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# **Quantec Geoscience Inc.**

# **Geophysical Survey Interpretation Report**



Quantec



Regarding the GRADIENT REALSECTION <sup>™</sup> TDIP\RESISTIVITY SURVEY at the NIEMETZ PROPERTY, Briggs Twp., near Temagami, O on behalf of TRYX VENTURES CORP.



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> D. MacGillivray J. Legault K. Blackshaw P. Alikaj October, 2000 Project QG-125



31L13NW2011 2.20729 BRIGGS

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## 1. INTRODUCTION

•	QIP Project No:	QG - 125
٠	Project Name:	Niemetz Property
•	Survey Period:	July 31 <sup>st</sup> to August 17 <sup>th</sup> , 2000
•	Survey Type:	Gradient Realsection Time Domain Induced Polarization
•	Client:	Tryx Ventures Corp.
•	Client Address	2110 – 150A Street South Surrey, BC V4A 9J6 Tel: (604) 541 8828
•	Representatives:	Gino Chitaroni (Blackstone Development Inc. – Cobalt ON) John Poloni (TVC)

• Objectives:

- Exploration Objectives: Define and delineate possible:

   a) Temagami-type, shear-hosted, Cu-Ag bearing (± magnetite), disseminated to stringer sulphides orebodies (similar to the Niemetz and Sturdy Mines / Snowshoe Lake occurrences, on-site), with particular emphasis on magnetic highs associated with intrusive porphyries inferred on the property.
   b) Magmatic Cu-Ni-Co sulphide (± PGE) deposits, associated with mafic to ultramafic intrusives (similar to adjoining Temagami Copper Mine, 4km to Southwest, and Diadem Deposit, 10km Northeast).
- <u>Geophysical Objectives:</u> Use TDIP\Resistivity to further characterize recently identified VLF-EM, HLEM and Magnetic signatures of interest, and to define and delineate other, potentially deeply buried mineralized zones using their chargeability and resistivity contrasts.

The Gradient array is used as a reconnaissance lithologic, structural and alteration mapping tool, in plan, based on it high resolution and deep penetration characteristics. Realsection array provides detailed cross-sectional mapping capability, in order to better resolve signatures of interest, for drill-targeting.

• Report Type:

Interpretation report, suitable for assessment filing

# 2. GENERAL SURVEY DETAILS

- 2.1 LOCATION
  - Township: Briggs Twp
  - Province/Territory: Ontario
  - Country: Canada
  - Nearest Settlement: Temagami
  - NTS Reference #: 31L/13



Figure 1: General Location of the Niemetz Property.

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2.2 ACCESS

Base of Operations:	Northland Paradise Lodge, Temagami	
Mode of Access:	The grid was accessed by traveling 5km south of Temagami on hwy 11, then proceeding west for 11km on Temagami Lake access road.	
2.3 SURVEY GRID		
Coordinate Reference System:	Local exploration grid (non UTM referenced)	
Established:	prior to survey execution, by client	
Line Direction:	N-000°	
Line Separation:	50 to 100 metres	
Station Interval:	25 metres	
Method of Chaining:	Metric, Slope-Distance	
<ul> <li>Claims Surveyed<sup>1</sup>:</li> </ul>	North Grid =12306581240178West Grid =1230613South Grid =1229493123065312306551230656	

<sup>&</sup>lt;sup>1</sup> Note: Claim numbers from Tryx Ventures Corp. <u>Niemetz Property</u> digital base map, supplied by Meegwich Consultants (09/00).

# 3. SURVEY WORK UNDERTAKEN

#### **3.1 GENERALITIES**

	•	Survey Dates:	July 31 <sup>st</sup> to August 17 <sup>th</sup> , 2000
	•	Survey Period:	18 days
	•	Survey Days (read time):	15 days
	•	Weather Days:	2.0 days
	•	Survey Coverage:	68.125 Line-Kilometres
3.2	Pers	ONNEL	
	•	Project Supervisor:	Kevin Blackshaw, Timmins, ON
	•	Project Manager:	David MacGillivray, Timmins, ON
	•	Operators	Richard Chassé, Kirkland Lake, ON
	•	Field Assistant:	Vicki Thomson, Hamilton, ON Ardein Peshkepia, Toronto, On Paval Dubchak, Toronto, ON

# 3.3 SURVEY SPECIFICATIONS

٠	Array:	Multiple Gradient (see Figure 2)
•	AB (Tx dipole spacing)	up to 2100 metres
٠	MN (Rx dipole spacing):	12.5 metres
•	Sampling Interval:	12.5 metres
•	Total Gradient AB Blocks:	5 (North = 1, South = 3, West = 1)
•	Total Gradient Lines:	31 (North = 6, South = 23, West = 2) – see Table II
٠	No. of RSIP Arrays:	3 to 8 levels per line
•	Total Realsections:	<u>South Grid</u> = 23 – see Table   <u>North Grid</u> = 6 <u>West Grid</u> = 2
٠	Approximate Arial Coverage:	approx. 1.5 km <sup>2</sup>



