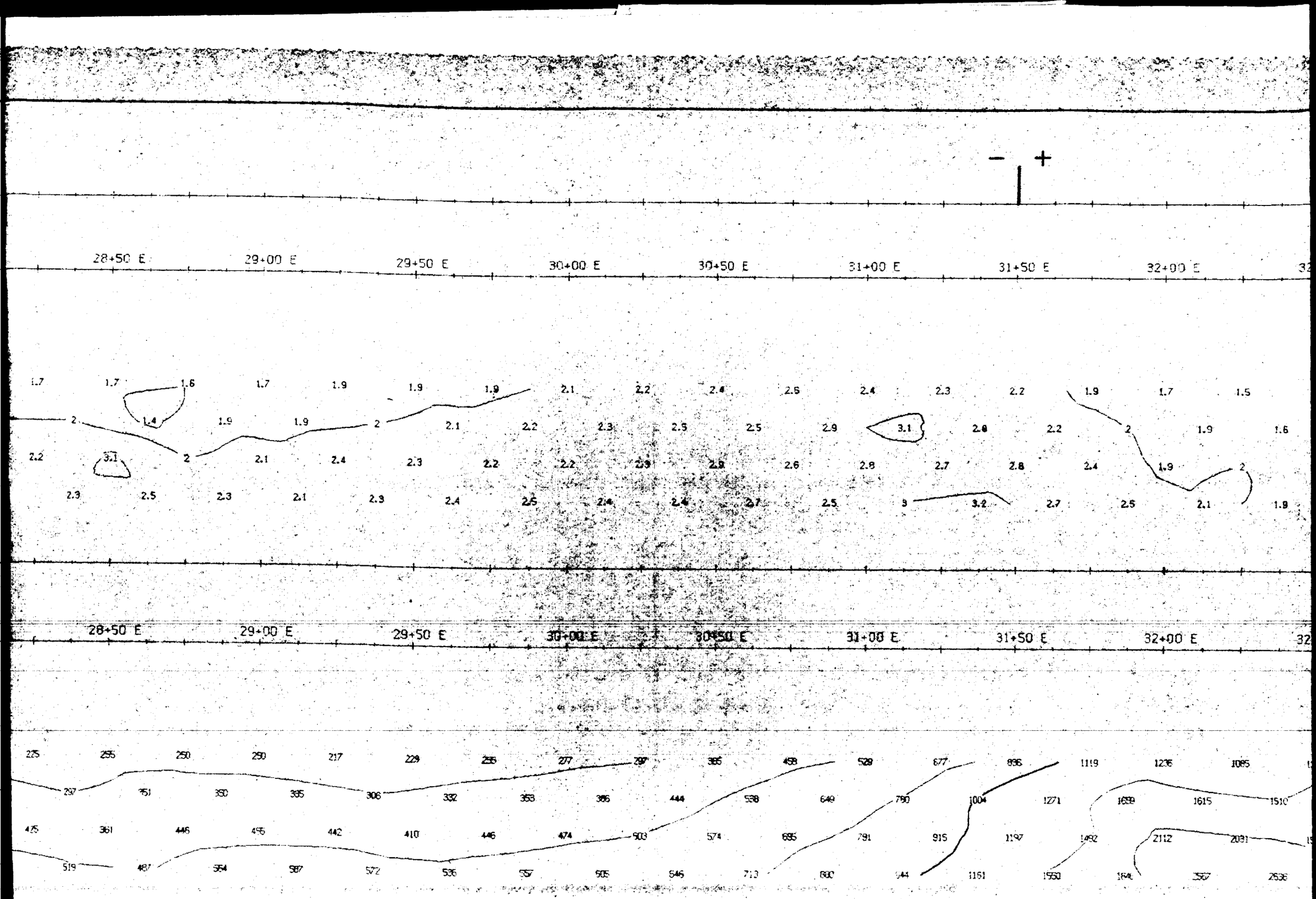
for GLEN AUDEN / GOLDROCK

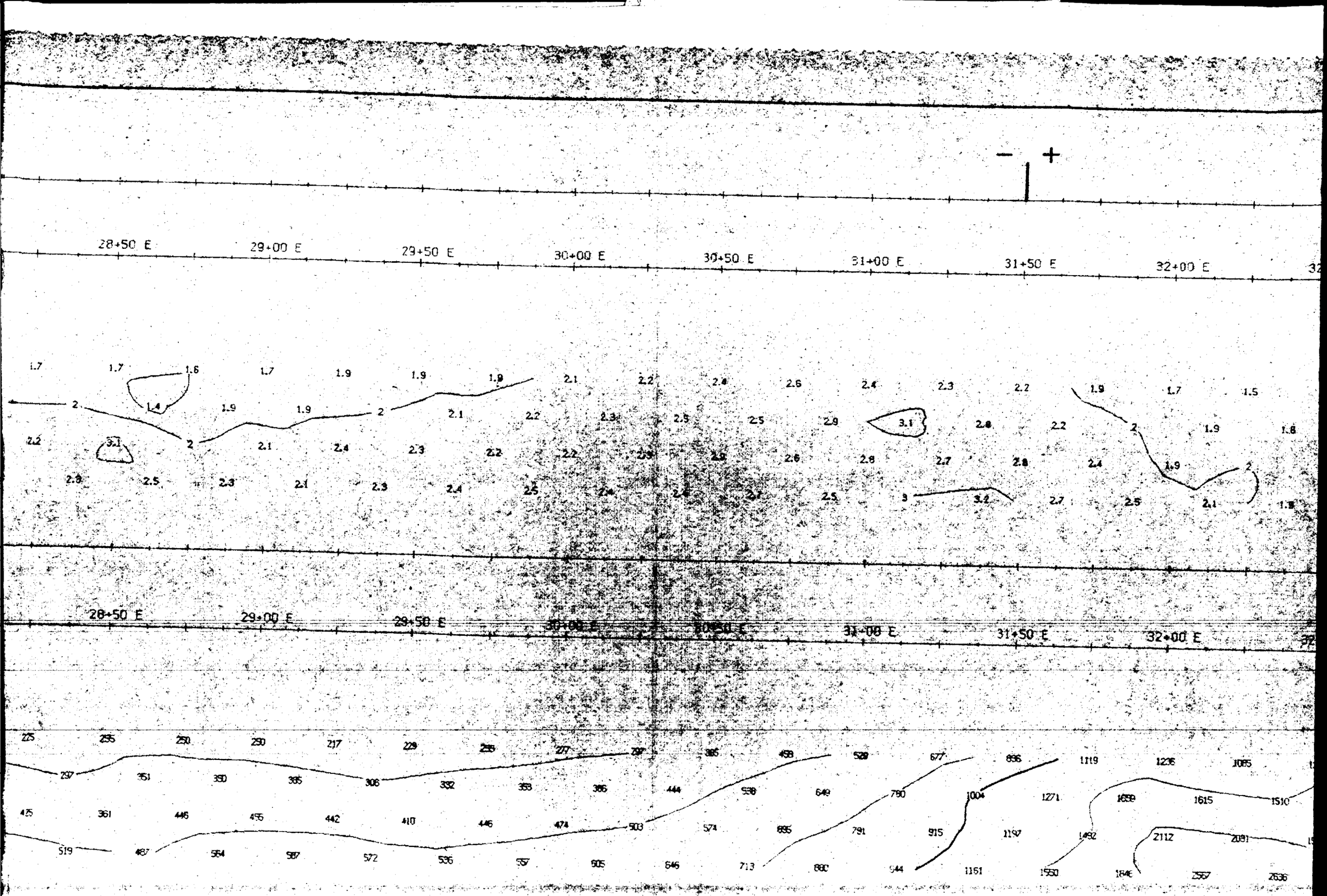
Title: Time Domain
INDUCED POLARIZATION SURVEY
DEERFOOT LAKE
Sewell Twp., Ont.

Date: NOV 30, 1988	Scale: 1 : 1250
Interp. by: J. P. R.	Job #



GEOSOFT (tm) Software for the Earth Sciences. Toronto, Canada


28+50 E
29+00 E
29+50 E
30+00 E
30+50 E
31+00 E
31+50 E
32+00 E
28+50 E
29+00 E
29+50 E
30+00 E
30+50 E
31+00 E
31+50 E
32+00 E


28+50 E
29+00 E
29+50 E
30+00 E
30+50 E
31+00 E
31+50 E
32+00 E
28+50 E
29+00 E
29+50 E
30+00 E
31+00 E
31+50 E
32+00 E

INTERPRETATION

+50 E

filter

CHARGEABILITY
(MSEC)

n = 1

1.7 1.5 n = 2

1.9 n = 3

1.6 n = 4

n = 5

TOPOGRAPHY

-50 E

filter

RESISTIVITY
(ohm-m)

n = 1

36 1809 n = 2

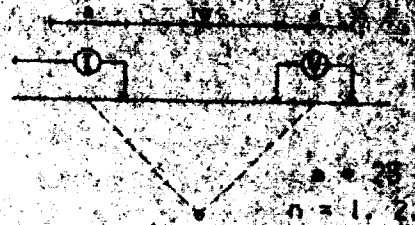
1950 n = 3

41 n = 4

n = 5

12,400 N

Pole-Dipole Array



Filtered Profiles

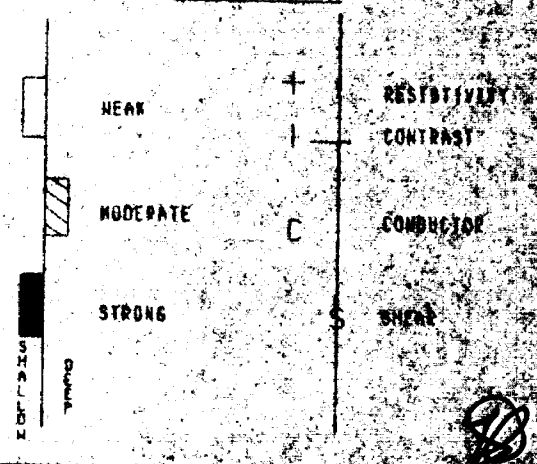
filter

Resistivity
Chargeability
Metal Factor

Logarithmic
Contours: 1, 1.5, 2, 3, 5, 7.5, 10 x

Instrument: IPR-1
Transmitter: TSQ-3
Operator: J.P. Rothfischer

I.P. ANOMALIES



ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for

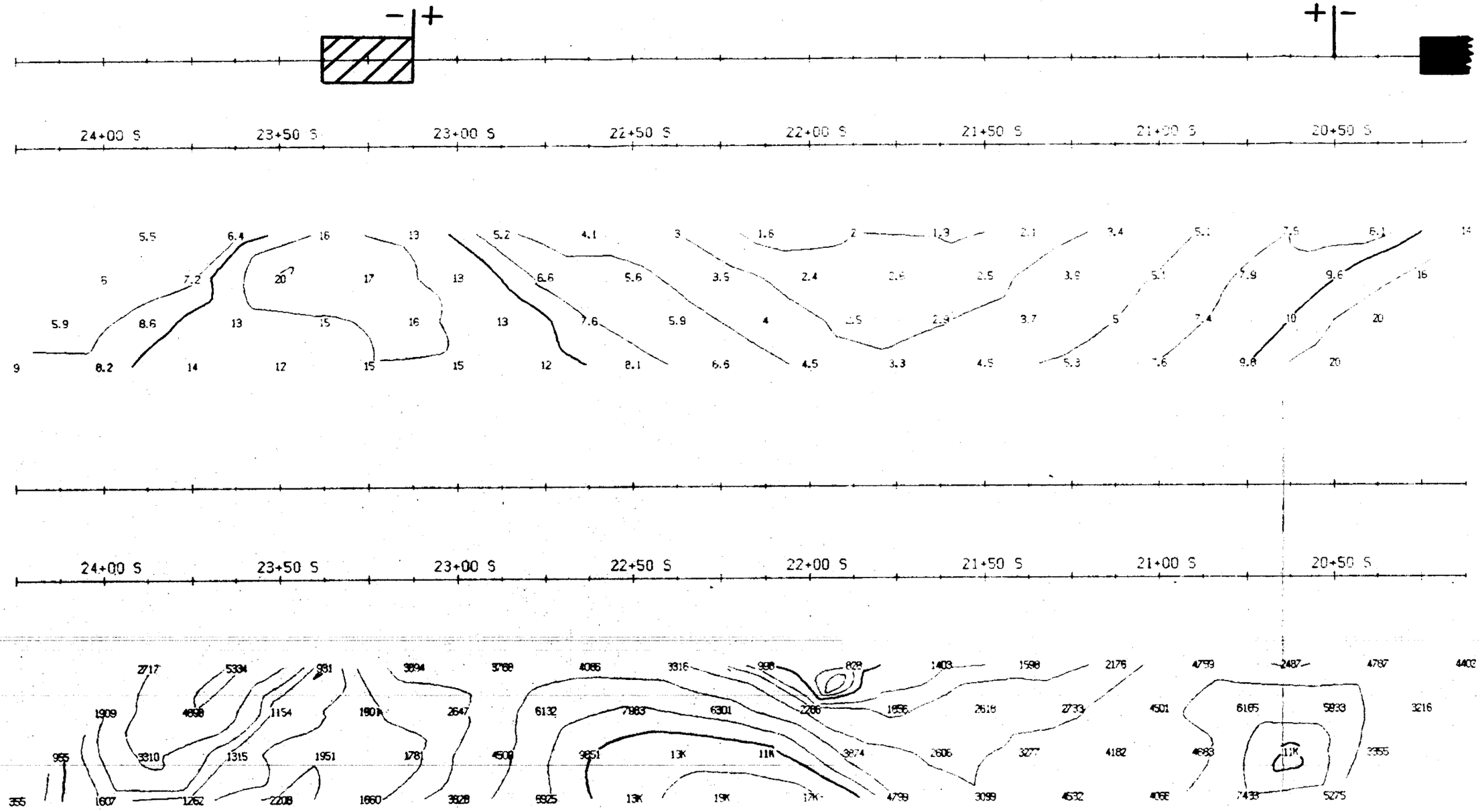
GLEN AUDEN / GOLDROCK

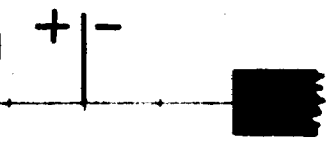
Title

Time Domain
INDUCED POLARIZATION SURVEY
DEERFOOT LAKE
Sewell Twp. Ont.

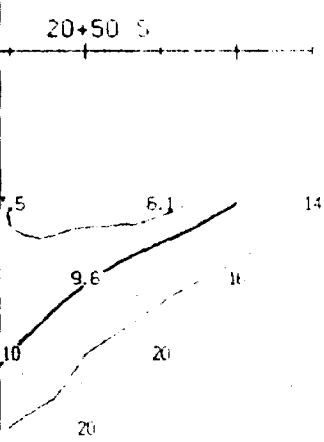
Date: NOV 30, 1988

Interp. by: J. P. R.

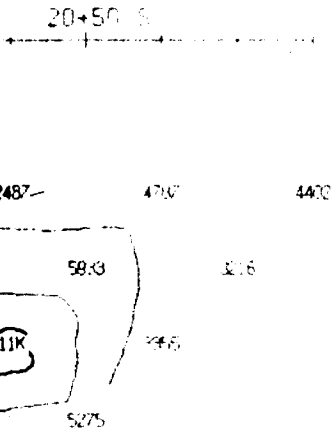

24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
20+50 S
filter
n=1
n=2
n=3
n=4



INTERPRETATION

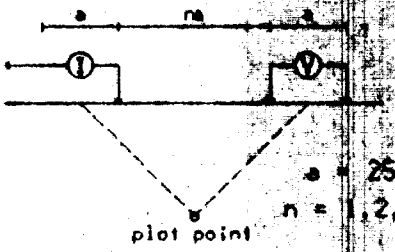


TOPOGRAPHY



12+00W

Pole-Dipole Array



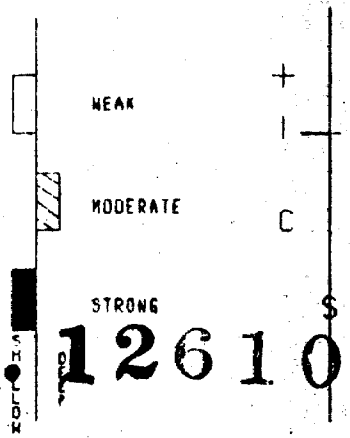
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



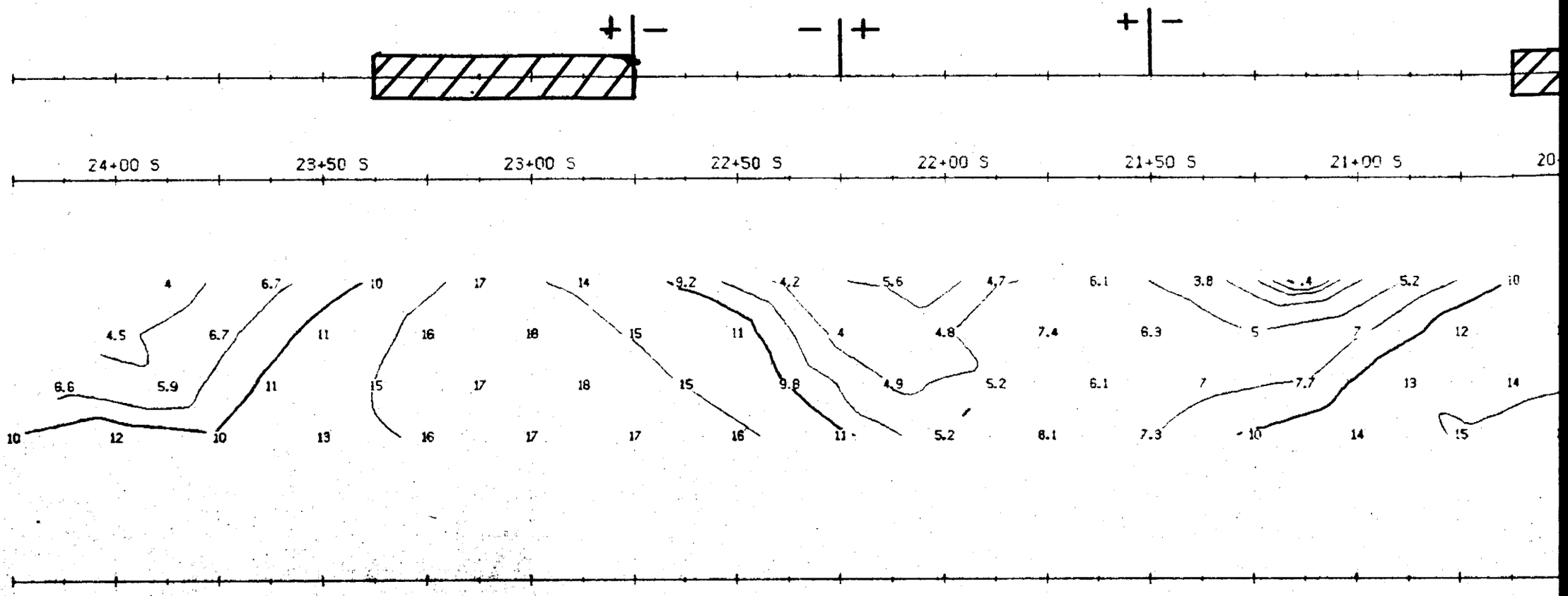
2,12610

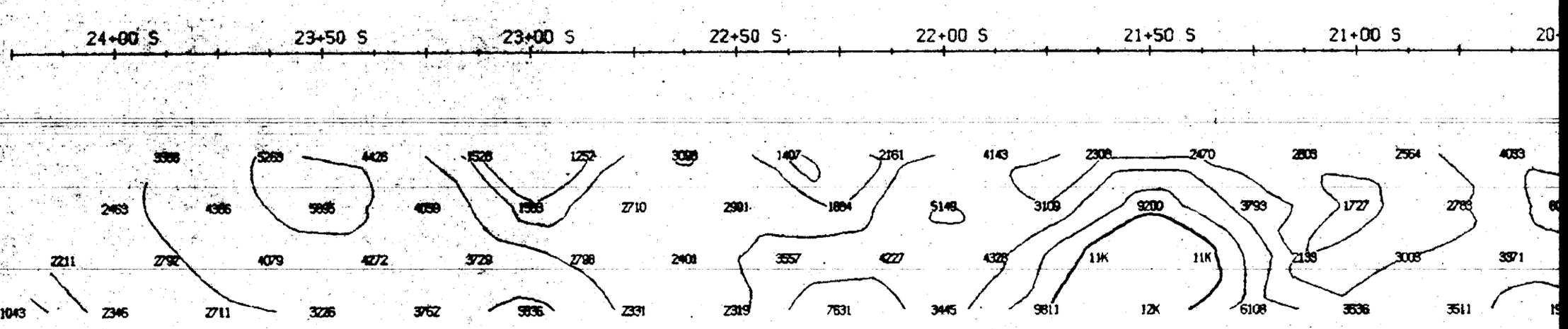
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

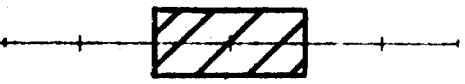
for
GLEN AUDEN RESOURCES

Title
Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 9, 1988	Scale: 1" = 1250'
Interp. by: G.H.	Job # M-223


24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
filter
n=1
n=2
n=3
n=4


24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
filter
n=1
n=2
n=3
n=4

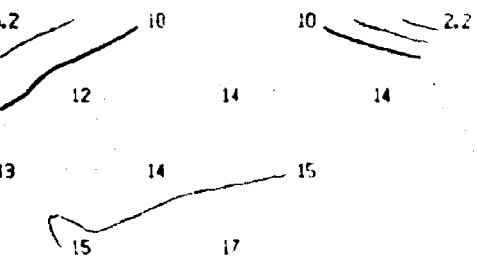


INTERPRETATION

20+50 S

filter

CHARGEABILITY
(MSEC)



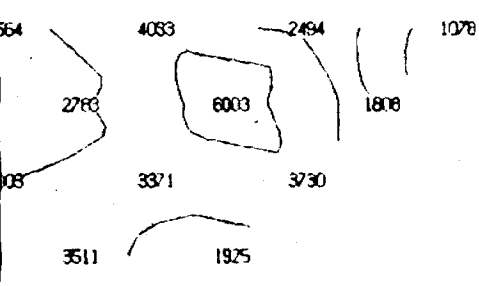
n = 1
n = 2
n = 3
n = 4

TOPOGRAPHY

20+50 S

filter

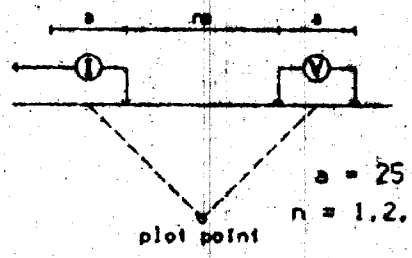
RESISTIVITY
(ohm-m)



n = 1
n = 2
n = 3
n = 4

11+00W

Pole-Dipole Array



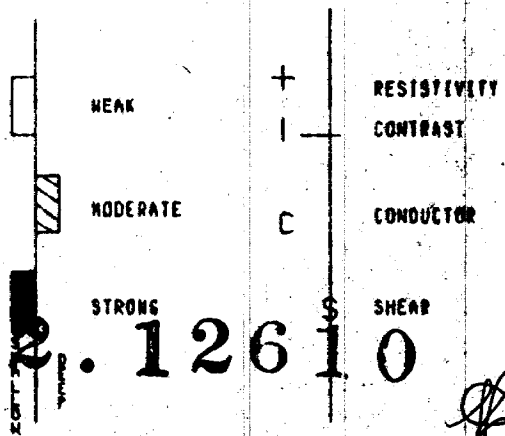
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



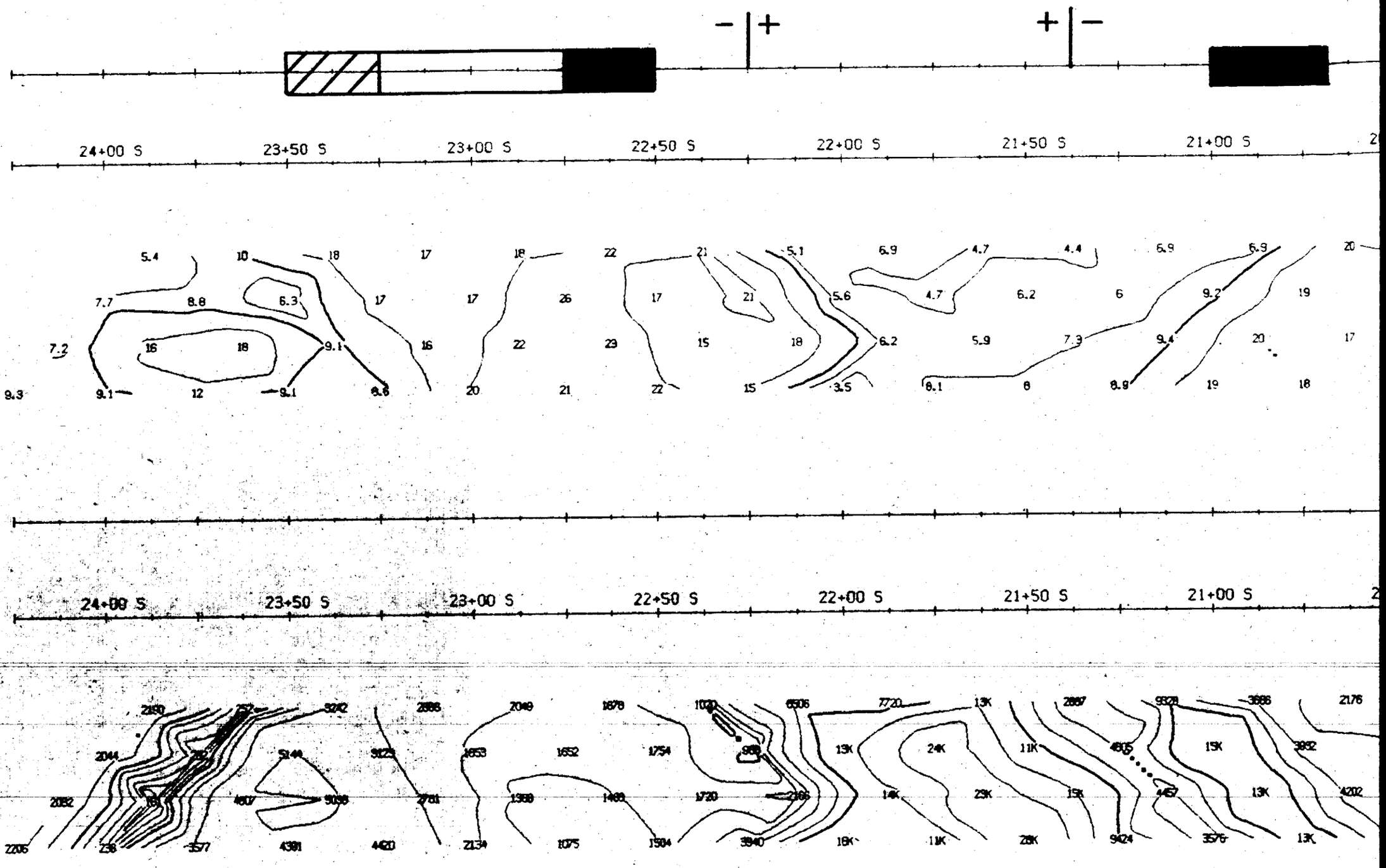
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

Title Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 9, 1988 | Scale 1 : 1250

Interp. by G.H. | Job # M-228


24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
filter
n=1
n=2
n=3
n=4
24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
filter
n=1
n=2
n=3
n=4

INTERPRETATION

20+50 S

filter

CHARGEABILITY
(MSEC)

20 22 7.6 n = 1

19 16 21 n = 2

17 16 n = 3

18 17 n = 4

TOPOGRAPHY

20+50 S

filter

RESISTIVITY
(ohm-m)

2176 1884 5896 n = 1

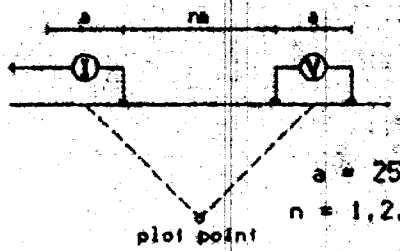
3932 3111 2375 n = 2

4202 3730 n = 3

13K 4661 n = 4

10+00N

Pole-Dipole Array



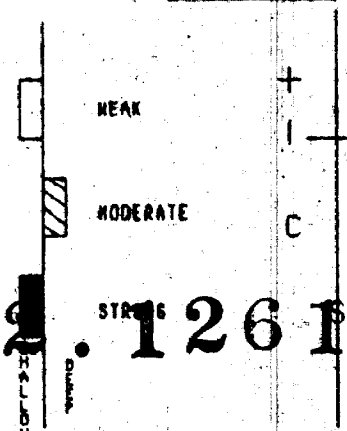
Filtered Profiles

Resistivity
Chargeability
Metal Factor

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



2.1261

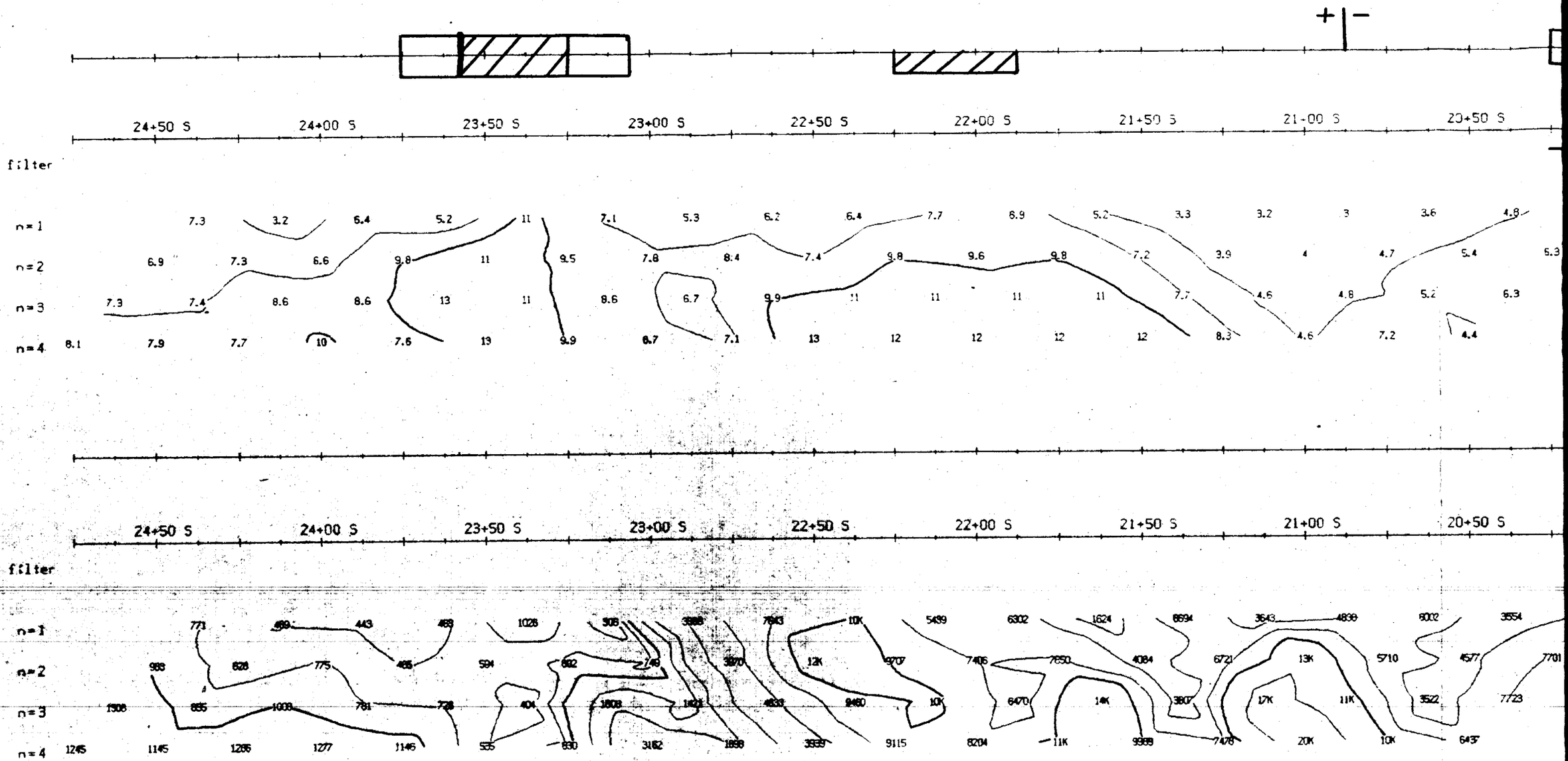
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

Title Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 9, 1988 Scale: 1"=150'

Interp. by G.H. Job # H-223

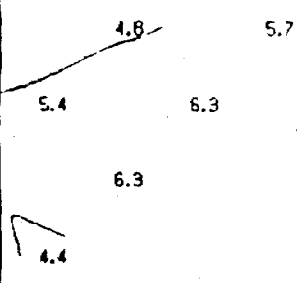


INTERPRETATION

20+50 S

filter

CHARGEABILITY
(MSEC)

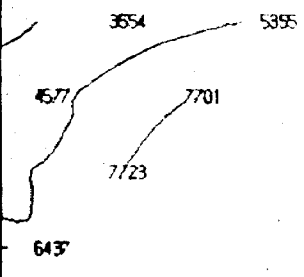


TOPOGRAPHY

20+50 S

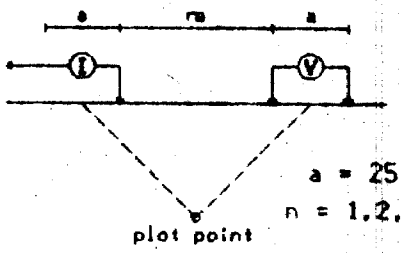
filter

RESISTIVITY
(ohm-m)



8+00W

Pole-Dipole Array



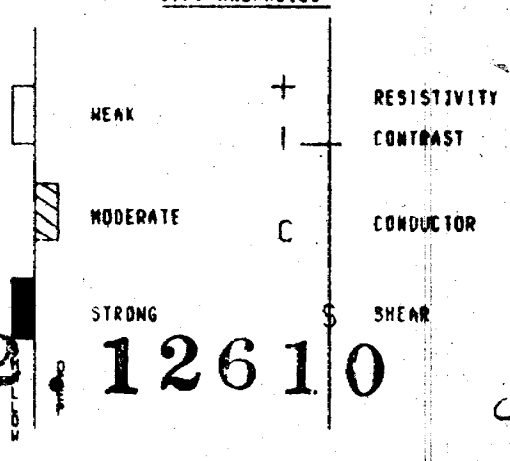
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

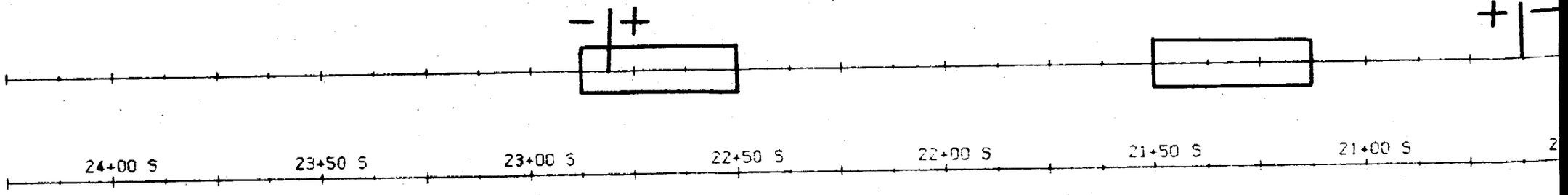


ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

Title
Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 8, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-229



24+00 S 23+50 S 23+00 S 22+50 S 22+00 S 21+50 S 21+00 S

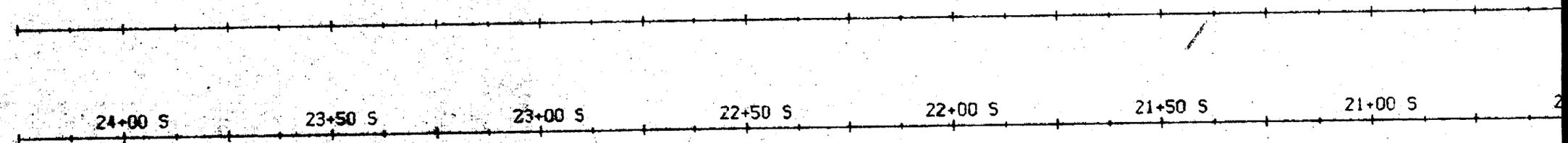
filter

n = 1 3.9 3.8 2.7 3.1 4.3 8.4 7.7 14 5.1 4.3 6.1 6 5.2 4.3

n = 2 3.5 4.1 4.5 3.8 4.8 6.4 10 8.2 7.6 5.5 5.4 6.6 6.3 5.7

n = 3 3.5 3.6 4.5 5.1 5.2 6.2 7 4.4 8.4 7.6 6.6 6.4 7.4 6.4 7.4

n = 4 3.4 3.6 3.8 5 6.8 6.7 6.8 -.2 11 8.9 5 7.7 7.8 7.8 8



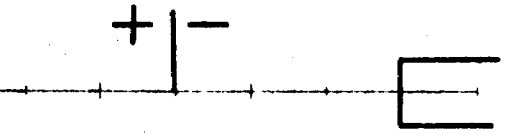
24+00 S 23+50 S 23+00 S 22+50 S 22+00 S 21+50 S 21+00 S

filter

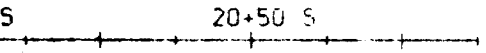
n = 1 702 740 1142 1284 1034 6451 6298 5802 11K 15K 13K 9802 4048 3795

n = 2 1010 1288 1829 1363 965 2308 9595 16K 14K 13K 13K 13K 7500 7390

n = 3 1385 1413 1588 1184 785 1814 3100 35K 19K 15K 11K 11K 9971 11K 7485

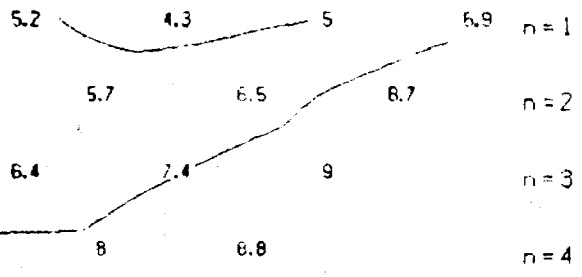


INTERPRETATION

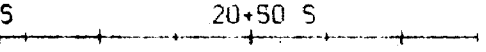


filter

CHARGEABILITY
(MSEC)

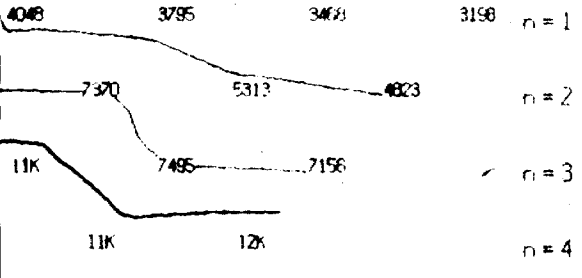


TOPOGRAPHY



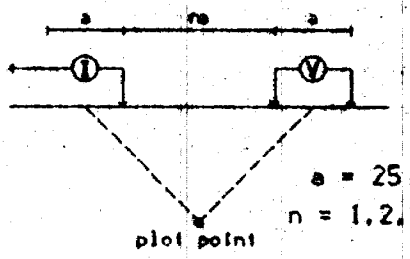
filter

RESISTIVITY
(ohm-m)



6+00W

Pole-Dipole Array



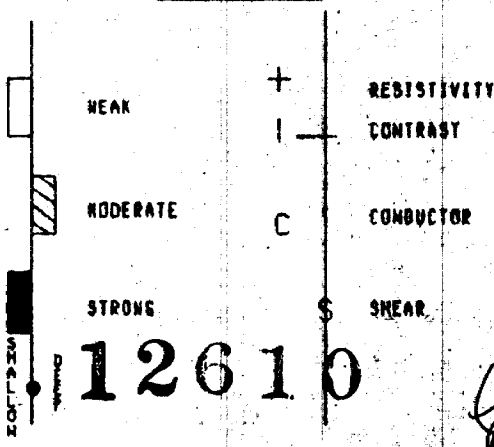
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



2.112610

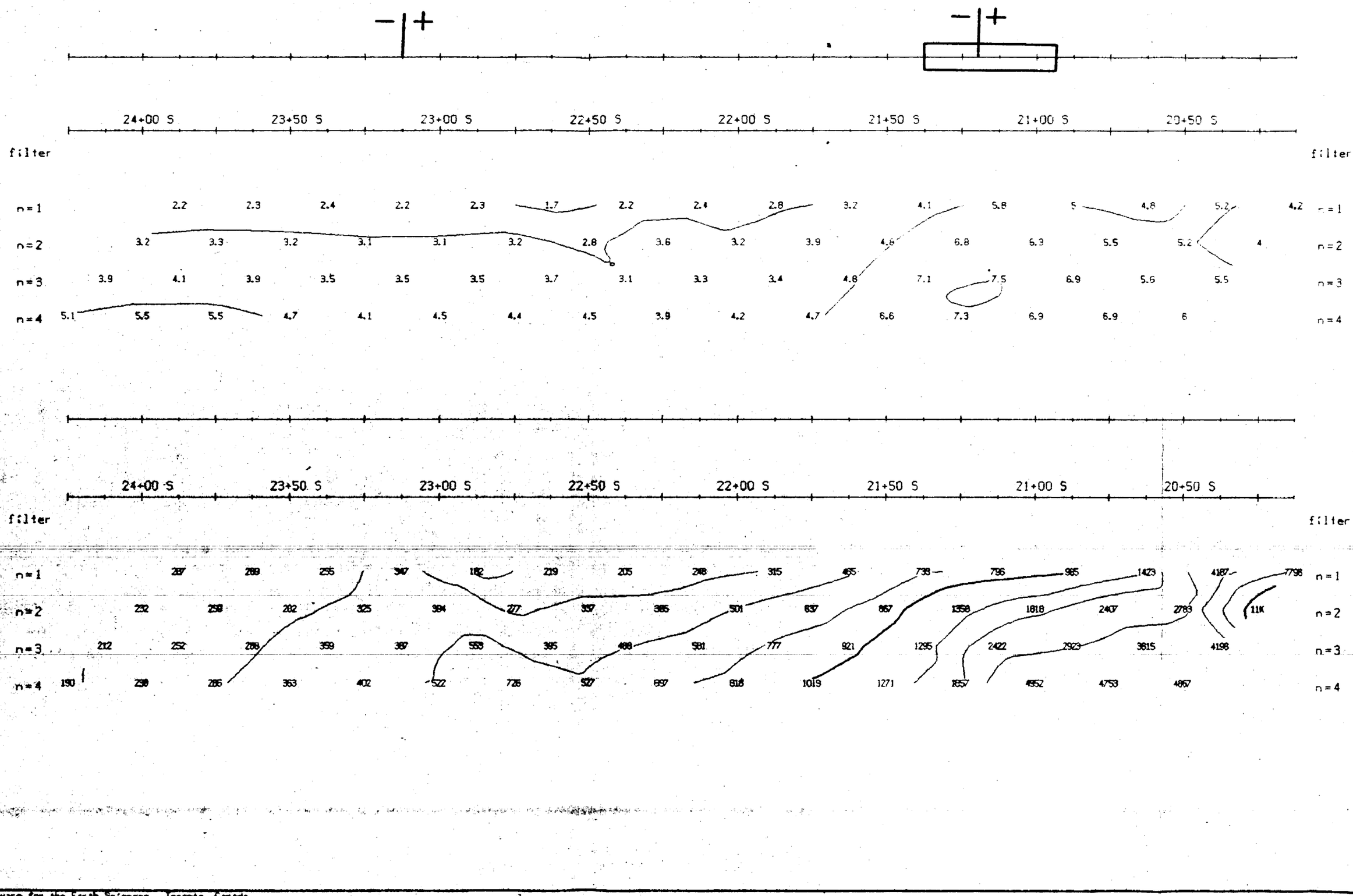
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

Title: Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 7, 1988 | Scale: 1 : 1250

Interp. by: G.H. | Job # M-229



GEOSOFT (tm) Software for the Earth Sciences, Toronto, Canada

INTERPRETATION

20+50 S

filter

CHARGEABILITY
(MSEC)

5.2 4.2 n = 1

5.2 4 n = 2

5.5 n = 3

6 n = 4

TOPOGRAPHY

20+50 S

filter

RESISTIVITY
(ohm-m)

4187 7796 n = 1

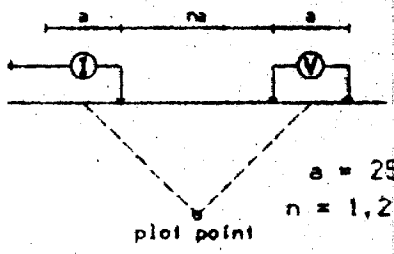
2783 11K n = 2

4198 n = 3

4867 n = 4

4+00W

Pole-Dipole Array



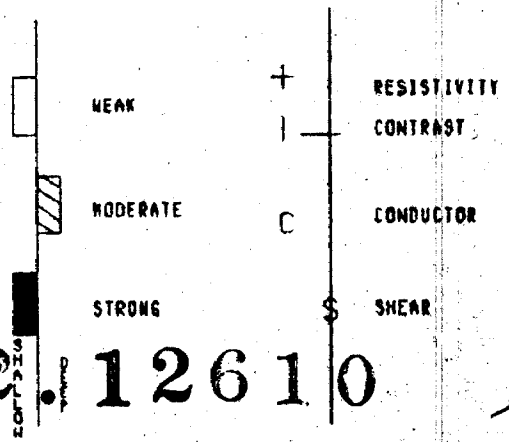
Filtered Profiles

Resistivity — — — —
Chargeability ————
Metal Factor - - - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

