



32E05NE0057 2.11253 ST. LAURENT

010

INTERPRETATION REPORT
ON THE
GEOPHYSICAL SURVEYS ON THE
ST LAURENT TOWNSHIP (CHIMP GRID)
PROPERTY
FOR TARZAN GOLD INCORPORATED

RECEIVED
MAY 30 1988
MINING LANDS SECTION



32E05NE0057 2.11253 ST. LAURENT

010C

TABLE OF CONTENTS

ABSTRACT.....1

INTRODUCTION.....1

LOCATION AND ACCESS.....1

CLAIMS.....1

GENERAL GEOLOGY.....2

SURVEY PROCEDURES.....3

 MAGNETICS.....3

 Theory.....3

 Field Method.....5

 MAX-MIN II.....5

 Theory.....5

 Field Method.....7

 Induced Polarization.....8

 Theory.....8

 Field Method.....10

PERSONNEL AND EQUIPMENT.....10

SURVEY STATISTICS.....11

INTERPRETATION.....11

CONCLUSIONS AND RECOMMENDATIONS.....12

REFERENCES.....14

CERTIFICATE.....15

APPENDIX A EQUIPMENT SPECIFICATIONS
APPENDIX B I.P. PSEUDOSECTIONS

LISTS OF FIGURES

1. PROPERTY LOCATION - REGIONAL
2. PROPERTY LOCATION - LOCAL
3. CLAIM MAP

BACK POCKET

MAGNETOMETER SURVEY AND GEOPHYSICAL COMPILATION

MAX MIN SURVEY 444 Hz

 1777 Hz

 3555 Hz

ABSTRACT

Magnetic, electromagnetic and induced polarization surveys were conducted on the St Laurent Township (Chimpanzee Grid) of Glen Auden Resources for Tarzan Gold Incorporated. Two moderate changeability zones were delineated, both apparently coincident with previously detected airborne EM conductors.

Diamond drilling of these two zones is recommended, on a low priority basis. Further work would be decided on the results of these holes.

INTRODUCTION

During the first part of 1988 a program of linecutting and geophysical surveying was conducted on the St. Laurent Township property of Glen Auden Resources Limited for Tarzan Gold Incorporated. The surveys were magnetic, electromagnetic and induced polarization.

LOCATION AND ACCESS

The property is located in north east St. Laurent Township, District of Cochrane, Ontario (figures 1 and 2) approximately 115 kilometers by air east-northeast of Cochrane, Ontario.

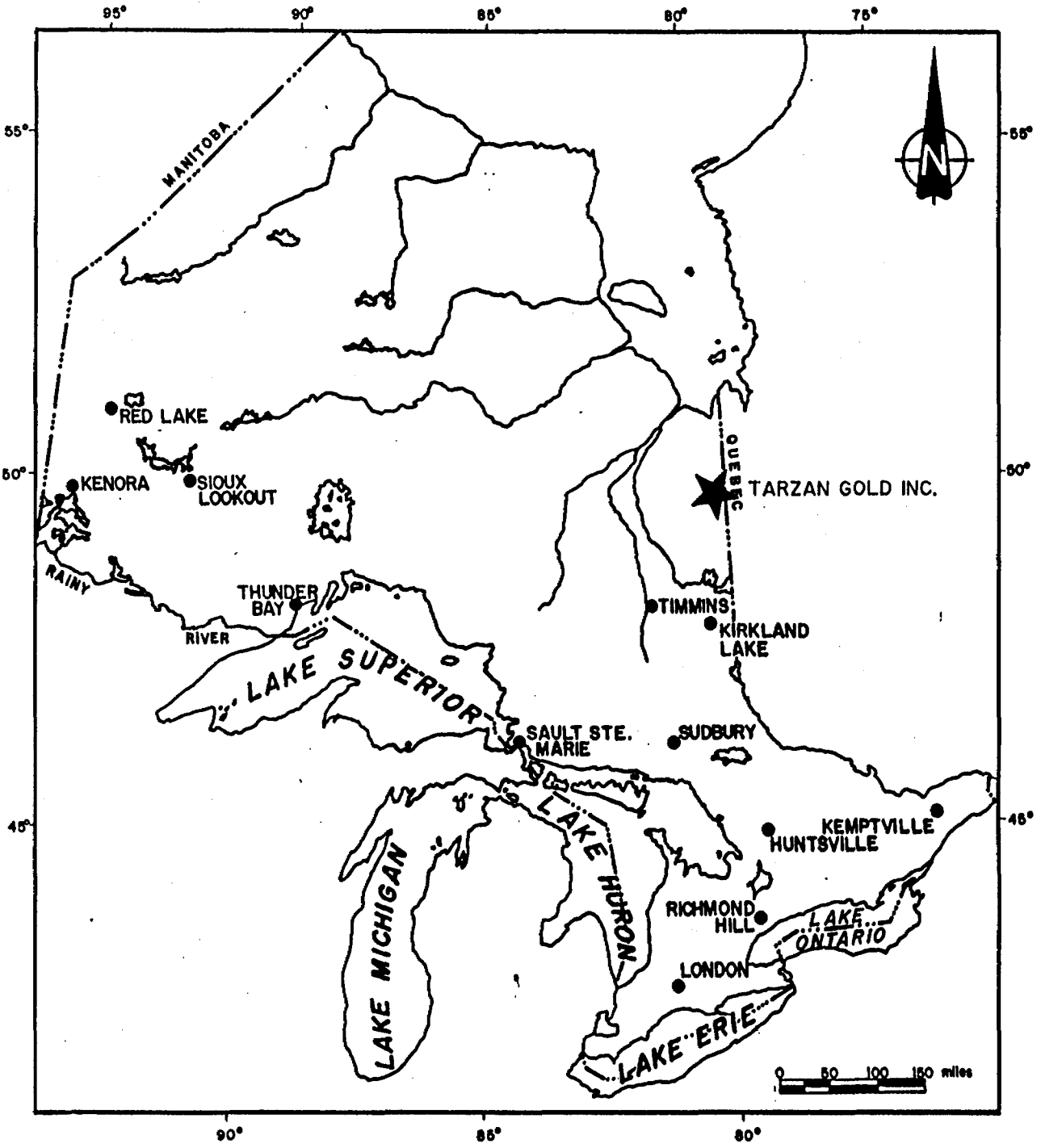
The nearest approach by road is the Tomlinson Township gravel road, approximately 25 to 30 kilometers to the west.

Access to the grid is best by helicopter.

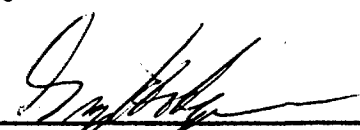
CLAIMS

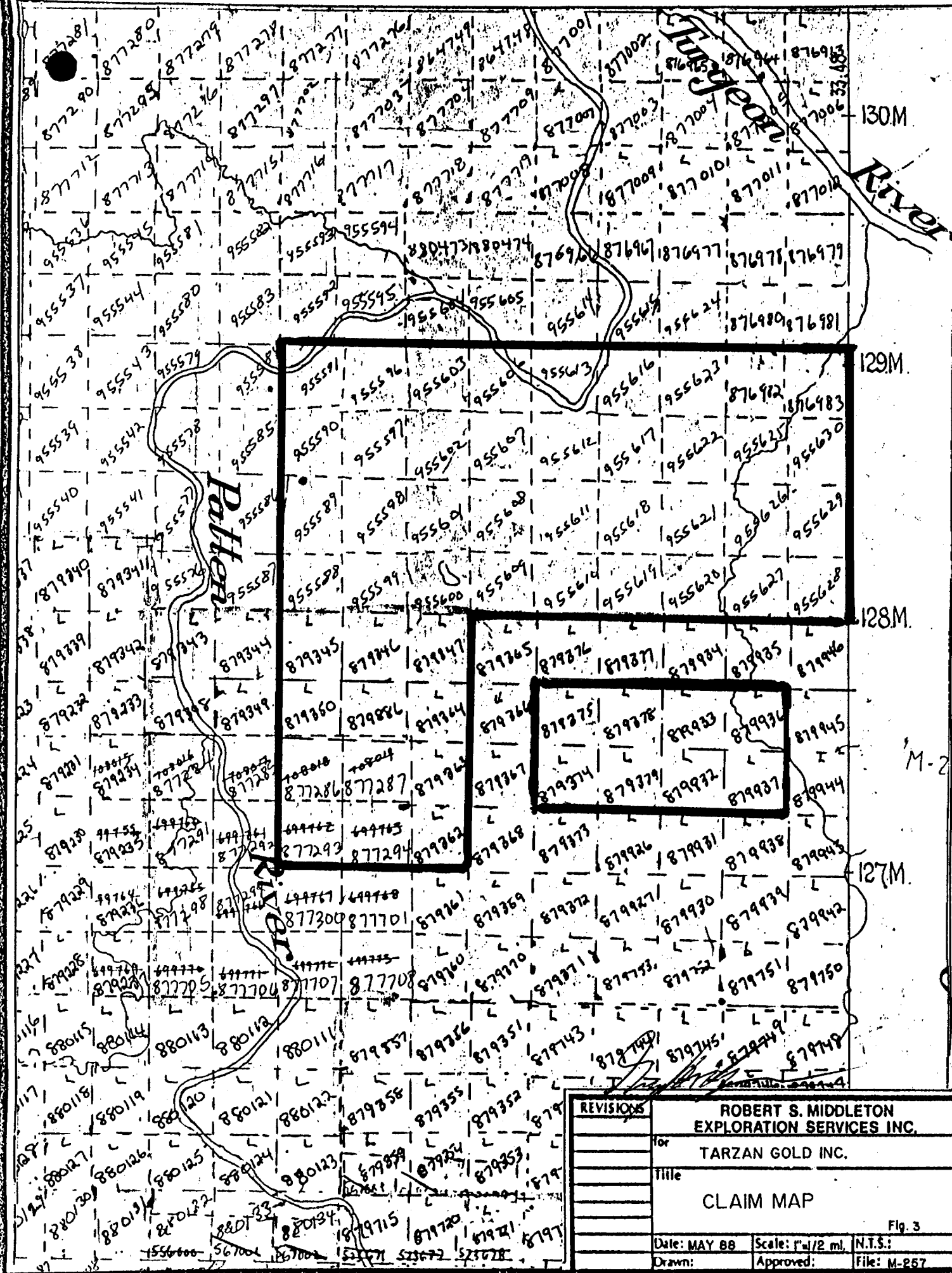
The grid (called the Chimpanzee, or Chimp Grid) covers part of two contiguous groups of claims one of 100 claims and one of 60 claims. The grid actually covered were:

<u>CLAIM</u>	<u>NUMBER</u>	<u>RECORDED</u>	<u>HOLDER</u>
L 876982-983	2	February 7, 1986	Noranda Exploration
L 877286-287	2	January 10, 1986	Glen Auden Resources
L 877293-294	2	January 30, 1986	Glen Auden Resources
L 879345-347	3	January 23, 1986	Glen Auden Resources
L 879350	1	January 23, 1986	Glen Auden Resources
L 879362-364	3	January 23, 1986	Glen Auden Resources
L 879374-375	2	January 23, 1986	Glen Auden Resources
L 879378-379	2	January 23, 1986	Glen Auden Resources



PROVINCE OF ONTARIO

REVISIONS	 ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for	TARZAN GOLD INC.	
	Title	PROPERTY LOCATION - REGIONAL	
		Fig. 1	
	Date: MAY 88	Scale: 1"=160mi.	N.T.S.:
	Drawn:	Approved:	File: M-257



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for	TARZAN GOLD INC.	
	Title	CLAIM MAP	
	Date: MAY 88	Scale: 1" = 1/2 mi.	N.T.S.:
	Drawn:	Approved:	File: M-257

Fig. 3

L 879886	1	January 23, 1986	Glen Auden Resources
L 879932-933	2	January 23, 1986	Glen Auden Resources
L 879936-937	2	January 23, 1986	Glen Auden Resources
L 955588-591	4	February 17, 1987	Glen Auden Resources
L 955596-603	8	February 17, 1987	Glen Auden Resources
L 955606-613	8	February 17, 1987	Glen Auden Resources
L 955616-623	8	February 17, 1987	Glen Auden Resources
L 955625-630	6	February 17, 1987	Glen Auden Resources

All of the claims are held by Glen Auden Resources Limited except for L 876982 and L 876983 which are held by Noranda Exploration.

GENERAL GEOLOGY

The Goldrock property is located in the Abitibi Greenstone Belt of the Superior Province of the Canadian Shield. The rocks consist mainly of Archean age metamorphosed volcanic and intercalated sedimentary units, intruded by mafic to intermediate or felsic bodies.

The regional metamorphism is dominantly greenschist facies with minor contact zones of amphibolite grade. The metavolcanic rocks are generally mafic to intermediate flows, pillowed flows, and pyroclastic breccias. There are lesser amounts of intermediate to felsic metavolcanics composed of tuffs and breccias with minor flows.

The metasedimentary rocks comprise interbedded greywacke, tuffs, siltstone, shale and conglomerate. Sulphide and oxide facies iron formations form as a result of exhalative activity along metavolcanic flow interfaces.

The metavolcanics and metasediments have been intruded by Precambrian batholiths, stocks and dikes of granite, diorite and gabbro, and all of these rocks have been intruded by late Precambrian diabase dikes.

The geology is generally steeply dipping, and strikes generally east-west. It is an area of low relief and sparse outcrop, covered by Pleistocene tills and muskeg.

The "iron formations" are closely related to much of the gold mineralization as shown by the recent gold discoveries (Inco-Golden Pond and Golden Knight in Casa Berardi, Golden Hope in Estrades, and Newmont in Noseworthy Township). The gold occurs within several rock types, including oxide and sulphide iron formations, metasediments and metavolcanics. Carbonate and silica alteration with pyritization is directly associated with the gold mineralization.

SURVEY PROCEDURES

MAGNETICS

Theory

The magnetic method is based on measuring alteration in the shape and magnitude of the earth's naturally occurring magnetic field caused by changes in the magnetization of the rocks in the earth.

These changes in magnetization are due mainly to the presence of the magnetic minerals, of which the most common is

magnetite, and to a lesser extent ilmenite, pyrrhotite, and some less common minerals.

Magnetic anomalies in the earth's field are caused by changes in two types of magnetization: induced and remanent (permanent). Induced magnetization is caused by the magnetic field being altered and enhanced by increases in the magnetic susceptibility of the rocks, which is a function of the concentration of the magnetic minerals.

Remanent magnetism is independent of the earth's magnetic field, and is the permanent magnetization of the magnetic particles (magnetite, etc.) in the rock. This is created when these particles orient themselves parallel to the ambient field when cooling. This magnetization may not be in the same direction as the present earth's field, due to changes in the orientation of the rock or the field.

The most common method of measuring the total magnetic field in ground exploration is with a proton precession magnetometer. This device measures the effect of the magnetic field on the magnetic dipole of hydrogen protons. This dipole is caused by the "spin" of the proton, and in a magnetometer these dipoles in a sample of hydrogen-rich fluid are oriented parallel to a magnetic field applied by an electric coil surrounding the sample. After this magnetic field is removed, the dipoles begin to precess (wobble) around their orientation under the influence

of the ambient earth's magnetic field. The frequency of this precession is proportional to the earth's magnetic field intensity.

Field Method

The magnetics data were collected with a proton precession magnetometer, which measures the absolute value of the total magnetic field of the earth to an accuracy of ± 1 n Tesla. The magnetometer is carried down the survey line by a single operator, with the sensor mounted on a short pole to remove it from the surface geologic noise. Readings are normally taken at 25 m intervals, and at 12.5 m intervals where the operator observes a high gradient (anomaly).

The readings are corrected for changes in the earth's total field (diurnal drift) by measuring and recording the drift with a stationary (base station) magnetometer. This recorded drift is then applied to the data as a correction.

MAX-MIN II

Theory

The Max-Min II is a frequency domain, horizontal loop electromagnetic (HLEM) system, based on measuring the response of conductors to a transmitted, time varying electromagnetic field.

The transmitted, or primary EM field is a sinusoidally varying field at any of five different frequencies. This field induces an electromotive force, (emf), or voltage, in any

conductor through which the field passes. This is defined by:

$$\oint E \cdot dl = \frac{-d\phi}{dt} \quad (\text{the Faraday Induction Principle})$$

where E is the electric field strength in volts/metre (and so $\oint E \cdot dl$ is the emf around a closed loop) and ϕ is the magnetic flux through the conductor loop. This emf causes a "secondary" current to flow in the conductor in turn generating a secondary electromagnetic field.

This changing secondary field induces an emf in the receiver coil (by the Faraday law) at the same frequency, but which differs from the primary field in magnitude and phase. The difference in phase (the phase angle) is a function of the conductance of the conductor(s), both the target and the overburden and host rock. The magnitude of the secondary is also dependant on the conductance, and also on the dimensions, depth, and geometry of the target, as well as on the interference from overburden and the host rock.

These two parameters (phase angle and magnitude) are measured by measuring the strength of the secondary field in two components: the real field or that part "in-phase" with the primary field; and the imaginary field, or that part in "quadrature" or 90° out of phase from the primary field.

The magnitude and phase angle of the response is also a function of the frequency of the primary field. A higher frequency field generates a stronger response to weaker

conductors, but a lower frequency tends to pass through weak conductors and penetrate to a greater depth. The lower frequency also tends to energise the full thickness of a conductor, and gives a better measure of its true conductivity-thickness product (conductance).

For these reasons two or more frequencies are usually used; the lower for penetration and accurate measure of good conductors, and the higher frequency for strong response to weak conductors.

Distinction between conductive targets, overburden, and host rock responses are made by studying the shape of the secondary field, and the difference in the frequency responses.

The transmitted primary field also creates an emf in the receiver coil, which is much stronger than the secondary, and which must be corrected for by the receiver. This is done by electronically creating an emf in the receiver, whose magnitude is determined by the distance from receiver to transmitter as set on the receiver, and whose phase is derived from the receiver via an interconnecting wire.

Field Method

The Max-Min II survey was carried out in the "maximum coupled" mode (horizontal co-planar). The transmitter and receiver are carried in-line down the survey line separated by a constant distance (in this case 150 m) with the receiver leading.

Three transmitter frequencies were used: 444 Hz, 1777 Hz and 3555 Hz. The transmitter and receiver are connected by a cable, for phase reference and operator communication.

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 $V(t = \infty)$ 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.

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

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 25 m and array spacings of $n = 2, 3, 4, 5$ dipoles. This array configuration involves having a dipole for the receiver measuring V_p , the potential and a single current transmitter electrode on the grid, separated from the receiver dipole by each 'n' interval in turn. The other current electrode, 'the infinity' is situated 2 kilometers or more from the grid.

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

PERSONNEL AND EQUIPMENT

The surveys were conducted by Robert S. Middleton

Exploration Services Inc. The electromagnetic and induced polarization surveys were conducted in two or more stages. The magnetics and Max Min data were collected by Ty Fong, Wayne Mitchell, John Burton, Greg Carter and Pete Reid. The IP crews were composed of four persons, an operator/party chief, Ted Anderson, a transmitter operator and two assistants.

The magnetic data were collected with two EDA PPM-350 proton procession magnetometers and a PPM 400 base station magnetometer. The electromagnetic instrument was an Apex Parametrics Max Min II+. The IP crew used a Scintrex IPR-11 receiver and a Scintrex TSQ-3, 3 KW transmitter. Specifications for these instruments are included in Appendix A.

SURVEY STATISTICS

The grid had 92.4 km of lines out of which 86.6 line km of magnetics were surveyed and 81.2 line km EM were surveyed. The IP crew surveyed 26.3 line km of n= 2 to 5, 25m dipoles in 21 production days. There were 6 mobilization days.

INTERPREATION

The electromagnetic survey detected mostly very weak anomalies, which are probably due to overburden sources. There is one moderate conductor, which appears to be due to a fairly deep source at 525N, 2400W. This conductor does not extend to the surrounding lines, but is significant because of its proximity to the plotted positions of the airborne INPUT anomalies. Also

close to the same location is an IP anomaly, which extends from 600N and 2600W to 625N and L2400W and possibly to 600N and L2600W. The IP anomaly is narrow (mostly less than 25m) and irregular.

A stronger, larger IP anomaly at 1300N extends from L2200 to L1500W. The chargeabilities are up to 9m V/V. This anomaly is associated with a moderate resistivity high which is interpreted as being caused by sand ridges (based on field operators observations).

There is one significant bedrock conductor on the grid, according to the resistivity data, It is at 1000N and L1700W, and is associated with a weak chargeability anomaly.

There are roughly a dozen other scattered weak chargeability anomalies, which are interpreted as being due to bedrock ridges.

There is no apparent ground geophysical anomaly associated with the INPUT anomaly in the area of 1000S, and L3200W.

CONCLUSIONS AND RECOMMENDATIONS

There are three zones outlined on the grid which are significant: the IP anomalies at 600N, 2400 to 2600W, 1300N, 1500W to 2200W; and the conductor at 1000N, 1700W. These anomalies are of weak to moderate strength, and the magnetic surveys show no strong structural associations. Each of the larger two IP zones is coincident with airborne EM INPUT anomalies.

Further geophysics is not recommended on this grid at this stage. Deep EM surveying (probably fixed transmitter, time domain EM) may be effective at detecting the source of the INPUT anomaly at 1000S, 3100W, but without further indication of some significance to the airborne conductors this is not recommended.

Diamond drill testing of the two main IP zones is recommended, on a low priority basis. Drilling of the targets at L2000W, 1325N and at L2600W, 600N is recommended.

Further work would be decided based on the results of these holes.

Respectfully Submitted



Greg Hodges

Geophysicist

REFERENCES

Questor Surveys, 1986: Interpretation Report Input Mk VI
Electromagnetic/Magnetic Survey, Glen
Auden Resources Limited. St Laurent
Township, Ontario, Project No. 28036A

CERTIFICATION

I, D. Greg Hodges, of 136 Cedar Street South, in the city of Timmins, Province of Ontario, certify as follows concerning my report on the Tarzan Gold Inc. property in St Laurent Township, Province of Ontario and dated May 25, 1988:

1. I am a member in good standing of the Society of Exploration Geophysicists
2. I am a graduate of Queen's University at Kingston, Ontario, with a B.Sc. (Hons.) Geological Sciences with Physics, obtained in 1980.
3. I have been practising in Canada, and occasionally in the United States, Europe, and Australia for the past eight years.
4. I have no direct interest in the properties, leases, or securities of Tarzan Gold Inc, nor do I expect to receive any.
5. The attached report is a product of:
 - a) Examination of data included in the report which was collected on the property concerned.

Dated this May 25, 1988
Timmins, Ontario



D. Greg Hodges, Geophysicist

A P P E N D I X A

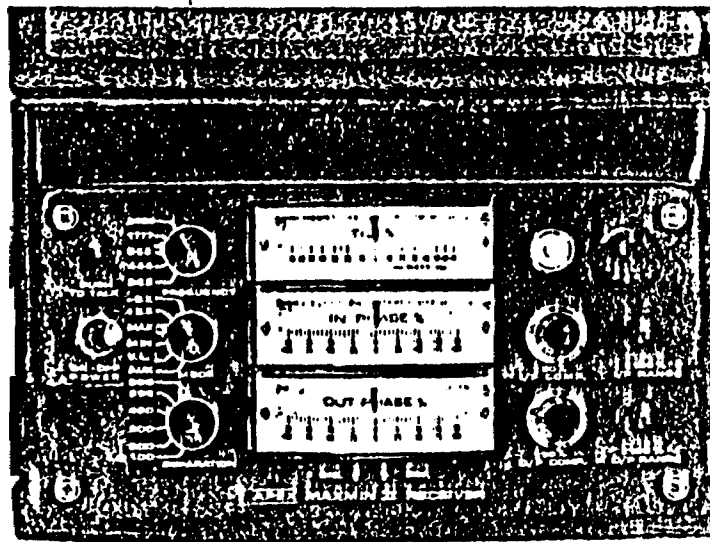
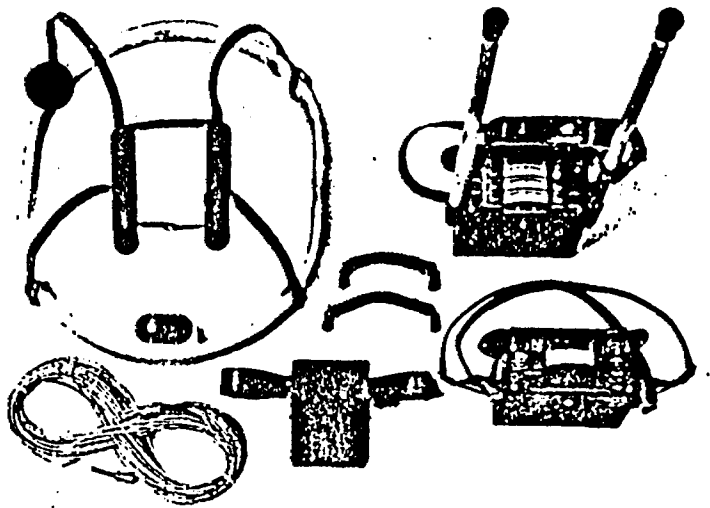
APEX

MAXMIN II PORTABLE EM

- Five frequencies: 222, 444, 888, 1777 and 3555 Hz.
- Maximum coupled (horizontal-loop) operation with reference cable.
- Minimum coupled operation with reference cable.
- Vertical-loop operation without reference cable.
- Coil separations: 25, 50, 100, 150, 200 and 250 m (with cable) or 100, 200, 300, 400, 600 and 800 ft.
- Reliable data from depths of up to 180m (600 ft).
- Built-in voice communication circuitry with cable.
- Tilt meters to control coil orientation.

NOW ALSO $\pm 4\%$
QUADRATURE
FULL SCALE.





SPECIFICATIONS :

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation: MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer. cable.

MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.

V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250m (MMI) or 100, 200, 300, 400, 600 and 800 ft. (MMIF). Coil separations in V.L. mode not restricted to fixed values.

Parameters Read:

- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:

- Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90mm edgewise meters in V.L. mode.

Scale Ranges:

In-Phase: $\pm 20\%$, $\pm 100\%$ by push-button switch.

Quadrature: $\pm 20\%$, $\pm 100\%$ by push-button switch.

Tilt: $\pm 75\%$ slope.

Null (V.L.): Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25% to 0.5% ; Tilt: 1%.

Repeatability: $\pm 0.25\%$ to $\pm 1\%$ normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:

- 222Hz : 220 Atm²
- 444Hz : 200 Atm²
- 888Hz : 120 Atm²
- 1777Hz : 60 Atm²
- 3555Hz : 30 Atm²

Receiver Batteries: 9V trans. radio type batteries (Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather).

Transmitter Batteries: 12V 8Ah Gal-type rechargeable battery. (Charger supplied)

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operator in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: -40°C to +60°C (-40°F to +140°F)

Receiver Weight: 8kg (13 lbs.)

Transmitter Weight: 13kg (29 lbs.)

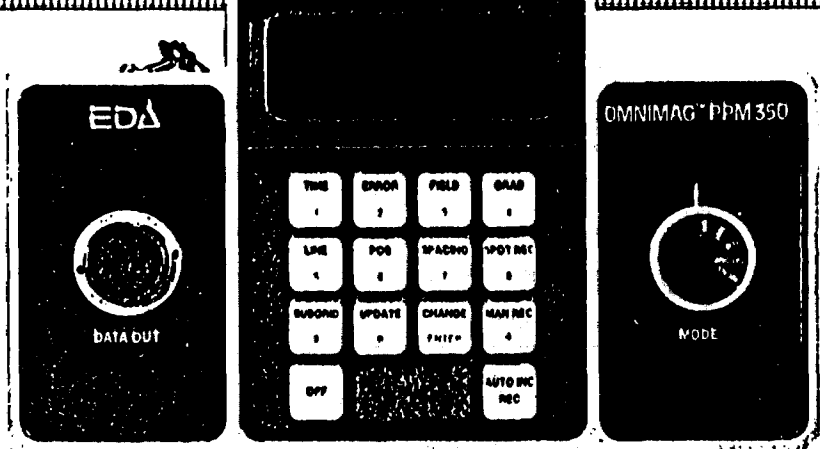
Shipping Weight: Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases.

Specifications subject to change without notification.

APEX PARAMETRICS LIMITED
200 STEELCASE RD. E., MARKHAM, ONT., CANADA, L3R 1G2

OMNIMAG PPM-350 Total Field Magnetometer

EDA



The PPM-350 is the latest addition to EDA's OMNIMAG*™ series of magnetometers and gradiometers. It is engineered to provide users with the latest state-of-the-art advances in microprocessor technology, including many features that are unique in the field.

Major benefits and features include:

- Significant increase in productivity
- Lowered survey costs
- Automatic diurnal correction
- Programmable grid coordinates
- Highly reproduceable data
- Ergonomic design
- Simplified fieldwork
- Computer-compatible



Specifications

Dynamic Range	18,000 to 93,000 gammas
Sensitivity	± 0.02 gamma
Statistical Error Resolution	0.01 gamma
Standard Memory Capacity	1383 data blocks or readings
Absolute Accuracy	± 15 ppm at 23°C, 50 ppm over the operating temperature range
Display Resolution	0.1 gamma
Capture Range	$\pm 25\%$ relative to ambient field strength of last stored value
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from -35°C to $+55^{\circ}\text{C}$
Gradient Tolerance	5,000 gammas per meter
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy
Sensor Cable	Remains flexible in temperature range; includes low strain connector
Operating Environmental Range	-35°C to $+55^{\circ}\text{C}$; 0-100% relative humidity; weather-proof
Power Supply	Non-magnetic rechargeable sealed lead acid battery cartridge or belt; or, Disposable "C" cell battery cartridge or belt
Battery Cartridge Life	2,000 to 5,000 readings, depending upon ambient temperature and rate of readings
Weight and Dimensions	
Instrument Console only	3.4 kg, 238 x 150 x 250 mm
Lead Acid Battery Cartridge	1.9 kg
Sensor	1.2 kg, 56 mm diameter x 200 mm
System Complement	Electronics console; sensor with 3-meter cable; sensor staff; power supply; harness assembly; operation manual.

EDA is a pioneer in the development of advanced geophysical systems and has created many innovations that increase field productivity and lower survey costs.

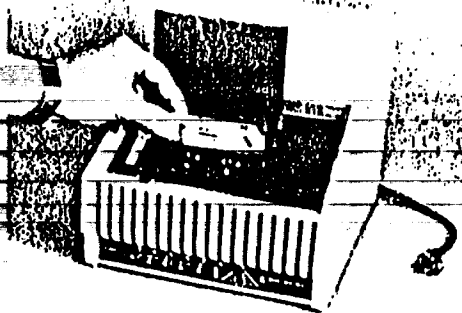
EDA's OMNIMAG series consists of the PPM-350 Total Field Magnetometer, PPM-400 Base Station Magnetometer, and the PPM-500 Vertical Gradiometer. Contact us *now* for details.

EDA Instruments Inc.
1 Thorncliffe Park Drive
Toronto, Ontario
Canada M4H 1G9
Telex: 06 23222 EDA TOR
Cable: Instruments Toronto
(416) 425-7800

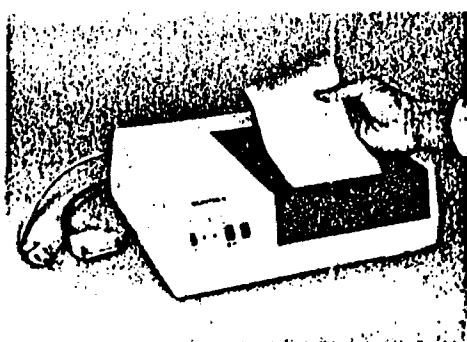
In U.S.A.
EDA Instruments Inc.
5151 Ward Road
Wheat Ridge, Colorado
U.S.A. 80035
Telex: 00 450681 DVR
(303) 422-9112

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 res- istance, 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

DATA

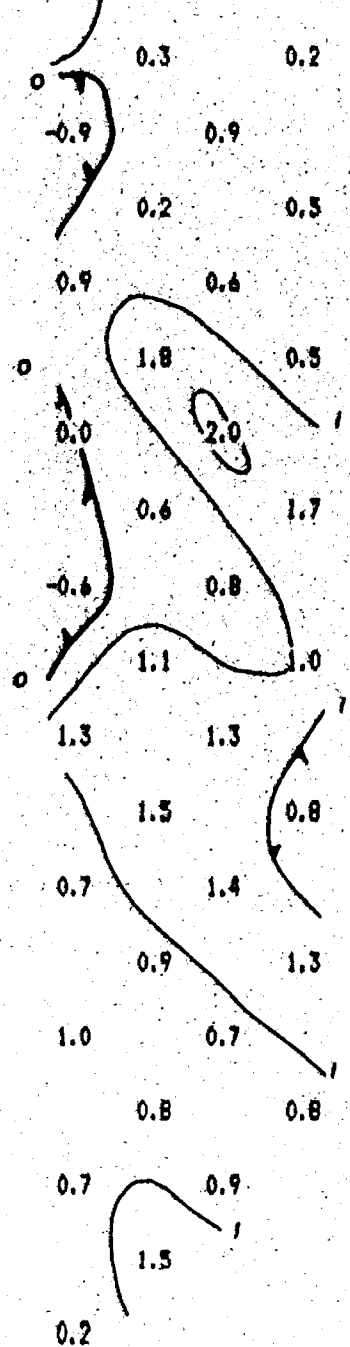
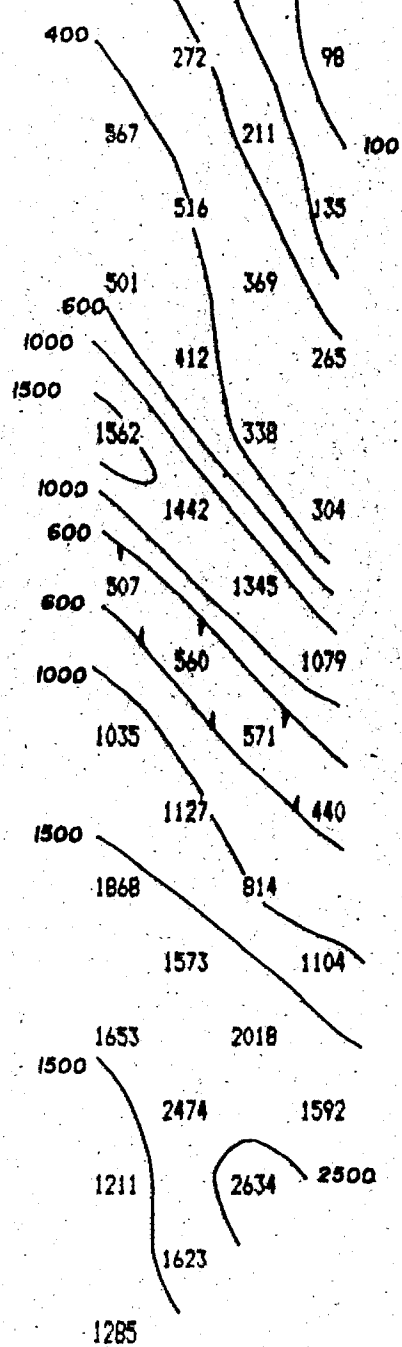


INDEX | VARIABLE



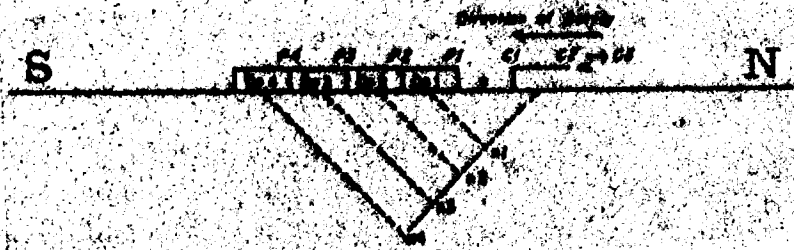
IPR-11 LCD displays, actual size

A P P E N D I X B



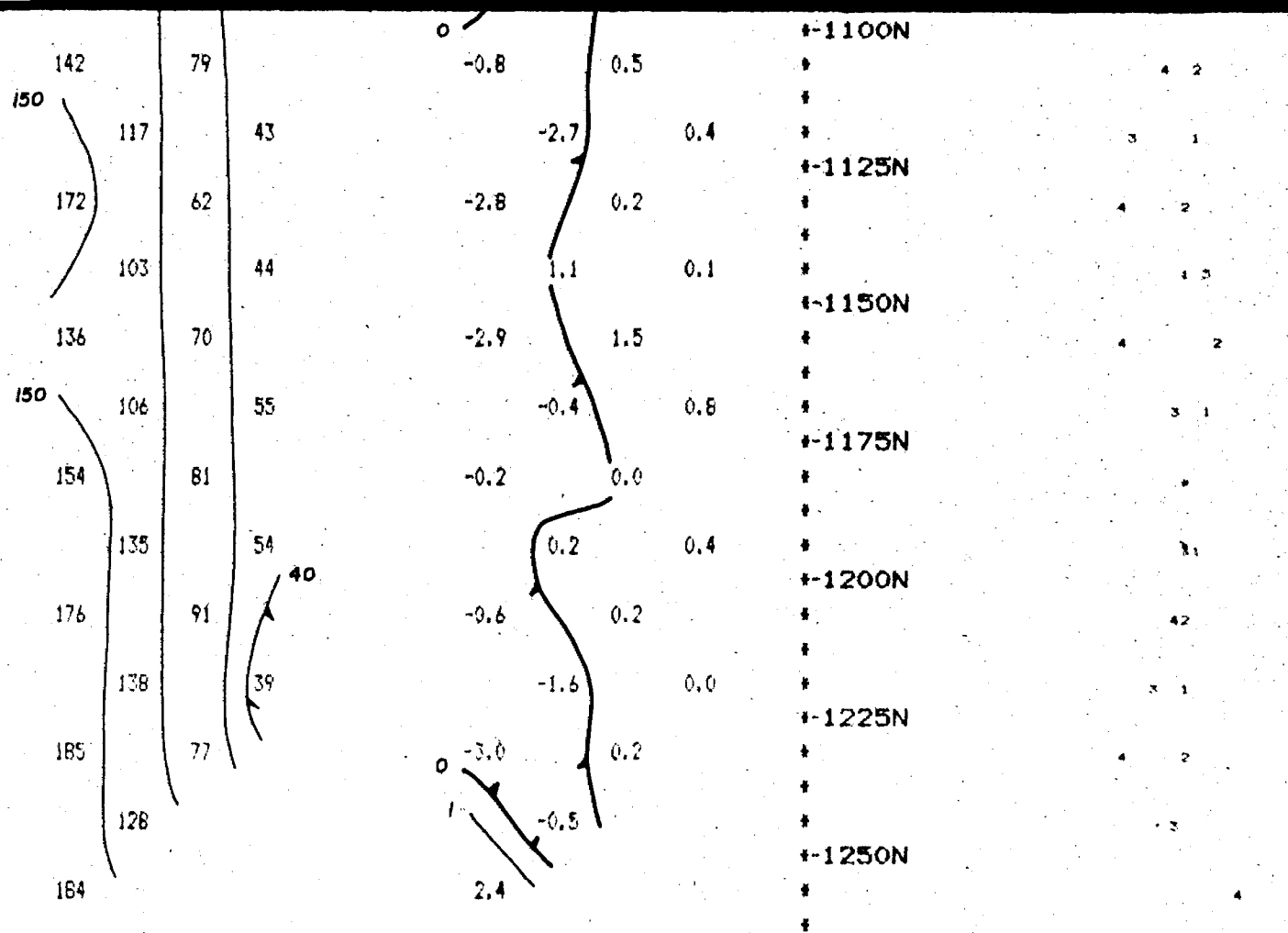
650N	13
675N	31
700N	24
725N	13
750N	42
775N	31
800N	24
825N	42
850N	3

Property : CHIMP GRID
 Client : TARZAN GOLD INC.
 Date of Survey : 21/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T80-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



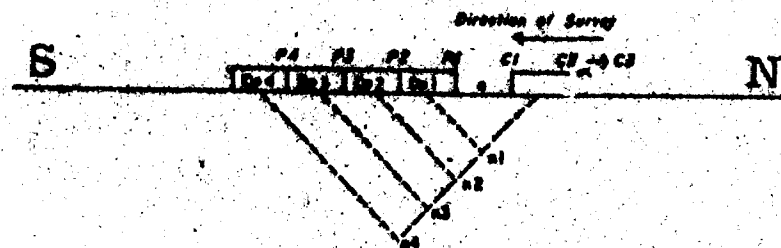
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4
 Spacing = 25 M



Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 21/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T8Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4

Spacing = 25 M

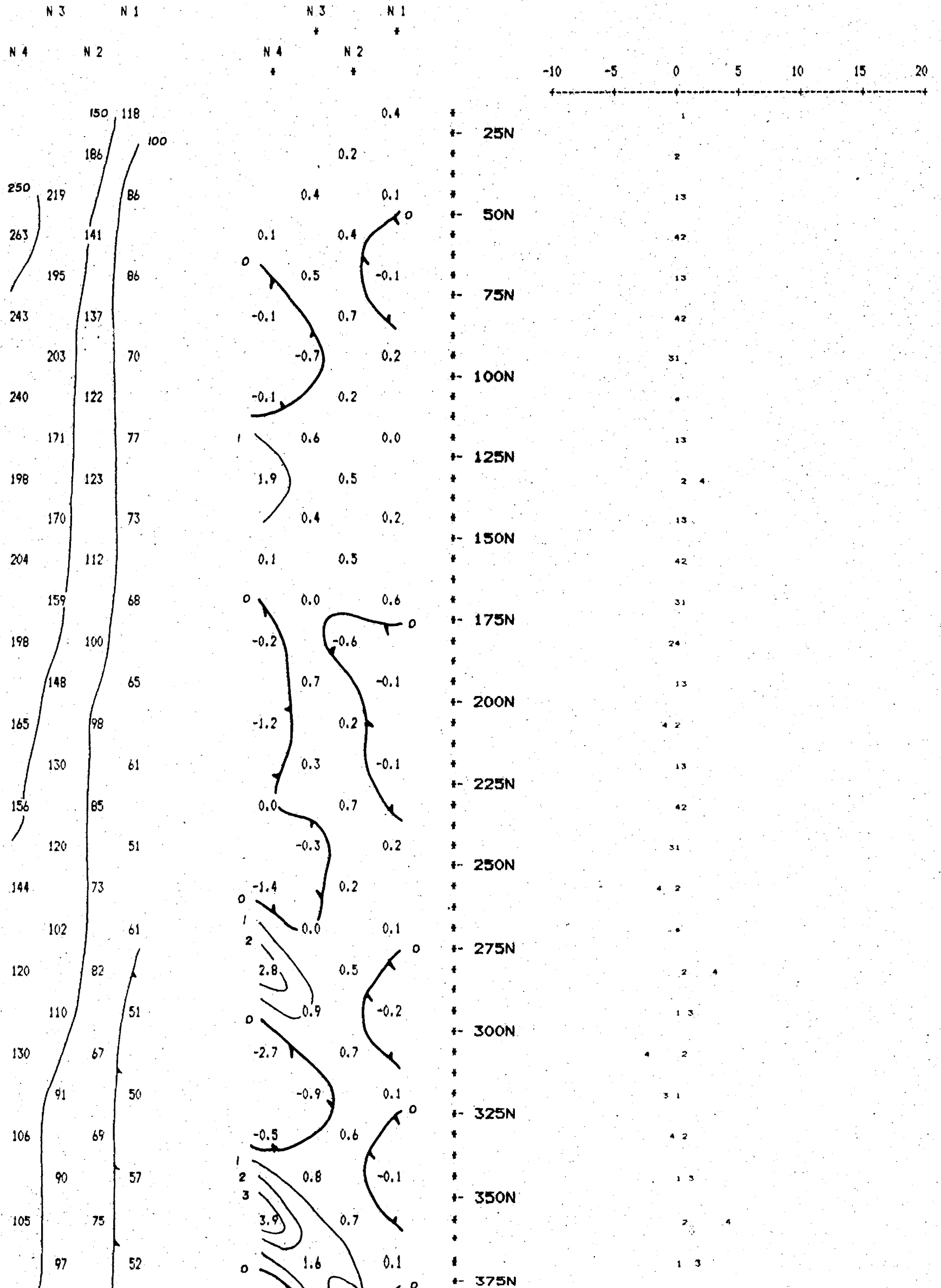
LINE 2 W

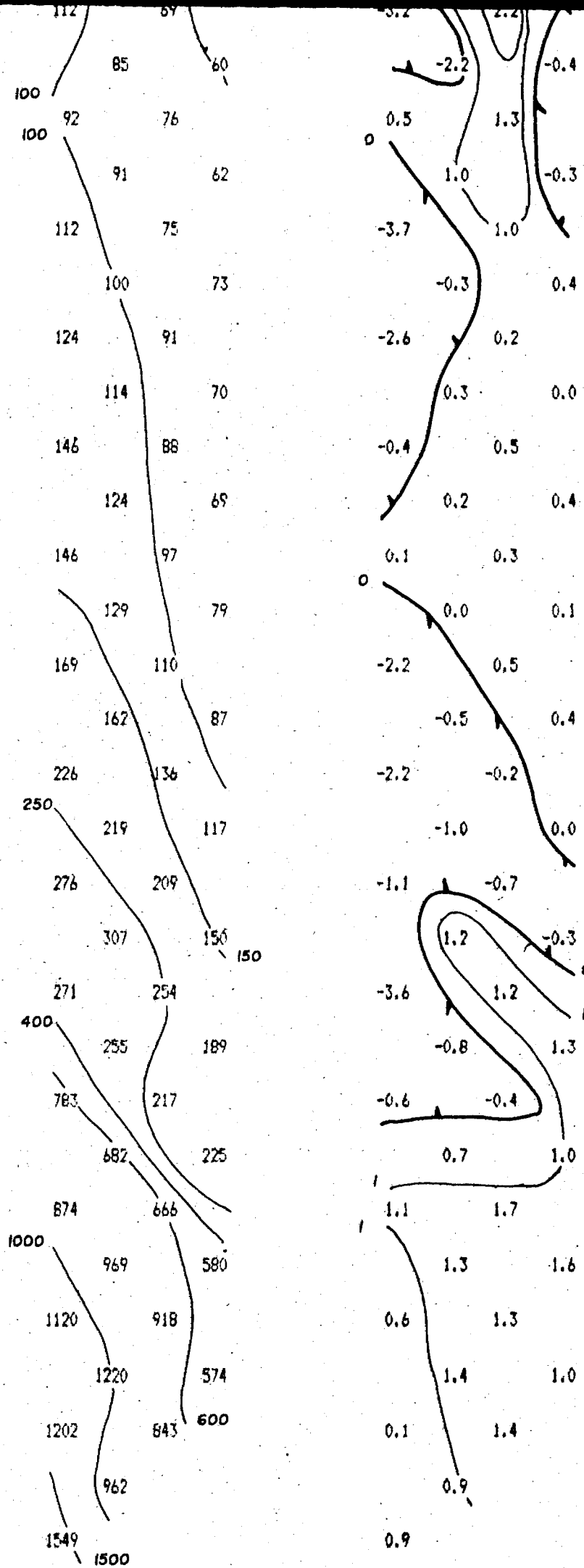
SCALE : 1 : 1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE

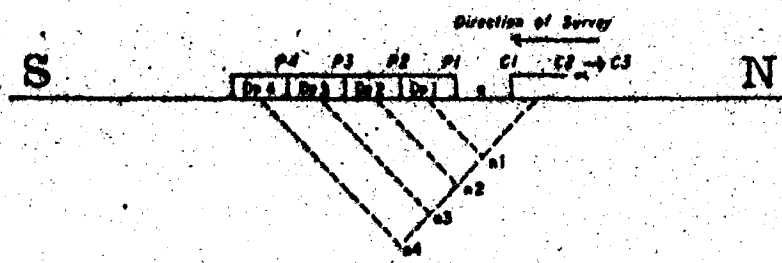




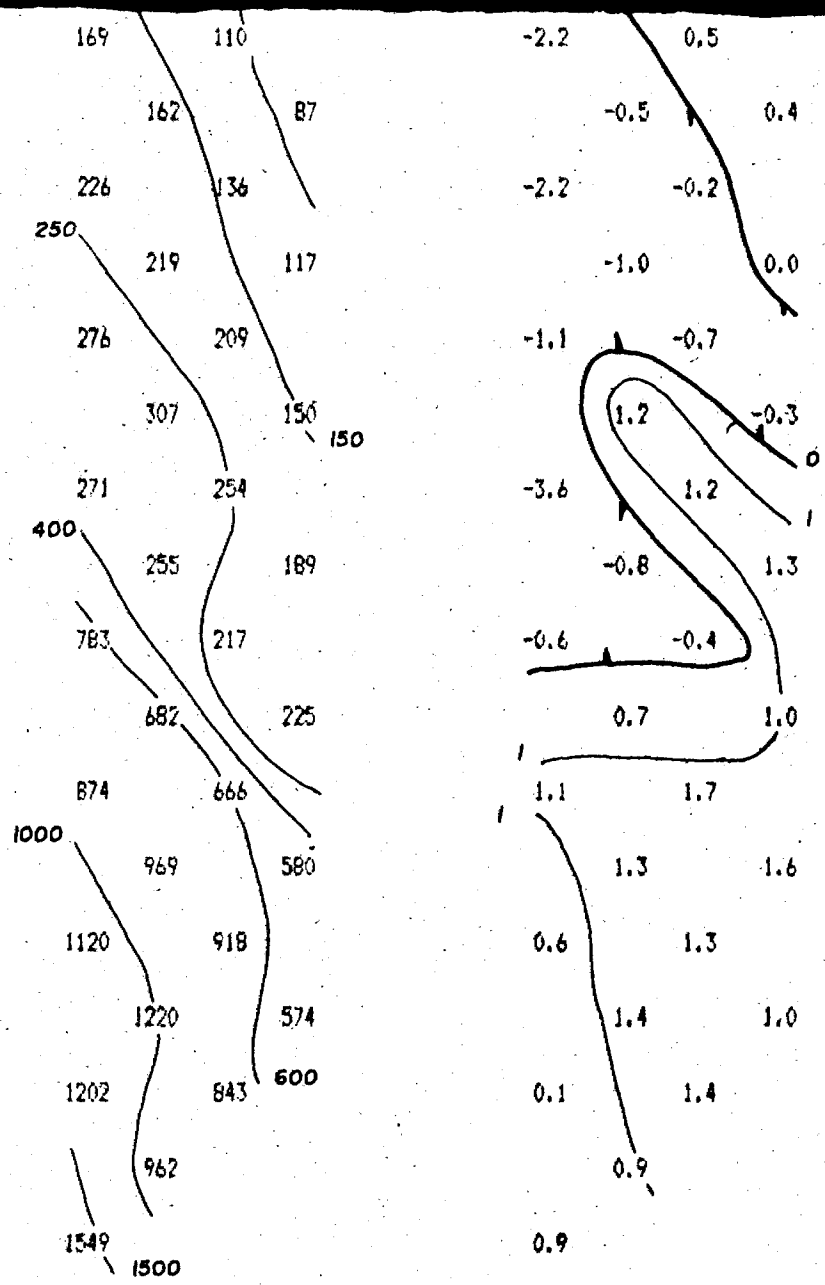
400N	3	1
425N	4	2
450N	3	1
475N	4	2
500N	3	1
525N	4	2
550N	3	1
575N	4	2
600N	3	1
625N	4	2
650N	3	1
675N	4	2
700N	3	1
725N	4	2

Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 21/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T8Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



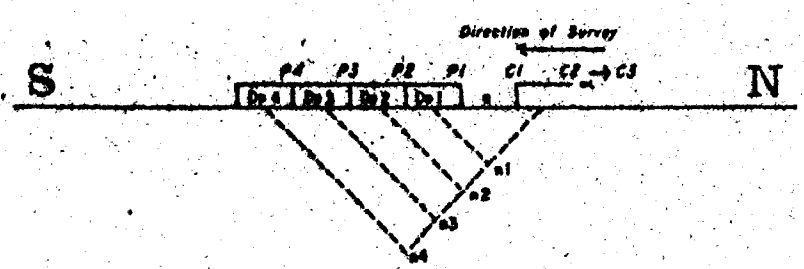
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.



*	4	2
*		
*	3	1
*- 550N		
*	4	2
*		
*- 575N		
*	3	1
*		
*	4	2
*- 600N		
*		
*	3	1
*- 625N		
*		
*	3	1
*- 650N		
*		
*	4	2
*- 675N		
*		
*	4	2
*- 700N		
*		
*	4	2
*- 725N		
*		
*	3	
*		
*	4	

Property : CHIMP GRID
 Client : TARZAN GOLD INC.

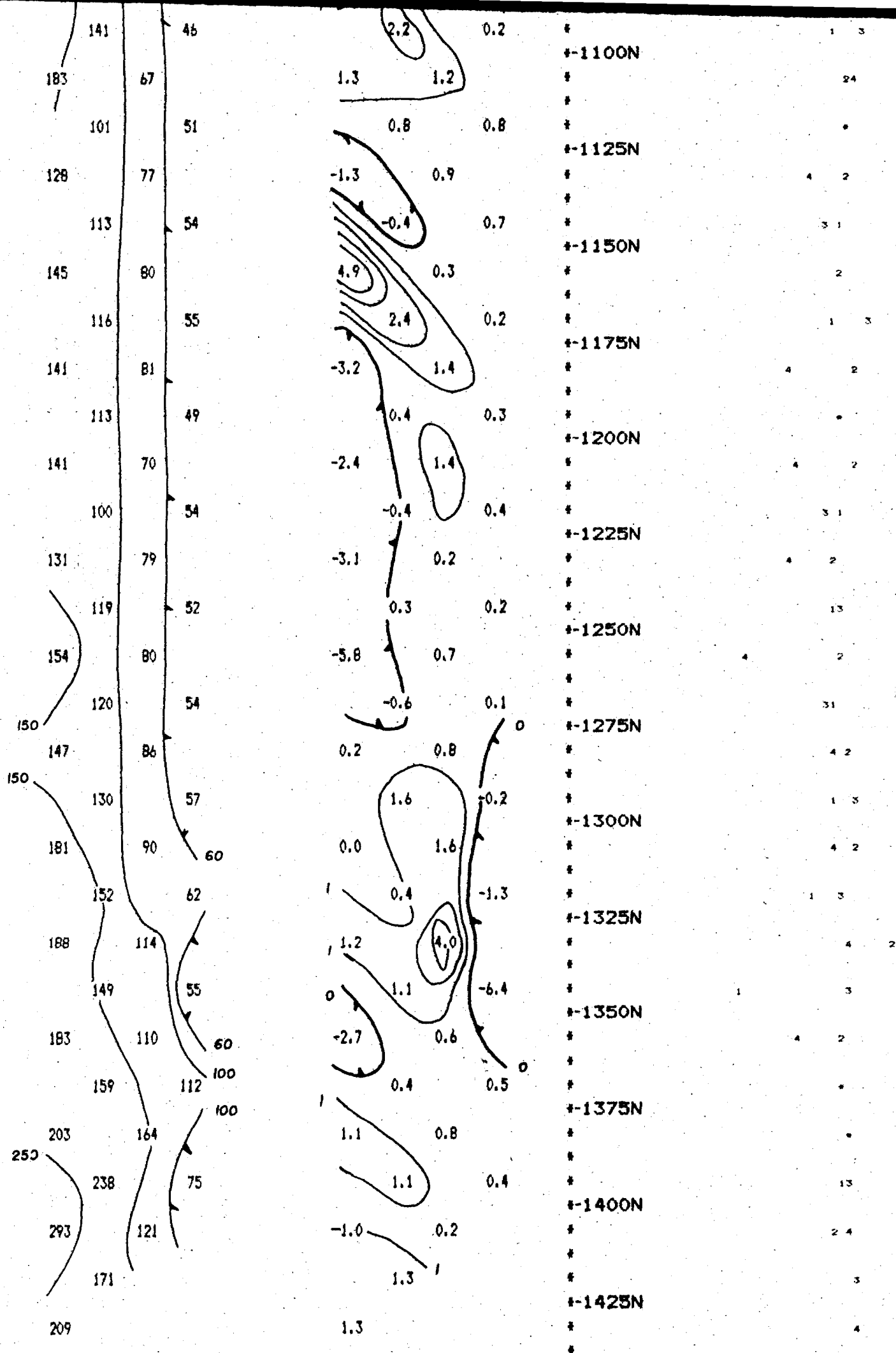
Date of Survey : 21/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T6Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



R. S. Middleton
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

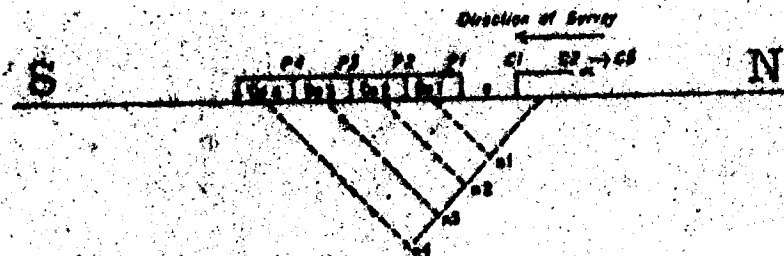
IP Pseudosections for N = 1 to 4
 'a' Spacing = 25 M

LINE 4 W



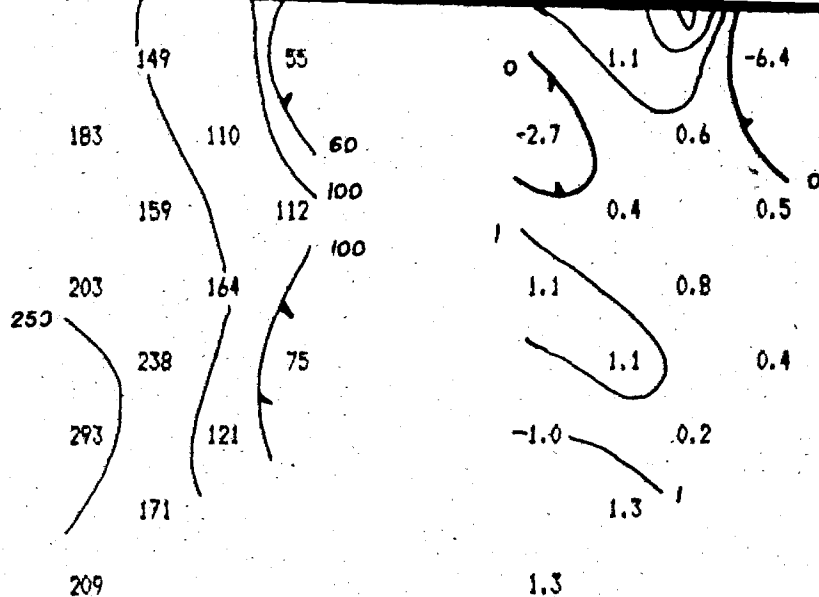
Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 23/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T9Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4



†	1	3
†-1350N		
†	4	2
†		
†-1375N		
†		
†		
†-1400N		13
†		
†		24
†		
†-1425N		3
†		
†		4

Property : CHIMP GRID
Client : TARZAN GOLD INC.

Date of Survey : 23/3/88

Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

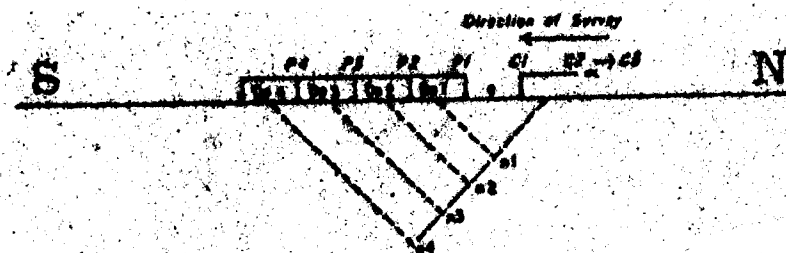
Transmitter : SCINTREX T90-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for N = 1 to 4

'a' Spacing = 25 M

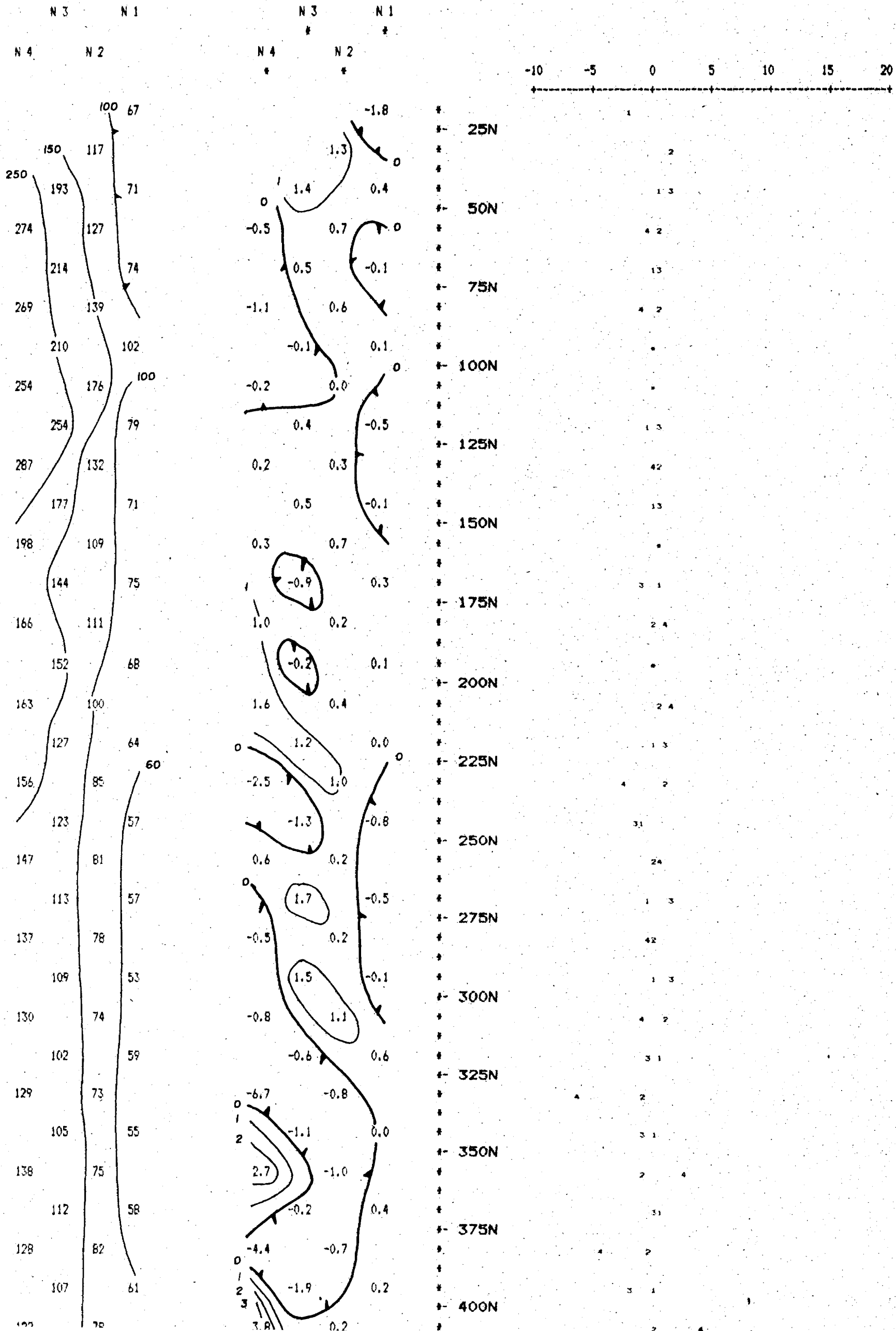
LINE 4 W

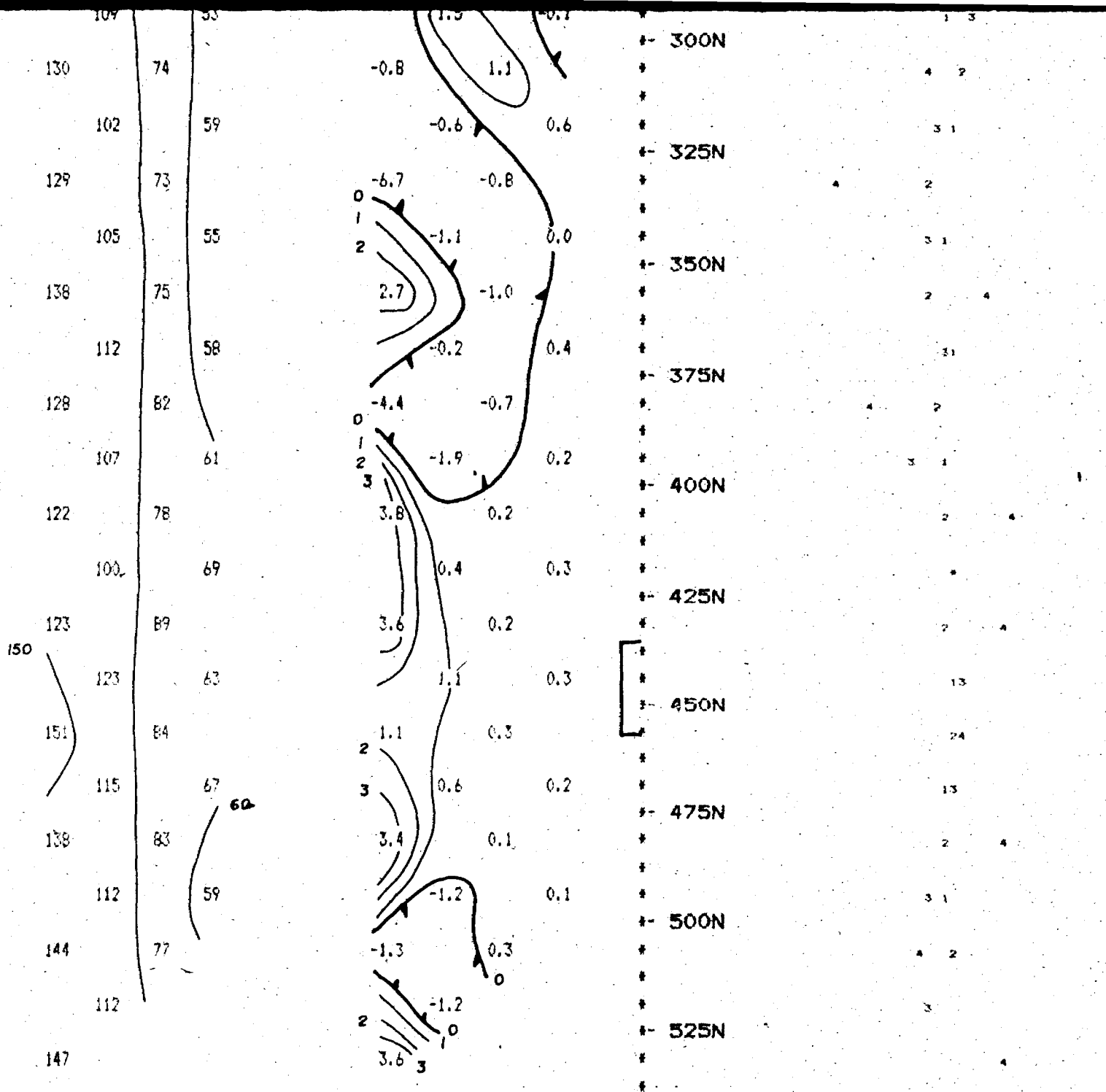
SCALE : 1:1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

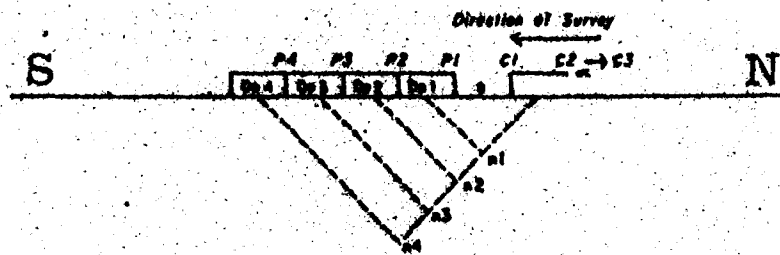
CHARGEABILITY PROFILE





Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 23/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



R. S. Middleton
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4

'a' Spacing = 25 M

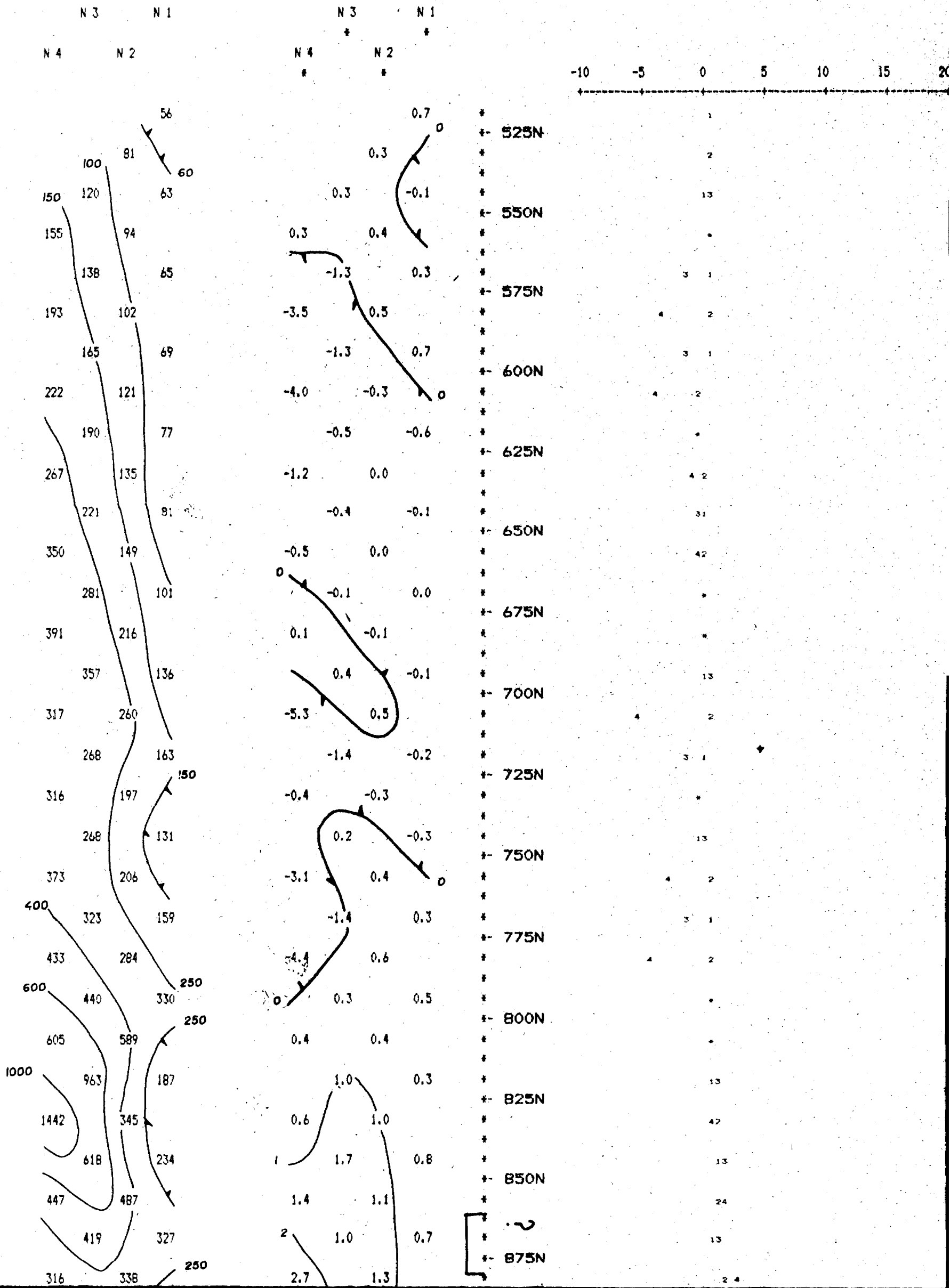
LINE 6 W

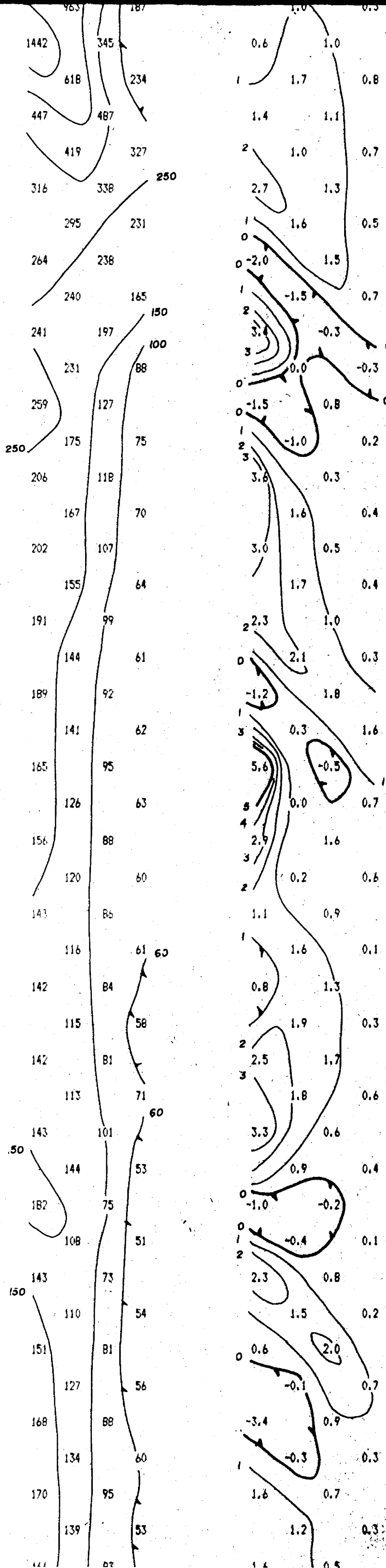
SCALE : 1 : 1250

RESISTIVITY
(ohm - metres)

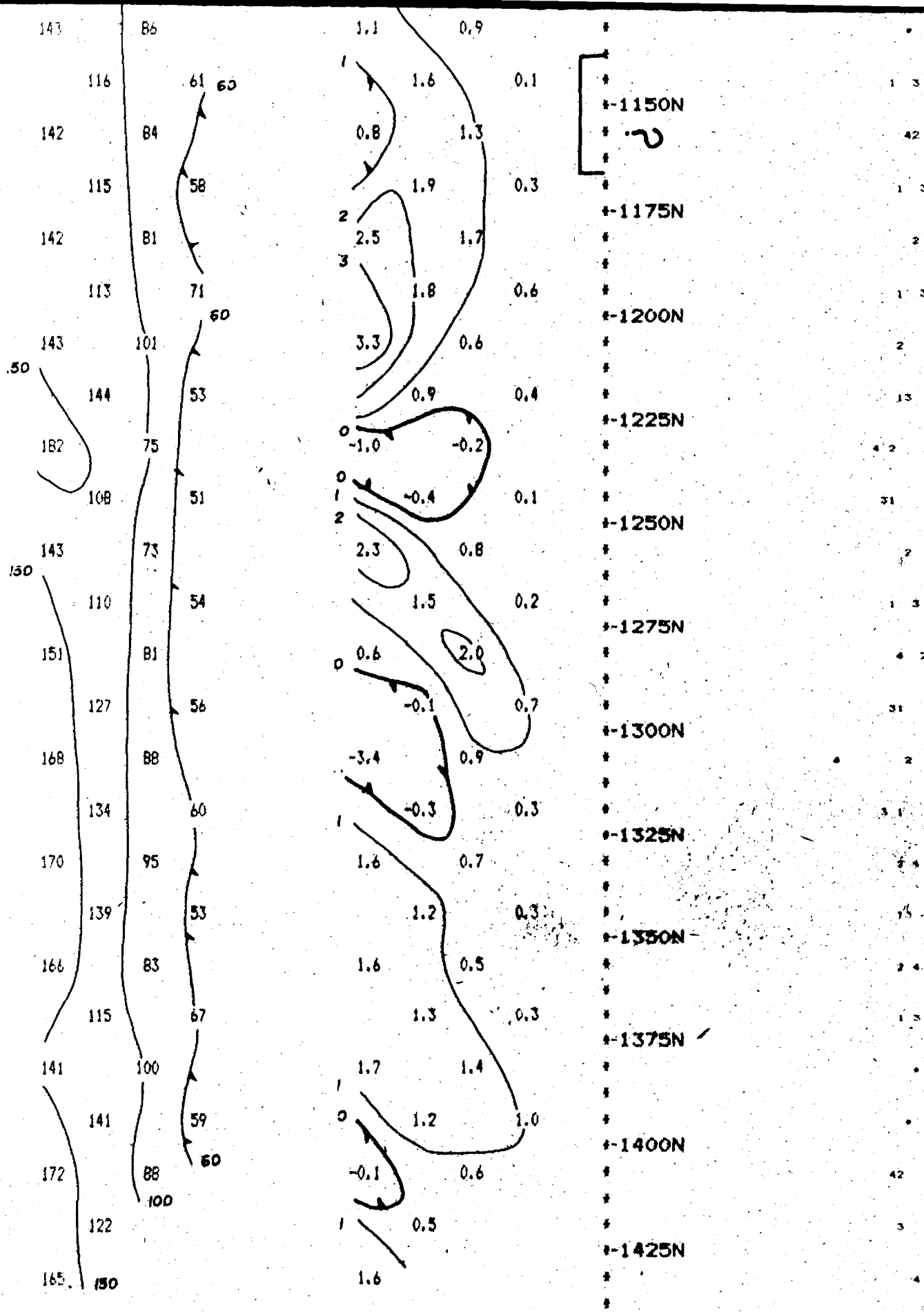
CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE





825N	13
850N	42
875N	13
900N	24
925N	13
950N	24
975N	13
1000N	42
1025N	13
1050N	24
1075N	13
1100N	42
1125N	13
1150N	24
1175N	13
1200N	42
1225N	13
1250N	24
1275N	13
1300N	42
1325N	13
1350N	24



Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 24/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T8Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

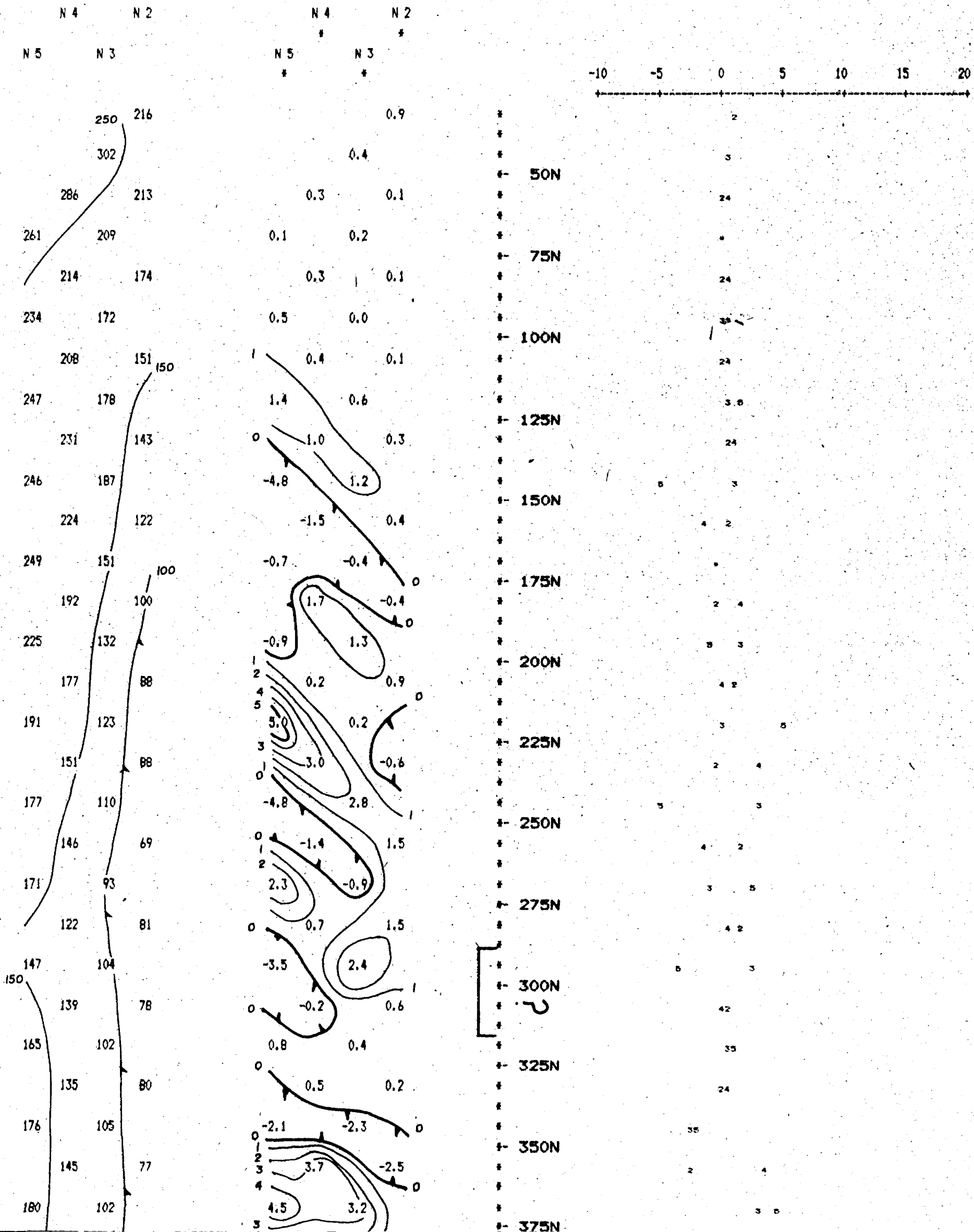
IP Pseudosections for N = 1 to 4
 a Spacing = 25 M

SCALE : 1 : 1250

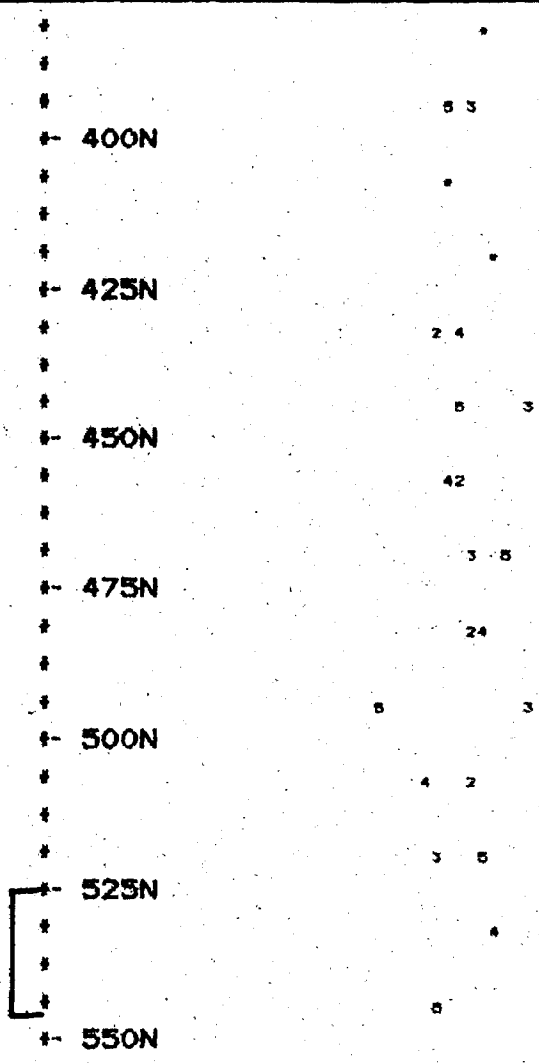
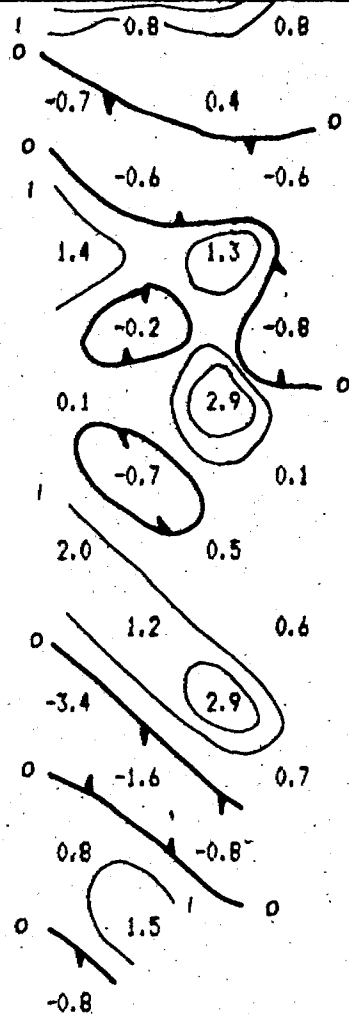
RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE

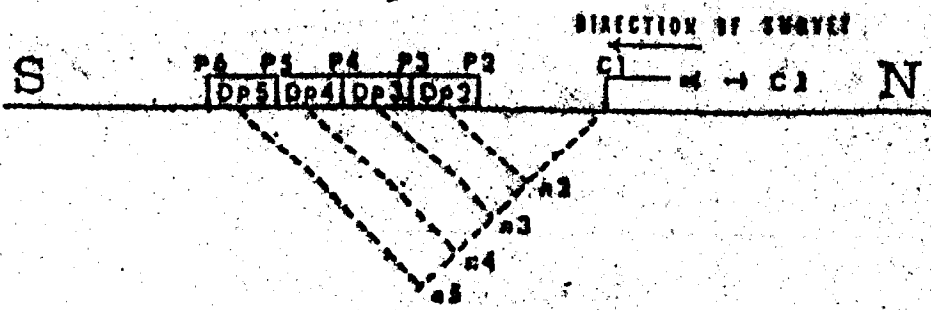


141 79
 163 106
 133 79
 156 100
 130 82
 157 108
 145 83
 174 111
 147 86
 169 115
 145 83
 100
 185 104
 147
 199



Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 30/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. B. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 'a' Spacing = 25 M

LINE 8 W

SCALE : 1 : 1250

RESISTIVITY
(ohm - metres)