Figure 2: Gradient Array Layout

#### 3.4 SURVEY COVERAGE

1. Reconnaissance IP: 14,850 metres (see Table I)

	NORTHERN	SOUTHERN	ΤΟΤΑΙ
LINE	EXTENT	EXTENT	(METRES)
SOUTH GRID			
6+00E	8+00S	9+25S	125
5+50E	8+25S	9+50S	125
5+00E	8+00S	9+75S	175
4+50E	9+00S	10+25S	125
4+00E	8+00S	11+00S	300
3+00E	8+00S	12+258	425
2+00E	8+00S	13+00S	500
1+00E	8+00S	13+50S	550
0+00E	8+50S	13+50S	500
1+00W	8+50S	13+50S	500
2+00W	6+25S	13+75S	750
3+00W	6+25S	13+62.5S	737.5
4+00W	6+25S	13+75S	750
5+00W	6+37.5S	13+62.5S	725
6+00W	6+75S	13+00S	625
7+00W	6+25S	14+258	800
8+00W	6+50S	14+00S	750

2. "Realsection" Detail follow-up: 53,275 metres (see Table II)

Table I: Reconnaissance TDIP Survey Coverage.

NORTHERN	SOUTHERN	TOTAL
EXTENT	EXTENT	(METRES)
6+50S	13+75S	725
8+75S	11+25S	250
6+00S	13+50S	750
8+00S	10+50S	250
6+50S	13+62.5S	712.5
6+75S	13+75S	700
· · ·	TOTAL	11850
1+50N	2+25S	375
	TOTAL	2250
10+50S	14+25S	375
10+50S	14+25S	375
	TOTAL	750
TOTAL	DECONNAISANCE	14950
	NORTHERN EXTENT 6+50S 8+75S 6+00S 8+00S 6+50S 6+75S 	NORTHERN EXTENT         SOUTHERN EXTENT           6+50S         13+75S           8+75S         11+25S           6+00S         13+50S           8+00S         10+50S           6+50S         13+62.5S           6+75S         13+75S           1+50N         2+25S           10+50S         14+25S           10+50S         14+25S           TOTAL         TOTAL

# Table I (continued): Reconnaissance TDIP Survey Coverage.

LINE	# DEPTH SLICES	TOTAL (m)
SOUTH GRID		
6+00E	5	512.5
5+50E	5	537.5
5+00E	5	825
4+50E	5	700
4+00E	5	1137.5
3+00E	5	1800
2+00E	5	2250
1+00E	5	2300
0+00E	3	1500
1+00W	5	2375
2+00W	5	3500
3+00W	5	3450
4+00W	4	2000
5+00W	4	2050
6+00W	4	1500
7+00W	5	2500
8+00W	5	2625
9+00W	4	2300
9+50W	4	875
10+00W	5	2250
10+50W	3	750
11+00W	5	2050
12+00W	4	1900
	TOTAL	41687.5
NORTH GRID		
1+00E	3	1125
0+00E	3	1125

# Table II: Realsection Survey Coverage.

LINE	# DEPTH SLICES	TOTAL (m)
1+00W	5	1875
2+00W	5	1875
3+00W	5	1875
4+00W	4	1500
	TOTAL	9375
WEST GRID		
17+50W	3	1087.5
18+50W	3	1125
	TOTAL	2212.5
	TOTAL RSIP	53275

# Table II (continued): Realsection Survey Coverage.

#### 3.5 INSTRUMENTATION

- Receiver: Iris Elrec IP-10 (10 channels)
- Transmitter: Phoenix IPT-1 (15 kW / 600 2400V output)
- Power Supply: Phoenix MG-3 (2.5KVA, 60V, 3 phase, 400 Hz) + Honda 5.5 hp motor generator

#### 3.6 PARAMETERS

- Input Waveform: 0.125 Hz square wave at 50% duty cycle (2 seconds On/Off)
- Receiver Sampling Parameters: twenty programmable chargeability windows, Cole-Cole parameters (see Table III)
- Measured Parameters:
  - 1) Chargeability in millivolts/Volt. Total Chargeability is calculated over an integration period of 30 to 1850 ms (Cole-Cole windows).
  - 2) Primary Voltage in millivolts and Input Current in amperes for Resistivity calculation according to the gradient array geometry factor (Appendix C).

#### 3.7 MEASUREMENT ACCURACY AND REPEATABILITY

•	Chargeability: m\///	generally< $\pm$ 0.4 mV/V but acceptable to	±1.0

Resistivity: less than 5% cumulative error from Primary voltage and Input current measurements.

Slice	Duration (msec)	Start (msec)	End (msec)	Mid-Point (msec)
Td	20	0	20	10
T <sub>1</sub>	20	20	40	30
T <sub>2</sub>	30	40	70	55
T <sub>3</sub>	30	70	100	85
T <sub>4</sub>	30	100	130	115
T <sub>5</sub>	40	130	170	150
T <sub>6</sub>	40	170	210	190
T <sub>7</sub>	50	210	260	235
T <sub>8</sub>	60	260	320	290
T <sub>9</sub>	70	320	390	355
T <sub>10</sub>	80	390	470	430
T <sub>11</sub>	90	470	560	515
T <sub>12</sub>	100	560	660	610
T <sub>13</sub>	110	660	770	715
T <sub>14</sub>	120	770	890	830
T <sub>15</sub>	130	890	1020	955
T <sub>16</sub>	140	1020	1160	1090
T <sub>17</sub>	150	1160	1310	1235
T <sub>18</sub>	160	1310	1470	1390
T <sub>19</sub>	180	1470	1650	1560
T <sub>20</sub>	200	1650	1850	1750
Total Tp	1850			