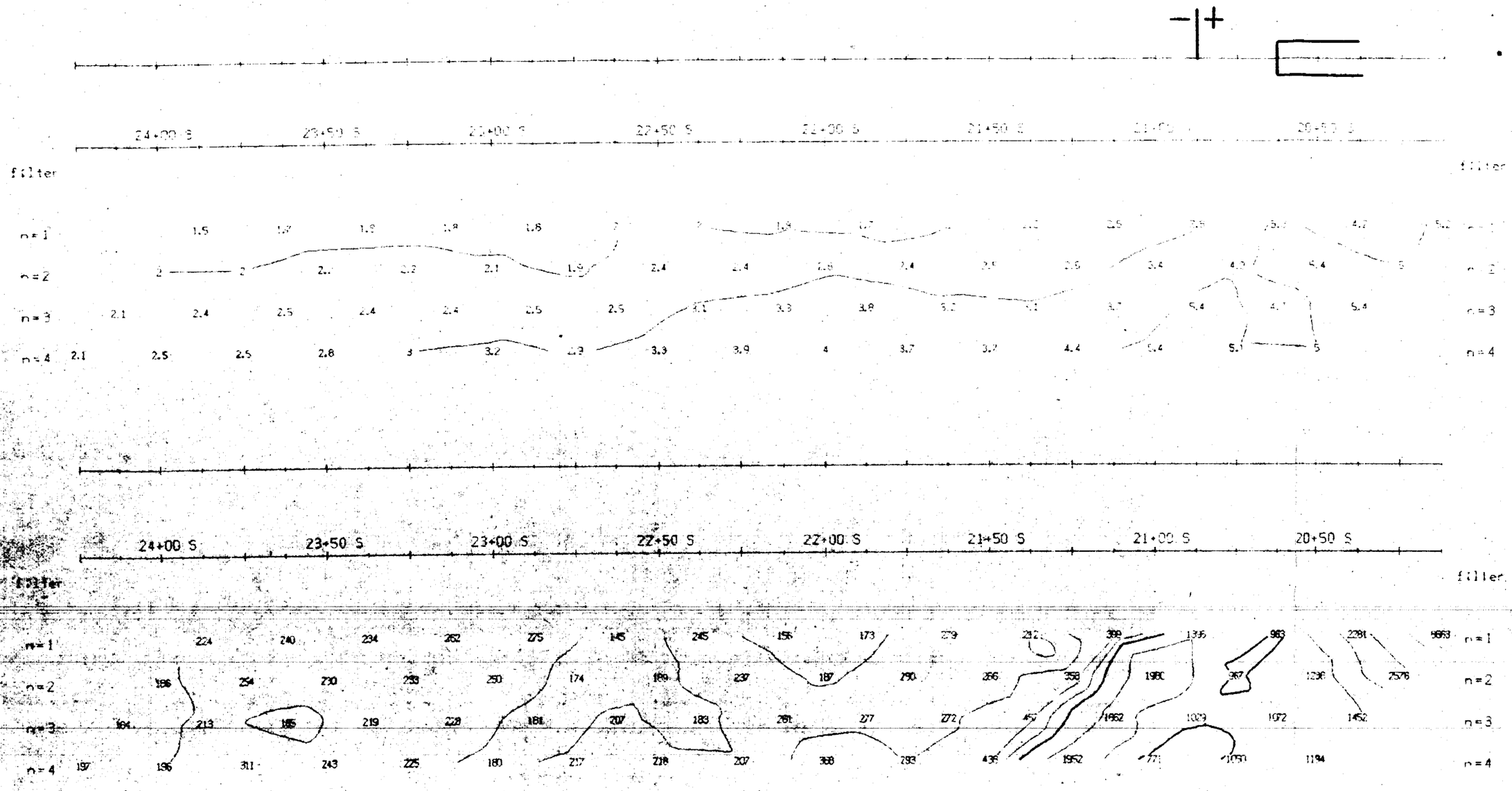


ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

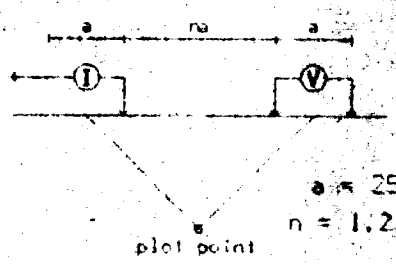
Title Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

Date: June 7, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # H-223


24+00 S
23+50 S
23+00 S
22+50 S
22+00 S
21+50 S
21+00 S
20+50 S
filter
n = 1
n = 2
n = 3
n = 4
TOPOGRAPHY
RESISTIVITY
(ohm-m)

2+00W

Pole-Dipole Array



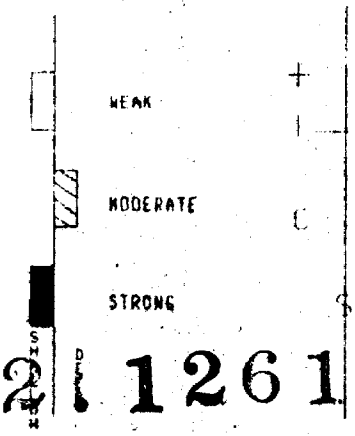
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



12610

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

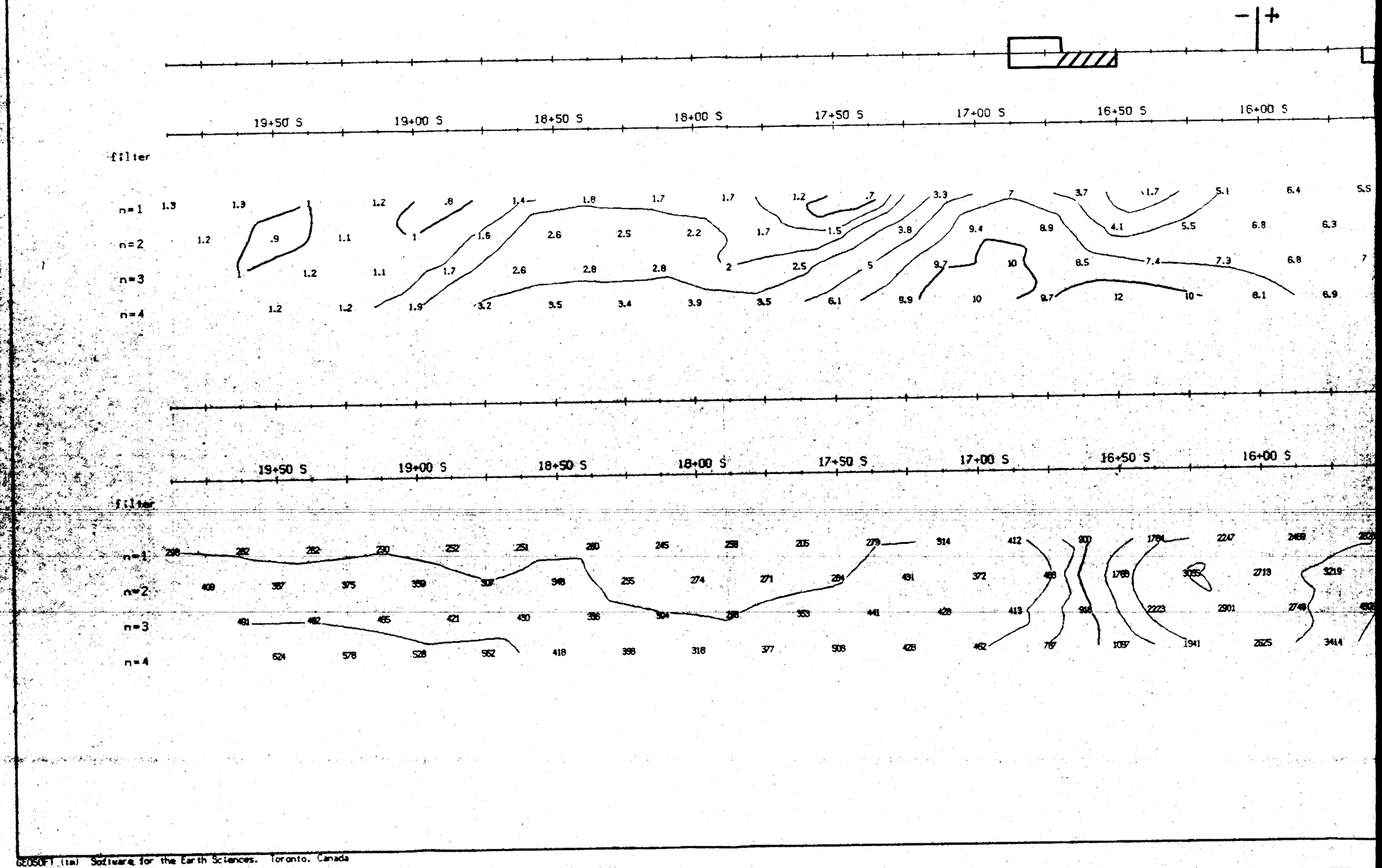
for

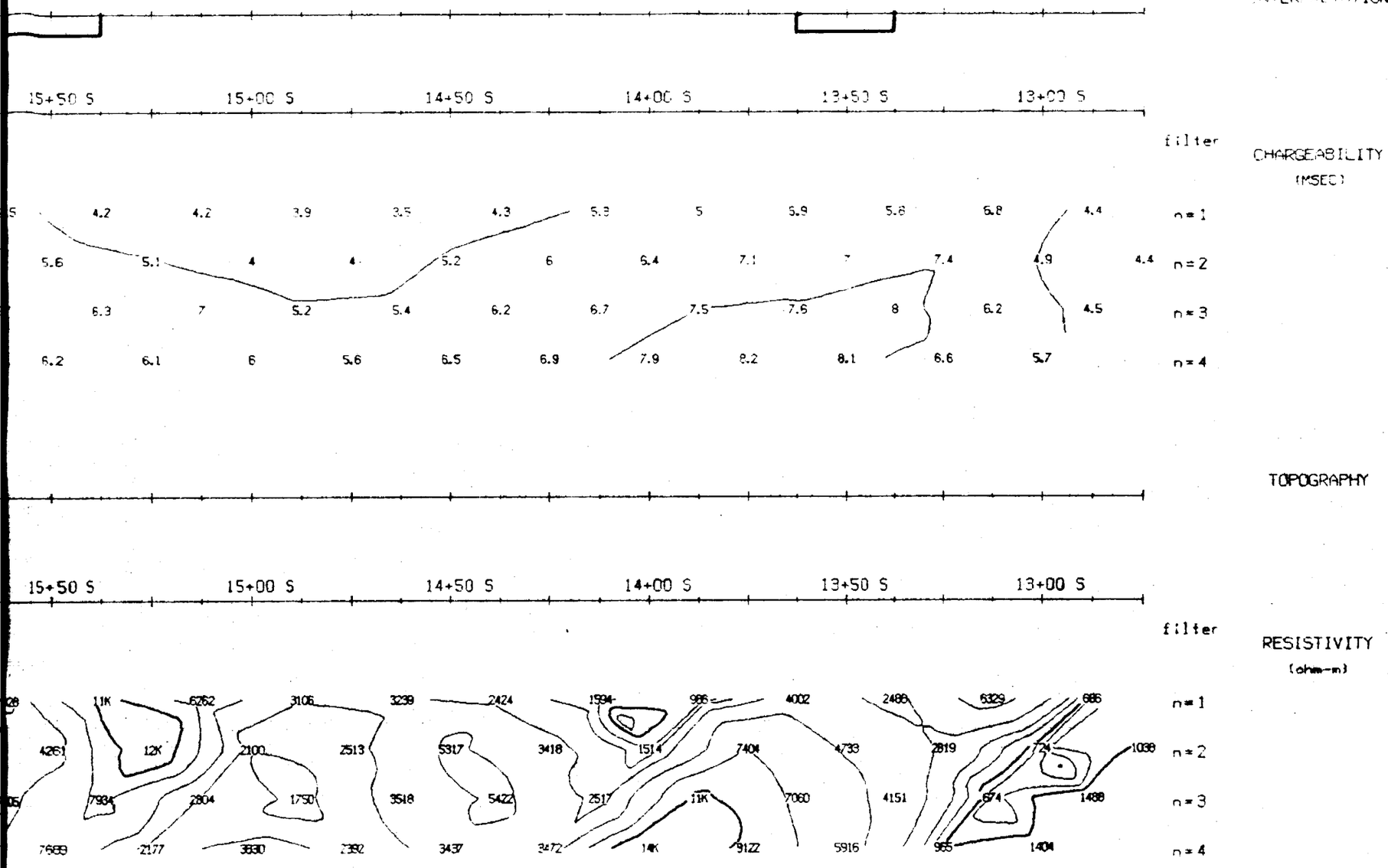
GLEN AUDEN RESOURCES

title

Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Penhorwood Twp., Ont.

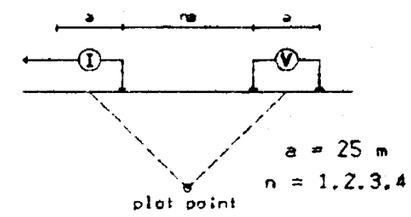
Date: June 7, 1988	Scale: 1" = 125'
Interp. by: G.H.	Job # M-229





6+00E

Pole-Dipole Array



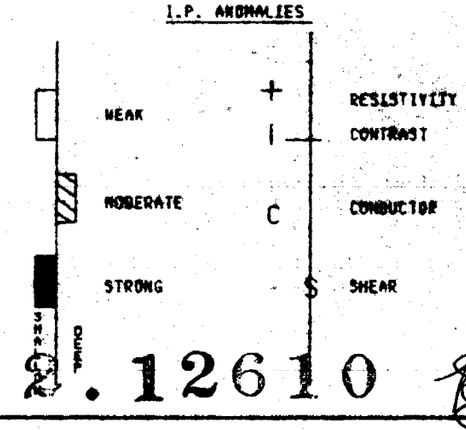
Filtered Profiles

Resistivity ——————
Chargeability ——————
Metal Factor - - - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



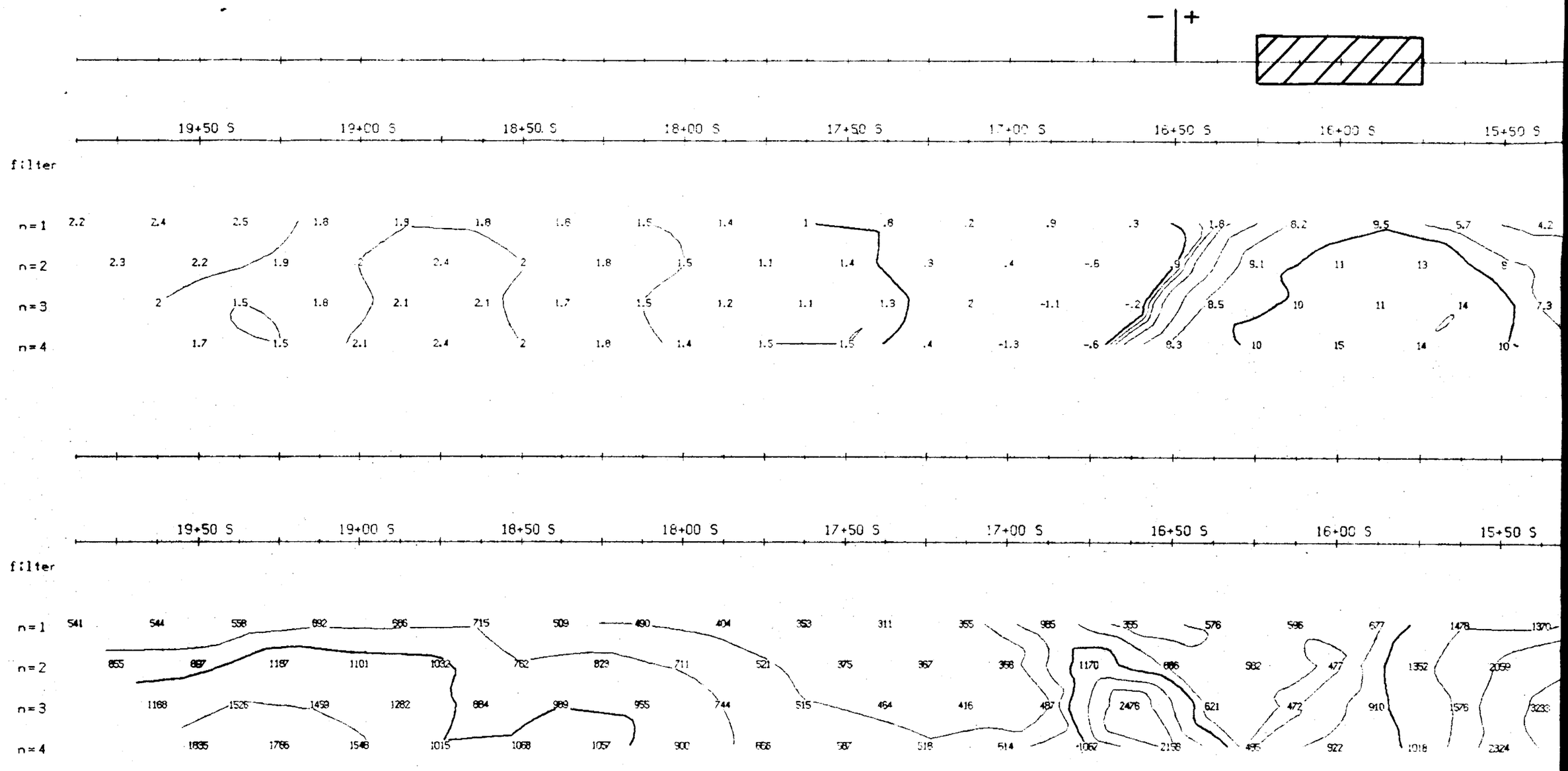
2.12610

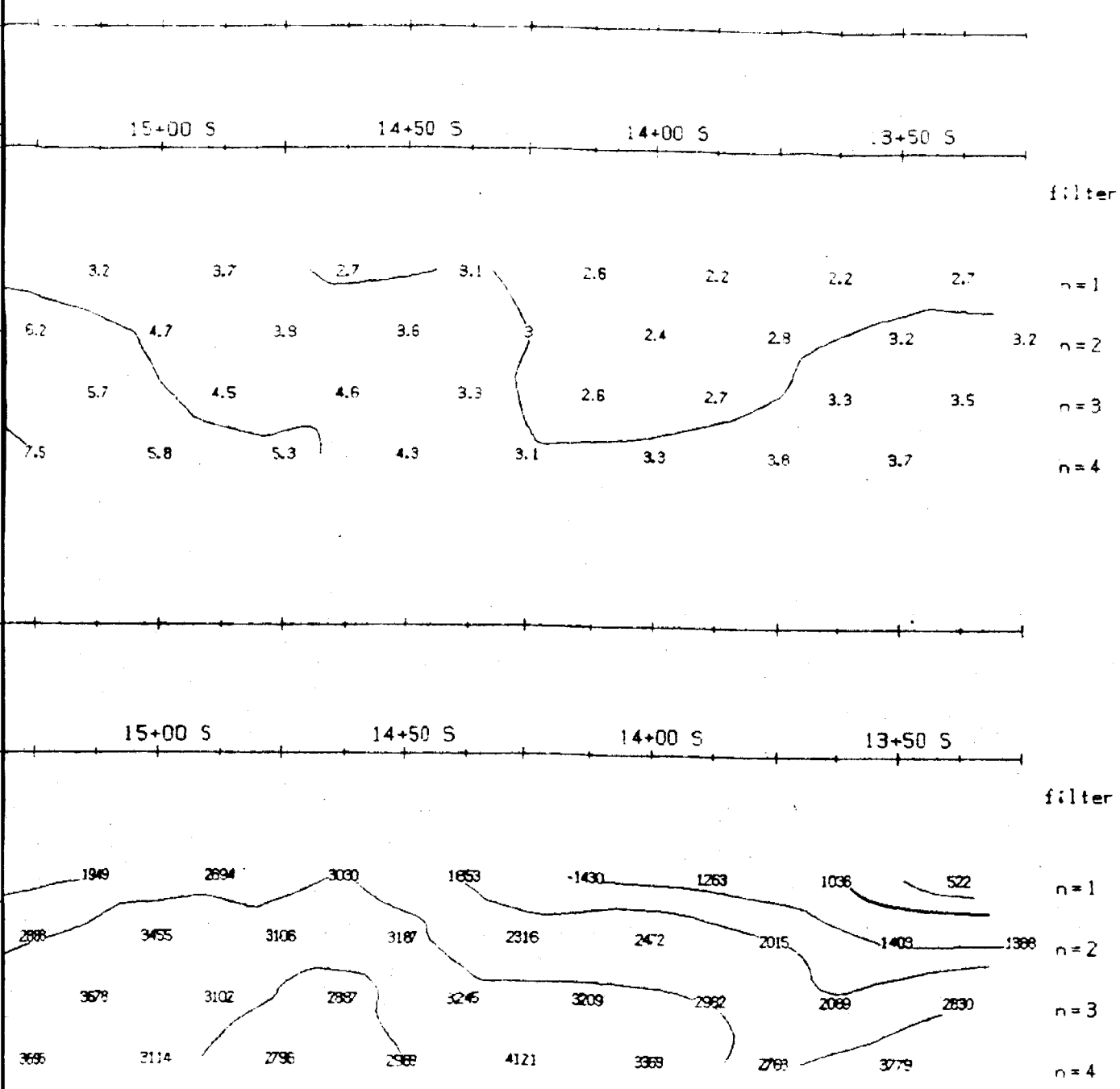
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GLEN AUDEN RESOURCES

Title
Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Kenogaming Twp., Ont.

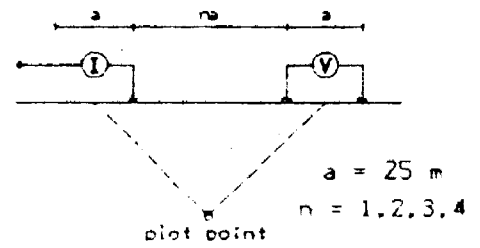
Date: June 10, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-223





8+00E

Pole-Dipole Array



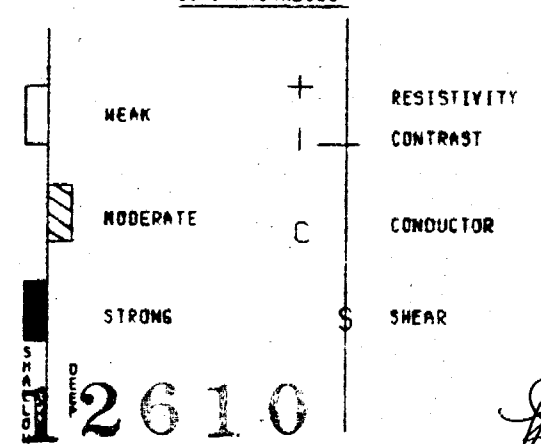
Filtered Profiles

Resistivity ————
Chargeability ————
Metal Factor --------

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



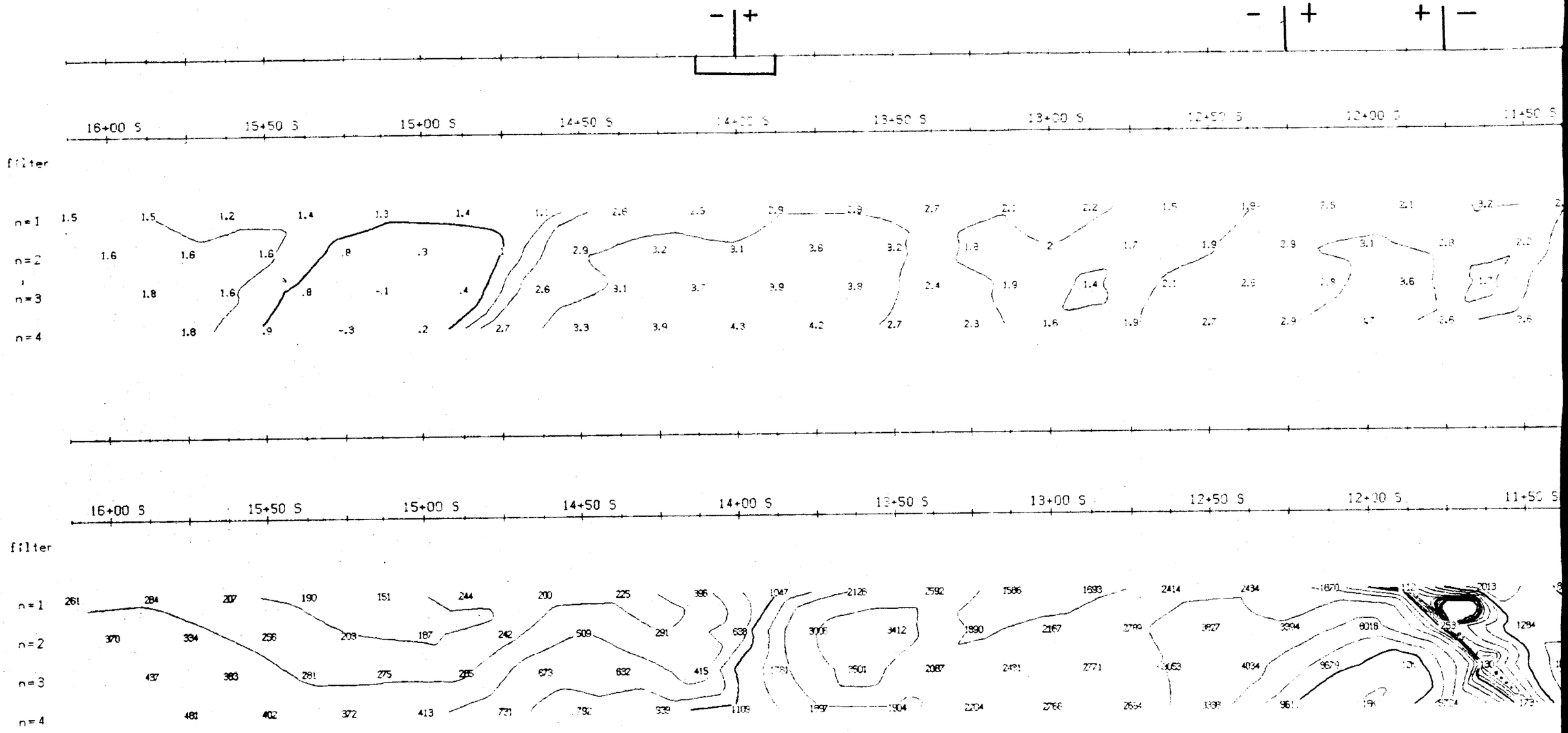
2.12610

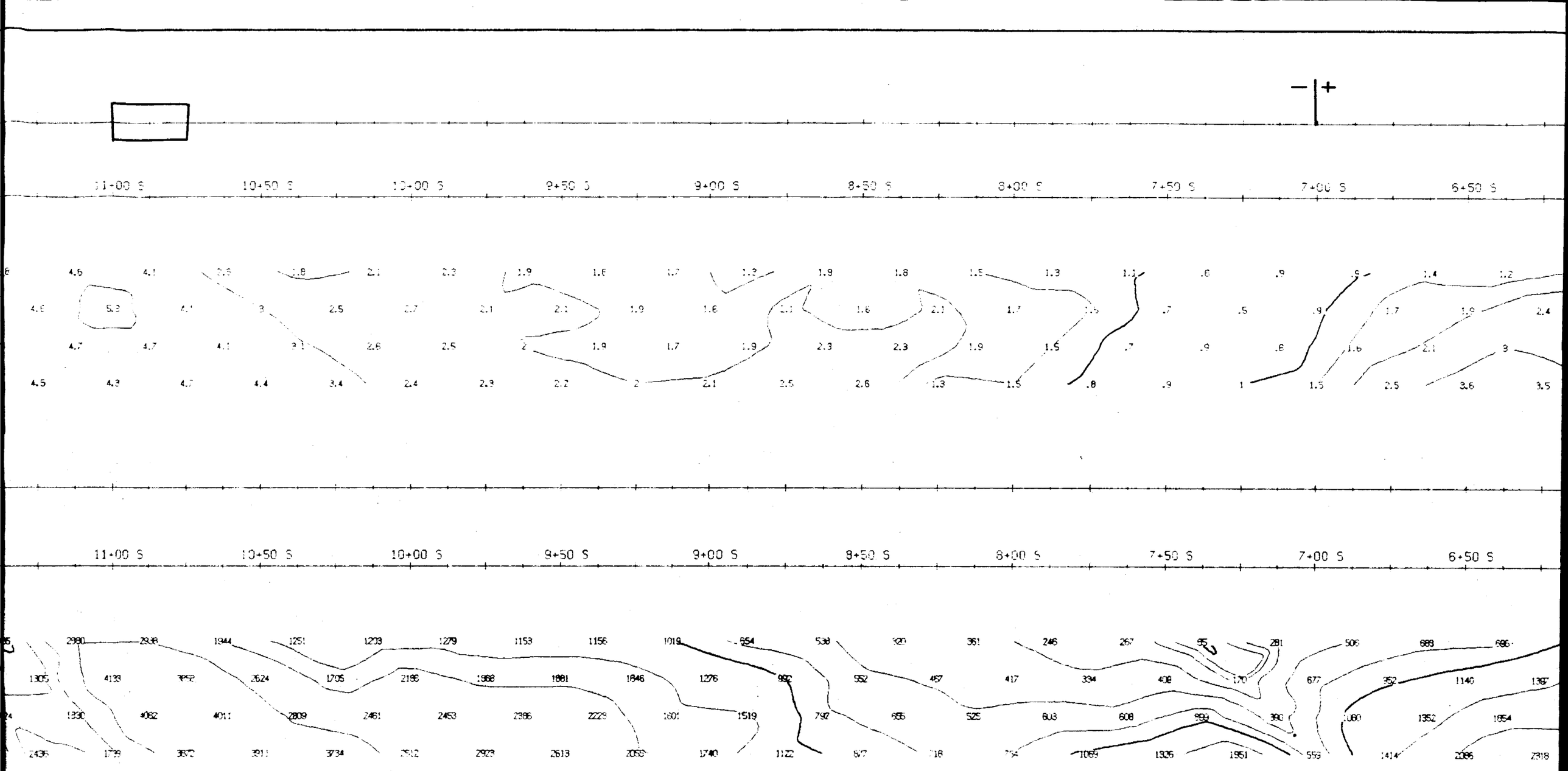
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

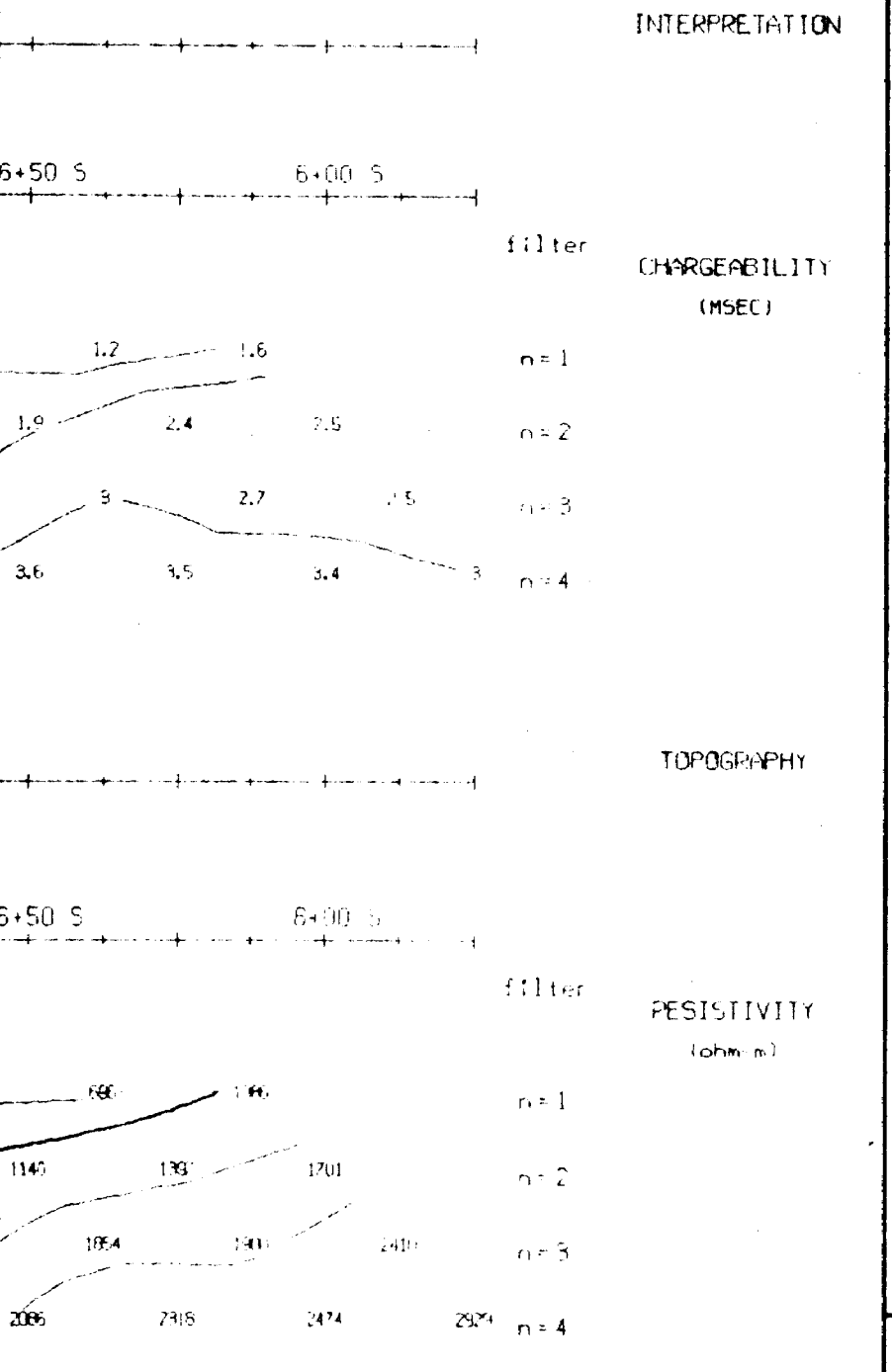
for GLEN AUDEN RESOURCES

Title
Time Domain
INDUCED POLARIZATION SURVEY
Sewell Lake Project
Kenogaming Twp., Ont.

Date: June 10, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223

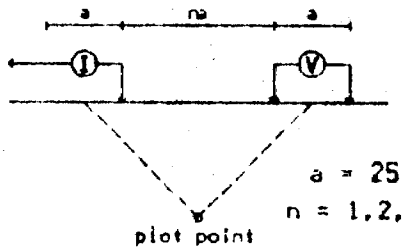



11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S



10+00E

Pole-Dipole Array



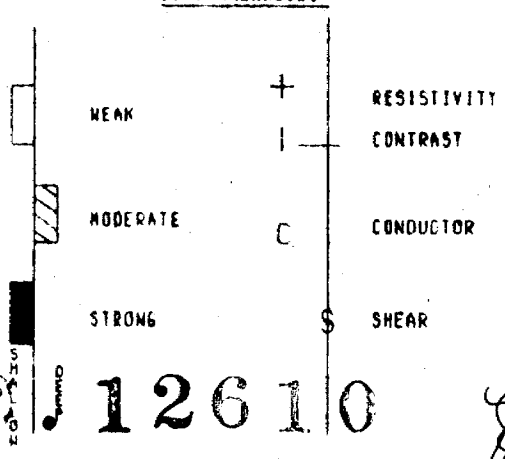
Filtered Profiles

Resistivity ————
Chargeability ————
Metal Factor --------

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

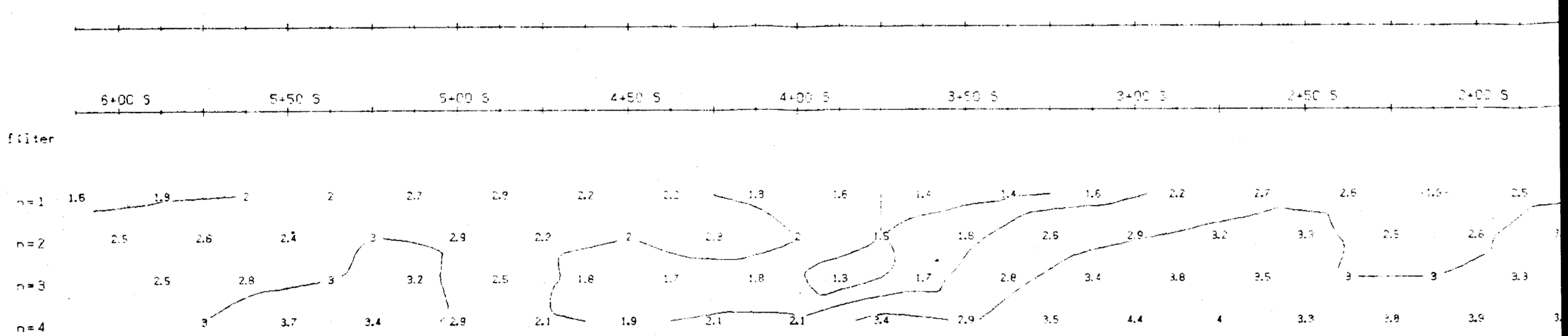


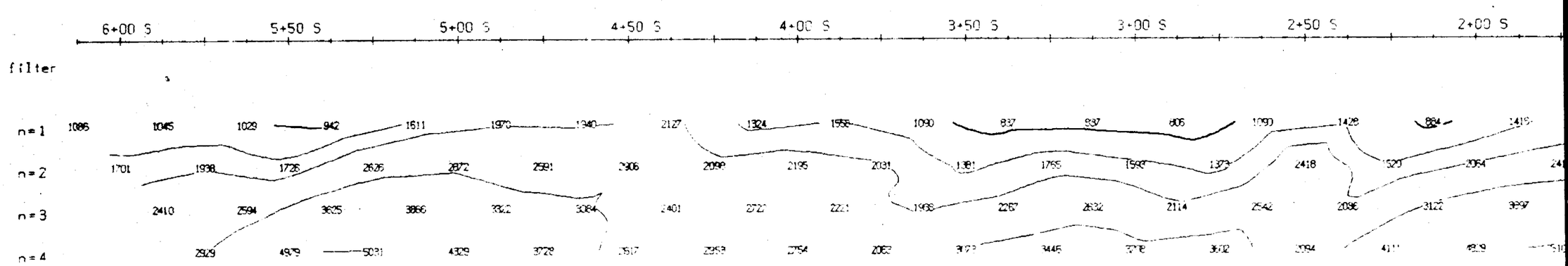
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title **Time Domain**
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 11, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-223



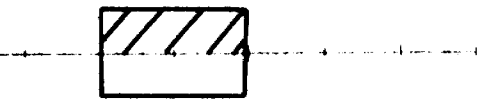


+ | −

1+50 S | 1+00 S | 0+50 S | 0+00 | 0+50 N | 1+00 N | 1+50 N | 2+00 N | 2+50 N

− | +

1+50 S | 1+00 S | 0+50 S | 0+00 | 0+50 N | 1+00 N | 1+50 N | 2+00 N | 2+50 N

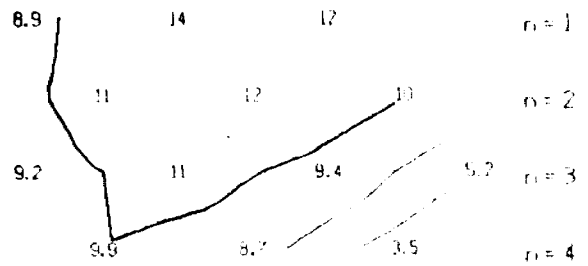


INTERPRETATION

N 3+00 N

filter

CHARGEABILITY
(MSEC)

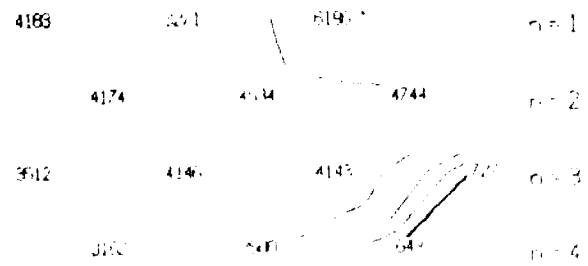


TOPOGRAPHY

N 3+00 N

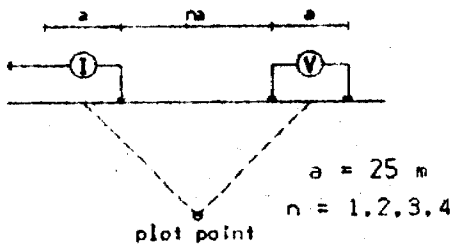
filter

RESISTIVITY
(ohm-m)



10+00E

Pole-Dipole Array



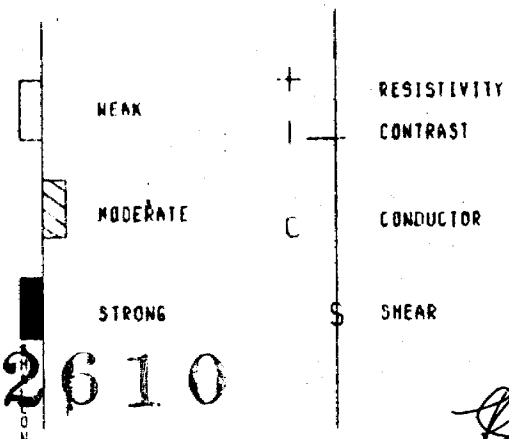
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



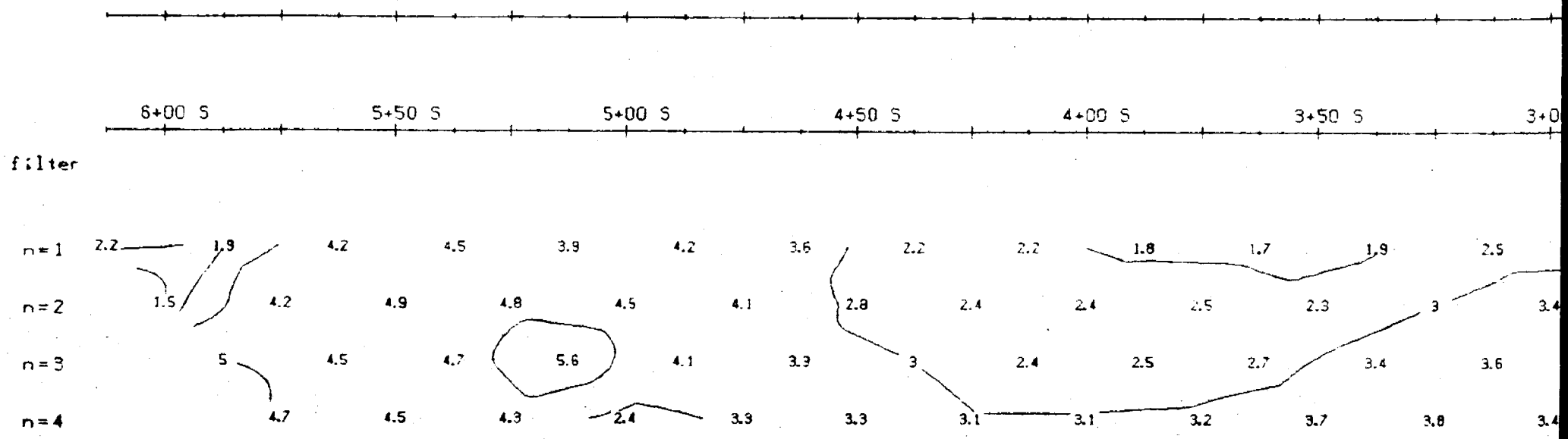
2.12610

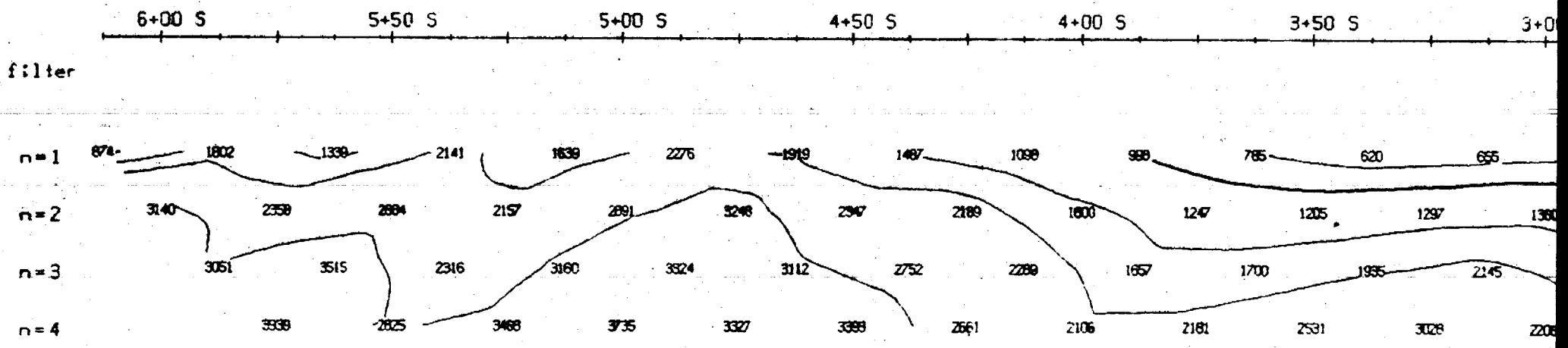
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

