GÉOLA
CONSEIL EN EXPLORATION

INDUCED POLARIZATION SURVEY

For PANTERRA MINERALS Inc.

MUNRO PROSPECT
Munro Township, Ontario

By L. Plante, ing., M.Sc. June 1998

98-978

1020, 3e Avenue Est (route 117 Sud), C.P. 418, VAL-D'OR (Québec) J9P 4P4 Tél.: (819) 825-8212 Fax: (819) 825-9742

CONTENTS

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INTRODUCTION

An induced polarization survey was done over a property, called the Munro Prospect, for **Panterra Minerals Inc.** The property is located in Munro township, Ontario. This survey is following other ones, which included I.P. and H.E.M.

The I.P. survey was done such as to cover the west part of the grid, i.e. lines 1200 W to 3300 W. Its purpose was to detect polarizable and/or conductive units that may be associated to economic mineralization, and to define the west extension of previously known polarizable units.

PROPERTY, LOCATION AND ACCESS

The property is located at 22 km east-north-east of Matheson, in Munro township, Ontario. The survey covered the following claims (± 128 hectares):

Munro township:

1049493	1049495 - 9496
1049614 - 9615	1111551 - 1552

Access to the property is easy from Matheson, using road 101 to the east and then a secondary road to the north, leading to the Hedman mine.

FIELD WORKS

During the period of May 7th to June 2nd, 1998, an I.P. survey (6,36 miles or 33600 feet) was performed in the Time Domain, using an IP-6 receiver, from IRIS, and a GDD-1400 transmitter (1,4 kW) from GDD Inc. The pole-dipole configuration was used, along with the following separations: a = 100 feet, n = 1 to 6. The remote pole was located on line 2100 W, at around 4500 N. Iron electrodes were used at the receiver and at the transmitter.

The electrode contact resistance was high due to the sand cover present on the property (mean value of ± 22 kΩ). The Vp was much stronger than 10 mV (mean value of ± 370 mV).

The pole-dipole configuration was used to be in conformity with the previous survey, where it was adopted to get through the sand cover more easily.

The survey was done only on the west part of the property, where the lines are 300 feet apart and strike ± north-north-east.

DISCUSSION ON THE GEOPHYSICAL METHODS

The induced polarization method

The induced polarization survey consists in introducing an electric current into the ground in the form of a "square wave", by means of two metallic electrodes. Two other electrodes permits the measurement of the current and of the voltage present in the ground during the transmission. The resistivity of the ground is then calculated with these two parameters while the chargeability is measured by observing the decrease of the voltage after the current flow stops. The chargeability is in millivolts/volt (mV/V) or milliseconds, and the resistivity in ohms-metres ($\Omega \cdot m$).

The induced polarization method allows the detection of massive or disseminated sulphide zones which are not necessarily conductive. The chargeability intensity of an anomaly depends mainly on the total surface of the disseminated sulphide grains, their nature, the geometrical shape and the depth of the sulphide zone as well as the conductivity and the thickness of the overburden.

That means the intensity of an I.P. anomaly varies with the grain size and theoritically, massive sulphide zones give a lower anomaly in chargeability than the same amount of sulphides disseminated. At the limit, if it is completely massive, we do not have a chargeability anomaly. It is almost impossible to interpret which quantity of sulphides is producing the anomaly. However, from previous data known on the property, we may guess the amount of sulphides.

If a weak anomaly of chargeability coincides to a low resistivity associated to a resistivity gradient, this anomaly may be

produced by ionic currents. Care should be taken in presence of this phenomenon.

High readings of resistivity normally mean that the bedrock is near the surface. Very often, this is also associated with a higher chargeability reading which is then difficult to say if there is presence of weak disseminated sulphides. High resistivity may also indicate the presence of silicified rocks.

Low readings of resistivity without high chargeability readings normally mean that the current does not reach the bedrock. A greater separation should be used in these areas. However, it may also mean presence of massive sulphides, which may be interpreted by the shape of the anomaly itself.

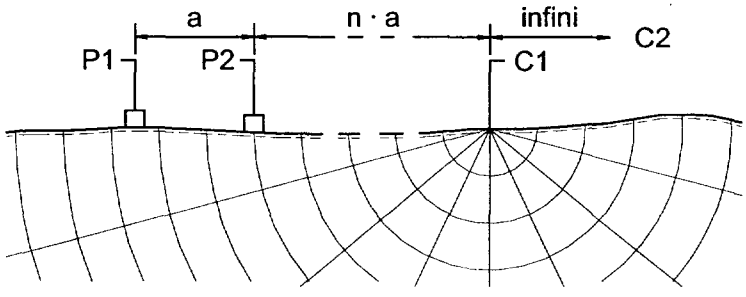
In other words, an induced polarization survey may sometimes be difficult to interpret (it gives no information about the dip) and it is normally recommended to detail any main anomalies and to interpret them with respect to the geological, topographic and all other pertinent information before proceeding with the drilling.

The readings of the survey are plotted in form of pseudo-sections. The anomalies are indicated by appropriate symbolism. The probable location of polarizable or conductive zones is indicated by an axis.

The resistivity was calculated using the following formula:

$$P_a = 2\pi \cdot n \cdot (n + 1) \cdot a \cdot V / I \quad \Omega \cdot m$$

Pole-Dipole configuration:



Profiles on the pseudosections are computed using Fraser filtering. The Metal factor was also computed, using the following formula:

M.F. = (Chargeability x 1000) / Resistivity

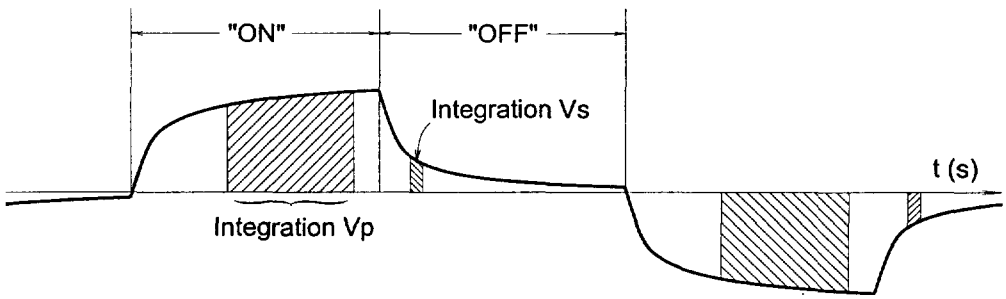
The M.F. permits to enhance the anomalies. If strong variations of resistivity is encountered, it is recommended to go back to the initial data for a better interpretation.

Spectral analysis

This processing technic permits to compute spectral parameters from the Time domain I.P. data. These parameters describe the shape of the decay curves as measured in the field. The method we use, is described in Johnson (1984), which is based on the Fourier analysis of the conventional Time domain "square" wave (see below), simulated by the Cole-Cole model. We also refer the reader to the paper of Pelton et al. (1978).

The Time domain pulse train: the conventional chargeability values are computed using Vp and Vs, the latter being the residual voltage

measured after transmitter shut-off. The shape of the decay curve will vary, according to many factors, such as grain size for example. And the spectral parameters are aimed at describing this shape.



The spectral parameters are the time constant τ, the frequency dependence C and the Seigel chargeability M. The time constant is the rate of change of the curve with time and is expressed in seconds. It has been related to grain size and concentration. It normally ranges from 10 ms to more than 100 ms. The frequency dependence is an exponent affecting the time constant, and normally ranges between 0.1 to 0.6. It is relatively independent of the mineralogy but would gives an idea of the grain size distribution. The Seigel chargeability is defined as "the ratio of voltage measured immediately after, to voltage immediately before cessation of an infinitely long charging current". It is related to concentration.

An important point to note is that the discrimination that can be achieved by spectral analysis, appears to be caused by mineral texture rather than by rock composition.

The spectral parameters can also be used to assess the quality of the I.P. data and to remove inductive electromagnetic coupling. Finally, very high quality data, with a strong response to noise ratio must be available to produce reliable results.

DESCRIPTION AND INTERPRETATION

The induced polarization survey

The I.P. survey was done on lines 1200 W to 3300 W and covered the west part of the grid. It permitted to detect some anomalies and to define the extension of some of the previously known anomalies. Four anomalies were described in a tabular form at the end of the report. Two of them were classified in first priority, one in second and one in third. Other weak or not well defined I.P. anomalies were plotted on the maps but were not described. The same applies to simple resistivity lows.

The apparent resistivity is moderate to high over the survey area. It ranges from values under 500 Ω·m and up to and over 10000 Ω·m locally, indicating the penetration is good. The lower resistivity zones, where resistivity generally increase with N, are interpreted as being produced by an increase in conductive overburden thickness, and can be related to valley and/or fault in the bedrock, for example. The data do not permit to define conductivity increase that would have been interpreted as being produced by "massive mineralization zone" (whether graphite or sulphides). The higher resistivity zones are interpreted as bedrock crests or possibly outcrops. The presence of a relatively thick sand cover is interpreted from high resistivities on N = 1, decreasing with N (see on lines 1500 W and 1800 W, around 1800 N to 2000 N).

The first priority anomalies are P-03 and P-10. They show strong chargeability values on lines 1200 W to 1800 W. The east extension of P-03 was previously defined. Its extension west of 1800 W, is very weak, not well defined, and its source would be deeper there. It also appears that P-03 is formed by two sources, ± merged together, and which can be interpreted from 300 E to 1500 W, and possibly up to

2100 W (?). The two axes forming P-03 seem to be displaced by a dextral fault or by some small scale folding around 450 W.

As for P-10, it seems to converge toward P-03 around line 750 W. It cannot be clearly interpreted west of 1800 W. It is associated to resistivity low values on lines 1500 W and 1800 W (interpreted "under" the sand cover effect on N = 1), and which have an echo on the out-of-phase response of a previous H.E.M. survey. The conductance of that zone is weak.