#### Table III: Iris ELREC 10 Decay Curve Sampling.

#### 3.8 DATA PRESENTATION

• Maps:

<u>Reconnaissance Coverage</u> : Iain	Posted contoured plan maps of Gradient Total Charge ability and Apparent Resistivity, and Interpretation, over- onto topographic claim base, at 1:5000 scale (3 maps).
<u>"Realsection" Detail follow-up</u> : tion	Posted/contoured/leveled depth section maps of Total Chargeability and Apparent Resistivity, with Interpreta- overlay (selected lines only), at 1:2500 scale (31 maps + 8 interpreted Realsections).
Digital:	
Raw data:	IP-10 digital dump file (Appendix D).
Processed data:	Geosoft .XYZ format.

using the following format:

Column 1 = Station/Line (X Position), in meters Column 2 = Station/Line (Y Position), in meters Column 3 = Total Chargeability, in mV/V Column 4 = Apparent Resistivity, in Ω-m Column >5 = TDIP Spectral Estimates, derived using IPREDC<sup>™</sup>

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#### 4. RESULTS AND INTERPRETATION

#### 4.1 OVERVIEW

The Gradient and Realsection<sup>™</sup> array induced polarization and the resistivity surveys at the **Niemetz Property** were designed to define and delineate chargeability and resistivity signatures associated with potential precious and base-metal mineralization on the property. The target model is based on Temagami-type shear hosted Cu-Au bearing disseminate to massive/stringer sulphides, associated with pervasive quartz-carbonate alteration, as well as magmatic PGE-bearing Cu-Ni-Co sulphide mineralization, associated with mafic to ultramafic intrusives (ref. G. Chitaroni, BDI, pers. comm., 06/00). The gradient array surveys provide a high resolution and deep penetration reconnaissance mapping capability, in plan, extending to 250-meter depths; while the Realsection<sup>™</sup> follow-up provides cross-sectional coverage, from surface to +300m, for the purposes of target definition and possible drill-testing.

The Gradient-RSIP coverage at North, South and West Grids were designed to explain the following targets previously identified:

- <u>North Grid:</u> a) Define possible shear-hosted pyrite/chalcopyrite mineralization associated with magnetic HLEM conductors D and C; and b) Identify signatures associated with NW-SE trending magnetic dyke, similar to nearby Temagami Copper/Diadem polymetallic PGE-bearing magmatic deposits.
- 2) <u>South Grid:</u> a) Characterize Niemetz and Sturdy Mines/Snowshoe Lake occurences, as well as West and Gravel Pit sulphide showings; b) identify possible magnetite-rich, shear-hosted mineralization associated with porphyries identified by magnetic highs; and c) validate HLEM conductors F, G, H, I and J.
- West Grid: a) Validate magnetic VLF-EM conductor A, on strike with nearby Amphibolite Bay magmatic Cu-Ni-Co ±PGE sulphide occurrence (ref. G. Chitaroni, BDI, fax comm., 21/06/200, QGI file).

#### Property Geology and Previous Exploration

The Niemetz Property is predominantly underlain by Archean mafic and felsic metavolcanics, intruded locally by guartz-porphyritic intrusives, and granitoid rocks belonging to the Iceland Lake Pluton intrusion (G. Chitaroni, BDC, Prospecting Report on Niemetz Property, 6 pp., Oct., 1998). The West and South Grids, surveyed with Gradient-RSIP, are mainly underlain by northeast-trending rhyolites, in the western third, and mafic to intermediate basalts to the west (IBID). In contact with these volcanics in the eastern and northeastern perimeter of South Grid are Iceland Lake trondhjemitic quartz diorites intrusives which extend northeastward and also entirely underlie North Grid (G. Bennett, et al., ODM/MNR Geologic Map. Briggs and Strathcona Township, Nipissing District, Map 2324, 1in = ½ mile scale, 1969). Both small synvolcanic quartz-dioritic plutons and EW to NW-SE trending syntectonic mafic dykes intrude the volcanics, while NW-SE late-Precambrian, Sudbury Swarm diabases occur regionally - including a possible diabase interpreted along the northern perimeter of North Grid (D. Laronde, Meegwich, Ground Geophysical Surveys at Niemetz Property, 12 pp., May, 2000). Structurally, the volcanics are folded along the prominent east-northeast trending Temagami Syncline. The main fault-fracture directions include North-NNE and NW, which are shown by gabbroic and Sudbury Swarm dykes, respectively. More important are the older East-NE trends, which parallel the bedding planes, forming prominent topographic features, regionally, and which also appear to control the shear-hosted mineralization (G. Bennett, Geology of the Northeast Temagami Area, OGS Report #163, 1978).