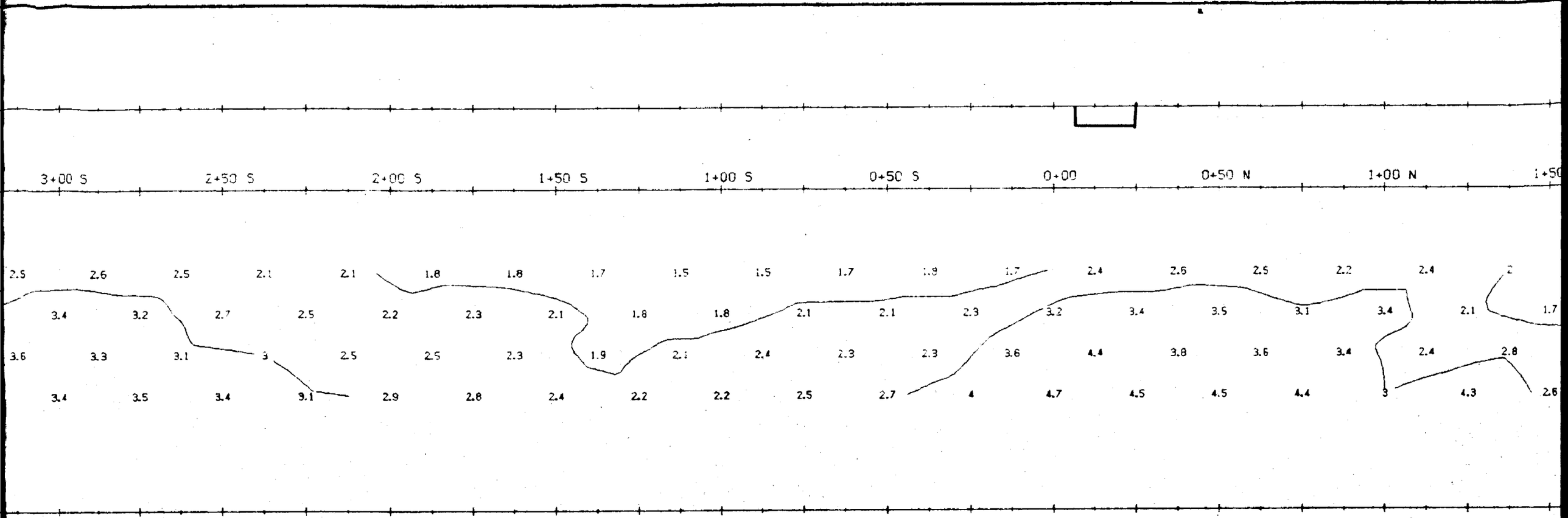
for GARL/GOLDROCK

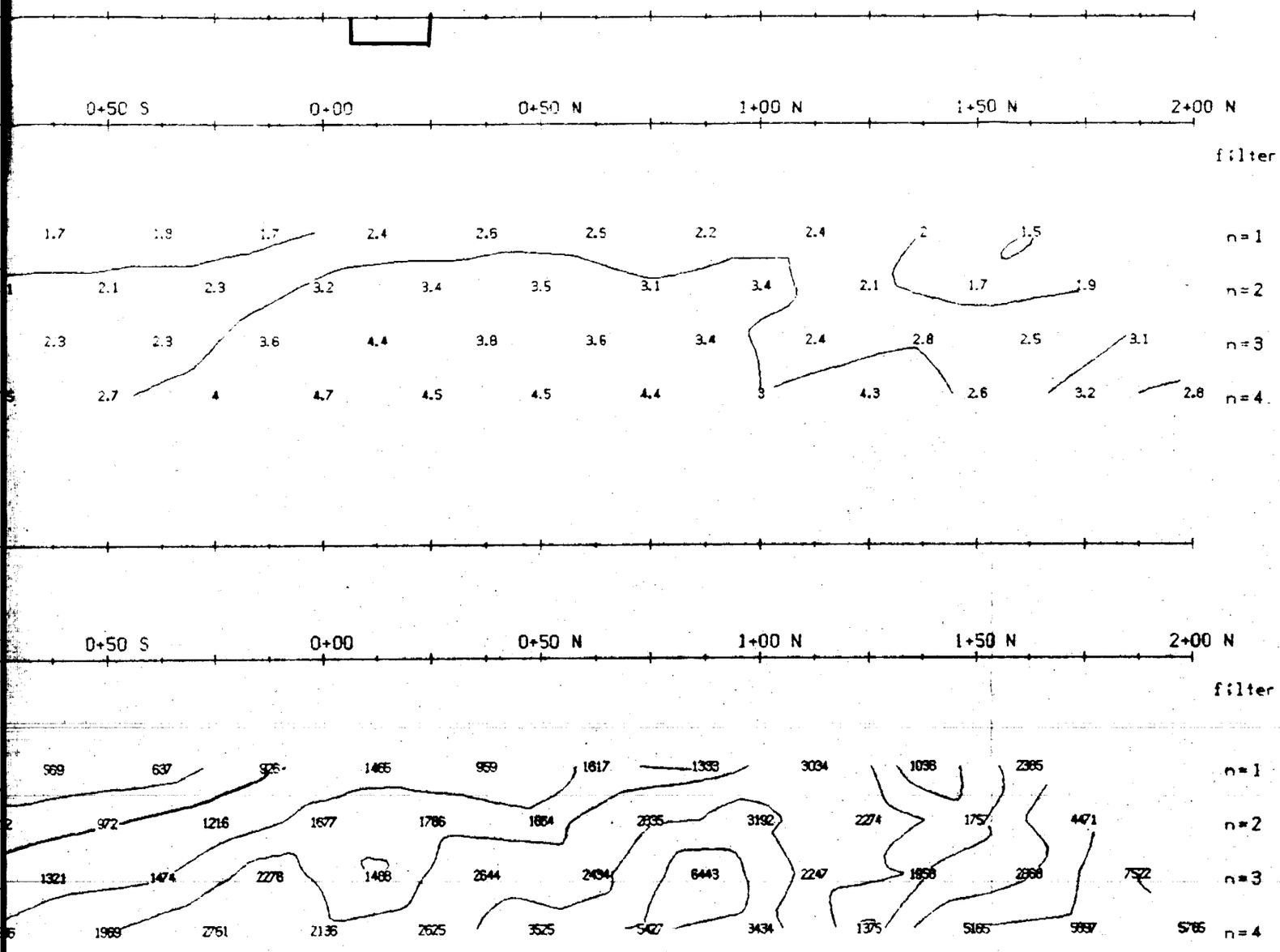
Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 11, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223



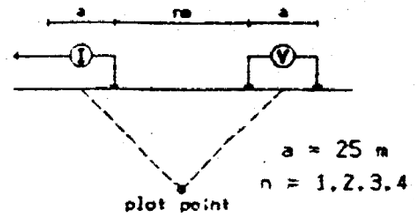



3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50
2.5 2.6 2.5 2.1 2.1 1.8 1.8 1.7 1.5 1.5 1.7 1.8 1.7 2.4 2.6 2.5 2.2 2.4
3.4 3.2 2.7 2.5 2.2 2.3 2.1 1.8 1.8 2.1 2.1 2.3 3.2 3.4 3.5 3.1 3.4 2.1 1.7
3.6 3.3 3.1 3 2.5 2.5 2.3 1.9 2.1 2.4 2.3 2.3 3.6 4.4 3.8 3.6 3.4 2.4 2.8
3.4 3.5 3.4 3.1 2.9 2.8 2.4 2.2 2.2 2.5 2.7 4 4.7 4.5 4.5 4.4 3 4.3 2.6
655 722 689 344 1169 1028 963 2763 689 794 569 637 926 1465 959 1617 1333 3034 1038
1360 1136 1417 754 1727 1485 1804 3809 1088 832 972 1216 1677 1786 1884 2635 3192 2274 1757
2145 1775 2019 2592 900 2094 2179 2803 2955 1017 1321 1474 2278 1488 2644 2494 6443 2247 1558
2208 3088 3490 2901 1004 2832 2139 1721 4346 1605 1969 2751 2135 2525 3525 5427 3434 1375 5185



12+00E

Pole-Dipole Array



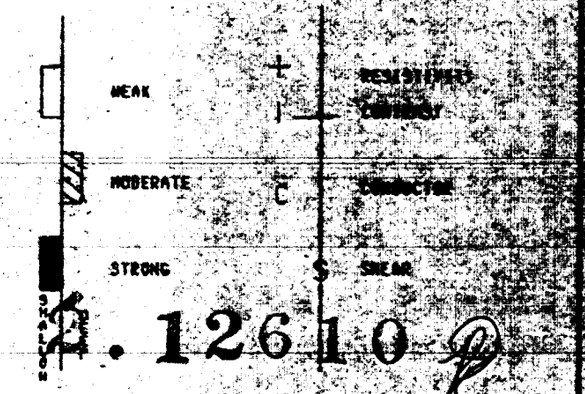
Filtered Profiles

Resistivity ——————
Chargeability ——————
Metal Factor ——————

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

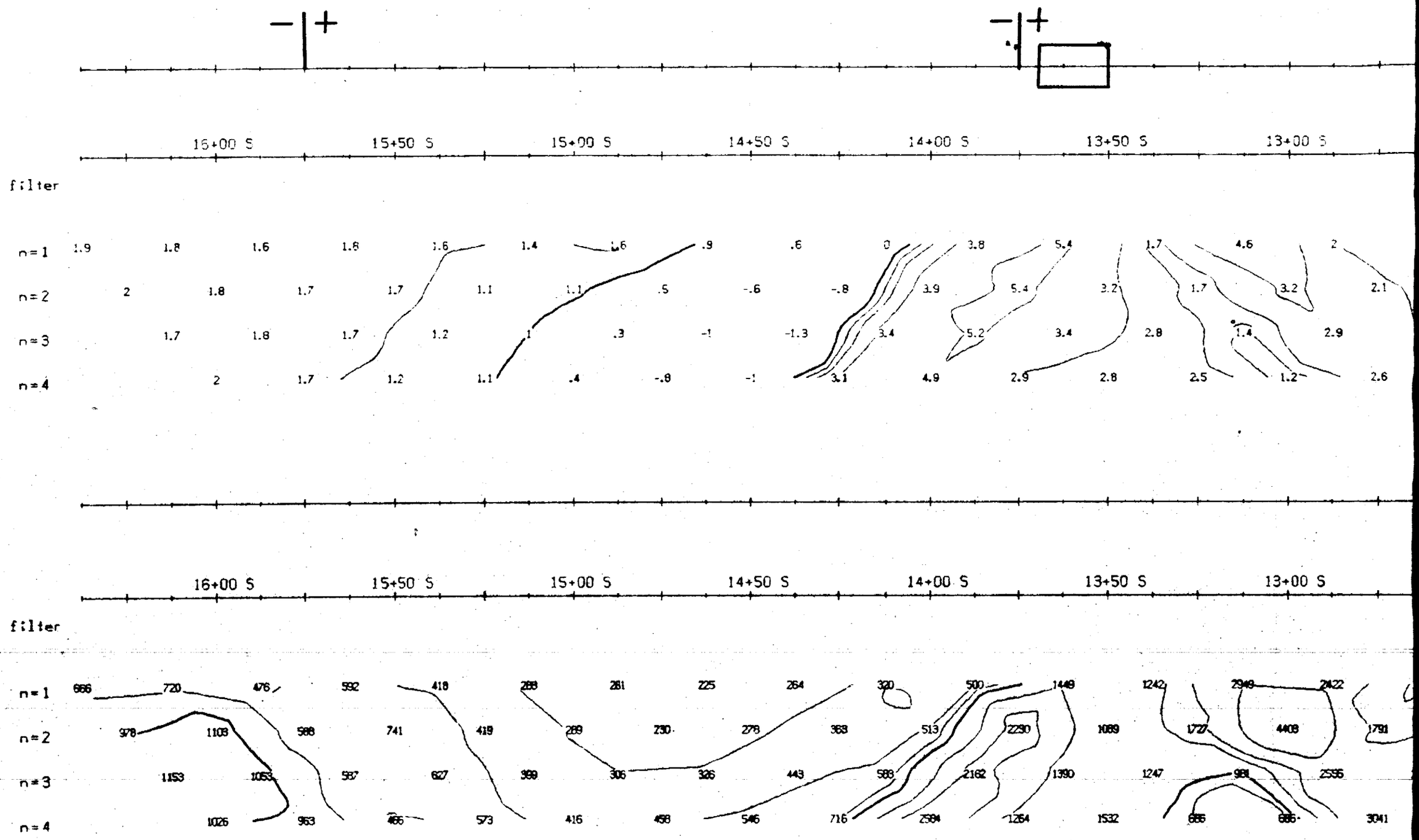


ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

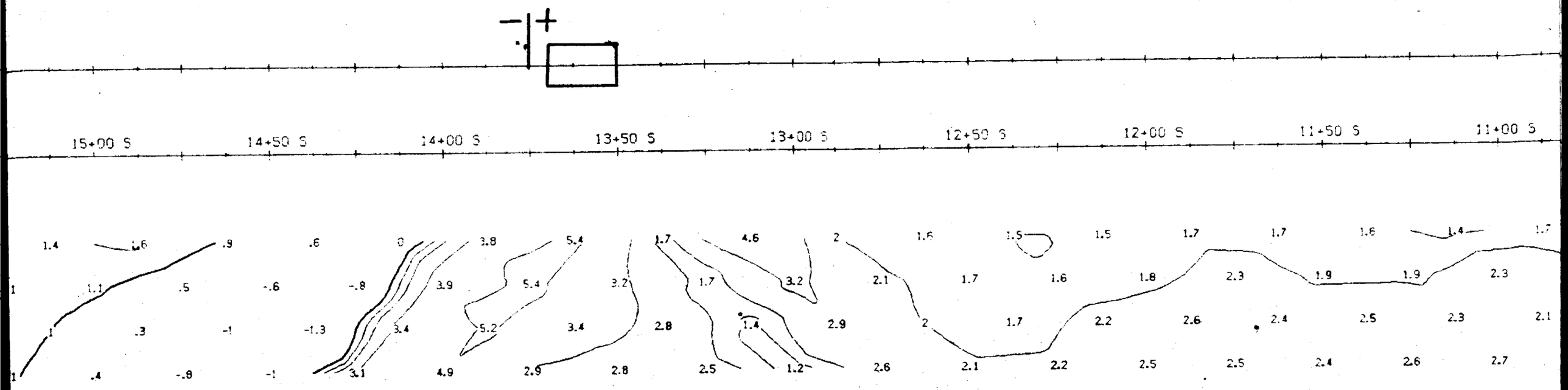
for GARL/GOLDROCK

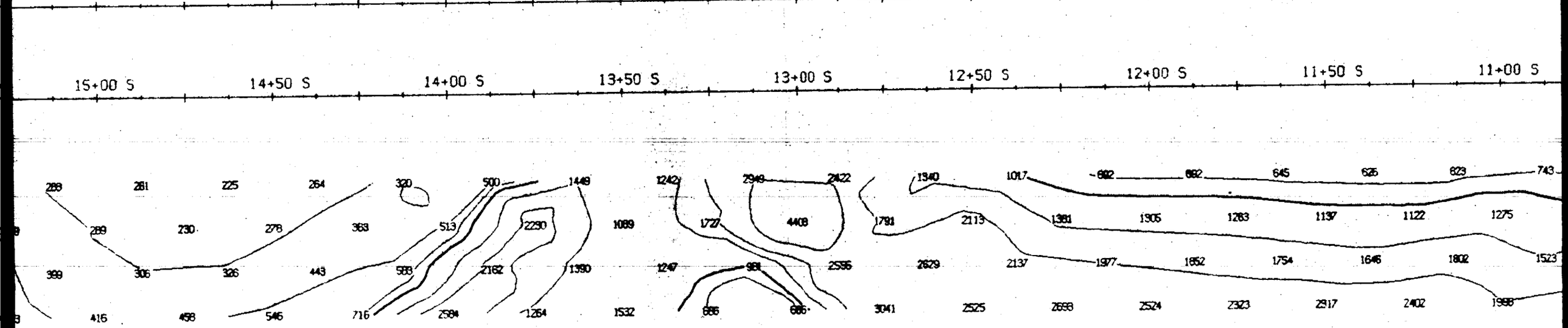
Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

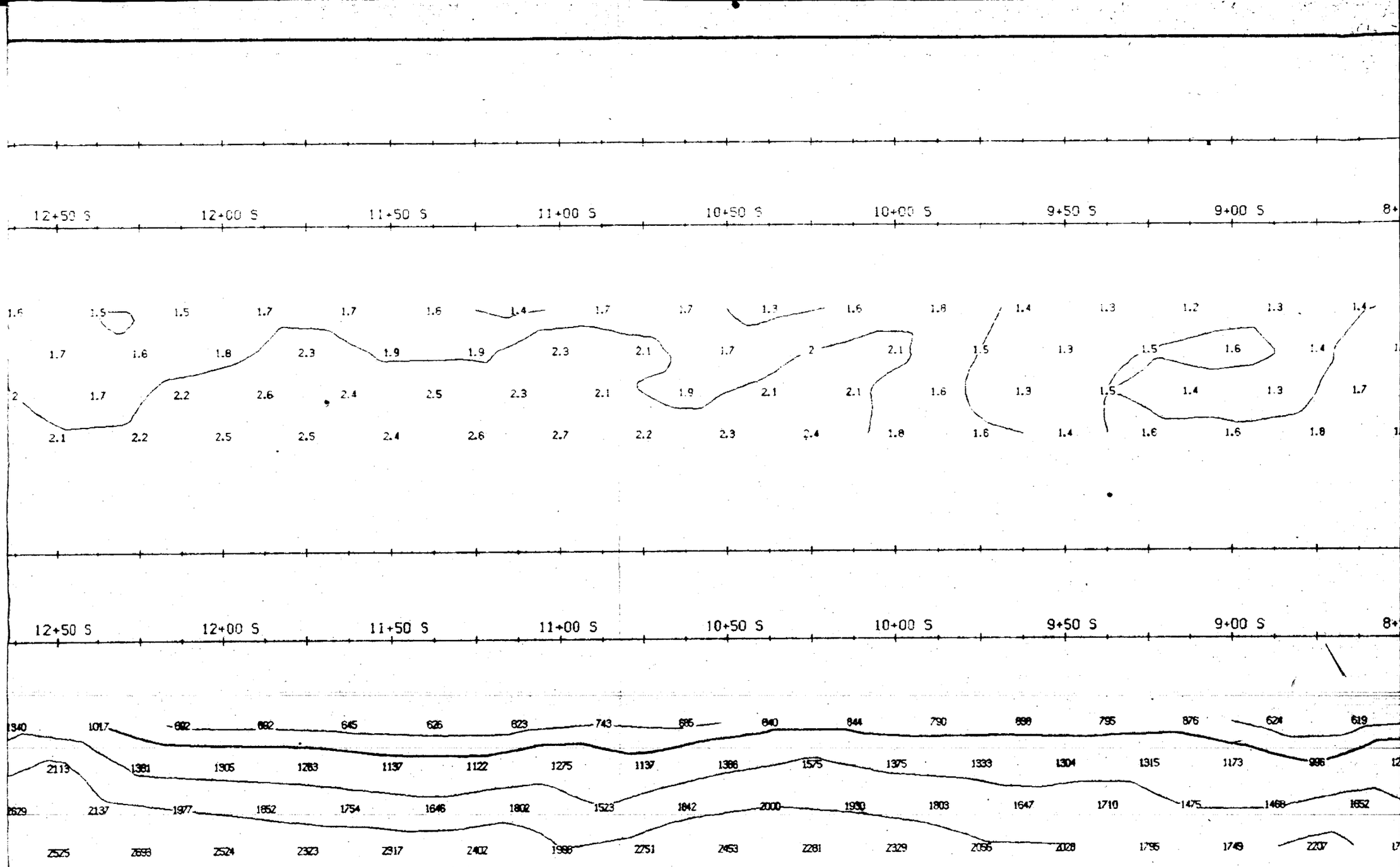
Date: June 12, 1988 | Scale: 1 : 1250
Interp. by: G.H. | Job # M-223

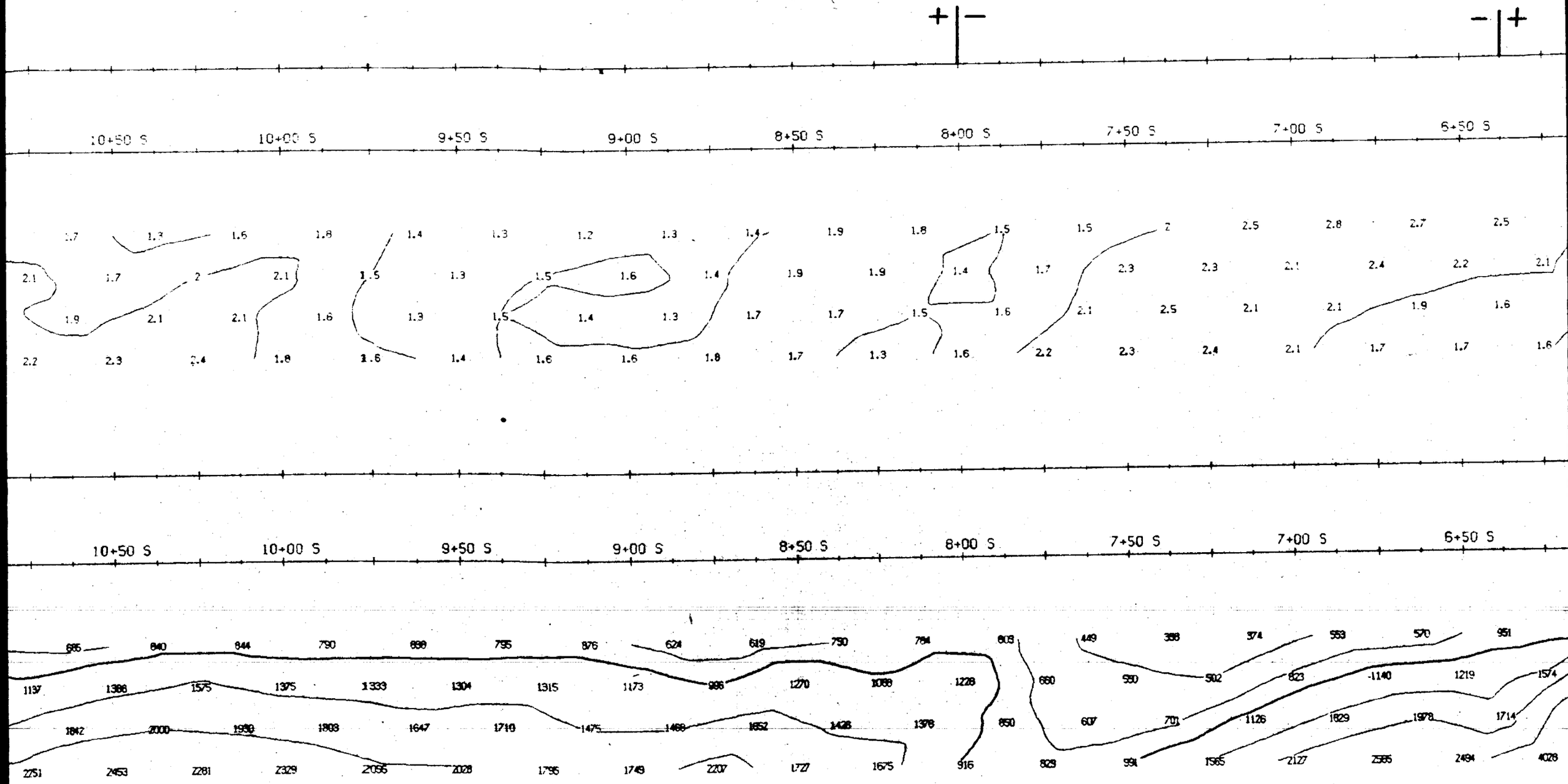


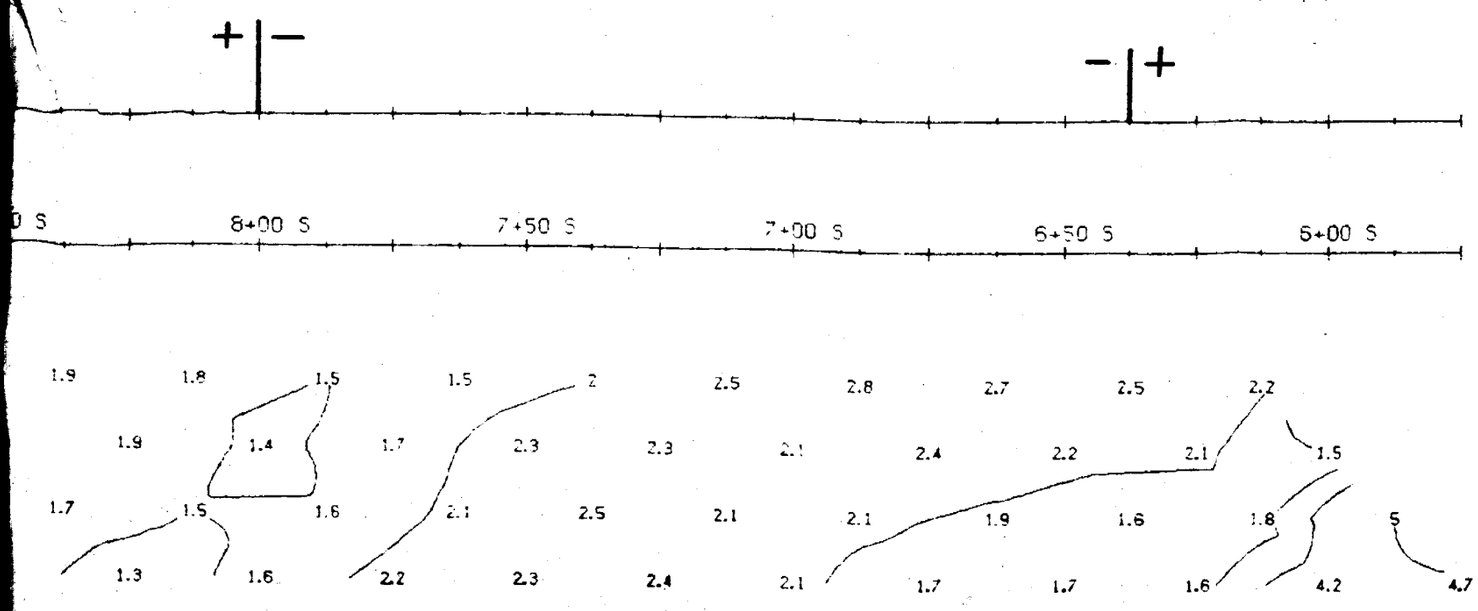
GEOSOFT (tm) Software for the Earth Sciences. Toronto, Canada


15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S


15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S

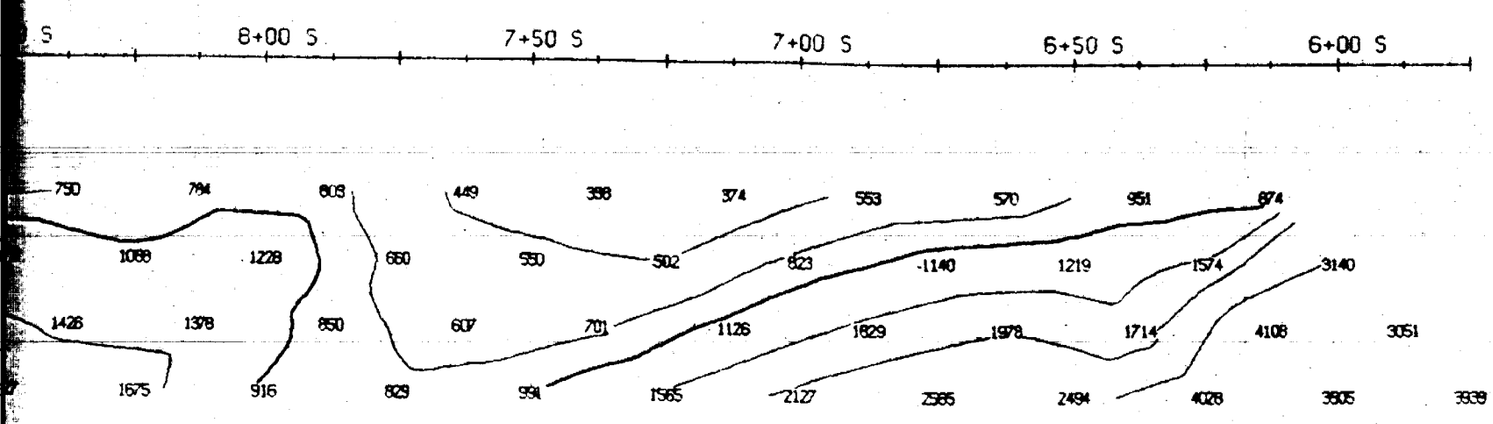

12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
1.6 1.5 1.5 1.7 1.7 1.6 1.4 1.7 1.7 1.3 1.6 1.8 1.4 1.3 1.2 1.3 1.4
1.7 1.6 1.8 2.3 1.9 1.9 2.3 2.1 1.7 2 2.1 1.5 1.3 1.5 1.6 1.4
2 1.7 2.2 2.6 2.4 2.5 2.3 2.1 1.9 2.1 2.1 1.6 1.3 1.5 1.4 1.3 1.7
2.1 2.2 2.5 2.5 2.4 2.6 2.7 2.2 2.3 2.4 1.8 1.8 1.4 1.6 1.6 1.8
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
1340 1017 682 682 645 626 623 743 685 840 844 790 999 795 876 624 619
2113 1381 1305 1263 1137 1122 1275 1137 1386 1575 1375 1333 1304 1315 1173 986
2629 2137 1977 1852 1754 1646 1802 1523 1842 2000 1950 1803 1647 1710 1475 1468 1652
2525 2698 2524 2323 2317 2402 1988 2751 2453 2281 2329 2095 2028 1795 1749 2207


+
−
−
+
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
1.7 1.3 1.6 1.8 1.4 1.3 1.2 1.3 1.4 1.9 1.8 1.5 1.5 2 2.5 2.8 2.7 2.5
2.1 1.7 2 2.1 1.5 1.3 1.5 1.6 1.4 1.9 1.9 1.4 1.7 2.3 2.3 2.1 2.4 2.2 2.1
1.9 2.1 2.1 1.6 1.3 1.5 1.4 1.3 1.7 1.7 1.5 1.6 2.1 2.5 2.1 2.1 1.9 1.6
2.2 2.3 2.4 1.8 1.6 1.4 1.6 1.6 1.8 1.7 1.3 1.6 2.2 2.3 2.4 2.1 1.7 1.7 1.6
685 840 844 790 880 795 876 624 619 750 784 603 449 388 374 553 570 951
1137 1388 1575 1375 1333 1304 1315 1173 986 1270 1088 1228 660 550 502 823 1140 1219 1574
1842 2000 1980 1808 1647 1710 1475 1468 1652 1428 1378 850 607 701 1126 1829 1978 1714
2751 2453 2281 2329 2056 2028 1795 1749 2207 1727 1675 916 829 994 1565 2127 2585 2494 4028



INTERPRETATION

CHARGEABILITY
(MSEC)

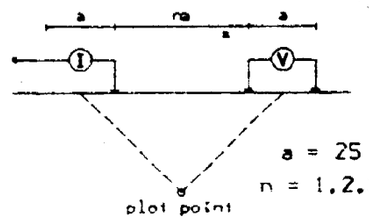


TOPOGRAPHY

RESISTIVITY
(ohm-m)

12+00E

Pole-Dipole Array



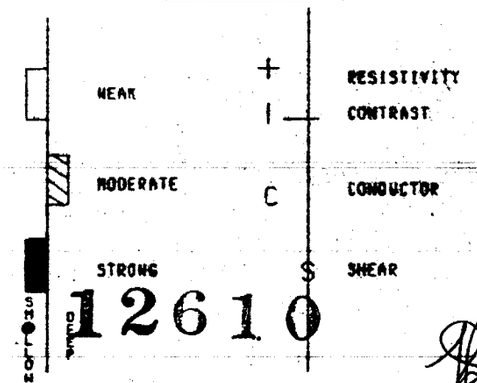
Filtered Profiles

Resistivity
Chargeability
Metal Factor

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

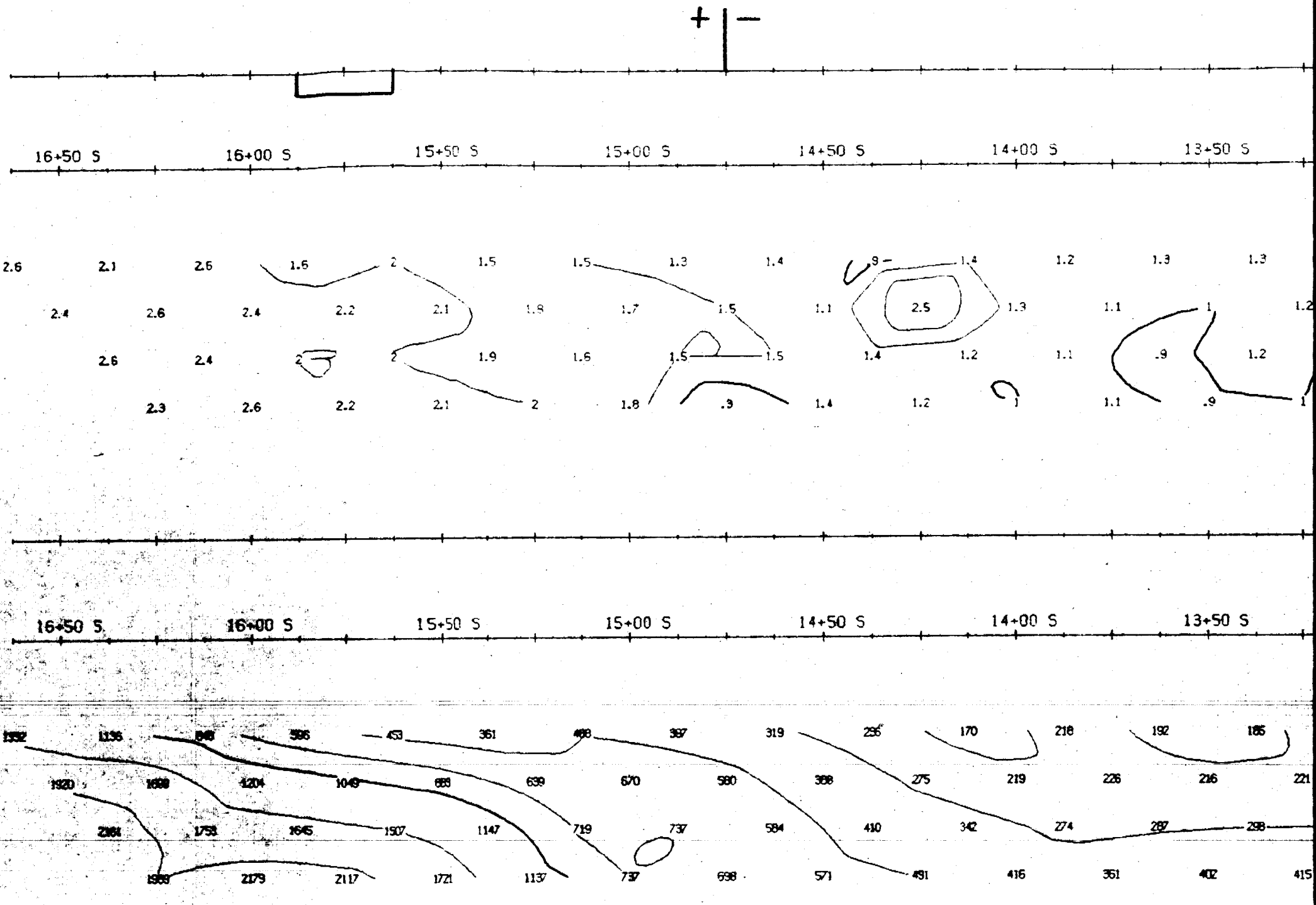


ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title
Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 12, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-229


+
−
16+50 S
16+00 S
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
filter
n=1
n=2
n=3
n=4
2.6 2.1 2.6 1.6 2 1.5 1.5 1.3 1.4 1.4 1.2 1.3 1.3
2.4 2.6 2.4 2.2 2.1 1.8 1.7 1.5 1.1 2.5 1.3 1.1 1 1.2
2.6 2.4 2 2 1.9 1.6 1.5 1.5 1.4 1.2 1.1 .9 1.2
2.3 2.6 2.2 2.1 2 1.8 .9 1.4 1.2 1 1.1 .9 1
16+50 S
16+00 S
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
filter
n=1
n=2
n=3
n=4
1592 1336 848 596 453 361 488 397 319 256 170 218 192 185
1920 1688 1204 1049 885 639 670 580 368 275 219 226 216 221
2361 1758 1645 1507 1147 719 737 584 410 342 274 287 298
1969 2179 2117 1721 1137 737 698 571 491 416 361 402 415

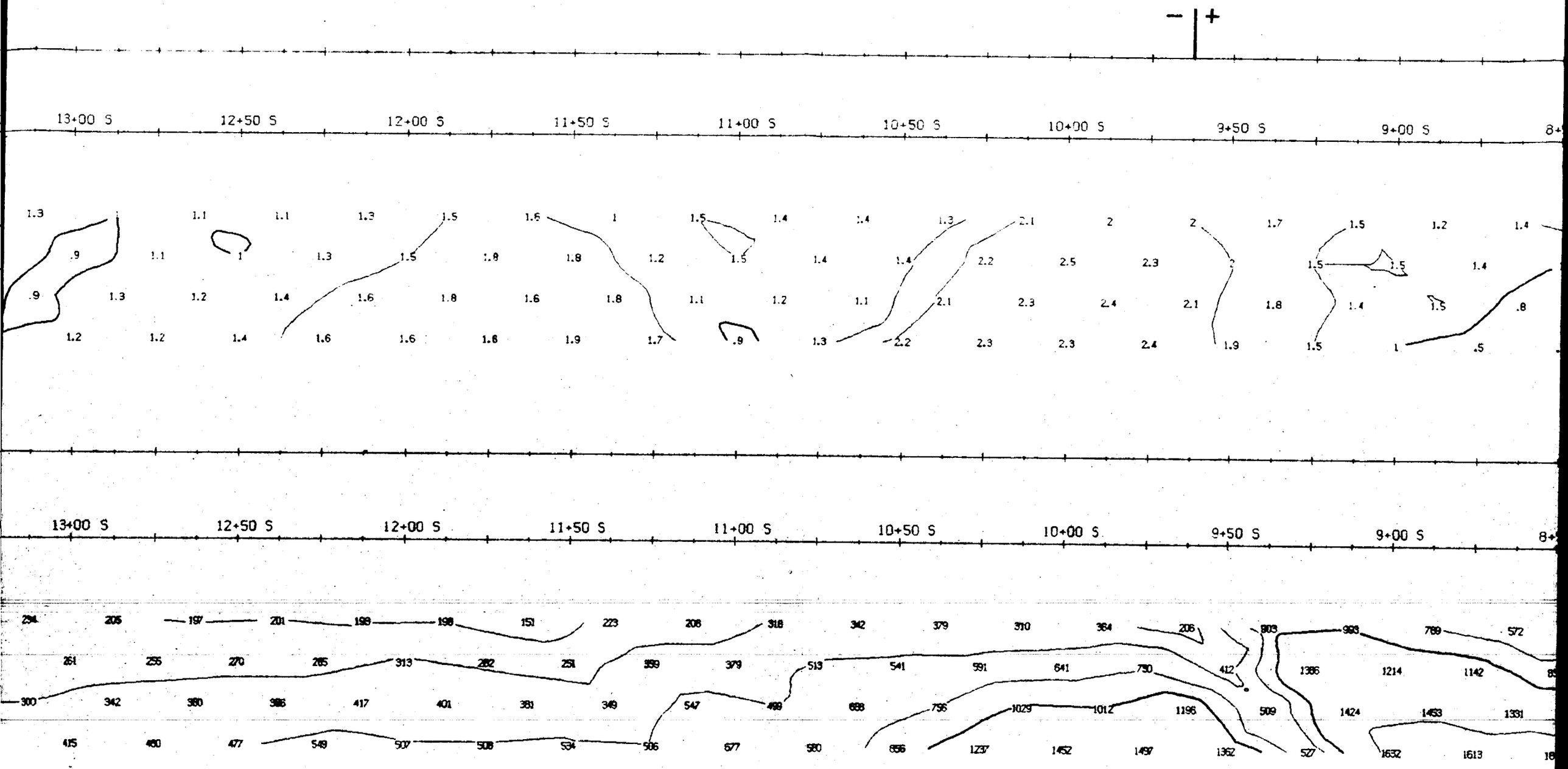
+ | −

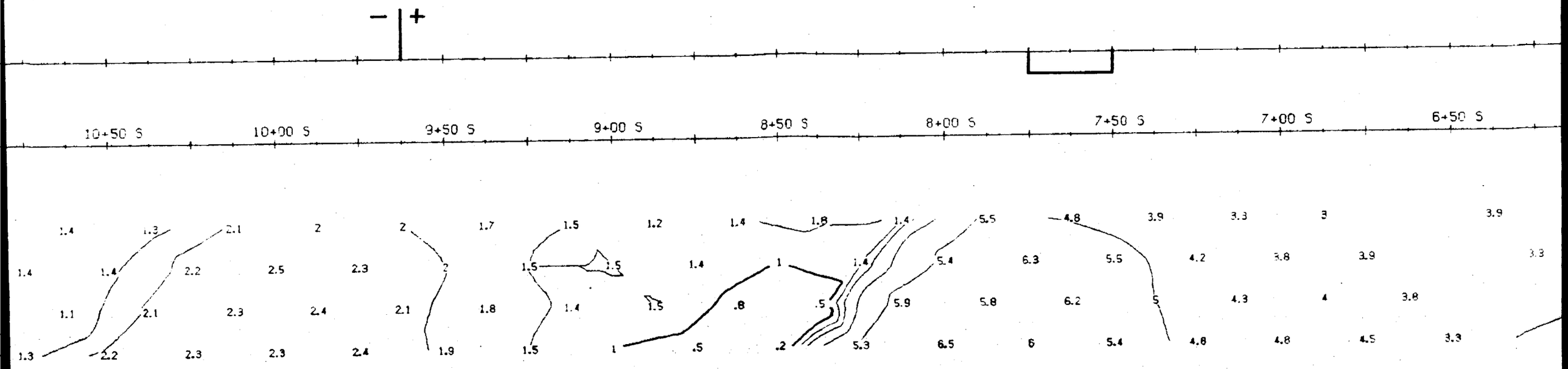
15+50 S 15+00 S 14+50 S 14+00 S 13+50 S 13+00 S 12+50 S 12+00 S 11+50 S 11+00 S

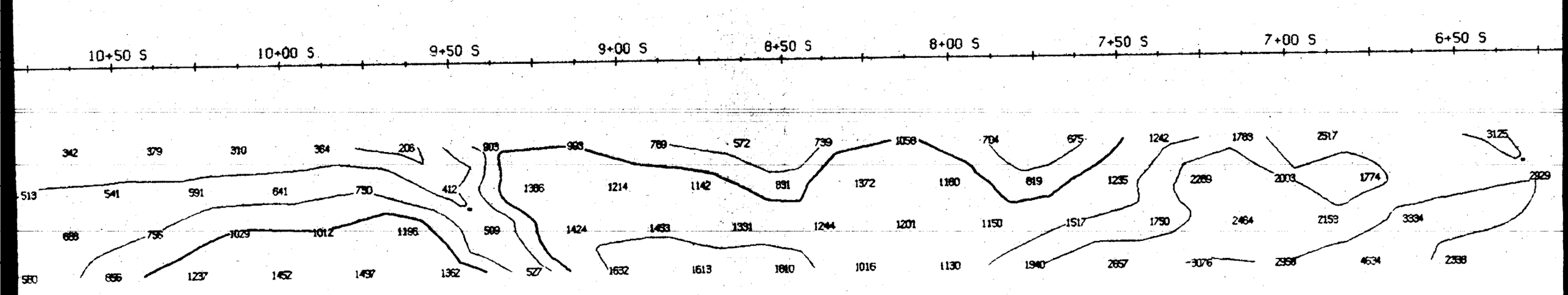
1.5 1.5 1.3 1.4 .9 1.4 1.2 1.3 1.3 1.3 1.1 1.1 1.3 1.5 1.6 1 1.5 1.4
2.1 1.8 1.7 1.5 1.1 2.5 1.3 1.1 1 1.2 .9 1.1 1 1.3 1.5 1.8 1.8 1.2 1.5
1.9 1.6 1.5 1.5 1.4 1.2 1.1 .9 1.2 .9 1.3 1.2 1.4 1.6 1.8 1.6 1.8 1.1 1.2
2.1 2 1.8 .3 1.4 1.2 1 1.1 .9 1 1.2 1.2 1.4 1.6 1.6 1.8 1.9 1.7 .9