The second priority anomaly, P-09, is weak but is relatively well defined on line 1500 W. From 1800 W to 600 W, it is always located on the south side of a resistivity high zone. P-09 may then be produced by some disseminated mineralization located along a possible contact (?). P-11 is the third priority anomaly. It has been detected at the south limit of line 1500 W. It would appear to be well defined, so it should be detailed to the south with I.P. if possible.

All the anomalies are plotted on the pseudosections and on the maps. Now since the pole-dipole configuration was used, the anomaly is somewhat displaced away from the remote pole in reference from the related source. This displacement is about one third to one half of the separation. So in our case, the sources are located a bit to the north of the interpreted anomaly axes.

Spectral analysis on lines 1800 W, 1500 W, 600 E and 300 E

At the request of the company representative, we performed a spectral analysis on the lines listed above. The reason is that the known mineralization in the area is composed of at least two facies (M. Richard Roy, comm. pers.). First, a distal facies, composed of

a graphitic breccia (hyaloclastics), is present on this property, specifically on line 600 E (anomaly P-03). The second and more interesting mineralization type sees an enrichment of the breccia in sulphides to the expense of graphite (Hedman mine, a few kilometres to the north-west). The sulphides may be massive locally. The object of the analysis was then to try to differentiate between these two types.

The result of the analysis is much noisy. This is attributed to the presence of the sand cover which is very thick at places, and to the clay layer underneath. We however tried to get something out of this. On the four lines of the test, the P-03 / P-10 zone displays relatively strong chargeabilities, stronger on lines 300 E and 600 E. In fact, P-03 / P-10 appears somewhat deeper on lines 1500 W and 1800 W. Moderate resistivity low may also be interpreted in association with the zone on 600 E, 1500 W and 1800 W. Also, on lines 600 E, 1500 W and 1800 W, P-03 can easily be interpreted as two distinct bodies. On line 300 E, only one large zone is interpreted.

On line 300 E and 600 E, the P-03 zone yielded strong Seigel chargeabilities (400 to 500 mV/V), with, as far as one can judge, relatively low time constant (around 0.3 to 3 s; better seen on 300 E). The frequency dependence ranges around 0.3. Now on lines 1500 W and 1800 W, P-03 / P-10 shows chargeabilities in the same range. The frequency dependence would be somewhat lower (0.1 to 0.2). But the time constant appears to be much higher.

If these figures are really representative of the mineralized sources, then our conclusion is that the bodies on lines 1500 W and 1800 W have a grain size that would be somewhat greater that on lines 300 E and 600 E. The grain size distribution would also be more uniform on lines 1500 W and 1800 W. Is it possible to draw some conclusion about the composition of the source ? Mineralogical / textural data from the property must now be confronted with these results. Note that "grain size" refers to "electrically interconnected

conductive minerals", and means that a mass of fine interconnected grains will behave like "coarser grain" material.

But much care must be taken by the reader. First, there is much noise in the data (see the "spectral" pseudosections), for the previously mentioned reasons. Second, part of the true response comes from the sand cover and this certainly affects the signal that comes from below.

CONCLUSION ET RECOMMANDATIONS

The induced polarisation survey done on the property, permitted to detect the extension of three anomalies defined in the previous survey, and to detect some other ones. Four anomalies were thus described, two of them being classified in first priority. The first priority anomalies, i.e. P-3 and P-10, should be verified by drilling if this has not been done in the past. The result of the spectral analysis should also be confronted to known geological informations, in order to see if our related conclusion was relevant and useful. P-11 should be detailed with I.P. if possible. All other available geoscientific data should be used in order to re-evaluate the anomalies. Magnetic data should be used (whether compiled from older sources or measured in the field) to ameliorate our interpretation.

Respectfully submitted,

By: _____
Langis Plante, ing., M.Sc.

DESCRIPTION OF I.P. ANOMALIES

Project: Munro Prospect - west extension of previous I.P. (lines 1200 W to 3300 W)
Township: Munro, Ontario

MAP GRID	Anomaly And Length (feet)	Time Domain. Pole-dipole, a = 100 feet, n = 1 to 6 GENERAL DESCRIPTION And ASSOCIATION	LOCAL DESCRIPTION (i.e. at a particular site) LINE STATION	Ma/Base Pa/Base	REMARK	Priority
	P-03 extension 2500	I.P. anomaly. Stronger and better defined on 1200 W and 1500 W (and east of 1200 W.). Weak and not well defined west of 1800 W, where its source may be much deeper (?). Seems to be "double" from 000 E to 1800 W. Would be displaced by a dextral fault (or by small scale folding) between lines 300 W and 600 W.	1200 W 1255 N	10 / 3 - 5 > 5000	Well defined I.P. High resistivities (sand layer effect on N = 1). Disseminated mineralization type.	1
	P-09 extension 1200	I.P. anomaly. Weak. Better defined on 1500 W. From 1800 W to 600 W, always located on the south side of higher resistivities: possible contact zone ?	1500 W 1375 S	6,5 / 3 - 4 gradient	Possible weak I.P., relatively well defined. Resistivity gradient: possible disseminated mineralization along a contact ?	2
	P-10 extension 1100	Strong I.P. anomaly, located along the north side of P-03. Seems to converge toward P-03 between 900 W and 600 W (?). Resistivity low, seen under the sand layer effect, on lines 1500 W and 1800 W, associated with an out-of-phase response on the 1777 Hz H.E.M. data (i.e. weak conductance).	1500 W 2060 N	27 / 3 - 5 <1000 / >3000	Strong I.P. anomaly, well defined. Apparently with a resistivity low below the sand layer effect.	1
	P-11 ---	At the south limit of the survey. Should be detailed to the south.	1500 W 3050 S	4 / 1 - 3 500 / >1000	Would be a well defined I.P. anomaly. But must be detailed.	3

Ma = Chargeability expressed in mV/V; **Pa** = Resistivity expressed in ohms-metres; **Base** = mean base level; 1 nT = 1 gamma.
SF = Sulphides; **PY** = Pyrite; **PO** = Pyrrhotite; **GP** = Graphite; **MG** = Magnetite.

GÉOLA
CONSEIL EN EXPLORATION

STATEMENT FOR ASSESSMENT WORK

I, the undersigned Langis Plante, for **Géola Limitée**, certify to the following:

During the period of May 7th to June 2nd, 1998, an induced polarisation survey (6.36 miles or 33600 feet) was done over the Munro Prospect for **Panterra Minerals Inc.**

The property is located at 22 km east-north-east of Matheson, in Munro township, Ontario. The survey covered the following claims (± 128 hectares):

Munro township:

1049493	1049495 - 9496
1049614 - 9615	1111551 - 1552

Description of the induced polarization method:

Transmitter:	GDD-1400, 1,4 kW;
Receiver:	IP-6, IRIS;
Configuration:	Pole-dipole;
Separation:	a = 100 feet, n = 1 to 6;
Remote pole:	line 2100 W, ± 4500 N;
Interval:	100 feet;

1020, 3e Avenue Est (route 117 Sud), C.P. 418, VAL-D'OR (Québec) J9P 4P4 Tél.: (819) 825-8212 Fax: (819) 825-9742

Description of the induced polarization method (continued):

"Time" Domain;
Parameters: Resistivity and chargeability (weighed average);
Cycle: 2 sec. ± ON, 2 sec. OFF,
Integration: from 240 ms to 1840 s
and from 160 to 1740 ms.

Operators:

(5 days) Jacques Demers, chief
663 R.R. 1, Authier-Nord, QC, J0Z 1E0

(5 days) Bastien Daniel
470 R.R. 8-9, Authier-Nord, QC, J0Z 1E0

(5 days) Alain Daniel
80 Principale, Macamic, QC, J0Z 2S0

(5 days) Veillette Martin
123 Tardif Est, Rouyn-Noranda, QC, J9X 3R1

(5 days) Coulombe Christian
222 R.R.1-2, Macamic, QC, J0Z 2S0

Respectfully submited

By: _____
Langis Plante, ing., ~~M.Sc.~~

INGÉNIEUR · ENGINEER
LANGIS PLANTE
41853
QUÉBEC

GÉOLA
CONSEIL EN EXPLORATION

GÉOLA
CONSEIL EN EXPLORATION

CERTIFICATE

1. I, the undersigned Langis Plante, residing at 73, chemin Baie Carrière, Val d'Or, QC, graduated with a B.Sc.A degree in geological engineering in 1983 and with a M.Sc. degree in geology (geophysics) in 1986 from Laval University.

2. I am a member of the Ordre des Ingénieurs du Québec and of the Association Professionnelle des Géologues et des Géophysiciens du Québec. I am practicing as an engineer since 1986.

3. I have no direct or indirect interests in the mining claims owned by ***PANTERRA MINERALS INC.*** nor in the securities of these companies and I have no intention of receiving such interests.

4. The interpretation and recommendations described in this report are based on my general knowledge and on my personal experience in geology, geophysics and mining exploration.

5. I authorize the above-mentioned company to use this report for any legal and/or official purposes.

Signed in Val d'Or, this sixteenth (16th) day of June of the year one thousand nine-hundred ninety-eight (1998).

By: _____
Langis Plante, Ing., M.Sc.

INGÉNIEUR · ENGINEER
LANGIS PLANTE
41853
QUÉBEC

1020, 3e Avenue Est (route 117 Sud), C.P. 418, VAL-D'OR (Québec) J9P 4P4 Tél.: (819) 825-8212 Fax: (819) 825-9742

Ontario Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

[redacted]

PNA: Munro Prospect

sections 65(2) and 66(3) of the Mining Act. Under section 6 of the Mining Act, this nt work and correspond with the mining land holder. Questions about this collection nt and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

42A09SE2008 2.18696 MUNRO 900

Instructions: - For work performed on Crown Lands before recording a claim, use form 0212.
- Please type or print in ink.