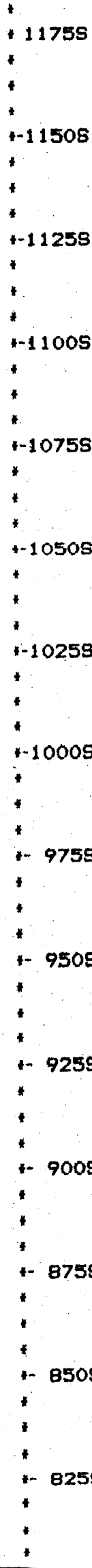
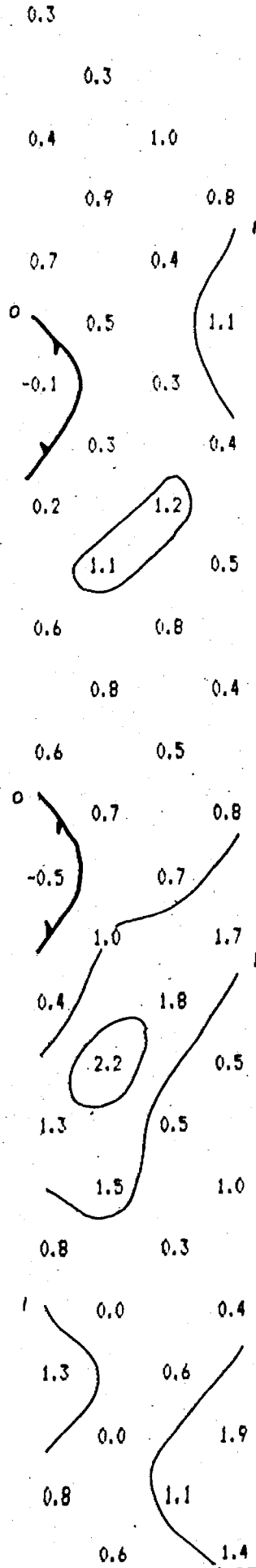
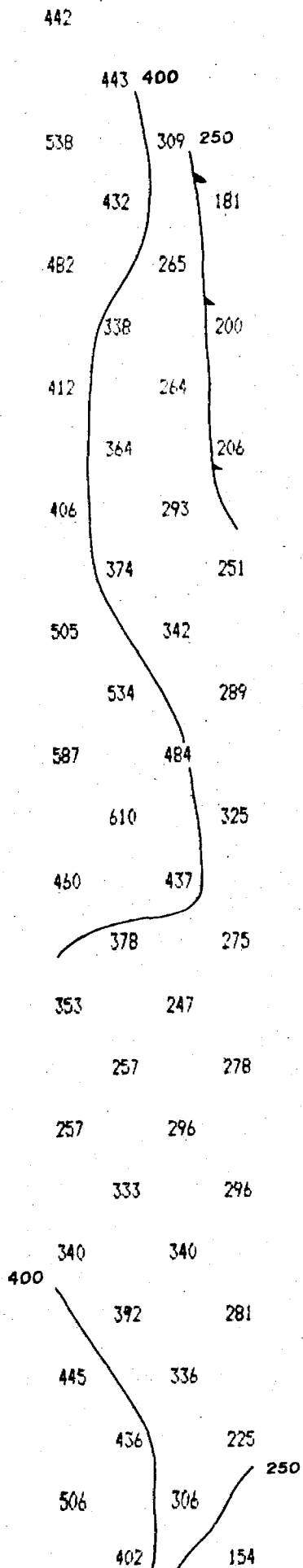
CHARGEABILITY
(milliseconds)

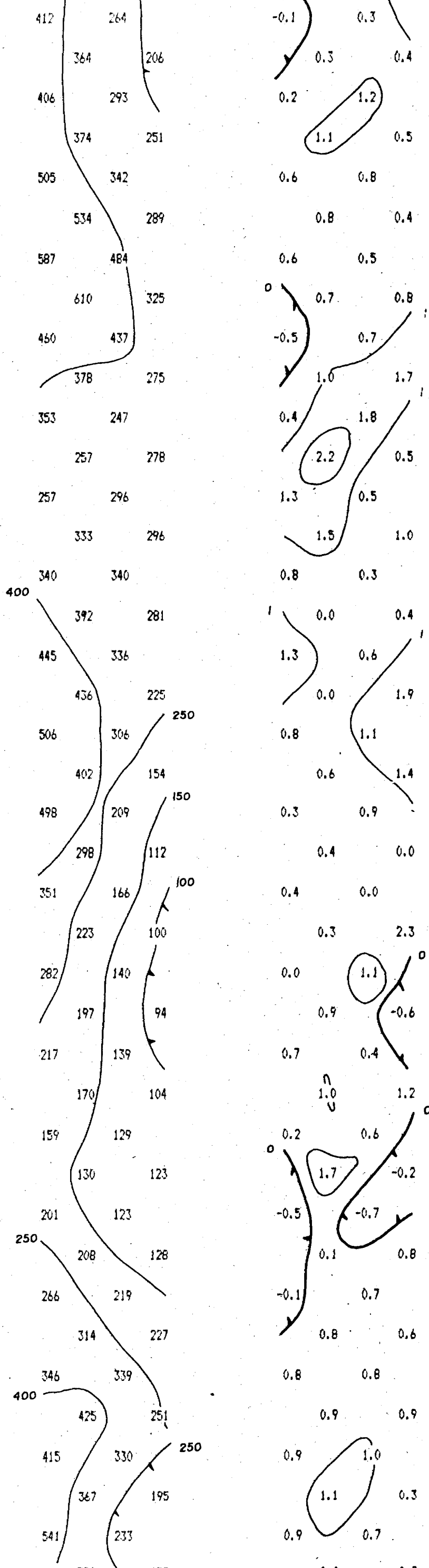
CHARGEABILITY PROFILE

N 4 N 2
N 5 N 3

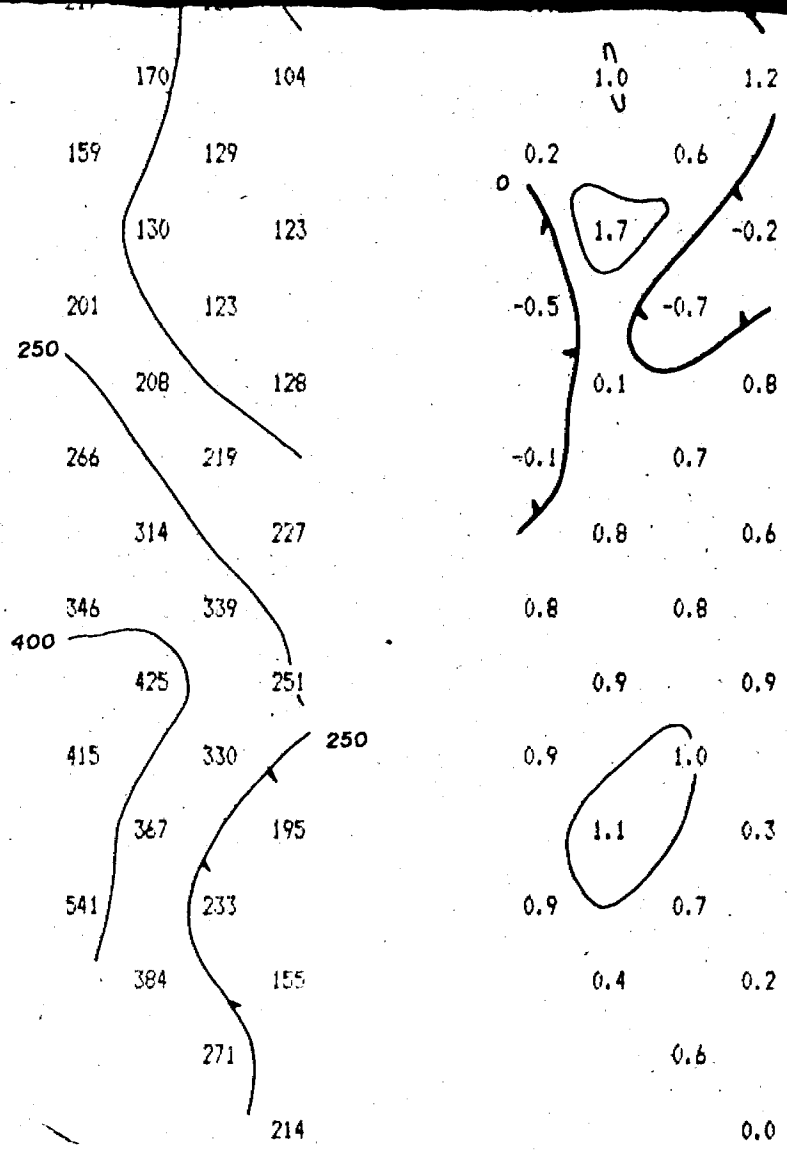
N 4 N 2
N 5 N 3

-10 -5 0 5 10 15 20





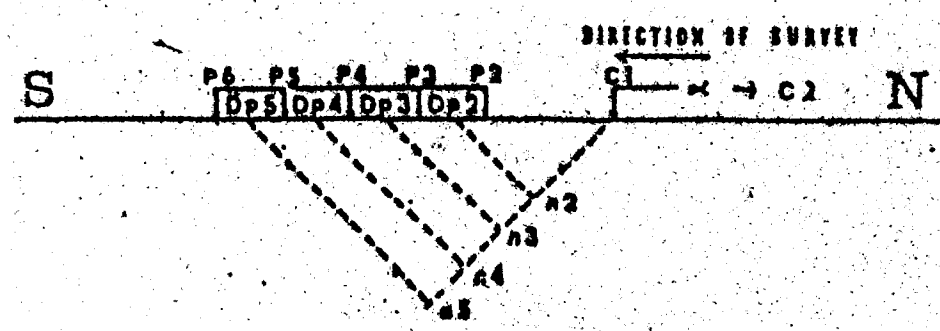
- * 53
- * *
- * *
- * -10258
- * 53
- * *
- * *
- * -10005
- * 53
- * *
- * *
- * -9758
- * *
- * *
- * -9508
- * 53
- * *
- * *
- * -9258
- * 42
- * *
- * *
- * -9008
- * 53
- * *
- * *
- * -8758
- * 24
- * *
- * *
- * -8508
- * 35
- * *
- * *
- * -8258
- * 42
- * *
- * *
- * -8008
- * 35
- * *
- * *
- * -7758
- * 42
- * *
- * *
- * -7508
- * 53
- * *
- * *
- * -7258
- * 24
- * *
- * *
- * -7008
- * 53
- * *
- * *
- * -6758
- * 24
- * *
- * *
- * -6508
- * 53
- * *
- * *
- * -6258
- * 24
- * *
- * *
- * -6008
- * 53
- * *
- * *
- * -5758
- * 24
- * *
- * *
- * 24



700S	53
675S	24
650S	42
625S	24
600S	24
575S	38
550S	24
525S	3
	2

Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 25/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 Spacing = 25 M

SCALE : 1 : 1250

RESISTIVITY
(ohm - metres)

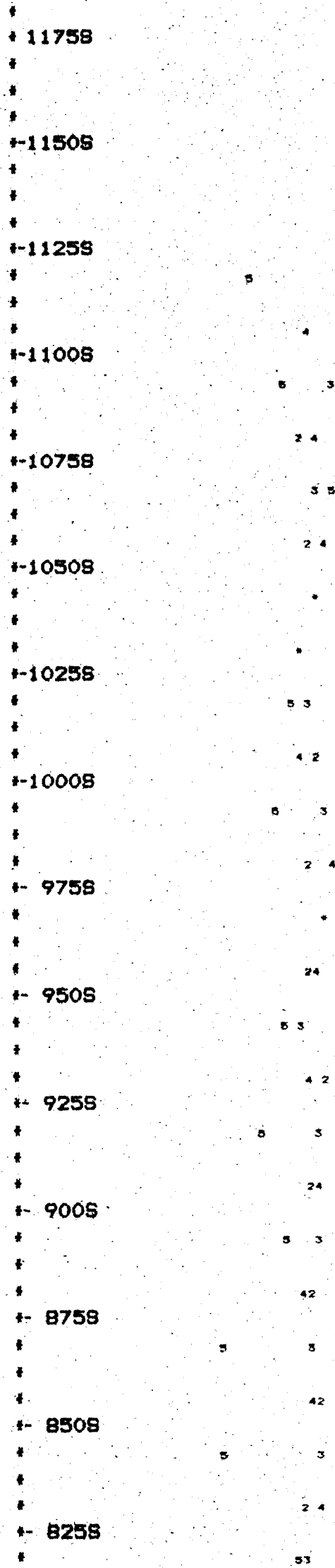
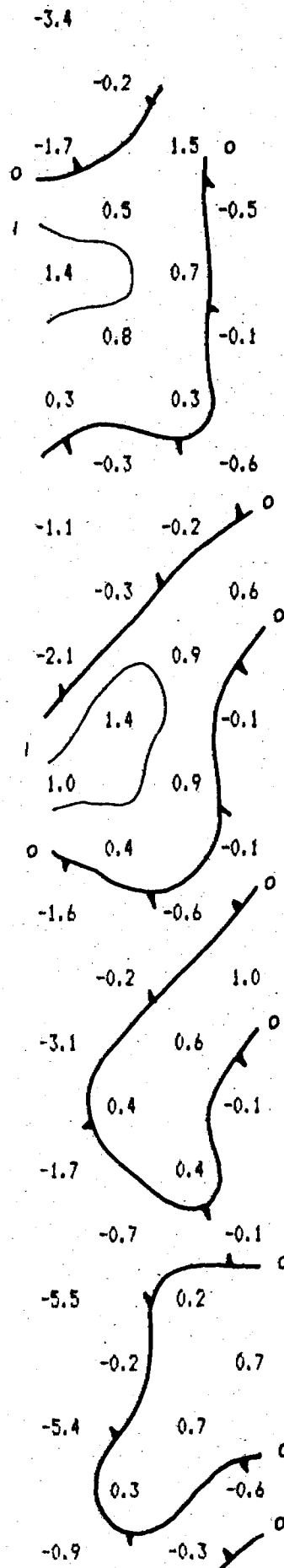
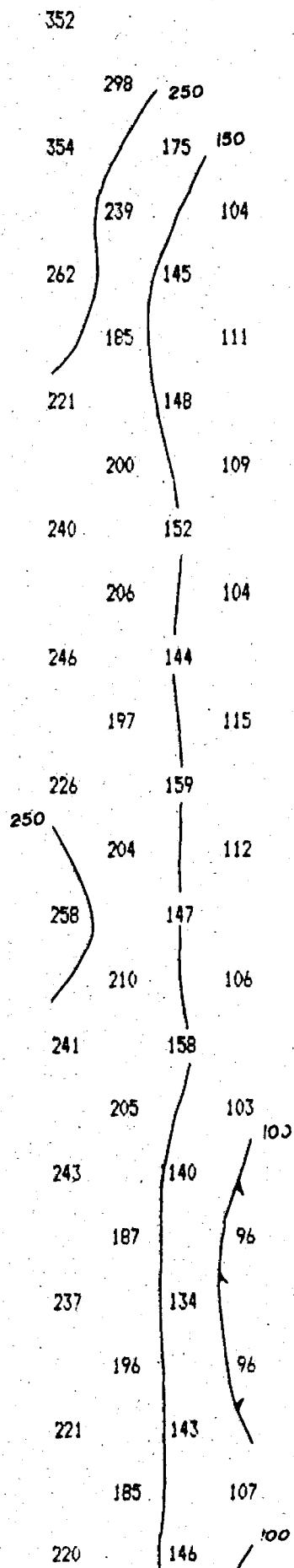
CHARGEABILITY
(milliseconds)

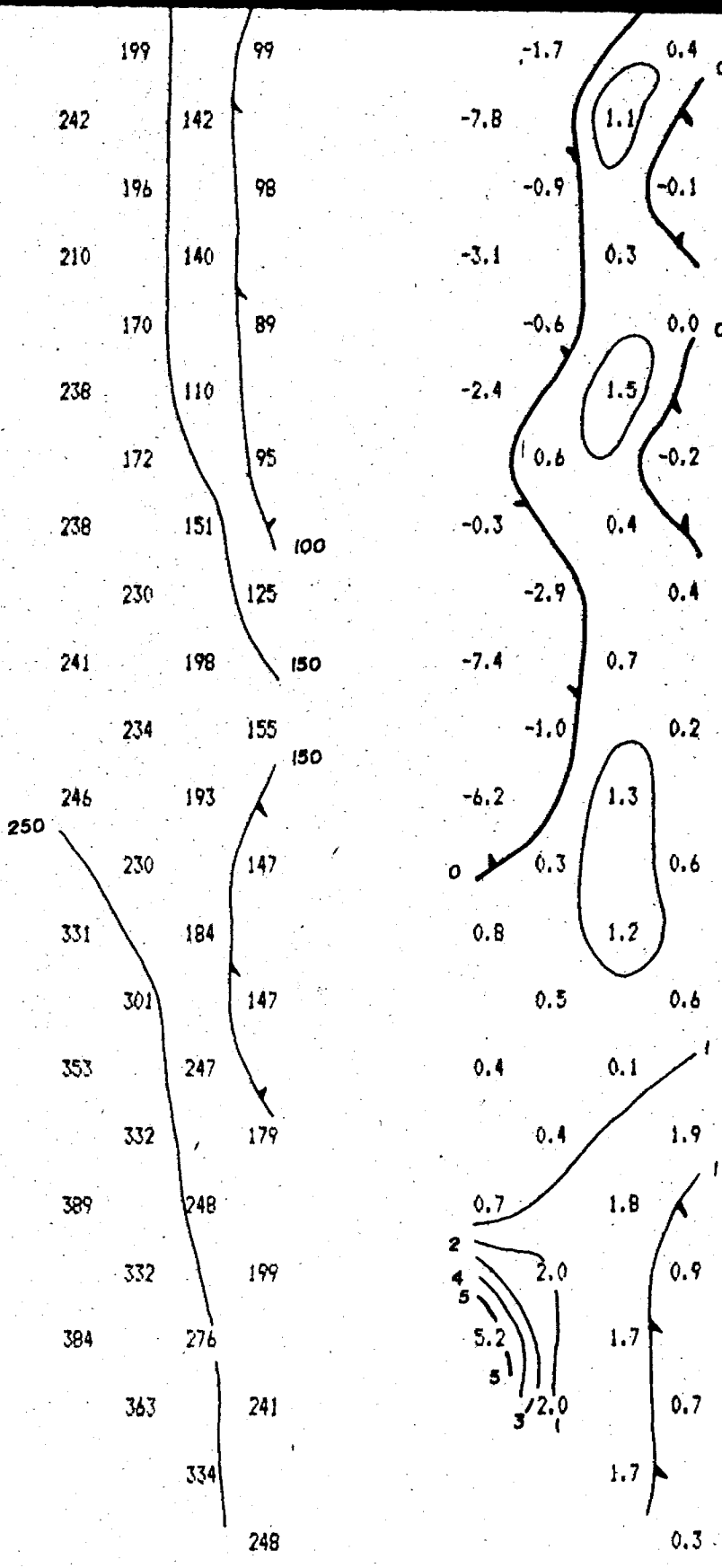
CHARGEABILITY PROFILE

N 4 N 2
N 5 N 3

N 4 N 2
N 5 N 3

-10 -5 0 5 10 15 20

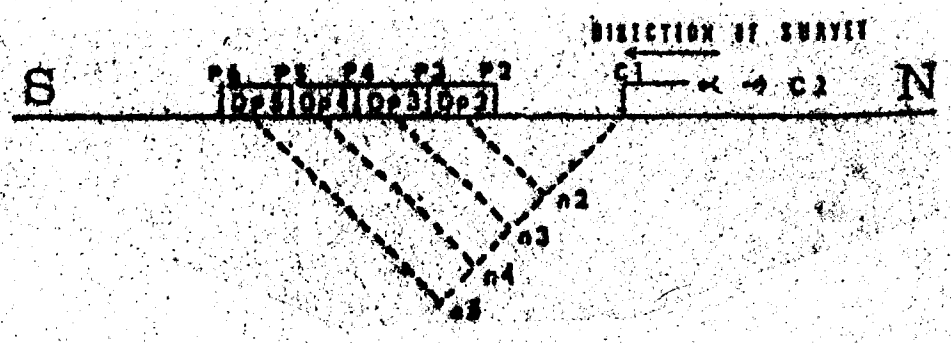




800S	4	2
775S	5	3
750S	4	2
725S	5	3
700S	4	2
675S	5	3
650S	5	3
625S	5	3
600S	4	2
575S	5	3
550S	4	2
525S	5	3

Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 25/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5

a Spacing = 25 M

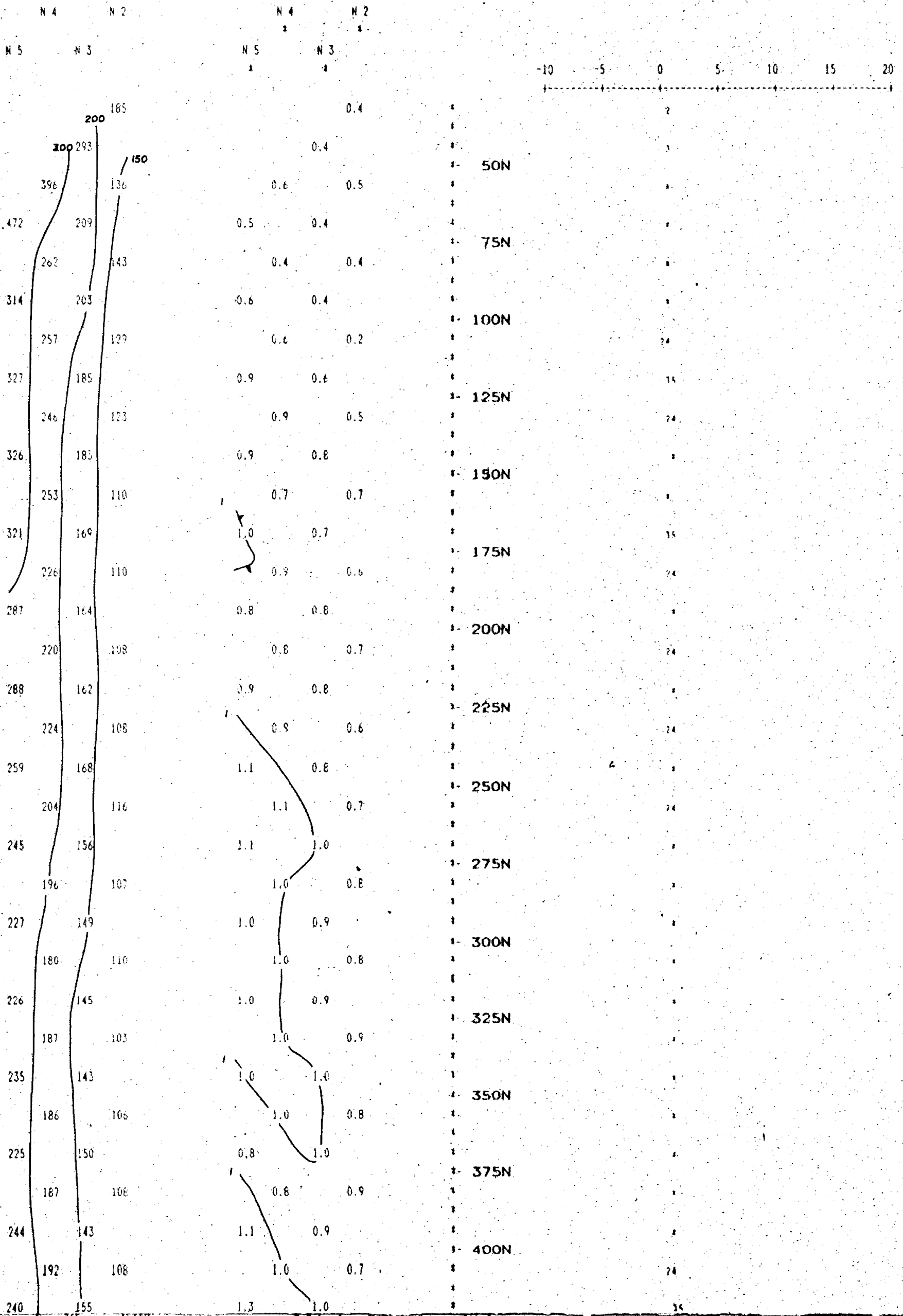
LINE 13 W

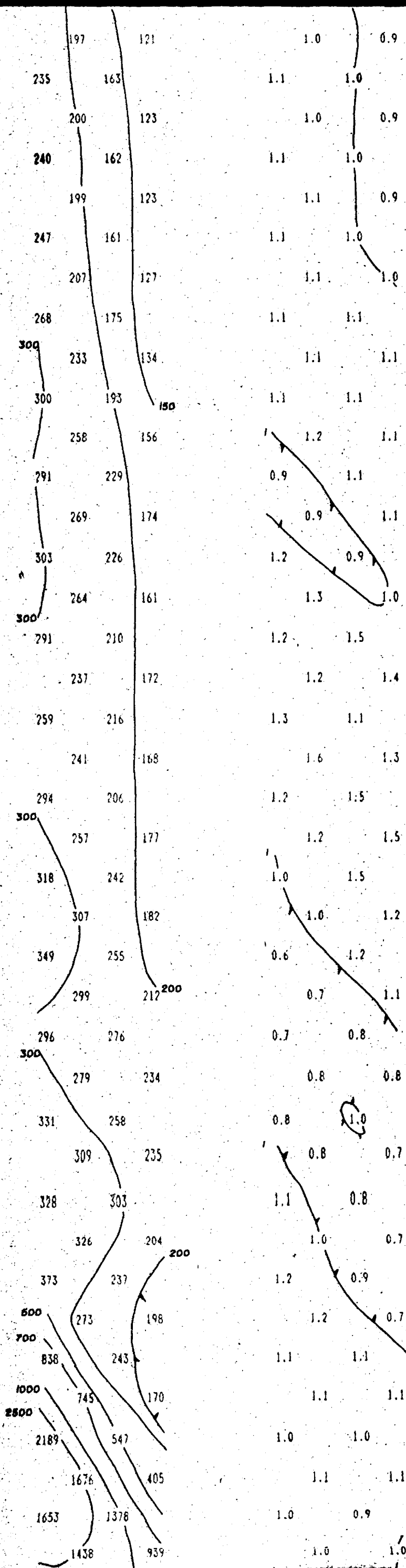
SCALE = 1 : 1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

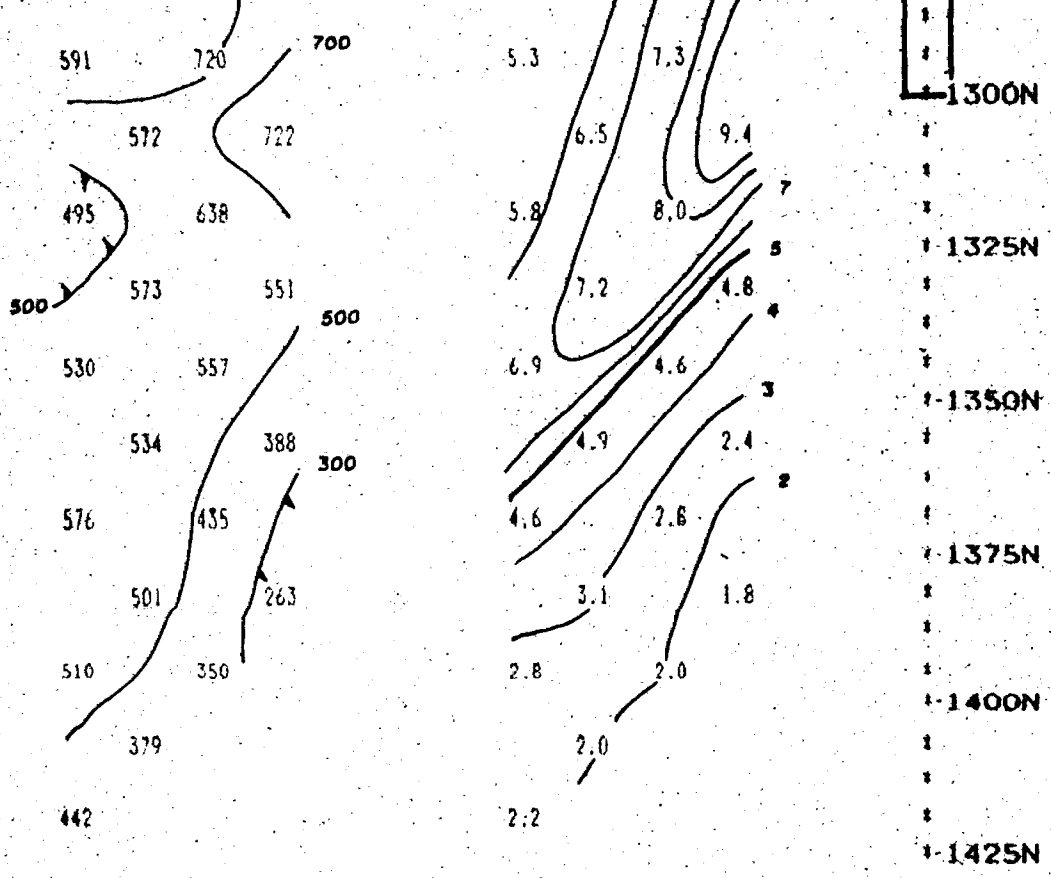
CHARGEABILITY PROFILE





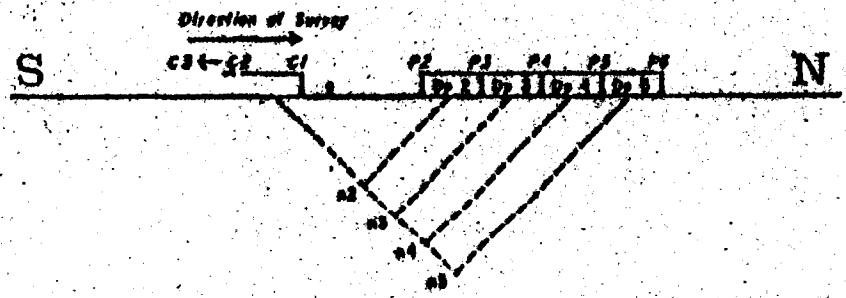
1.0	0.9
1.1	1.0
1.0	0.9
1.1	1.0
1.1	0.9
1.1	1.0
1.1	1.0
1.1	1.1
1.1	1.1
1.2	1.1
0.9	1.1
0.9	1.1
1.2	0.9
1.3	1.0
1.2	1.5
1.2	1.4
1.3	1.1
1.6	1.3
1.2	1.5
1.2	1.5
1.0	1.5
1.0	1.2
0.6	1.2
0.7	1.1
0.7	0.8
0.8	0.8
0.8	1.0
0.8	0.7
1.1	0.8
1.0	0.7
1.2	0.9
1.2	0.7
1.1	1.1
1.1	1.1
1.0	1.0
1.1	1.1
1.0	0.9
1.0	1.0

- 425N
- 450N
- 475N
- 500N
- 525N
- 550N
- 575N
- 600N
- 625N
- 650N
- 675N
- 700N
- 725N
- 750N
- 775N
- 800N
- 825N
- 850N
- 875N
- 900N



Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.

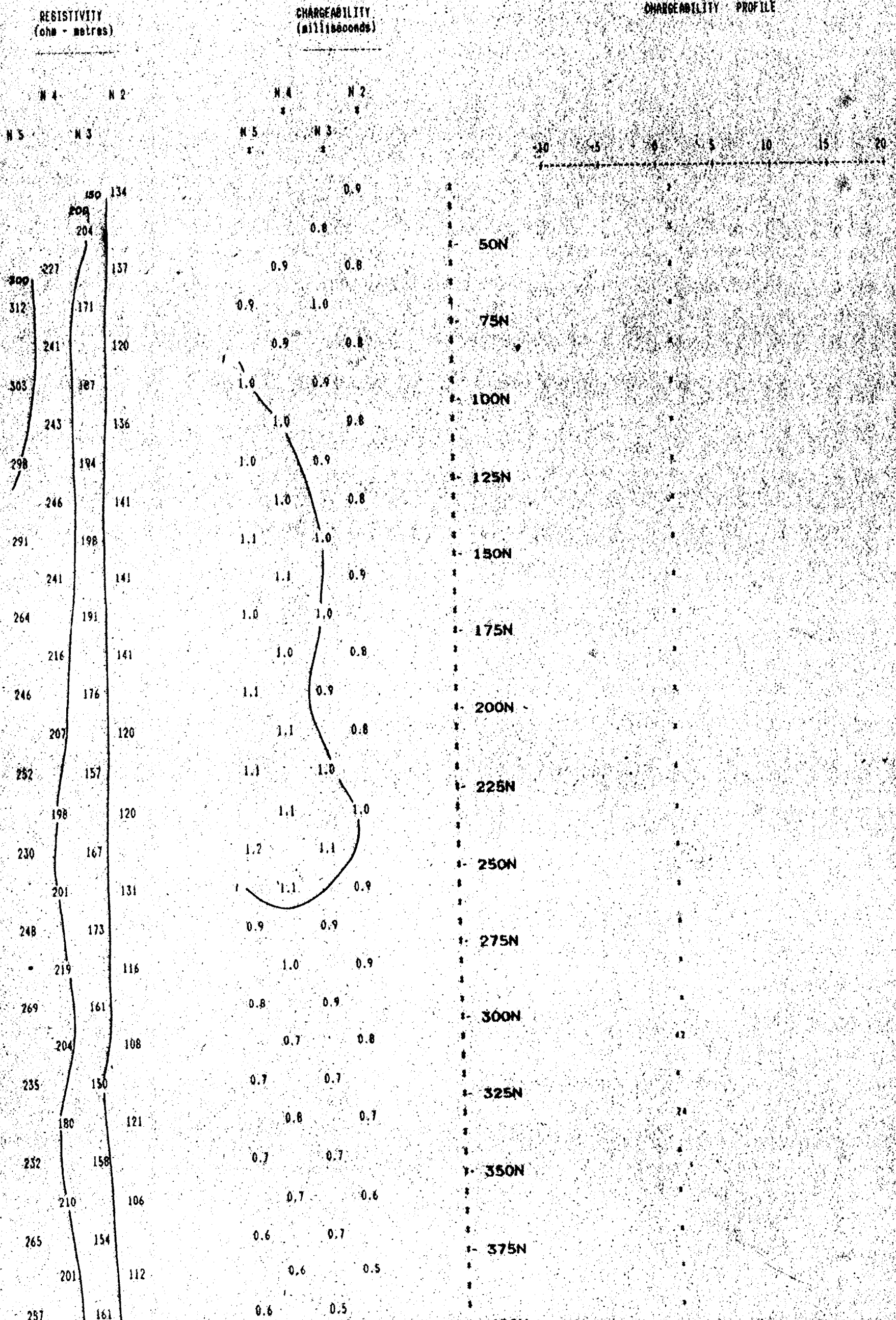
 Date of Survey : 18/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms

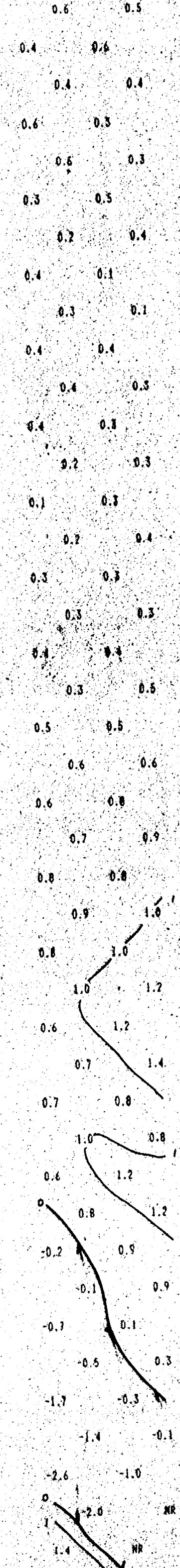
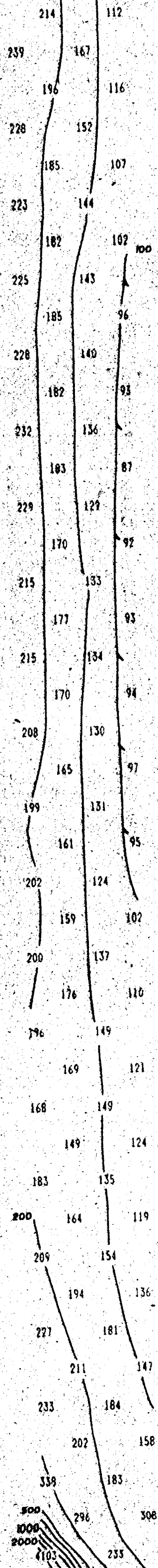


 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

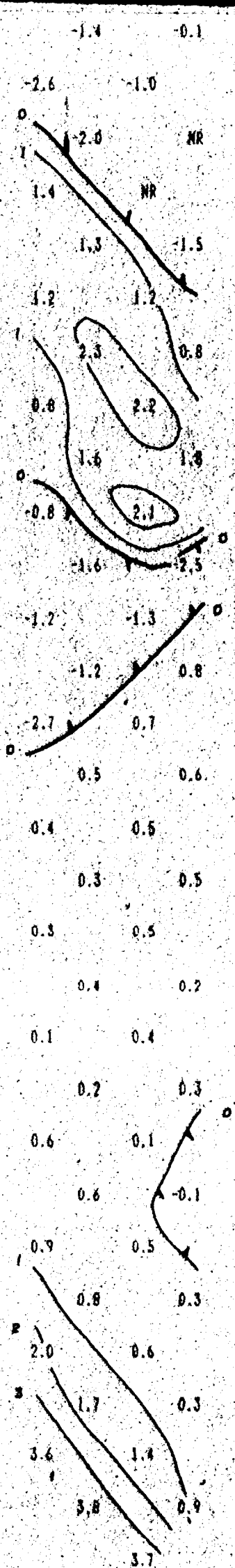
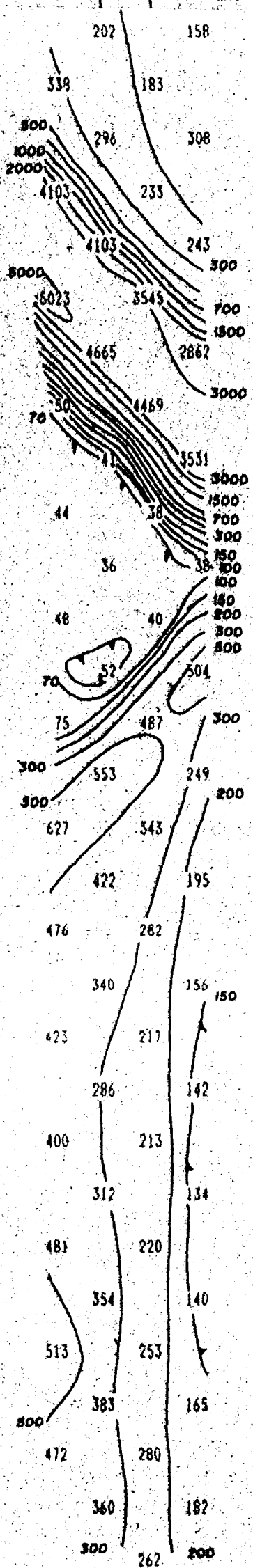
IP Pseudosections for N = 2 to 5
 'a' Spacing = 25 M

SCALE : 1 : 1250



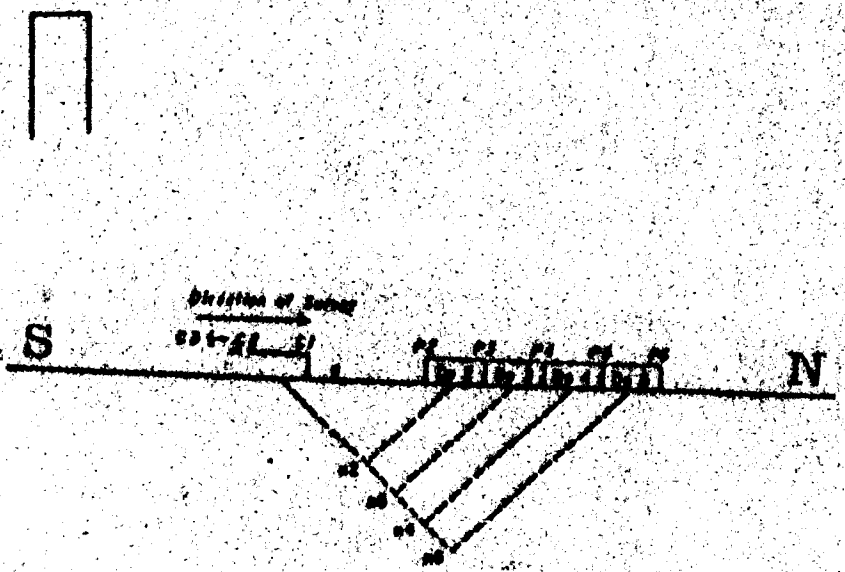


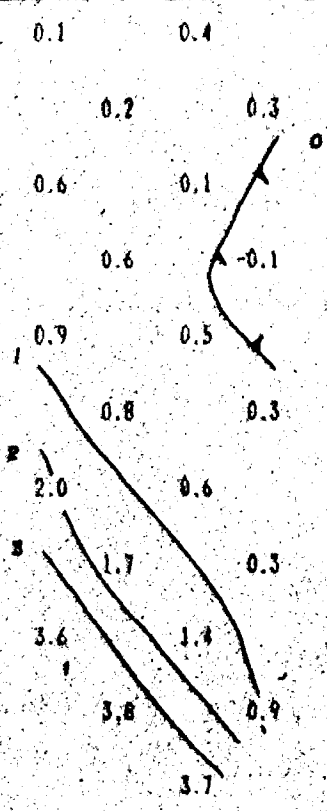
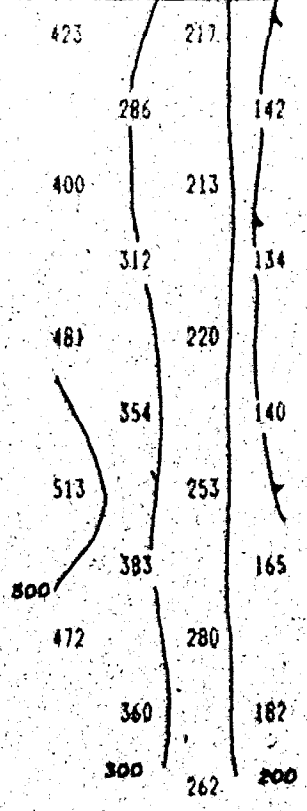
- 425N
- 450N
- 475N
- 500N
- 525N
- 550N
- 575N
- 600N
- 625N
- 650N
- 675N
- 700N
- 725N
- 750N
- 775N
- 800N
- 825N
- 850N
- 875N
- 900N
- 925N



- 900N
- 925N
- 950N
- 975N
- 1000N
- 1025N
- 1050N
- 1075N
- 1100N
- 1125N
- 1150N
- 1175N
- 1200N
- 1225N
- 1250N

Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.
 Date of Survey : 19/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms

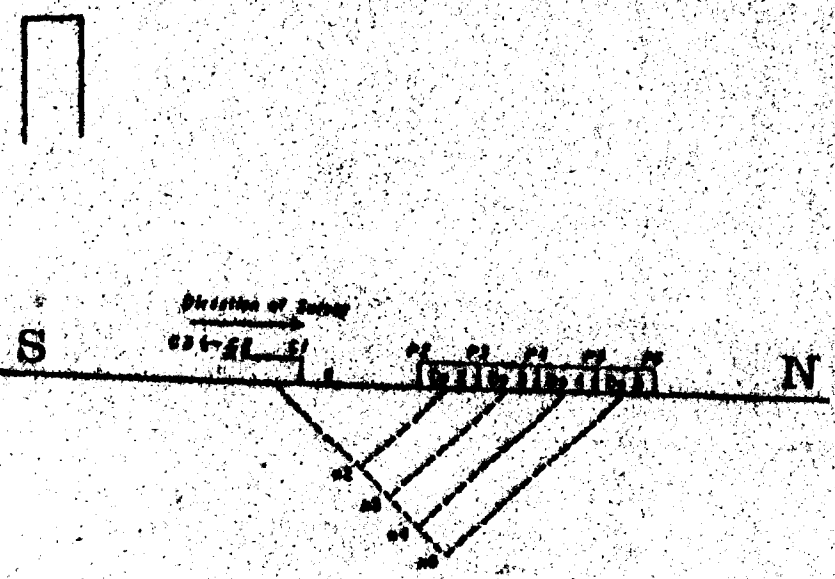




1 53
 1-1125N
 2 42
 3 33
 4 24
 5 15
 6 1175N
 7 14
 8 7
 9 1200N
 10 4
 11 3
 12 1225N
 13 2
 14 1
 15 1250N

Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.