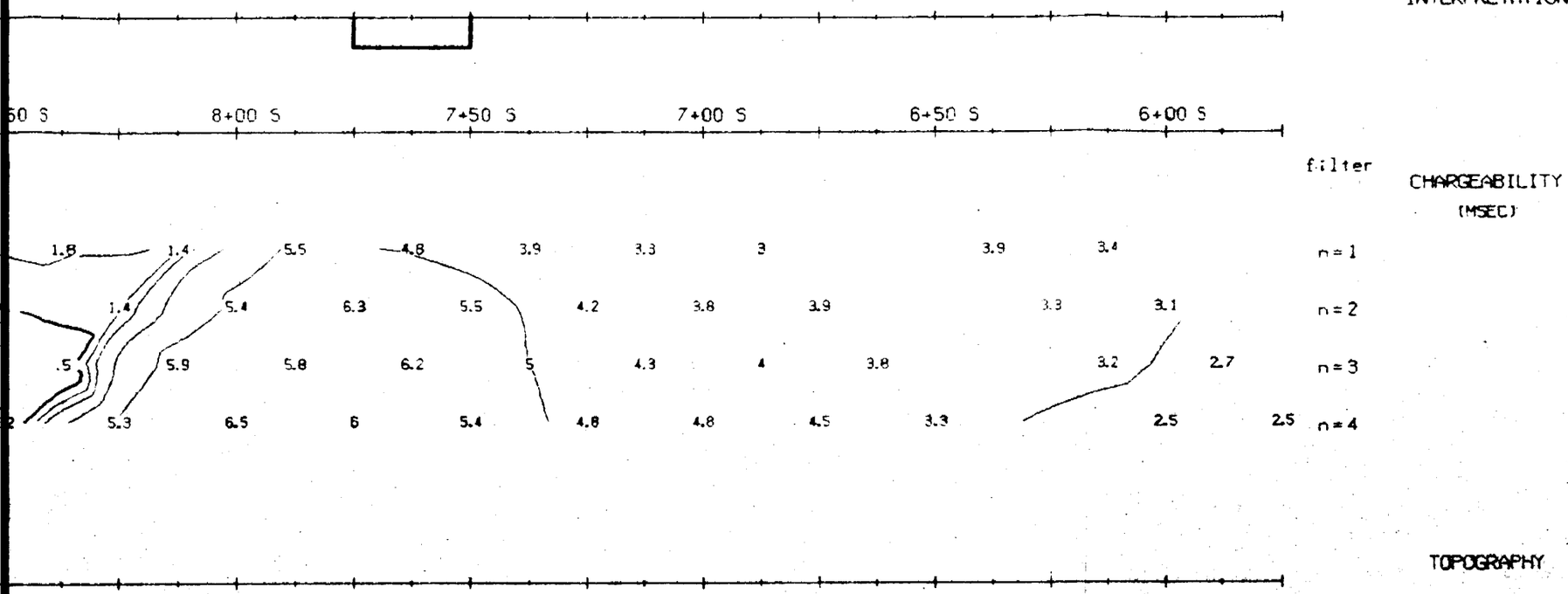
15+50 S 15+00 S 14+50 S 14+00 S 13+50 S 13+00 S 12+50 S 12+00 S 11+50 S 11+00 S

361 488 397 319 236 170 218 192 285 294 205 197 201 199 198 151 223 208 318
639 670 580 388 275 219 226 206 221 261 255 270 285 313 282 251 359 379
1147 719 737 584 410 342 274 287 298 300 342 380 386 417 401 381 349 547 499
721 1137 737 698 571 491 416 361 402 415 415 480 477 549 507 508 534 506 677


−
+
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+
1.3 1.1 1.1 1.3 1.5 1.6 1 1.5 1.4 1.4 1.3 2.1 2 2 1.7 1.5 1.2 1.4
.9 1.1 1 1.3 1.5 1.8 1.8 1.2 1.5 1.4 1.4 2.2 2.5 2.3 2 1.5 1.5 1.4
.9 1.3 1.2 1.4 1.6 1.8 1.6 1.8 1.1 1.2 1.1 2.1 2.3 2.4 2.1 1.8 1.4 1.5 .8
1.2 1.2 1.4 1.6 1.6 1.8 1.9 1.7 .9 1.3 2.2 2.3 2.3 2.4 1.9 1.5 1
.5
294 205 197 201 198 198 151 223 208 318 342 379 310 364 206 803 993 789 572
261 255 270 265 313 282 251 359 379 513 541 591 641 750 412 1386 1214 1142
300 342 380 386 417 401 381 349 547 499 688 756 1029 1012 1196 509 1424 1453 1331
415 460 477 549 507 508 534 506 677 580 856 1237 1452 1497 1362 527 1632 1613

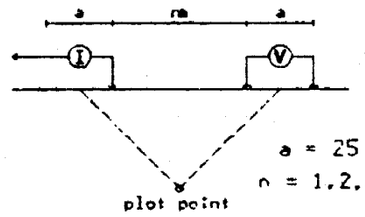

−
+
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
1.4 1.3 2.1 2 2 1.7 1.5 1.2 1.4 1.8 1.4 5.5 4.8 3.9 3.3 3 3.9
1.4 1.4 2.2 2.5 2.3 2 1.5 1.5 1.4 1 1.4 5.4 6.3 5.5 4.2 3.8 3.9 3.8
1.1 2.1 2.3 2.4 2.1 1.8 1.4 1.5 .8 .5 5.9 5.8 6.2 5 4.3 4 3.8
1.3 2.2 2.3 2.3 2.4 1.9 1.5 1 .5 .2 5.3 6.5 6 5.4 4.8 4.8 4.5 3.3


10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
342 379 310 364 206 803 988 789 572 739 1058 704 675 1242 1788 2517 3125
513 541 591 641 750 412 1386 1214 1142 891 1372 1180 819 1235 2288 2003 1774 2929
688 756 1029 1012 1196 509 1424 1453 1331 1244 1201 1150 1517 1750 2464 2153 3334
580 856 1237 1452 1497 1362 527 1632 1613 1810 1016 1130 1940 2657 3076 2958 4634 2388



14+00E

Pole-Dipole Array



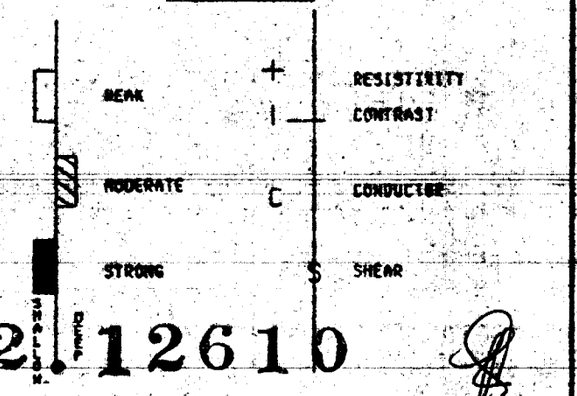
Filtered Profiles

Resistivity ——————
Chargeability ——————
Metal Factor - - - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

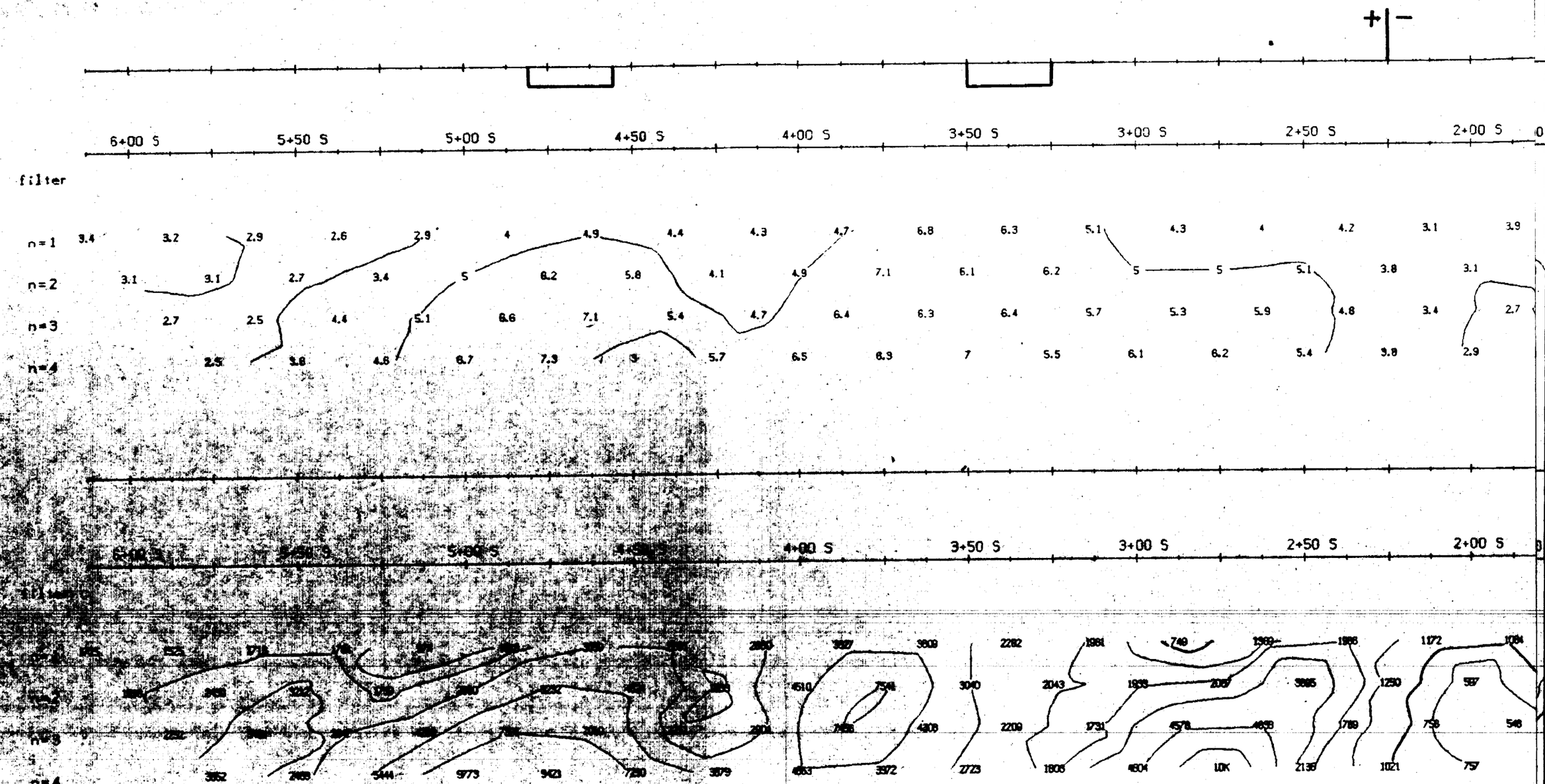


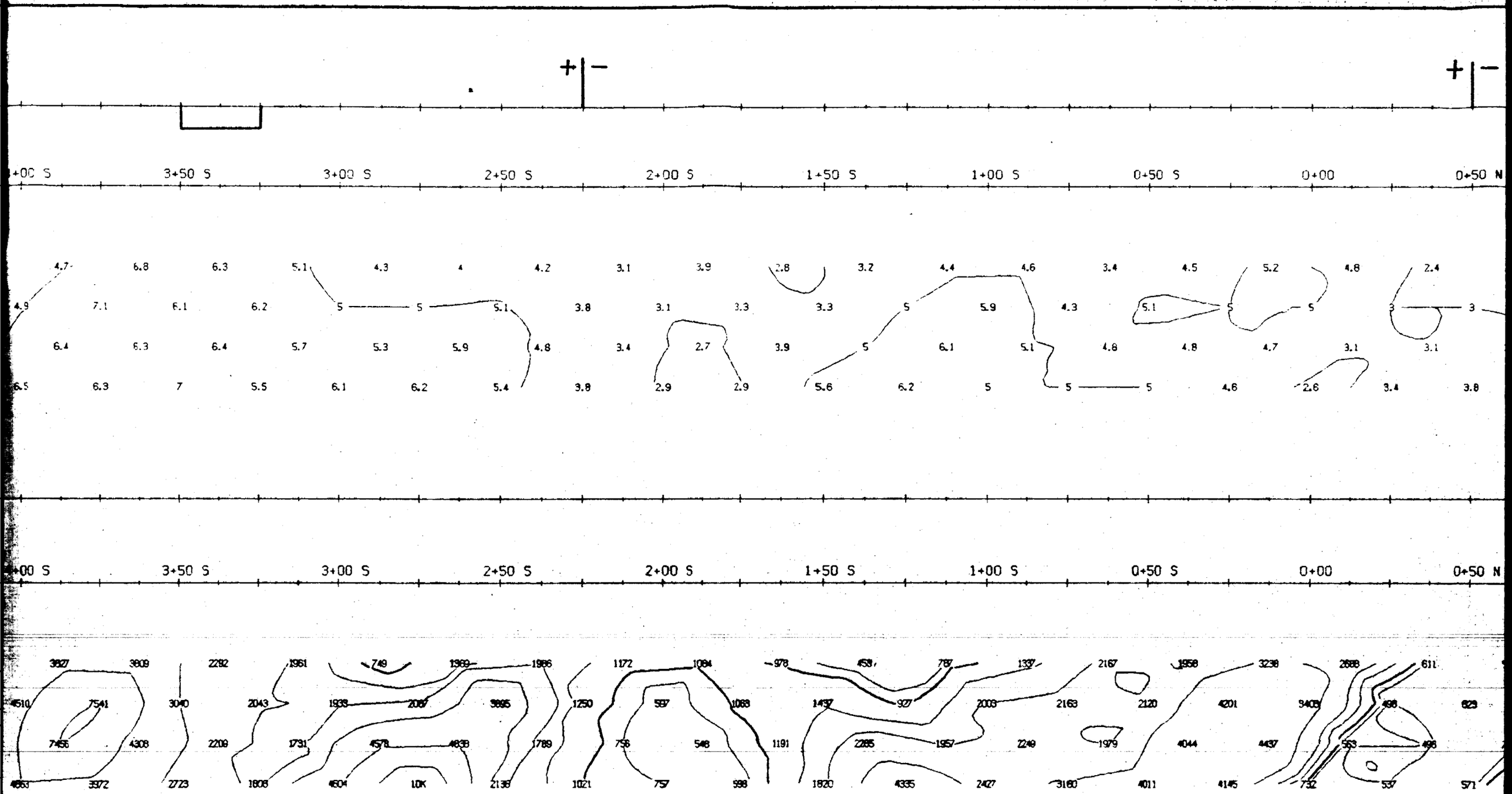
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

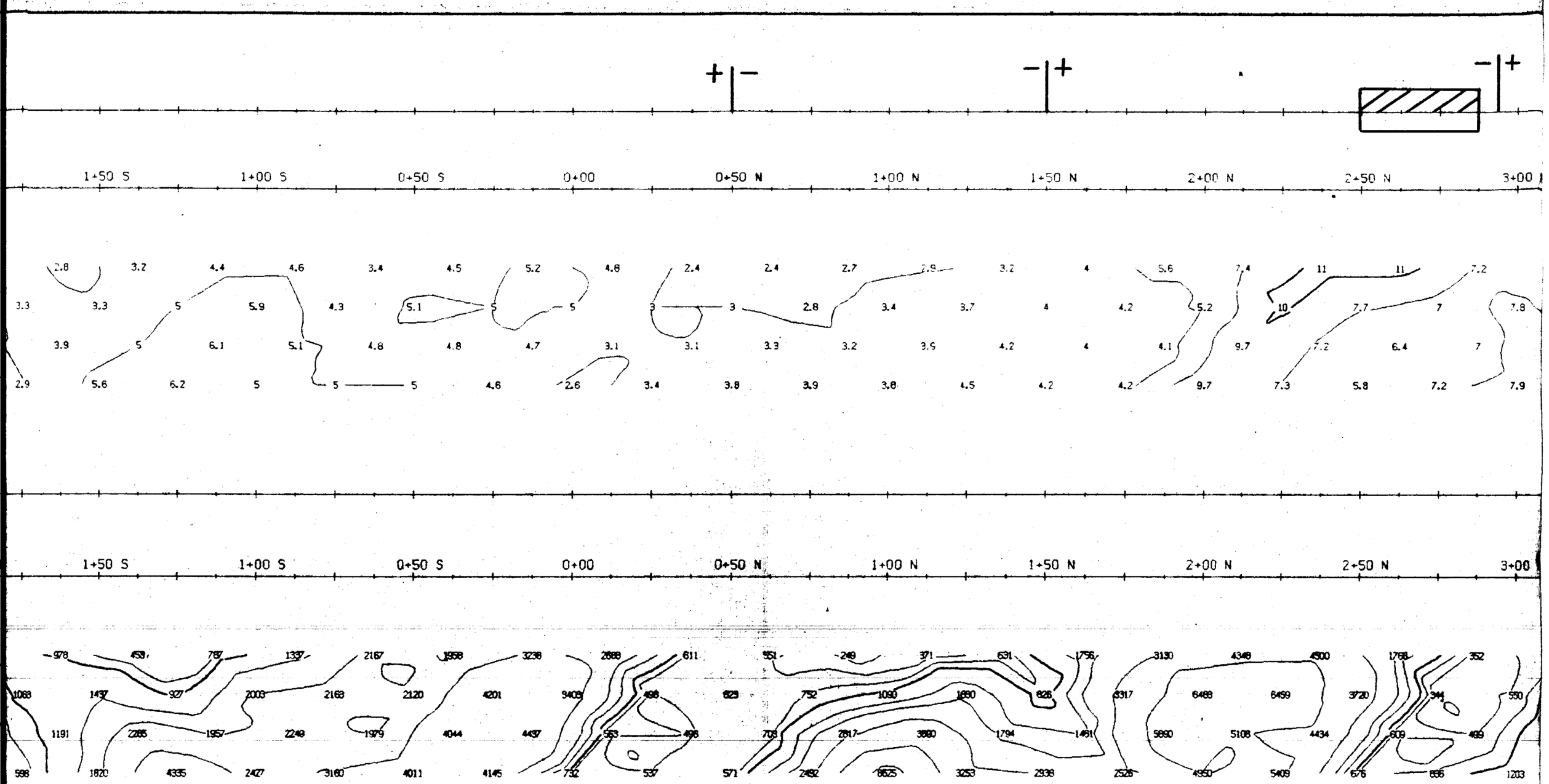
for GARL/GOLDROCK

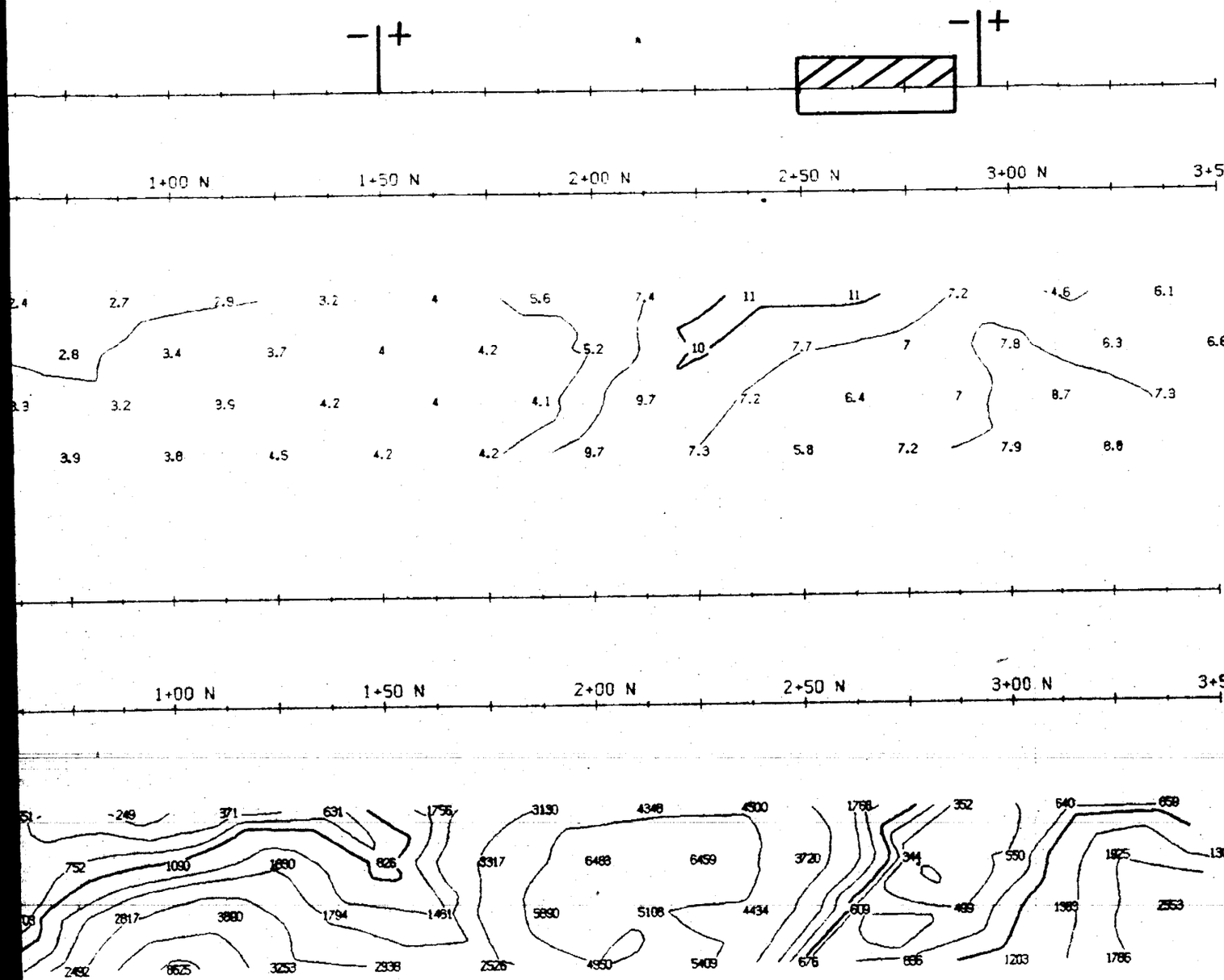
Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 13, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223




+
-
+
-
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
4.7 6.8 6.3 5.1 4.3 4 4.2 3.1 3.9 2.8 3.2 4.4 4.6 3.4 4.5 5.2 4.8 2.4
4.9 7.1 6.1 6.2 5 5 5.1 3.8 3.1 3.3 3.3 5 5.9 4.3 5.1 5 5 3 3
6.4 6.3 6.4 5.7 5.3 5.9 4.8 3.4 2.7 3.9 5 6.1 5.1 4.8 4.8 4.7 3.1 3.1
6.5 6.3 7 5.5 6.1 6.2 5.4 3.8 2.9 2.9 5.6 6.2 5 5 5 4.6 2.6 3.4 3.8
3927 3609 2282 1961 749 1369 1986 1172 1084 978 458 787 1337 2167 1958 3238 2688 611
4510 7541 3040 2043 1938 2089 3695 1250 587 1068 1437 927 2003 2163 2120 4201 3408 498 629
7456 4308 2209 1731 4578 4638 1789 758 548 1191 2285 1957 2249 1979 4044 4437 553 498
4663 3972 2723 1808 4604 10K 2136 1021 757 598 1820 4335 2427 3160 4011 4145 732 537 571

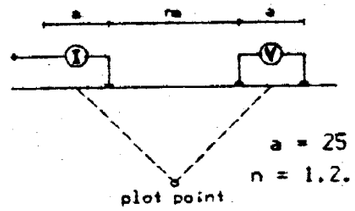

+
−
−
+
−
+
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00
2.8 3.2 4.4 4.6 3.4 4.5 5.2 4.8 2.4 2.4 2.7 2.9 3.2 4 5.6 7.4 11 11 7.2
3.3 3.3 5 5.9 4.3 5.1 5 5 3 3 2.8 3.4 3.7 4 4.2 5.2 10 7.7 7 7.8
3.9 5 6.1 5.1 4.8 4.8 4.7 3.1 3.1 3.3 3.2 3.9 4.2 4 4.1 9.7 7.2 6.4 7
2.9 5.6 6.2 5 5 5 4.6 2.6 3.4 3.8 3.9 3.8 4.5 4.2 4.2 9.7 7.3 5.8 7.2 7.9
978 458 787 1337 2167 1958 3238 2688 611 551 249 371 631 1756 3130 4348 4500 1768 352
1068 1437 927 2003 2163 2120 4201 3408 898 829 752 1090 1880 826 6317 6488 6459 3720 344 550
1191 2285 1957 2249 1979 4044 4437 553 498 708 2817 3880 1794 1491 5890 5108 4434 609 489
598 1820 4335 2427 3160 4011 4145 732 537 571 2492 6625 3253 2938 2526 4950 5409 676 886 1203



INTERPRETATION

14+00E

Pole-Dipole Array



a = 25 m
n = 1,2,3,4

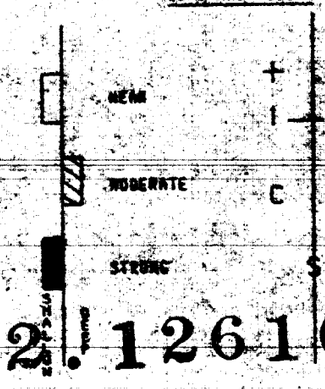
Filtered Profiles

Resistivity
Chargeability
Metal Factor

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



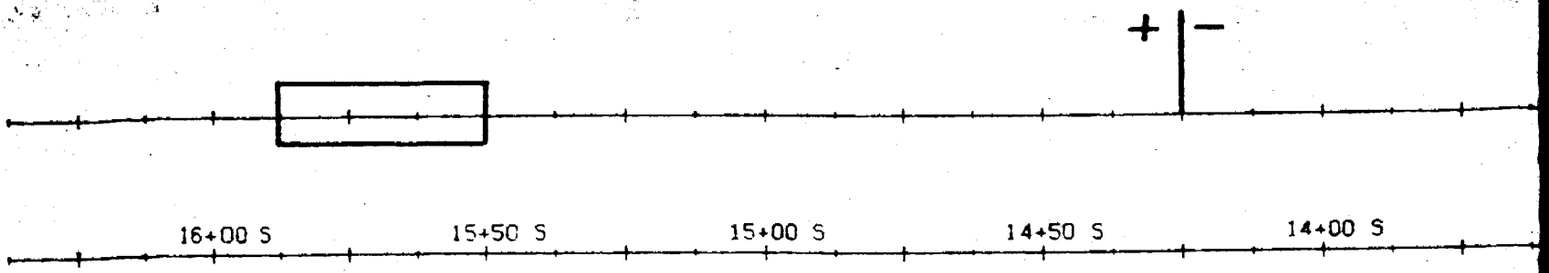
2:12610

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

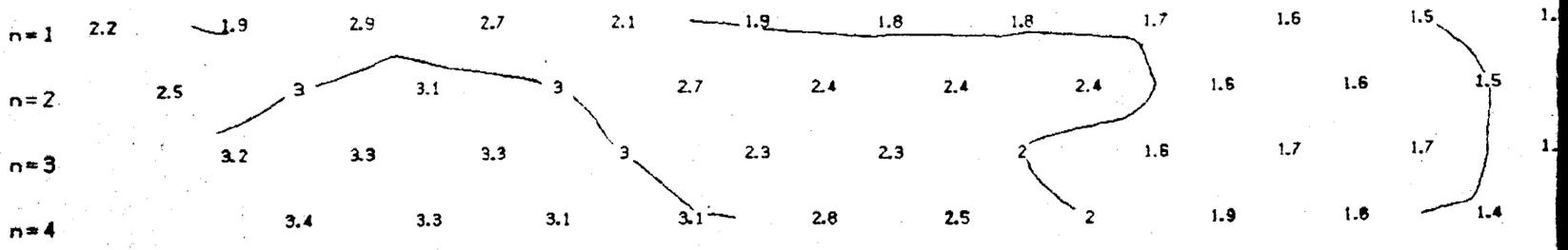
for GARL/GOLDROCK

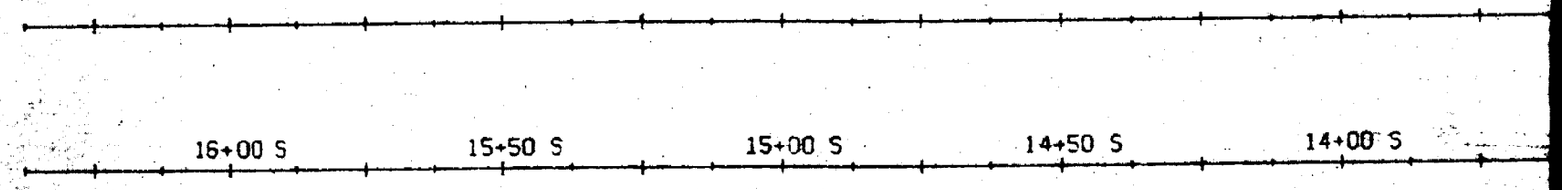
Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 13, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223

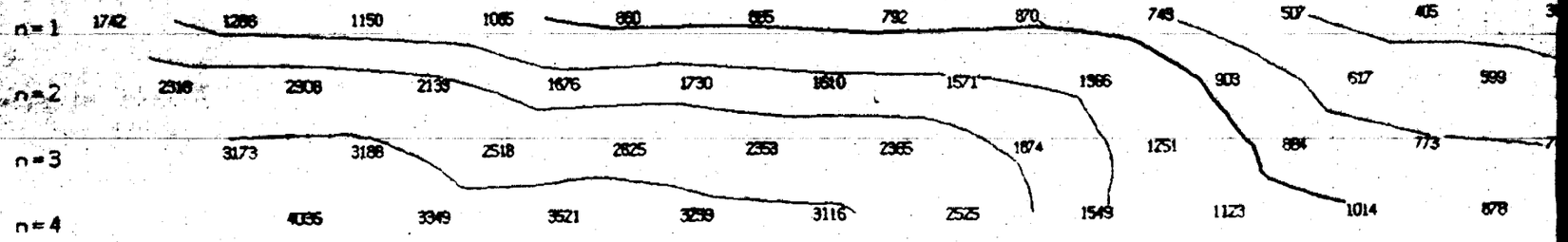


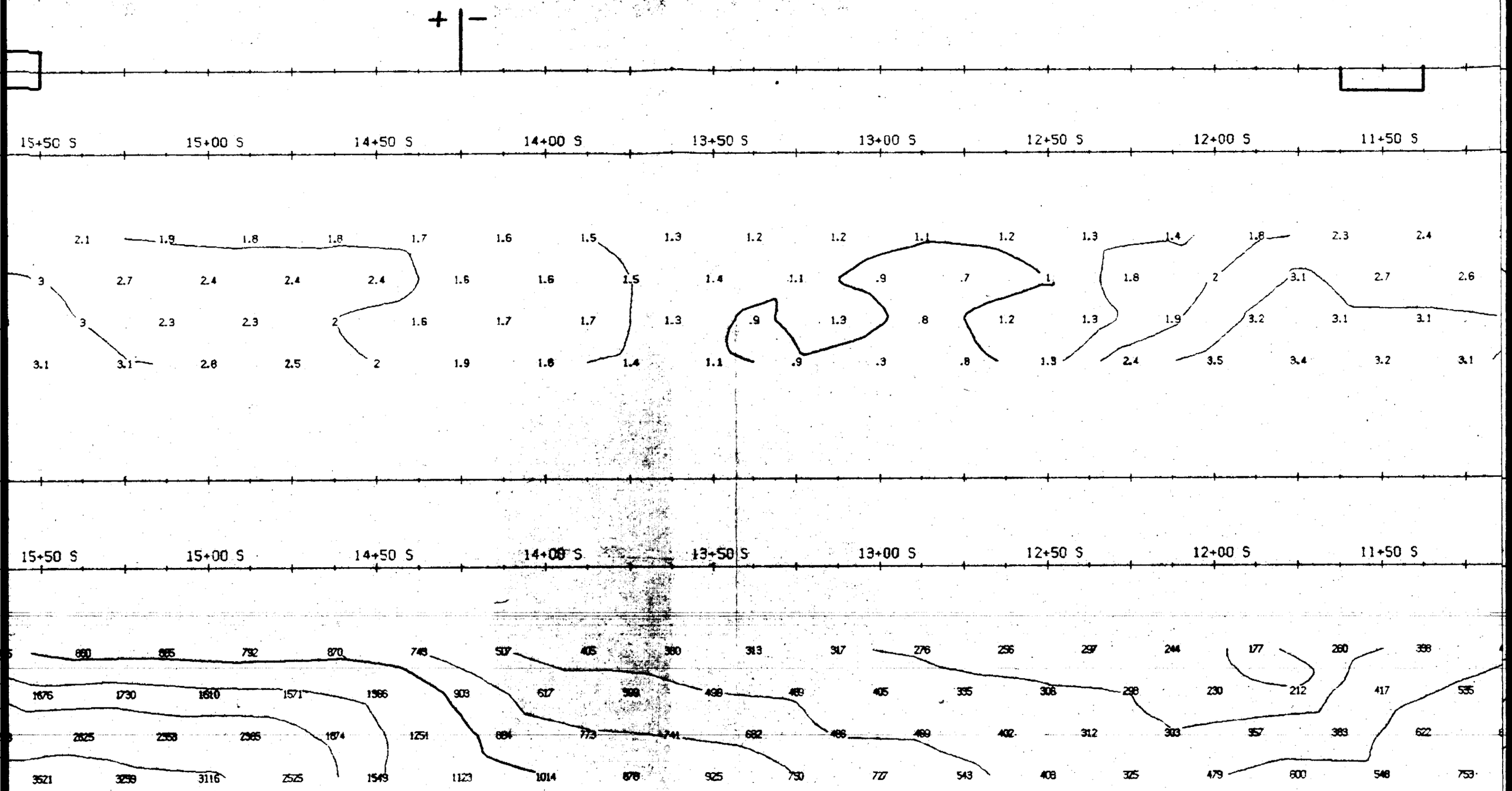
filter

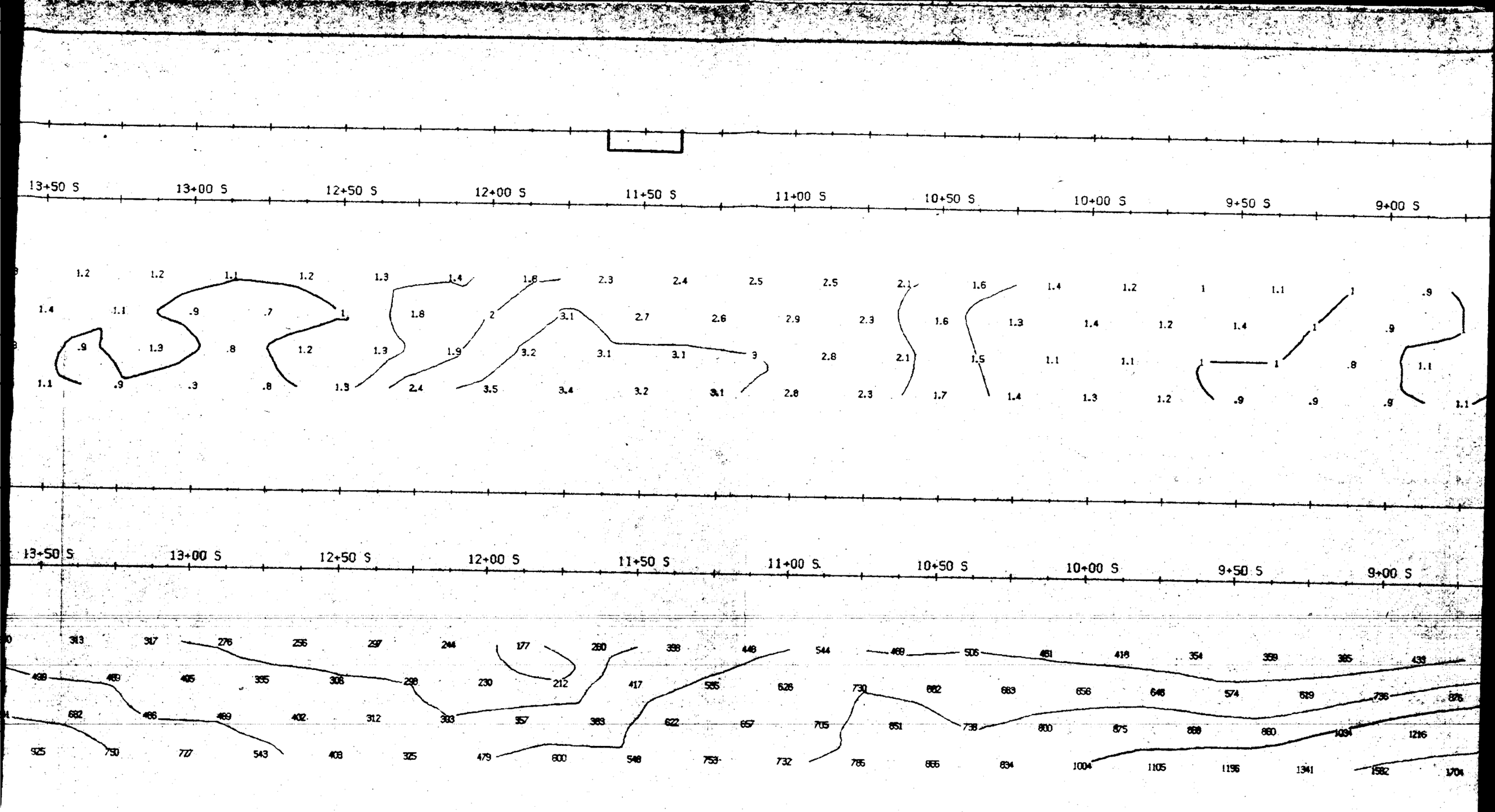


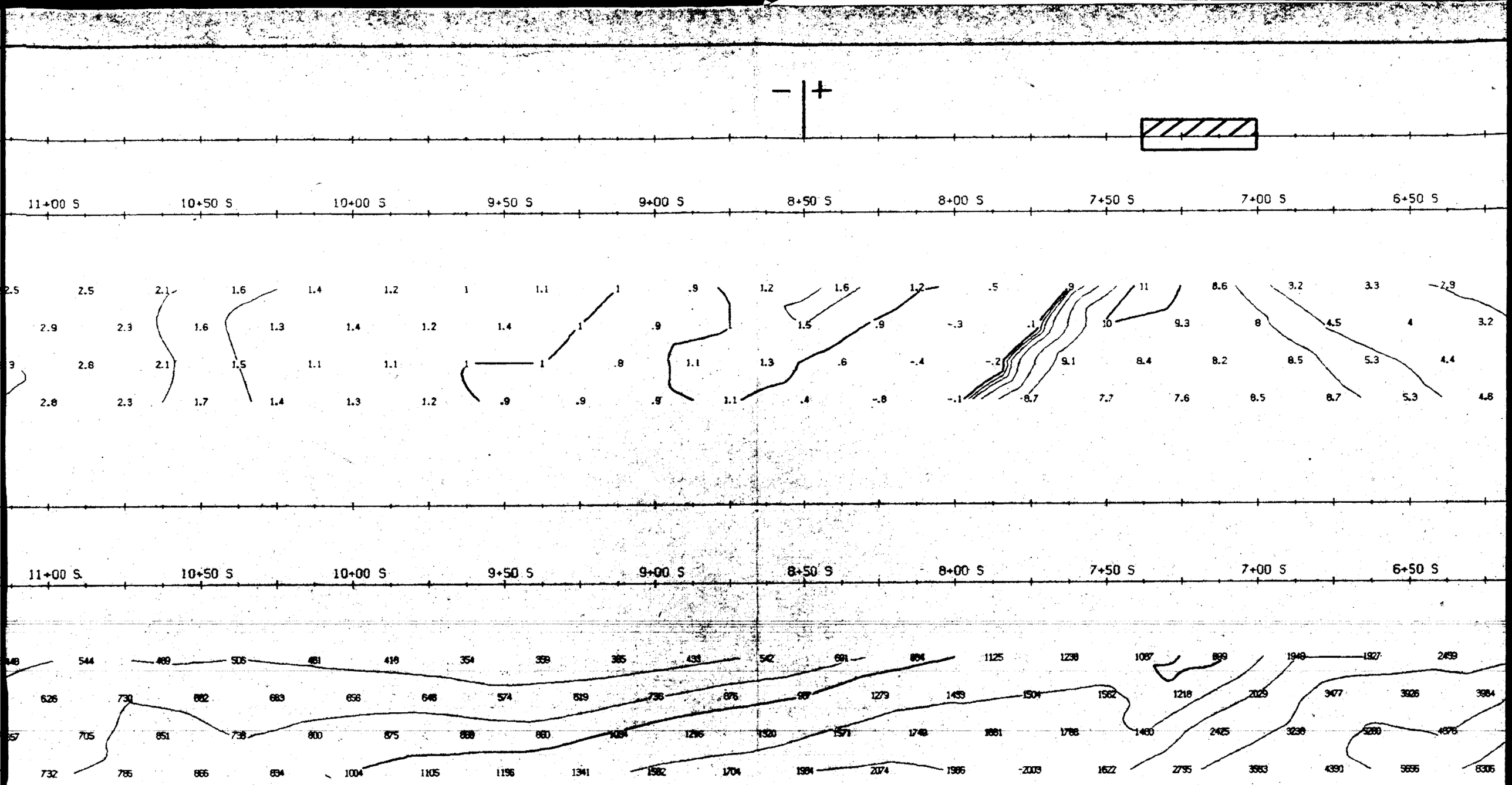


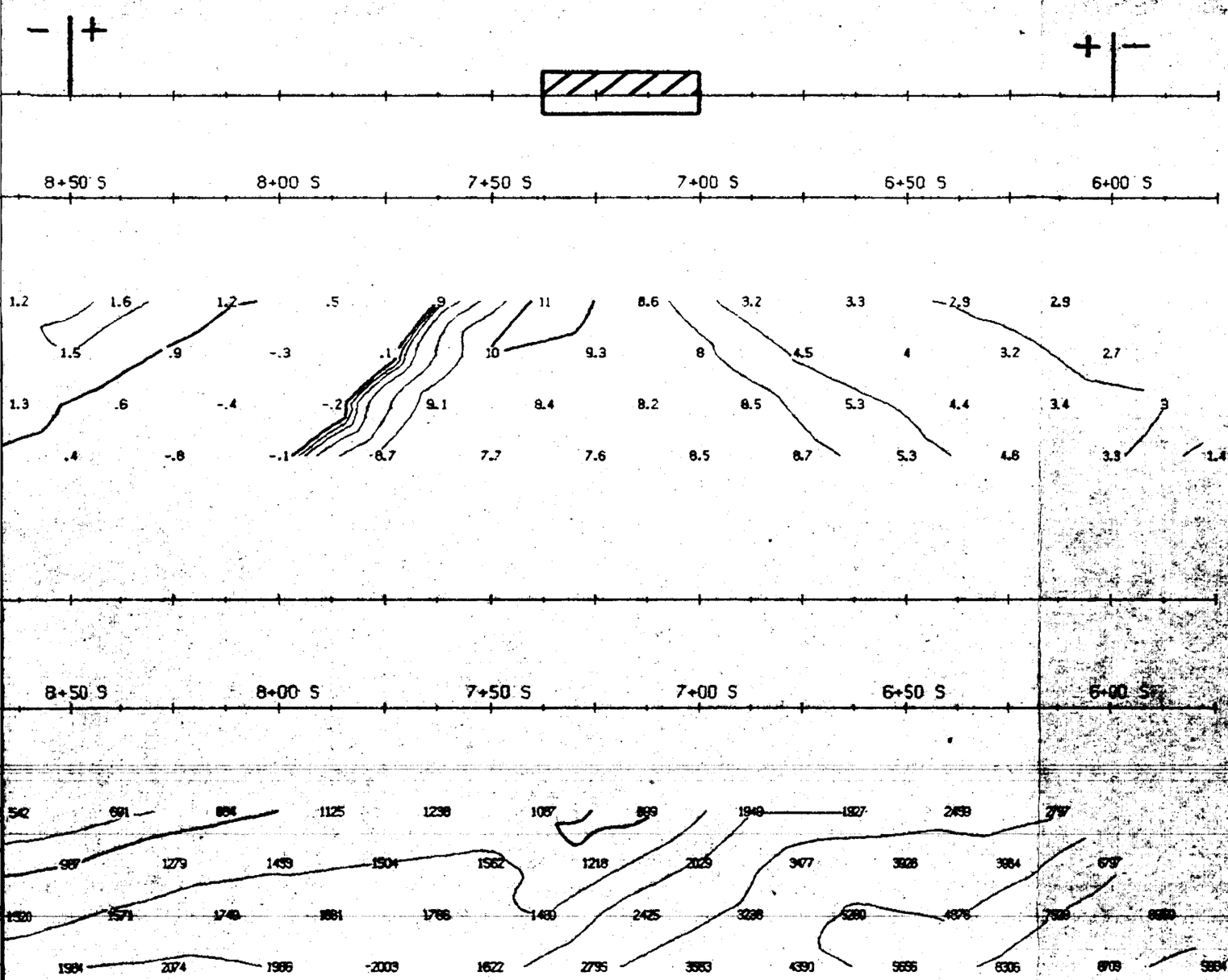
filter




+
−
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
2.1 1.9 1.8 1.8 1.7 1.6 1.5 1.3 1.2 1.2 1.1 1.2 1.3 1.4 1.8 2.3 2.4
3 2.7 2.4 2.4 2.4 1.6 1.6 1.5 1.4 1.1 .9 .7 1 1.8 2 3.1 2.7 2.6
3 2.3 2.3 2 1.6 1.7 1.7 1.3 .9 1.3 .8 1.2 1.3 1.9 3.2 3.1 3.1
3.1 3.1 2.8 2.5 2 1.9 1.8 1.4 1.1 .9 .3 .8 1.9 2.4 3.5 3.4 3.2 3.1
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
880 865 792 870 745 507 405 380 313 317 276 256 297 244 177 260 388
1676 1730 1810 1571 1566 903 617 509 498 489 405 395 308 298 230 212 417 535
2825 2358 2365 1674 1251 884 773 741 682 498 489 402 312 303 957 383 622
3521 3259 3116 2525 1549 1123 1014 878 925 750 727 543 408 325 479 600 548 753