2.18696

1. Recorded holder(s) (Attach a list if necessary)

Name: 2973090 Canada Inc	Client Number: 300337
Address: 152 chemin de la Mine Ecole, Val d'Or, Quebec J9P 4N7	Telephone Number: (819) 824-1030
	Fax Number: (819) 824-1003
Name	Client Number
Address	Telephone Number
	Fax Number

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10:00
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2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☑ Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☐ Physical: drilling stripping, trenching and associated assays ☐ Rehabilitation

Work Type: Induced Polarization			Office Use
			Commodity 1
			Total $ Value of Work Claimed 11,335
Dates Work Performed: From 07 (Day) 05 (Month) 1998 (Year) To 02 (Day) June (Month) 1998 (Year) ✓			NTS Reference
Global Positioning System Data (if available)	Township/Area: Munro		Mining Division: Larder Lake
	M or G-Plan Number: M-376		Resident Geologist District: Kirkland Lake

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name: Geola Conseil en Exploration (L. Plante)	Telephone Number: (819) 825-8212
Address: 1020, 3e Ave. Est, C.P. 418, Val d'Or, Que J9P 4P4	Fax Number: (819) 825-9742
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

4. Certification by Recorded Holder or Agent

I, Larry J. Stoliker (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent: Larry J. Stoliker			Date: July 30, 1998
Agent's Address: P.O. Box 64, Frankford, Ont K0K 3C0	Telephone Number: (613) 962-0719		Fax Number: (613) 962-1583

0241 (03/97)

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MINING DIVISION
AUG 7 1998

3.35

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W9880.00490

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date
eg	TB 7827	16 ha	$26,825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8,892	$ 4,000	0	$4,892
1	L-1049493	1	$1889			$1889
2	L-1049495	1	1889			1889
3	L-1049496	1	1889			1889
4	L-1049614	1	1417	2.18696		1417
5	L-1049615	1	1889			1889
6	L-111551	1	1417			1417
7	L-111552	1	945			945
8						
9						
10						
11						
12						
13						
14						
15						
	Column Totals	7	$11335			$11335

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I, Larry J. Stoliker (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing	Date
Larry J. Stoliker	July 30, 1998

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☑ 1. Credits are to be cut back from the Bank first, ~~followed by option 2 or 3 or 4~~ as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
RECEIVED LARDER LAKE MINING DIVISION AUG 7 1998	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (03/97)

3.35 yr

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use)
W9880.00490
PNA: MUNRO PROSPECT

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Induced Polarization	6.36mi (10.23km)		$209.57
	2.18696		
Associated Costs (e.g. supplies, mobilization and demobilization).			
Report & Field Preparations		2days @ $200	400.00
Report Writing & Drafting	(included above)		—
Transportation Costs			
750 km @ $.30/km		"	225.00
Food and Lodging Costs			
5 men x 5 days x $100			2500.00
		Total Value of Assessment Work	$11334.57

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10,000
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Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK	x 0.50 =	Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Larry J. Staliker (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Agent (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

RECEIVED
LARDER LAKE
MINING DIVISION
AUG 7 1998

Signature	Date
Larry J. Staliker	July 30/98

0212 (03/97)

3.35 km

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

October 30, 1998

2973090 CANADA INC.
152, CHEMIN DE LA MINE ECOLE
VAL D'OR, QUEBEC
J9P-4N7

Dear Sir or Madam:

Submission Number: 2.18696

Subject: Transaction Number(s):		**Status**
	W9880.00490	Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at jeromel2@epo.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 13003

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.18696

Date Correspondence Sent: October 30, 1998 **Assessor:** Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9880.00490	1049493	MUNRO	Approval	October 26, 1998

Section:
14 Geophysical IP

Assessment work credit has been redistributed, as outlined on the attached Distribution of Assessment Work Credit sheet, to better reflect the location of the work.

Correspondence to:

Resident Geologist
Kirkland Lake, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Larry J. Stoliker
KIRKLAND LAKE, ONTARIO, CANADA

2973090 CANADA INC.
VAL D'OR, QUEBEC

Correspondence ID: 13003

Distribution of Assessment Work Credit

The following credit distribution reflects the value of assessment work performed on the mining land(s).

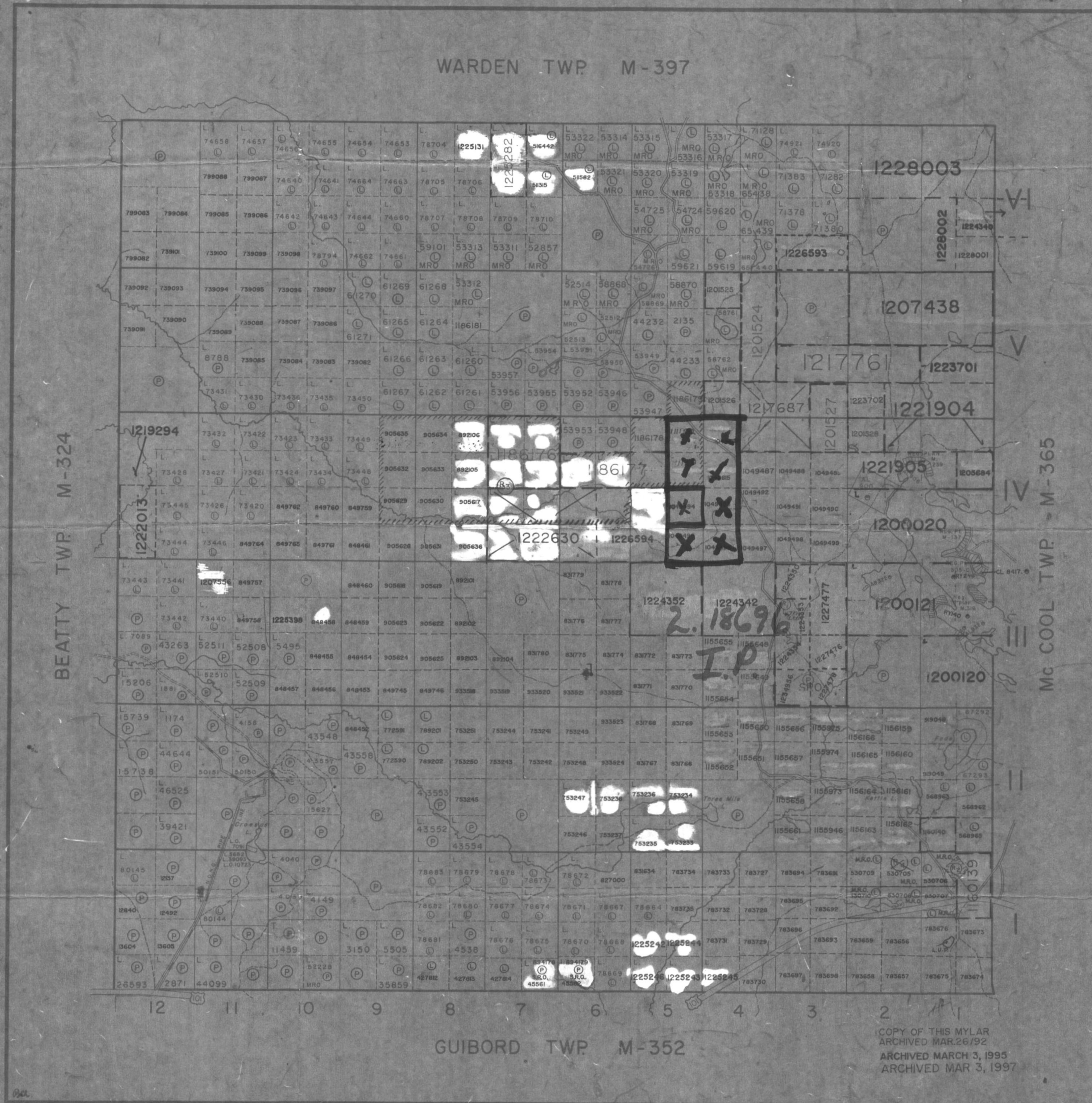
Date: October 30, 1998

Submission Number: 2.18696

Transaction Number: W9880.00490

Claim Number	Value Of Work Performed
1049493	1,600.00
1049494	1,600.00
1049496	1,600.00
1049495	1,600.00
1049614	1,200.00
1049615	1,600.00
1111551	1,200.00
1111552	935.00
Total: $	11,335.00

Correspondence ID: 13003



THE TOWNSHIP OF MUNRO

DISTRICT OF COCHRANE

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

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

DATE OF ISSUE

SEP 0 4 1998

PROVINCIAL RECORDING OFFICE - SUDBURY

NOTES

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

Areas withdrawn from staking

(R1) SURFACE RIGHTS WITHDRAWN FROM STAKING, SECTION 164386, 9/1/63

(R2) SURFACE RIGHTS WITHDRAWN FROM STAKING, SECTION 186522, W. 14/77, 10/2/77

(R3) SURFACE RIGHTS WITHDRAWN FROM STAKING, SECTION 186522 N.R.W. 15/83, 21/3/83

(R4) ~~SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING, N.R.W. 67/86, 29/10/86~~

O-08/88, OPENS PART OF NRW67/86

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

NOTICE OF FORESTRY ACTIVITY

THIS TOWNSHIP / AREA FALS WITHIN THE WATABEAG MANAGEMENT UNIT

AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT P.O. BOX 129 SWASTIKA, ONT. P0K 1T0 705-642-3222

PLAN NO. M-376

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

ULTRAMAFIC INTRUSIVE
DIABASE DYKE
VOLCANIC BRECCIA
GABBRO
GABBRO
ULTRAMAFIC INTRUSIVE
GEOLA SURVEY
SAGAX SURVEY
L. 33+00W
L. 30+00W
L. 24+00W
L. 18+00W
L. 12+00W
L. 6+00W
L. 0+00
L. 6+00E
L. 12+00E
L. 18+00E
L. 24+00E
L. 30+00E
L. 36+00E
9 V3B/13B 10 ppm Zn
8 13B 9.1 ppm Zn
10 V3B 604 ppm Ni
11 V3B 304 ppm Ni
2 V3B/13B 255 ppm Cu
2 V6/14 971 ppm Ni
MAFIC VOLCANIC
1111552
1049614
DIORITE
DIABASE DYKE
1111551
1049615
1049487
1049488
1049489
98MUN-04
98MUN-01
98MUN-02
98MUN-05
FELSIC VOLCANIC
VOLCANIC BRECCIA
B.L. 0+00
1049494
DIORITE
1049493
MAFIC VOLCANIC
1049492
GABBRO
CENTER HILL FAULT
95MUN-03
1049490
1049491
1049495
1049497
1049496
1049498
1049499
ULTRAMAFIC INTRUSIVE
MUNRO LAKE
BLUEBERRY LAKE
B.L. 0+00
2.18696
RECEIVED
AUG 11 1998
10:00
GEOSCIENCE ASSESSMENT OFFICE
DUPLICATE

GEOPHYSICAL LEGEND

INDUCED POLARIZATION SURVEY

RESISTIVITY — Low / High

CHARGEABILITY — Possible / Better defined

CHARGEABILITY AXIS (Very well defined)

CHARGEABILITY AXIS (Possible)

RESISTIVITY AXIS (Low)

DISCONTINUITY (possible fracture)

CHARGEABILITY

FOR: PANTERRA MINERALS INC.