The principal mineral occurrence on the property is the **Niemetz Showing**, near L950W/1000S, which consists of stringer to disseminated pyrite (>2%, up to 15%) and chalcopyrite (<2%), associated with quartz-carbonate alteration and rich in magnetite, within altered felsic volcanics which are intruded by magnetic quartz porphyritic and mafic dykes (IBID). Although grab samples revealed Au values of up to ½ oz per ton, drilling yielded poor results (G. Chitaroni, BDI, <u>Niemetz Property, Briggs Twp.</u>, Quantec file). The smaller **Snowshoe Lake/Sturdy Mines** showing, near L500E/975S, consists of disseminated QG-129-October, 2000

chalcopyrite (<1.5%) and malachite, in dioritic rocks containing Au-Ag-Cu, lying in a structure associated with the NE trending Mark Lake lineament. Pyritic sulphides have been identified (ref. Meegwich report, 05/00) at the **West Sulphide** (L1250W/1350S) and **Gravel Pit Showings** (L1050W/1300S).

Although the property has no mining production, the area has been explored since the discovery of the nearby **Copperfields Mine** by Teck in the mid 1950's until the Temagami Land Claim in 1973, when exploration was halted until 1996. Gold was discovered on the property by Nickel Rim Mines, in 1965, at the **Niemetz Occurrence** and later at the **Snowshoe Lake/Sturdy Mines Occurrence** by the ODM/MNR. Exploration at **Niemetz** consisted of drilling, trenching, sampling and ground magnetics. Since 1996, recent exploration has consisted of line-cutting, prospecting, sampling and ground magnetics, VLF-electromagnetics and VLF-resistivity mapping, by Bay Lake Explorers (ref. T. von Cardinal, BLE, <u>OPAP – Niemetz Cu-Au Property</u>, 6 pp., 01/00), and additional magnetics and horizontal loop electromagnetics by **Tryx Ventures Corp**. (ref. D. Laronde, Meegwich report, 05/00). These surveys defined multiple, prominent small-size magnetic anomalies throughout the southern portion of the property, including those associated with quartz porphyries and dykes near the showings, as well as a major WNW-ESE trending magnetic dyke the along the northern perimeter of the survey area, and possibly the Temagami Island Diorite to the north. Many weak VLF and HLEM conductors were also identified and mainly attributed to overburden, with the exception of VLF-**A**, in the West Grid, HLEM-**I**, in the South Grid, and HLEM-**D**, which are magnetic and may represent bedrock mineralization (IBID).

#### Geophysical Target Model and Interpretation Methodology

Although neither physical property testing nor borehole petrophysical logging have been applied for use in the present study, the information obtained from TDIP and Resistivity surveys, in conjunction with ground magnetics<sup>2</sup>, nevertheless allows for a relatively useful characterization, based on combinations of the three physical properties, of both the bedrock geology and EM conductors of interest at **Niemetz**. Based on the geologic target model, which features disseminated to stringer-massive sulphides within a quartz-carbonate altered host, the most representative signature is the <u>chargeability high</u>, because it is proven as a near-direct indicator of sulphides, in association with a <u>broad high resistivity feature</u>, which is consistent with diminished porosity relating to qtz-carb. alteration, and, possibly also a <u>narrow, coincident resistivity low</u> over the thicker, subvertical stringer to massive sulphide bands. In addition, the presence of mafic to ultramafic intrusives, associated with magmatic deposits, and magnetite-pyrrhotite will be revealed in the magnetic parameter.

The present geophysical interpretation concentrates mainly on the IP\Resistivity results, particularly the chargeability, which represents an near-direct indicator for sulphides ranging from disseminate to massive, as well as graphite and magnetite, the latter which tends to produce weaker anomalies – with the resistivity providing the better information on lithology, alteration and structure. The geophysical compilation / interpretation plan highlights both the strength and the resistivity-association of the IP axes, which relates to their likely source/alteration type, i.e.

- a) <u>High resistivity</u> IP axes, where the bulk chargeability is either related to disseminated sulphides possibly associated with the key quartz-carbonate alteration systems or, alternatively, stratigraphic sulphides or magnetite within more felsic/less porous geology, as well as weak IP highs relating to bedrock topographic effects;
- b) <u>Low resistivity IP axes</u>, possibly related to higher concentrations of sulphides, particularly the stronger anomalies, ranging from stringer to massive; or, alternatively, to disseminated sulphides found within clay/chlorite altered systems, or alternatively, sulphides in more porous geology or fault-fracture zones.
- c) <u>Nil ρ and Contact-type</u> IP axes, likely corresponding to either more **weakly-altered** mineralization, or in cases of **more deeply buried** silicified and/or **clay/sulphide**-rich mineralization (due to

<sup>&</sup>lt;sup>2</sup> Magnetic data (Allmag.xyz) from May-2000 survey by Meegwich Consultants Inc. (09/2000)

the fact that resistivity highs/lows are poorly resolved below deep overburden), or possibly mineralization occurring along **geologic/geoelectric contacts**.

Clearly, therefore, while the low resistivity/high chargeability association appears represents the key geophysical target signature, based on the shear hosted and magmatic sulphide targets sought for on the property, <u>all anomaly types</u> (high  $\rho$  / low  $\rho$  / nil  $\rho$ ), could potentially represent equally valid exploration targets.