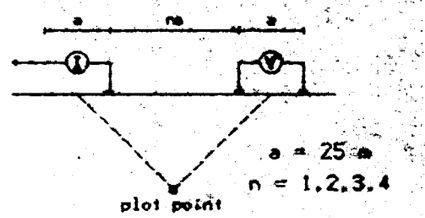

13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S


−
+
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
2.5 2.5 2.1 1.6 1.4 1.2 1 1.1 1 .9 1.2 1.6 1.2 .5 .9 11 8.6 3.2 3.3 2.9
2.9 2.3 1.6 1.3 1.4 1.2 1.4 1 .9 1 1.5 .9 -.3 .1 10 9.3 8 4.5 4 3.2
3 2.8 2.1 1.5 1.1 1.1 1 1 .8 1.1 1.3 .6 -.4 -.2 9.1 8.4 8.2 8.5 5.3 4.4
2.8 2.3 1.7 1.4 1.3 1.2 .9 .9 .9 1.1 .4 -.8 -.1 8.7 7.7 7.6 8.5 8.7 5.3 4.8
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
544 469 506 481 416 354 359 385 438 542 691 864 1125 1238 1087 899 1949 1927 2459
626 730 882 683 656 648 574 619 736 876 987 1279 1459 1504 1562 1218 2029 3477 3926 3984
705 851 738 800 875 888 860 1054 1296 1520 1571 1748 1881 1788 1460 2425 3236 5280 4876
732 785 866 854 1004 1105 1196 1341 1582 1704 1984 2074 1986 -2008 1622 2795 3883 4390 5656 8305



16+00E

Pole-Dipole Array

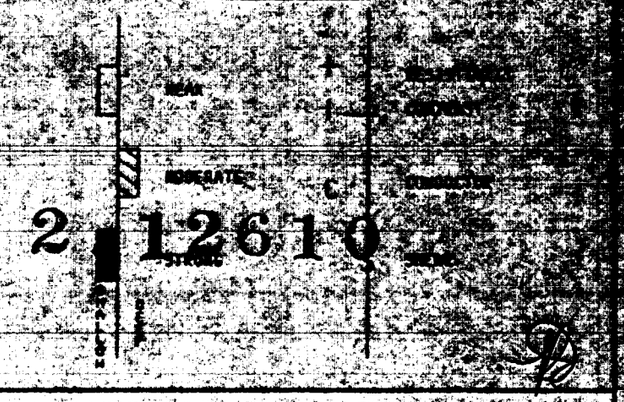


Filtered Profiles

Resistivity
Chargeability
Metal Factor

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex IRIS-2
Operator: J. Anderson

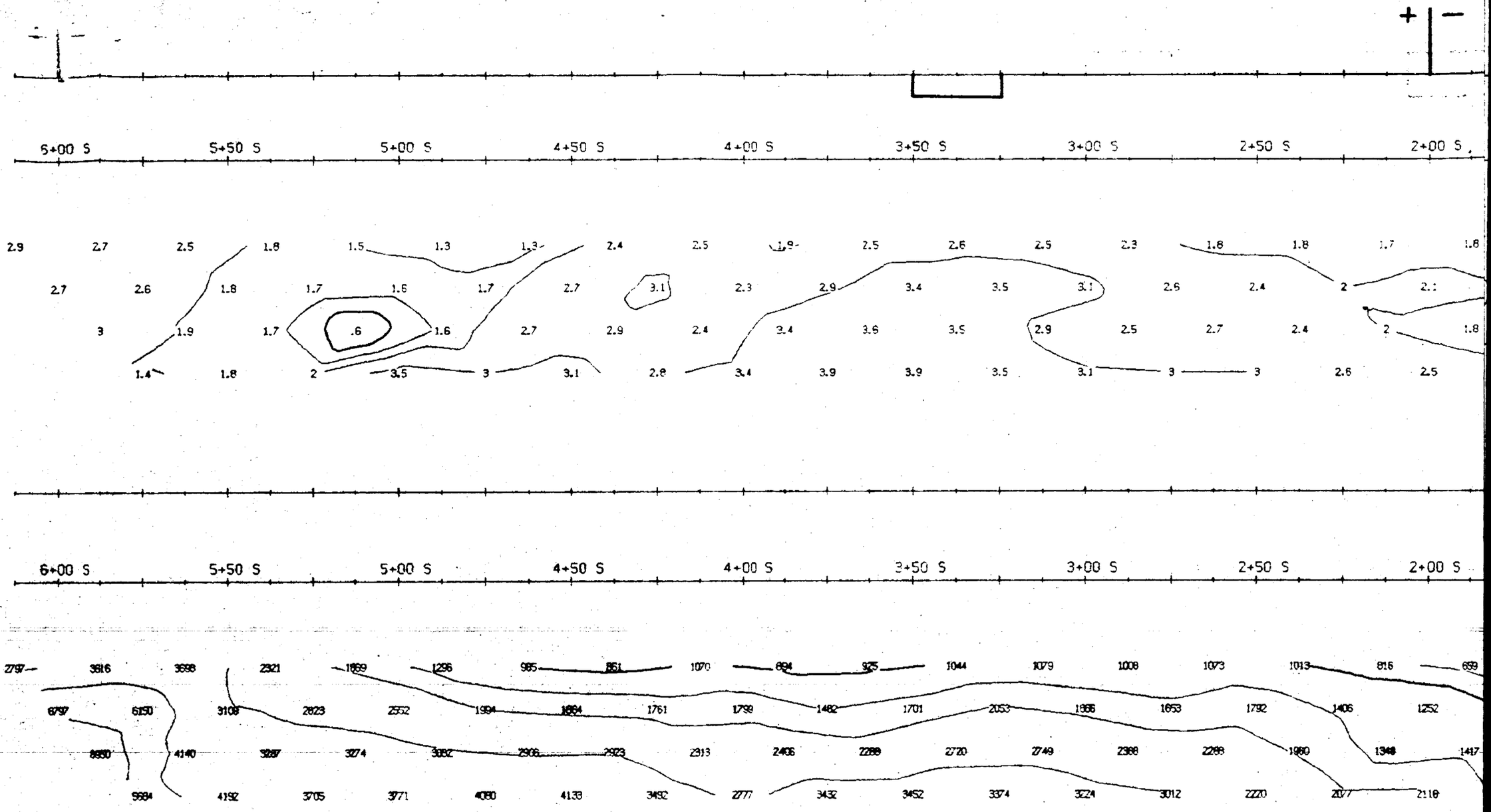


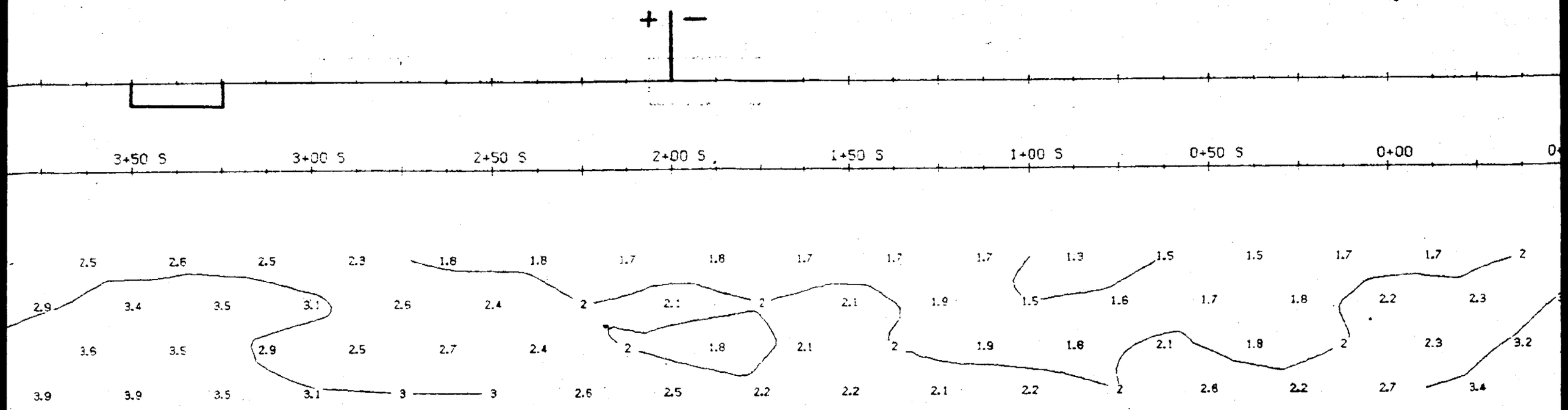
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

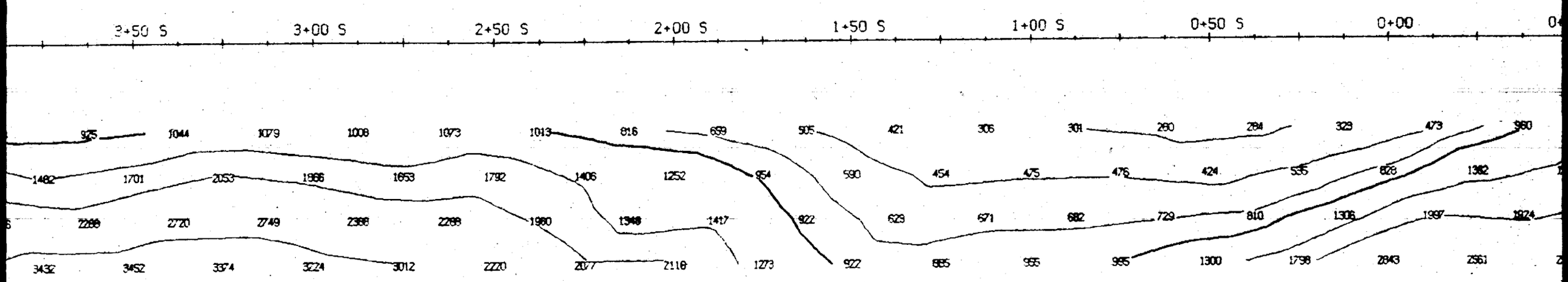
for GARL/GOLDROCK

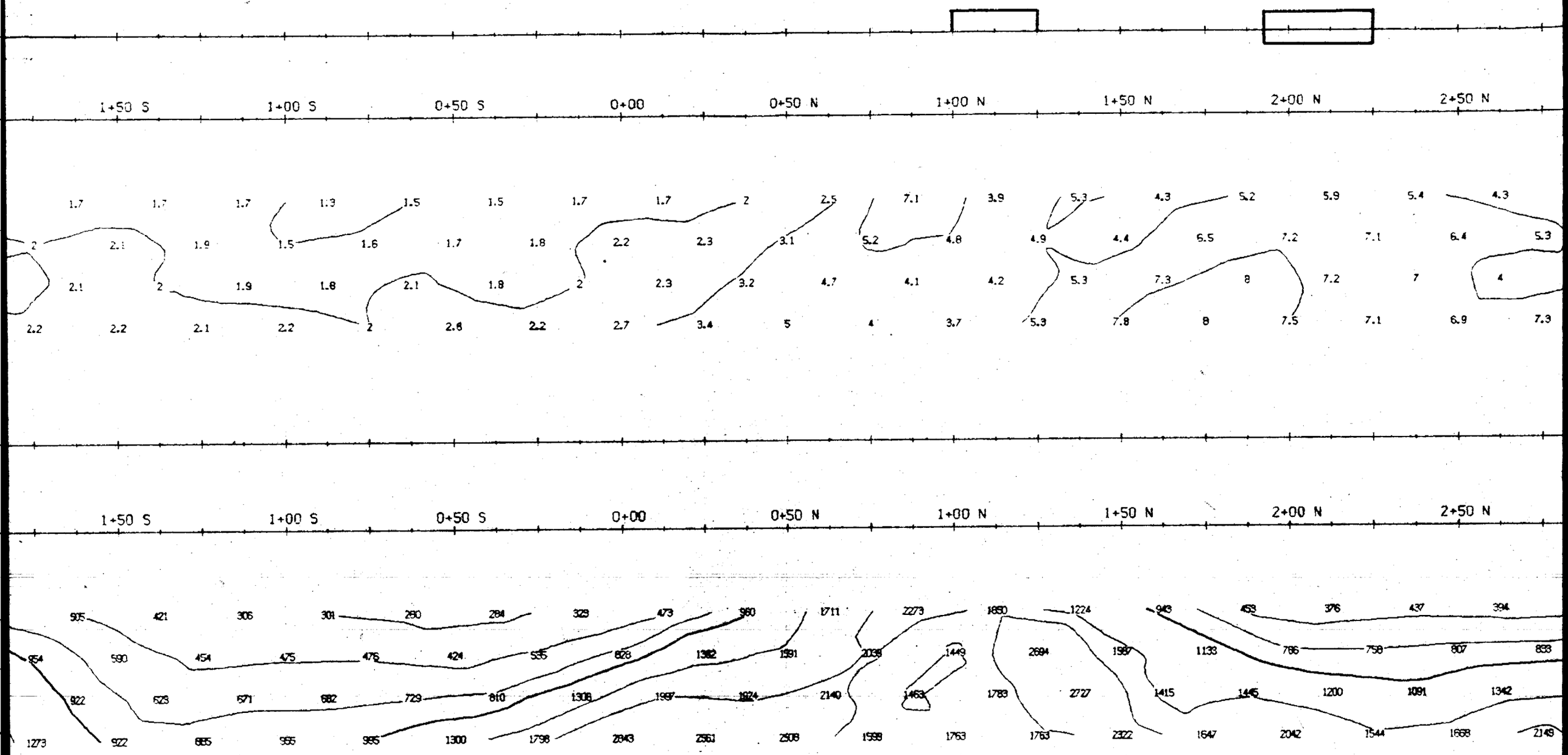
Title: Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

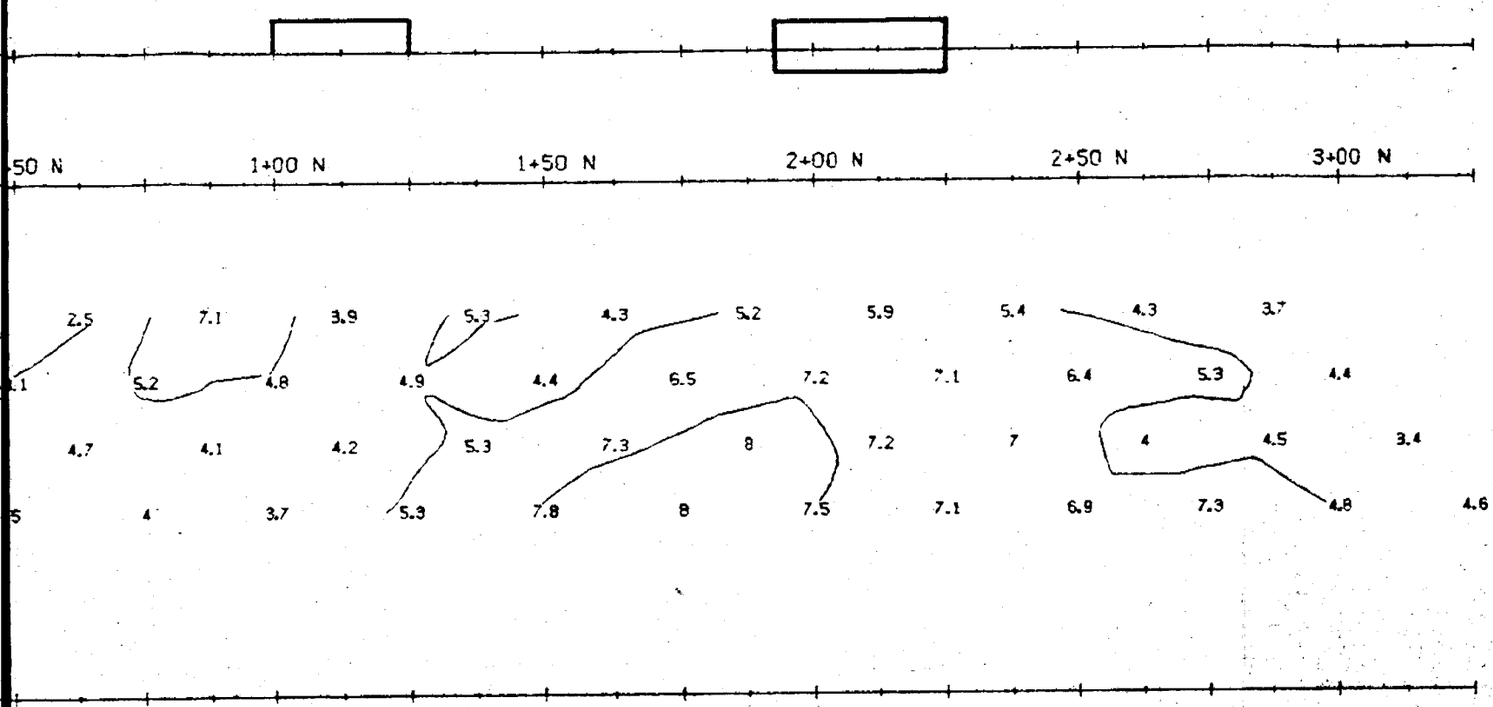
Date: June 14, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223

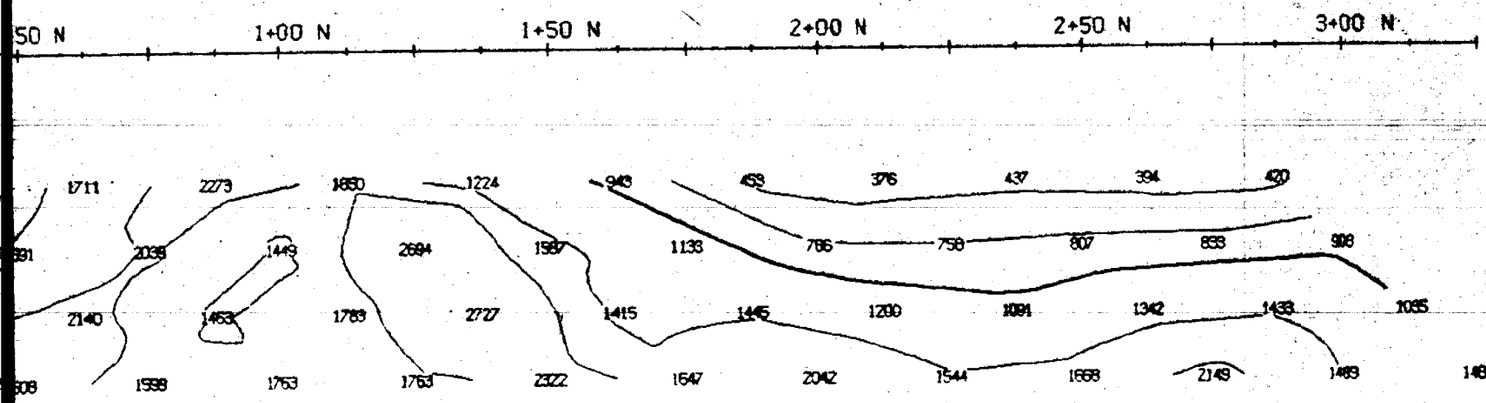



+
−
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
2.5 2.6 2.5 2.3 1.8 1.8 1.7 1.8 1.7 1.7 1.7 1.9 1.5 1.5 1.7 1.7 2
2.9 3.4 3.5 3.1 2.6 2.4 2 2.1 2 2.1 1.9 1.5 1.6 1.7 1.8 2.2 2.3
3.6 3.5 2.9 2.5 2.7 2.4 2 1.8 2.1 2 1.9 1.8 2.1 1.8 2 2.3 3.2
3.9 3.9 3.5 3.1 3 3 2.6 2.5 2.2 2.2 2.1 2.2 2 2.6 2.2 2.7 3.4


3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
1+00 S
0+50 S
0+00
925 1044 1079 1008 1073 1013 816 659 505 421 306 301 260 284 328 473 980
1482 1701 2053 1866 1653 1792 1406 1252 954 590 454 475 476 424 535 628 1382
2288 2720 2749 2368 2288 1980 1348 1417 922 629 671 682 729 810 1306 1987 1924
3432 3452 3374 3224 3012 2220 2077 2118 1273 922 885 955 985 1300 1798 2843 2561

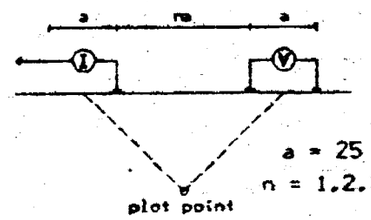

1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
1.7 1.7 1.7 1.3 1.5 1.5 1.7 1.7 2 2.5 7.1 3.9 5.3 4.3 5.2 5.9 5.4 4.3
2 2.1 1.9 1.5 1.6 1.7 1.8 2.2 2.3 3.1 5.2 4.8 4.9 4.4 6.5 7.2 7.1 6.4 5.3
2.1 2 1.9 1.8 2.1 1.8 2 2.3 3.2 4.7 4.1 4.2 5.3 7.3 8 7.2 7 4
2.2 2.2 2.1 2.2 2 2.6 2.2 2.7 3.4 5 4 3.7 5.3 7.8 8 7.5 7.1 6.9 7.3
505 421 306 301 280 284 328 473 960 1711 2273 1850 1224 943 458 376 437 394
954 590 454 475 476 424 535 828 1382 1991 2038 1449 2694 1587 1133 786 758 807 858
922 528 671 682 729 810 1306 1997 1924 2140 1463 1783 2727 1415 1445 1200 1091 1342
1273 922 885 955 985 1300 1798 2843 2561 2508 1998 1763 1763 2322 1647 2042 1544 1668 2149





16+00E

Pole-Dipole Array



a = 25 m
n = 1,2,3,4

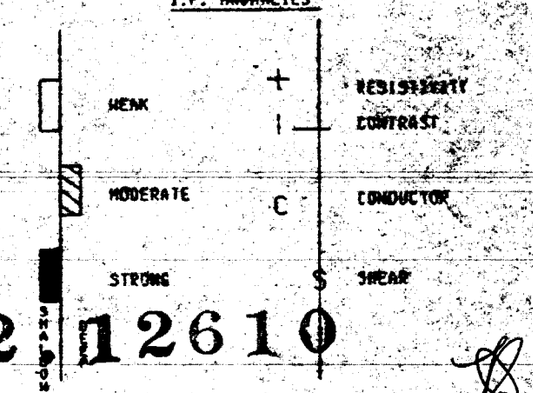
Filtered Profiles

Resistivity
Chargeability
Metal Factor

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

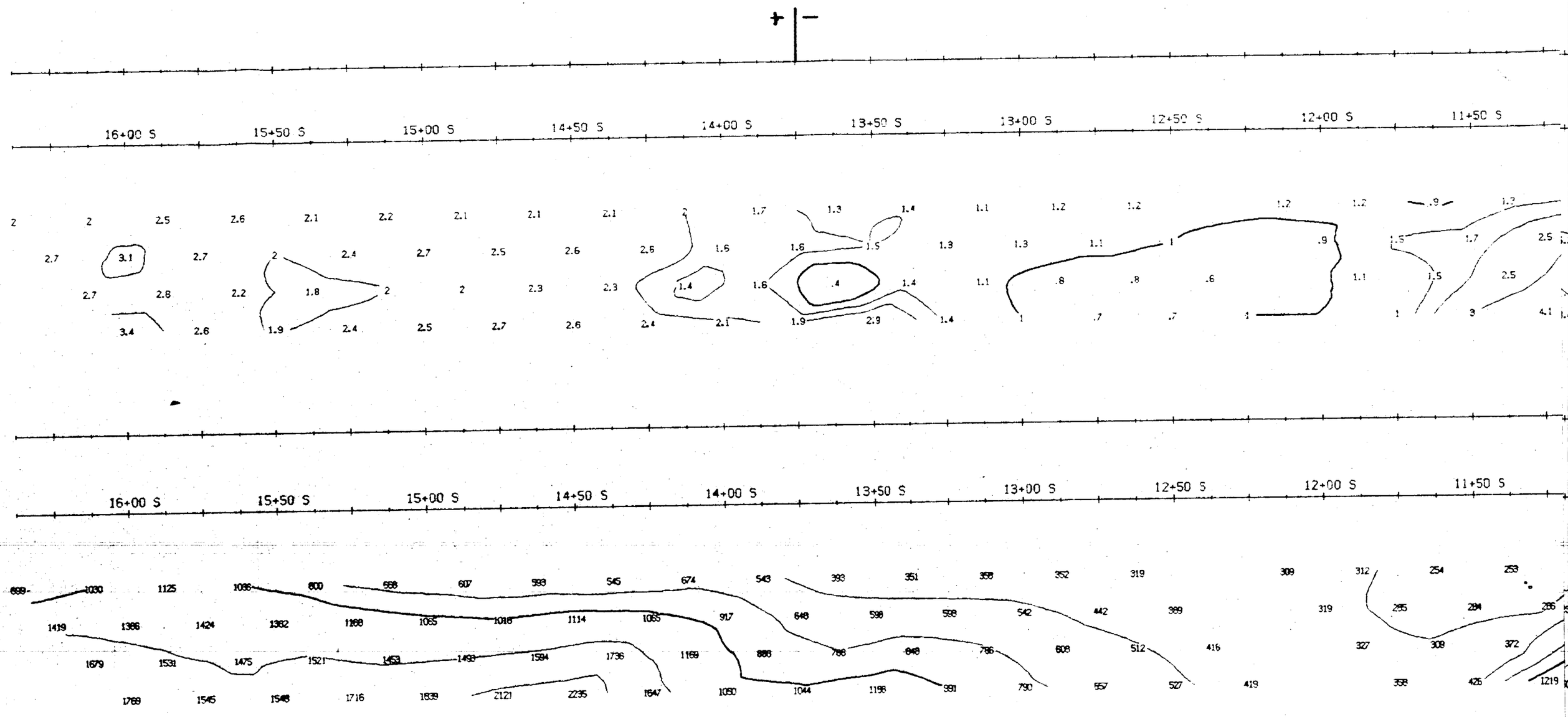


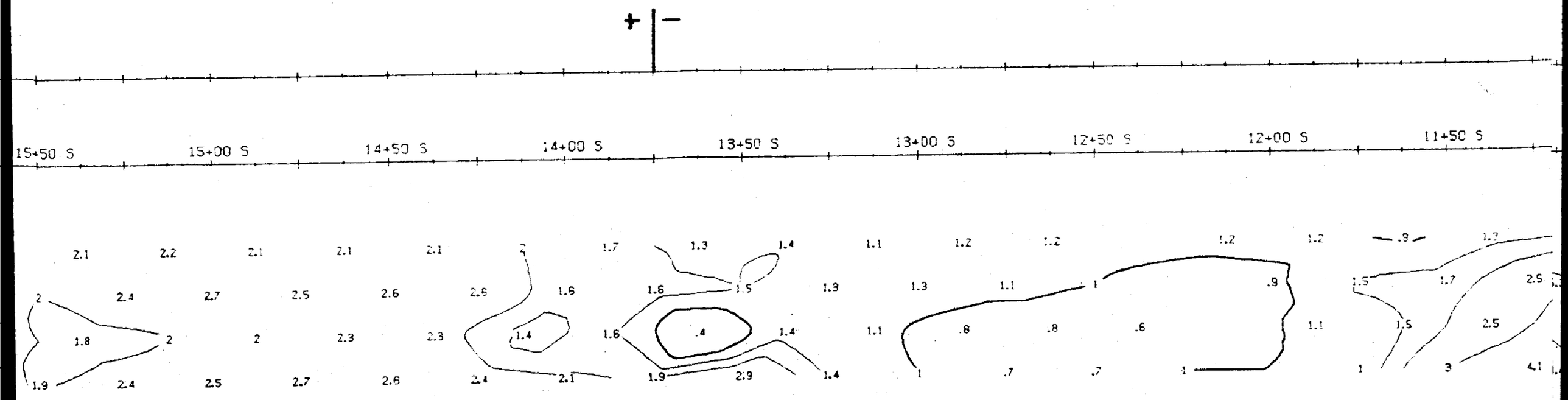
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

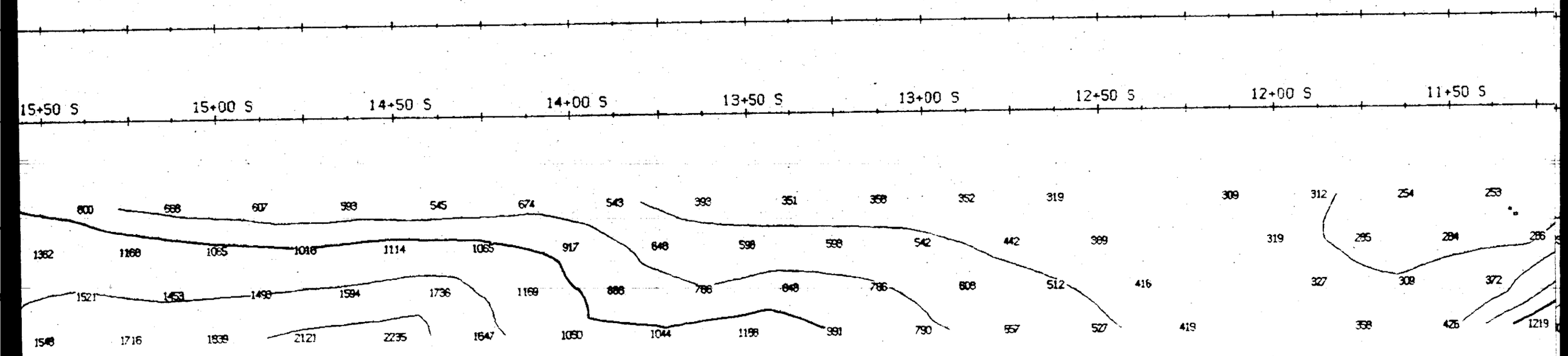
for GARL/GOLDROCK

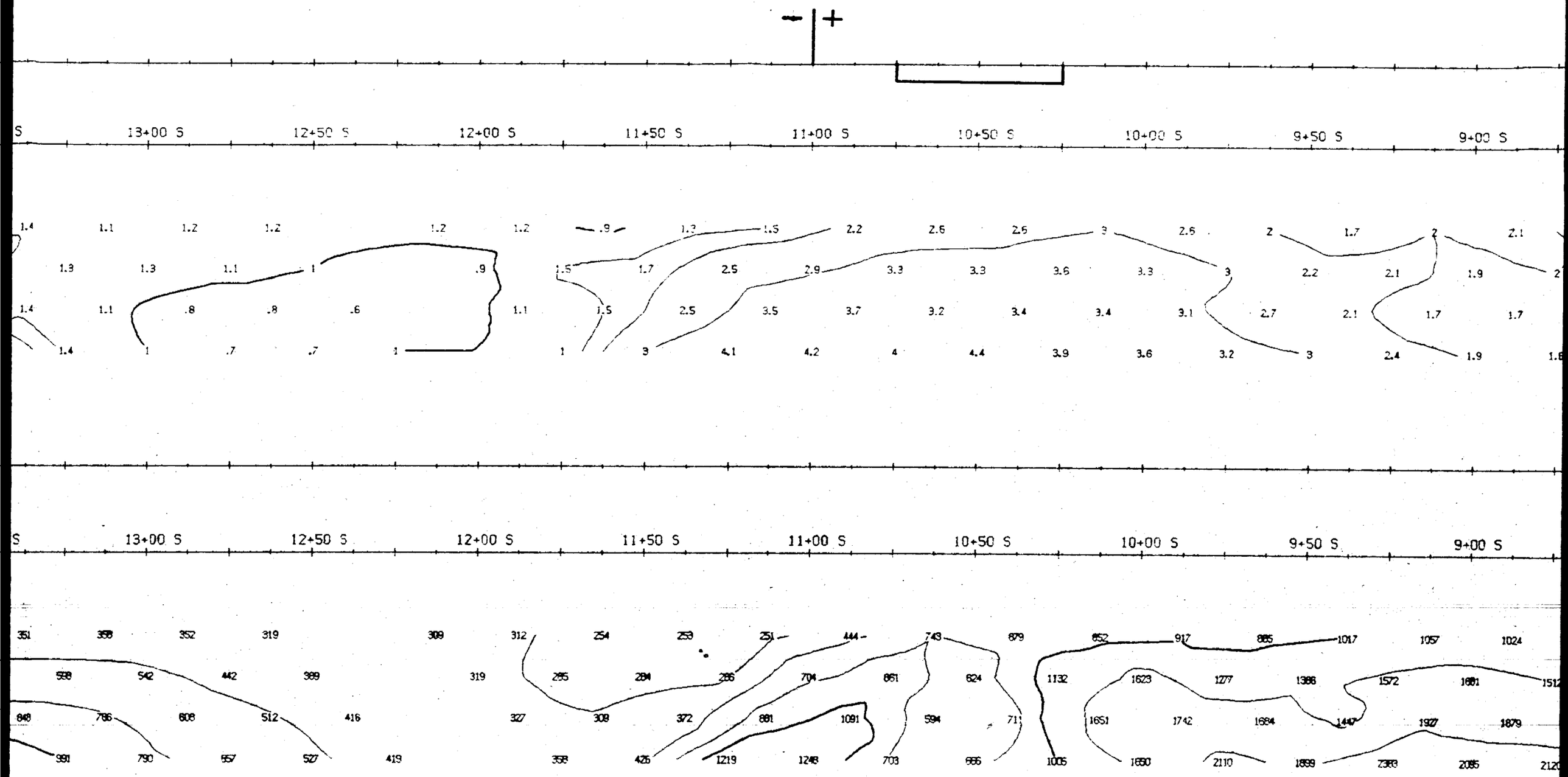
Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

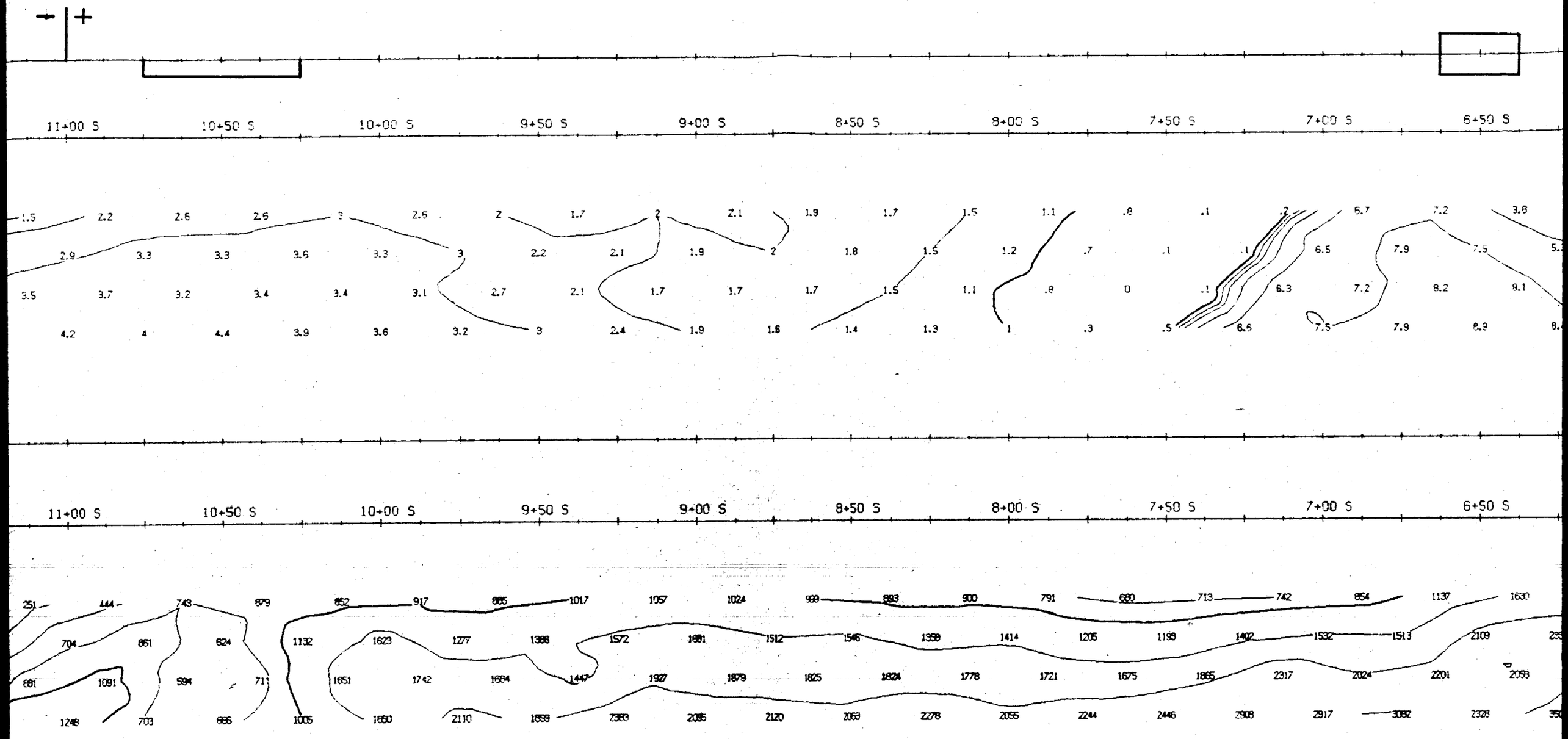
Date: June 14, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-223

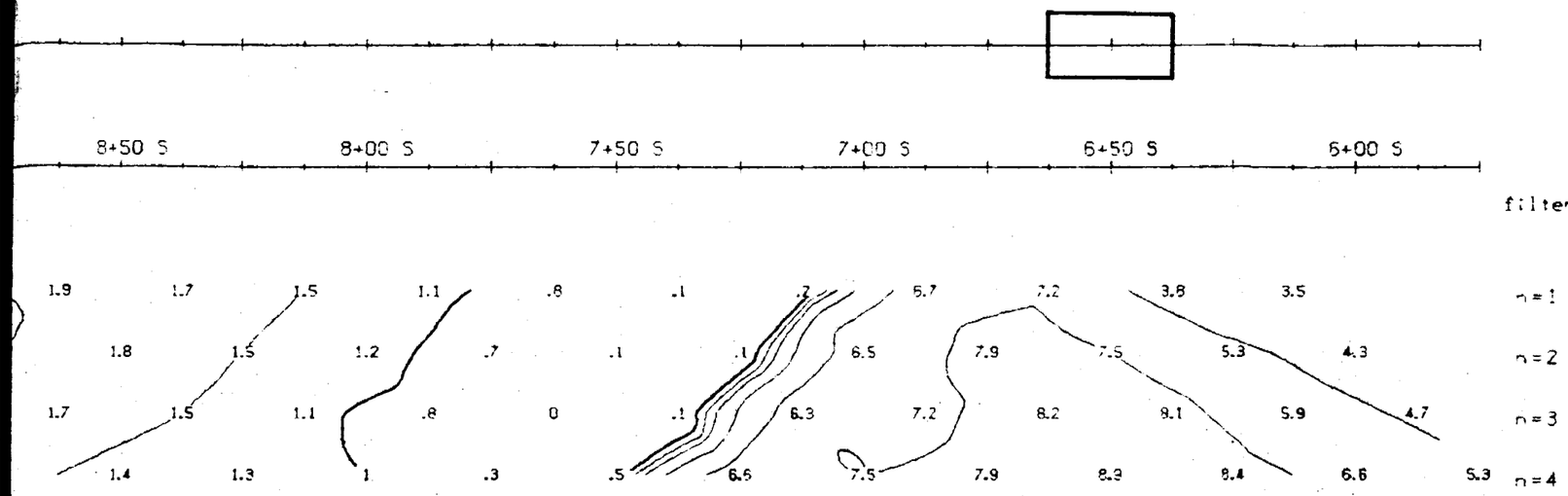

+
−
16+00 S
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
lter
=1
=2
=3
=4
2 2 2.5 2.6 2.1 2.2 2.1 2.1 2.1 2 1.7 1.3 1.4 1.1 1.2 1.2 1.2 1.2 .9 1.3
2.7 3.1 2.7 2 2.4 2.7 2.5 2.6 2.6 1.6 1.6 1.5 1.3 1.3 1.1 1 .9 1.5 1.7 2.5
2.7 2.8 2.2 1.8 2 2 2.3 2.3 1.4 1.6 .4 1.4 1.1 .8 .8 .6 1.1 1.5 2.5
3.4 2.6 1.9 2.4 2.5 2.7 2.6 2.4 2.1 1.9 2.9 1.4 1 .7 .7 1 1 3 4.1
16+00 S
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S
lter
=1
=2
=3
=4
699 1030 1125 1086 600 598 607 593 545 674 543 393 351 358 352 319 309 312 254 253
1419 1366 1424 1362 1188 1065 1018 1114 1065 917 848 598 598 542 442 389 319 295 284 286
1679 1531 1475 1521 1453 1498 1594 1736 1169 886 788 848 786 608 512 416 327 309 372
1769 1545 1548 1716 1839 2121 2235 1647 1050 1044 1198 991 790 557 527 419 358 426 1219


+
−
15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S


15+50 S
15+00 S
14+50 S
14+00 S
13+50 S
13+00 S
12+50 S
12+00 S
11+50 S

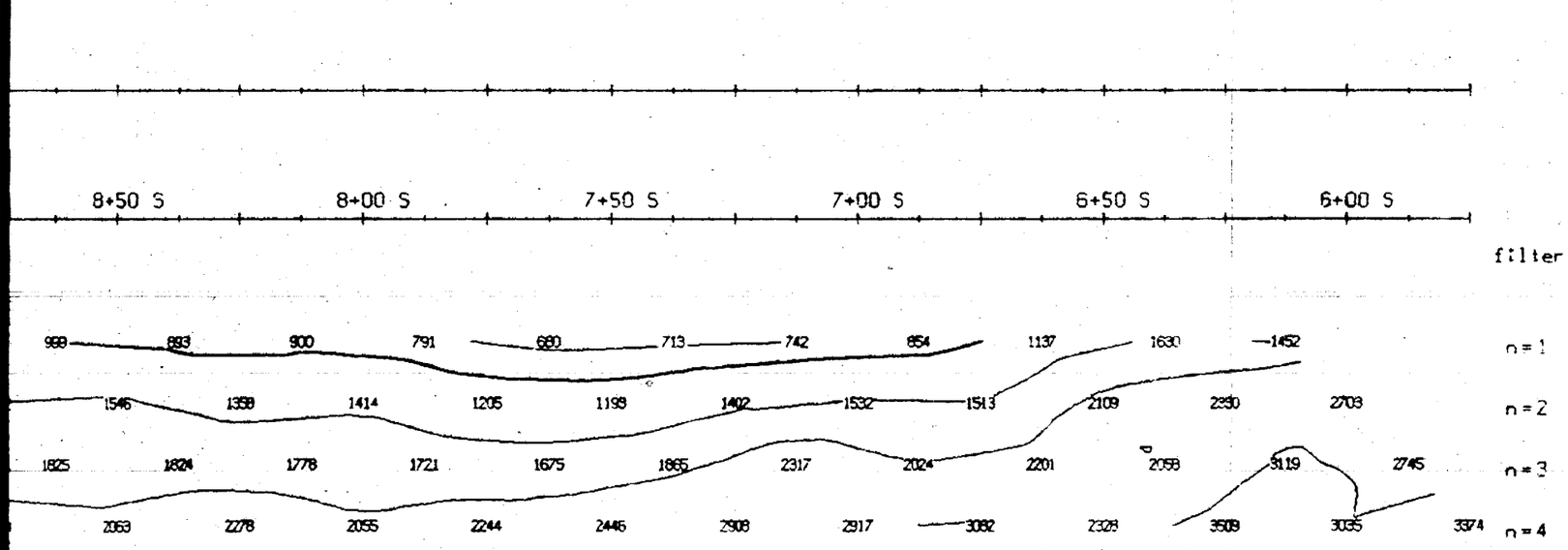

-
+
S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
1.4 1.1 1.2 1.2 1.2 1.2 .9 1.3 1.5 2.2 2.6 2.6 3 2.6 2 1.7 2 2.1
1.3 1.3 1.1 1 .9 1.5 1.7 2.5 2.9 3.3 3.3 3.6 3.3 3 2.2 2.1 1.9 2
1.4 1.1 .8 .8 .6 1.1 1.5 2.5 3.5 3.7 3.2 3.4 3.4 3.1 2.7 2.1 1.7 1.7
1.4 1 .7 .7 1 1 3 4.1 4.2 4 4.4 3.9 3.6 3.2 3 2.4 1.9 1.8
S
13+00 S
12+50 S
12+00 S
11+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
351 358 352 319 309 312 254 253 251 444 743 679 852 917 885 1017 1057 1024
598 542 442 389 319 285 284 286 704 861 624 1132 1623 1277 1388 1572 1681 1512
848 786 608 512 416 327 309 372 881 1091 594 711 1651 1742 1684 1447 1927 1879
991 790 657 527 419 358 426 1219 1248 703 866 1005 1650 2110 1899 2388 2085 2120


11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S
11+00 S
10+50 S
10+00 S
9+50 S
9+00 S
8+50 S
8+00 S
7+50 S
7+00 S
6+50 S



INTERPRETATION

CHARGEABILITY
(MSEC)

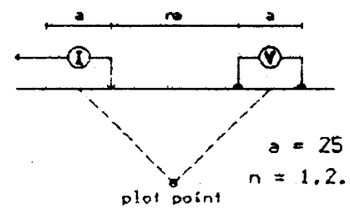


TOPOGRAPHY

RESISTIVITY
(ohm-m)

18+00E

Pole-Dipole Array



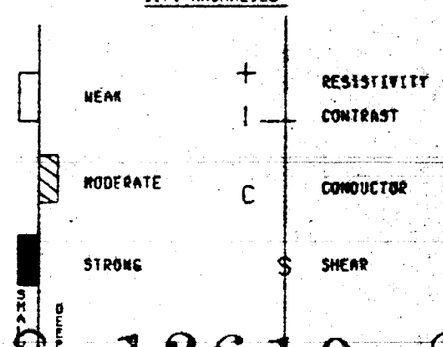
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