BY: GEOLA LTEE

MUNRO PROSPECT

300' 0 300' 600'

1 INCH = 300 FEET

N.T.S.: 42 A/09	TOWNSHIP: MUNRO
	PROVINCE: ONTARIO
DATE 24/03/98	DRAWN BY: C.B.
MAP NO.: GEOLA 98-978	INTERPRETED BY: L.Plante Ing. M.Sc.

42A09SE2008 2.18696 MUNRO 210

INGÉNIEUR · ENGINEER
LANGIS PLANTE
41853
QUÉBEC

2.18696

GEOPHYSICAL LEGEND

INDUCED POLARIZATION SURVEY

RESISTIVITY — Low / High

CHARGEABILITY — Possible / Better defined

CHARGEABILITY AXIS (Very well defined)

CHARGEABILITY AXIS (Possible)

RESISTIVITY AXIS (Low)

DISCONTINUITY (possible fracture)

RESISTIVITY

FOR: PANTERRA MINERALS INC.

BY: GEOLA LTEE

MUNRO PROSPECT

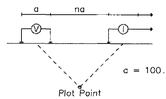
300' 0 300' 600'

1 INCH = 300 FEET

N.T.S.: 42 A/09	TOWNSHIP: MUNRO
	PROVINCE: ONTARIO
DATE 24/03/98	DRAWN BY: C.B.
MAP NO.: GEOLA 98-978	INTERPRETED BY: L.Plante Ing. M.Sc.

Line 300.00 E

Dipole-Pole



Generator : 1.4 kW

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

INTERPRETATION

Induced polarization anomaly.

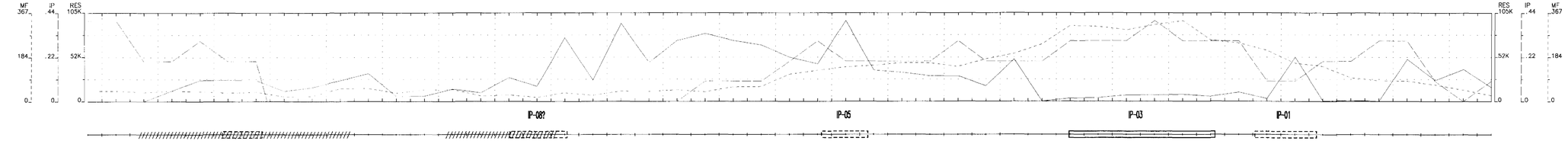
Resistivity low.

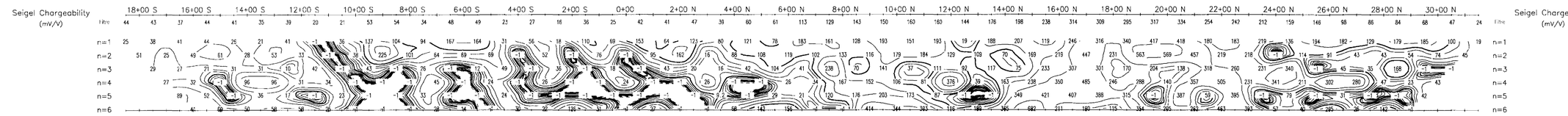
Resistivity high.

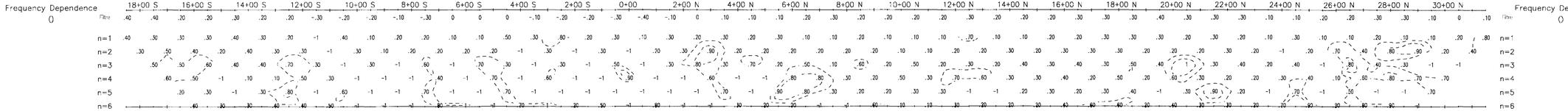
Scale 1:2400

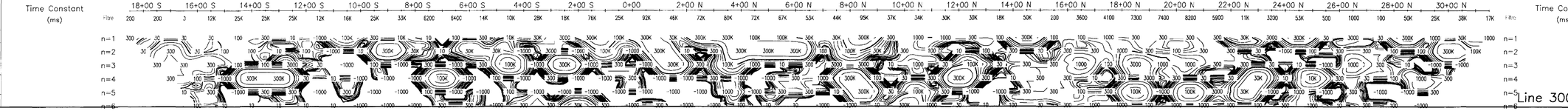
100 0 100 200 300 400 500 (feet)

PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.
Date: 98/06/18
Interpretation: L. Pilarte Eng. M. Sc.
GEOLA LTEE 98-978-09





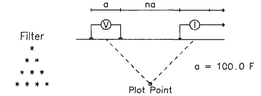




Line 300.00 E

Line 600.00 E

Dipole-Pole



Generator : 1.4 kW

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

INTERPRETATION

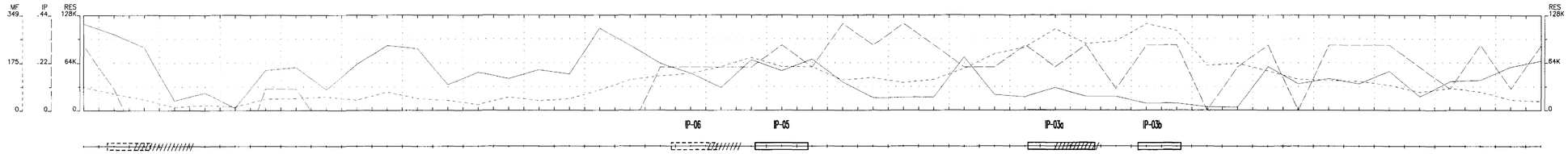
Induced polarization anomaly.

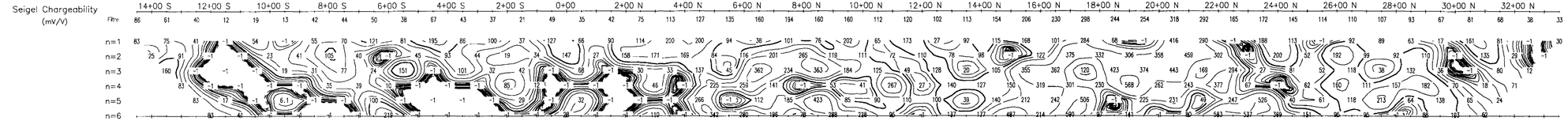
Resistivity low.

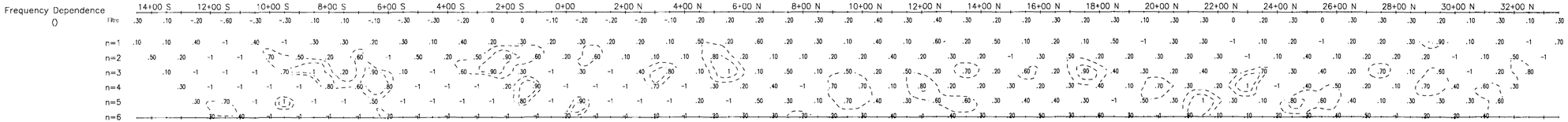
Resistivity high.

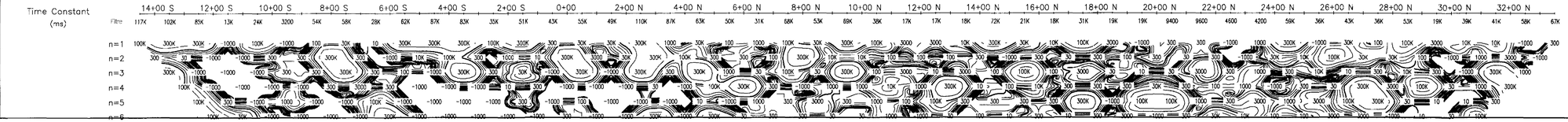
Scale 1:2400

100 0 100 200 300 400 500 (feet)









PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

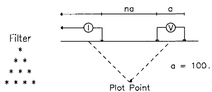
Date: 98/06/18
Interpretation: L. Plante Eng., M. Sc.

GEOLA LTEE 98-978-10

Line 600.00 E

Line 1200.00 W

Pole-Dipole



Operator : J. Demers
Receiver : IP-6, BRGM
Transmitter : GDD 1400
Generator : 1.4 kW

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

INTERPRETATION

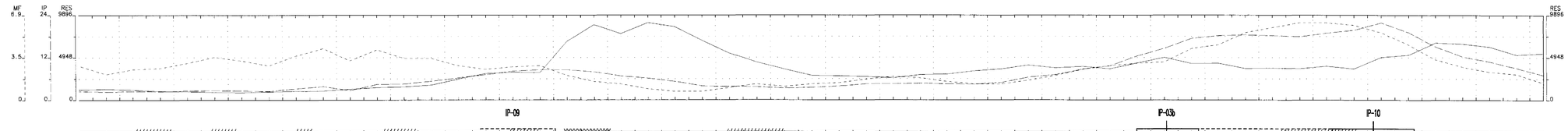
Induced polarization anomaly.

Resistivity low.