The chargeability axes identified on the anomaly axis map have been: a) categorized according to their strength (weak, moderate, strong) using variably-shaded symbols, and b) classified according to their resistivity association (high  $\rho$ , nil  $\rho$ /contact-type, low  $\rho$ ) using colored axes. The line-to-line correlation of anomalies into axes is based primarily on the resistivity association (i.e. resistive and conductive anomalies never aligned along the same axis due to likely dissimilar mineralogy / alteration / origin) – thereby providing some measure of geologic/geophysical control to the interpretation. In order to better highlight the close relationship between the IP (sulphides) Resistivity (lithology, structure, alteration) and Magnetics (pyrrhotite and magnetite content), areas of interest have been identified on the interpretation plan, using variable cross-hatching styles: a) contrasting zones of high resistivity, highlighting potential geological contacts, alteration zones and fault-fracture structure, b) zones of high magnetic susceptibility, outlining mafic-ultramafic intrusives, alteration and lithologies, and identifying magnetite or pyrrhotite mineralized zones. In addition, magnetic profiles have been added to all Realsections for visual comparison of TDIP\Resistivity signatures and magnetic susceptibility in cross-section. Furthermore, over selected targets of interest (see below), cross-sectional interpretations have been added to selected Realsections (8), with recommended drill-holes (see Appendix G).

It is important to note that, because of the inherent sensitivity of geoelectric methods to conductive bodies, interpretational errors could occur in cases where the low-porosity/high resistivity signatures associated with any possible attendant quartz-silicic alteration would likely to be overprinted by unrelated conductive features, such as: a) coincident fault-fracture structures, b) the presence nearby of stratigraphic massive to stringer sulphides, and c) burial below deep overburden troughs. In these cases, prospective quartz-carbonate altered zones could appear as nil or low resistivity axes as a result. Conversely, the favourable combination of physical properties associated with contact metamorphosed mafic dykes and bedrock-topographic highs could be also be misinterpreted as a prospective shear-hosted target. Luckily, both the relative strength and size of the chargeability parameter provides a diagnostic check for these minor geologic features, provided a deep target (i.e., weak IP anomaly) is not suspected.

We also note that reconnaissance gradient information presented in the plan maps were specifically designed to provide information on the bulk sulphide and porosity from surface to 250m depths. However, despite their high lateral resolution and deep penetration, the gradient IP\Resistivity results, by their nature, will show the influences of both subvertical and subhorizontal features not only occurring at midlevel depths, but also those at the near-surface, as well as, to a lesser extent, causative bodies occurring at greater depths. By the same token, evidence of near-surface features may not be well defined in the plan maps (i.e. thin, flat-lying geology), due to the bulk averaging effects. While both the depth of burial and vertical extent can be exactly determined in Realsection<sup>TM</sup>, this is only provided that sufficient depthlevels are available in order to fully resolve/close out the anomaly at surface and at depth.

#### 4.2 GEOPHYSICAL SURVEY RESULTS

#### **General Reconnaissance Mapping** .

The IP\Resistivity results over Niemetz successfully discriminate signatures potentially associated with lithology, fault-fracture structures, chemical alteration, and, most importantly, chargeability responses related to sulphides and precious/base metals mineralization. The Niemetz IP\Resistivity survey results are characterized by relatively anomalous low to strong apparent chargeabilities and resistivities, having a broad range (IP= 0-20 millivolts per volt /  $\rho_A$  = 0.3-180k ohm-metres). The high average for the resistivity (18k Ω-m avg.) is consistent with the metamorphosed and predominantly felsic to intermediate volcanointrusive geology, whereas the above average chargeability (7 mV/V) is consistent with moderate sulphide levels, in the 2-5% range - the thin overburden cover is also a likely contributing factor to these two averages.

In plan, the chargeability and resistivity results are marked by well-defined, cross-cutting NE-SW concordant and EW to ESE discordant fabrics, which agrees with the dominant regional structural directions with the east-westerly trends the most well developed, due to their preferential orientation to the measurement array. Strong chargeabilities occur throughout the survey area, but are more prevalent in the western half of South Grid and West Grid, which correlates with the felsic volcanic units and likely reflects higher levels of disseminated sulphides than in the adjoining basalts. Higher bulk chargeability levels are also present in North Grid, which is unexpected, since lower sulphide levels are normally found in felsic intrusive plutons, but might otherwise indicate favourably high concentrations of mineralization due to other source (i.e., magmatic intrusives?), locally. In contrast, the southeastern survey area features lower chargeabilities and, unexpectedly, higher bulk resistivities - with the IP reflecting below average sulphides within the basalts, whereas the resistivities possibly reflect the presence of pervasive qtzcarbonate alteration along the Mark Lake structure or, otherwise, possibly shallower overburden. Generally speaking, the resistivities within the volcanics to the south appear elevated relative to the granodioritic intrusives to the north – which is unusual, given the generally higher felsic content found in the granites. While this might otherwise reflect the effects of both contact metamorphism and higher levels of atzcarb. alteration in the volcanics, at Niemetz, the Realsections indicate deeper overburden to the north. Most importantly however, is the fact that the strongest chargeabilities (>15mV/V) are most often associated with resistivity lows, indicating the presence of potential stringer to massive sulphides (including the Niemetz Showing), and also appear to occur in the center of the TDIP-defined crossing structures, which suggests an important structural control to the mineralization on the property.