 Date of Survey : 19/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



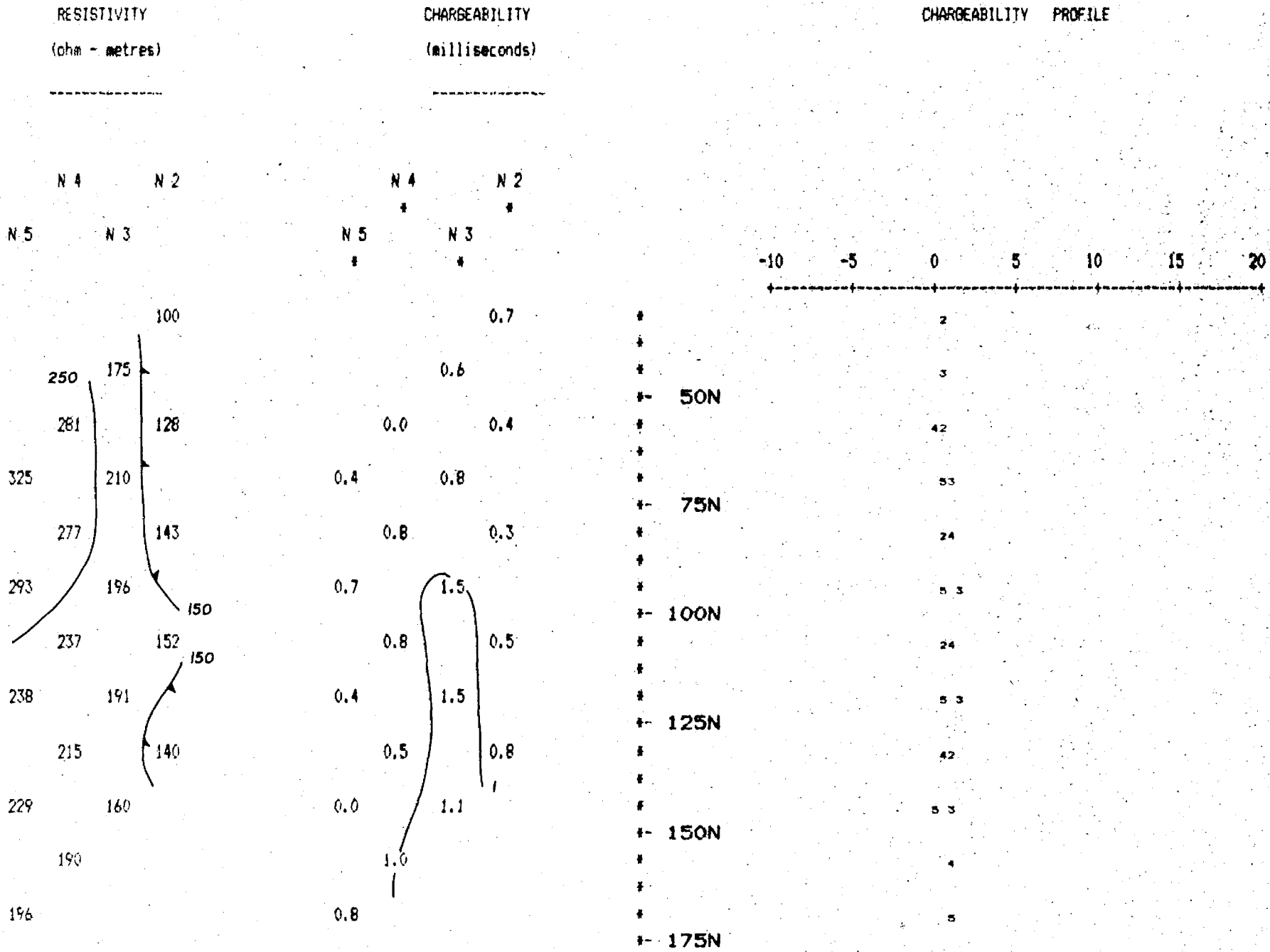
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5

'a' Spacing = 25 M

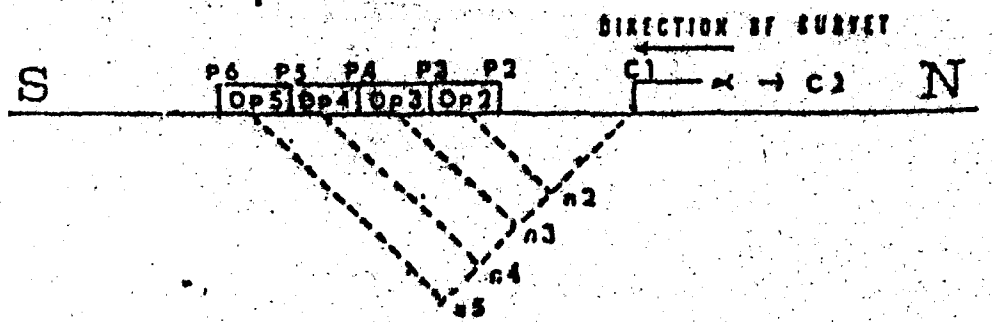
LINE 17 W

SCALE : 1:1250



Property : CHIMP GRID
Client : TARZAN GOLD INC.

Date of Survey : 28/3/88
Operator : TAA
Electrode Array : POLE - DIPOLE
Mode : TIME DOMAIN
Receiver : SCINTREX IPR-11
Transmitter : SCINTREX T9Q-3
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #7
Delay Time : 450 ms
Integration Time : 900 ms

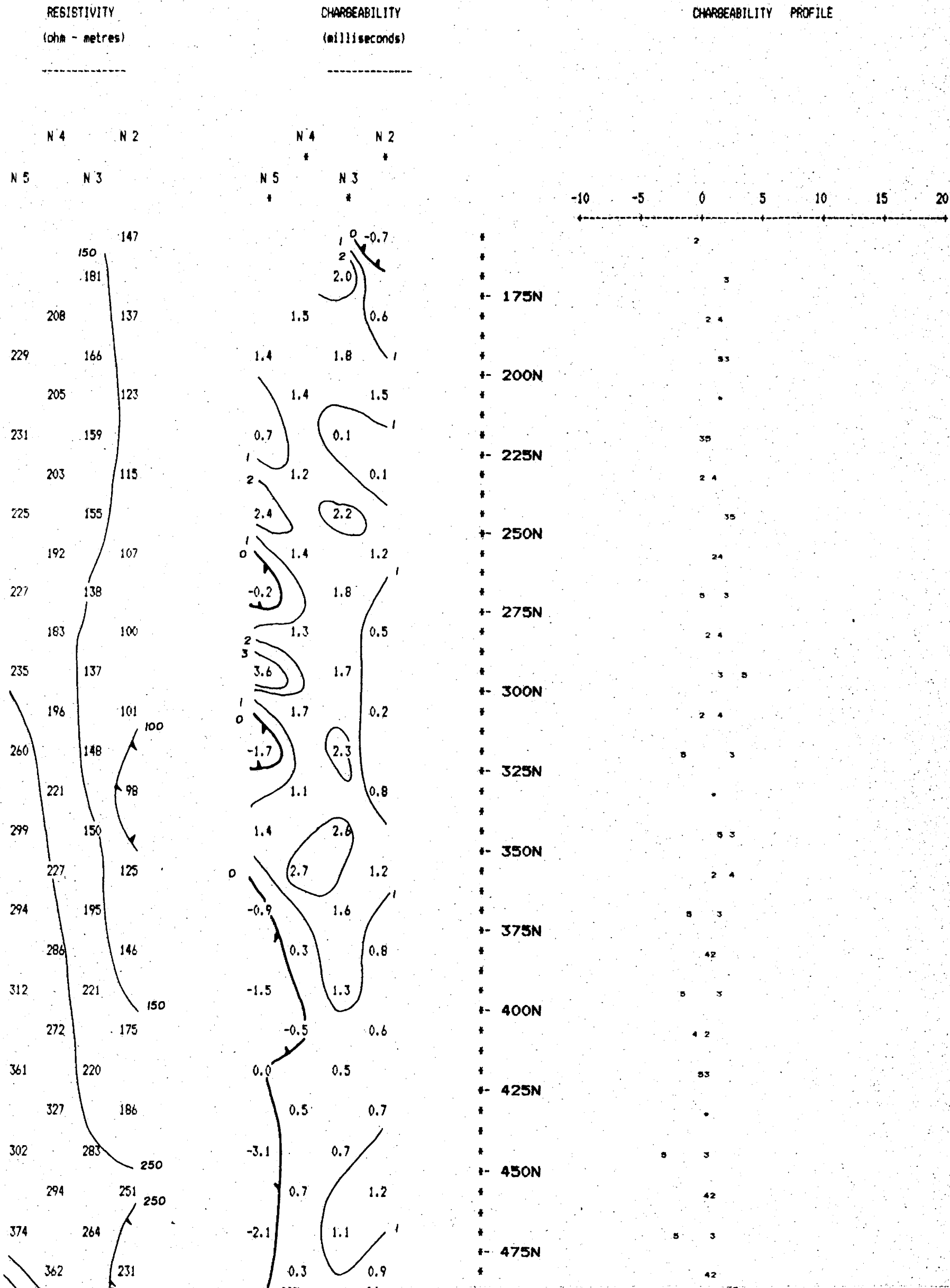


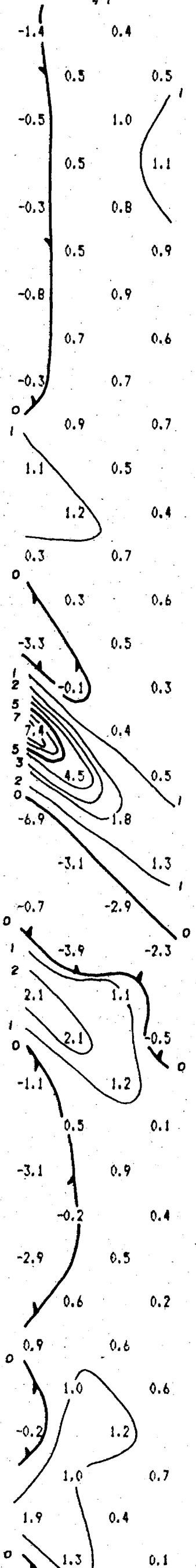
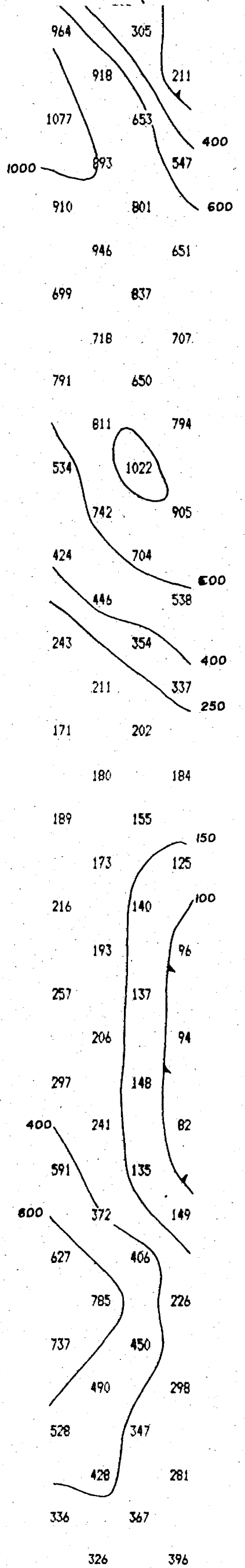
R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for N = 2 to 5

'a' Spacing = 25 M

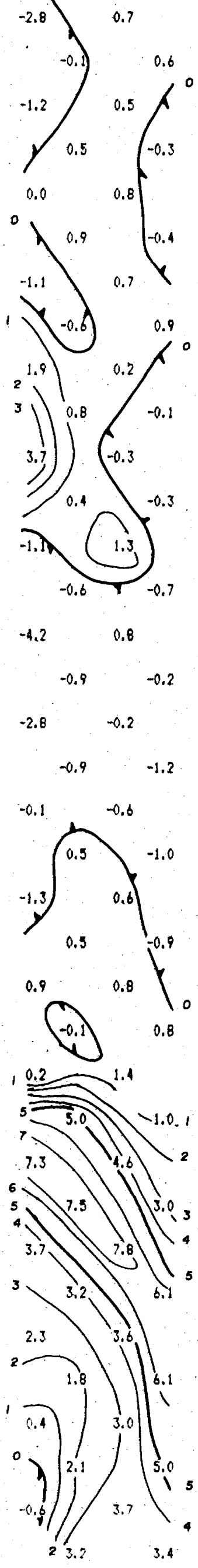
SCALE : 1 : 1250





500N	5	3
525N	5	3
550N	5	3
575N	5	5
600N	5	3
625N	24	35
650N	24	4
675N	5	3
700N	42	3
725N	2	4
750N	4	2
775N	3	5
800N	4	2
825N	5	3
850N	24	3
875N	24	35
900N	24	5
925N	2	4

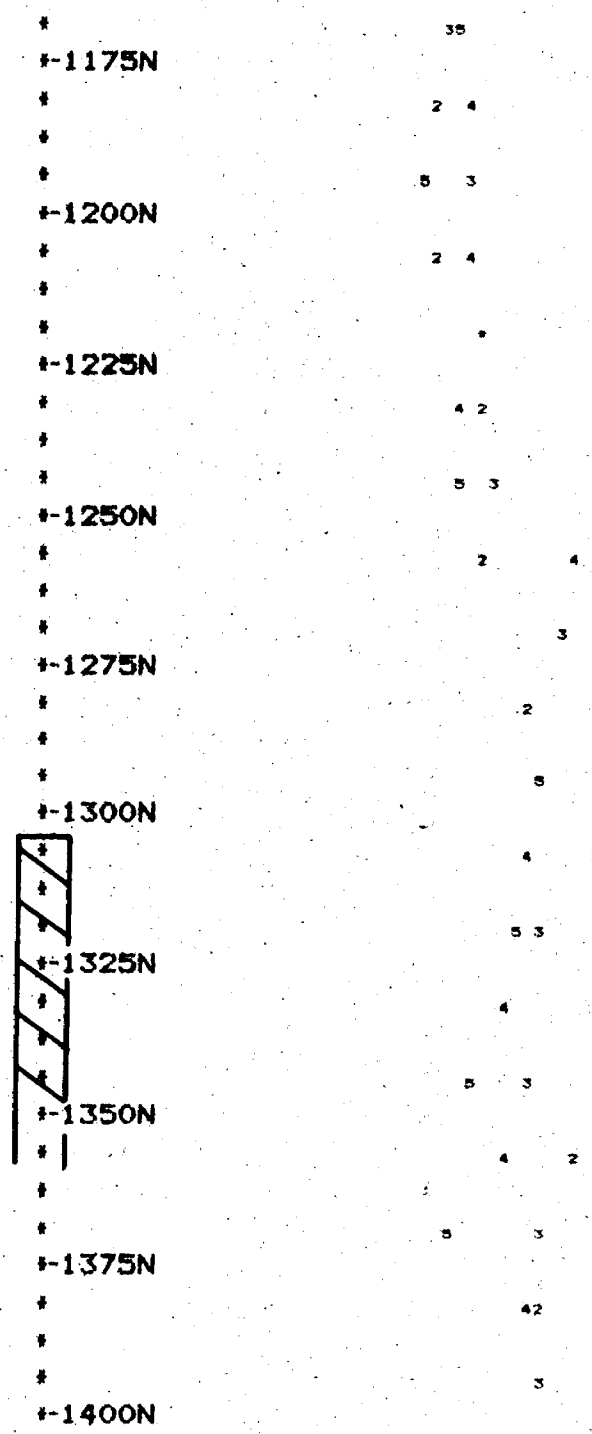
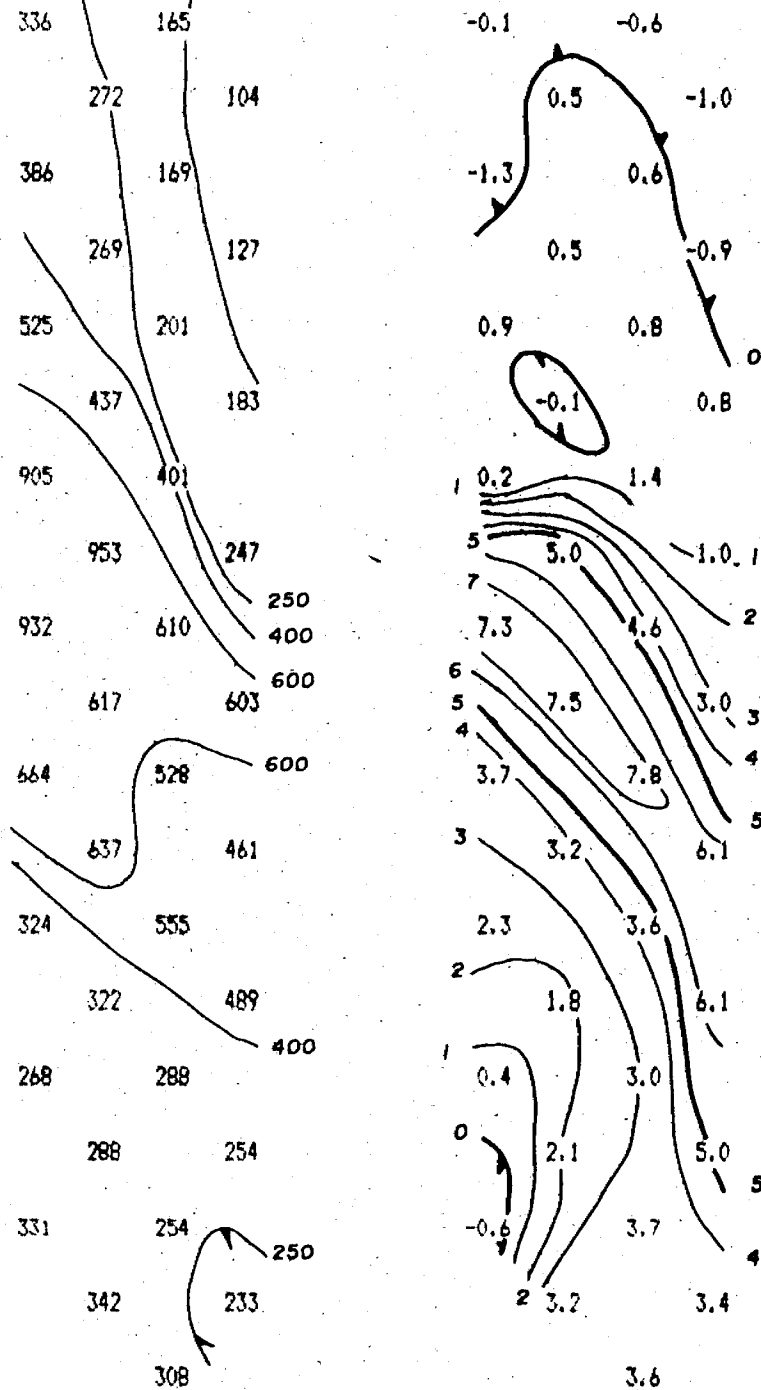
294 365
 365 301
 339 323 250
 344 232
 354 271
 323 177
 326 227 150
 264 133
 295 167
 213 123
 252 165 100
 223 90
 286 131
 194 98
 253 151
 224 106
 282 161
 230 114
 336 165
 272 104
 386 169
 269 127
 525 201
 437 183
 905 401
 953 247
 932 610 250
 617 603 400
 664 528 600
 637 461
 324 555
 322 489
 268 288 400
 288 254
 331 254 250
 342 233



950N
 975N
 1000N
 1025N
 1050N
 1075N
 1100N
 1125N
 1150N
 1175N
 1200N
 1225N
 1250N
 1275N
 1300N
 1325N
 1350N
 1375N

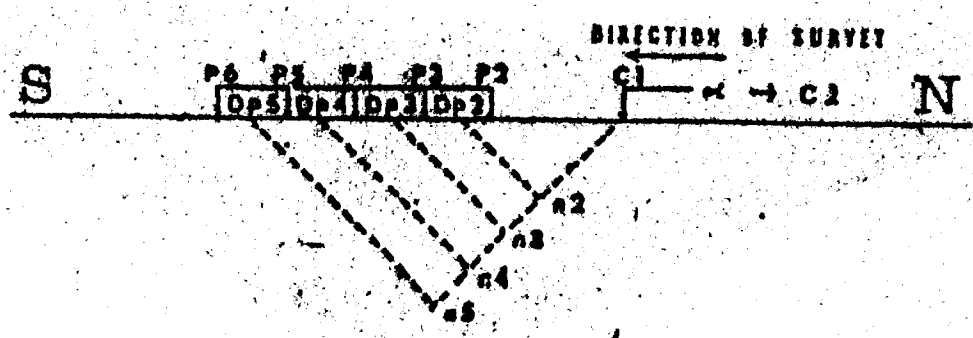
5 3
 42
 3 3
 2 4
 5 3
 2 4
 3 3
 4 2
 3 5
 2 4
 5 3
 5 3
 4 2
 8 3
 35
 2 4
 5 3
 2 4
 5 3
 4 2
 5 3
 2 4
 3 5
 2 4
 5 3
 4 2
 5 3
 4 2
 5 3
 4 2





Property : CHIMP BRID
 Client : TARZAN GOLD INC.

 Date of Survey : 29/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 a Spacing = 25 M

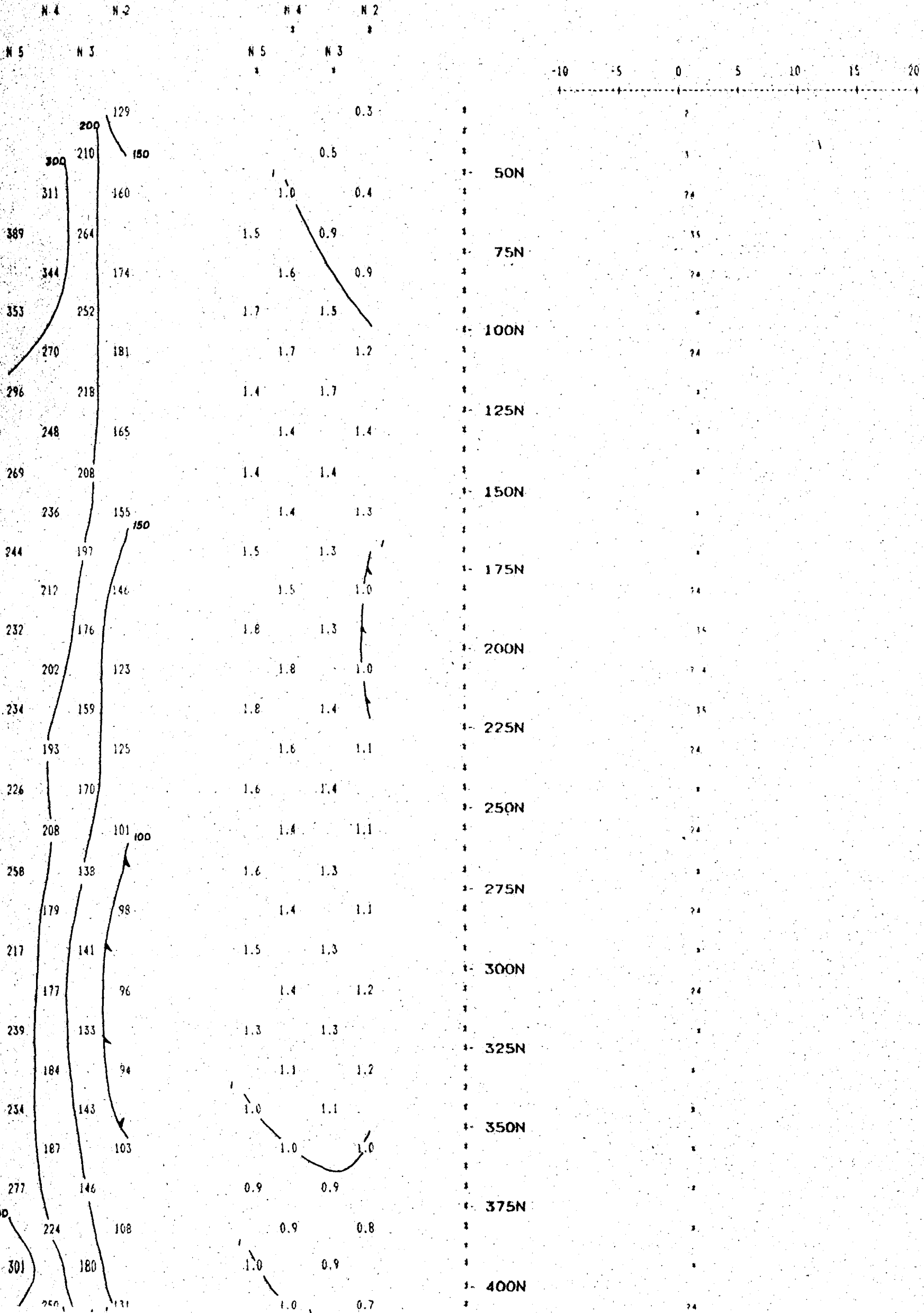
LINE 19 W

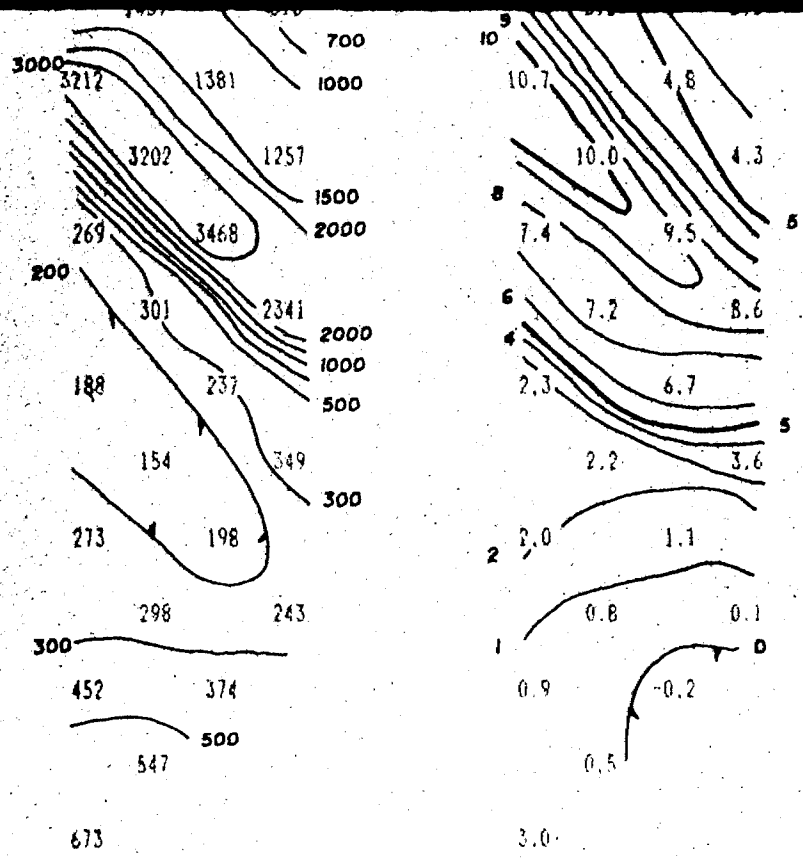
SCALE = 1:1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE





1300N
 1325N
 1350N
 1375N
 1400N
 1425N

Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.

Date of Survey : 20/4/88
 Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

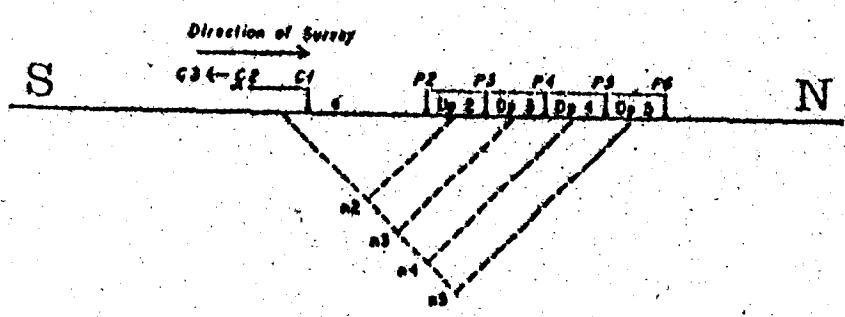
Transmitter : SCINTREX ISO-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



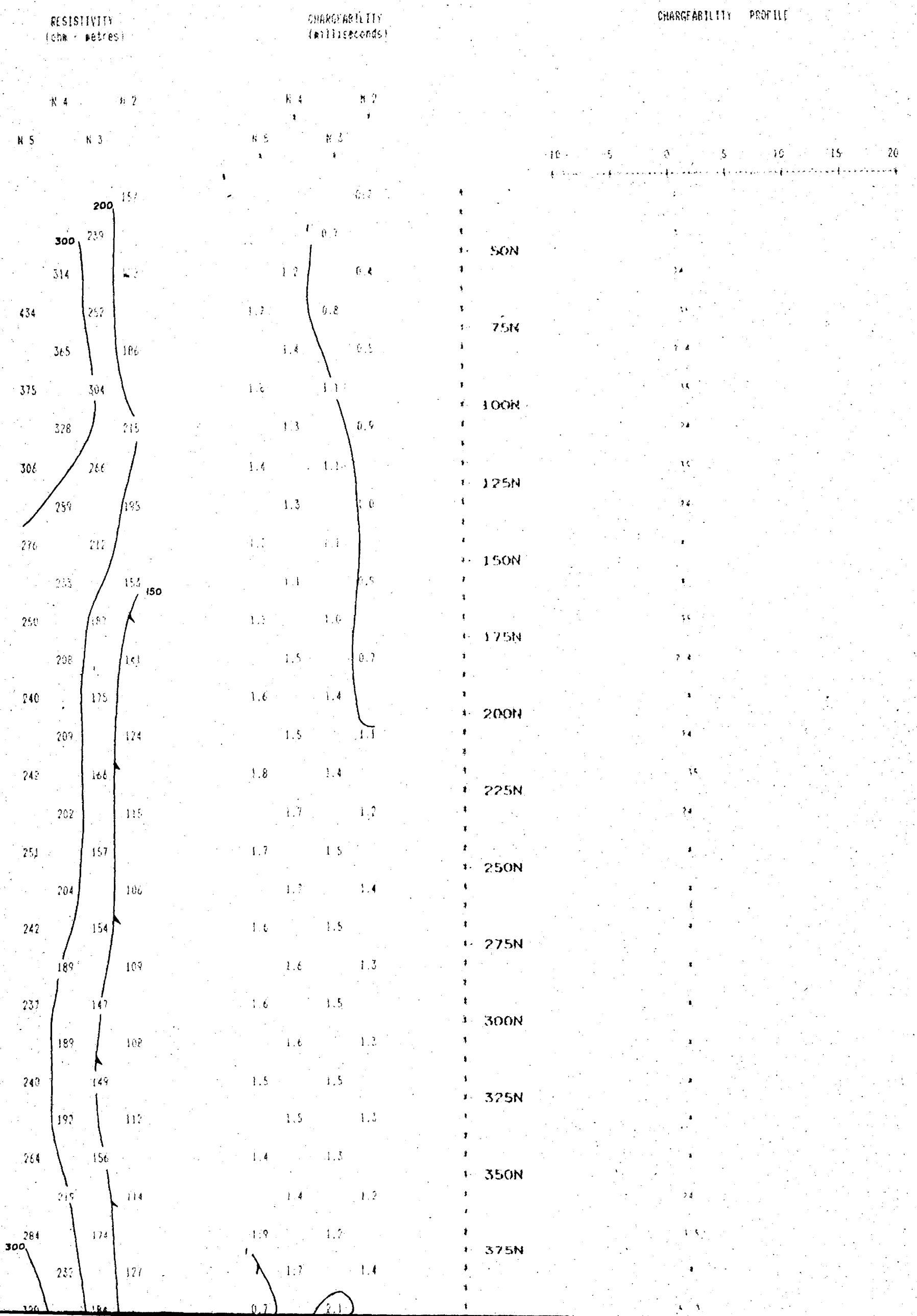
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

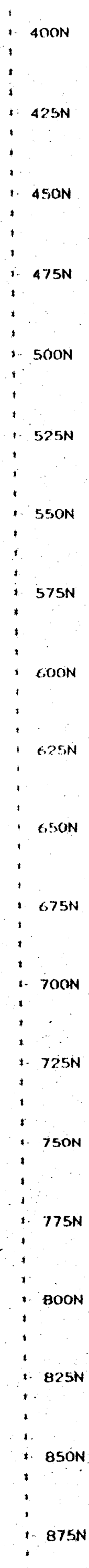
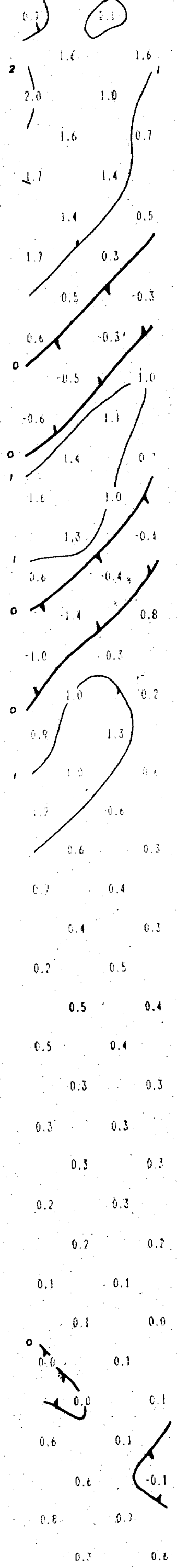
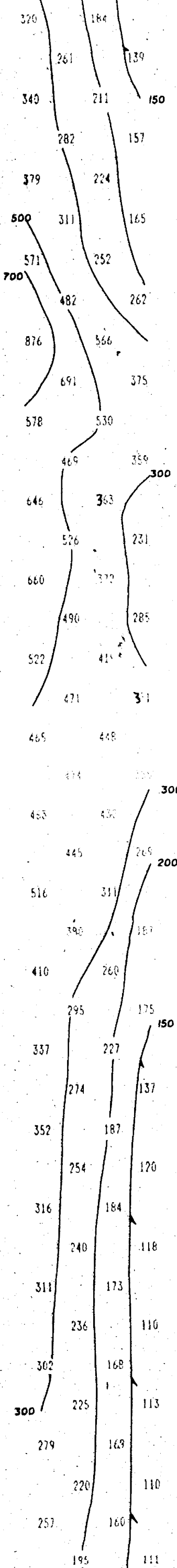
IP Pseudosections for N = 2 to 5

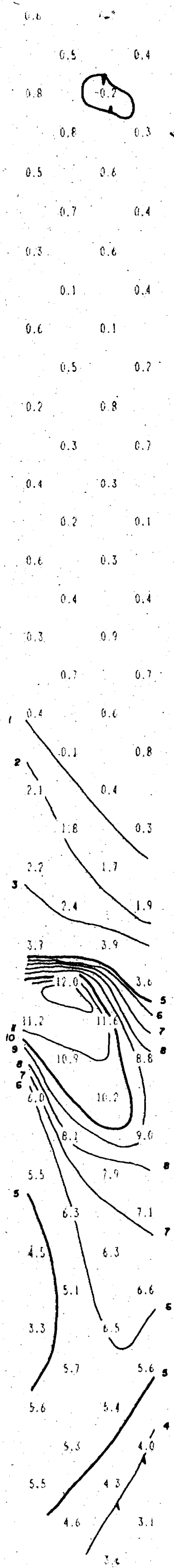
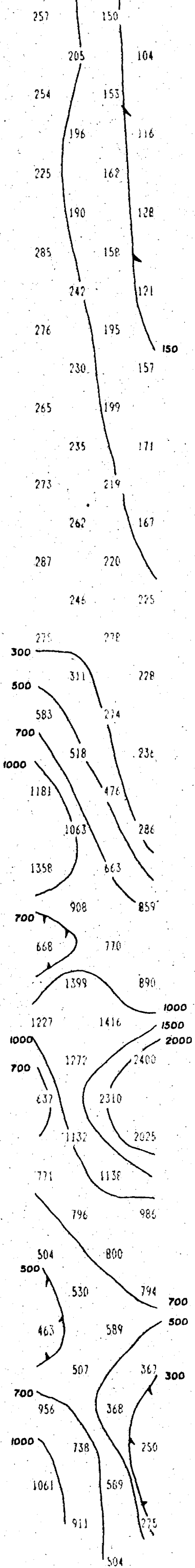
'a' Spacing = 25 M

LINE 20 W

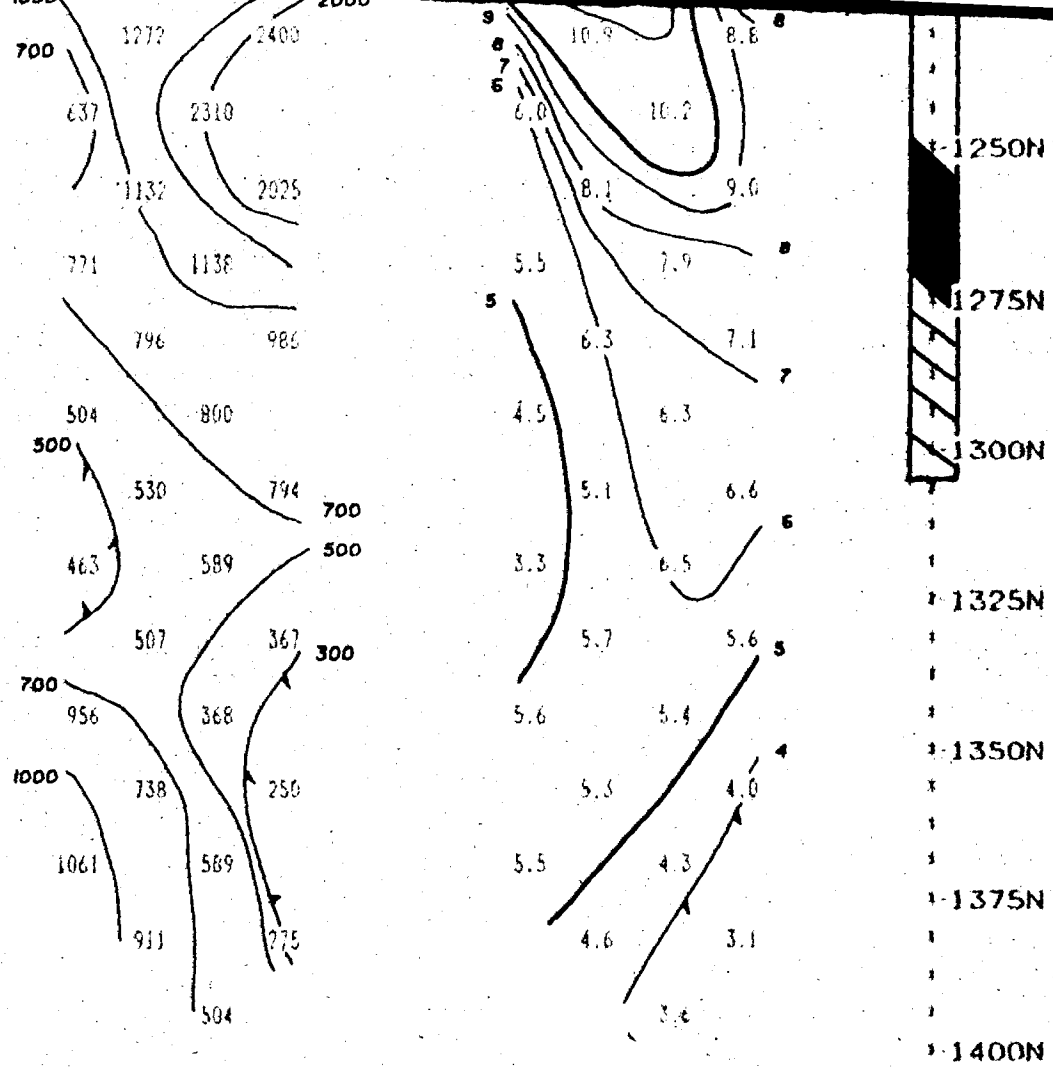
SCALE = 1:1250







- 900N
- 925N
- 950N
- 975N
- 1000N
- 1025N
- 1050N
- 1075N
- 1100N
- 1125N
- 1150N
- 1175N
- 1200N
- 1225N
- 1250N
- 1275N
- 1300N
- 1325N
- 1350N
- 1375N
- 1400N



Property ST LAURENT TWP

Client : TARZAN GOLD INC.