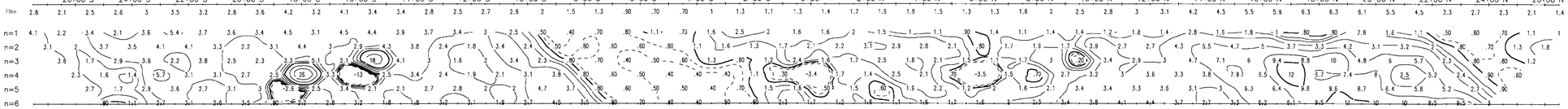
Resistivity high.

Scale 1:2400

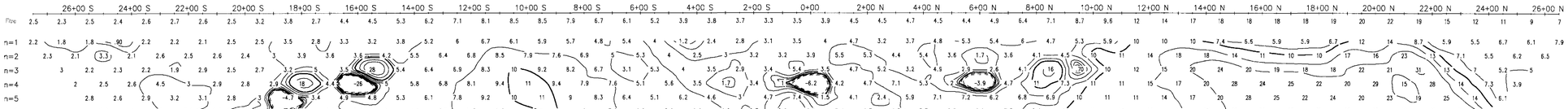
100 0 100 200 300 400 500 (feet)



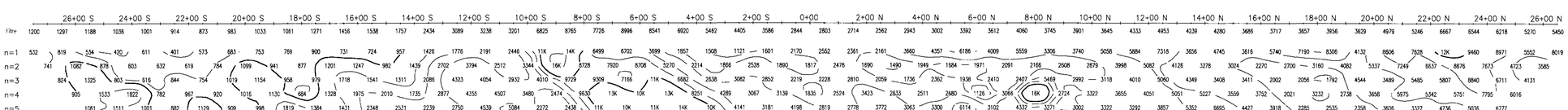
Metal factor (char * 1000 / res)



Chargeability (milliVolts/Volt)



Resistivity (ohms-metres)



PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.
Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.
GEOLA LTEE 98-978-01

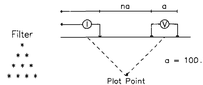
Line 1200.00 W

250

42A09SW2008 2.18696 MUNRO

Line 1500.00 W

Pole-Dipole



Operator : J. Demers
Receiver : IP-6, BRGM
Transmitter : GDD 1400
Generator : 1.4 kW

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

INTERPRETATION

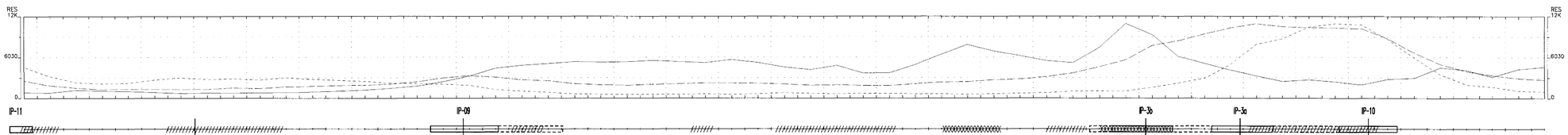
Induced polarization anomaly.

Resistivity low.

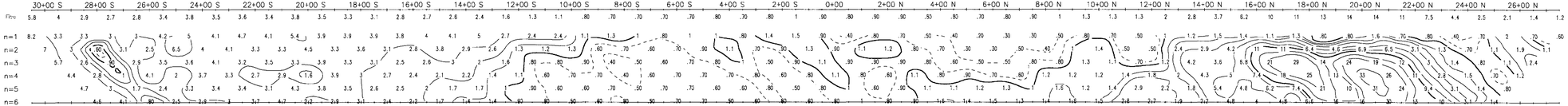
Resistivity high.

Scale 1:2400

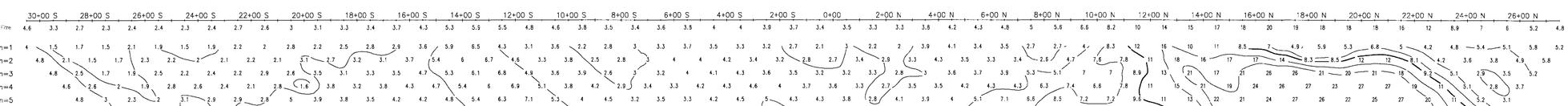
100 0 100 200 300 400 500 (feet)



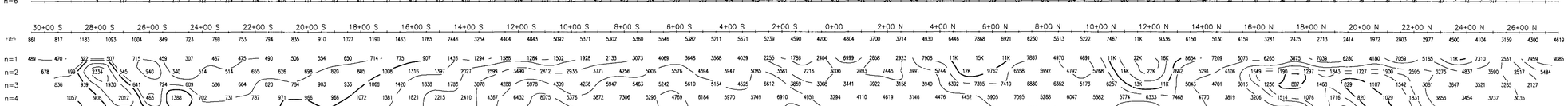
Metal factor (char * 1000 / res)



Chargeability (milliVolts/Volt)



Resistivity (ohms-metres)



Metal factor (char * 1000 / res)

Chargeability (milliVolts/Volt)

Resistivity (ohms-metres)

Line 1500.00 W

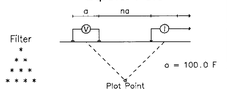
PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.

GEOLA LTEE 98-978-02

Line 1500.00 W

Dipole-Pole



Generator : 1.4 kW

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

INTERPRETATION

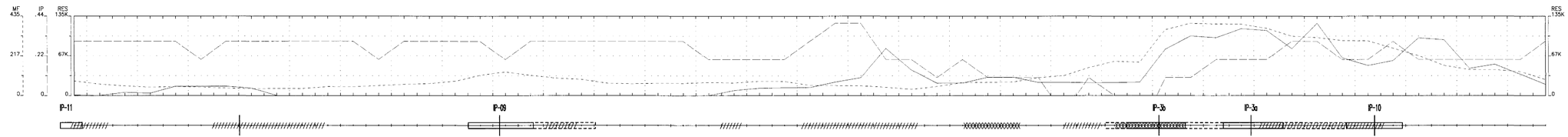
Induced polarization anomaly.

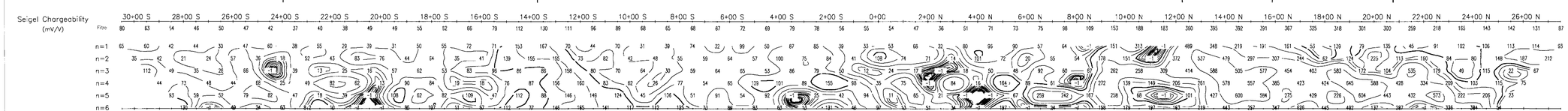
Resistivity low.

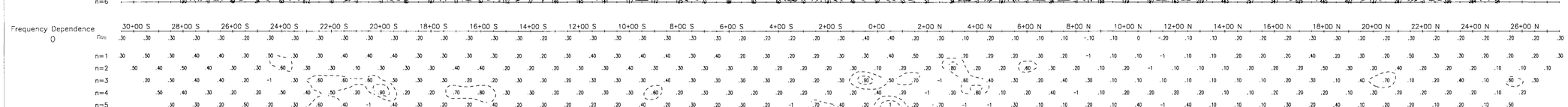
Resistivity high.

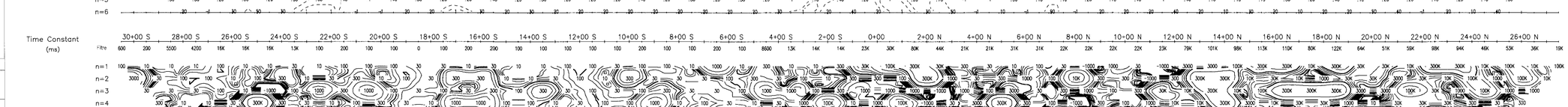
Scale 1:2400

100 0 100 200 300 400 500 (feet)









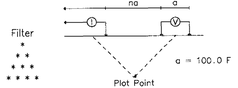
PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.
Date: 98/06/18
Interpretation: L. Plante Eng., M. Sc.
GEOLA LTEE 98-978-11

Line 1500.00 W

270

Line 1800.00 W

Pole-Dipole



Operator : J. Demers
Receiver : IP-6, BRGM
Transmitter : GDD 1400
Generator : 1.4 kW

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

INTERPRETATION

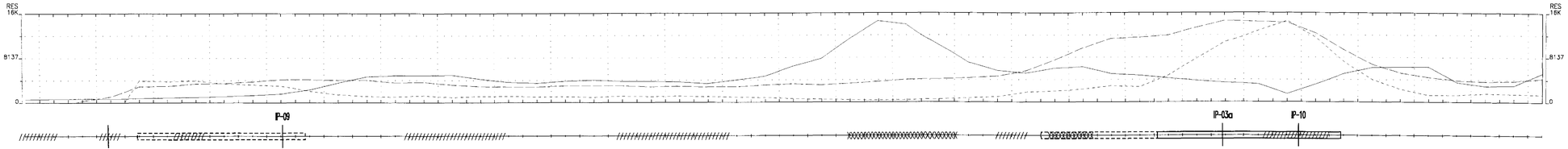
Induced polarization anomaly.

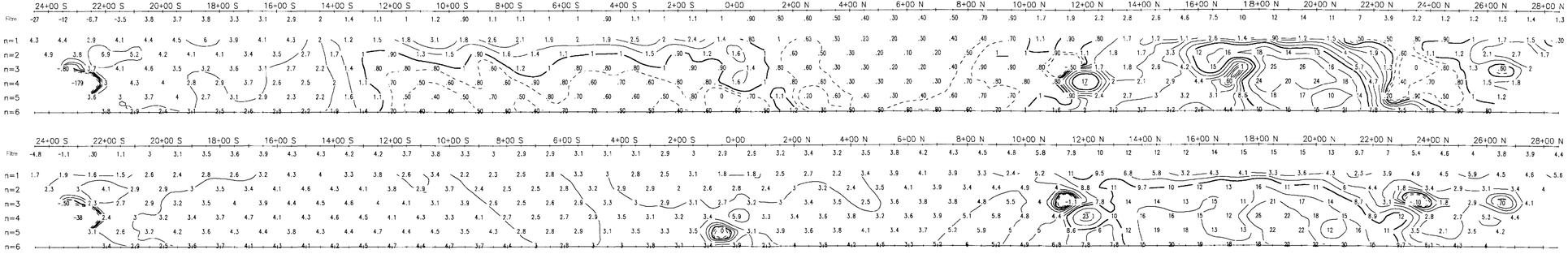
Resistivity low.