Comparing the present Gradient TDIP results against the targeted HLEM conductors, nearly all (including C, F, G, H, I, J) coincide with resistivity low/chargeability low regions, which are diagnostic of either zones of deepened conductive overburden or barren/non-mineralized fault-fracture structures, as suspected (ref. Meegwich report, 05/00). Notably, however, as hoped, the magnetic HLEM-D conductor correlates with a weak, conductive chargeability signature, which appears to confirm a sulphide source -Realsection coverage also indicates a deep source (>100m - see below and interpretation in Appendix G). As well, the magnetic lineament which parallels VLF-A (also an overburden or fault-related Low IP/Low Res lineament) correlates with a favourable resistive IP structure - suggesting disseminated sulphides or magnetite are associated with this suspected gtz-porphyry intrusive (ref. OPAP report map notes, QGI file).

Generally speaking the gradient chargeability and resistivity plans bear little resemblance in character to the magnetic total field results (see attached Mag/Interp overlay) - which may simply indicate that the magnetite-rich, qtz-porphyry intrusives do not represent a significant physical property contrast, geoelectrically. Exceptions include Zones A, C/Niemetz, D' and D" where the IP anomalies are similar to the magnetic signatures and therefore appear coeval. As a rule, however, most IP axes appear to extend through the magnetic highs - which suggest that the mineralization generally post-dates their emplacement. Furthermore, the magnetic highs tend to occur along NE-SW breaks in the resistivity plan and in resistivity lows - suggesting these are also structurally controlled. On the other hand, apparent breaks visible in the magnetic results show poor correlation with IP\Resistivity low - possibly indicating that faultfracture structures are short/discontinuous and may not be accompanied by significant magnetite-QG-129 - October, 2000

depletion.

#### • IP\Resistivity Targeting

The **Niemetz Property** is characterized by its large number of IP axes, as shown on the interpretation plan map, with nearly three hundred (**296**) anomalies identified in plan (see Table in Appendix E), which form nearly eighty (**80**) interpreted chargeability axes. These axes define narrow (<10-50m) subvertical to steeply dipping, NNE to NW trending zones of bedrock mineralization, including as many seven (**7**) strong (>15mV/V) IP linears which are consistent with strong concentrations of disseminate to stringer sulphides. The IP axes tend to be short to moderate in length (100-500m), and sinuous – with abrupt changes in strike and strength likely reflecting structural offsets and fault-fracture control to the mineralization. The chargeability axes are predominantly associated with moderate to high resistivity responses (60%), reflecting their largely disseminate nature and either the pervasive quartz-carbonate alteration associated or their lithology (i.e., felsic volcanic or intrusive). Of greater significance, however, while low resistivity IP axes are few in number (accounting for 15%), these make up nearly 50% of the strongest responses – which is consistent with stringer to massive mineralization.

The chargeability axes of significance, based on their strength (moderate = 10-15mV/V, strong = 15-20+mV/V) can be grouped into ten (10) zones (A-D") which are described below.

- 1) ZONE A represents 3-4 of subparalleling, EW to ESE-WNW trending moderately weak strength (<10mV/V) IP axes, within the trondhjemitic diorites of North Grid, which extend through HLEM conductor D and correlate with a weak EW magnetic lineament. As previously described, HLEM-D corresponds to a weakly polarizeable resistivity low, near 100W/175S. Zone A consists of alternating high resistivity, low resistivity and contact-type chargeability axes - with the conductive axis, corresponding to HLEM-D, shown to extend across North Grid, from L400W/138S to L100E/+225S. In Realsection (see Interpreted RSIP in Appendix G), the polarizeable body is buried at 100m depths, which also explains the weak HLEM and broad magnetic signatures. All RSIP's across A also indicate that the conductor is narrow (<10m), subvertical and likely extends below 300m depths. Another, shorter and narrower conductive linear is defined near 100S but is not visibly magnetic. Based on its favourable combination of low resistivity, high magnetism and anomalous chargeability, the central portion of Zone A potentially represents a favourable stringer to massive sulphide band, either associated with a magnetite-rich shear zone or possibly also magmatic mineralization relating to a magnetic ultramafic intrusive. In spite of its implied depth, a 2<sup>ND</sup> priority is assigned due to the relatively weak IP strength. A >300m length, 60degree South dipping drill hole is proposed at 100W/1+50S to test the 3-4 IP linears associated with Zone A and HLEM-D.
- 2) <u>ZONE A'</u> lies immediately north of A, within the plutonic dioritic rocks of North Grid, close to the WNW-ESE late-Precambrian/Sudbury Swarm diabase, and is nearly identical in strength and anomaly character. Zone A' consists of 4-5 separate, ESE to ENE subparalleling, weak to moderate (<11mV/V) strength IP axes, which feature mixed conductive, contact-type and resistive characteristics as seen with A. Except for L100W, however, the IP axes within Zone A' are non-magnetic. Realsections indicate that A' is more shallow buried (<100m), likely explaining its stronger charge-abilities. Subvertical to steep South-dips are also implied, and A' is shown to strengthen and possibly plunge towards the east. Although A' offers good potential for shear hosted and possibly magmatic sulphides, as with Zone A, we assign a 2<sup>ND</sup> priority due to its weak bulk chargeabilities possibly indicative of thin or disseminate sulphides. A >250m drill-hole is proposed at 100W/1+50N, directed 60degrees South, to test the strong magnetic and polarizeable feature at 112S, as well as adjacent IP linears (see Interpreted RSIP in Appendix G).
- 3) <u>ZONE B</u> corresponds to a region of anomalous resistivity high and increased bulk chargeability which coincides with the Snowshoe Lake/Sturdy Mines Occurrence (SLSM), near L500E/950S. Zone B consists of 3-4 weak to moderate strength, narrow IP axes, extending from ≈ L300E/925S to L600E/925S, and having a high to contact-type resistivity association indicating largely thin, disseminated mineralization. However, Zone B is mainly distinguished as a pronounced EW-ENE high resistivity feature the most well defined at Niemetz –extending from L100E/1075S to L600E/925S,