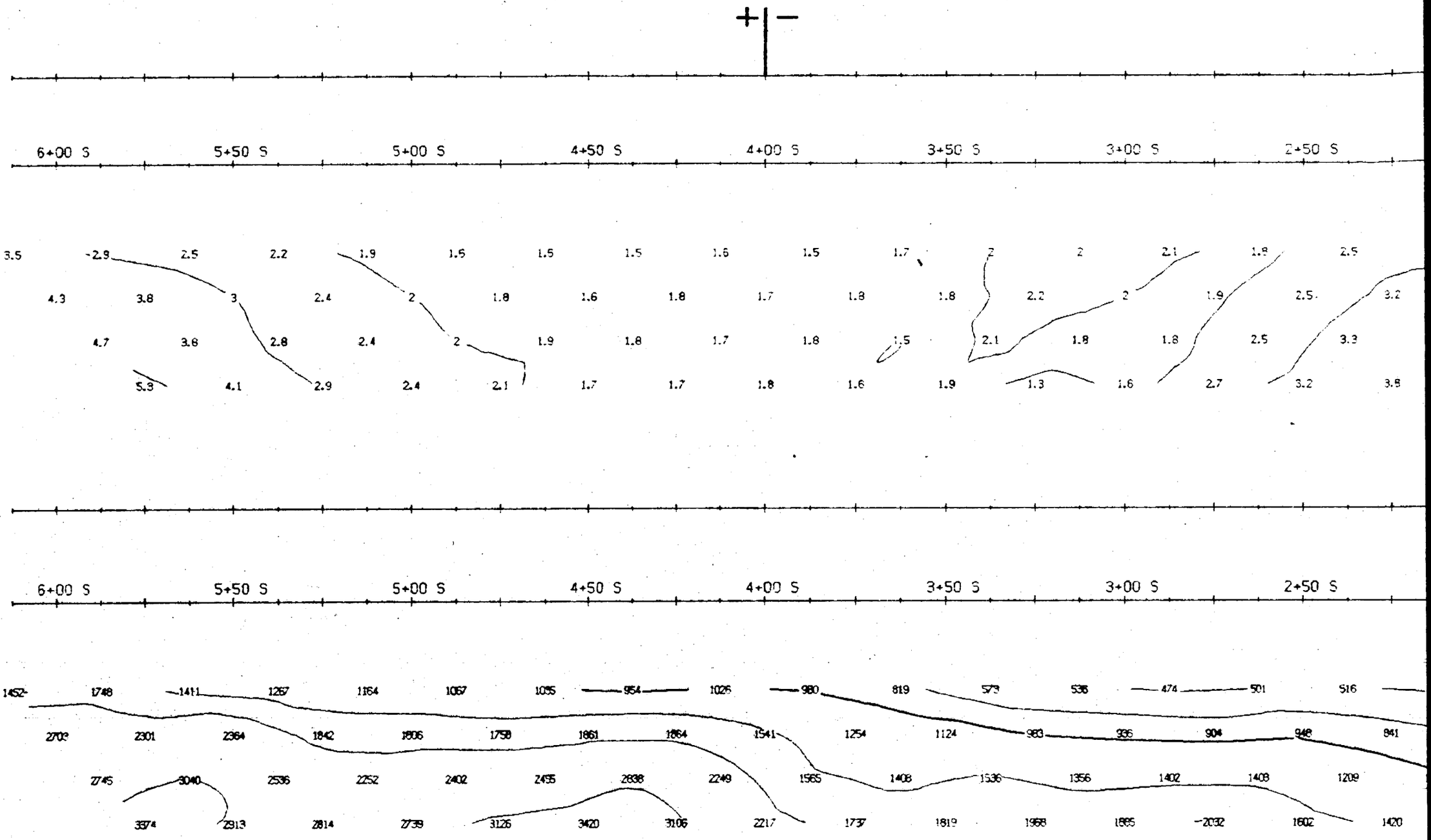
2.12610

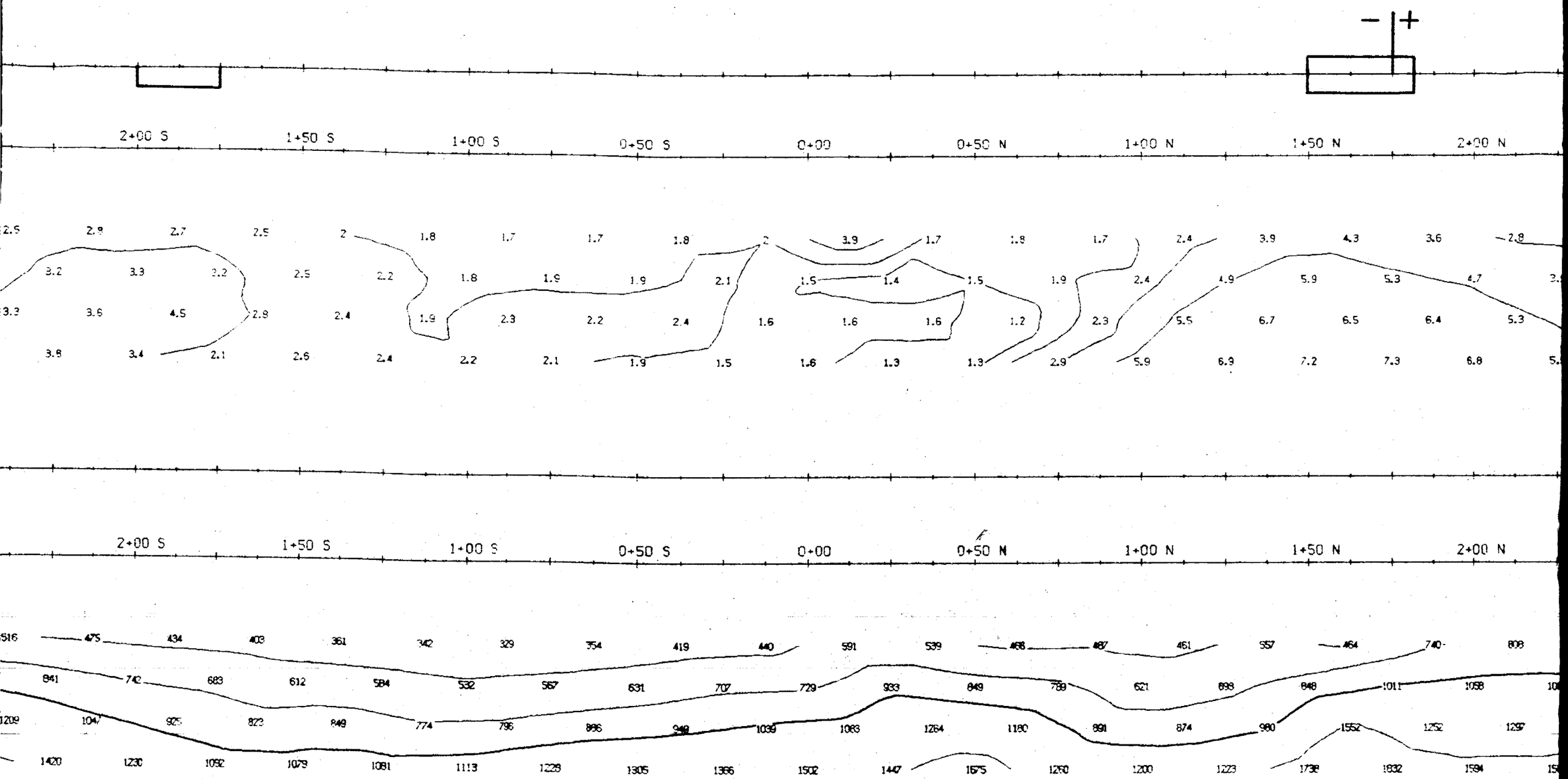
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title
Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 15, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223


+
−
6+00 S
5+50 S
5+00 S
4+50 S
4+00 S
3+50 S
3+00 S
2+50 S
filter
n=1
n=2
n=3
n=4
3.5 -2.9 2.5 2.2 1.9 1.6 1.5 1.5 1.6 1.5 1.7 2 2 2.1 1.8 2.5
4.3 3.8 3 2.4 2 1.8 1.6 1.8 1.7 1.8 1.8 2.2 2 1.9 2.5 3.2
4.7 3.8 2.8 2.4 2 1.9 1.8 1.7 1.8 1.5 2.1 1.8 1.8 2.5 3.3
5.3 4.1 2.9 2.4 2.1 1.7 1.7 1.8 1.6 1.9 1.3 1.6 2.7 3.2 3.8
6+00 S
5+50 S
5+00 S
4+50 S
4+00 S
3+50 S
3+00 S
2+50 S
filter
n=1
n=2
n=3
n=4
1452 1748 1411 1267 1164 1067 1055 954 1026 980 819 573 536 474 501 516
2702 2301 2364 1842 1806 1758 1861 1864 1541 1254 1124 983 936 904 948 841
2745 3040 2536 2252 2402 2455 2838 2249 1565 1408 1536 1356 1402 1408 1209
3574 2913 2814 2739 3126 3420 3106 2217 1737 1819 1968 1885 2092 1602 1420


2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2.5 2.9 2.7 2.5 2 1.8 1.7 1.7 1.8 2 3.9 1.7 1.8 1.7 2.4 3.9 4.3 3.6 2.8
3.2 3.3 3.2 2.5 2.2 1.8 1.9 1.9 2.1 1.5 1.4 1.5 1.9 2.4 4.9 5.9 5.3 4.7
3.3 3.6 4.5 2.8 2.4 1.9 2.3 2.2 2.4 1.6 1.6 1.6 1.2 2.3 5.5 6.7 6.5 6.4 5.3
3.8 3.4 2.1 2.6 2.4 2.2 2.1 1.9 1.5 1.6 1.3 1.3 2.9 5.9 6.9 7.2 7.3 6.8
2+00 S
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
516 475 434 403 361 342 329 354 419 440 591 539 468 487 461 557 464 740 809
841 742 683 612 584 532 567 631 707 729 933 849 789 621 698 848 1011 1058
1209 1047 925 823 849 774 796 886 949 1039 1083 1264 1180 891 874 980 1552 1252 1297
1420 1230 1092 1079 1081 1113 1228 1305 1366 1502 1447 1675 1260 1200 1223 1738 1832 1594

INTERPRETATION

2+50 N 3+00 N

filter

CHARGEABILITY
(MSEC)

2.7 2.3 n = 1

3.5 3.6 n = 2

4.4 4.1 4.3 n = 3

5.6 5.1 4.8 n = 4

TOPOGRAPHY

2+50 N 3+00 N

filter

RESISTIVITY
(ohm-m)

738 794 n = 1

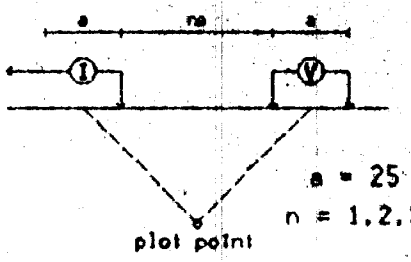
1133 1187 n = 2

1358 1358 1616 n = 3

1606 1768 2074 n = 4

18+00E

Pole-Dipole Array



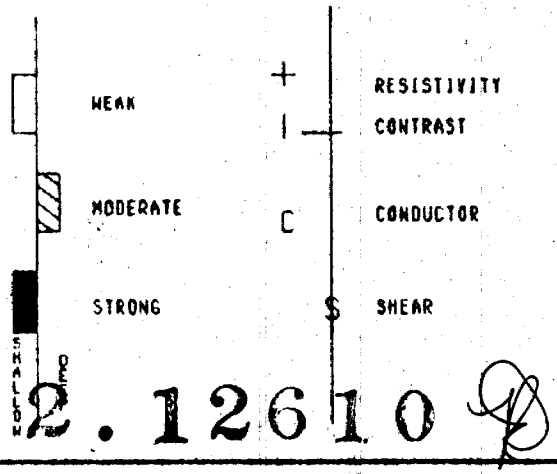
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



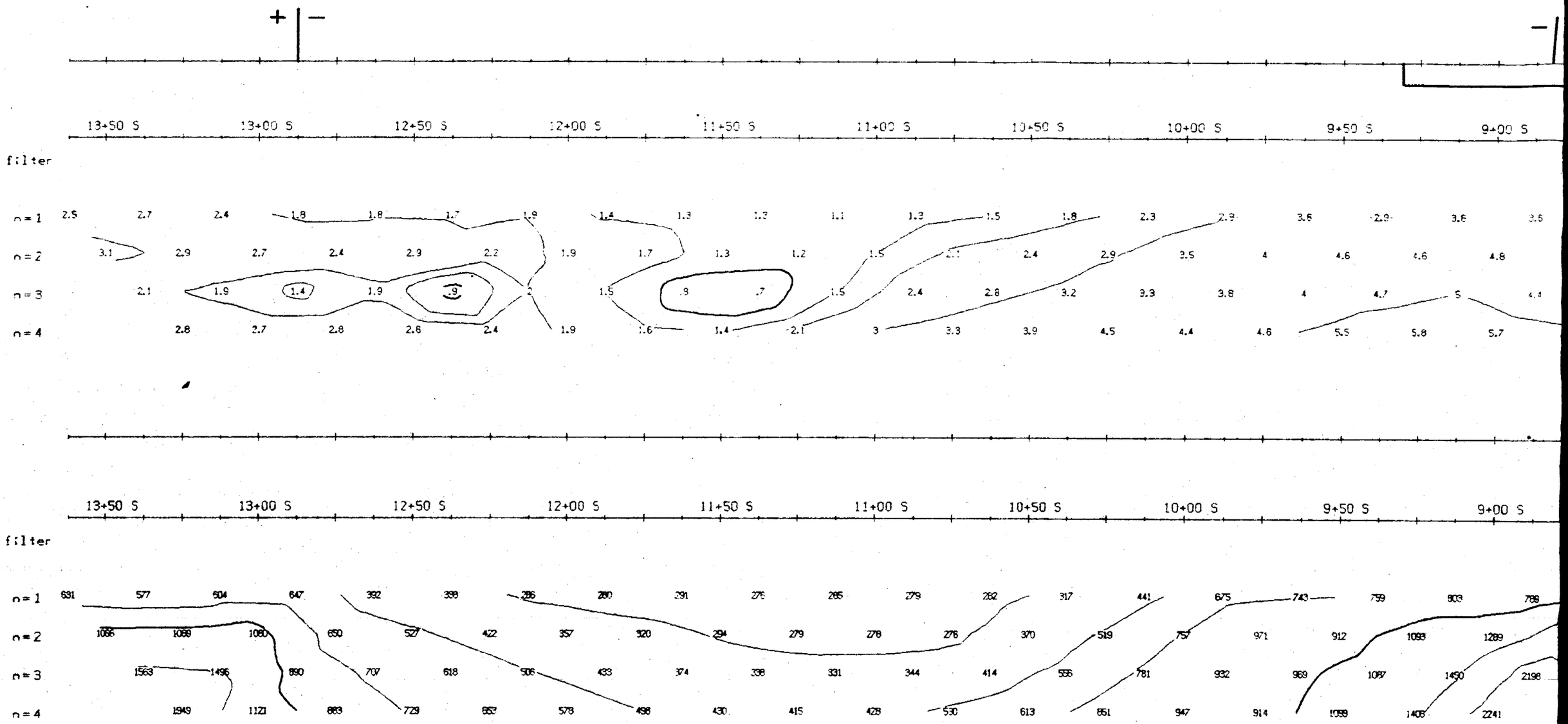
2.12610

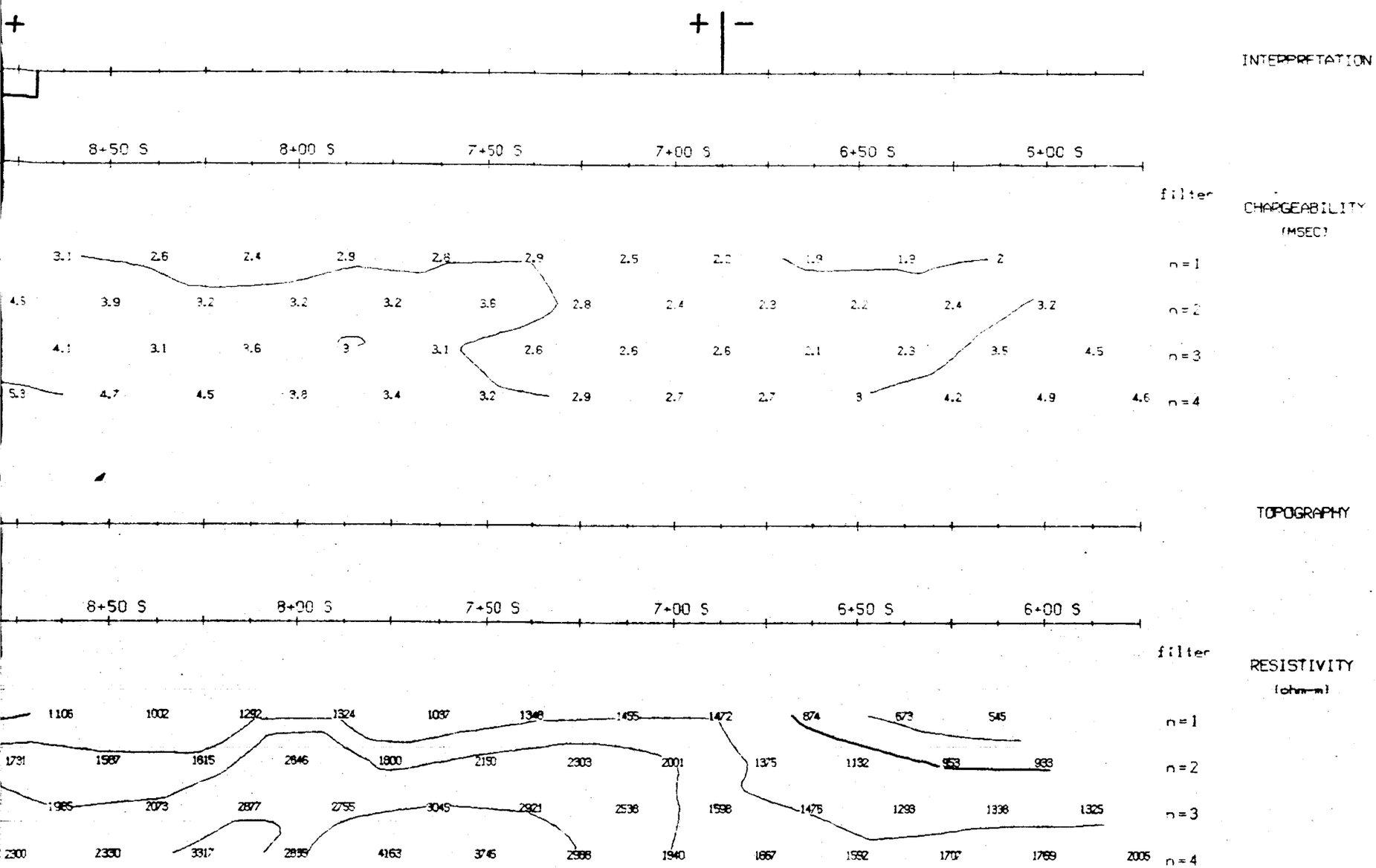
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title
Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

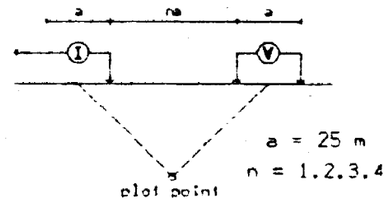
Date: June 15, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223





20+00E

Pole-Dipole Array



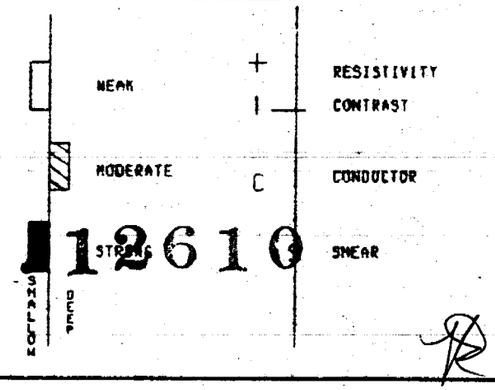
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES

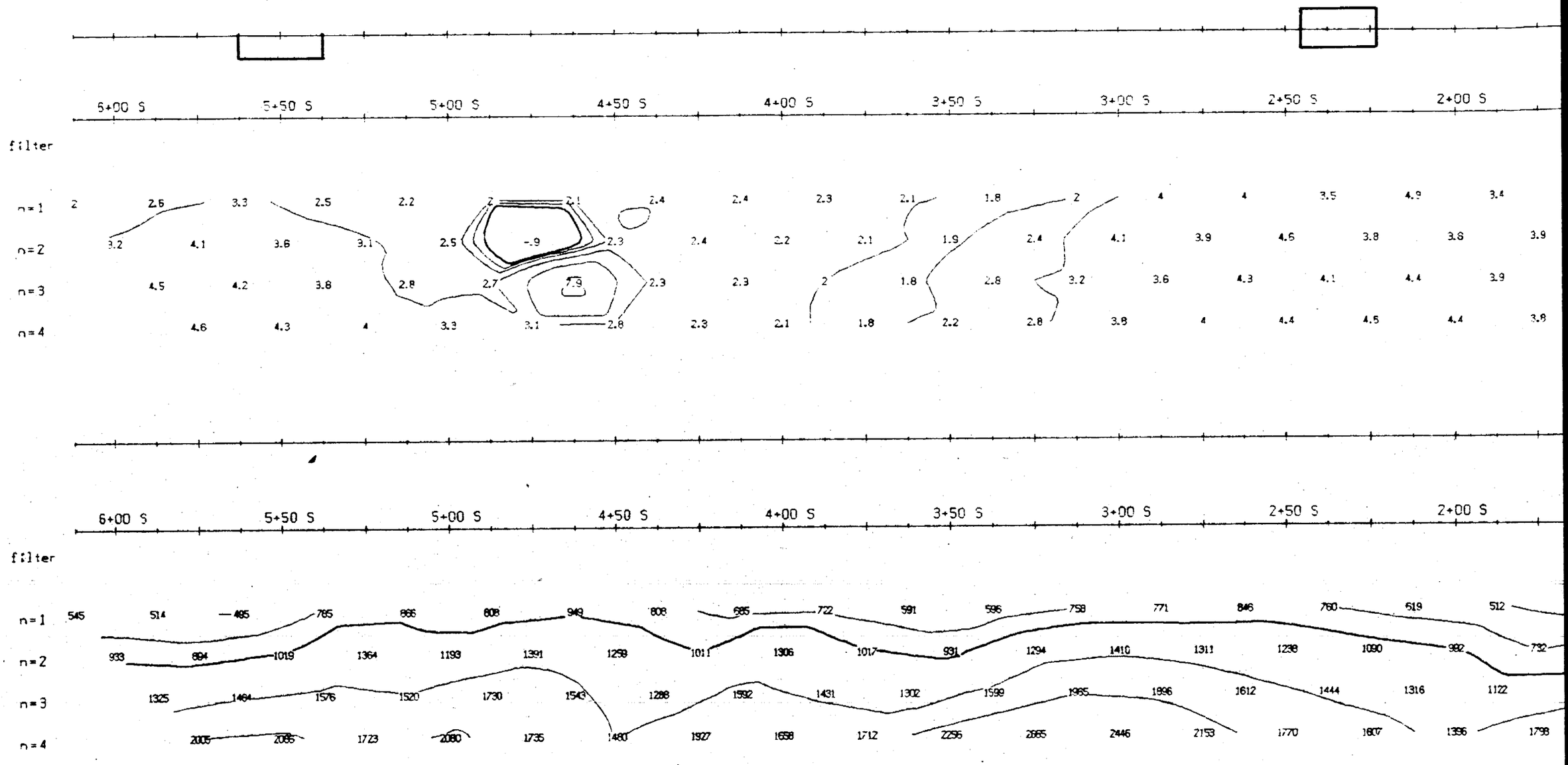


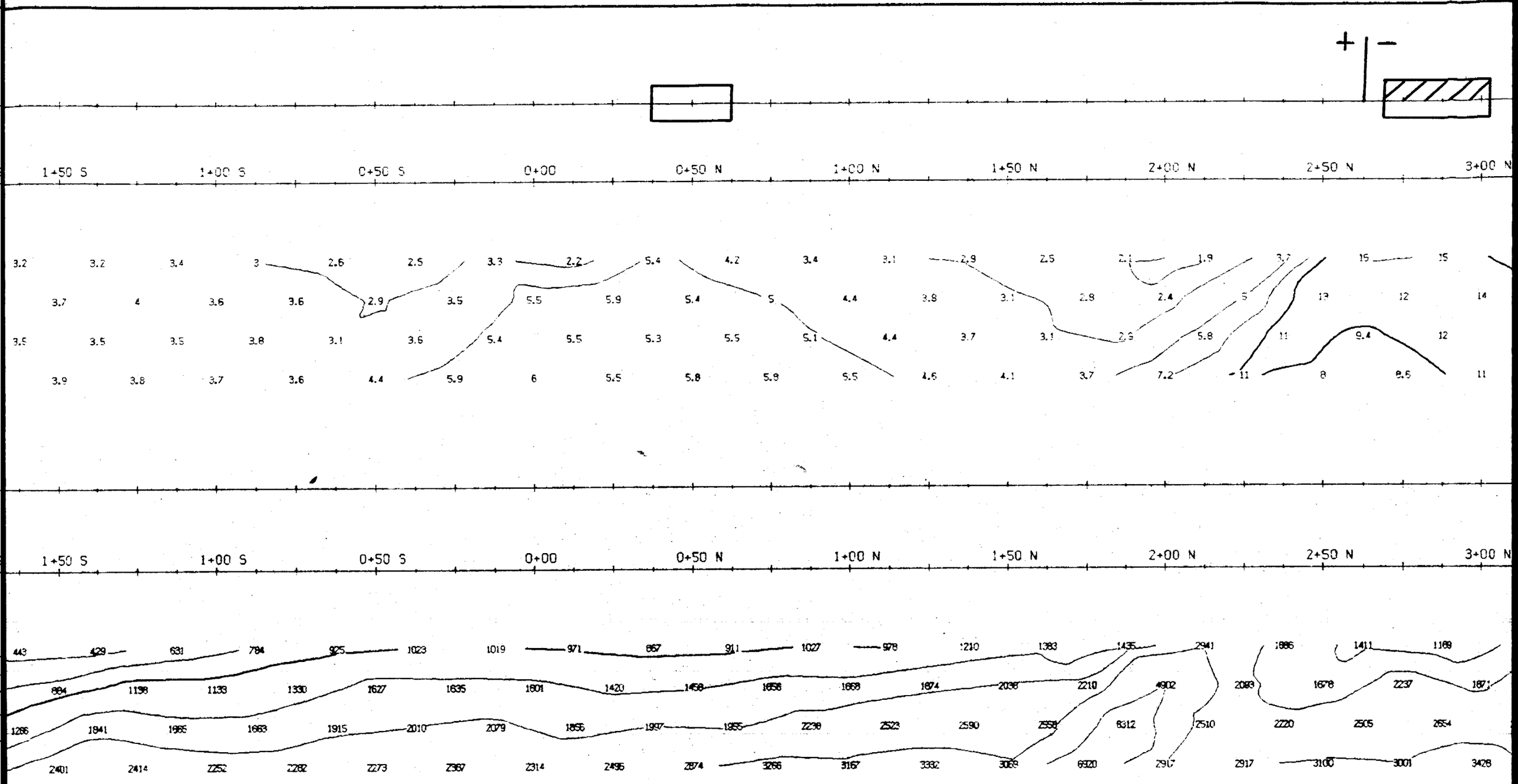
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

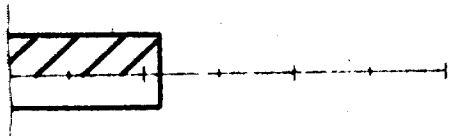
for GARL/GOLDROCK

Title
Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 17, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223




+
−
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
3.2 3.2 3.4 3 2.6 2.5 3.3 2.2 5.4 4.2 3.4 3.1 2.9 2.5 2.1 1.9 3.7 15 15
3.7 4 3.6 3.6 2.9 3.5 5.5 5.9 5.4 5 4.4 3.8 3.1 2.8 2.4 5 13 12 14
3.5 3.5 3.5 3.8 3.1 3.6 5.4 5.5 5.3 5.5 5.1 4.4 3.7 3.1 2.9 5.8 11 9.4 12
3.9 3.8 3.7 3.6 4.4 5.9 6 5.5 5.8 5.8 5.5 4.6 4.1 3.7 7.2 11 8 8.6 11
1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3+00 N
443 429 631 784 925 1023 1019 971 867 911 1027 978 1210 1383 1435 2941 1886 1411 1169
884 1198 1133 1330 1627 1635 1601 1420 1458 1656 1668 1674 2038 2210 4902 2093 1678 2237 1871
1286 1841 1965 1663 1915 2010 2079 1856 1997 1855 2238 2523 2590 2558 6312 2510 2220 2505 2654
2401 2414 2252 2282 2273 2367 2314 2495 2874 3266 3167 3332 3069 6920 2917 3100 3001 3428

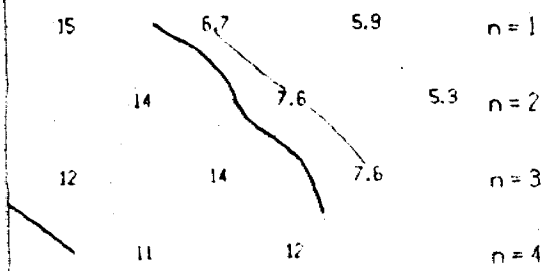


INTERPRETATION

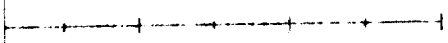
3+00 N 3+50 N

filter

CHARGEABILITY
(MSEC)



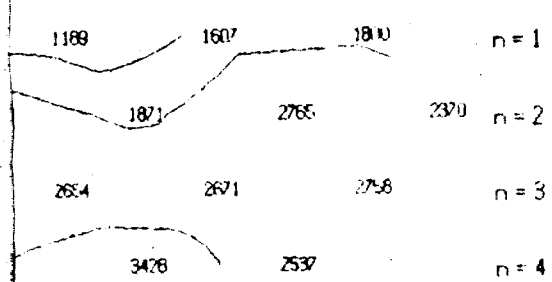
TOPOGRAPHY



3+00 N 3+50 N

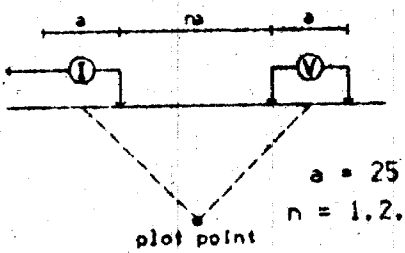
filter

RESISTIVITY
(ohm-m)



20+00E

Pole-Dipole Array



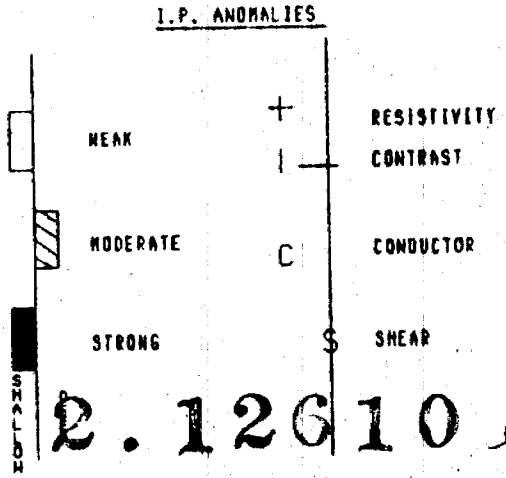
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



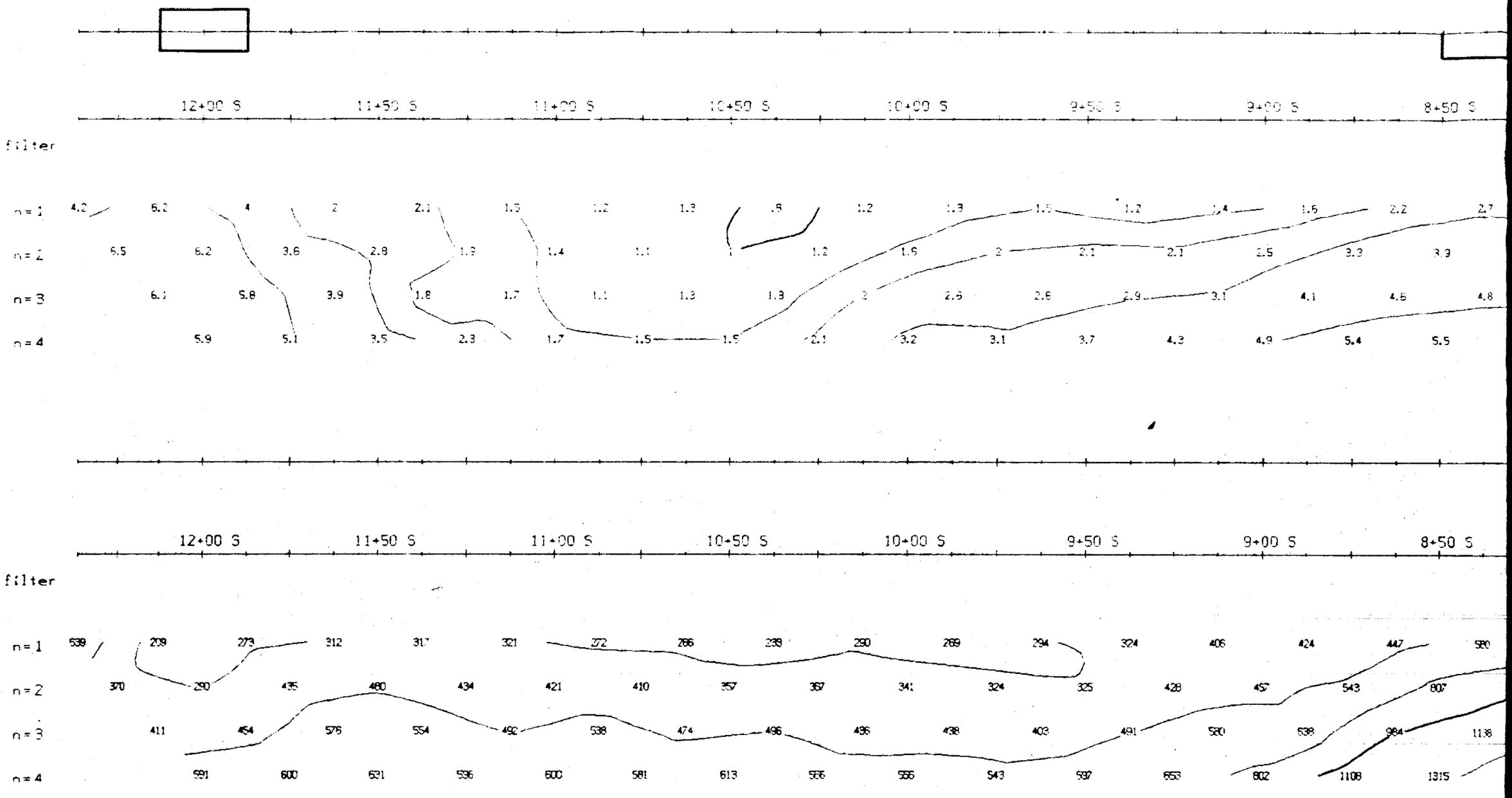
2.12610

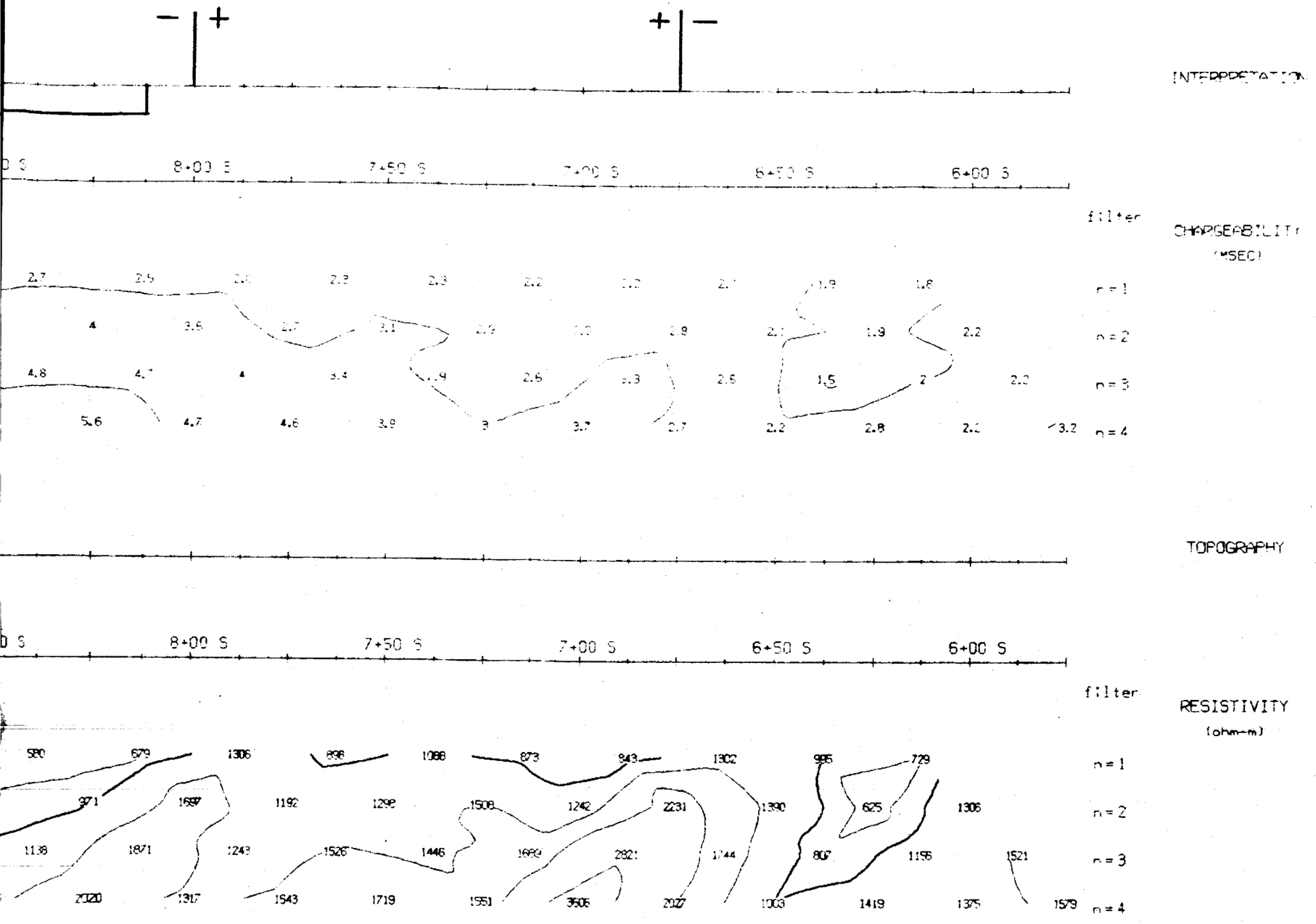
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

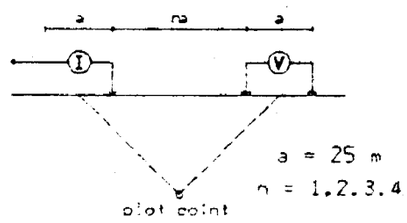
Date: June 17, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223





22+00E

Pole-Dipole Array



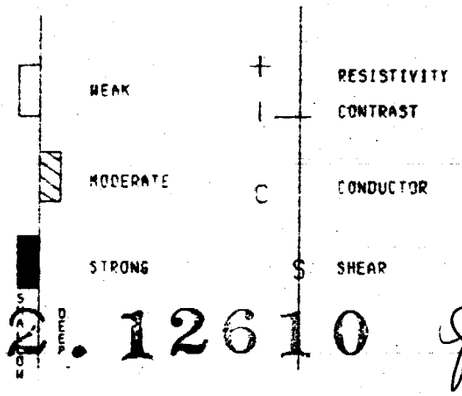
Filtered Profiles

Resistivity ——————
Chargeability ——————
Metal Factor ----------

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



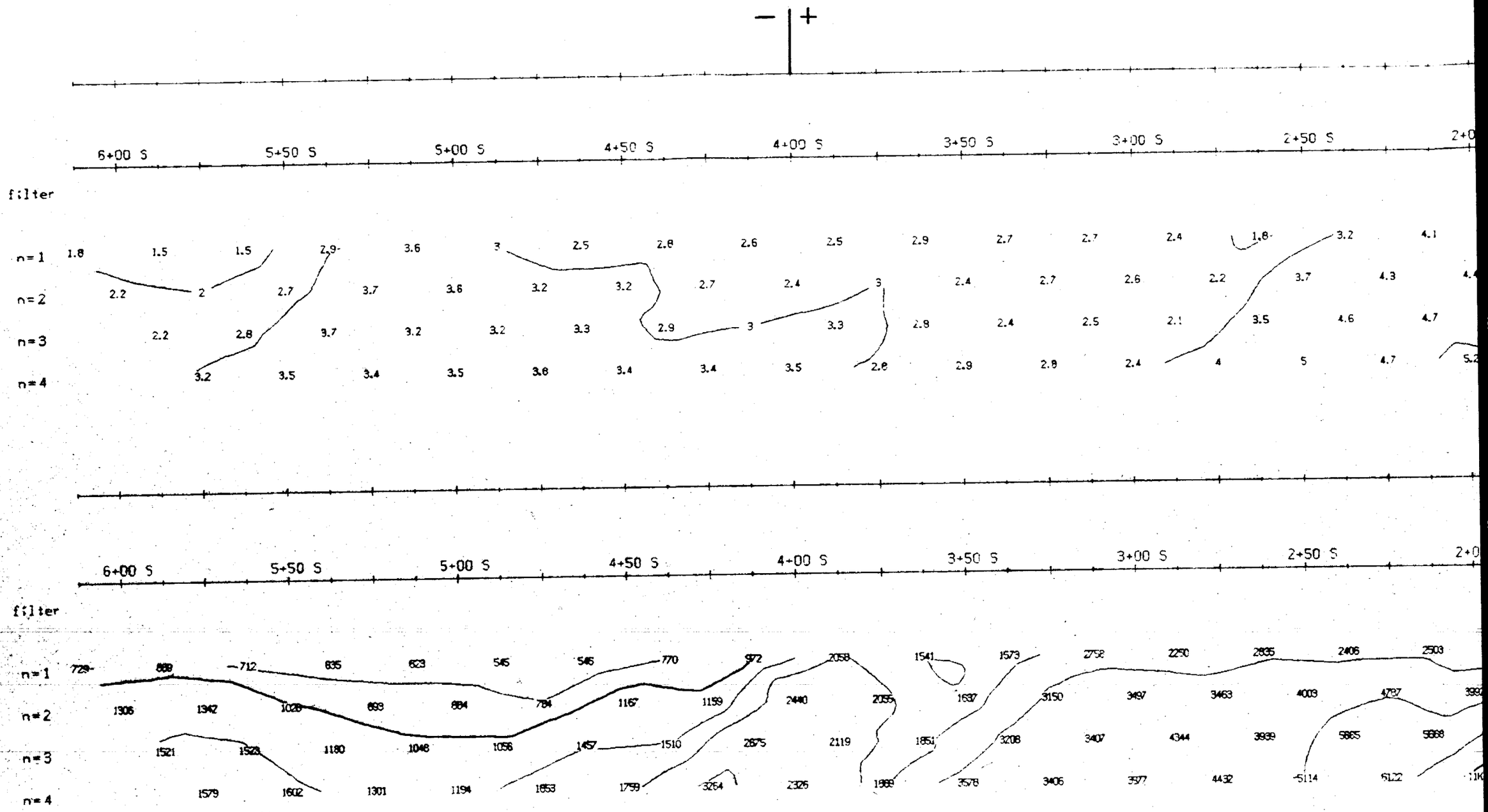
2. 12610

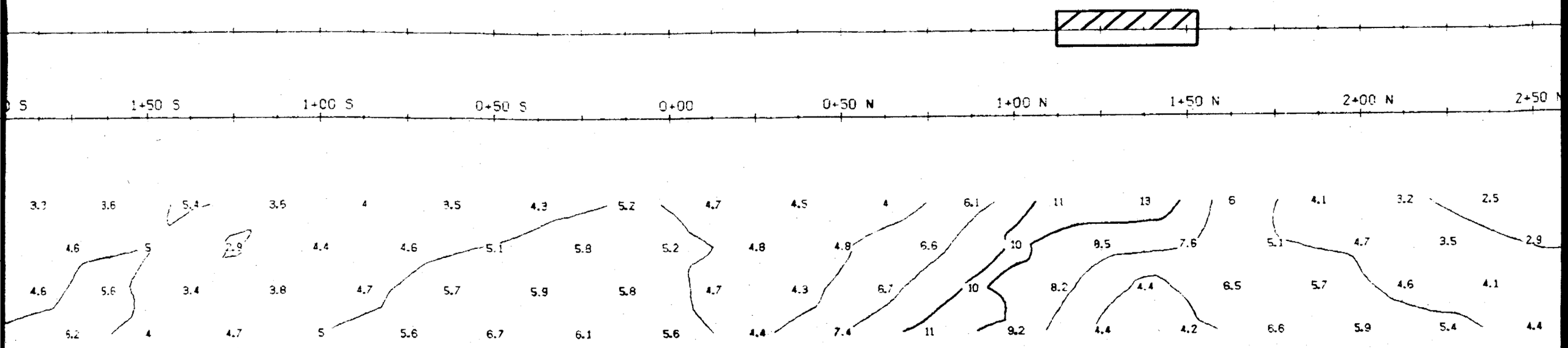
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