Date of Survey : 21/4/88

Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

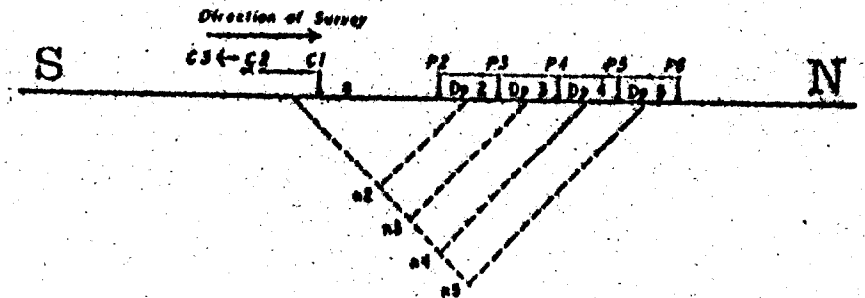
Transmitter : SCINTREX ISO-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms

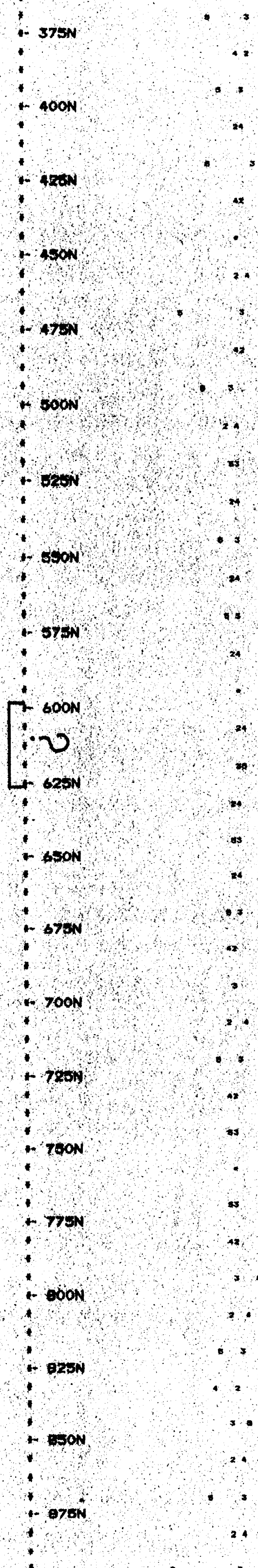
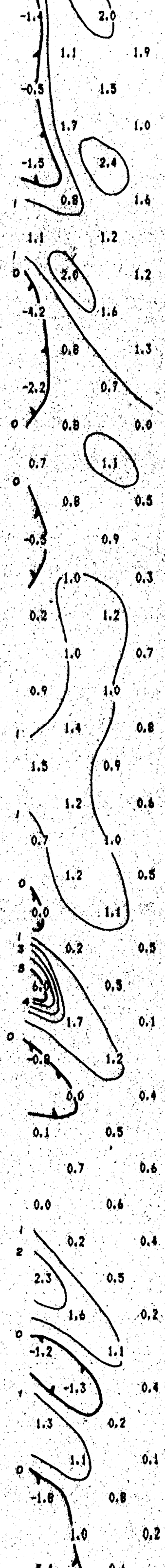
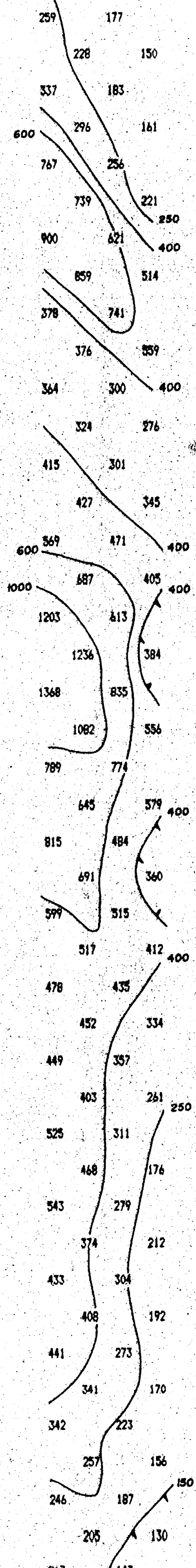


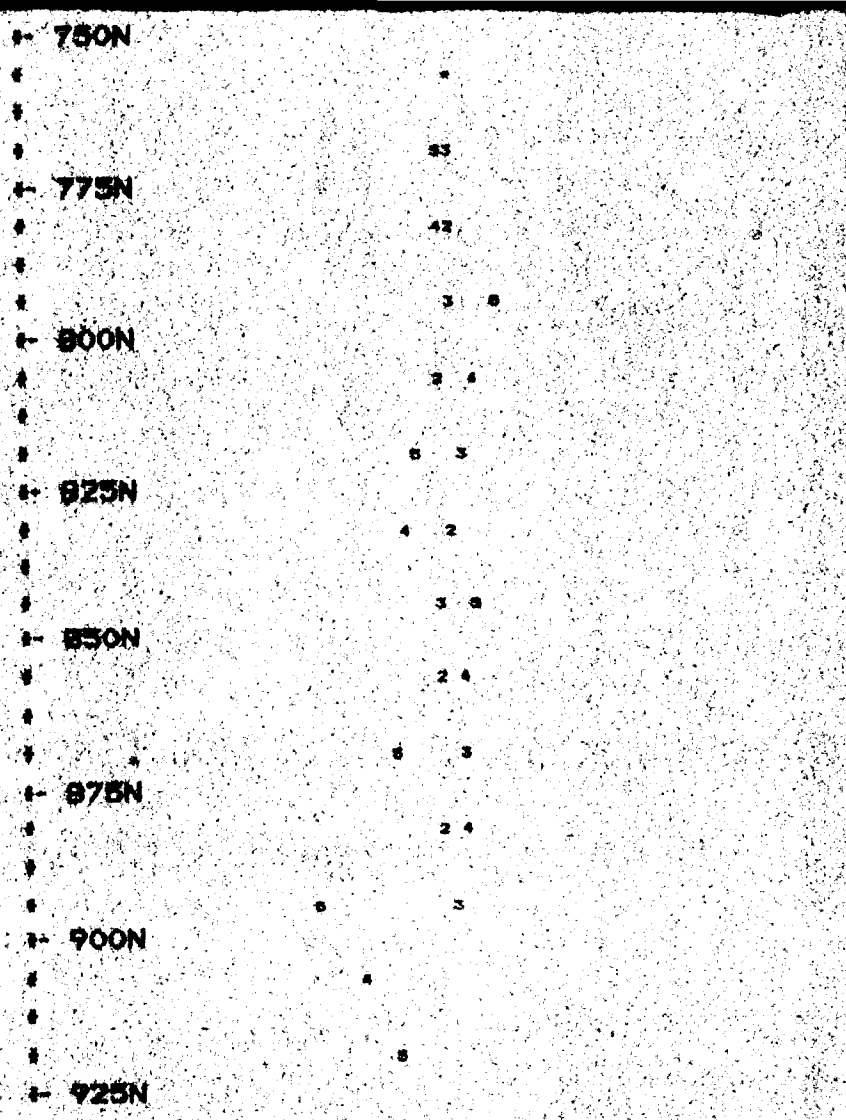
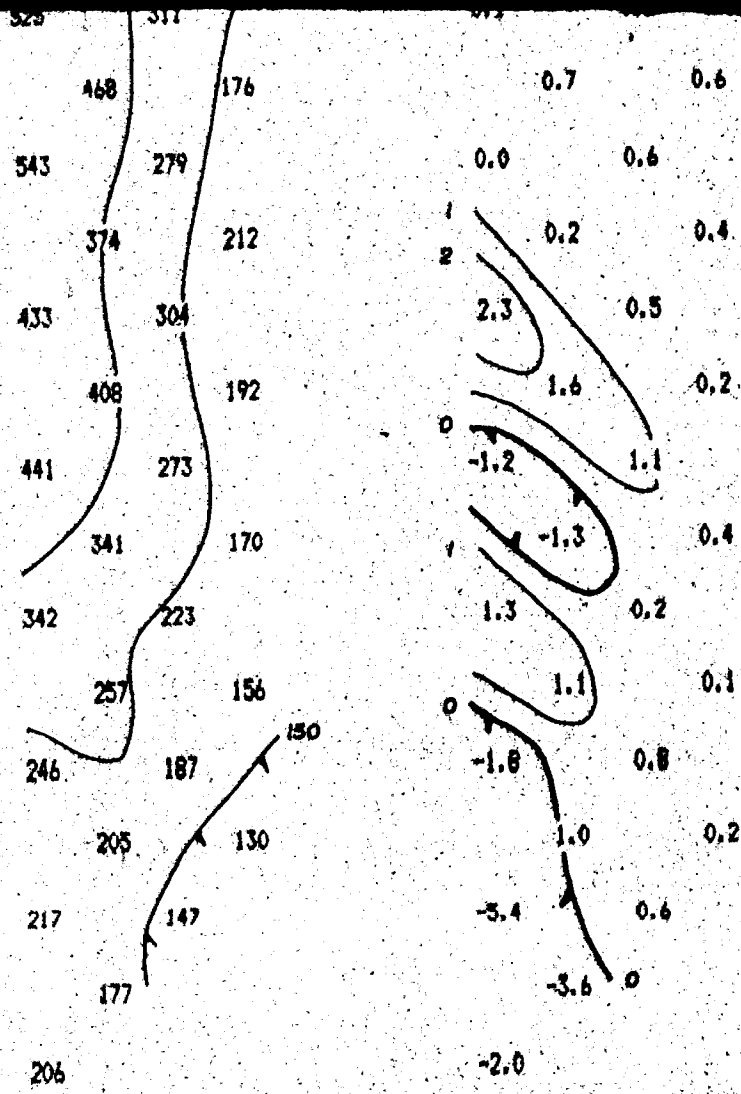
R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for N = 2 to 5

'a' Spacing = 25 M

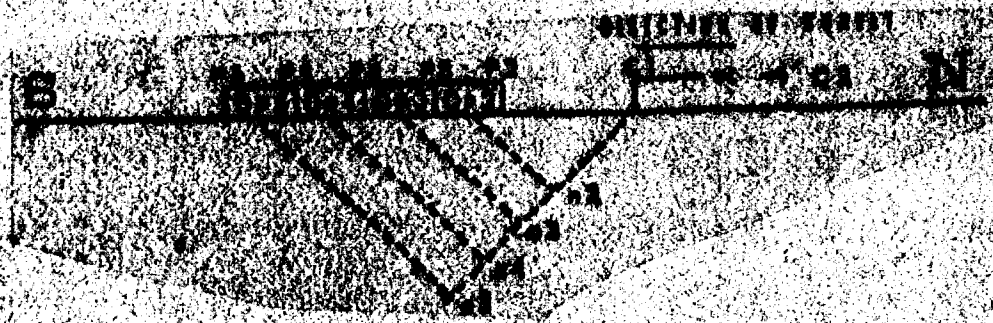
LINE 21 W





Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 27/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TBP-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



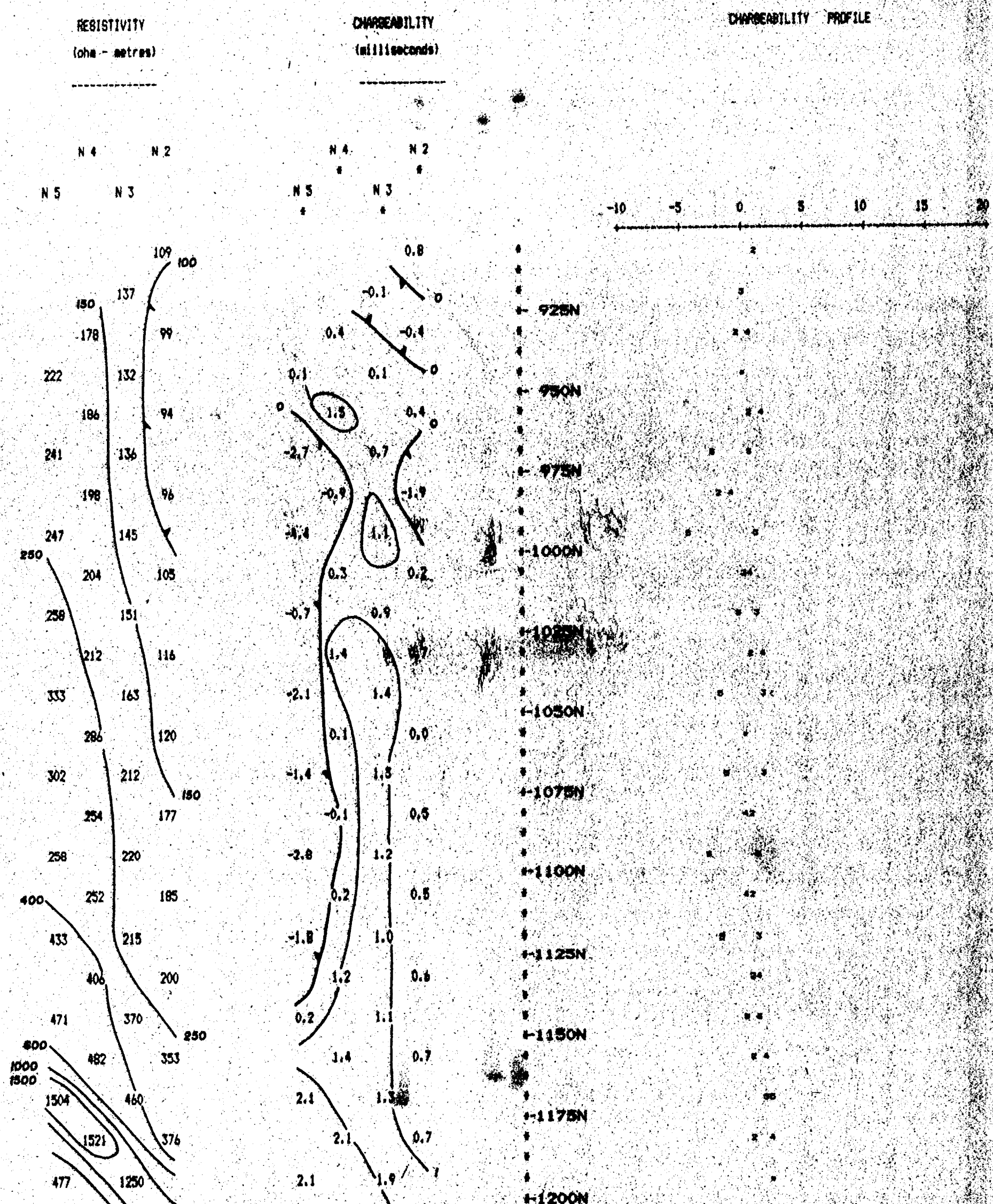
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

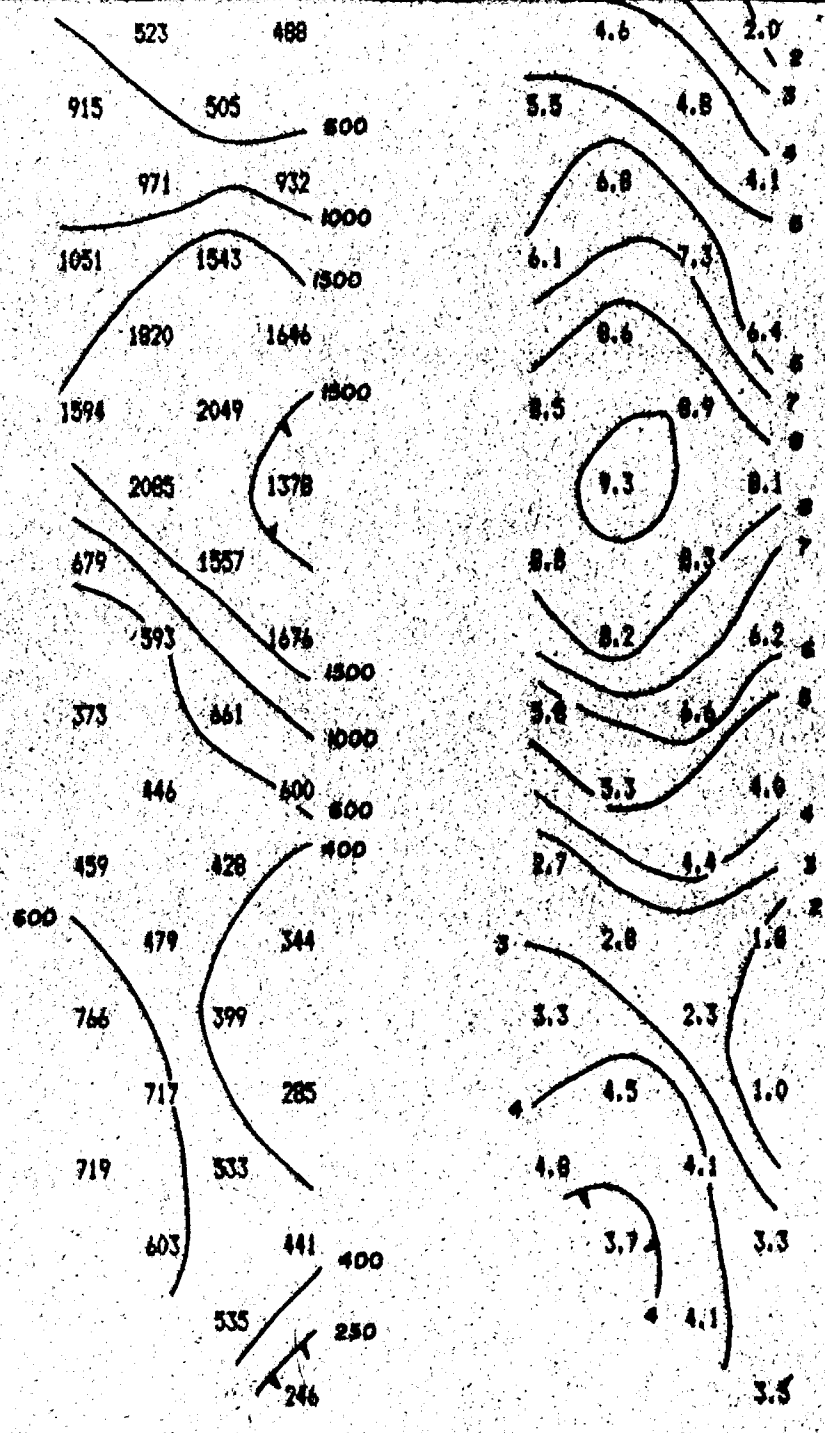
IP Pseudosections for N = 2 to 5

Spacing = 25 M

LINE 22 W

SCALE : 1 : 1250

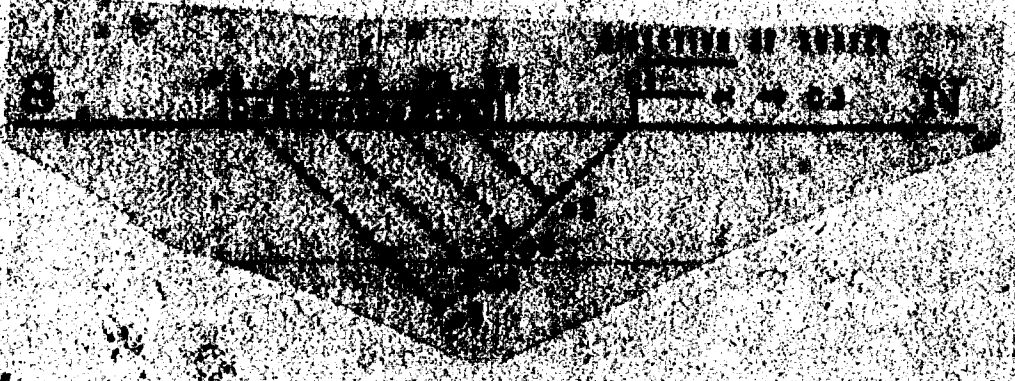




1250N
 1275N
 1300N
 1325N
 1350N
 1375N
 1400N
 1425N
 1450N
 1475N

Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 28/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T80-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : 07
 Delay Time : 450 us
 Integration Time : 900 us



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 Spacing = 25 M

SCALE : 1:1250

RESISTIVITY
(ohm - metres)

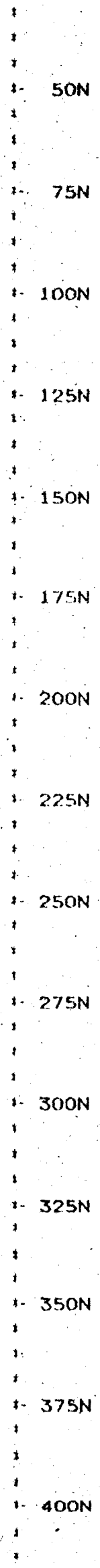
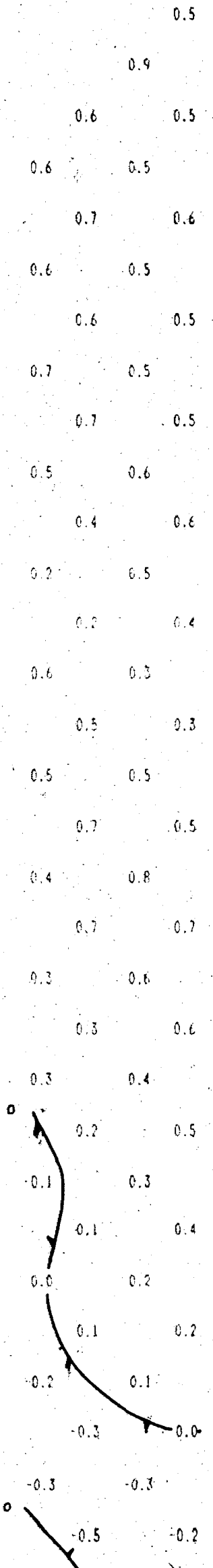
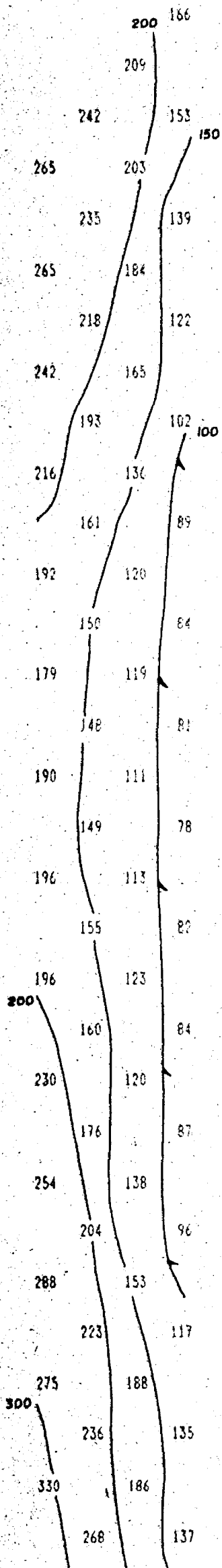
CHARGEABILITY
(milliseconds)

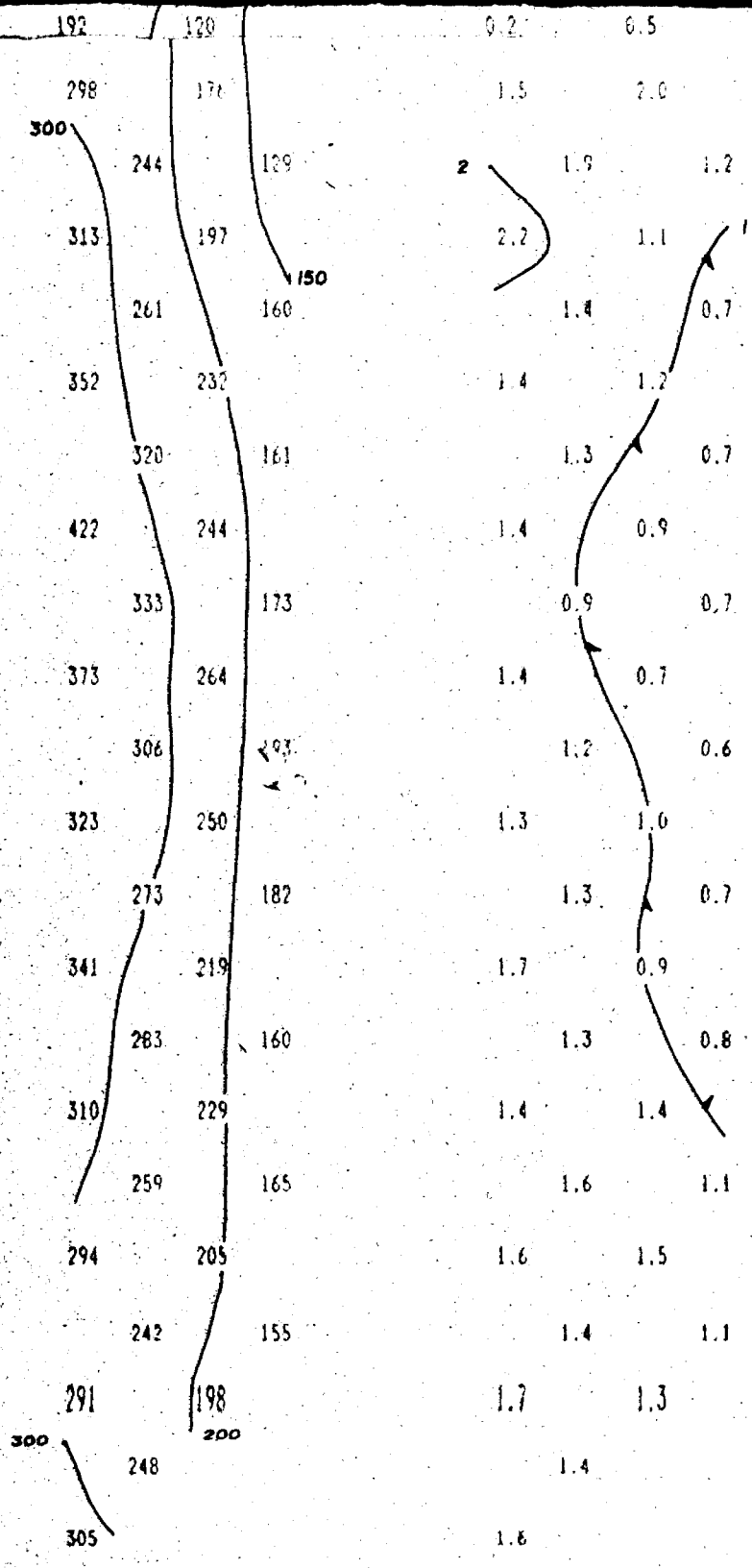
CHARGEABILITY PROFILE

N 4 N 2
N 5 N 3

N 4 N 2
N 5 N 3

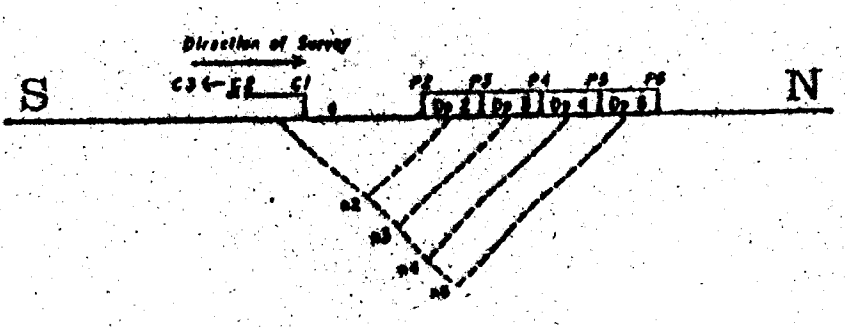
-10 -5 0 5 10 15 20





- 1
- 1
- 1
- 1-1175N
- 1
- 1
- 1
- 1-1200N
- 1
- 1
- 1-1225N
- 1
- 1
- 1
- 1-1250N
- 1
- 1
- 1-1275N
- 1
- 1
- 1
- 1-1300N
- 1
- 1
- 1
- 1-1325N
- 1
- 1
- 1
- 1-1350N
- 1
- 1
- 1
- 1-1375N
- 1
- 1
- 1
- 1-1400N
- 1
- 1
- 1
- 1-1425N

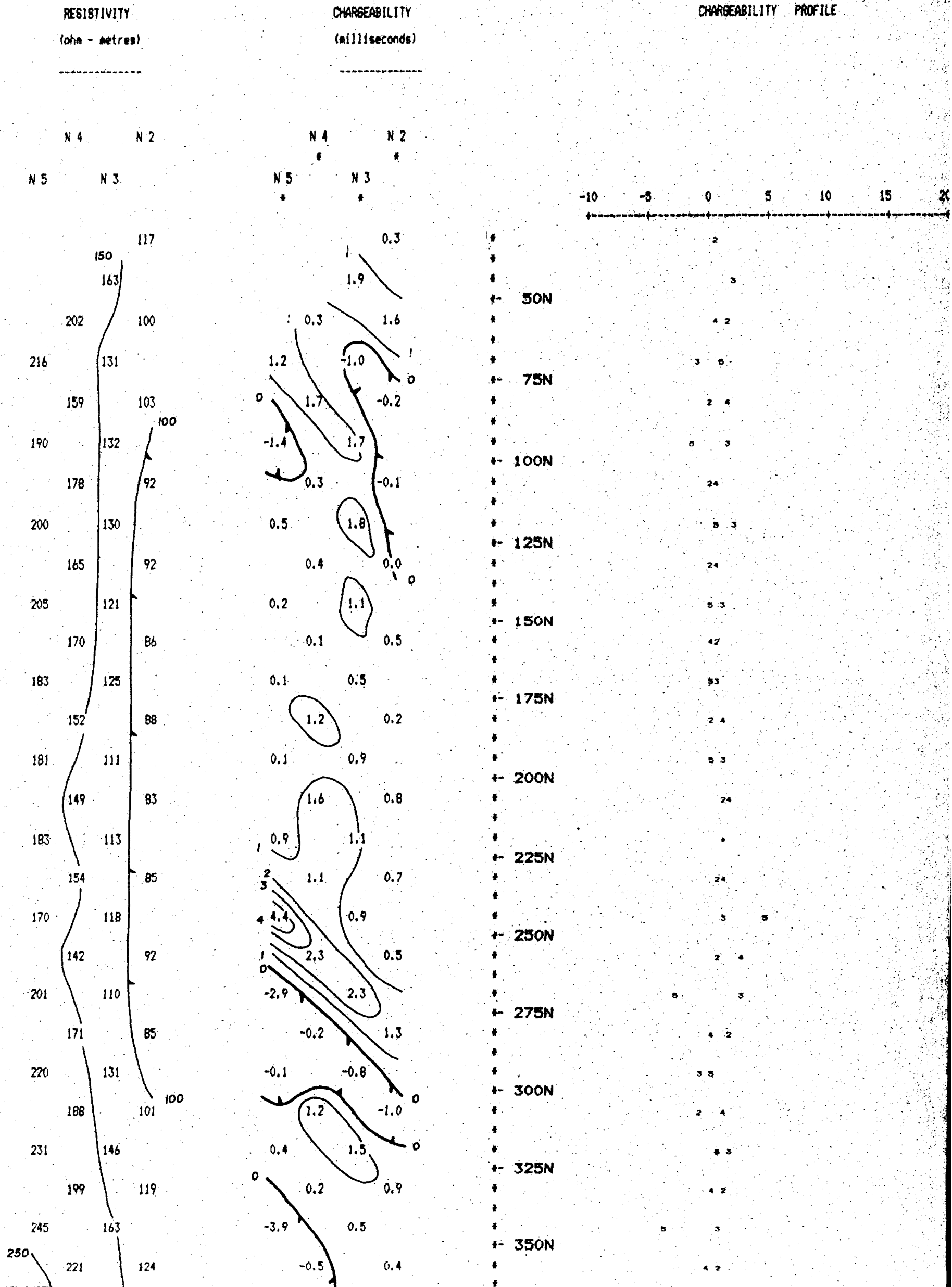
Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.
 Date of Survey : 22/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX TSQ-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms

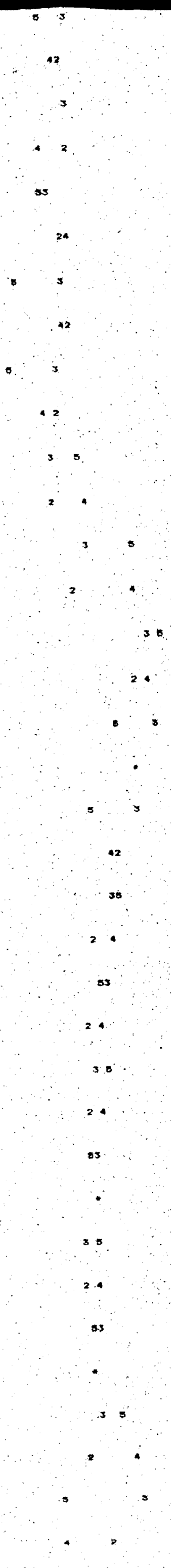
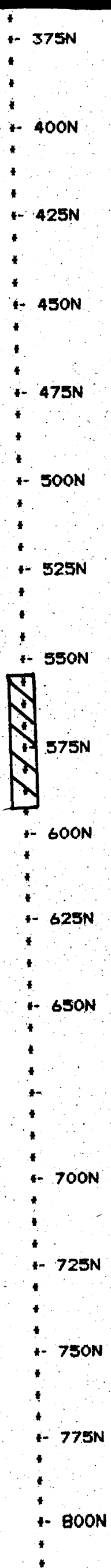
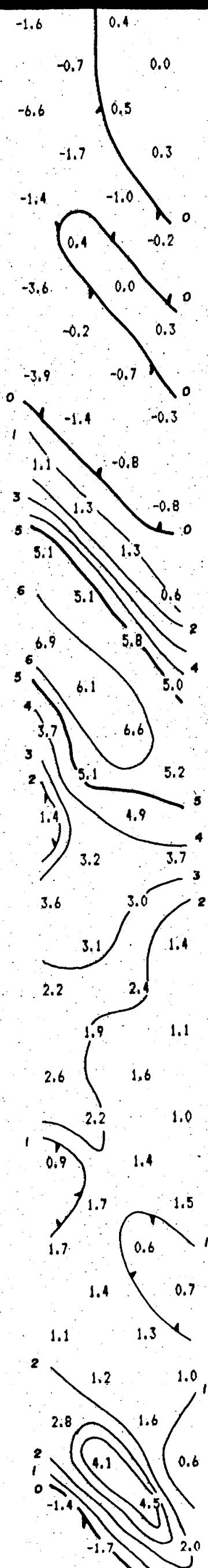
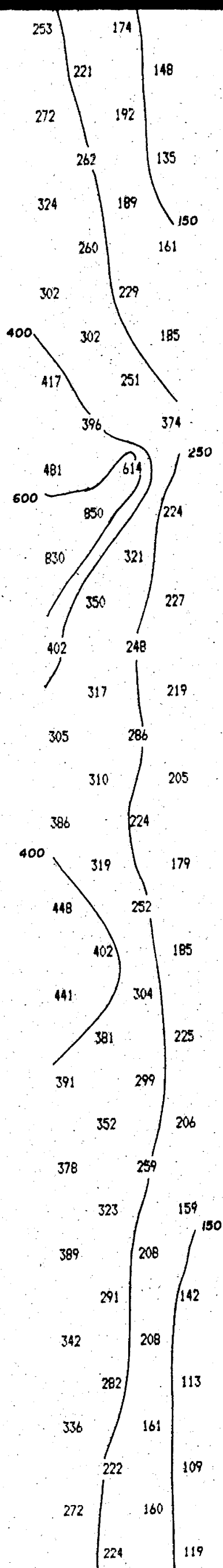


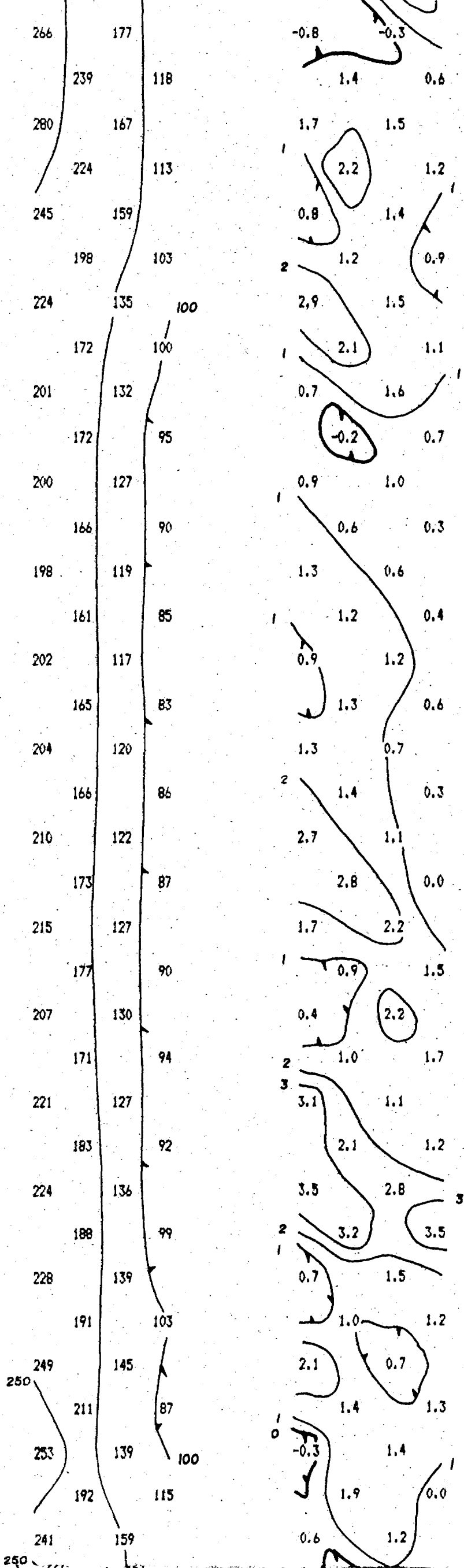
R. S. Middleton
 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 'a' Spacing = 25 M

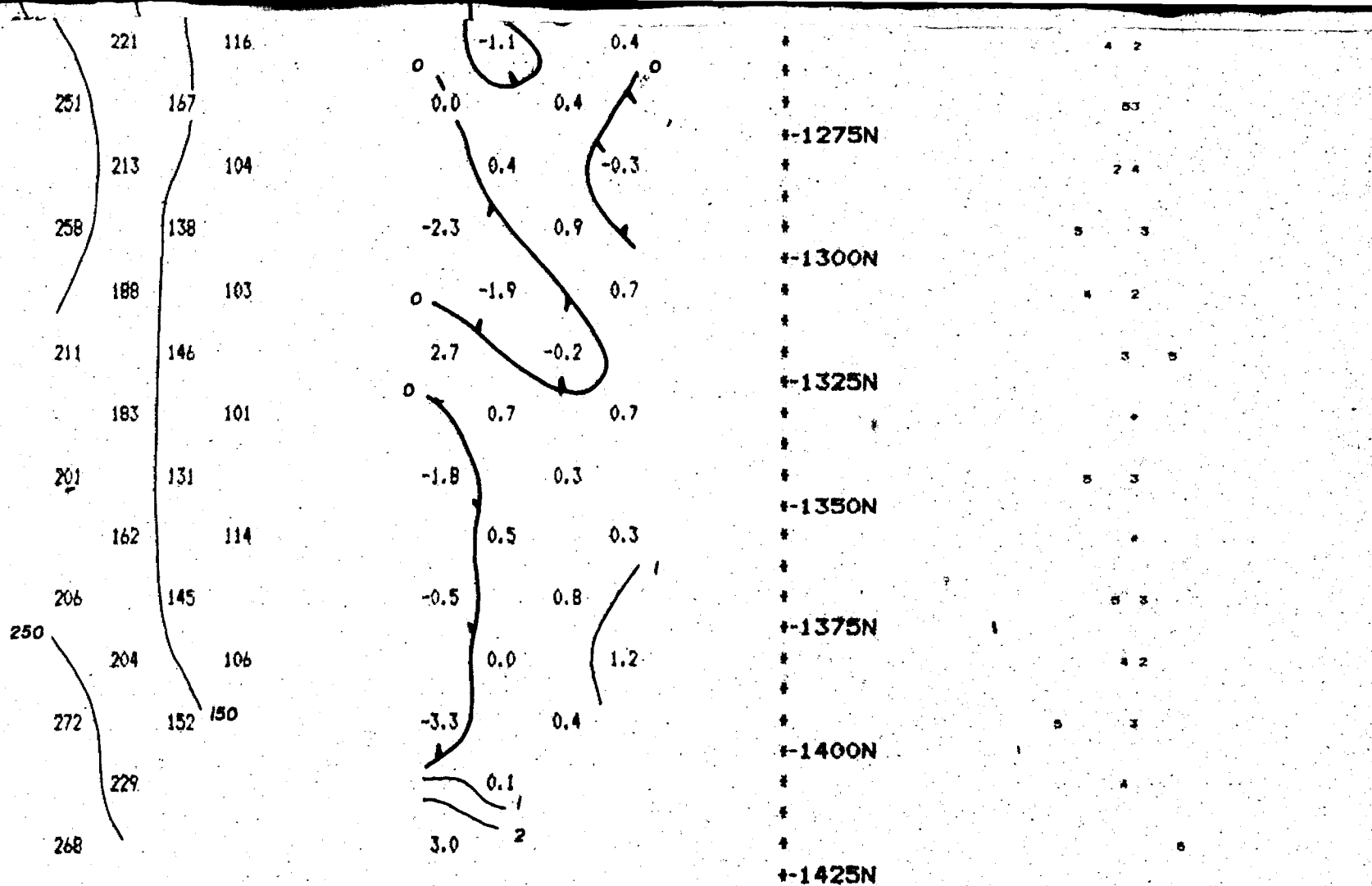
SCALE : 1 : 1250





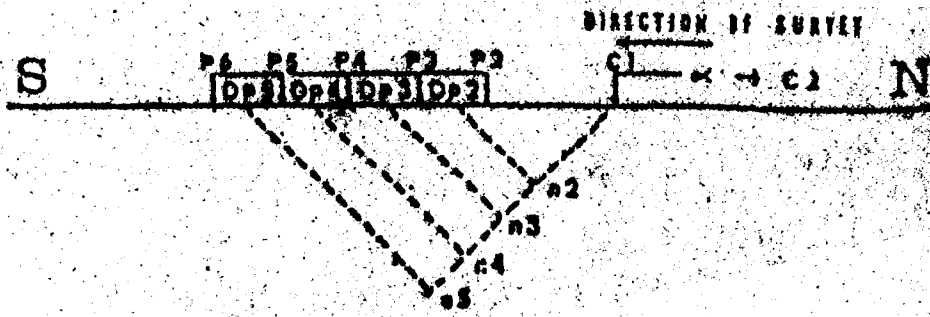


- * 825N 83
- * 850N 24
- * 875N 53
- * 900N 35
- * 925N 42
- * 950N
- * 975N 35
- * 1000N 24
- * 1025N 35
- * 1050N 24
- * 1075N 53
- * 1100N 42
- * 1125N 35
- * 1150N 42
- * 1175N 53
- * 1200N 35
- * 1225N 24
- * 1250N 53



Property : CHIMP GRID
 Client : TARZAN GOLD INC.

Date of Survey : 26/3/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T80-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5

'a' Spacing = 25 M

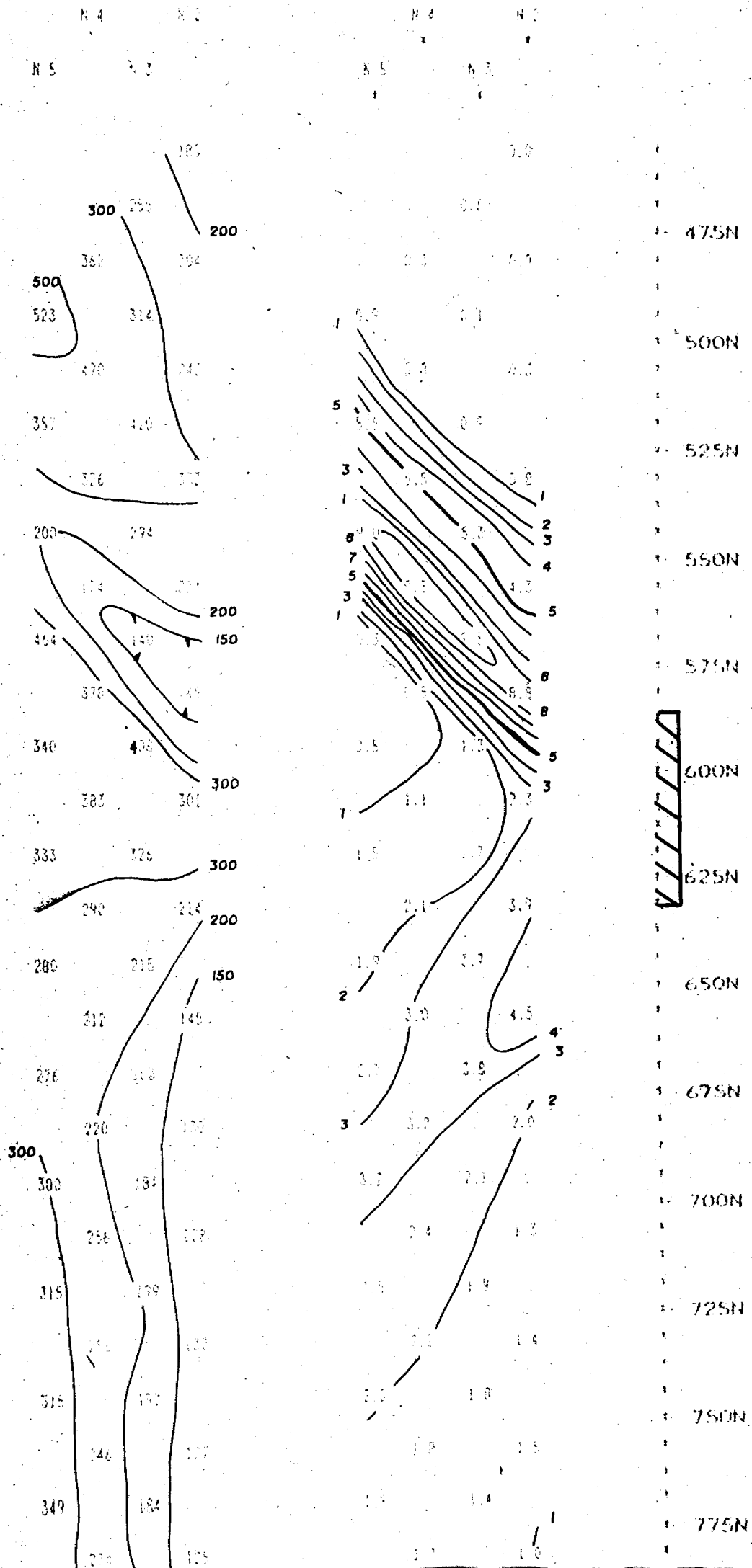
LINE 25 W

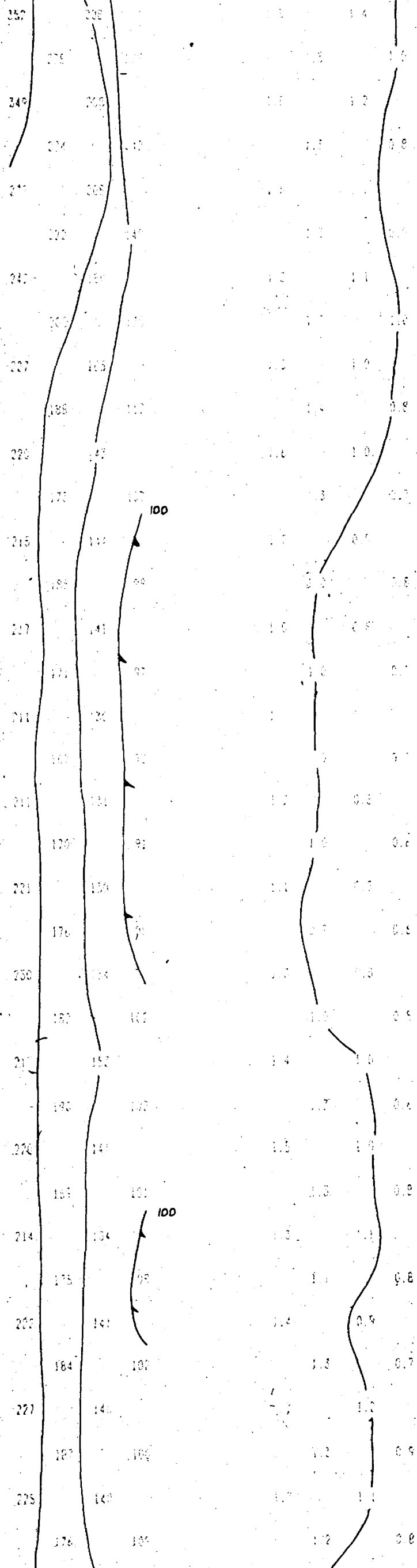
SCALE : 1 : 1250

RESISTIVITY
(ohm - metres)

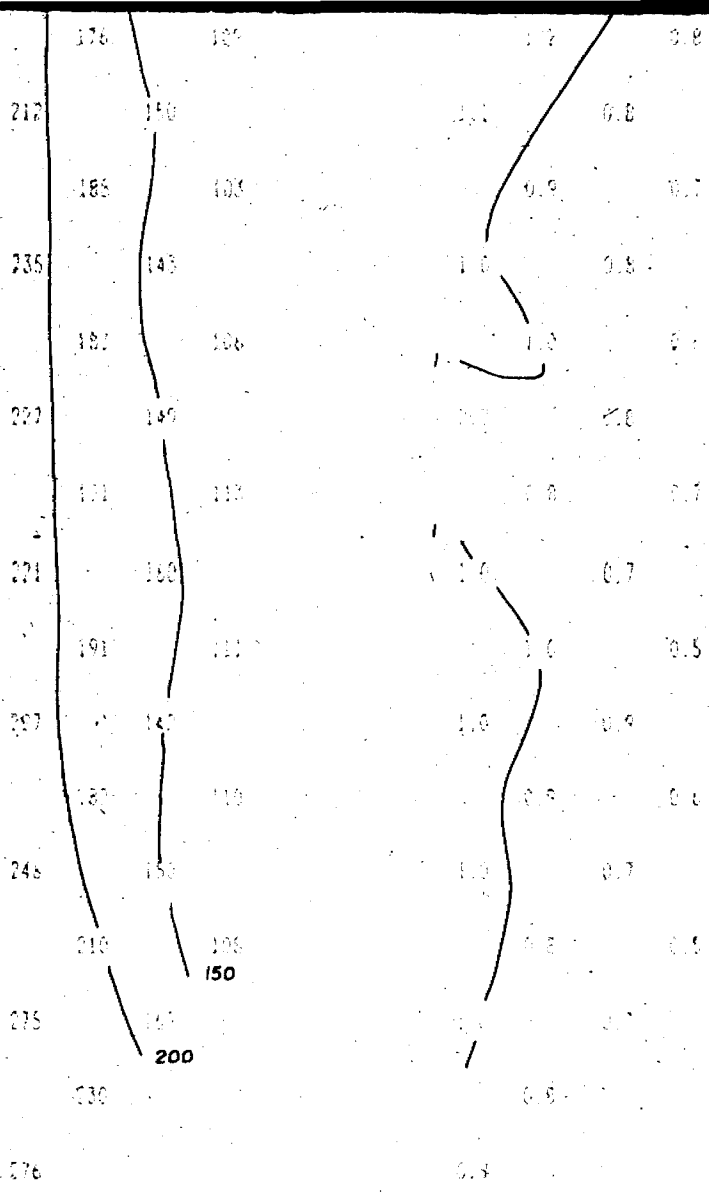
CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE





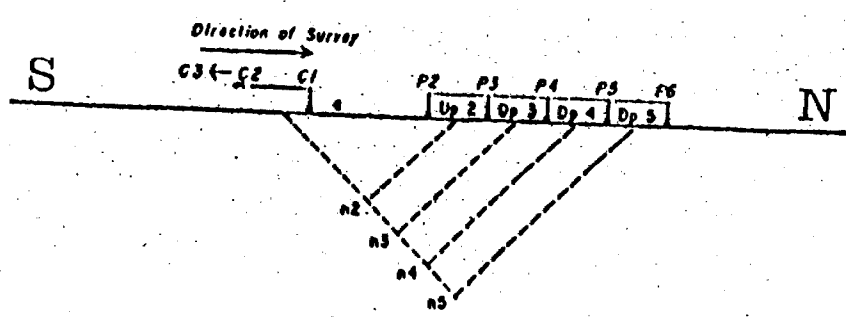
- 800N
- 825N
- 850N
- 875N
- 900N
- 925N
- 950N
- 975N
- 1000N
- 1025N
- 1050N
- 1075N
- 1100N
- 1125N
- 1150N
- 1175N
- 1200N
- 1225N



1250N
 1275N
 1300N
 1325N
 1350N
 1375N
 1400N
 1425N

Property : ST LAURENT TWP
 Client : YARZAN GOLD INC.