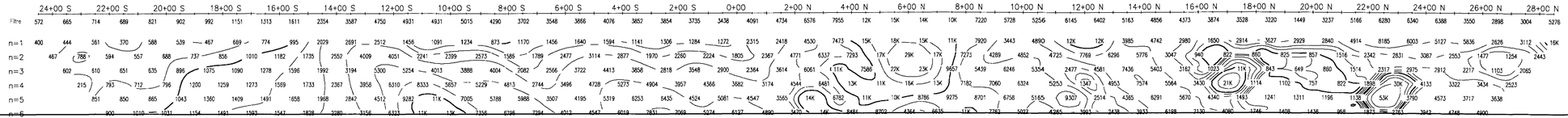
Resistivity high.

Scale 1:2400

100 0 100 200 300 400 500 (feet)





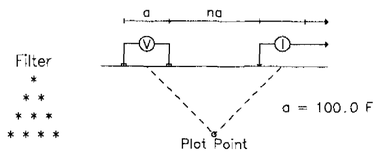


PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.
Date: 98/06/19
Interpretation L. Pigeon Eng. M. Sc.
GEOLA LTEE 98-978-03

Line 1800.00 W

Line 1800.00 W

Dipole-Pole



Generator : 1.4 kW

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

INTERPRETATION

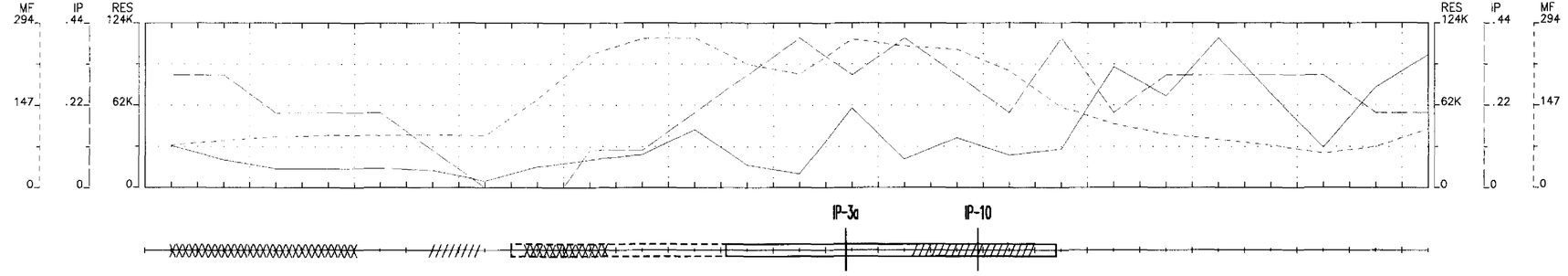
Induced polarization anomaly.

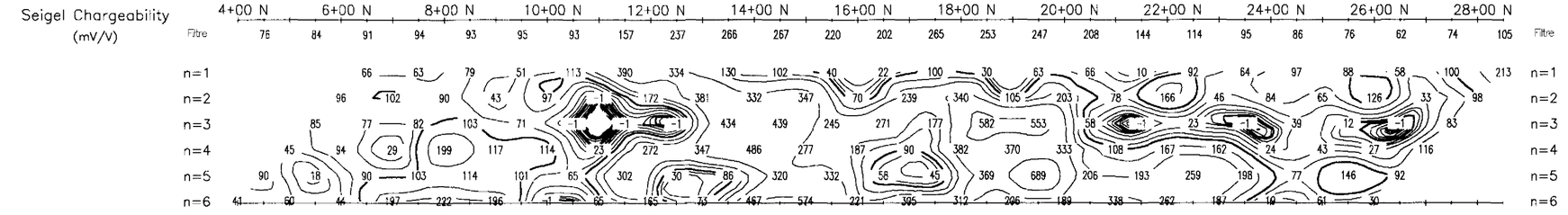
Resistivity low.

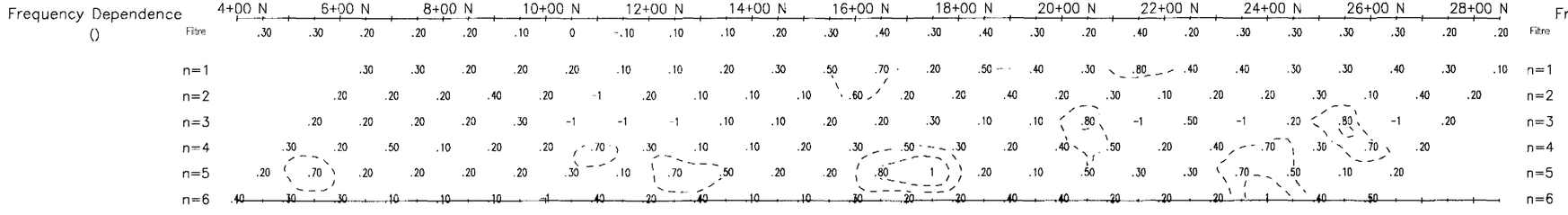
Resistivity high.

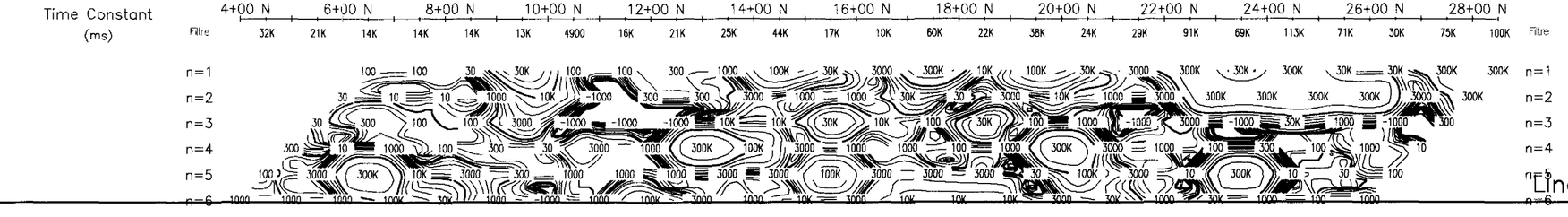
Scale 1:2400

100 0 100 200 300 400 500 (feet)









PANTERRA MINERALS INC.

INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

Date: 98/06/19
Interpretation: L. Plante Eng. M. Sc.

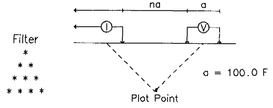
GEOLA LTEE 98-978-12

290 MUNRO 2.18696 42A09SE2008

Line 1800.00 W

Line 2100.00 W

Pole-Dipole



Operator : J. Demers
Receiver : IP-6, BRGM
Transmitter : GDD 1400
Generator : 1.4 kW

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

INTERPRETATION

Induced polarization anomaly.

Resistivity low.

Resistivity high.

Scale 1:2400

100 0 100 200 300 400 500 (feet)

MUNRO 300

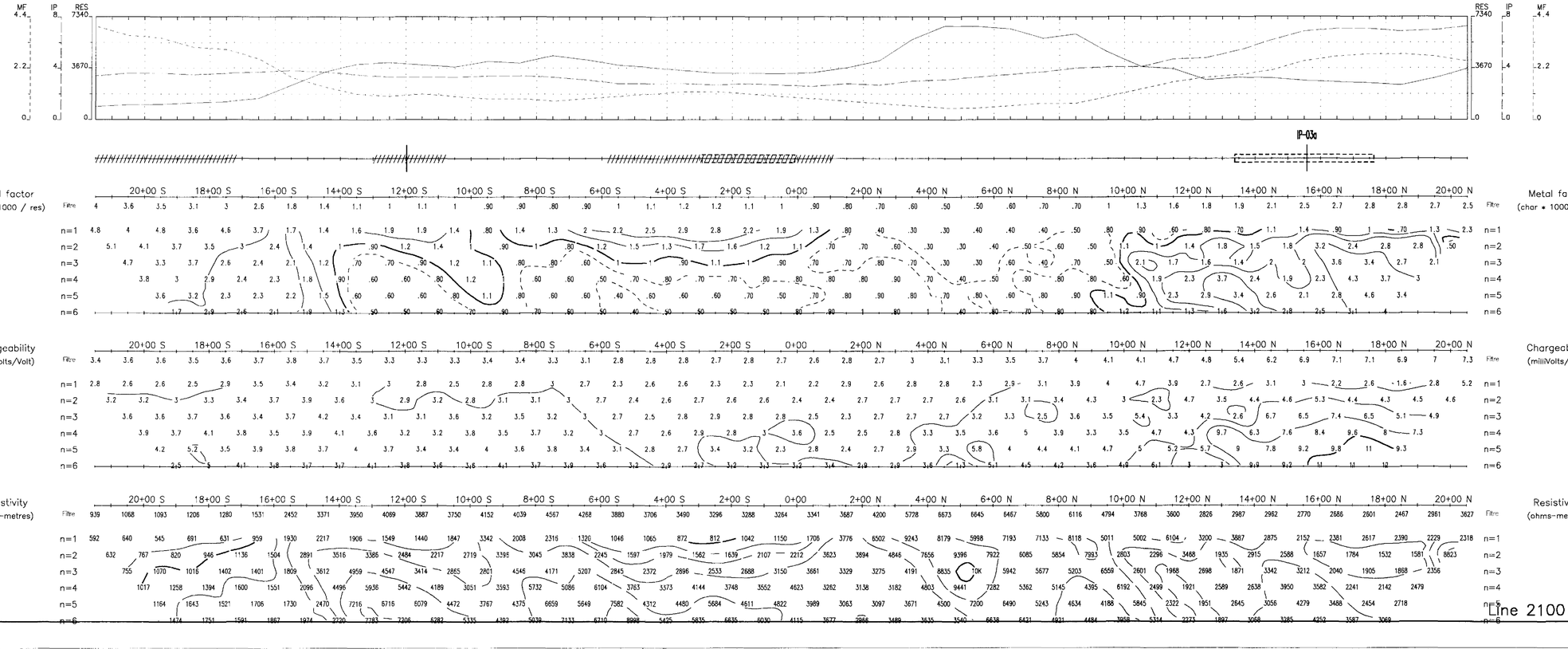
2.18656

42A09SW2008

PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

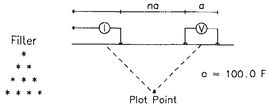
Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.