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which suggests either pervasive quartz-carbonate alteration, or otherwise reflects a more felsic rich phase in the trondhjemitic diorite, locally. Still, since both the IP axes and the controlling resistive zones also appear to display an east-to-west change in orientation towards SLSM - from EW-ESE to ENE trending - implying a "crossing" feature, possibly related to the Mark Lake Structure and agreeing with the geologic model - a hydrothermal source is preferred. Unfortunately, due to its presence directly adjacent to a powerline along the road, the Snowshoe Lake occurrence was only partially covered in the present surveys. Nevertheless, the plan-view results suggest that the SLSM is aligned along a favourable ENE trending high-resistivity IP lineament, having a >300m strike length, which coincides with a mapped/inferred shear zone (ref. OPAP Compilation Map notes, 01/00). The IP anomaly also strengthens northeast of the showing at L500E/975S, and remains open along strike. Realsections indicate that this IP anomaly also broadens (>25m) east of SLSM, is likely subvertical to steeply dipping and is strongest below 100m depths - it also likely extends below 300m. However, due to its relatively weak strength, Zone B is ascribed a 2<sup>ND</sup> order priority. With sufficient geologic or geochemical support, B could be tested at L600E/925S or L550E/938S, at >100m depths - we reserve caution, however, because of possible interference from nearby power-poles (similar to what affected the VLF results). As an alternative, therefore, we have directed drill-testing to the western extension of the SLSM IP\Resistivity feature, along L400E, which also features pronounced magnetic signatures indicating favourable porphyritic intrusives. As shown on the interpreted cross-section (Appendix G) a 60 degree North dipping drill-hole is proposed at L400E/10+50S, which targets several narrow (<10m wide), partially buried (≈50m), subvertical, likely disseminated sulphide horizons which flank the resistivity high feature, as well as the small magnetic porphyry.

- 4) ZONE B' lies 400m WNW of SLSM and just north-east of the Niemetz Showing, along the felsicvolcanic and dioritic intrusive contact, in the central survey area between L800W/750S and L200W/725S. Zone B' consists of weak to moderate strength (<11mV/V) and predominantly high resistivity to contact-type chargeability axes indicating disseminated mineralization in potentially significant amounts. For the most part, Zone B' is only weakly magnetic and, unlike other chargeability highs in South Grid, is not directly associated with magnetic porphyries. Unlike Zone B, it does not feature a well-defined resistivity high signature - possibly indicating weaker gtz-carbonate alteration or, otherwise, a felsic lithologic source - particularly given its long strike-length (>700m). However, a possible ENE to EW crossing structure is implied, particularly in the resistivity results (see also Interpretation plan), which extends from Zone C/Niemetz to L600E/750S - suggesting good potential for shear-hosted mineralization. The Realsections across B' indicate that the IP axes are subcropping (<50m), narrow (<10-25m), subvertical and likely extend below 300m depths. In spite of its possible lithologic origin and/or weak alteration, a high  $2^{ND}$  priority is assigned to **Zone A**, as a shear-hosted, disseminated sulphide target, due to the relatively anomalous IP and the possible crossing structure. Two drill-holes are recommended: 1) at L500W/650S, a >325m length, 60degree South dipping drill hole is proposed to test the 3-4 resistive IP linears, just east of the inferred crossing structure; 2) at L800W/700S, a shallower 45 degree South dipping hole, with length >275m, targets 4-5 moderate strength high and low resistivity to contact-type IP axes - the latter which is also magnetic - in the area southwest of the crossing feature, associated with Zone C.
- 5) <u>ZONE B</u>" is a region of anomalous chargeability which lies on strike with B', in the northwest corner of South Grid between L1000W/6+50S and L1200W/7+50S, and is underlain by felsic volcanics. Zone B" is formed by 2-4 east-west subparalleling, moderate to strong IP axes which lie in a high resistivity host consistent with disseminated, stratigraphic sulphides in rhyolites. As with B', Zone B" is also only weakly magnetic, but lies in contact with a small, porphyritic-like magnetic high defined at L1000W/800S. This magnetic high lies along a NE/SW trending low resistivity/low chargeability zone, which separates Zone B' from Zone B" and suggests the porphyry is structurally-controlled. Realsections indicate that the IP axes are subvertically dipping and subcropping, but may pinch-out at depth possibly along a low-angle fault-zone at ≈200m depths. In spite of its stratigraphic-like nature, a possible 3<sup>RD</sup> priority drill-hole could test Zone B", for shear-hosted disseminated sulphides, near the magnetic porphyry, along L1000W/800S, using a 60 degree North dipping, 250m long drill-hole.