Date of Survey : 23/4/88
 Operator : IAA
 Electrode Array : POLC - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX 150-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5

a Spacing = 25 M

SCALE : 1:1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

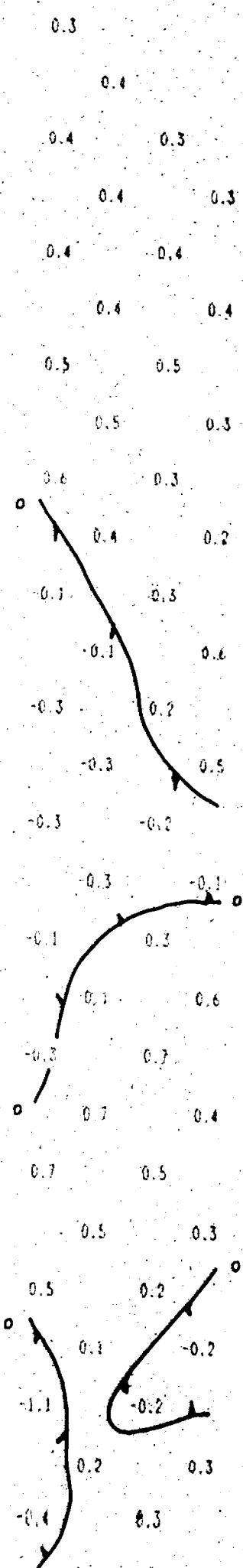
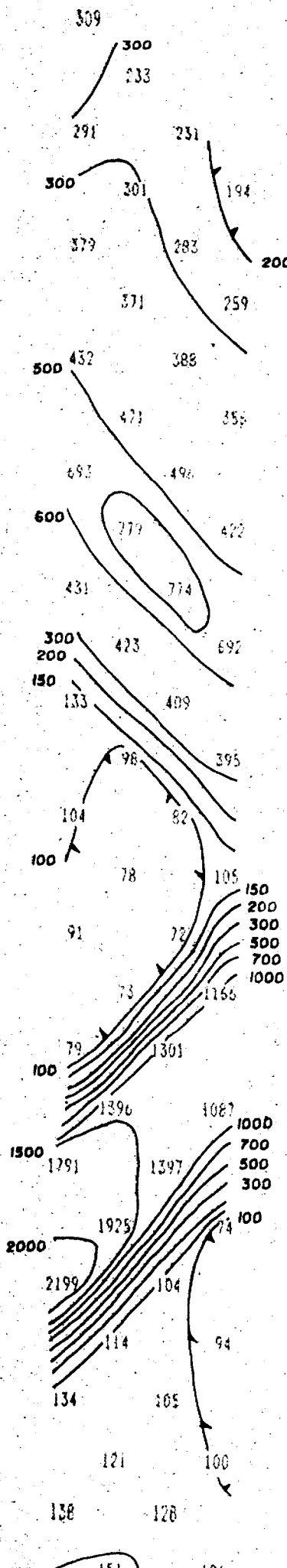
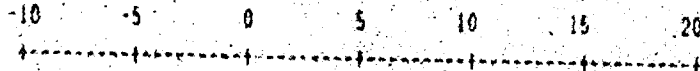
CHARGEABILITY PROFILE

N 4 N 2

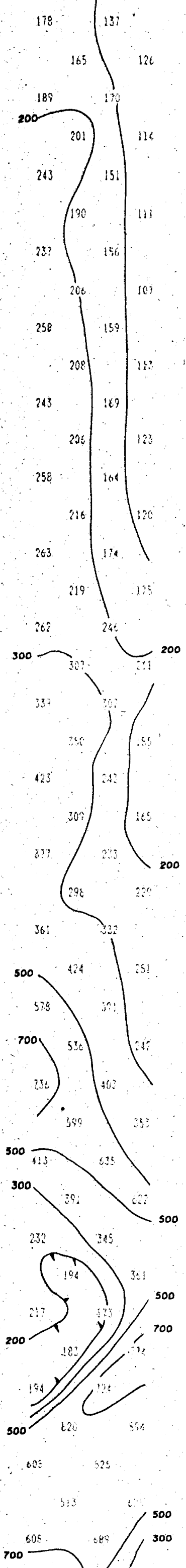
N 4 N 2

N 5 N 3

N 5 N 3

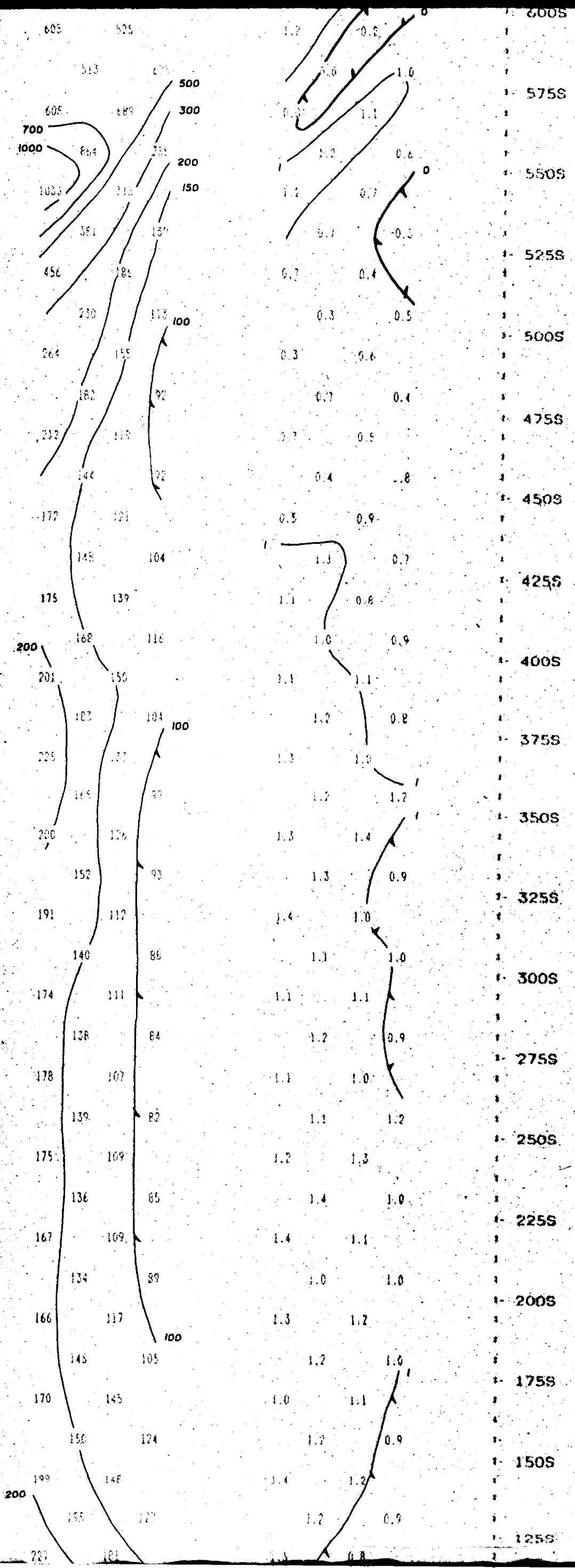


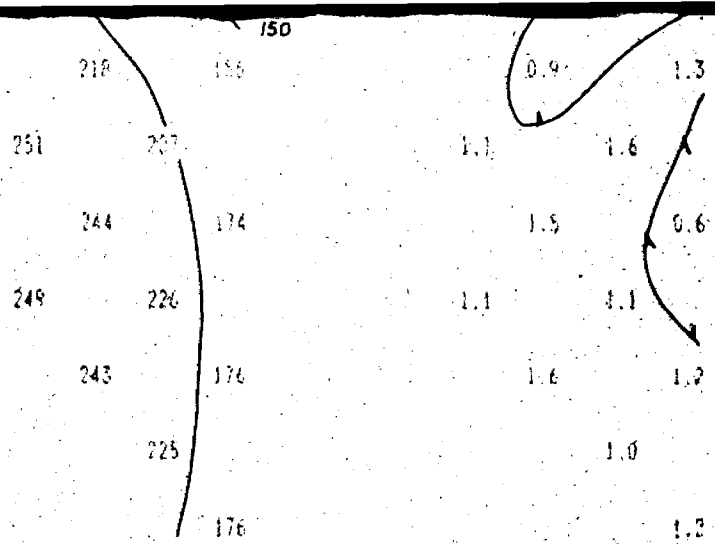
- 14758
- 14508
- 14258
- 14008
- 13758
- 13508
- 13258
- 13008
- 12758
- 12508
- 12258
- 12008
- 11758
- 11508
- 11258
- 11008



0.2	0.3
0.3	0.1
0.2	0.1
0.1	0.2
0.1	0.2
0.2	0.3
0.2	0.3
0.3	0.2
0.3	0.2
0.4	0.3
0.4	0.4
0.2	0.3
0.3	0.2
0.4	0.3
0.4	0.3
0.3	0.3
0.4	0.4
0.4	0.4
0.5	0.4
0.4	0.3
0.4	0.4
0.5	0.7
0.4	0.8
0.9	0.2
0.9	0.3
0.4	0.6
0.5	0.7
0.7	0.4
0.4	0.6
0.6	0.2
0.7	0.7
0.5	0.7
0.5	0.1
0.0	2.1
0.0	1.9
1.5	0.4
1.2	0.2
0.6	1.0
0.5	1.1

- 1075S
- 1050S
- 1025S
- 1000S
- 975S
- 950S
- 925S
- 900S
- 875S
- 850S
- 825S
- 800S
- 775S
- 750S
- 725S
- 700S
- 675S
- 650S
- 625S
- 600S
- 575S

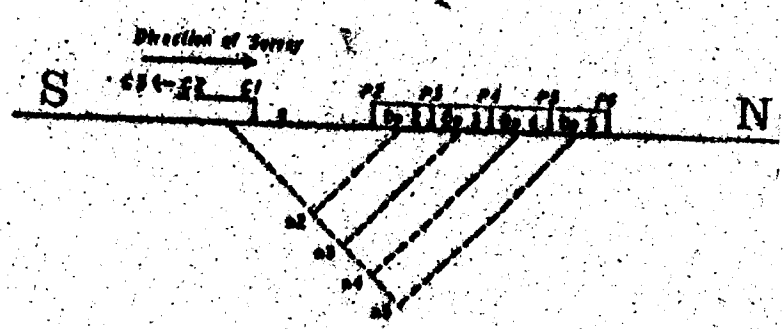




100S
75S
50S
25S

Property : ST LAURENT TWP
Client : TARZAN GOLD INC.

Date of Survey : 24/4/88
Operator : TAA
Electrode Array : POLE - DIPOLE
Mode : TIME DOMAIN
Receiver : SCINTREX IPR-11
Transmitter : SCINTREX T90-3
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #7
Delay Time : 450 ms
Integration Time : 900 ms



R. S. MIDDLETON EXPLORATION
SERVICES INC.

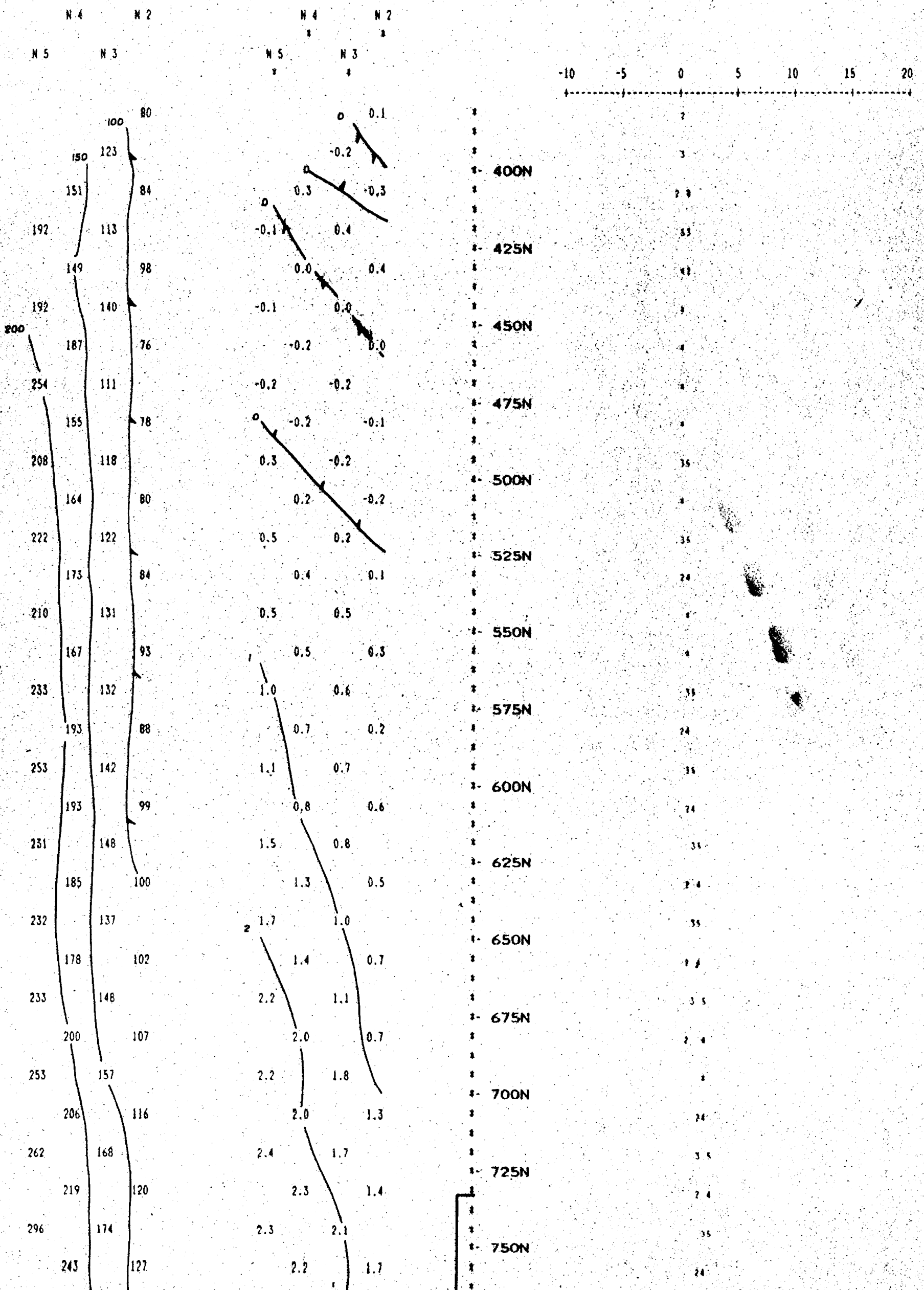
IP Pseudosections for N = 2 to 5
'a' Spacing = 25 M

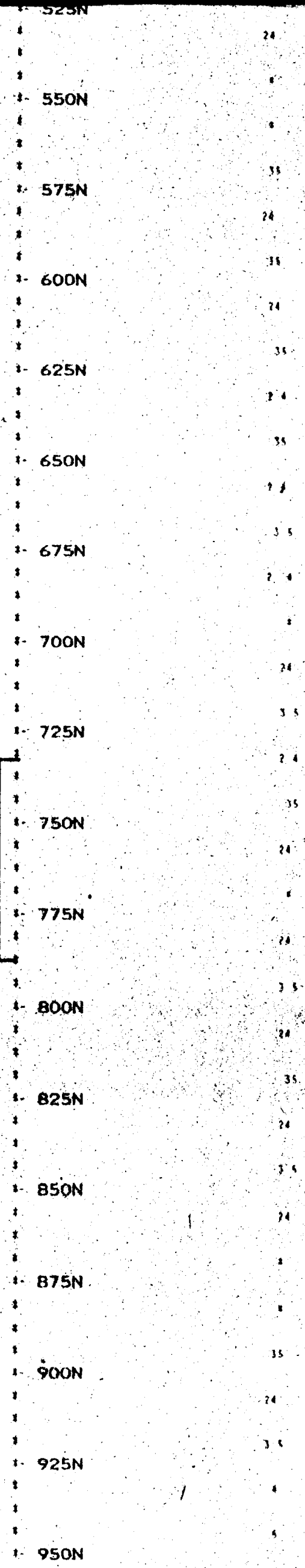
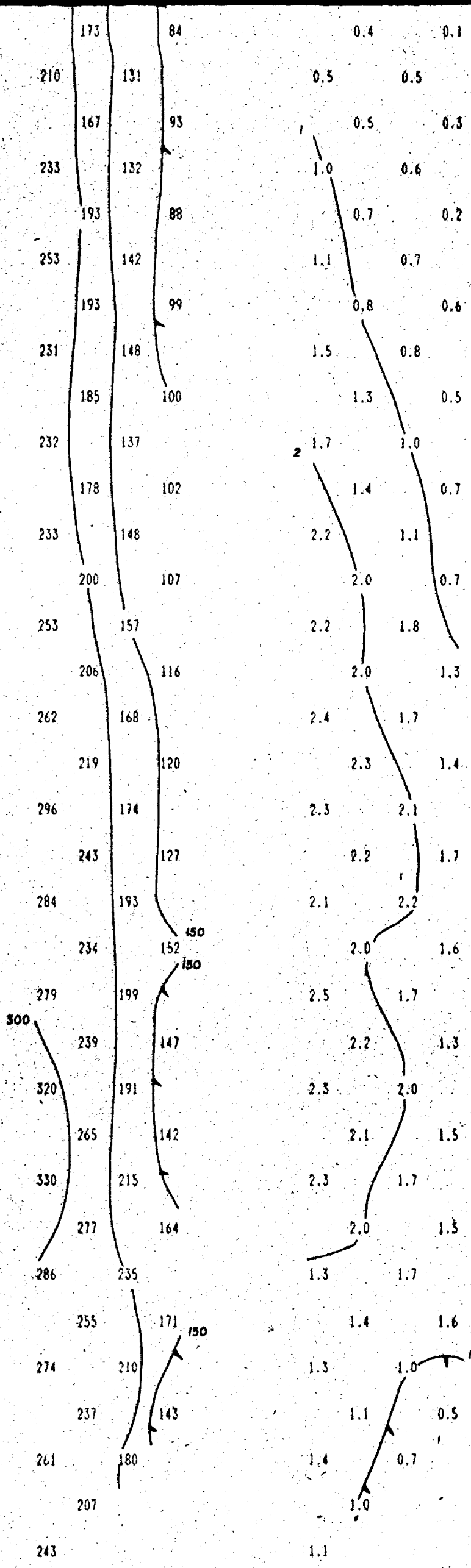
SCALE = 1:1250

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

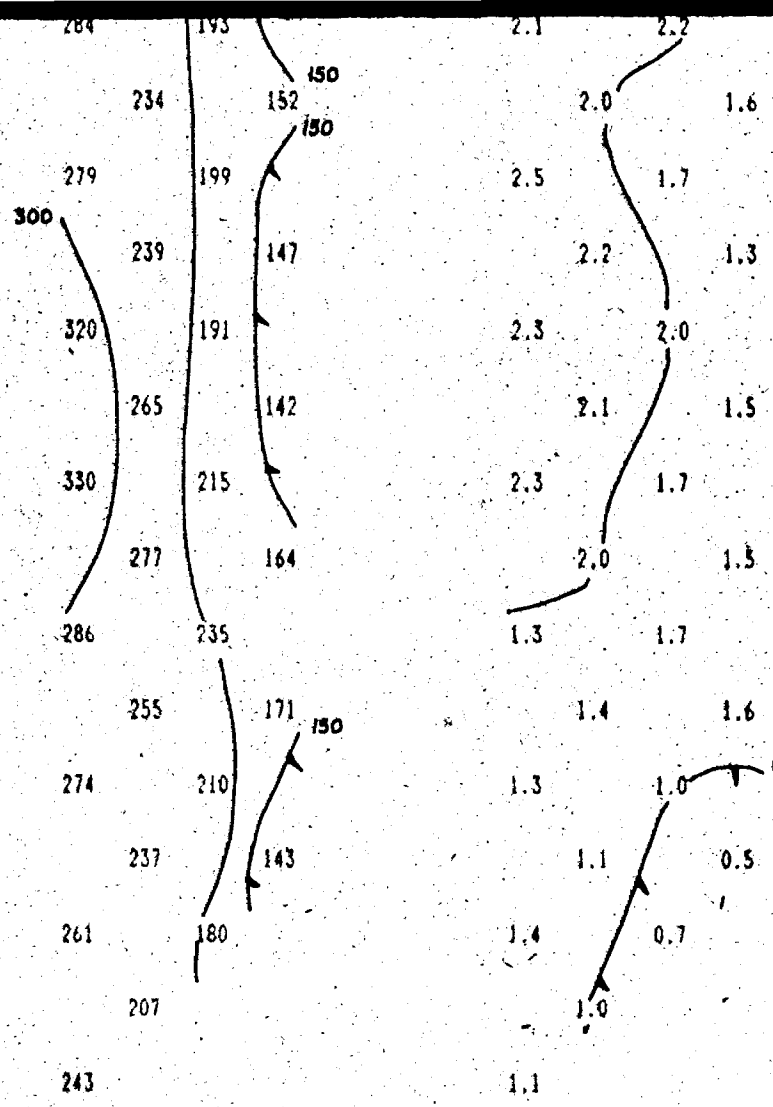
CHARGEABILITY PROFILE





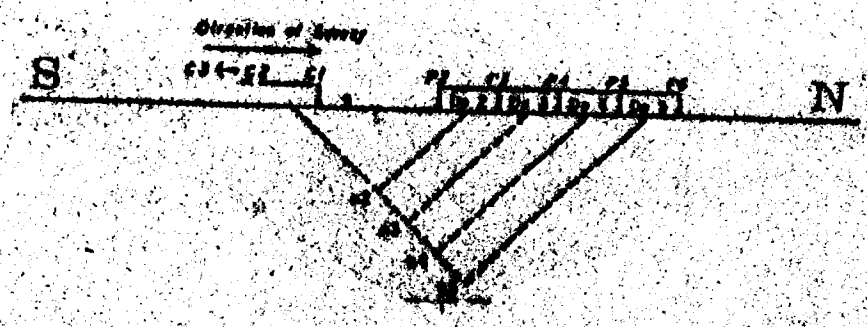
Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.
 Date of Survey : 26/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE





775N
 800N
 825N
 850N
 875N
 900N
 925N
 950N

Property : ST LAURENT TWP
 Client : TARZAN GOLD INC.
 Date of Survey : 26/4/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T90-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 2 to 5
 'a' Spacing = 25 M

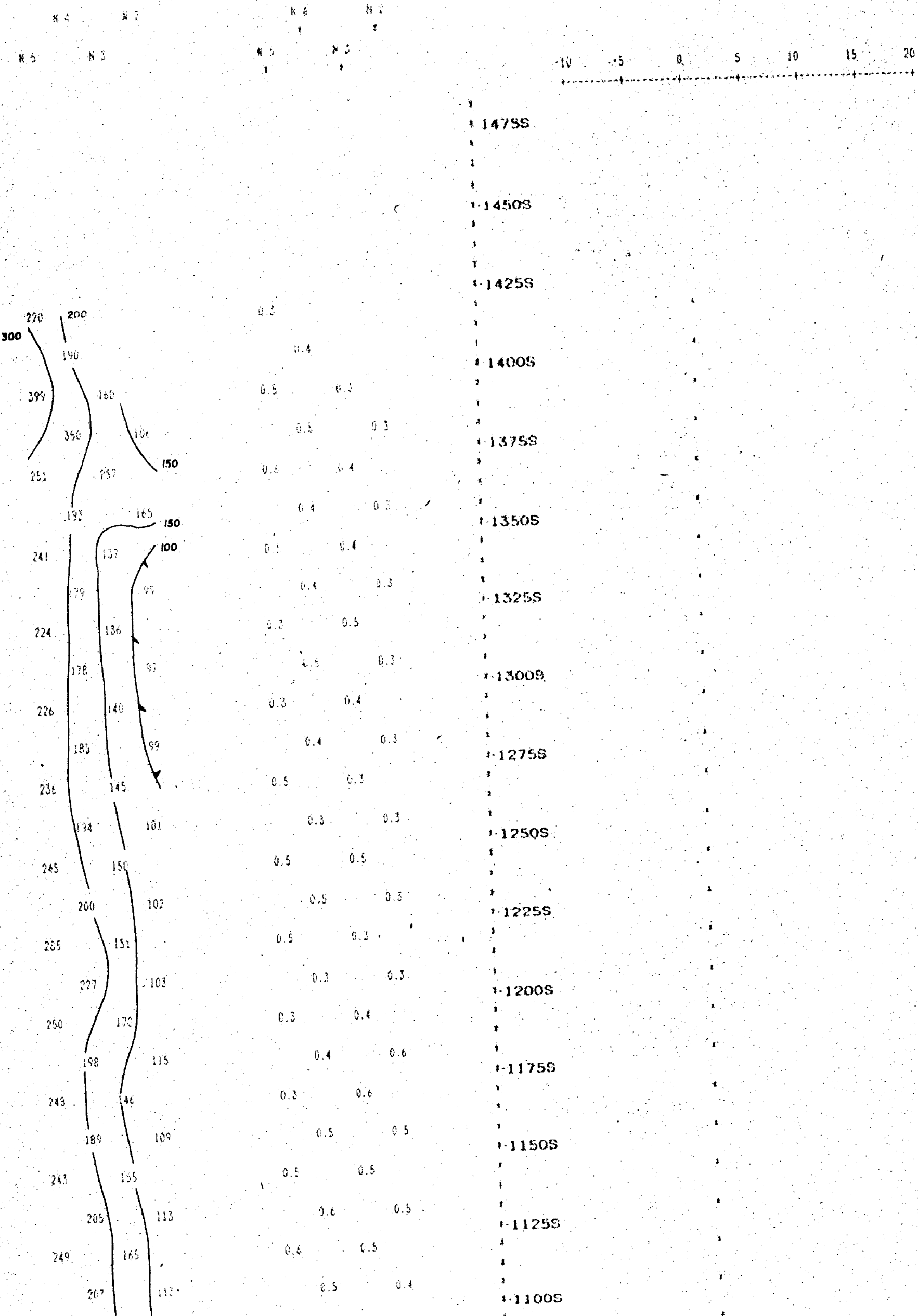
LINE 28 W

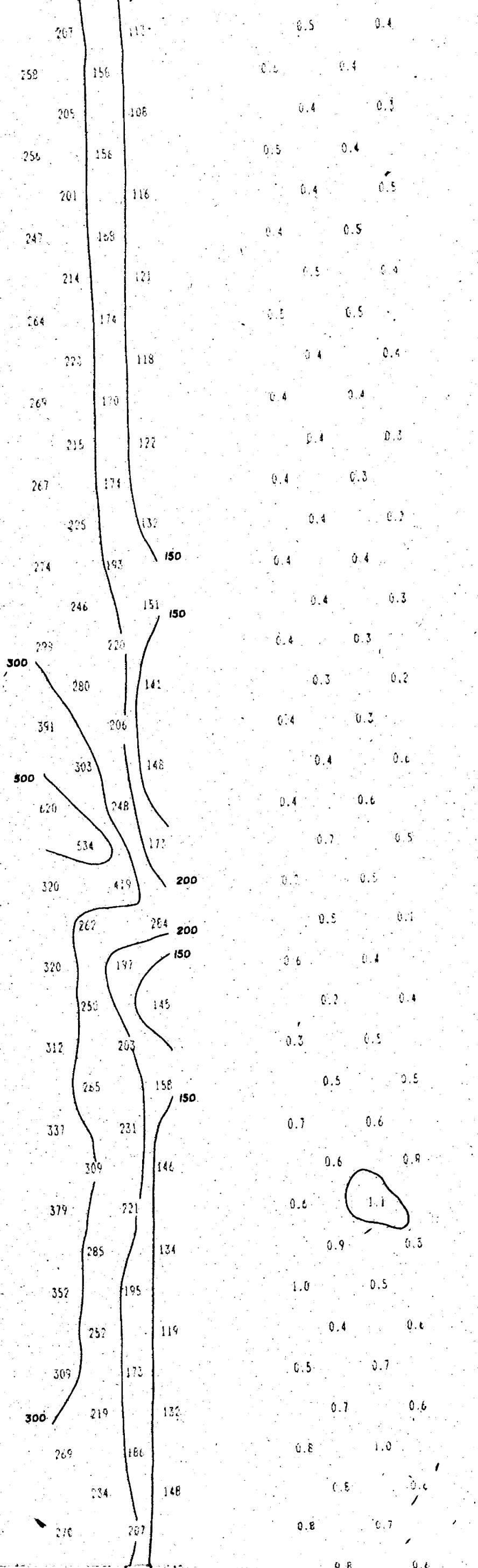
SCALE : 1 : 1250

RESISTIVITY
(ohm metres)

CHARACTERISTICS
(milliseconds)

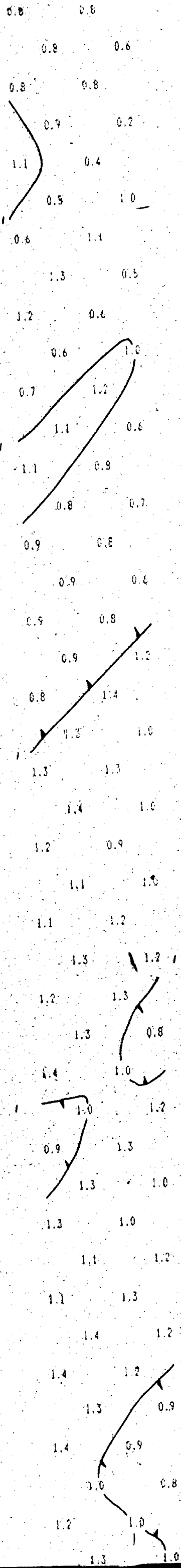
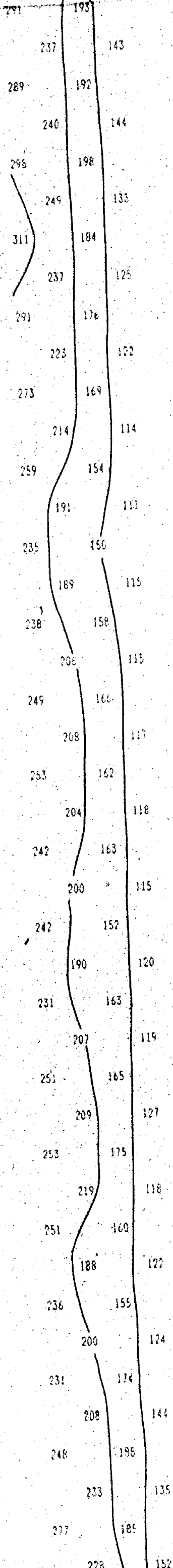
CHARGEABILITY PROFILE





0.5	0.4	1100S
0.4	0.4	
0.4	0.3	1075S
0.5	0.4	
0.4	0.5	1050S
0.4	0.5	
0.5	0.4	1025S
0.5	0.5	
0.4	0.4	1000S
0.4	0.4	
0.4	0.3	975S
0.4	0.3	
0.4	0.2	950S
0.4	0.4	
0.4	0.3	925S
0.4	0.3	
0.3	0.2	900S
0.4	0.3	
0.4	0.6	875S
0.4	0.6	
0.7	0.5	850S
0.7	0.5	
0.5	0.4	825S
0.6	0.4	
0.2	0.4	800S
0.3	0.5	
0.5	0.5	775S
0.7	0.6	
0.6	0.9	750S
0.6	1.1	
0.9	0.5	725S
1.0	0.5	
0.4	0.6	700S
0.5	0.7	
0.7	0.6	675S
0.8	1.0	
0.8	0.6	650S
0.8	0.7	
0.8	0.6	625S

300



625S

600S

575S

550S

525S

500S

475S

450S

425S

400S

375S

350S

325S

300S

275S

250S

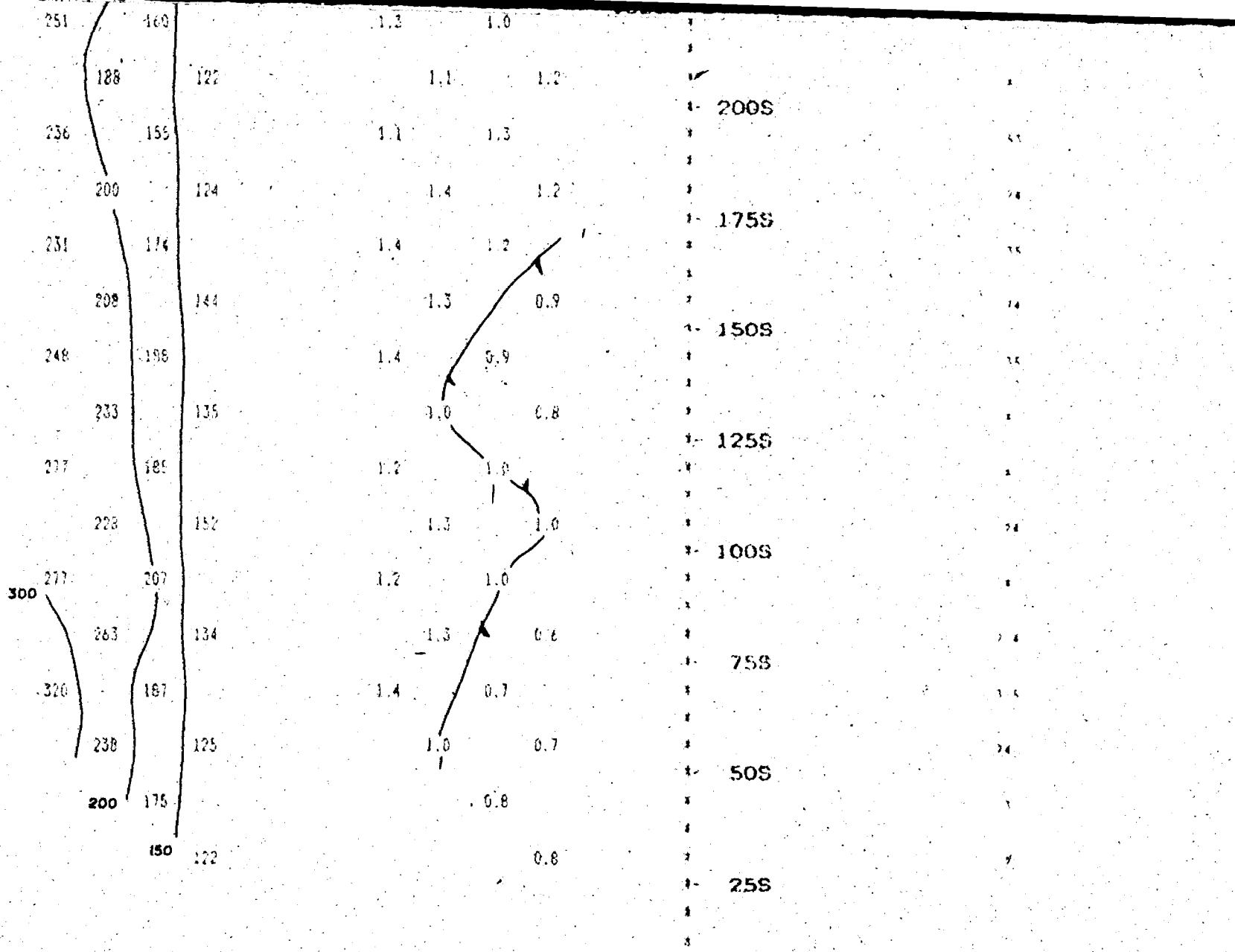
225S

200S

175S

150S

125S



Property : ST LAURENT TWP

Client : TARZAN GOLD INC.