GEOLA LTEE 98-978-04



Line 2400.00 W

Pole-Dipole



Operator : J. Demers
Receiver : IP-6, BRGM
Transmitter : GDD 1400
Generator : 1.4 kW

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

INTERPRETATION

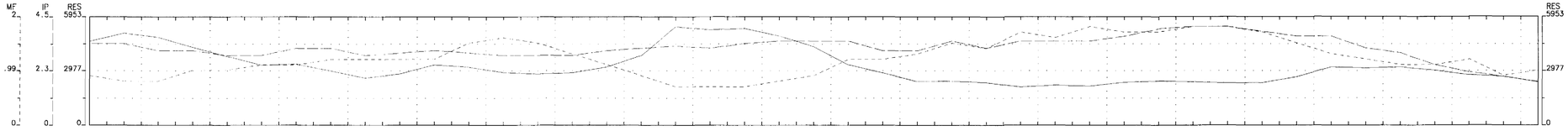
Induced polarization anomaly.

Resistivity low.

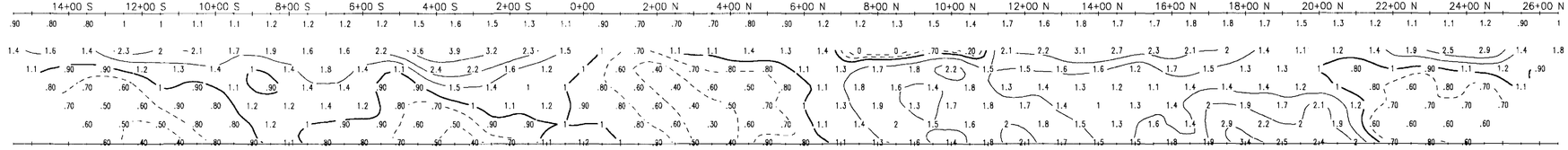
Resistivity high.

Scale 1:2400

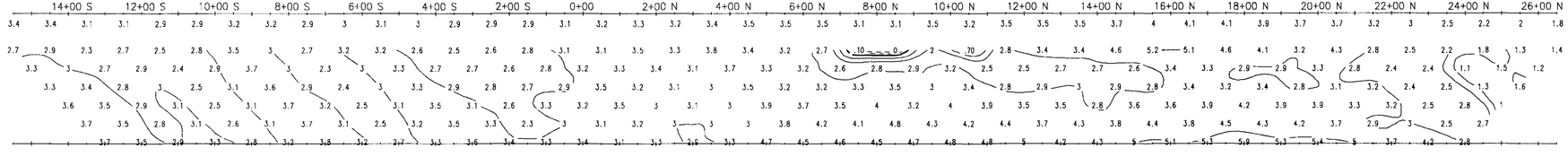
100 0 100 200 300 400 500 (feet)



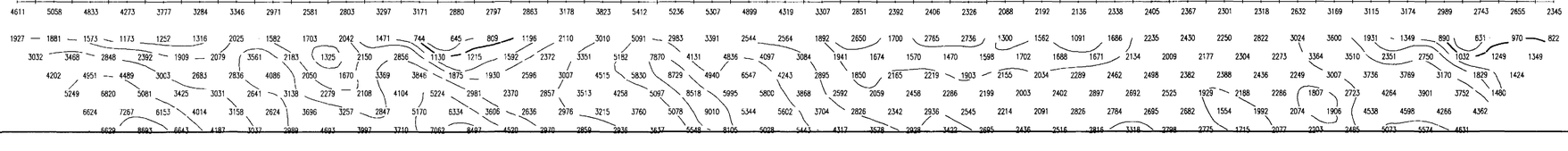
Metal factor (char * 1000 / res)



Chargeability (milliVolts/Volt)



Resistivity (ohms-metres)

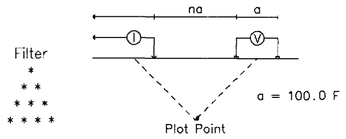


Line 2400.00 W

PANTERRA MINERALS INC.
INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.
Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.
GEOLA LTEE 98-978-05

Line 2700.00 W

Pole-Dipole



Operator : *J. Demers*
Receiver : *IP-6, BRGM*
Transmitter : *GDD 1400*
Generator : *1.4 kW*

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

INTERPRETATION

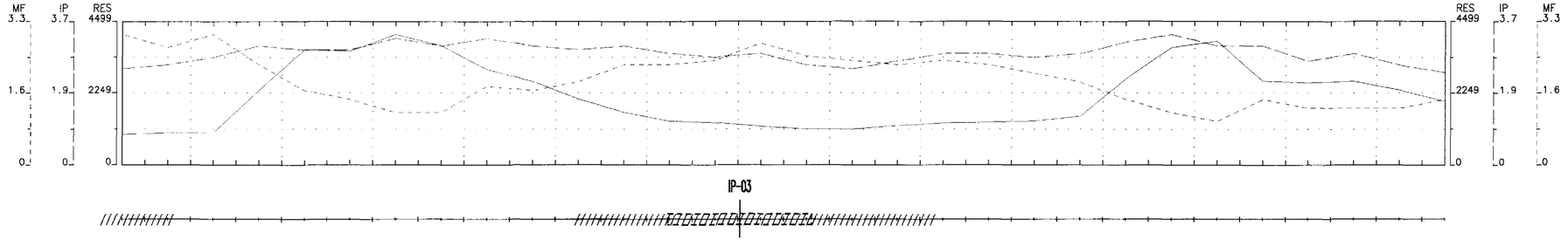
Induced polarization anomaly.

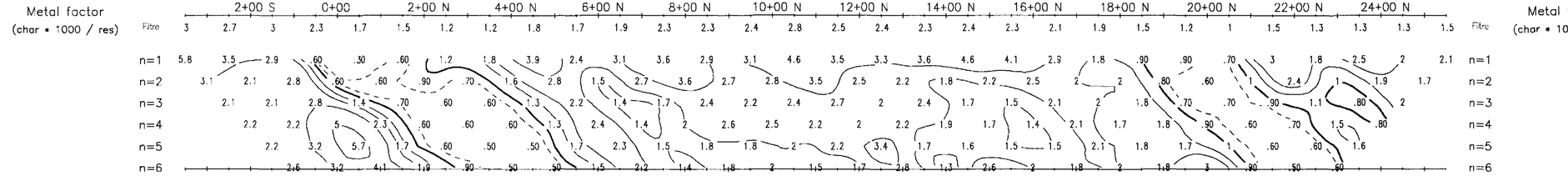
Resistivity low.

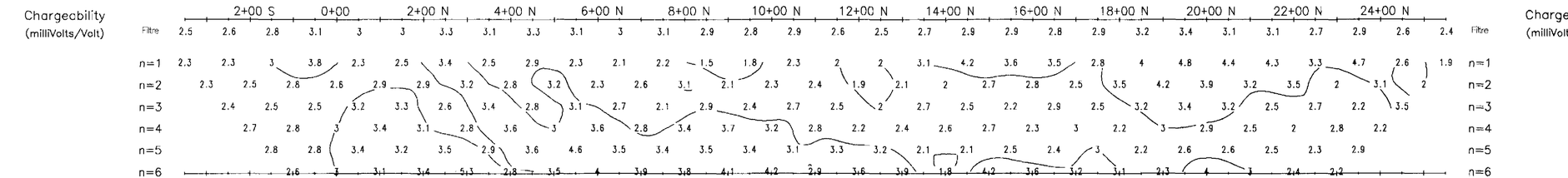
Resistivity high.

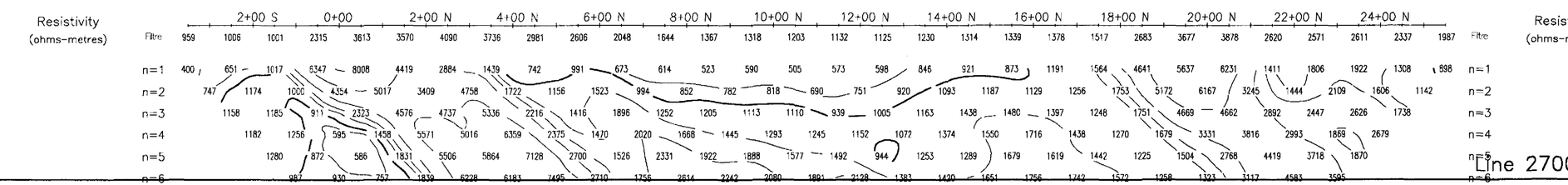
Scale 1:2400

100 0 100 200 300 400 500 (feet)









PANTERRA MINERALS INC.

INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

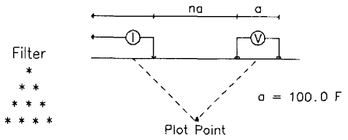
Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.