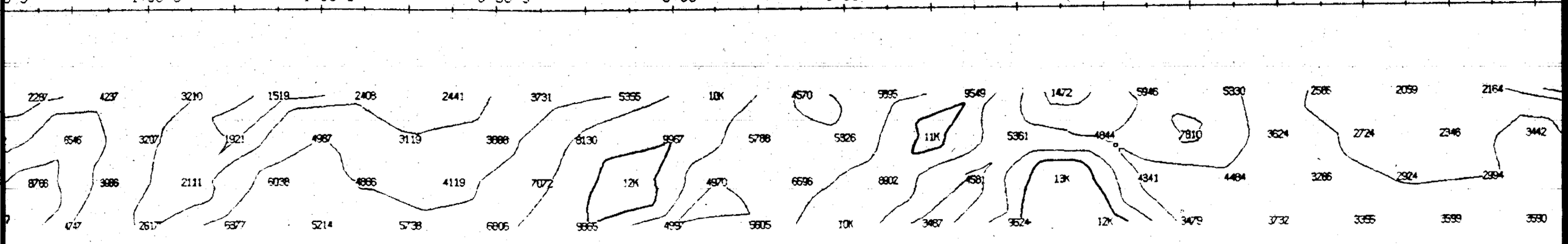
for GARL/GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 18, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-223




1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
3.3 3.6 5.4 3.6 4 3.5 4.3 5.2 4.7 4.5 4 6.1 11 13 6 4.1 3.2 2.5
4.6 5 2.9 4.4 4.6 5.1 5.8 5.2 4.8 4.8 6.6 10 8.5 7.6 5.1 4.7 3.5 2.9
4.6 5.6 3.4 3.8 4.7 5.7 5.9 5.8 4.7 4.3 6.7 10 8.2 4.4 6.5 5.7 4.6 4.1
6.2 4 4.7 5 5.6 6.7 6.1 5.6 4.4 7.4 11 9.2 4.4 4.2 6.6 5.9 5.4 4.4


1+50 S
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
2+50 N
2297 4237 3210 1519 2408 2441 3731 5355 10K 4570 9895 9549 1472 5946 5330 2585 2059 2164
6546 3207 1921 4987 3119 3888 8130 9967 5788 5326 11K 5361 4844 7810 3624 2724 2346 3442
8766 3886 2111 6038 4886 4119 7072 12K 4970 6596 8802 4581 13K 4341 4484 3286 2924 2994
4747 2617 6377 5214 5738 6806 9665 495 9605 10K 3487 9524 12K 3479 3732 3355 3599 3590

INTERPRETATION

3+00 N

filter

CHARGEABILITY
(MSEC)

2.5 n = 1

2.9 n = 2

3.5 3.7 n = 3

4.1 4 n = 4

TOPOGRAPHY

3+00 N

filter

RESISTIVITY
(ohm-m)

1050 n = 1

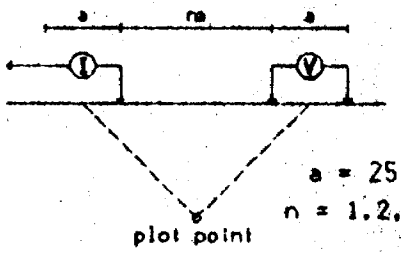
1879 n = 2

4437 2633 n = 3

5501 4035 n = 4

22+00E

Pole-Dipole Array



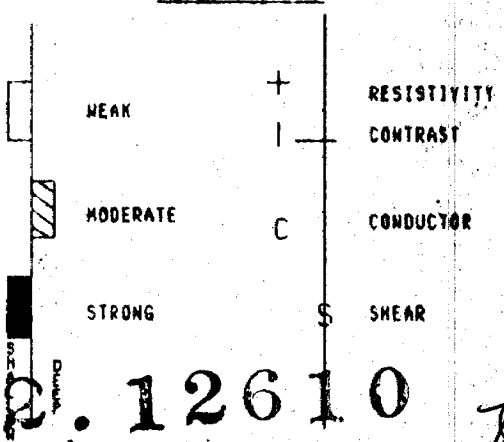
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: T. Anderson

I.P. ANOMALIES



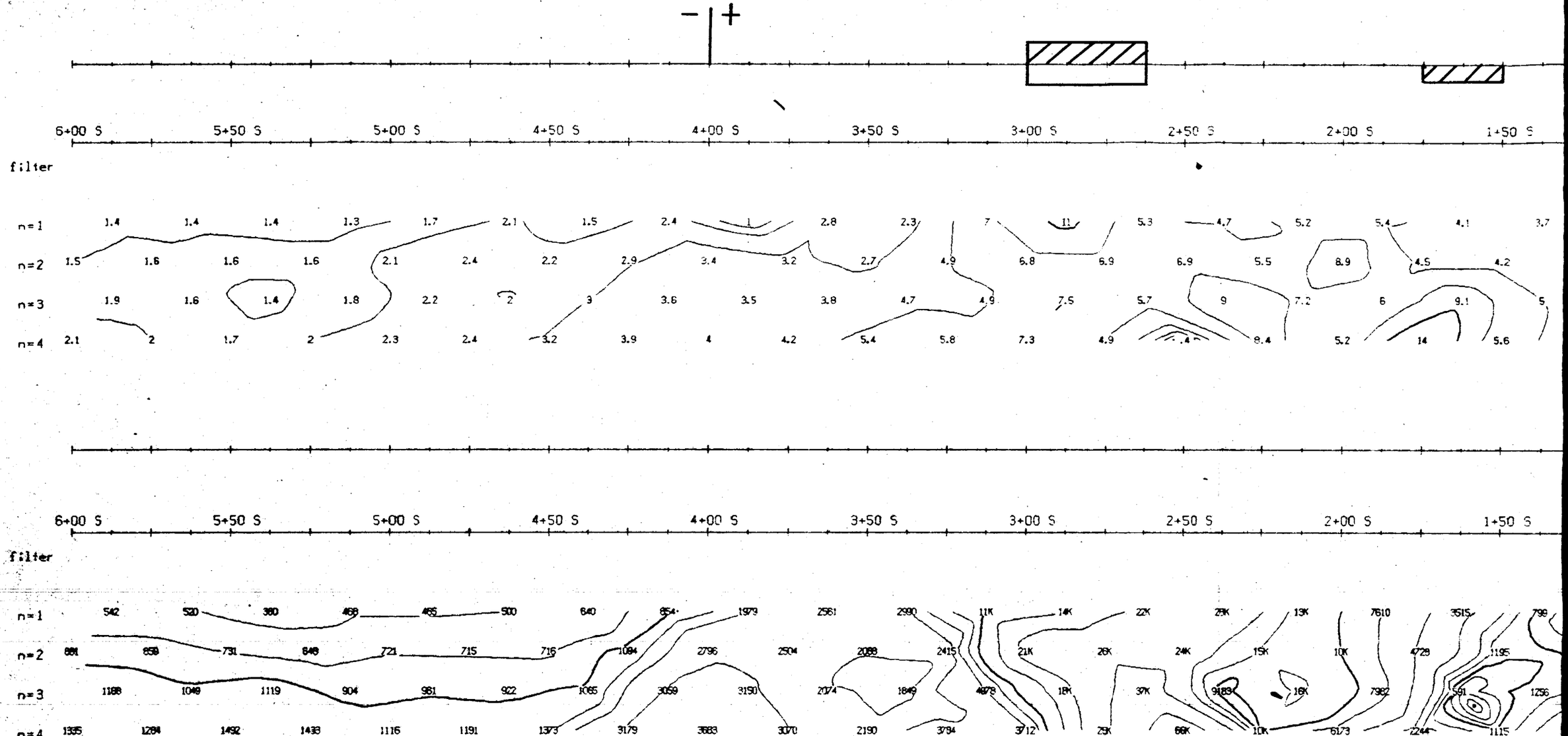
Q. 12610

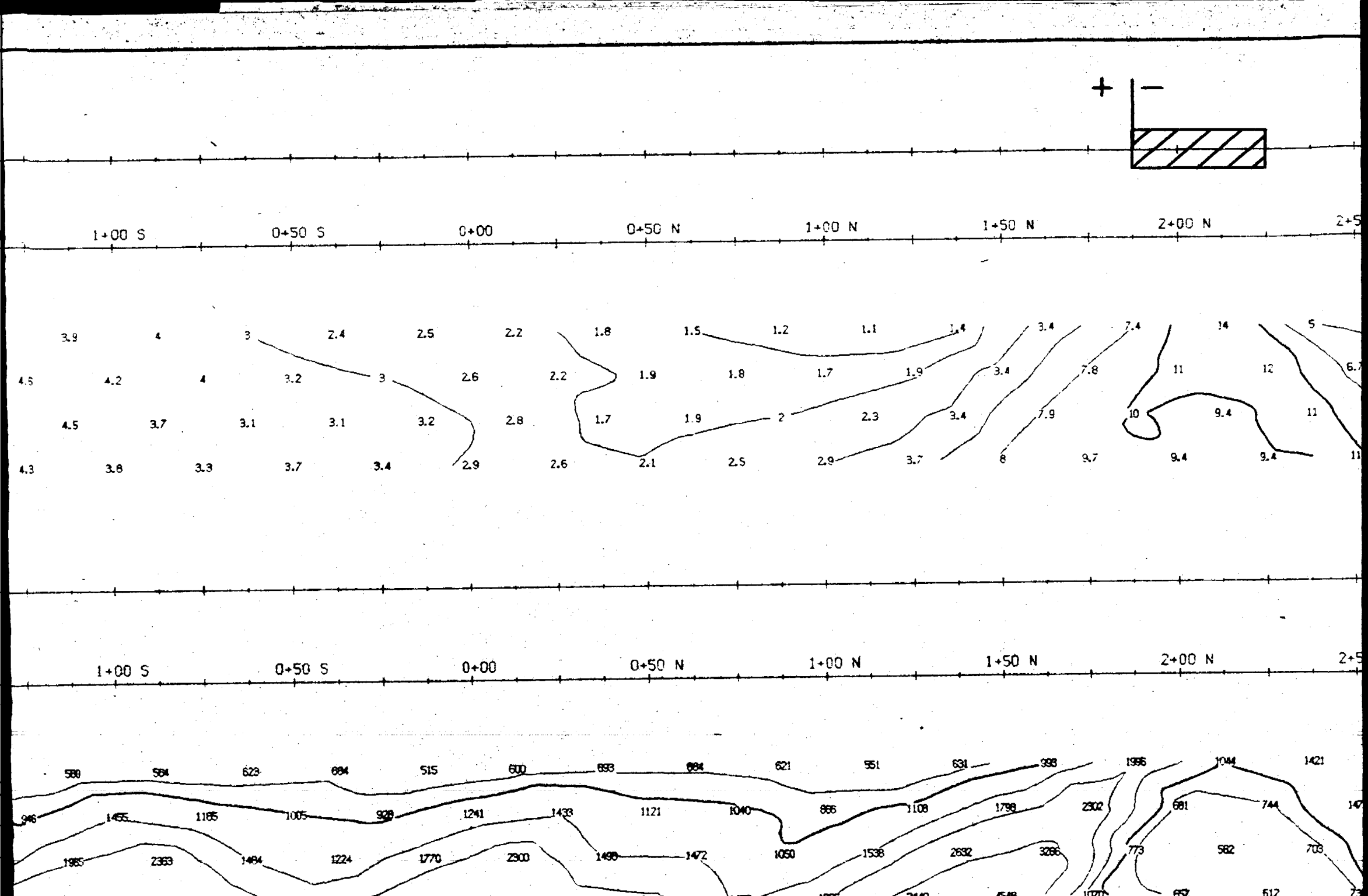
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

Date: June 18, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223


6+00 S
5+50 S
5+00 S
4+50 S
4+00 S
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
filter
n=1
n=2
n=3
n=4
6+00 S
5+50 S
5+00 S
4+50 S
4+00 S
3+50 S
3+00 S
2+50 S
2+00 S
1+50 S
filter
n=1
n=2
n=3
n=4


+
−
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
3.9 4 3 2.4 2.5 2.2 1.8 1.5 1.2 1.1 1.4 3.4 7.4 14 5
4.6 4.2 4 3.2 3 2.6 2.2 1.9 1.8 1.7 1.9 3.4 7.8 11 12 6.7
4.5 3.7 3.1 3.1 3.2 2.8 1.7 1.9 2 2.3 3.4 7.9 10 9.4 11
4.3 3.8 3.3 3.7 3.4 2.9 2.6 2.1 2.5 2.9 3.7 8 9.7 9.4 9.4 11
1+00 S
0+50 S
0+00
0+50 N
1+00 N
1+50 N
2+00 N
560 564 623 684 515 600 693 684 621 951 631 998 1996 1044 1421
946 1455 1185 1005 928 1241 1433 1121 1040 866 1108 1798 2302 681 744 147
1985 2353 1494 1224 1770 2300 1498 1472 1050 1538 2632 3286 773 582 703
657 612

INTERPRETATION

0 N 3+00 N

filter

CHARGEABILITY
(MSEC)

4.2 n = 1

5.3 n = 2

6.8 5.1 n = 3

7.2 6.2 n = 4

TOPOGRAPHY

0 N 3+00 N

filter

RESISTIVITY
(ohm-m)

767 n = 1

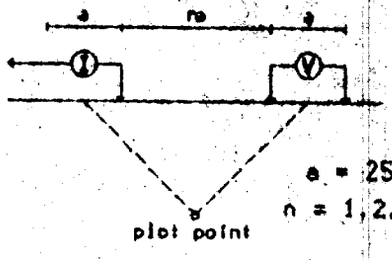
1012 n = 2

1456 1158 n = 3

1546 1301 n = 4

25+00E

Pole-Dipole Array



a = 25 m
n = 1, 2, 3, 4

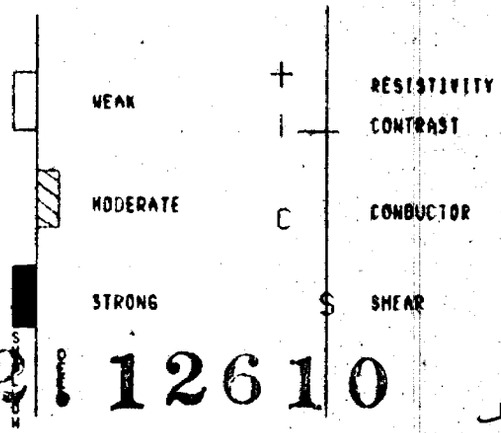
Filtered Profiles

Resistivity ————
Chargeability ————
Metal Factor - - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: D. Miles

I.P. ANOMALIES



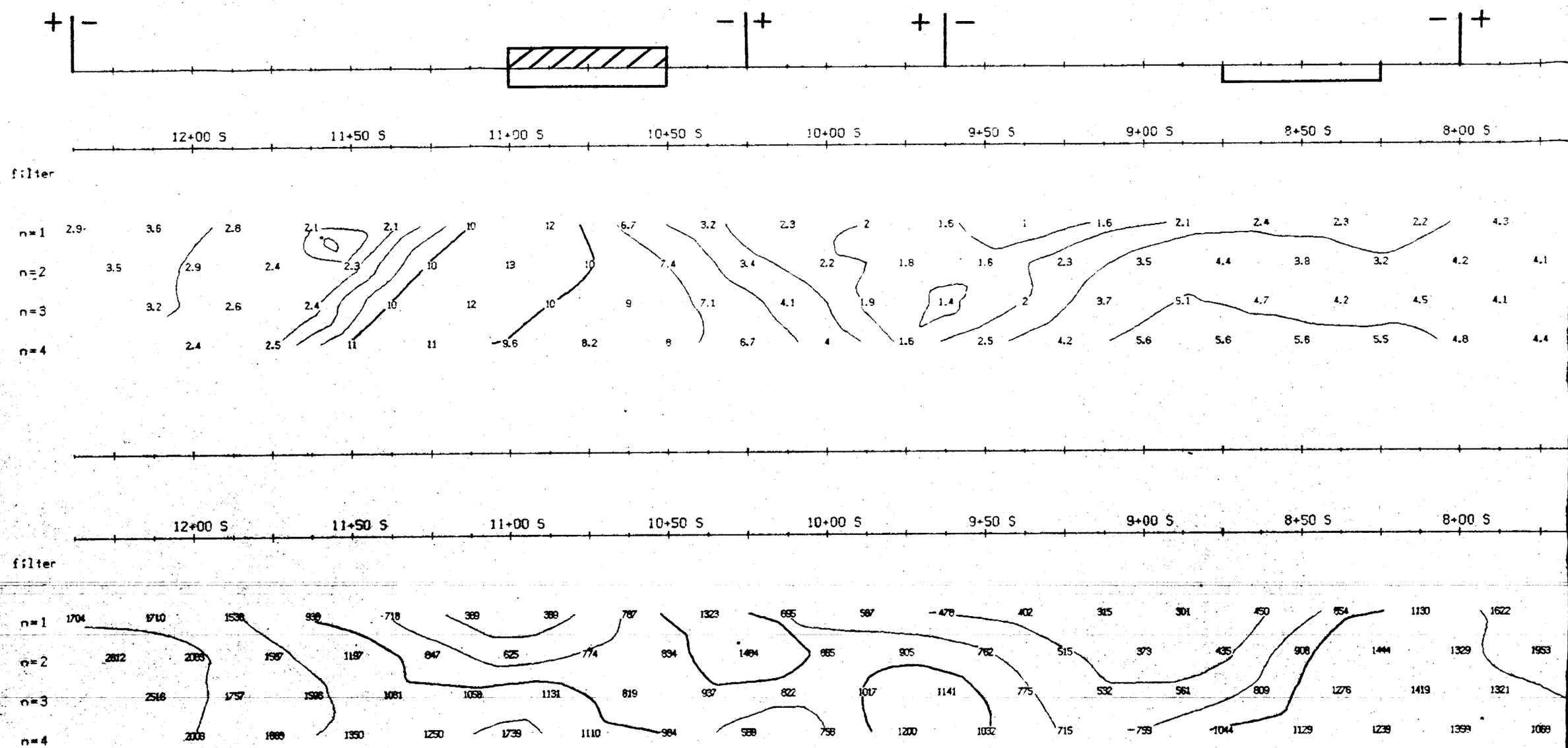
L 12610 N

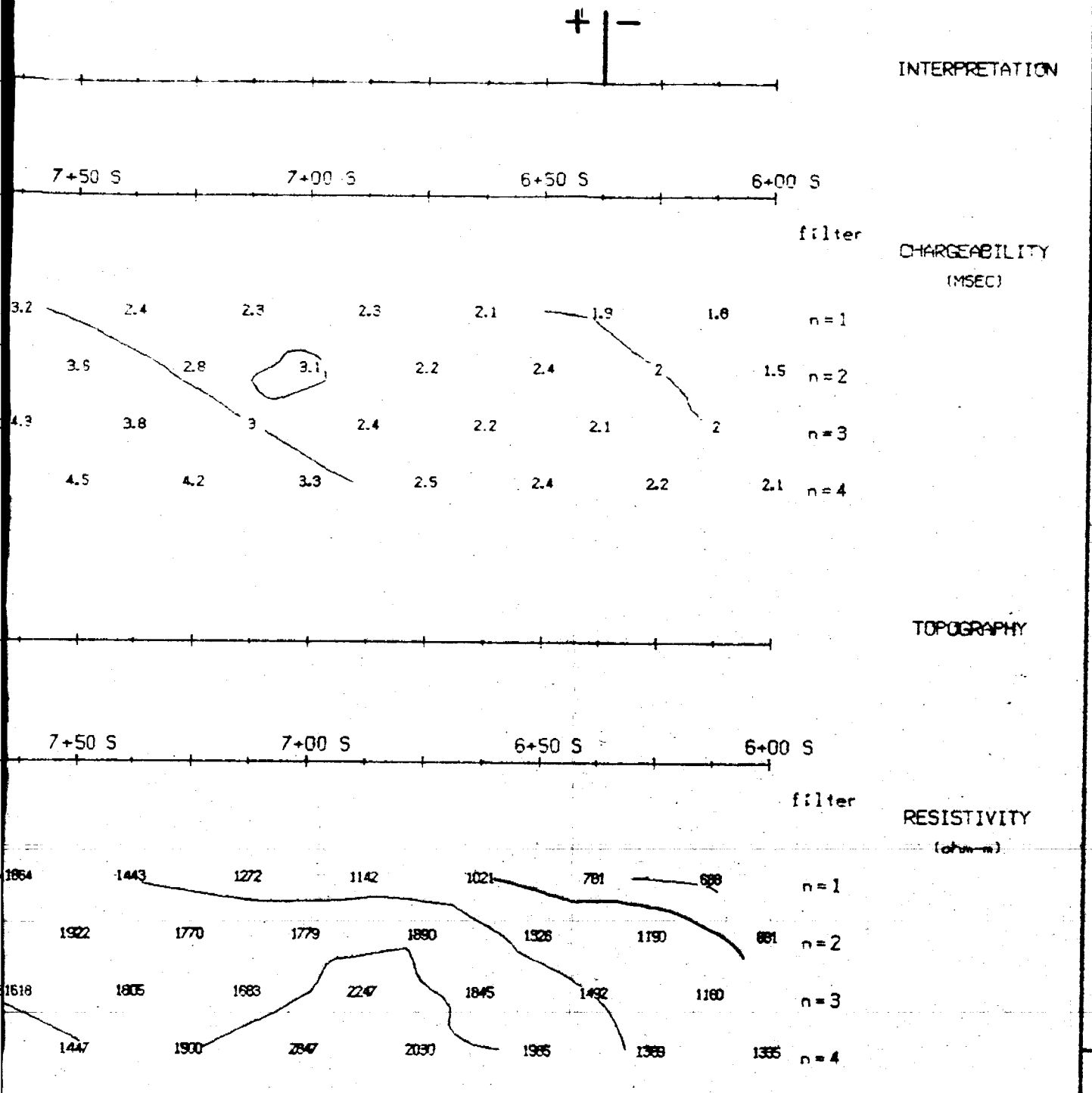
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title
Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

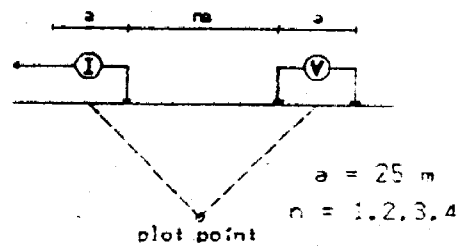
Date: June 20, 1988	Scale: 1 : 1250
Interp. by: G.H.	Job # M-223





25+00E

Pole-Dipole Array



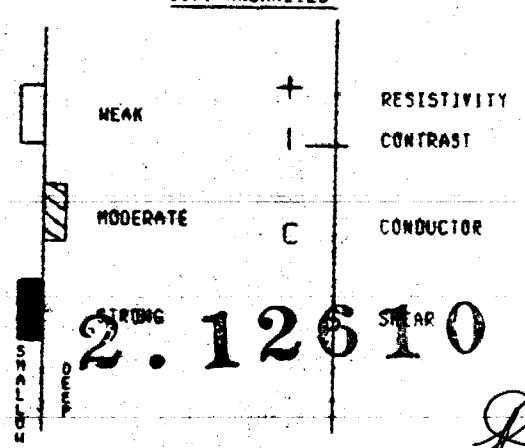
Filtered Profiles

Resistivity ———
Chargeability ———
Metal Factor - - - - -

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

Instrument: Scintrex IPR-11
Transmitter: Scintrex TSQ-3
Operator: D. Miles

I.P. ANOMALIES

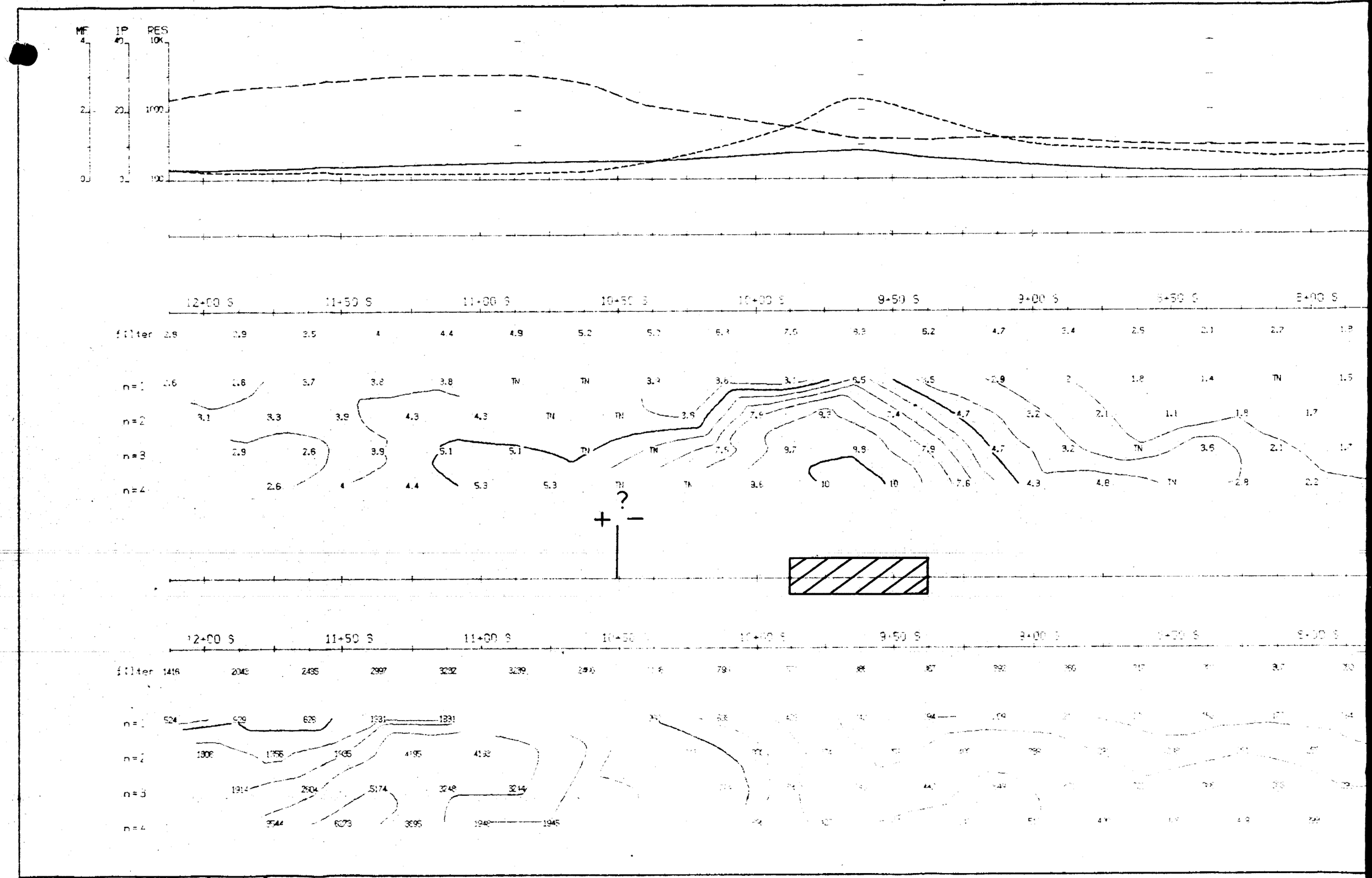


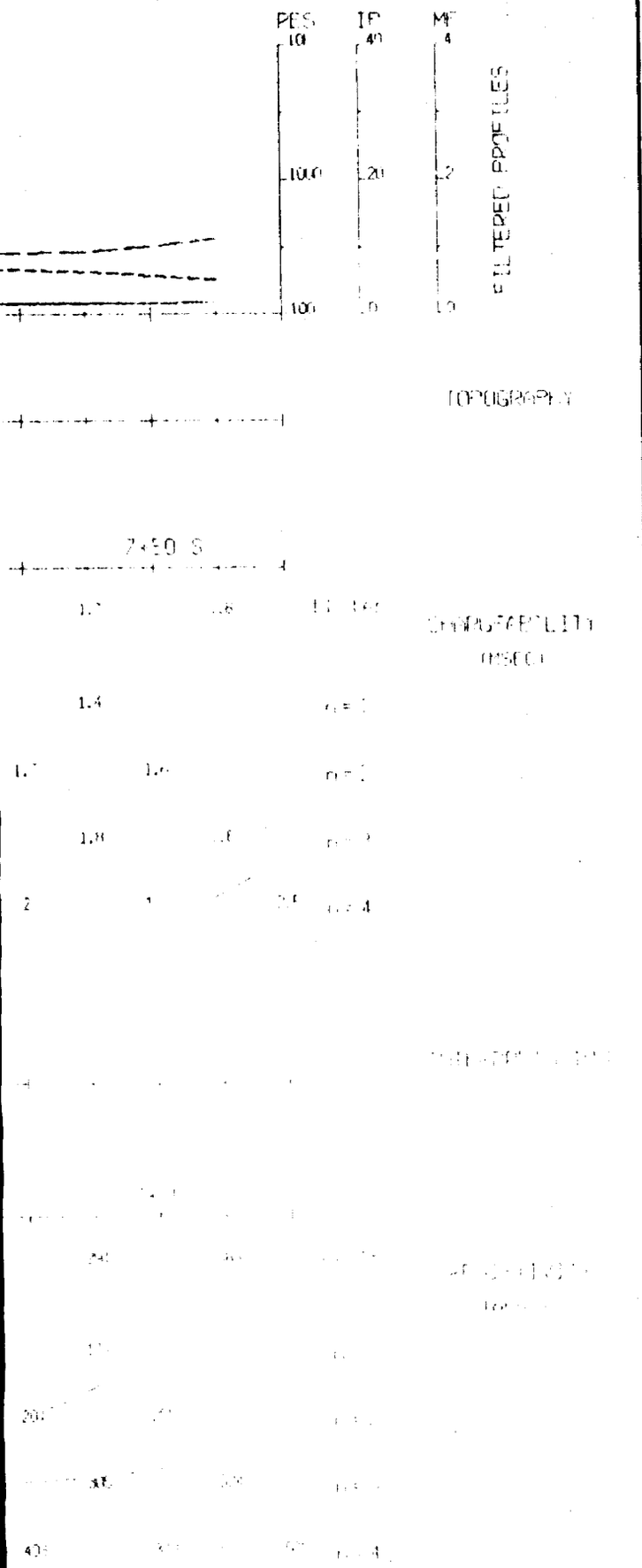
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

for GARL/GOLDROCK

Title Time Domain
INDUCED POLARIZATION SURVEY
Reeves Joint Venture
Kenogaming Twp., Ont.

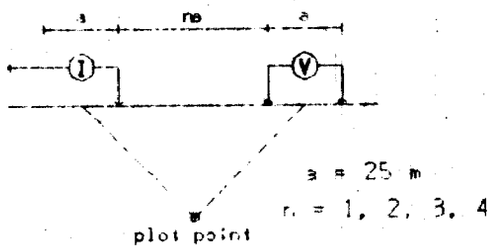
Date: June 20, 1988	Scale= 1 : 1250
Interp. by: G.H.	Job # M-223





27+00e

Pole-Dipole Array



a = 25 m
n = 1, 2, 3, 4

Filtered Profiles

		filter
Resistivity	————	*
Chargeability	————	* *
Metal Factor	--------	* * *
		* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

■ Strong increase in polarization accompanied by marked decrease in resistivity.

◘ Well defined increase in polarization without marked resistivity decrease.

▨ Poorly defined polarization increase with no resistivity signature.

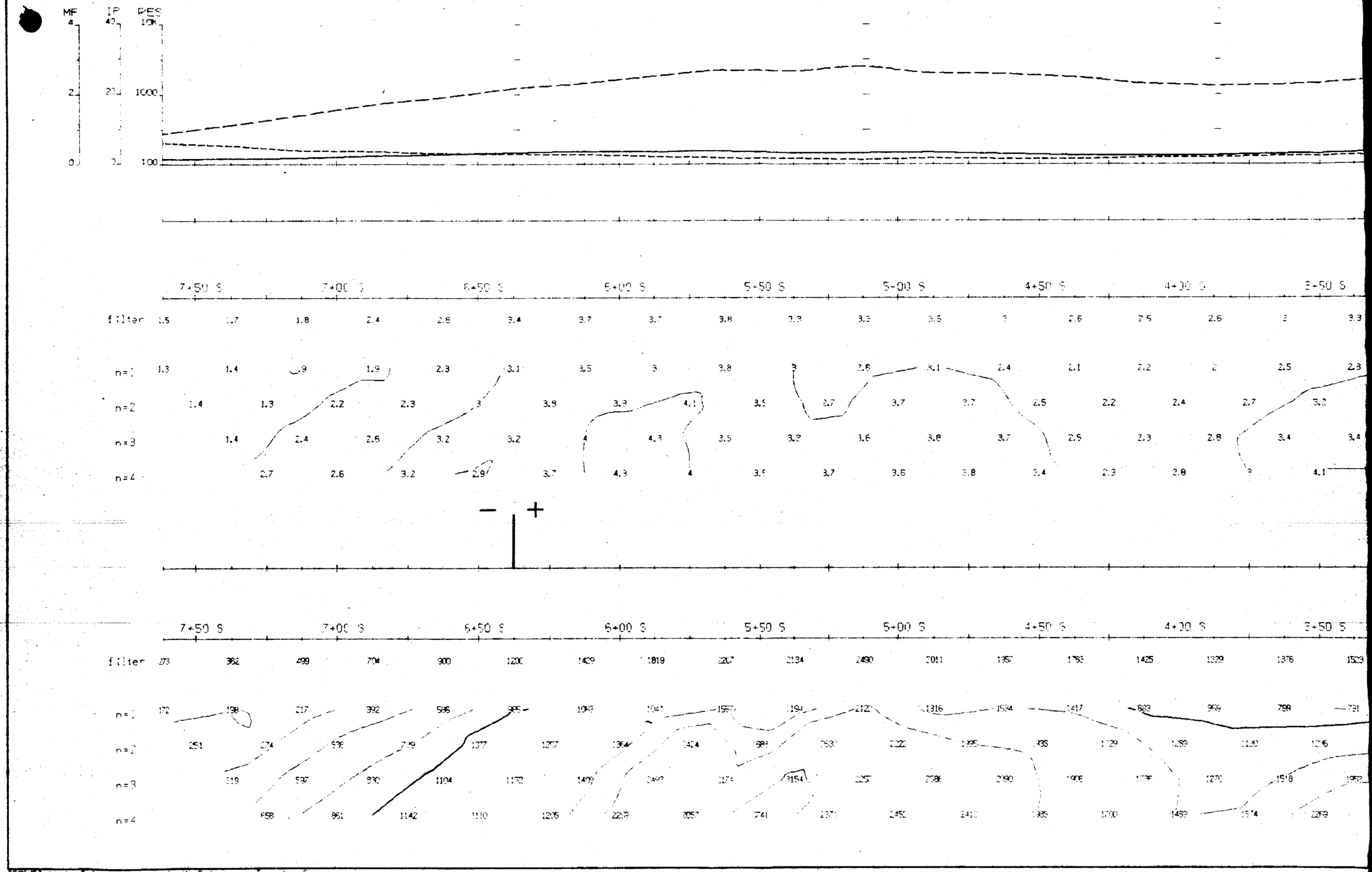
▼ Low resistivity feature.

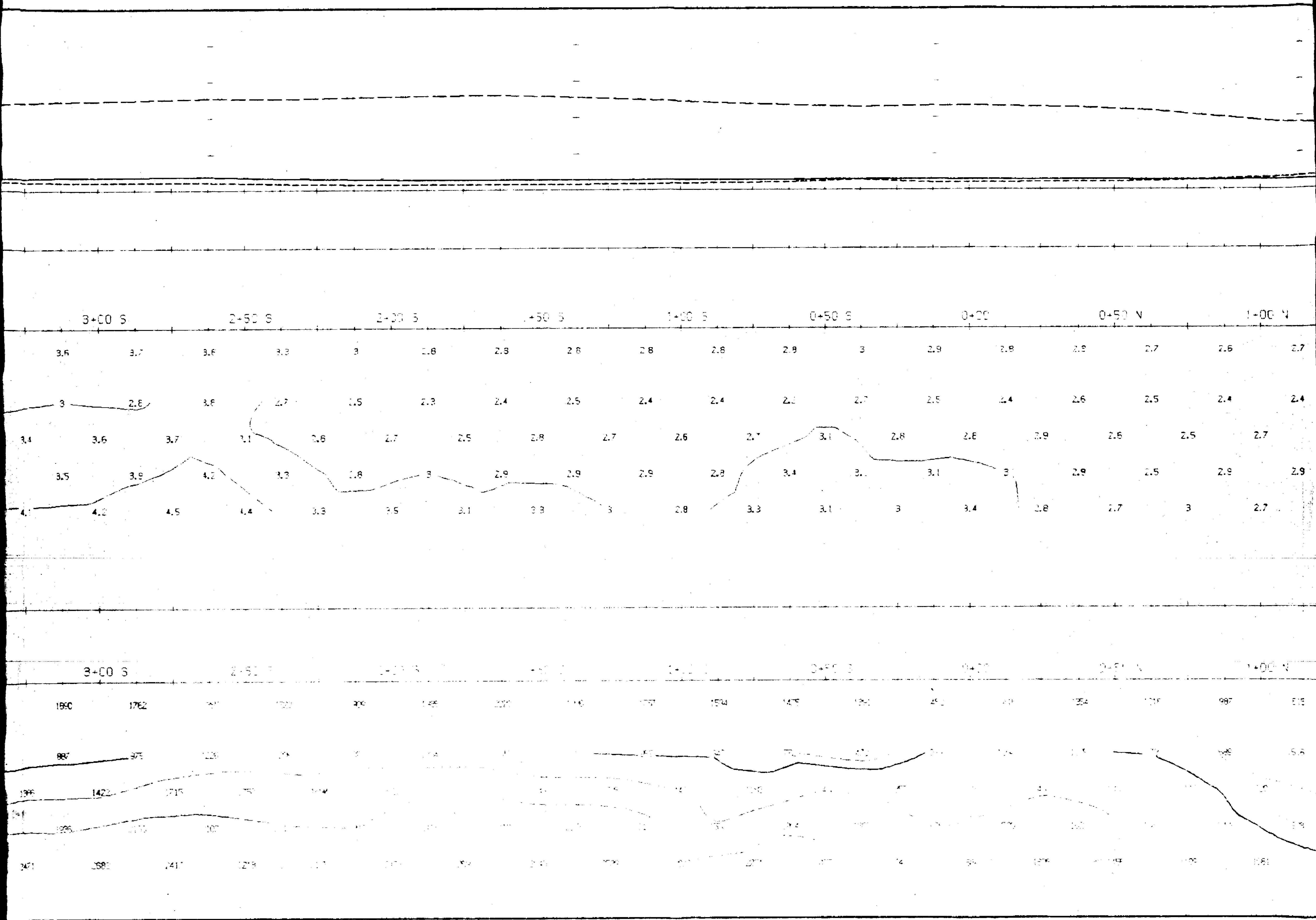
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

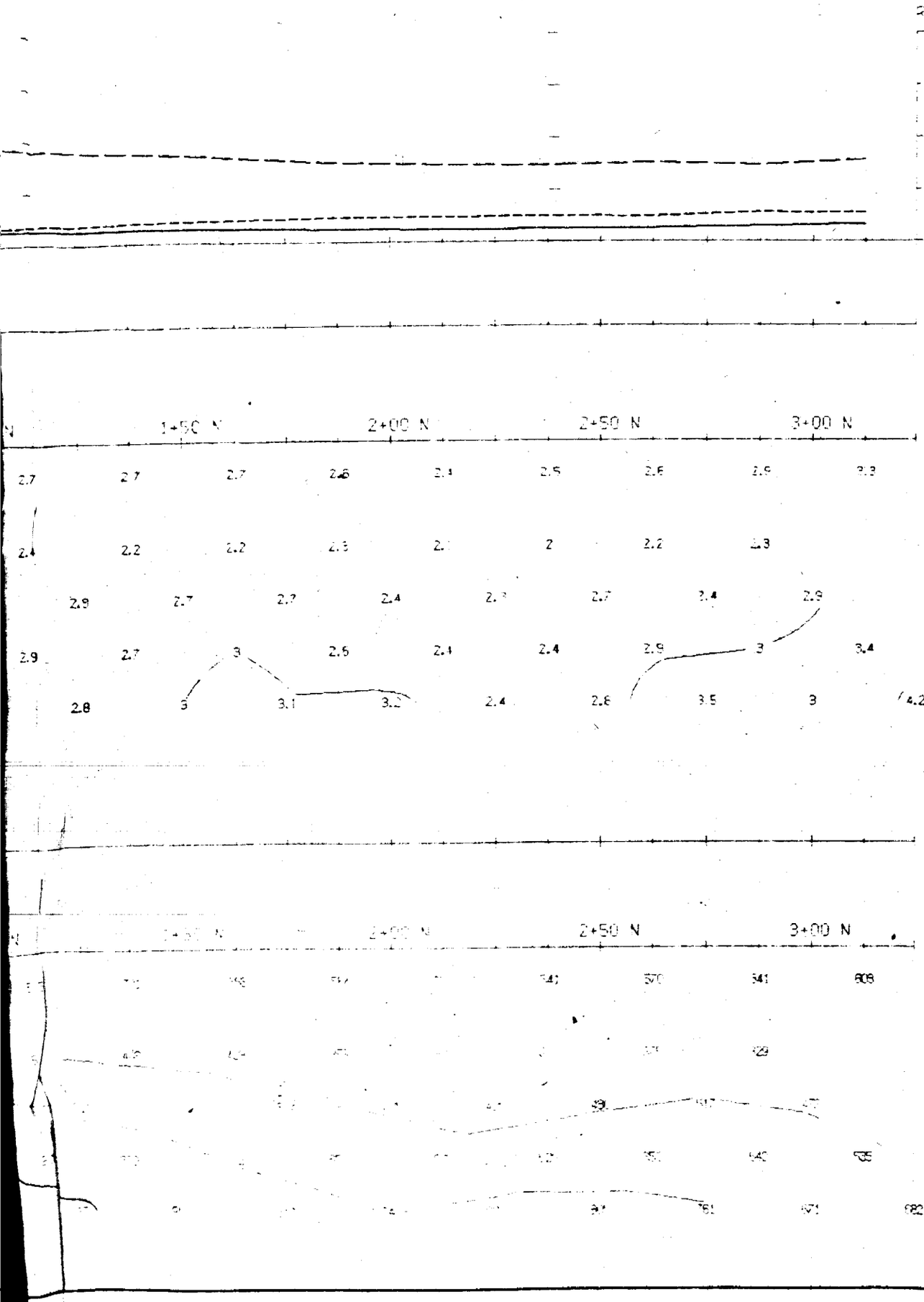
for GLEN AUDEN-GOLDROCK J.V.

Title: Time Domain
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: June 30, 1988	N.T.S.:
Interp. by:	Job # M-223

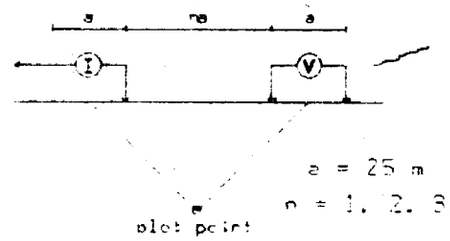

MF
IP
PES
4
2
0
40
20
0
10K
1000
100
7+50 S
7+00 S
6+50 S
6+00 S
5+50 S
5-00 S
4+50 S
4+30 S
3+50 S
filter
n=1
n=2
n=3
n=4
filter
n=1
n=2
n=3
n=4


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



L 27+00E

Pole-Dipole Array



Filtered Profiles

	filter
Resistivity ————	*
Chargeability ————	* *
Metal Factor - - - - - - - -	* * *
	* * * *

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

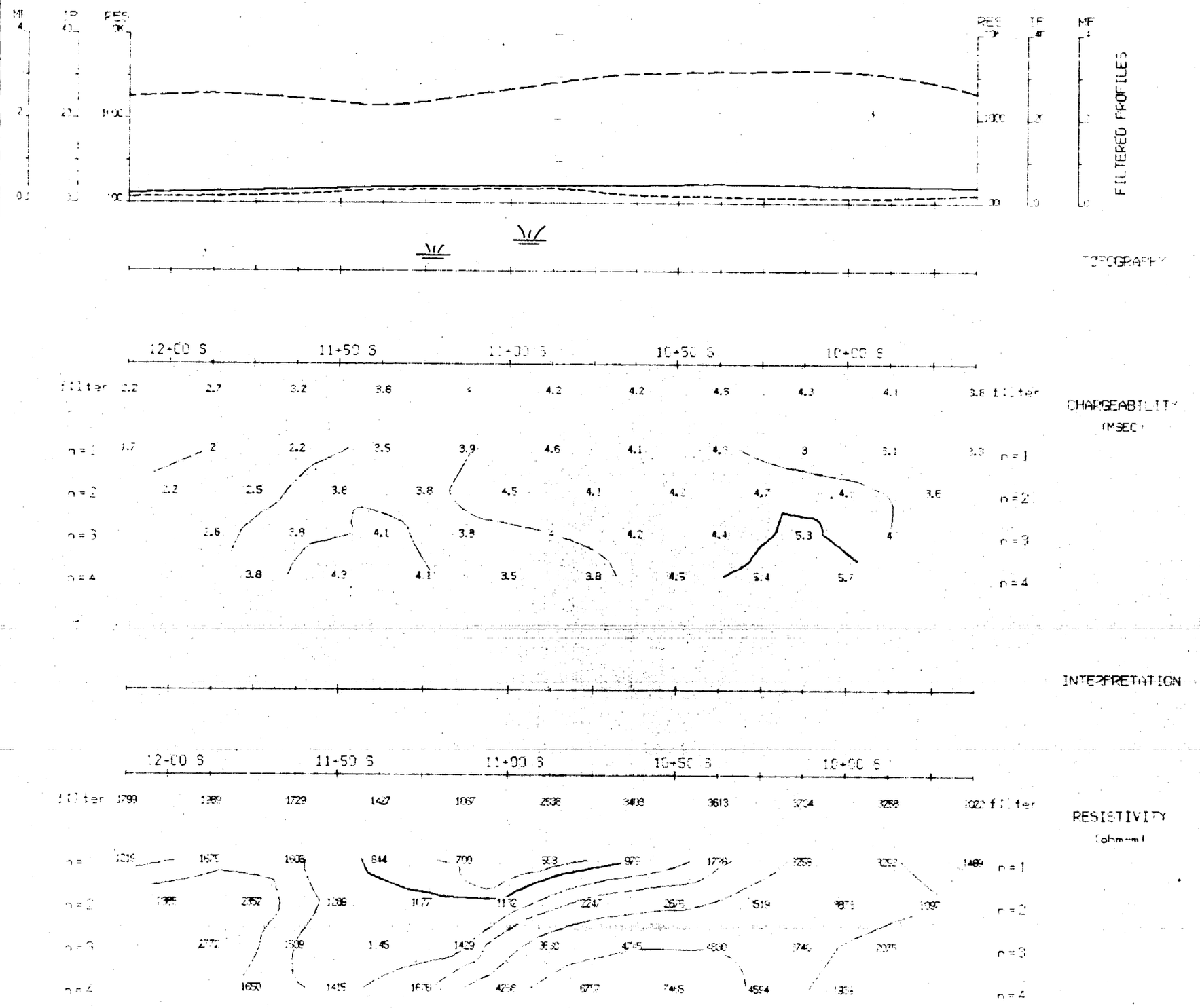
- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- □ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

for GLEN AUDEN-GOLDROCK J.V.