Date of Survey : 25/4/88

Operator : IAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

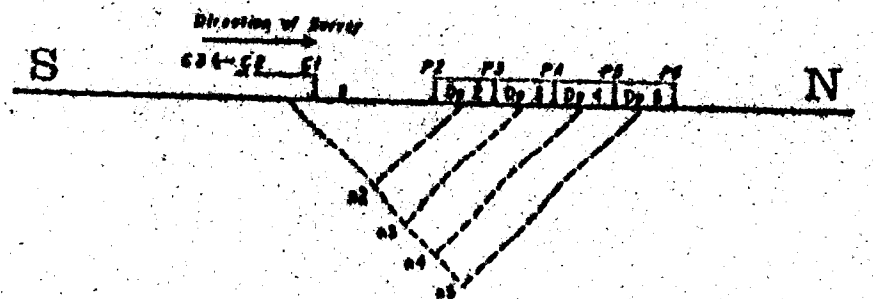
Transmitter : SCINTREX TSQ-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for N = 2 to 5

'a' Spacing = 25 M

LINE 29 W

SCALE = 1:1250

F I L T E R
A B

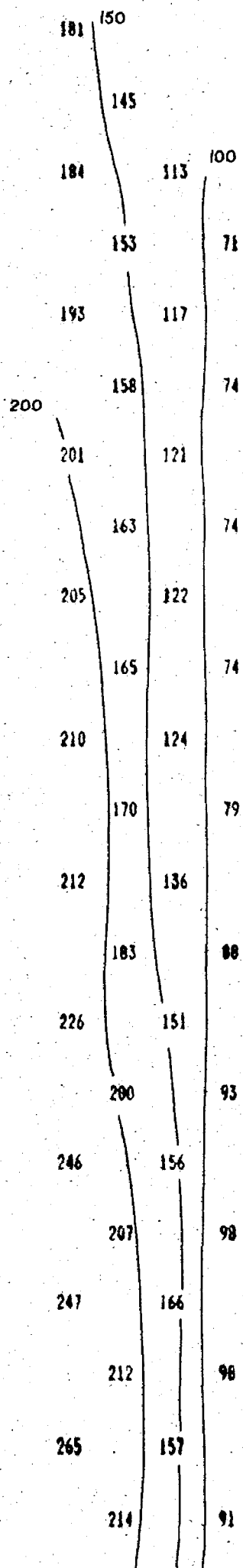
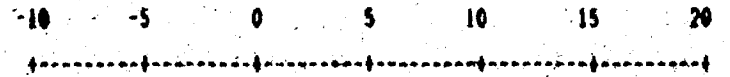
RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

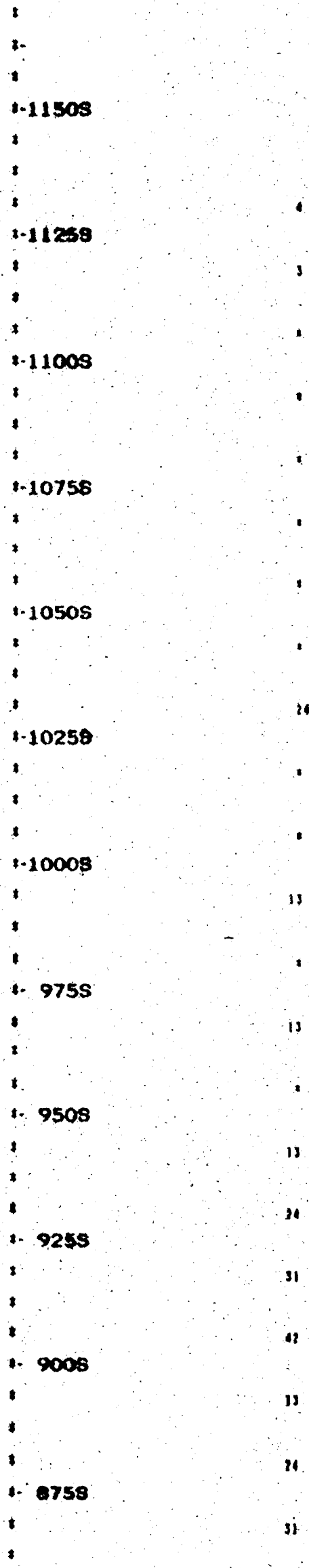
CHARGEABILITY PROFILE

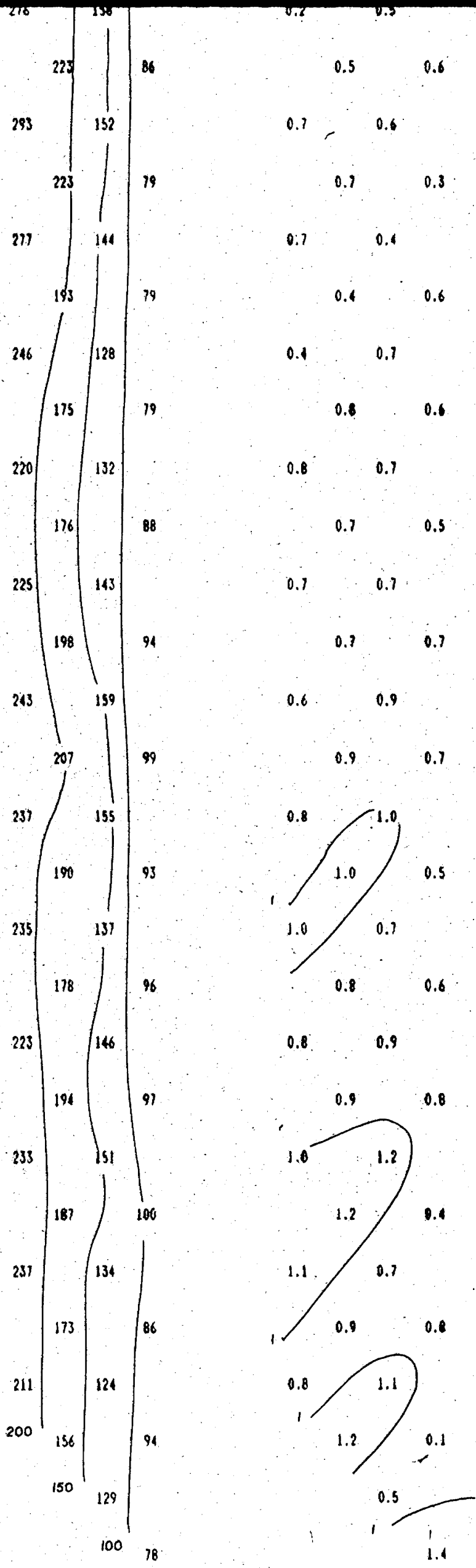
N 3 N 1
N 4 N 2

N 3 N 1
N 4 N 2



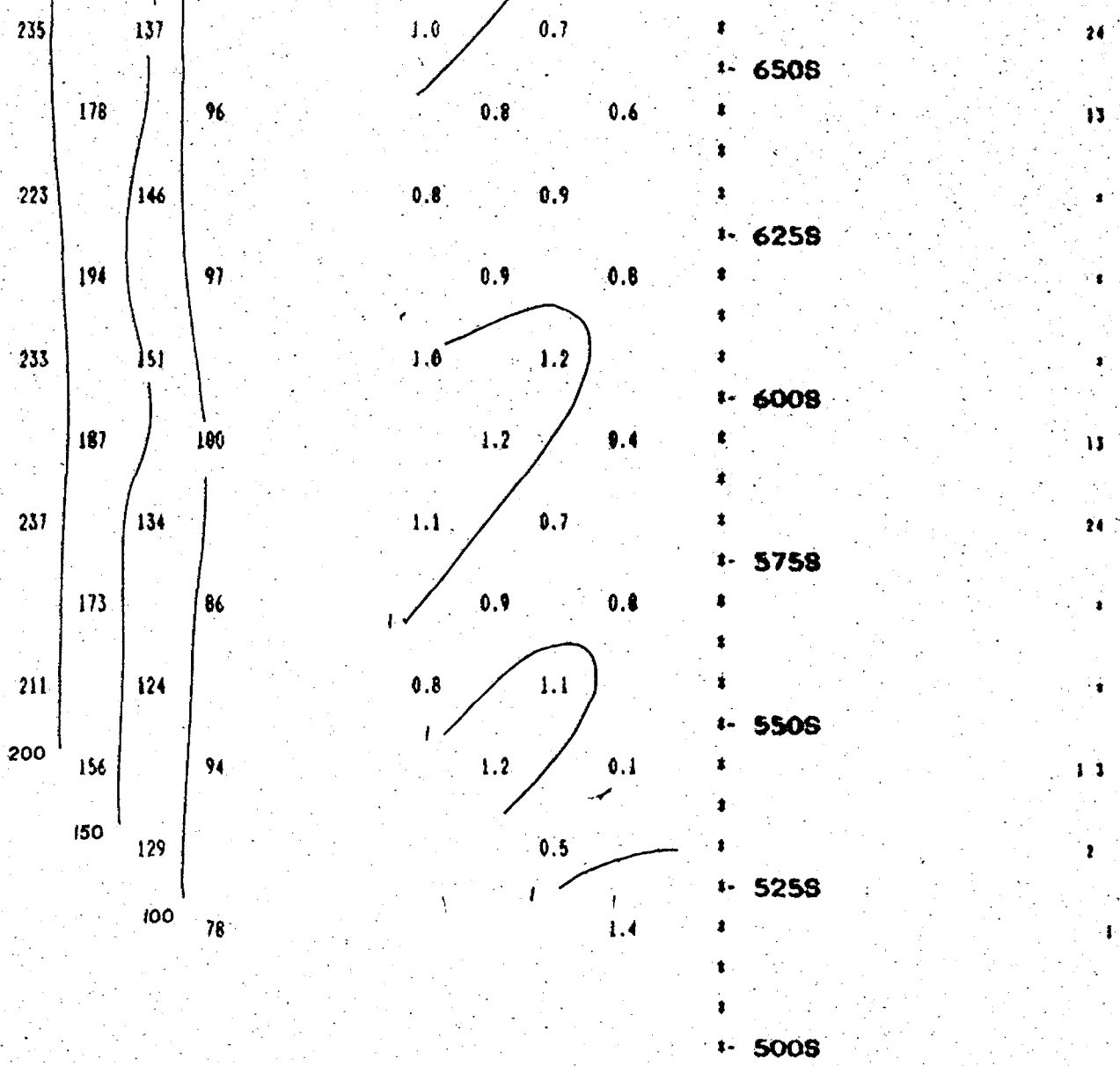
0.5	
0.7	
0.6	0.7
0.6	0.6
0.6	0.6
0.6	0.6
1.0	0.7
0.5	0.7
0.6	0.6
0.7	0.2
0.7	0.4
0.4	0.2
0.4	0.4
0.3	0.0
0.4	0.1
0.1	0.4
0.2	0.5
0.4	0.1
0.5	0.2
0.2	0.4





- 850S
- 825S
- 800S
- 775S
- 750S
- 725S
- 700S
- 675S
- 650S
- 625S
- 600S
- 575S
- 550S
- 525S
- 500S

Property : CHIMP ST LAURENT TWP.
 Client : TARZAN GOLD INC.



Property : CHIMP ST LAURENT TWP.
 Client : TARZAN GOLD INC.

Date of Survey : 5/5/88

Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

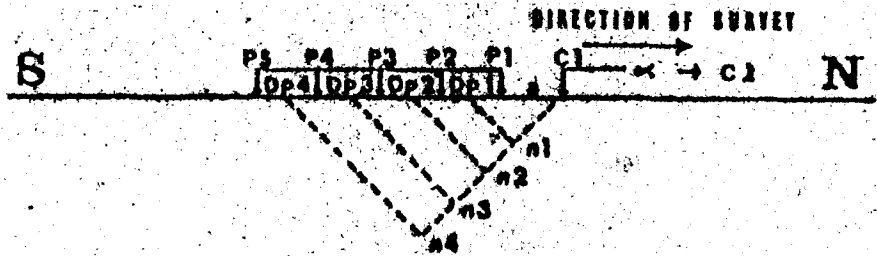
Transmitter : SCINTREX T90-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4

'a' Spacing = 25 M

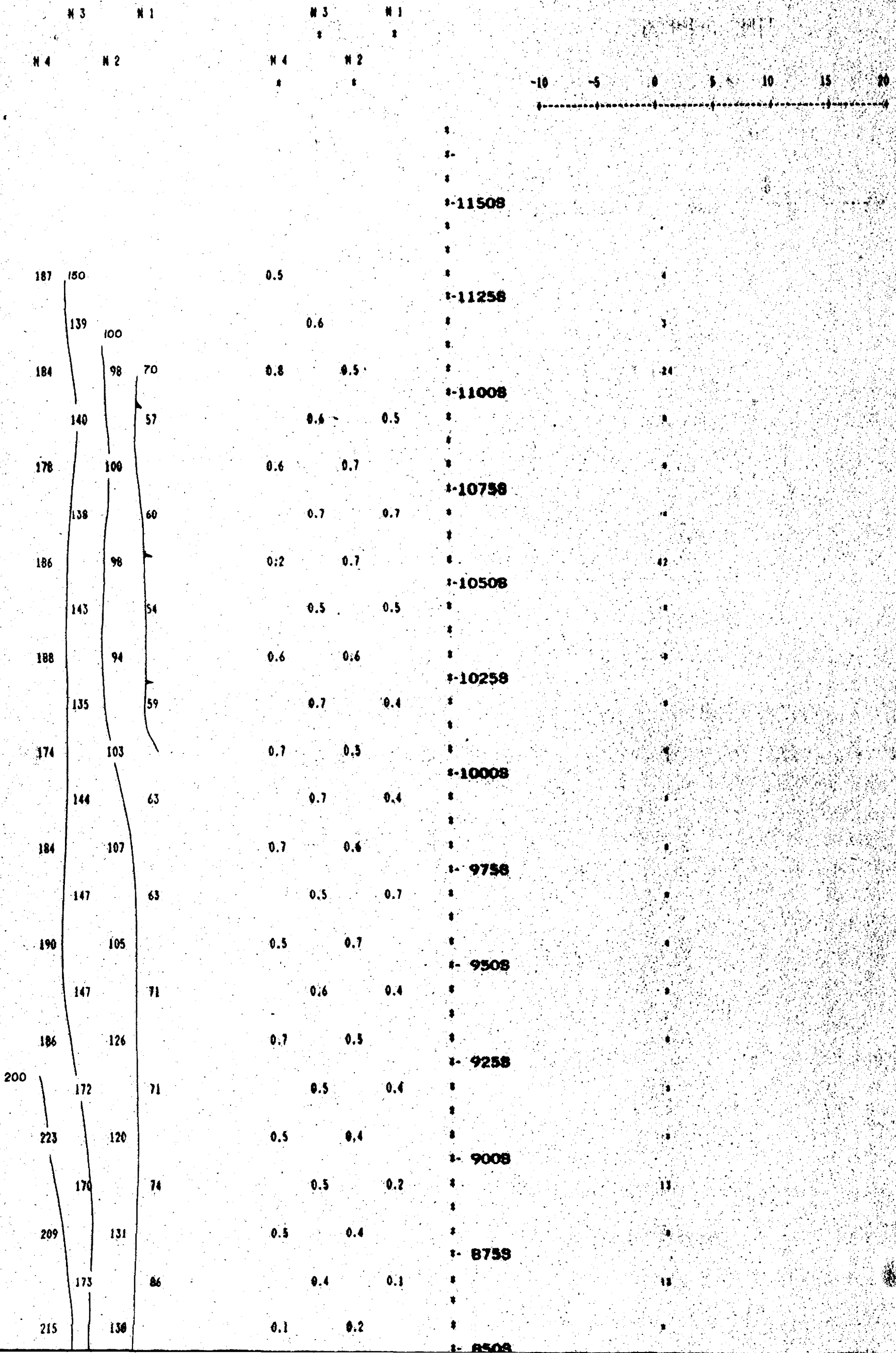
LINE 30 W

SCALE : 1:1250

RESISTIVITY
(ohm - metres)

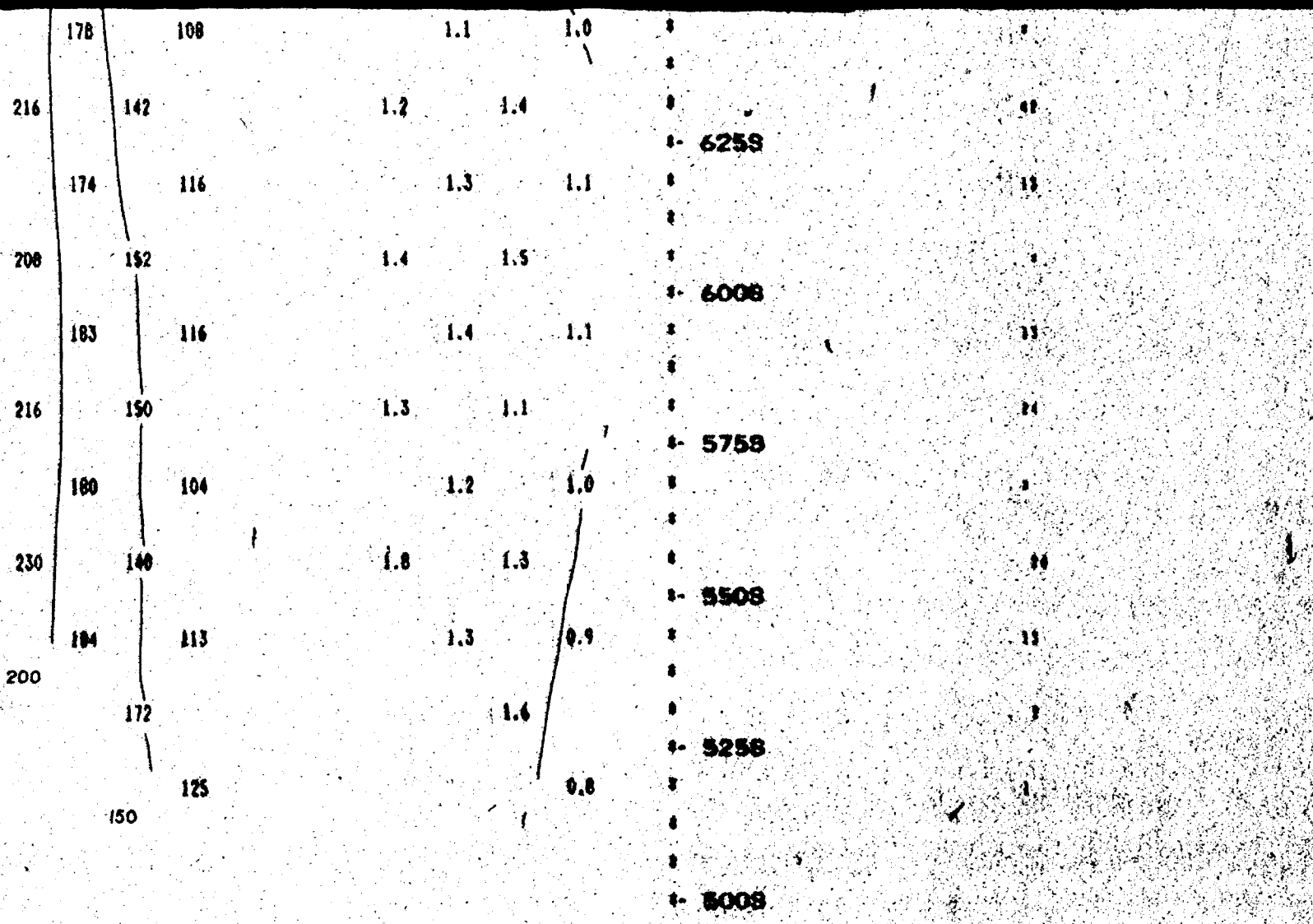
CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE



184	85	0.4	0.9	*	31
217	143	0.3	0.9	*	41
				- 6258	
178	93	0.8	0.7	*	13
217	142	1.1	0.6	*	24
				- 8008	
185	97	0.6	0.5	*	
214	158	0.6	0.5	*	
				- 7758	
192	117	0.6	0.8	*	31
237	175	0.7	0.9	*	41
				- 7508	
229	97	0.8	0.3	*	31
265	159	1.0	0.8	*	
				- 7258	
195	111	0.8	0.8	*	
229	164	0.9	1.3	*	41
				- 7008	
204	93	1.1	0.7	*	31
241	138	1.2	1.3	*	41
	100			- 6758	
171	104	1.1	0.7	*	31
204	146	1.3	1.3	*	
				- 6508	
178	108	1.1	1.0	*	
216	142	1.2	1.4	*	41
				- 6258	
174	116	1.3	1.1	*	31
208	152	1.4	1.5	*	
				- 6008	
183	116	1.4	1.1	*	31
216	150	1.3	1.1	*	34
				- 5758	
180	104	1.2	1.0	*	
230	140	1.8	1.3	*	34
				- 5508	
184	113	1.3	0.9	*	31
200	172		1.6	*	
				- 5258	
	125		0.8	*	
150				- 5008	

Property : CHIMP ST LAURENT TWP.
 Client : TARZAN GOLD INC.



Property : CHIMP ST LAURENT TWP.

Client : TARZAN GOLD INC.

Date of Survey : 5/5/88

Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

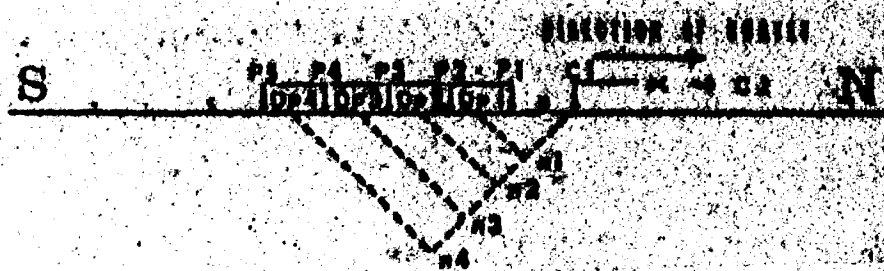
Transmitter : SCINTREX T80-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for N = 1 to 4

'a' Spacing = 25 M

LINE 31 N

SCALE = 1:1250

F
I
L
T
E
R

A
B

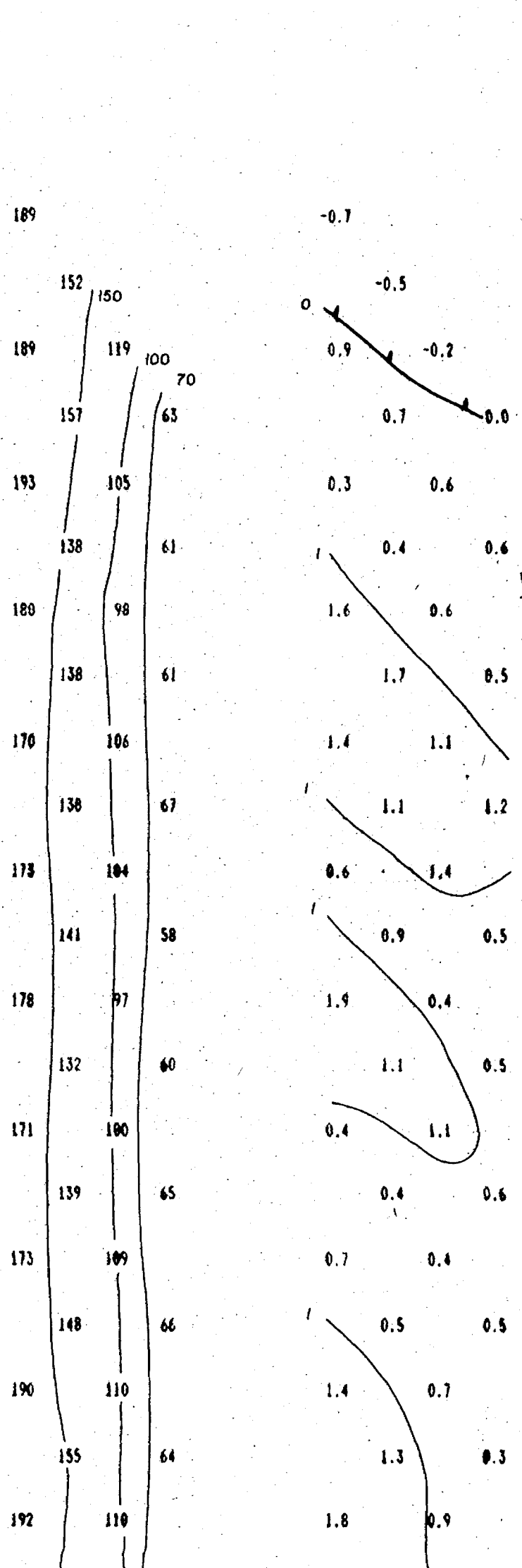
RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

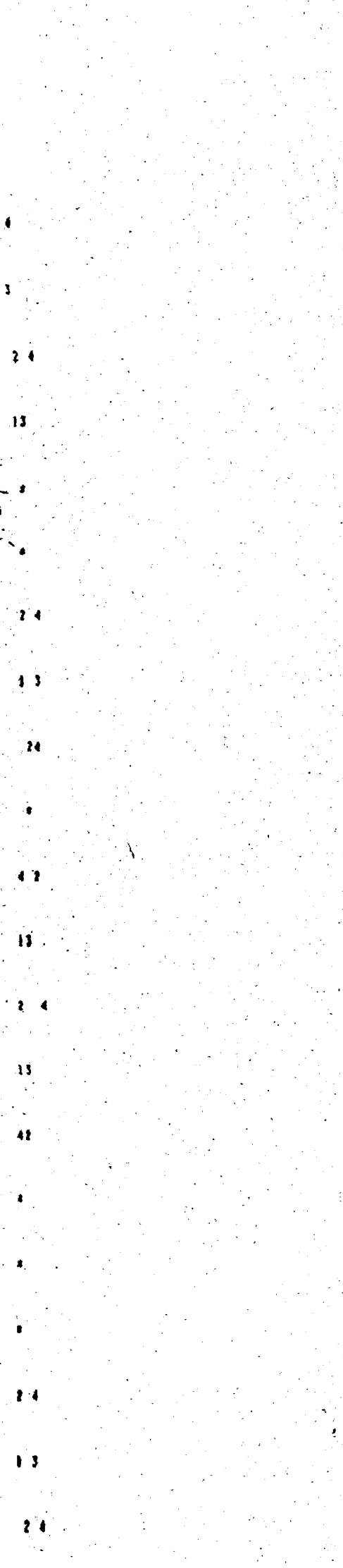
CHARGEABILITY PROFILE

N 3 N 1
N 4 N 2

N 3 N 1
N 4 N 2



- 11508
- 11258
- 11008
- 10758
- 10508
- 10258
- 10008
- 9758
- 9508
- 9258
- 9008
- 8758



158 88
150 135
100 84

0.9 0.7
0.8
1.7

550S
525S
500S

Property : OHIMP ST LAURENT TWP.

Client : TARZAN GOLD INC.

Date of Survey : 6/5/88

Operator : TAA

Electrode Array : POLE - DIPOLE

Mode : TIME DOMAIN

Receiver : SCINTREX IPR-11

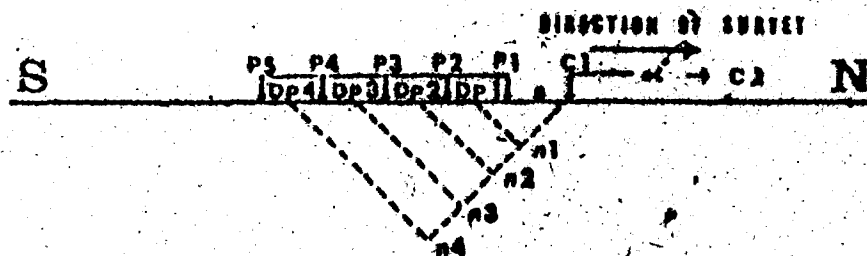
Transmitter : SCINTREX 190-3

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #7

Delay Time : 450 ms

Integration Time : 900 ms



R. S. MIDDLETON EXPLORATION
SERVICES INC.

IP Pseudosections for $N = 1$ to 4

'a' Spacing = 25 M

LINE 32 W

SCALE = 1:1250

F
R
A
S
E
R

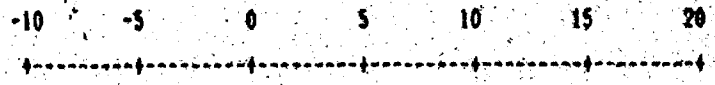
F
I
L
T
E
R

RESISTIVITY
(ohm - metres)

CHARGEABILITY
(milliseconds)

CHARGEABILITY PROFILE

RESISTIVITY		CHARGEABILITY	
N 3	N 1	N 3	N 1
N 4	N 2	N 4	N 2
182	160	0.4	
137	100	0.7	
180	90	0.5	0.7
127	70	0.8	0.6
163	87	0.4	0.7
119	55	0.4	1.0
149	89	0.4	0.7
118	56	0.6	0.5
151	87	0.4	0.7
119	55	0.6	0.4
148	89	0.8	0.3
118	59	0.8	0.3
150	94	0.7	0.4
129	63	0.4	0.8
159	103	0.7	0.9
136	66	1.1	0.0
170	103	1.2	0.3
137	66	0.2	0.6



*-1150S

*-1125S

*-1100S

*-1075S

*-1050S

*-1025S

*-1000S

*- 975S

*- 950S

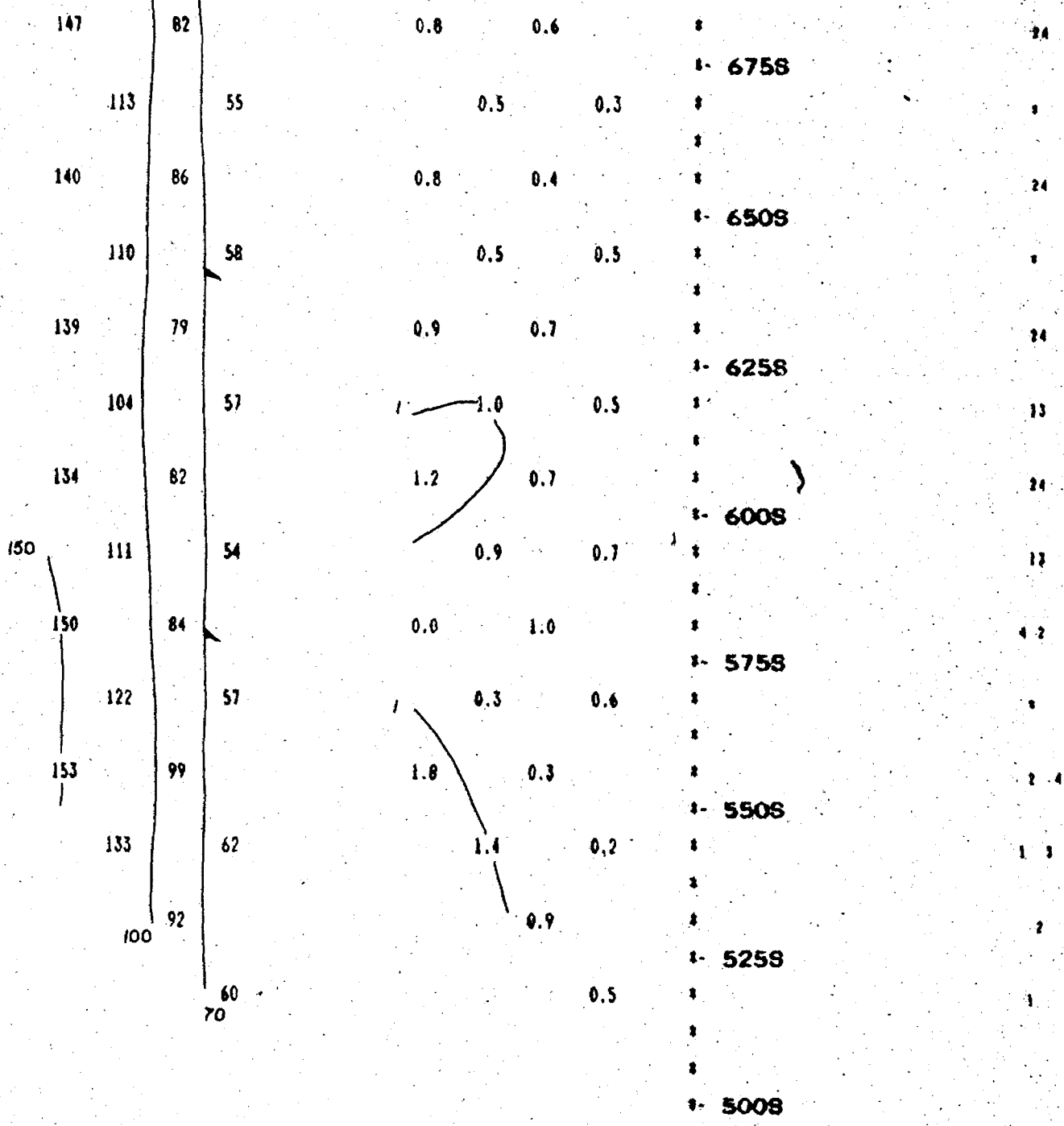
*- 925S

*

163	106	0.7	0.8
131	73	1.0	0.8
158	107	0.7	1.0
136	71	0.7	0.4
163	107	0.4	0.4
135	72	0.3	0.8
163	107	1.2	0.7
137	68	1.5	0.4
167	101	0.2	1.0
130	66	0.2	0.7
160	97	0.2	0.3
126	61	0.4	0.4
153	91	0.2	0.5
113	69	0.3	0.5
145	93	0.9	0.4
124	60	0.8	0.7
151	89	0.6	1.0
113	58	0.7	0.6
147	82	0.8	0.6
113	55	0.5	0.3
140	86	0.8	0.4
110	58	0.5	0.5
139	79	0.9	0.7
104	57	1.0	0.5
134	82	1.2	0.7
150	111	0.9	0.7
150	84	0.0	1.0
122	57	0.3	0.6

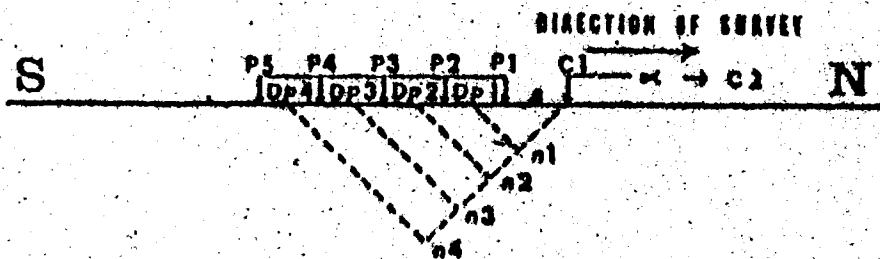
- 9008
- 8758
- 8508
- 8258
- 8008
- 7758
- 7508
- 7258
- 7008
- 6758
- 6508
- 6258
- 6008
- 5758

42
42
31
24
13
42
31
42
42
24
13
42
24
24
13
24
13
42



Property : CHIMP ST LAURENT TWP.
 Client : TARZAN GOLD INC.

Date of Survey : 6/5/88
 Operator : TAA
 Electrode Array : POLE - DIPOLE
 Mode : TIME DOMAIN
 Receiver : SCINTREX IPR-11
 Transmitter : SCINTREX T8Q-3
 Pulse Time : 2 Sec on 2 Sec off
 Chargeability Window Plotted : #7
 Delay Time : 450 ms
 Integration Time : 900 ms



 R. S. MIDDLETON EXPLORATION
 SERVICES INC.

IP Pseudosections for N = 1 to 4

'a' Spacing = 25 M



8808-267

Type of Survey(s): **GROUND GEOPHYSICS (I.P.)** Township or Area: **ST. LAURENT TWP**
 Claim Holder(s): **GLEN AUDEN RESOURCES LIMITED** Prospector's Licence No.: **T 1915**
 Address: **% P.O. Box 1637, 136 CEDAR ST. S., TIMMINS ONT P4N 7W8**
 Survey Company: **R.S. MIDDLETON EXPLORATION SERVICES INC** Date of Survey (from & to): **13 04 88 06 05 88** Total Miles of line Cut: **.**
 Name and Address of Author (of Geo-Technical report): **D. GREG HODGES % P.O. Box 1637 Timmins Ont P4N 7W8**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enlarge on MINING DIVISION	- Electromagnetic	
RECEIVED JUN 9 1988 10:30am	- Magnetometer	
	- Radiometric	
	- Other (I.P.)	14.90
	Geological	
	Geochemical	
Airborne Credits	Electromagnetic	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Magnetometer	
	Radiometric	

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
L	877286	*	L	955610	
	877287	*		955611	
	877293	*		955612	
	877294	*		955613	
	879345	*		955616	
	879346	*		955617	
	879347	*		955618	
	879350	*		955619	
	879362	*			
	879363	*			
	879364	*			
	879886	*			
	955596				
	955597				
	955598				
	955600				
	955601				
	955602				
	955603				
	955606				
	955607				
	955608				
	955609				

Maximum credits already allowed

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 choice. Enter number of days credits per claim selected in columns at right.

Date: **June 6/88** Recorded Holder or Agent (Signature): **Clifford G. Kubisheskie**

For Office Use Only

Total Days Cr. Recorded: **185.3** Date Recorded: **June 9/88** Mining Recorder: **M. G. W...**
 Date Approved as Recorded: **ZP** Branch Director: **see revised work statement**

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: **CLIFFORD G. KUBISHESKIE % P.O. Box 1637**
TIMMINS, ONT P4N 7W8 Date Certified: **June 6/88** Certified by (Signature): **Clifford G. Kubisheskie**

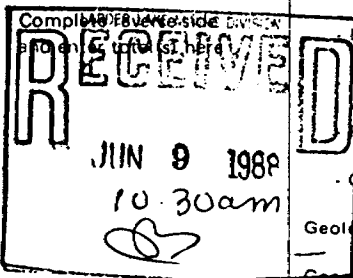
DOCUMENT NO.
W8808-269

Instructions: - Please type or print. ^{262 July 29}
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

L. W. Wynn
Mining Act 2.11253

Type of Survey(s) GROUND GEOPHYSICS (E.M.)	Township or Area ST. LAURENT TWP
Claim Holder(s) * NORANDA EXPLORATION COMPANY LIMITED / GLEN AUDEN RESOURCES LIMITED	Prospector's Licence No. T 1915
Address 1/2 P.O. Box 1637, 136 CEDAR ST. S., TIMMINS ONT. P4N 7W8	
Survey Company R.S. MIDDLETON EXPLORATION SERVICES INC	Date of Survey (from & to) 01 04 88 17 04 88 Day Mo. Yr. Day Mo. Yr.
Name and Address of Author (of Geo-Technical report)	

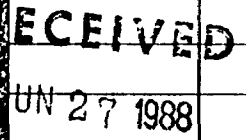
Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
Airborne Credits		
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	879374		L	955625	
	879375			955626	
	879376			955627	
	879377			955628	
				955629	
	955588			955630	
	955589				
	955590		*	876982	
	955591		*	876983	
	955596				
	955597				
	955598				
	955599				
	955616				
	955617				
	955618				
	955619				
	955620				
	955621				
	955622				
	955623				

Maximum credits already allowed.



LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed
Performed on Claim(s)
Calculation of Expenditure Days Credits
Total Expenditures \$ <input type="text"/> ÷ 15 = Total Days Credits <input type="text"/>
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.

Total number of mining claims covered by this report of work. **24 x 0**
28

Date JUNE 6/88	Recorded Holder or Agent (Signature) <i>Clifford G. Kubisheskic</i>
--------------------------	--

For Office Use Only		Mining Recorder	
Total Days Cr. Recorded 480	Date Recorded June 9/88	<i>M. W. Wynn</i>	Branch Director
	Date Approved as Recorded Z.P.	<i>See above statement</i>	

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 CLIFFORD G. KUBISHESKIE 1/2 PO Box 1637	Date Certified June 6/88	Certified by (Signature) <i>Clifford G. Kubisheskic</i>
--	------------------------------------	--

(Geophysical, Geological, Geochemical and Expenditures)

Mining Act

Type of Survey(s): **GROUND GEOPHYSICS (I.P.)** Township or Area: **ST. LAURENT TWP**
 Claim Holder(s): **GLEN AUDEN RESOURCES LIMITED** Prospector's Licence No.: **T 1915**
 Address: **1/2 P.O. Box 1637, 136 CEDAR ST. S., TIMMINS ONT P4N 7W8**
 Survey Company: **R.S. MIDDLETON EXPLORATION SERVICES INC** Date of Survey (from & to): **13 04 88** to **06 05 88** Total Miles of line Cut: **.**
 Name and Address of Author (of Geo-Technical report): **D. GREG HODGES 1/2 P.O. Box 1637 TIMMINS ONT P4N 7W8**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and entered on MINE DIVISION	- Electromagnetic	
RECEIVED JUN 9 1988 10:30am	- Magnetometer	
	- Radiometric	
	- Other (I.P.)	14.90
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	877286	*	L	955610	✓
	877287	*		955611	✓
	877293	*		955612	✓
	877294	*		955613	✓
	879345	*		955616	✓
	879346	*		955617	✓
	879347	*		955618	✓
	879350	*		955619	✓
	879362	*			
	879363	*			
	879364	*			
	879886	*			
	955596	0			
	955597	✓			
	955598	✓			
	955600	✓			
	955601	✓			
	955602	✓			
	955603	✓			
	955606	✓			
	955607	✓			
	955608	✓			
	955609	✓			

Maximum credits already allowed

RECEIVED
JUN 27 1988

LANDS SECTION

Total number of mining claims covered by this report of work. **19/37**

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 choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
185.3	June 9/88	M. G. W...
	Date Approved as Recorded	Branch Director

Date: **June 6/88** Recorded Holder or Agent (Signature): **Clifford G. Kubisheskis**

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: **CLIFFORD G. KUBISHESKIE 1/2 P.O. Box 1637 TIMMINS, ONT P4N 7W8**

Date Certified: **June 6/88** Certified by (Signature): **Clifford G. Kubisheskis**



Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

DOCUMENT No. 08-267

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

262 July 29

Type of Survey: **GROUND GEOPHYSICS (I.P.)** 2-11253

Township or Area: **ST. LAURENT TWP**

Claim Holder(s): **GLEN AUDEN RESOURCES LIMITED**

Address: **% P.O. Box 1637, 136 CEDAR ST. S., TIMMINS ONT P4N 7W8**

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

Date of Survey (from & to): **13 04 88** to **06 05 88**

Name and Address of Author (of Geo-Technical report): **D. GREG HODGES % P.O. Box 1637 Timmins Ont P4N 7W8**

Prospector's Licence No.: **New WORK 1915**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other (I.P.)	14.90
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	877286	*
	877287	*
	877293	*
	877294	*
	879315	*
	879346	*
	879347	*
	879350	*
	879362	*
	879363	*
	879364	*
	879886	*
	955596	0
	955597	✓
	955598	✓
	955600	-ass
	955601	-ass
	955602	-ass
	955603	-ass
	955606	-ass
	955607	-ass
	955608	-ass
	955609	-ass

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	955610	-ass
	955611	-ass
	955612	-ass
	955613	-ass
	955616	✓
	955617	✓
	955618	✓
	955619	✓
		Maximum credits already allowed

RECEIVED
JUN 9 1988
10:30am

RECEIVED
JUN 27 1988
LANDS SECTION

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 choice. Enter number of days credits per claim selected in columns at right.

Date: **June 6/88**

Recorded Holder or Agent (Signature): **Clifford G. Kubisheskie**

For Office Use Only

Total Days Cr. Recorded: **185.3**

Date Recorded: **June 9/88**

Date Approved as Recorded: **ZP**

Mining Recorder: **M. G. W...**

Branch Director: **M. G. W...**

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: **CLIFFORD G. KUBISHESKIE % P.O. Box 1637**

Timmins, Ont P4N 7W8

Date Certified: **June 6/88**

Certified by (Signature): **Clifford G. Kubisheskie**

2.11253 Mining Act

May 26

Type of Survey(s): **GROUND GEOPHYSICAL (INDUCED POLARIZATION)** Township or Area: **ST. LAURENT TWP.**
 Claim Holder(s): **Noranda Exploration Company Limited** / **GLENN AUDEN RESOURCES LIMITED** Prospector's License No: **A35197**
 Address: **P.O. Box 1637, 136 CEDAR ST. S. TIMMINS, ONTARIO P4N 7W8**
 Survey Company: **ROBERT S. MIDDLETON EXPLORATION SERVICES** Date of Survey (from & to): **20 03 88** to **31 03 88** Total Miles of line Cut:
 Name and Address of Author (of Geo-Technical report): **D. GREG HODGES P.O. Box 1637 TIMMINS ONT P4N 7W8**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other (I.P.)	13.25
	Geological	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	876982		L	955626	
	876983			955627	
	879379			955628	
	879379			955629	
	879932			955630	
	879933				
	955600				
	955601				
	955602				
	955603				
	955606				
	955607				
	955608				
	955609				
	955610				
	955611				
	955612				
	955613				
	955620				
	955621				
	955622				
	955623				
	955625				

Expenditures (excludes power stripping)

Type of Work Performed:
 Performed on Claim(s):
 Calculation of Expenditure Days Credits:
 Total Expenditures \$ ÷ 15 = Total Days Credits

Total number of mining claims covered by this report of work. **28**

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

For Office Use Only
 Total Days Cr. Recorded: **371**
 Date Recorded: **5/1/88**
 Date Approved as Recorded: **5/7/88**
 Mining Recorder: **[Signature]**
 Branch Director: **[Signature]**

Date: **April 4/88**
 Recorded Holder or Agent (Signature): **[Signature]**

Certification Verifying Report of Work
 I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.
 Name and Postal Address of Person Certifying: **CLIFFORD G. KUBISHESKIE P.O. Box 1637, 136 CEDAR ST. S. TIMMINS ONTARIO P4N 7W8**
 Date Certified: **April 4/88**
 Certified by (Signature): **[Signature]**

Assessment Work Breakdown

1. Type of Survey

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey <i>INDUCED POLARIZATION</i>						
Technical Days		Technical Days Credits		Line-cutting Days	Total Credits	No. of Claims
53	X	7	=	371	+	—
			=	371	+	28
					=	13.25

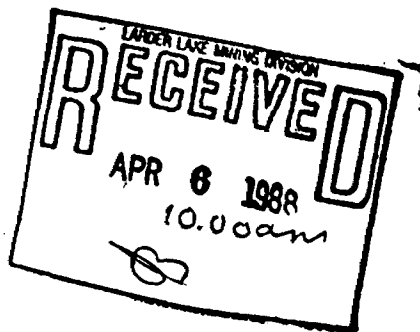
Type of Survey						
Technical Days		Technical Days Credits		Line-cutting Days	Total Credits	No. of Claims
[]	X	7	=	[]	+	[]
			=	[]	+	[]
					=	[]

Type of Survey						
Technical Days		Technical Days Credits		Line-cutting Days	Total Credits	No. of Claims
[]	X	7	=	[]	+	[]
			=	[]	+	[]
					=	[]

Type of Survey						
Technical Days		Technical Days Credits		Line-cutting Days	Total Credits	No. of Claims
[]	X	7	=	[]	+	[]
			=	[]	+	[]
					=	[]

SCHEDULE "A"

L 876982 ^{6/4}	L 879936 20	L 955612 40
876983 ^{6/4}	879937 20	955613 40
877286	955588 40	955616 40
877287	955589 40	955617 40
877293	955590 40	955618 40
877294	955591 40	955619 40
879345 no credits	955596 40	955620 40
879346	955597 40	955621 40
879347 80 days	955598 40	955622 40
879350 already	955599 40	955623 40
879362 recorded	955600 40	955625 40
879363 under	955601 40	955626 40
879364 Geophysical.	955602 40	955627 40
879374 20	955603 40	955628 40
879375 20	955606 40	955629 40
879378	955607 40	955630 40
879379	955608 40	
879886	955609 40	
879932	955610 40	
879933	955611 40	





Ministry of Northern Development and Mines

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

DOCUMENT No. W8808-162

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

may 26

2.11253

Mining Act

Type of Survey(s) **GROUND GEOPHYSICAL (ELECTROMAGNETIC)** Township or Area **ST. LAURENT TWP**
 Claim Holder(s) **GLEN AUDEN RESOURCES LIMITED** Prospector's Licence No. **T-1915**
 Address **P.O. Box 1637, 136 CEDAR ST. S, TIMMINS ONTARIO P4N 7W8**
 Survey Company **ROBERT S. MIDDLETON EXPLORATION SERVICES INC.** Date of Survey (from & to) **12 03 88** to **25 03 88** Total Miles of line Cut
 Name and Address of Author (of Geo-Technical report) **D. GREG HODGES P.O. Box 1637 TIMMINS ONT**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	except *
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days Complete reverse side and enter total(s) here **APR 22 1988**

MINING LANDS SECTION

RECEIVED UNDER LAKE MINING DIVISION APR 8 1988

Man Days	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	Geological	
	Geochemical	

Airborne Credits	Days per Claim
10 000 m	

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

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	877286		L	955609	
	877287			955610	
	877293			955611	
	877294			955612	
	879345			955613	
	879346				
	879347				
	879350				
	879362				
	879363				
	879364				
	879378				
	879379				
	879886				
	879932				
	879933				
	955600				
	955601				
	955602				
	955603				
	955606				
	955607				
	955608				

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 choice. Enter number of days credits per claim selected in columns at right.