GEOLA LTEE 98-978-06

Line 2700.00 W

Line 3000.00 W

Pole-Dipole



Operator : *J. Demers*
Receiver : *IP-6, BRGM*
Transmitter : *GDD 1400*
Generator : *1.4 kW*

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

INTERPRETATION

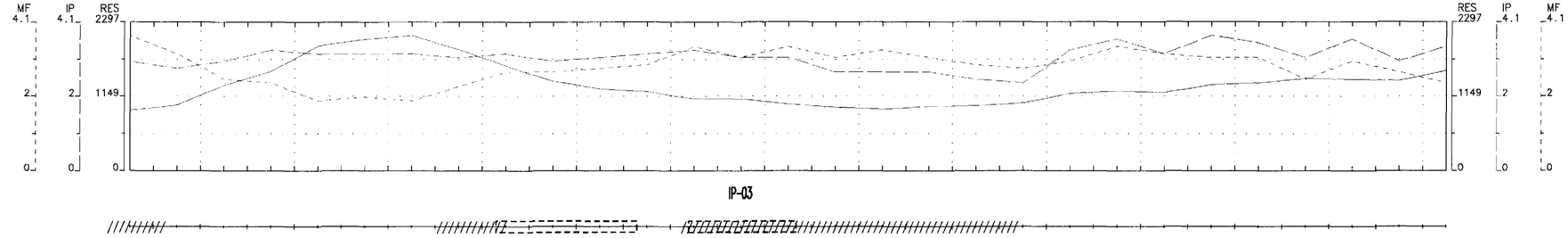
Induced polarization anomaly.

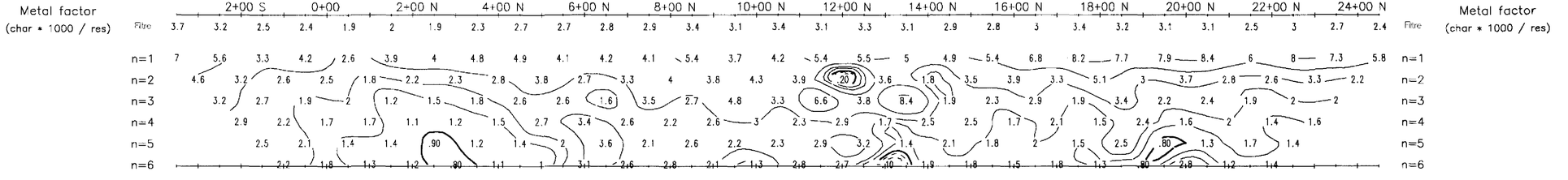
Resistivity low.

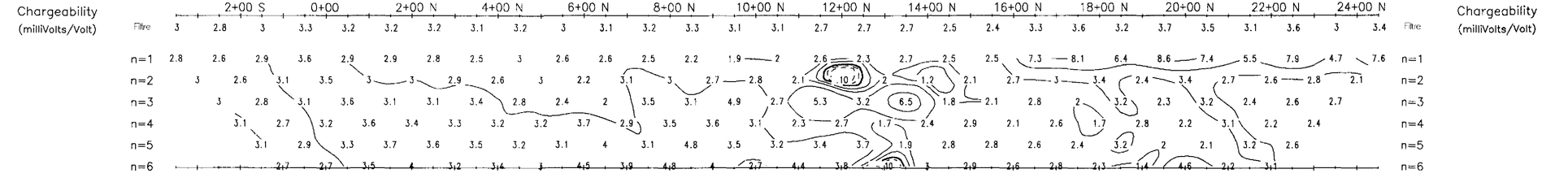
Resistivity high.

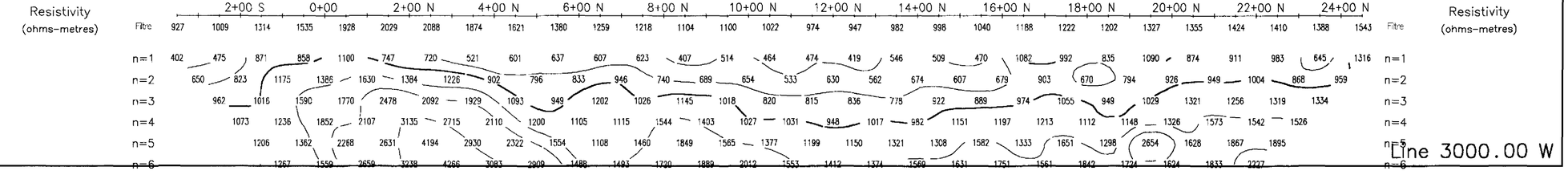
Scale 1:2400

100 0 100 200 300 400 500 (feet)









PANTERRA MINERALS INC.

INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

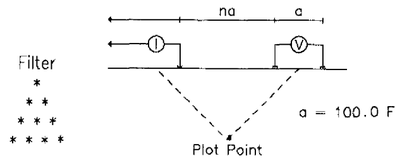
Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.

GEOLA LTEE 98-978-07

Line 3000.00 W

Line 3300.00 W

Pole-Dipole



Operator : *J. Demers*
Receiver : *IP-6, BRGM*
Transmitter : *GDD 1400*
Generator : *1.4 kW*

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

INTERPRETATION

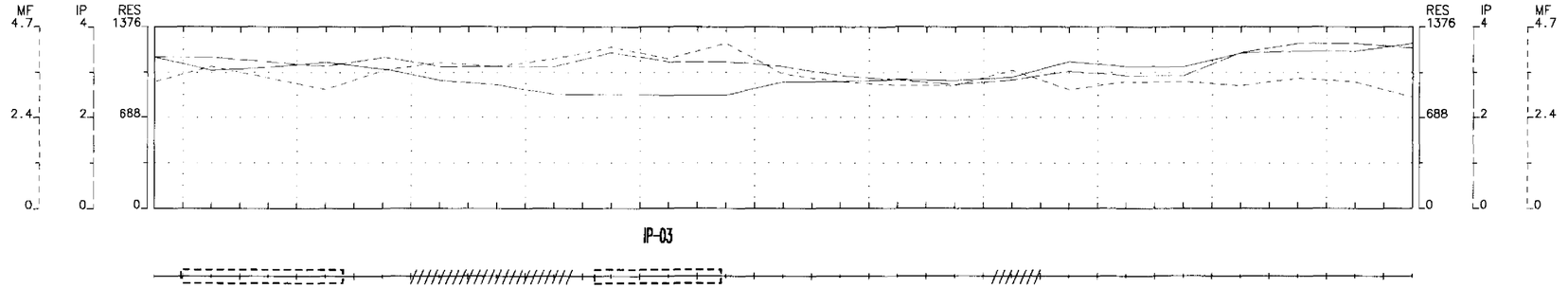
Induced polarization anomaly.

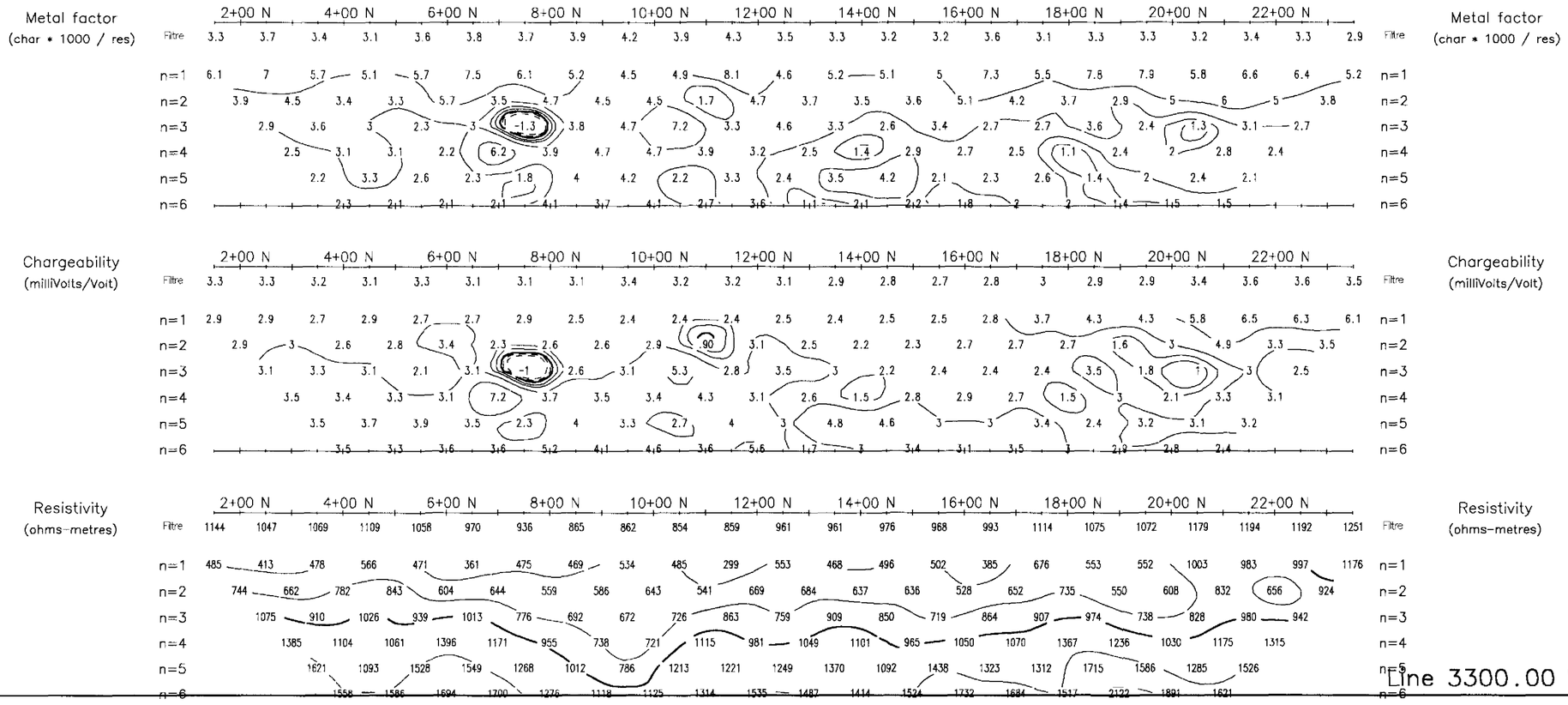
Resistivity low.

Resistivity high.

Scale 1:2400

100 0 100 200 300 400 500 (feet)





PANTERRA MINERALS INC.

INDUCED POLARIZATION SURVEY
MUNRO PROSPECT
Munro Twp., Ont.

Date: 98/06/18
Interpretation: L. Plante Eng. M. Sc.

GEOLA LTEE 98-978-08

Line 3300.00 W