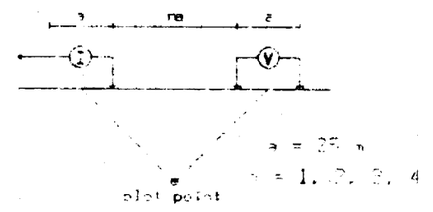
Title **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 1, 1988	N.T.S.:
Interp. by:	Job # M-223



29+00E

Pole-Dipole Array



Filtered Profiles

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

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

Instrument: IPR-11
Transmitter: IPT-1
Operator: D. Miles

INTERPRETATION

- ■ Strong increase in polarization accompanied by marked decrease in resistivity.
- ◘ Well defined increase in polarization without marked resistivity decrease.
- ❐ Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

For: GLEN AUDEN-GOLDROCK J.V.

Title: **Time Domain**
INDUCED POLARIZATION SURVEY
SEWELL TOWNSHIP PROJECT.
Sewell Lake, Ont.

Date: July 1 1988	N.T.S.:
Interp. by:	Job # M-228

FROM:M.R. PORCUPINE MIN.DIV. TO:416 922 4108 AUG 11, 1989 9:12AM P.04

Northern Development and Mines

(Geophysical, Geological, Geochemical and Expenditures)

Mining

42A04NW0006 2.12610 REEVES 900

8906.358 PAGE 1 OF 2

Type of Survey(s): GROUND GEOPHYSICS (I.P. - MAN DAYS)

Claim Holder(s): GLEN AUDEN RESOURCES LIMITED / GOLDROCK RESOURCES INC. (* indicates claims held)

Prospector's Licence No.: P1915 / T4715

Address: P.O. Box 1637 TIMMINS ONTARIO P4N 7W8

Survey Company: R.S. MIDDLETON EXPLORATION SERVICES INC.

Date of Survey (from & to) 2 PHASES: 06 06 88 | 04 12 88 (Day Mo. Yr. | Day Mo. Yr.)

Total Miles of line Cut: ——

Name and Address of Author (of Geo-Technical report): RICHARD LACHAPELLE P.O. Box 1637 TIMMINS ONT P4N 7W8

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	
For each additional survey: using the same grid:	- Radiometric	
Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other (I.P.)	25.06
	Geological	
	Geochemical	
Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECORDED JUL 14 1989

RECEIVED AUG 11 1989 MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

RECEIVED JUL 14 1989 11:15 A.M.

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

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.

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
P	878419			933565	
	893527			933566	
	893528			933567	
	893529			933568	
	901327			933569	
	901329			933570	
	901330			933571	
	901331			933572	
	901332			933573	
	901333			933574	
	901334			933575	
	901335			933576	
	901336			944888	
	901337			944889	
*	~~[illegible]~~ *			944890	
*	~~[illegible]~~ *			947085	
	933528			947089	
	933545			947096	
	933560			947148	
	933561			947149	
	933562			947150	
	933563				
	933564				

continued on page 2

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE OCT 23 1989 RECEIVED

MAX REACHED

*(SEE SECTION 77-9)

Total number of mining claims covered by this report of work: 66

For Office Use Only		
Total Days Cr. Recorded: 1603.84	Date Recorded: JULY 14/89	Mining Recorder: [signature]
	Date Approved as Recorded: 23 Oct 89	Branch Director: [signature]

Date: July 14/89 | Recorded Holder or Agent (Signature): [signature] David

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

CLIFF DAVID P.O. Box 1637

TIMMINS ONT P4N 7W8

Date Certified: July 14/89 | Certified by (Signature): [signature] David

1362 (85/12)

Geochemical and Expenditures) 338

PAGE 2 OF 2

Mining Act

Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns. Do not use shaded areas below.

Type of Survey(s)

Township or Area

Claim Holder(s)

Prospector's Licence No.

Address

Survey Company

Author of Report or Map

Date of Survey (from & to) Day | Mo | Yr. | Day | Mo | Yr.

Total Miles of Line Cut

Credits Requested per Each Claim in Columns at right

Special Provisions

For first survey: Enter 40 days. (This includes line cutting)

For each additional survey: using the same grid: Enter 20 days (for each)

	Days per Claim
Geophysical	
- Electromagnetic	
- Magnetometer	
- Radiometric	
- Other	
Geological	
Geochemical	

Man Days

Complete reverse side and enter total(s) here

	Days per Claim
Geophysical	
- Electromagnetic	
- Magnetometer	
- Radiometric	
- Other	
Geological	
Geochemical	

Airborne Credits

Note: Special provisions credits do not apply to Airborne Surveys.

	Days per Claim
Electromagnetic	
Magnetometer	
Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions

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

Date

Recorded Holder or Agent (Signature)

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.
P	947251	
	947252	
	947253	
	947255	
	947256	
	947257	
	947258	
	947259	
	947260	
	947263	
	947264	
	947265	
	947267	
	947268	
	987253	
	987254	
	987255	
	987256	
	987257	
	987281	
	987282	
	1029373	

Prefix	Mining Claim Number	Expend. Days Cr.

Total number of mining claims covered by this report of work: 66

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

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 Address of Person Certifying

Date Certified

Certified by (Signature)

REFERENCE

AREAS WITHDRAWN FROM DISPOSITION

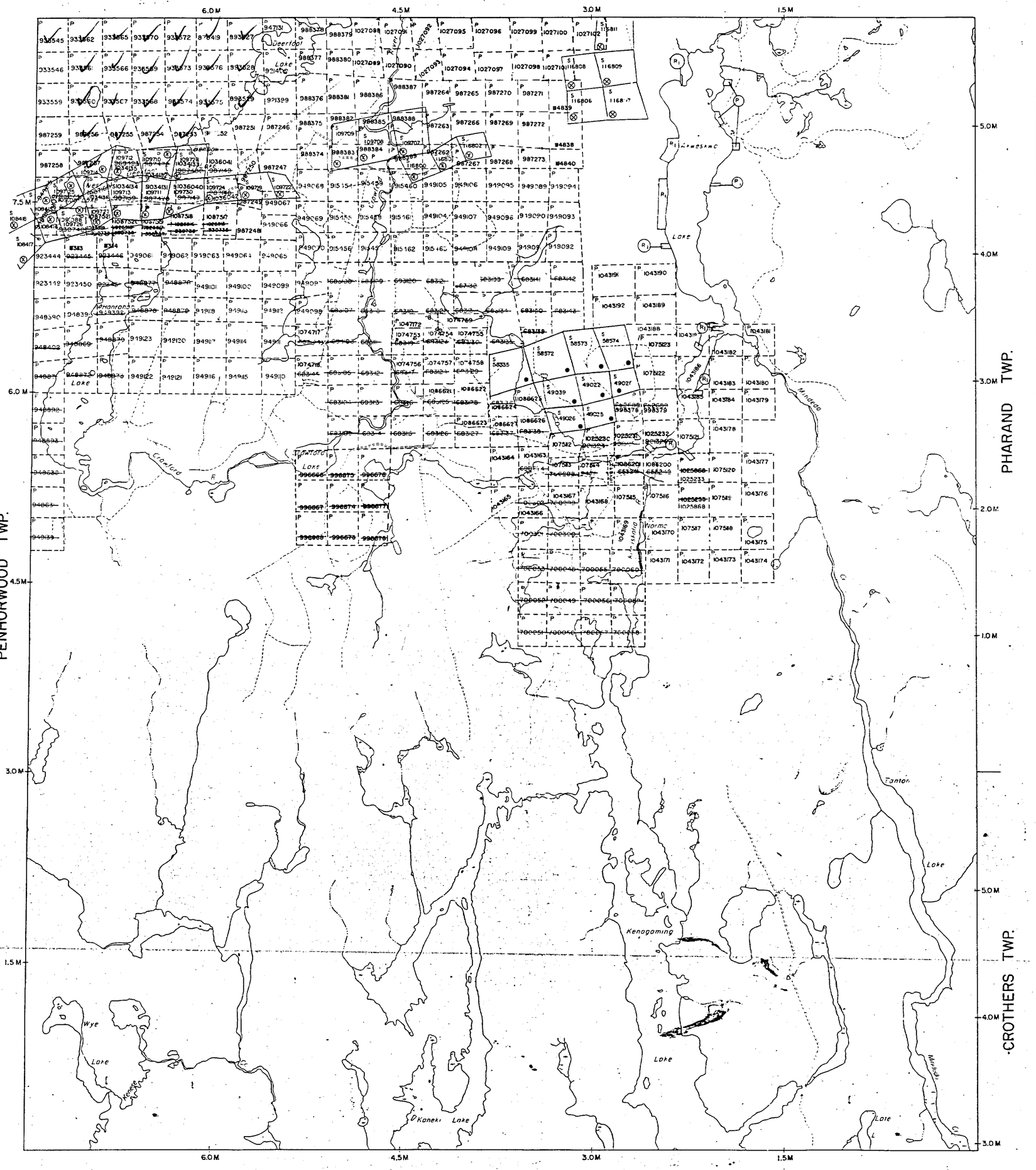
M.R.O. – MINING RIGHTS ONLY

S.R.O. – SURFACE RIGHTS ONLY

M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

SEWELL TWP.



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 MUSKEG
- 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

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 500 1000 2000 (2 KM.)

NOTE

(P) PROPOSED COTTAGING AREAS NOTICE RECEIVED DEC. 22/89

TOWNSHIP

KENOGAMING

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE :

LAND TITLES / REGISTRY DIVISION

SUDBURY

Ontario Ministry of Natural Resources — Land Management Branch

Date APRIL 1985

RECEIVED APR 22/87 33 cs.

Number G-3239

REFERENCE

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
R1	400' RESERVE			S.R.O.	135537
R2	SEC. 43/70	W.91/72	27/12/72	S.R.O.	163006 V.2
R3	SEC. 36/80		11/7/81	S.R.O.	135537

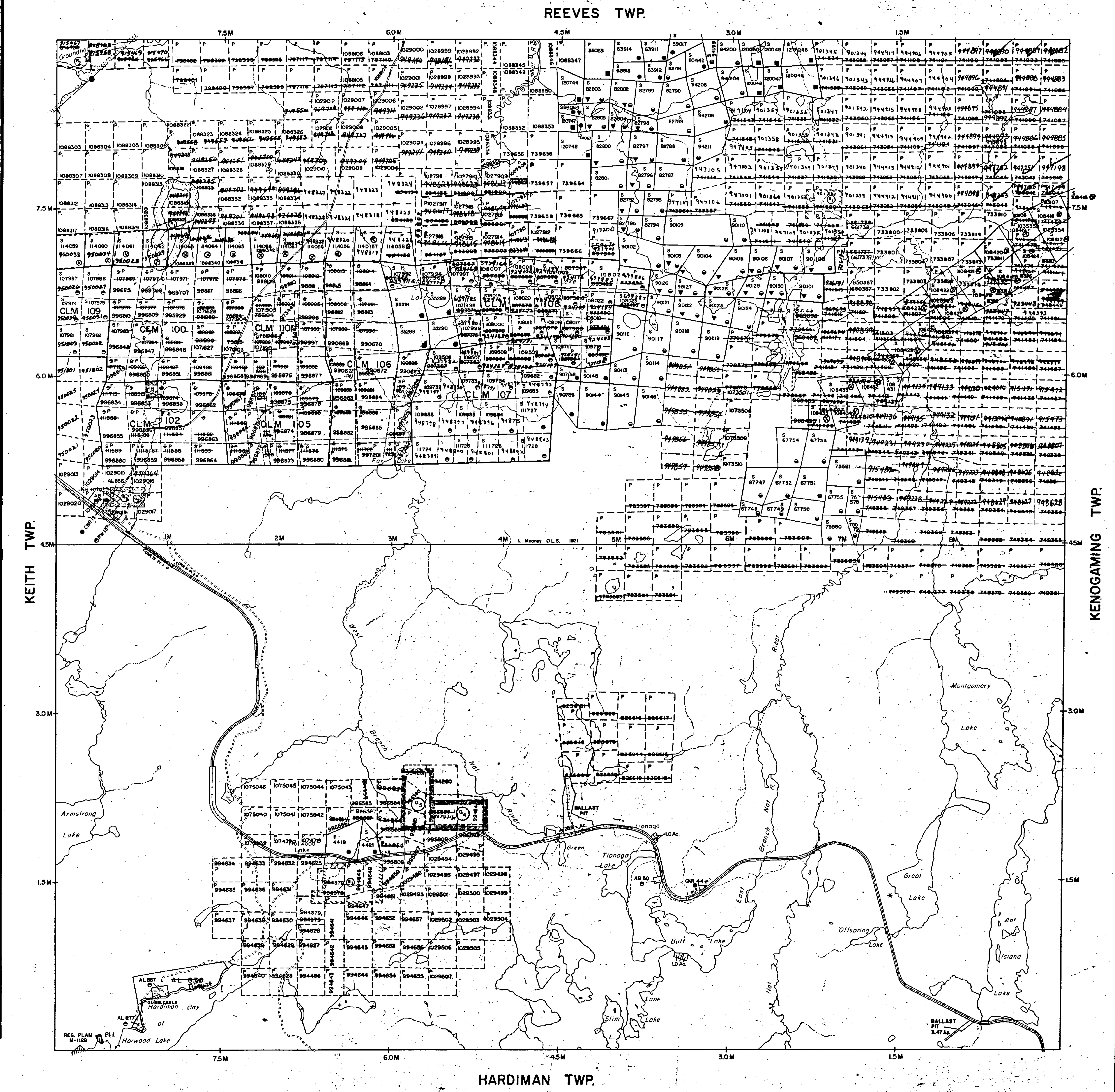
R4 ORDER OF THE MINISTER #33/87 DATED MARCH 30/87 WITHDRAWS MINING AND SURFACE RIGHTS UNDER SECTION 36 OF THE MINING ACT, RSO 1980

SAND AND GRAVEL

G1 GRAVEL .... FILE 38729
G2 GRAVEL PIT .... FILE 13555 V.6
G3 GRAVEL .... FILE 106274
G4 QUARRY PERMIT # 22805 ISSUED FOR THE REMOVAL OF QUARTZ JULY 1, 1987.
G5 QUARRY PERMIT # 22808 ISSUED FOR THE REMOVAL OF QUARTZ SEPT. 10, 1987.

NOTES

FLOODING RIGHTS ON HORWOOD LAKE RESERVED TO ONTARIO HYDRO TO CONTOUR ELEVATION 1117' .... L.O. 7746



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 MUSKEG
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	ⓢ
LAND USE PERMIT	*

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

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP
PENHORWOOD

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

Ministry of Natural Resources — Land Management Branch
Ontario

G-3244

Date MARCH 1985 | Number G-3

checked

42A04NW0006 2.12610 REEVES

210

REFERENCES

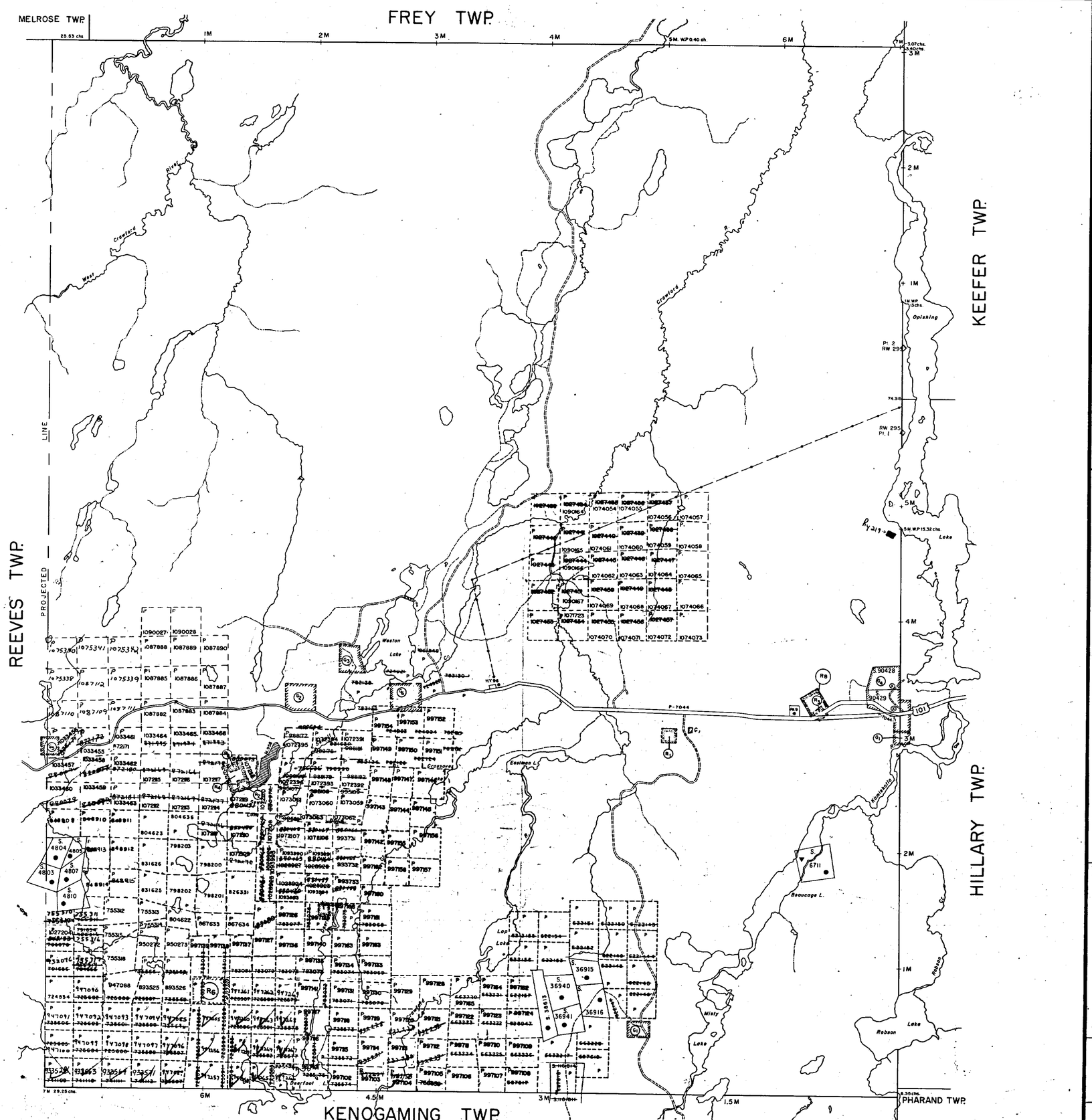
AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+S. – MINING AND SURFACE RIGHTS

	Description	Order No.	Date	Disposition	File
R1	SEC. 43/70	W. 30/77	11/3/77	S.R.O.	135748
R2	SEC. 43/70	W. 19/78	10/4/78	S.R.O. + M.R.O.	188543
R3	SEC. 43/70	W. 10/78	14/11/78	S.R.O.	135748
R4	DUMP ATTENUATION ZONE				
R5	SEC. 36/80	W. 46/83	14/8/83	M. + S.	
R6	Not open for staking AWAITING INSPECTION 71/86				
R7	"FILED ONLY" D-28/86				
R8	NOT OPEN FOR STAKING - BONA FIDE APPLICATION UNDER PUBLIC LANDS ACT PENDING. 21/01/87				

SAND AND GRAVEL

G1	GRAVEL	FILE	135748
G2	M.T.C.	PIT	1577
G3	M.T.C.	PIT	SH-1 FILE 135748
G4	M.T.C.	PIT	1576
G5	M.T.C.	PIT	SH-2 FILE 184702
G6	M.T.C.	PIT	1243



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 MUSKEG
- 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

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

SEWELL

M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
SUDBURY

Ontario Ministry of Natural Resources — Land Management Branch

G-3297

Date MARCH, 1985

Number G-1-[illegible]

MELROSE TP. M.861

MUSKEGO TP. M.881

SEWELL TP. M.1102

PENHORWOOD TP. M.1055

THE TOWNSHIP OF REEVES

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1 INCH = 40 CHAINS

LEGEND

PATENTED LAND	● or (P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C
PATENTED S.R.O.	

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition
(43)	163002	27/7/72	S.R.O.

S.R.O. withdrawn from staking under Sec 34(4) of the Mining Act (R.S.O. 1960). File 163002.

PORCUPINE MINING DIVISION
RECEIVED
JUN 1980

Rec. Feb. 11/80

PLAN NO. M.1074

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A04NW0006 2.12618 REEVES

230

REEVES TWP.

PENHORWOOD TWP.

SEWELL TWP.

KENOGAMING TWP.

Chute Lake

Sewell Lake

Eastman L.

Lap Lake

Crawford Lake

* SURVEYED by I. P.

2.12610

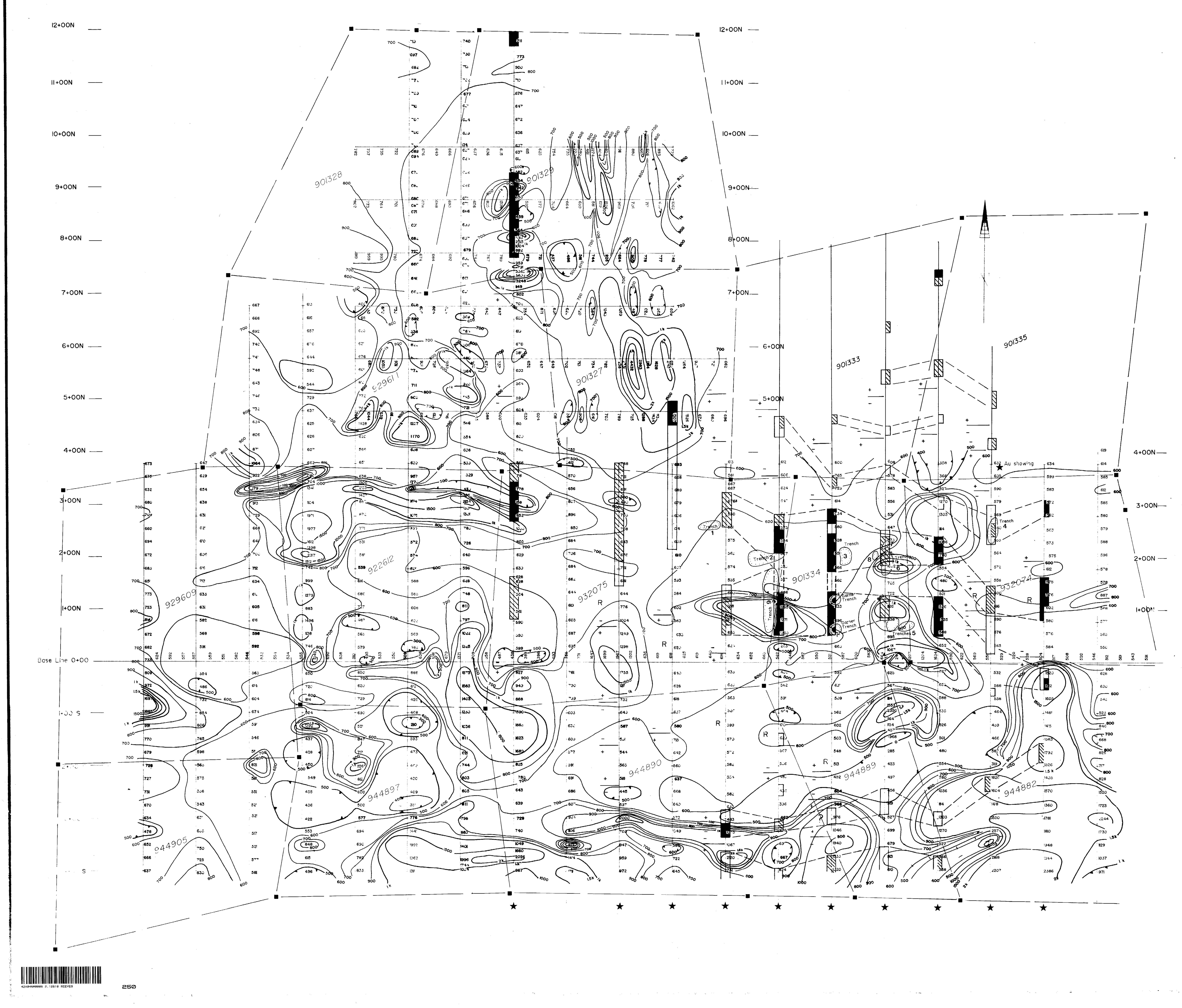
1 inch = 1/2 mile

0 1/2 1 1 1/2 2 miles

0 1 2 3 kilometres

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDROCK RESOURCES INC. & GLEN AUDEN RESOURCES LTD.		
	Title REEVES JOINT VENTURE PROPERTY CLAIM MAP Fig. 3		
	Date: Feb. 89	Scale: 1:32500	N.T.S.:
	Drawn: JLB	Approved:	File: M-223

42A04NW0006 2.12610 REEVES



I.P. ANOMALIES

WEAK
MODERATE
STRONG
RESISTIVITY CONTRAST
C CONDUCTOR
S SHEAR

LOCATION MAP

SHEET PLAN

TOPOGRAPHIC

Witness post
Creek, river
Lake shore
Swamp, Bog
Property boundry line

★ Line surveyed by I.P.

GEOPHYSICAL COMPILATION AND MAGNETIC SURVEY
MAP #1

100 Gammas

Base Station Location: Tie Line 4+00 S/ L-17 E

2.12610

Rev. Mar. 89 JLB

Fig. 4

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

GOLDROCK RES. INC./ GLEN AUDEN RES. LTD.

SEWELL TWP PROPERTY

D-Crowley

Geometrics G-816 Proton Magnetometer

FEBUARY 1988

M-CARON &D-BELISLE

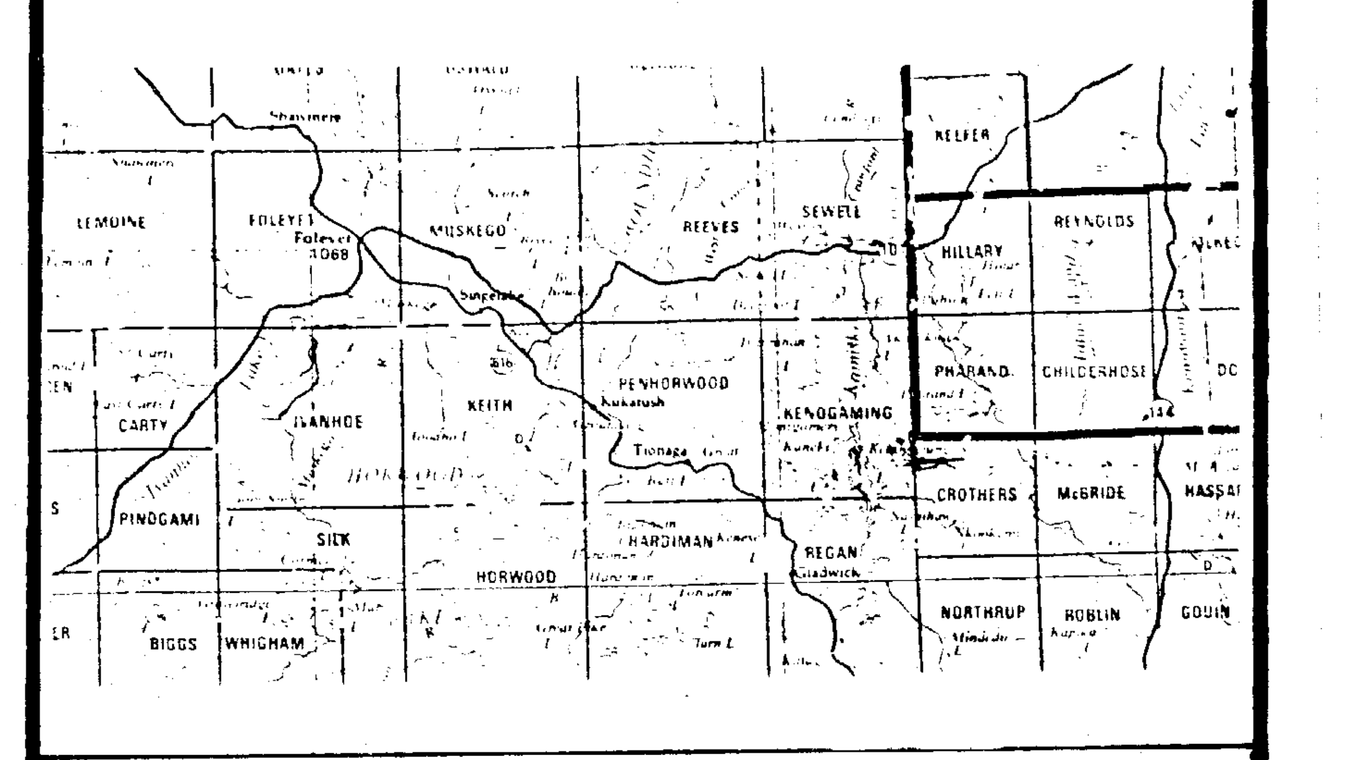
PROJECT 223

250

IP. ANOMALIES

WEAK	+ / |	RESISTIVITY CONTRAST
MODERATE	C	CONDUCTOR
STRONG	S	SHEAR

LOCATION MAP



SHEET PLAN

HORIZONTAL SCALE 1:2500

TOPOGRAPHIC

- Trail portage
- Bush road
- Good driving road, Highway
- Rail road
- Claim post located
- Claim post assumed location
- Witness post
- Creek, River
- Lake shore
- Swamp, Bog
- Property boundry line

GEOPHYSICAL COMPILATION

Add 58,000 gammas to all readings for total field values

Contours — Contour interval: 100 Gammas

Depression

Base Station Location: Tie Line 4+00 S / L-17 E

Lines Surveyed by I.P.

2.12610

Fig. 5

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

GOLDROCK RES. INC.- GLEN AUDEN RES. LTD.

SEWELL TWP PROPERTY

Survey by: *Guy Thibault Exploration Services*

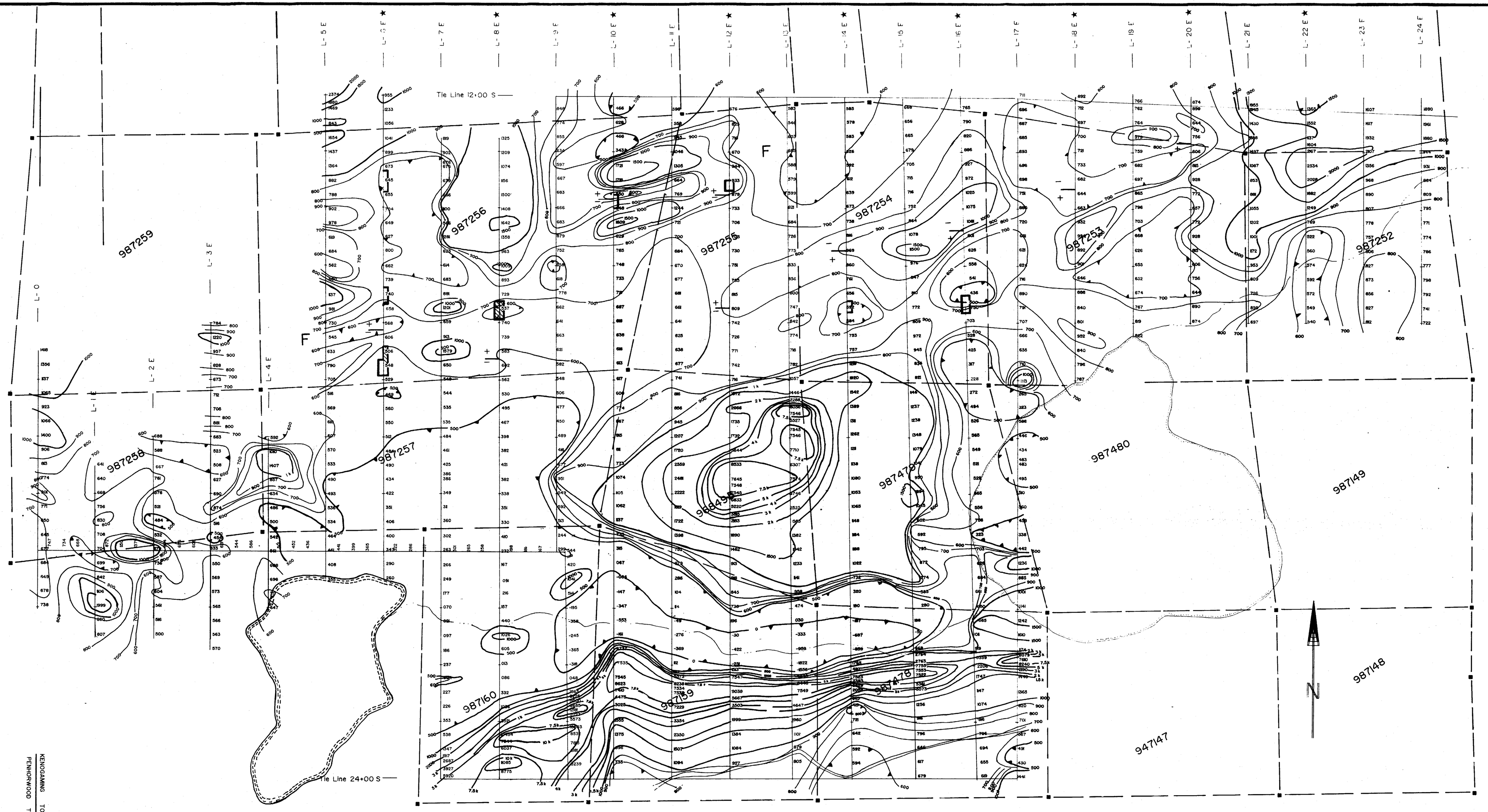
Operators: D-Crowley

Instrument: Geometrics G-816 Proton Magnetometer

Date of Survey: FEBUARY 1988

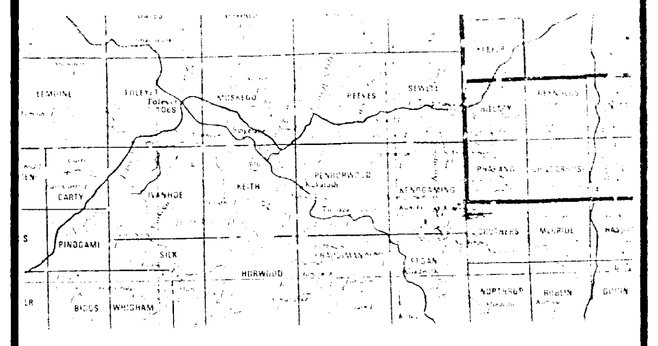
Drafting by: M-Caron & D-Belisle

PROJECT 223

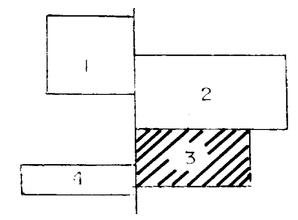


KENOGAMING TOWNSHIP
PENHORWOOD TOWNSHIP

270



SHEET PLAN



HORIZONTAL SCALE 1:2500

Meters 0 25 50 75 100 M

TOPOGRAPHIC

- Trail portage
- Bush road
- Good driving road, highway
- Rail road
- Claim post located
- Claim post assumed location
- Witness post
- Creek, River
- Lake shore
- Swamp, Bog
- Property boundry line

GEOPHYSICAL COMPILATION

Add 58,000 Gammas to all readings for total field values

1000 / 100 Contours — Contour interval: 100 Gammas

Depression

▲ Base Station Location: Tie Line 4+00 S / L-17 E

★ Line Surveyed by I. P.

2.12610

Fig. 6

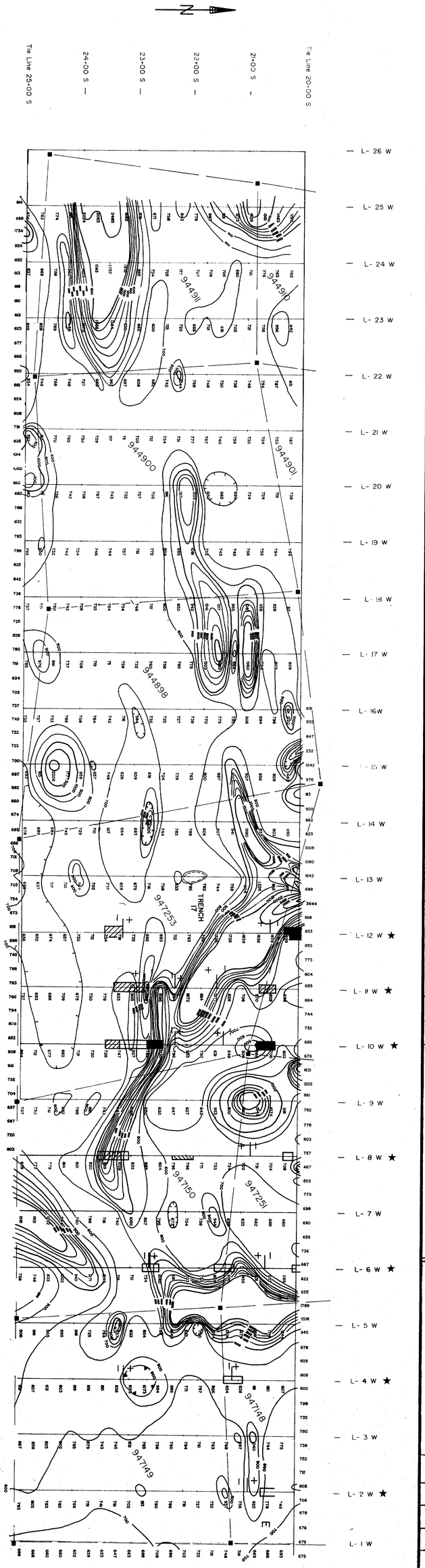
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

GOLDROCK RES. INC.- GLEN AUDEN RES. LTD.

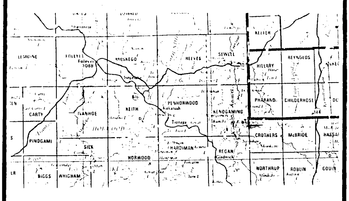
SEWELL TWP PROPERTY

Survey by: *Guy Thibault Exploration Services*
Operators: D-Crowley

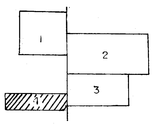
Instrument:	Date of Survey:
Geometrics G-816 Proton Magnetometer	FEBUARY 1988
Drafting by: M-Caron & D-Belisle	PROJECT 223



LOCATION MAP



SHEET PLAN



HORIZONTAL SCALE 1:2500

Metres 0 25 50 75 100 M.

TOPOGRAPHIC

- Trail portage
- Bush road
- Good driving road, Highway
- Rail road
- Claim post located
- Claim post assumed location
- Witness post
- Creek, River
- Lake shore
- Swamp, Bog
- Property boundry line

GEOPHYSICAL COMPILATION

Add 58,000 Gammas to all readings for total field values

1000 / 100 Contours — Contour intervals: 100 Gammas

Depression Contour

▲ Base Station Location: Tie Line 4+00 S / L-17 E

★ Line Surveyed by I. P.

2.12610

Fig. 7

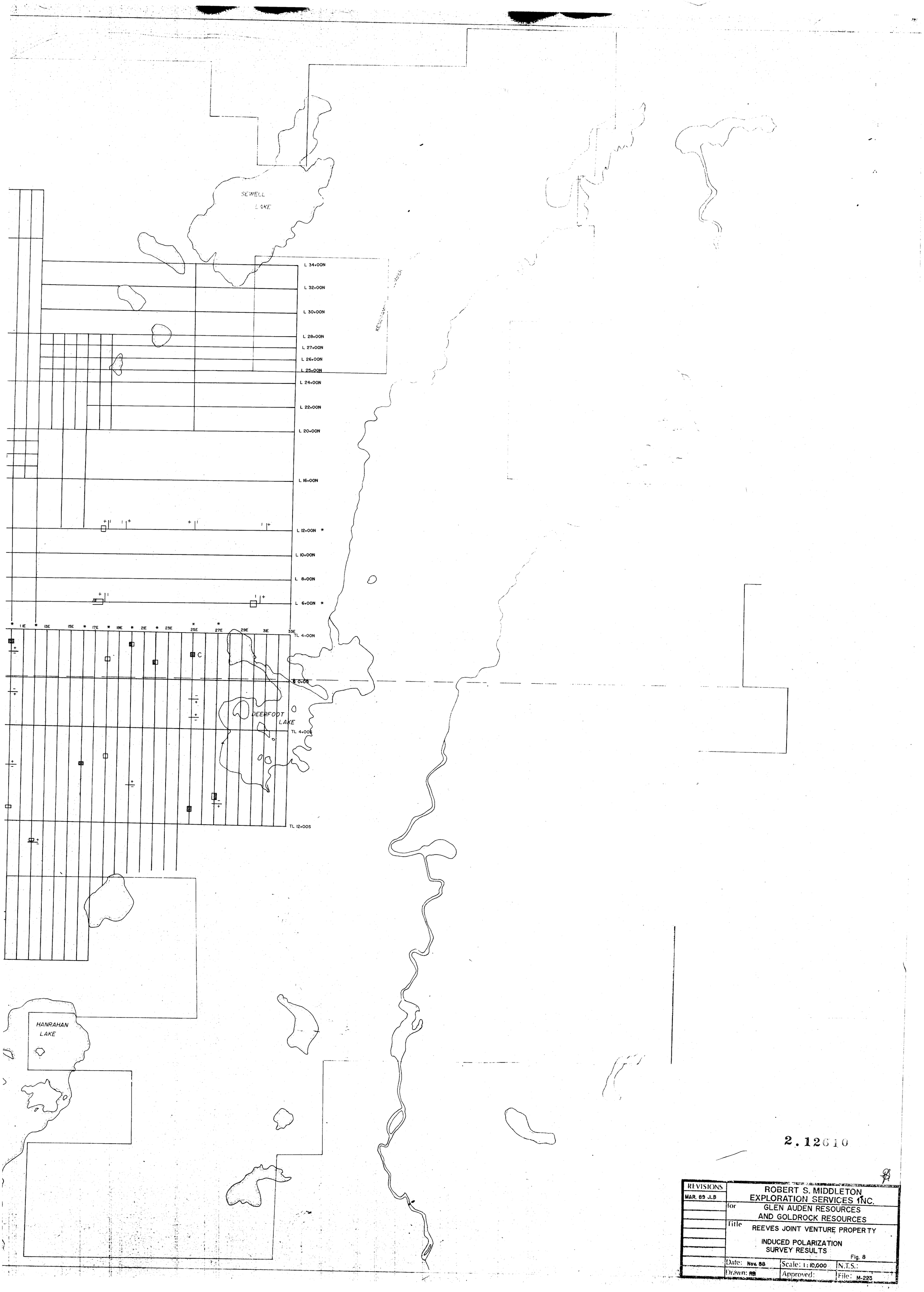
ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

GOLDROCK RES. INC.- GLEN AUDEN RES. LTD.

SEWELL TWP PROPERTY

Survey by: *Guy Thibault Exploration Services*
Operators: D-Crowley

instrument:	Date of Survey:
Geometrics G-816 Proton Magnetometer	FEBUARY 1988
Drafting by: M-Caron & D-Belisle	PROJECT 223



2.12610

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
MAR. 89 JLB	for GLEN AUDEN RESOURCES AND GOLDROCK RESOURCES		
	Title REEVES JOINT VENTURE PROPERTY INDUCED POLARIZATION SURVEY RESULTS Fig. 8		
	Date: Nov. 88	Scale: 1:10,000	N.T.S.:
	Drawn: RB	Approved:	File: M-223

HIGHWAY 101

REEVES ASBESTOS MINE

CHUBB LAKE

L 14+00W L 12+00W L 10+00W L 8+00W L 6+00W L 4+00W L 2+00W

R S R C R S S S R

C C C C

Visible gold occurrence

Au

REEVES TWP.

SEWELL TWP.

PENHORWOOD TWP.

KENOGAMISIS TWP.

BASE LINE 0+00N

1E 3E 5E 7E 9E 11E 13E 15E 17E 19E 21E 23E

1W 9W 7W 5W 3W 1W

TL 12+00S

TL 20+00S

TL 25+00S

12W 10W 8W 6W 4W 2W

TL 25+00S

HANRAHAN LAKE

LEGEND

* Grid lines surveyed with IP method.

High chargeability anomaly.

Moderate chargeability anomaly.

Weak chargeability anomaly.

Anomaly at depth.

Near surface anomaly.

C Conductive unit.

\+ / − Contact between rock with relatively high resistivity (+) and rock with low resistivity (−).

* Lines surveyed by I. P.