* apply 6.75 days for this report
Now at maximum of 80 days Geophysical.

Total number of mining claims covered by this report of work. **28**

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
482	April 6/88	[Signature]
	Date Approved as Recorded	Branch Director

Date **April 4/88** Recorded Holder or Agent (Signature) **[Signature]**

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying **CLIFFORD G KUBISHESKIE P.O. Box 1637, 136 CEDAR ST. S TIMMINS ONTARIO P4N 7W8**

Date Certified **APRIL 4/88** Certified by (Signature) **[Signature]**

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations ~ 3700 Number of Readings ~ 3700
Station interval 25m Line spacing 100m
Profile scale 1:5000 P-SECTIONS 1:1250
Contour interval 100 nT

MAGNETIC

Instrument ERA MPM-350, MPM400, OMNITR
Accuracy - Scale constant ± 0.1 nT
Diurnal correction method BASE STATION
Base Station check-in interval (hours) 0.0083 (30 SEC)
Base Station location and value ON GRID 58000

ELECTROMAGNETIC

Instrument APEX Max Min II 1
Coil configuration HORIZONTAL COPLANAR
Coil separation 150m
Accuracy ± 1%
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 444 Hz 1777 Hz 3555 Hz
(specify V.L.F. station)
Parameters measured IN PHASE & QUADRATURE COMPONENTS OF SECONDARY FIELDS

GRAVITY

Instrument _____
Scale constant _____
Corrections made _____
Base station value and location _____
Elevation accuracy _____

INDUCED POLARIZATION
RESISTIVITY

Instrument SCINTREX IPR-11
Method Time Domain Frequency Domain
Parameters - On time 2 SEC Frequency _____
- Off time 2 SEC Range _____
- Delay time 690 msec
- Integration time 310 msec
Power 3.0 KW
Electrode array POLE D. POLE
Electrode spacing 25m, n=2 To 5
Type of electrode STAINLESS STEEL CURRENT PEROUS POTS POTENTIAL

L ✓ 876982
✓ 876983
877286
877287
877293
877294
879345
879346
879347
879350
879362
879363
879364
879374
✓ 879375
✓ 879378
✓ 879379
879886
✓ 879932
✓ 879933

L ✓ 879936
✓ 879937
~~955588~~
955589
955590
955591
955596
955597
955598
955599
955600
955601
955602
955603
955606
955607
955608
955609
955610
955611

L 955612
955613
955616
955617
955618
955619
955620
955621
955622
955623
955625
955626
955627
955628
955629
955630

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, -(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____



Ministry of
Northern Development
and Mines

Ontario

Ministère du
Développement du Nord
et des Mines

October 12, 1988

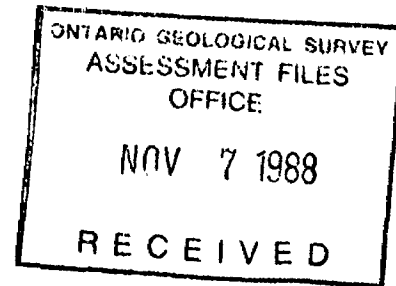
Your file: W8808-267

Our file: 2.11253

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Re: Notice of Intent dated September 16, 1988
Geophysical (Induced Polarization) Survey
submitted on Mining Claims L 877286 et al
in the Township of St. Laurent



The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines & Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

DK:pl
Enclosure

cc: Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

Glen Auden Resources Limited
P.O. Box 1637
136 Cedar Street S.
Timmins, Ontario
P4N 7W8



Recorded Holder
Glen Auden Resources Limited

Township or Area
St. Laurent

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	L-955597-98
Magnetometer _____ days	955600 to 603 incl.
Radiometric _____ days	955606 to 13 incl.
Induced polarization <u>14.90</u> days	955616 to 19 incl.
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input checked="" type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey insufficient technical data filed

L-955596

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.

August 31, 1988

Your File: W8808-269
Our File : 2.11253

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

RE: Notice of Intent dated August 15, 1988.
Geophysical (Electromagnetic) Survey submitted on
Mining Claims L 955588 et al in the Township of
St. Laurent.

The assessment work credits, as listed with the above-mentioned
Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so
indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines & Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3
Telephone: (416) 965-4888

DK:sc

cc: Glen Auden Resources Limited
Noranda Exploration Company Limited
c/o P.O. Box 1637
136 Cedar Street S.
Timmins, Ontario
P4N 7W8

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: Resident Geologist
Kirkland Lake, Ontario



Recorded Holder **Glen Auden Resources Limited/Noranda Exploration Company Limited**

Township ~~XXXXXX~~
St. Laurent

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic <u>20</u> days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days	L-95588 to 91 inclusive 95596 to 99 inclusive 95616 to 23 inclusive 95626 to 30 inclusive
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

10 days Electromagnetic
L-955625

No credits have been allowed for the following mining claims

not sufficiently covered by the survey insufficient technical data filed

L-879376-77

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.



2-11253

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

136 Cedar St. So.
P.O. Box 1637
Timmins, Ontario
P4N 7W8
Telephone (705) 264-4246
Fax: 705-267-6110

Suite 301
121 Richmond St. W.
Toronto, Ontario
M5H 2K1
Telephone: (416) 861-9316
Fax: 416-861-1367

Timmins, Ontario
April 7, 1988

RECEIVED

AUG 22 1988

MINING LANDS SECTION

Mrs. Susan Hurst
Mining Lands Section
Mines and Minerals Branch
Whitney Block, Room 6610
Queen's Park
Toronto, On. M7A 1W3

Dear Susan:

Re: Your file #8808-267
Project M-257

Please find enclosed a breakdown for Induced Polarization Surveys carried out on claims in St. Laurent Township (Larder Lake Mining Division). This work is covered by the compilation "Interpretation Report on the Geophysical Surveys on the St. Laurent Township (Chimp Grid) Property for Tarzan Gold Incorporated" by Greg Hodges.

Should you require any additional information or have any questions, please call.

Hoping this clarifies matters, I thank you for your time.

Sincerely,

Cliff Kubisheskie

M-257, ST LAURENT TWP
I.P. BREAKDOWN

GROUP 1 - WORK DONE MAR 20 - MAR 31/88

①	2W	0+25N - 8+50N	MAR 21
②	2W	8+50N - 12+50N	MAR 21
③	4W	0+25N - 7+25N	MAR 21
④	6W	0+25N - 5+25N	MAR 23
⑤	4W	7+25N - 14+25N	MAR 23
⑥	19W	20 - 1+75N	MAR 23
⑦	6W	5+25N - 14+25N	MAR 24
⑧	8W	0+50N - 5+50N	MAR 30
⑨	11W	5+25S - 11+75S	MAR 25
⑩	18W	5+25S - 11+75S	MAR 25
⑪	25W	0+50N - 14+25N	MAR 26
⑫	22W	0+50N - 9+25N	MAR 27
⑬	22W	9+25N - 14+75N	MAR 28
⑭	19W	1+75N - 14+00N	MAR 29

PLEASE NOTE: COVERAGE IS ACTUALLY GREATER THAN INDICATED (FROM PSEUDOSECTIONS) DUE TO THE NATURE OF THE ARRAY.

~~Q~~ - WORK DONE APR 13 - MAY 6/88

- | | | | |
|---|-----|----------------|--------|
| ① | 15W | 0+50N - 14+25N | APR 18 |
| ② | 17W | 0+50N - 12+50N | APR 19 |
| ③ | 20W | 0+50N - 14+25N | APR 20 |
| ④ | 21W | 0+50N - 14+25N | APR 21 |
| ⑤ | 24W | 0+50N - 14+25N | APR 22 |
| ⑥ | 26W | 4+75N - 14+25N | APR 23 |
| ⑦ | 27W | 0+25S - 14+75S | APR 24 |
| ⑧ | 29W | 0+25S - 14+25S | APR 25 |
| ⑨ | 28W | 4+00N - 9+50N | APR 26 |
| ⑩ | 30W | 5+00S - 11+50S | MAY 5 |
| ⑪ | 32W | 5+00S - 11+50S | MAY 6 |
| ⑫ | 31W | 5+00S - 11+50S | MAY 5 |
| ⑬ | 33W | 5+00S - 11+50S | MAY 6 |

August 17, 1988

Report of Work W8808-267

REGISTERED

Glen Auden Resources Limited
c/o P.O. Box 1637
136 Cedar Street S.
Timmins, Ontario
P4N 7W8

Dear Sirs:

Enclosed is a copy of a Report of Work for Geophysical (Induced Polarization) assessment work that was recorded by the Mining Recorder on June 9, 1988, on Mining Claims L 877286 et al in the Township of St. Laurent.

We have no record that you provided the full reports and maps to the Minister within the sixty day period provided by Section 77 of the Mining Act.

Unless you can provide evidence by August 27, 1988, that the reports and maps were submitted as required, the Mining Recorder will be directed to cancel the work credits recorded on June 9, 1988.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines and Minerals Branch

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

SH:p1
Enclosure

cc: Mining Recorder
Kirkland Lake, Ontario

Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
66				462		-		462		31		14.90

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim

ASSESSMENT WORK BREAKDOWN

1. Type of Survey Induced Polarisation
2. Township or Area ST. LAURENT
3. Numbers of Mining Claims Traversed by Survey 877286, 877287, 877293, 877294, 879345, 879346, 879347, 879350, 879362, 879363, 879364, 879886, 955596, 955597, 955598, 955600, 955601, 955602, 955603, 955606, 955607, 955608, 955609, 955610, 955611, 955612, 955613, 955616, 955617, 955618, 955619
4. Number of Miles of Line Cut - Flown -
- *5. Number of Stations Established 540
- *6. Make and type of Instrument Used Scintrex IPR-11, TSO-3
- *7. Scale Constant or Sensitivity ± 0.1 mV/V
- *8. Frequency Used and Power Output 8 Second Cycle 50% Duty 3.0KW
9. Summary of Assessment Credits (details on reverse side)

Total 8 hour Technical Days (Include Consultants, Draughting etc.) 66

Total 8 hour Line-Cutting Days -

Calculation

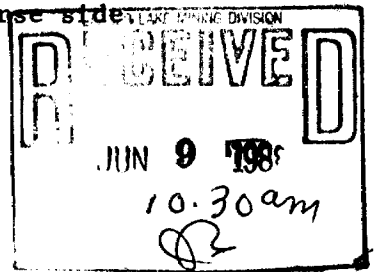
$$\frac{66}{\text{Technical}} \times 7 = \frac{462}{\text{Line-cutting}} + \frac{-}{\text{Line-cutting}} = \frac{462}{\text{Line-cutting}} \div \frac{31}{\text{Number of claims}} = \frac{14.90}{\text{Assessment credits per claim}}$$

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

Dated: JUNE 6/88

Signed: Alford H. Kulichedie

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



ASSESSMENT WORK BREAKDOWN

1. FIELD WORK

<u>Type of Work</u> IP	<u>Name & Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
TEO ANDERSON	P.O. Box 1637 TIMMINS, ONTARIO P4N 7J8	April 13-23, May 5-6 th 1988	17
RACHA PLATT			15
LEONARD NELSON			16
PETER REID			12

2. CONSULTANTS

<u>Name & Address</u>	<u>Dates Worked (specify in field or office)</u>	<u>Number of 8 hour days</u>
GREN HOGGES { P.O. Box 1637 }	MAY 1988 Report	2
CHRIS JONES { TIMMINS, ONT }	APRIL 13 - MAY 6 1988 SUPERVISE	2

3. DRAUGHTSMAN, TYPING, OTHERS (specify)

<u>Name & Address</u>	<u>Type of Work</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
BRIAN BELLENGER	DRAUGHTING	MAY 1988	2

TOTAL 8 HOUR TECHNICAL DAYS 66

4. LINE-CUTTING

<u>Name</u>	<u>Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>

TOTAL 8 HOUR LINE-CUTTING DAYS _____

ASSESSMENT WORK BREAKDOWN

1. FIELD WORK

<u>Type of Work</u> IP	<u>Name & Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
TOO ACADEMY	P.O. Box 1637 TIMMINS, ONTARIO P4N 7V8	April 13-23, May 5-6 th 1988	17
RAMON PATT			15
LEONARD NELSON			16
RODOLFO			12

2. CONSULTANTS

<u>Name & Address</u>	<u>Dates Worked (specify in field or office)</u>	<u>Number of 8 hour days</u>
GRA HOGES } P.O. Box 1637	MAY 1988 Report	2
CHRIS JONES } TIMMINS, ONT.	APRIL 13 - MAY 6 1988 SUPERVISE	2

3. DRAUGHTSMAN, TYPING, OTHERS (specify)

<u>Name & Address</u>	<u>Type of Work</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>
BRIAN BOLLINGER	DRAUGHTING	MAY 1988	2

TOTAL 8 HOUR TECHNICAL DAYS 66

4. LINE-CUTTING

<u>Name</u>	<u>Address</u>	<u>Dates Worked</u>	<u>Number of 8 hour days</u>

TOTAL 8 HOUR LINE-CUTTING DAYS _____

ASSESSMENT WORK BREAKDOWN

1. Type of Survey Inouco Polarization
2. Township or Area St Laurent
3. Numbers of Mining Claims Traversed by Survey 877286, 877287, 877293, 877294,
879345, 879346, 879347, 879350, 879362, 879363, 879364, 879886, 955596,
955597, 955598, 955600, 955601, 955602, 955603, 955606, 955607, 955608
955609, 955610, 955611, 955612, 955613, 955616, 955617, 955618,
955619
4. Number of Miles of Line Cut - Flown -
- *5. Number of Stations Established 540
- *6. Make and type of Instrument Used Scientax IPR-11, TSO-3
- *7. Scale Constant or Sensitivity ± 0.1 mV/V
- *8. Frequency Used and Power Output 8 Secs Cycle 50% Duty 3.0 kW

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

Total 8 hour Technical Days (Include Consultants, Draughting etc.) 66

Total 8 hour Line-Cutting Days -

Calculation

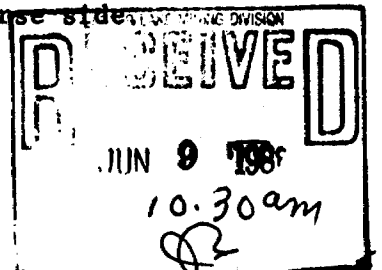
$$\frac{66}{\text{Technical}} \times 7 = \frac{462}{\text{Line-cutting}} + \frac{-}{\text{Line-cutting}} = \frac{462}{\text{Line-cutting}} \div \frac{31}{\text{Number of claims}} = \frac{14.90}{\text{Assessment credits per claim}}$$

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

Dated: JUNE 6/88

Signed: [Signature]

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





Ministry of
Northern Development
and Mines

Ontario

Ministère du
Développement du Nord
et des Mines

AMENDED

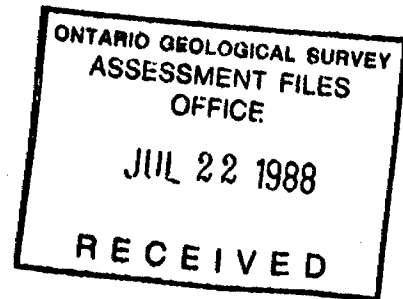
July 20, 1988

Your file: W8808-163
Our file: 2.11253

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Re: Notice of Intent dated June 17, 1988
Geophysical (Magnetometer) Survey
submitted on Mining Claims 876982 et al
in the Township of St. Laurent



The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

This approval replaces the statement dated June 17, 1988 as there was a typographical error in this one technical data statement.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines & Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

Rm
RM:pl
Enclosure

cc: Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

Glen Auden Resources Ltd.
P.O. Box 1637
136 Cedar Street S.
Timmins, Ontario
P4N 7W8

Noranda Exploration Company Limited
P.O. Box 1205
Timmins, Ontario
P4N 7J5



AMENDED

Recorded Holder
Glen Auden Resources Limited

Township Area
St. Laurent Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer <u>40</u> _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	L 876982-983 879374-375 879936-937 955588 to 591 inclusive 955596 to 603 inclusive 955610 to 613 inclusive 955616 to 623 inclusive 955625 to 630 inclusive

Special credits under section 77 (16) for the following mining claims

<u>30 days Magnetomter</u>	<u>20 days Magnetometer</u>
L 955606	L 955607 to 609

No credits have been allowed for the following mining claims

not sufficiently covered by the survey insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.



Ministry of
Northern Development
and Mines

Ontario

Ministère du
Développement du Nord
et des Mines

July 4, 1988

Your File: W8808-162

W8808-163

Our File : 2.11253

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

RE: Notice of Intent dated June 17, 1988.
Geophysical (Electromagnetic & Magnetometer)
Survey submitted on Mining Claims L 879936
et al in the Township of St. Laurent.

The assessment work credits, as listed with the above-mentioned
Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so
indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines & Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3
Telephone: (416) 965-4888

km
RM:sc

cc: Glen Auden Resources Ltd
P.O. Box 1637
136 Cedar Street S.
Timmins, Ontario
P4N 7W8

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: Resident Geologist
Kirkland Lake, Ontario

cc: Noranda Exploration Company Limited
P.O. Box 1205
Timmins, Ontario
P4N 7J5



Recorded Holder
Glen Auden Resources Limited

Township Area
St. Laurent Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer <u>40</u> _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	⁹ L 896982-683 879374-375 879936-937 955588 to 591 inclusive 955596 to 603 inclusive 955610 to 613 inclusive 955616 to 623 inclusive 955625 to 630 inclusive

Special credits under section 77 (16) for the following mining claims

<u>30 days Magnetometer</u> L 955606	<u>20 days Magnetometer</u> L 955607 to 609
---	--

No credits have been allowed for the following mining claims

not sufficiently covered by the survey insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.



Recorded Holder
Glen Auden Resources Limited

Township ~~XXXX~~
St. Laurent Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic <u>20</u> days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	L 877286-287 877293-294 879345-346 879378-379 879886 879932-933 955600 to 603 inclusive 955606 to 612 inclusive

Special credits under section 77 (16) for the following mining claims

<u>5 days Electromagnetic</u> L 879347 879350 879362 to 364 inclusive	<u>15 days Electromagnetic</u> L 955613
--	--

No credits have been allowed for the following mining claims

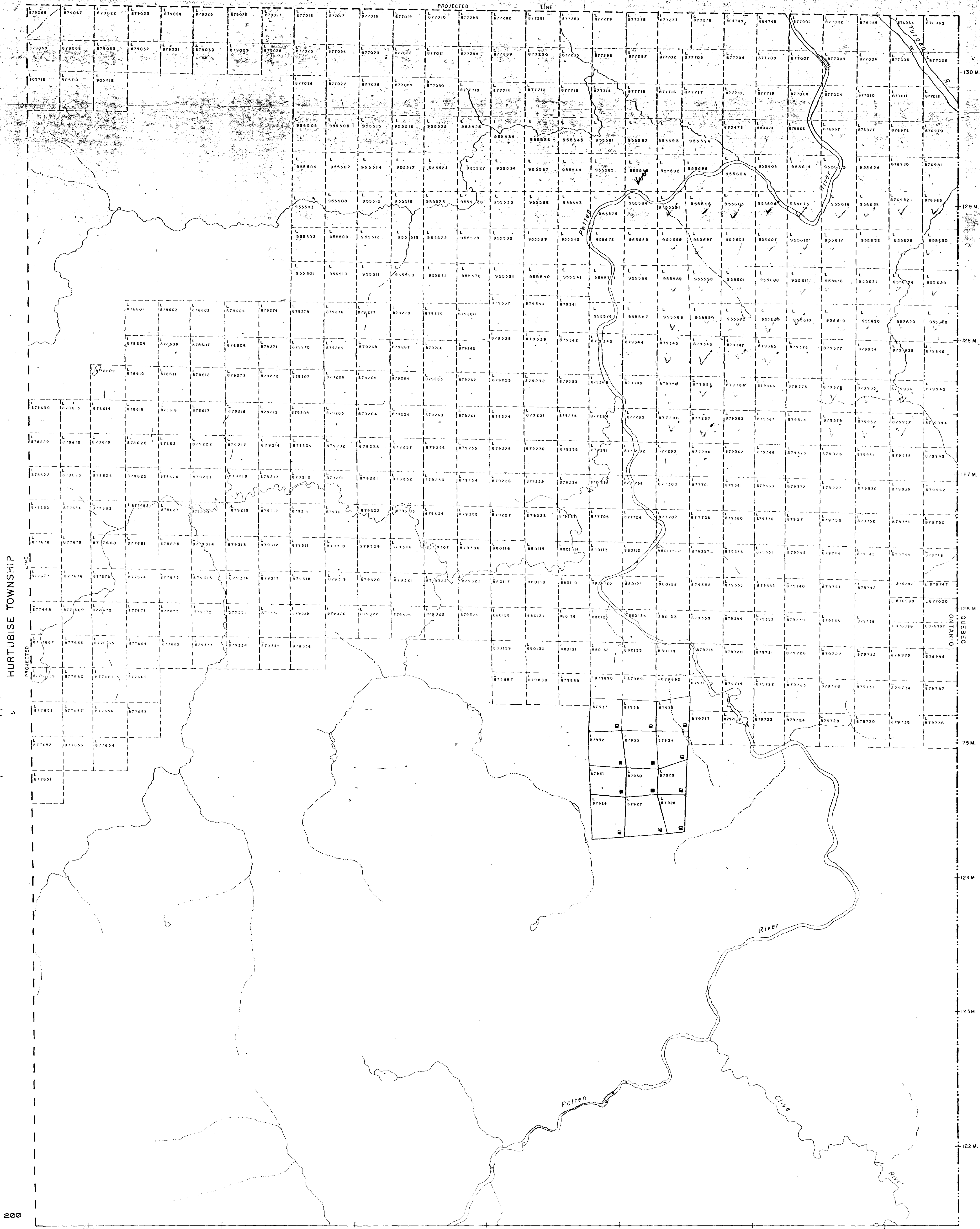
not sufficiently covered by the survey insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
S.R.O. - SURFACE RIGHTS ONLY
M.F.S. - MINING AND SURFACE RIGHTS
Description Order No. Date Disposition File

BRADETTE TOWNSHIP



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 LAND

TYPE OF DOCUMENT	SYMB
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	---
RESERVATION	---
CANCELLED	---
SAND & GRAVEL	---

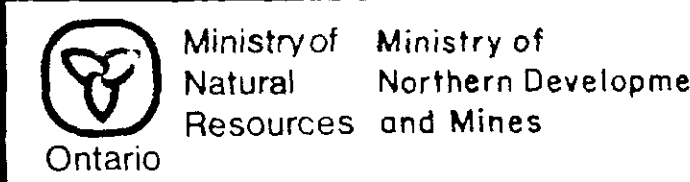
NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 1913, VESTED IN ORIGINAL PATENTEES BY THE P.U.L. LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBS.

HURTUBISE TOWNSHIP

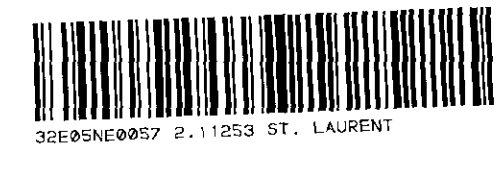
QUEBEC

ONTARIO

TOWNSHIP
ST. LAURENT
M.N.R. ADMINISTRATIVE DISTRICT
COCHRANE
MINING DIVISION
LARDER LAKE
LAND TITLES / REGISTRY DIVISION
COCHRANE



Date: OCTOBER, 1986 Number: G-356



200

CLIVE TOWNSHIP

ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.

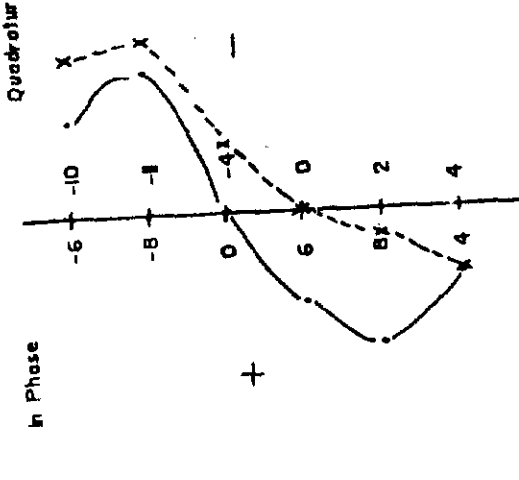
for
TARZAN GOLD INC.

Title
ST-LAURENT TWP. 2.11253
CHIMP GRID
MAX-MIN II SURVEY
4444 Hz
Date: March 88 Scale: 1:5000 N.T.S.: 32E/5
Drawn: JLB Approved: File: M-257

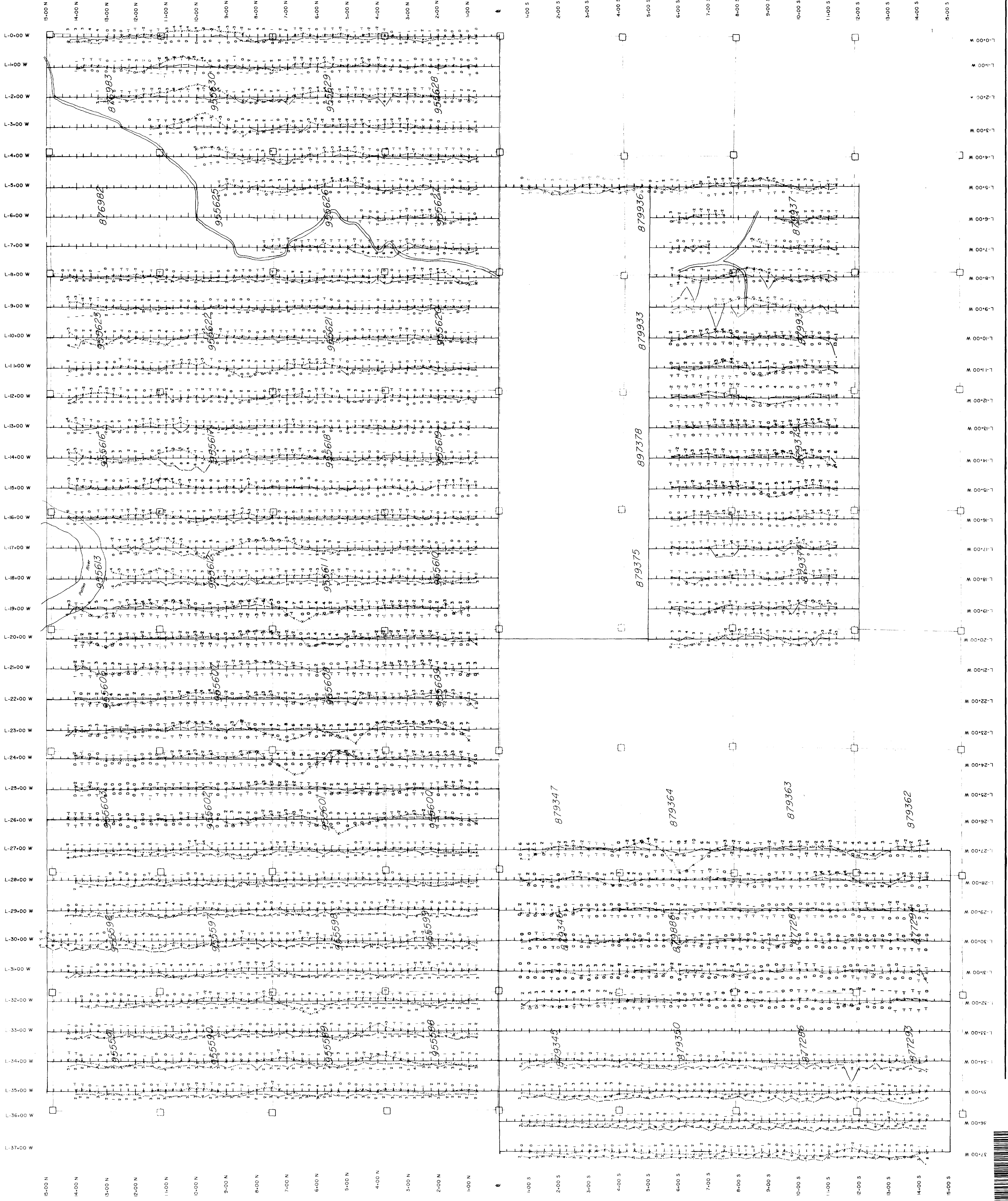


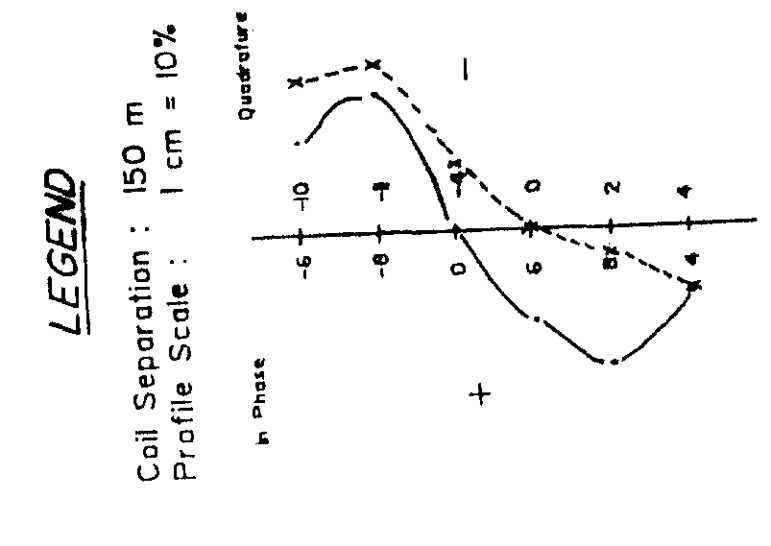
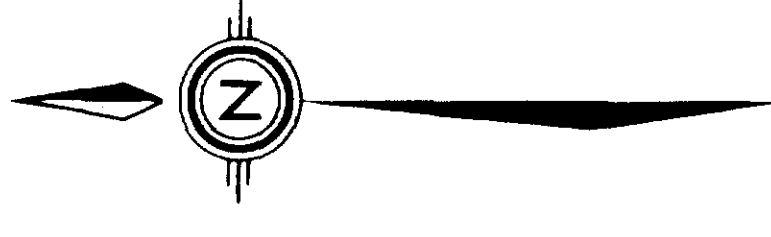
LEGEND

Call Separation: 150 m
Profile Scale: 1 cm = 10%



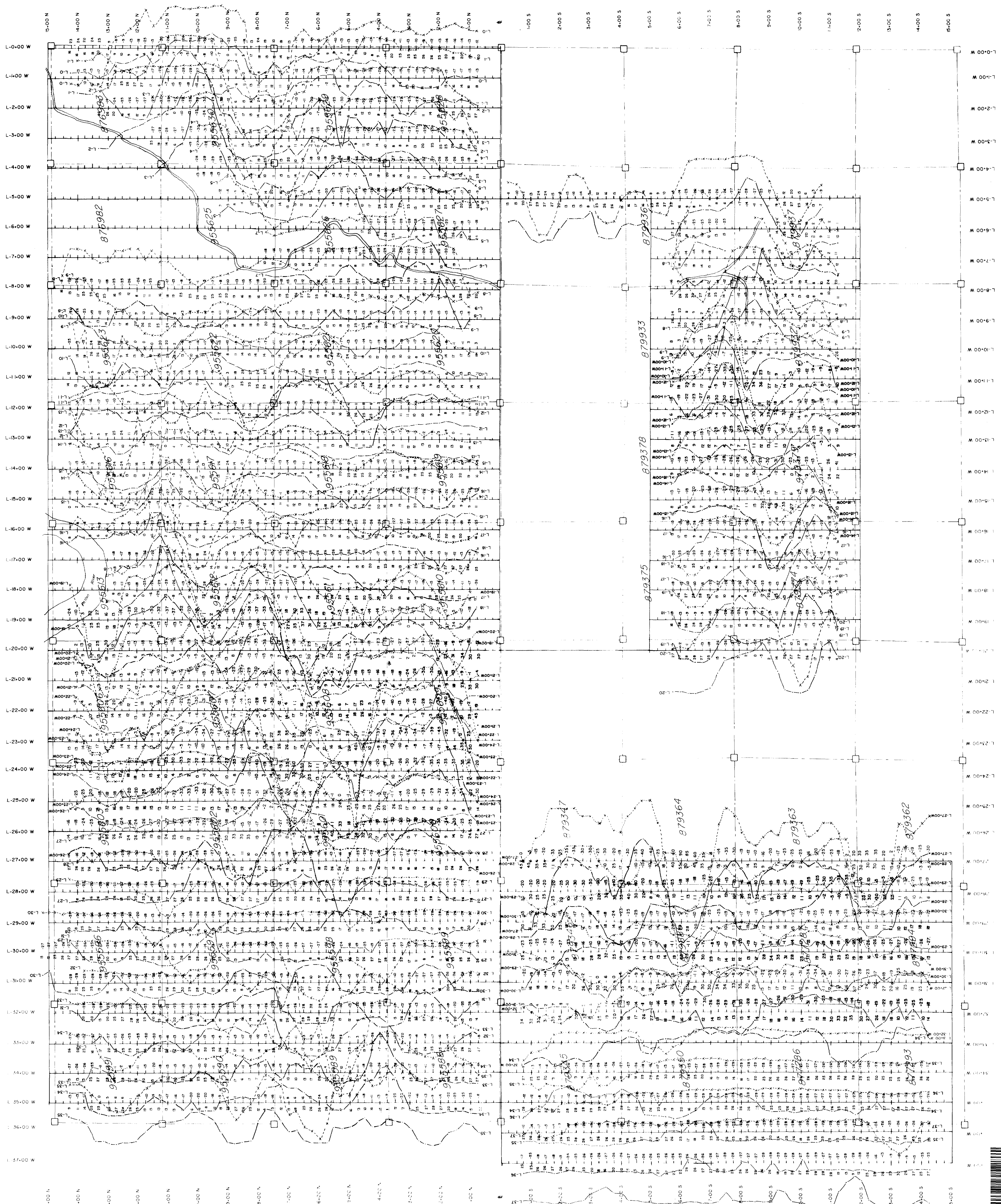
□ Claim Post Not Located
■ Claim Post Located, Position Approximate

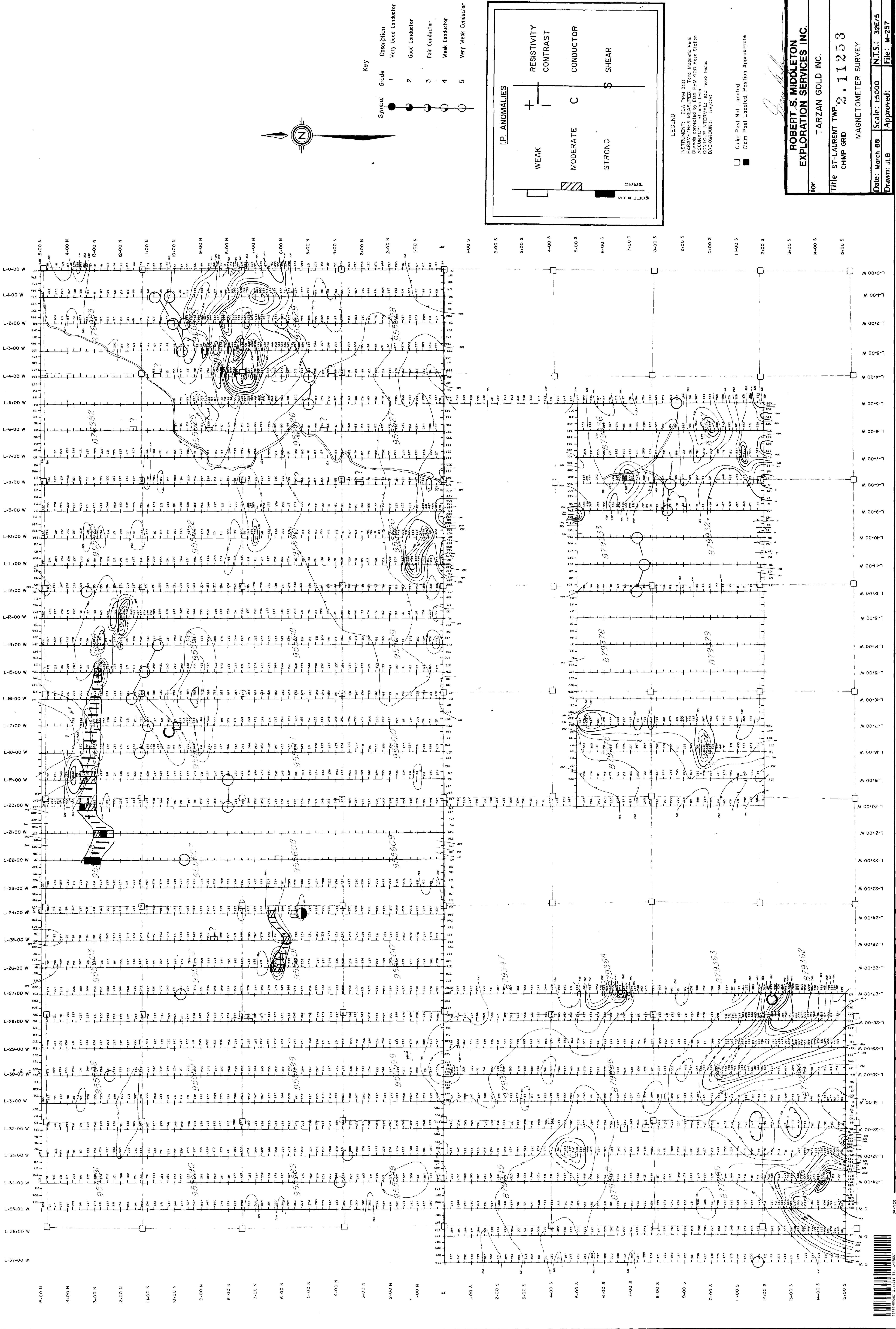




Claim Post Not Located
 Claim Post Located, Position Approximate

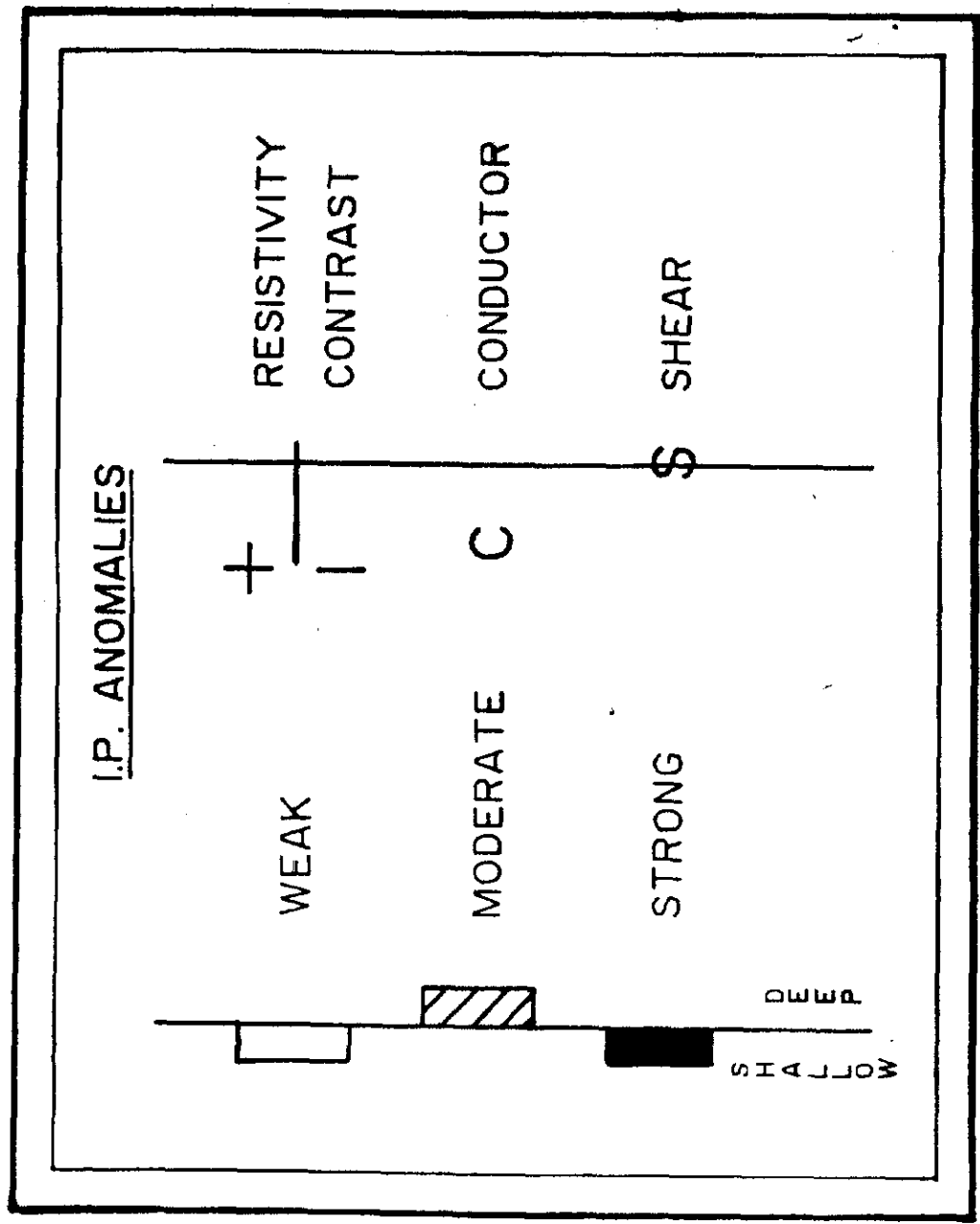
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.
for
TARZAN GOLD INC.
Title **ST-LAURENT TWP. 2.11253**
CHIMP GRID
MAX-MIN II SURVEY
3555 Hz
Date: March 88 Scale: 1:5000 N.T.S.: 32E/5
Drawn: JLB Approved: _____ File: M-257





Key

Symbol	Grade	Description
●	1	Very Good Conductor
○	2	Good Conductor
○	3	Fair Conductor
○	4	Weak Conductor
○	5	Very Weak Conductor



LEGEND

INSTRUMENT: EDA PPM 350
 GEOPHYSICIAN: J.L.B. MIDDLETON
 ACCURACY: ±1 mtd
 CONTOUR INTERVAL: 100 mtd
 BACKGROUND: 30000

□ Claim Post Not Located
 ■ Claim Post Located, Position Approximate

ROBERT S. MIDDLETON
 EXPLORATION SERVICES INC.

for
TARZAN GOLD INC.

Title
 ST-LAURENT TWP 2.1253
 CHMP GRID

MAGNETOMETER SURVEY

Date: March 88 Scale: 1:5000 N.I.S.: 32E/5
 Drawn: J.L.B. Approved: File: M-257