6) <u>ZONE C</u> represents a prominent high bulk chargeability and low-to-moderate resistivity feature which QG-129 - October, 2000 16

coincides with the Niemetz Showing, near 950W/975S, and its associated magnetic porphyry intrusive, lying in contact just to the northwest. Zone C resembles the Zone B/Snowshoe Lake response in its characteristic cross-cutting IP/Resistivity signatures, but differs in its strong coincident magnetism and lower resistivity - owing to the presence of the porphyry and, more importantly, to its conductive IP axes and resulting stringer-massive sulphide potential. Zone C, which consists of 3-4 weak to moderately-strong IP linears, extends from west-northwest of the **Niemetz** occurrence, at  $\approx$ L1200W/900S, and to the northeast, at ~ L700W/850S. As with B, it is distinguished by the abrupt change in orientation of its IP and resistivity features, from east-westerly to ENE in the immediate vicinity of the Niemetz Showing - implying a "crossing" feature. As shown in the resistivity and chargeability plan results, the intersection is marked by a pronounced ENE resistivity low/chargeability low, extending from  $\approx$  L1200W/1038S to L700W/850S, which suggests a concordant structural zone – possibly also controlling the emplacement of the porphyry. Although the Zone C chargeability axes are predominantly resistive, consistent with disseminated sulphides in either gtzcarbonate altered or felsic units, it lacks the pronounced, horst-like resistive feature found associated with B - this decreased bulk porosity either reflects subsequent structural shearing or argillization, or indicates that the area is not strongly qtz-carbonate altered.

Realsections indicate that the IP features are subvertical to steeply South-dipping and appear to subcrop (depth <50-100m). The **Niemetz** occurrence is shown (see L950W Interpretation) to coincide with a weak ( $\approx$ 7mV/V), conductive IP body, lying along the magnetic porphyry contact, which is narrow (<10m) and appears to be vertically discontinuous – pinching below 50-100m depths (explaining the poor drill-results?) but possibly swelling below 200m. More importantly, the Realsections also identify stronger (>10mV/V) and thicker (10-25m) polarizeable zones which are 50m north of the **Niemetz**, are directly associated with the magnetic porphyry, and whose conductive to contact-type resistivity are consistent with stringer to massive sulphides. In spite of its north-offset with **Niemetz**, with assign a high 1<sup>ST</sup> priority to **Zone C** and recommend that it be tested using a 60 degree North dipping, 225m long drill-hole, from L950W/1000S. As second drill-hole is recommended to test the NE-extension of **Zone C** at L700W/850S, which is potentially buried (>50m) but remanently magnetized (pyrrhotite?) – a 300m long, 60 degree South, drill-hole at L700W/800S would also test two modstrong disseminated targets at depth.

- 7) ZONE C' is a relatively short strike-length (300-400m), east-west trending, anomalously polarizeable horizon which shares similar characteristics to Zone C. These include a coincident, strong, porphyry-like magnetic high signature (>1800 nT), as well as low resistivity and high chargeability (≈19mV/V) notably the strongest measured at Niemetz. As a moderate to strong IP anomaly, it is defined from L400W/≈950S to L100W/≈975S, is partially magnetic (L300W-L400W) and comprises 1-2 polarize-able horizons with high to low resistivity associations consistent with disseminated to stringer sulphides, within a qtz-carbonate-altered or felsic volcanic host. In Realsection, it is subvertically dipping and nearly subcropping (<75m depth) and displays a narrow to anomalous moderate width (<10-25m). It may also pinch below 250m depths. In spite of its possible limited depth extent, we recommend that Zone C' be tested, as a 1<sup>ST</sup> priority shear-hosted target, across its strongest point along L300W/938S, with a 60 degree North dipping, >250m length drill-hole, from L300W/1025S.
- 8) <u>ZONE D</u> lies south of the Niemetz Showing, in the southwest corner of South Grid, in the vicinity of the West Sulphide and Gravel Pit sulphide showings, and cross-cuts several prominent, magnetic porphyry intrusive bodies. Zone D consists of 2-3 moderate to strong IP axes, which generally extend along a discordant WNW-ESE trend, from L1200W/1225S to approximately L700W/1425S. Zone D mainly comprises resistive IP trends, consistent with disseminated sulphides either in quartz-carbonate altered shears or felsic units. Although it cross-cuts three high magnetic susceptibility bodies, its IP axes are not visibly magnetic, suggesting pyrite except along L1200W, within the NNE-trending large porphyry dyke, where magnetite or pyrrhotite may be present. However Zone D is mainly notable for its well-defined cross-cutting ENE and EW features, observed in both the resistivity and chargea-

bility signatures in plan. Realsections indicate that its IP axes are narrow (<10-25m wide), subcropping mineralized zones which dip steeply southward and generally extend below 250m depths – except across L1100W-L1200W, where all features pinch below 150m depth (see Interpreted RSIP),

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possibly as a result of intrusion by the porphyry or subhorizontal structures. We nevertheless recommend that **Zone D** be drill-tested, as a high  $2^{ND}$  priority target, along L1100W/1225S, from a shallow, 225m long, 45 degree North-dipping drill-hole, at 1100W/1300S. We also note that, except for a weak IP linear, aligned along strike with the **West Showing**, neither of the two sulphide showings in the vicinity of **D** coincide with high bulk chargeability – likely indicative of their small size and limited depth extent – particularly the **Gravel Pit Showing**, which occurs in a fault-like resistivity low / chargeability low.

- 9) ZONE D' is a moderate strike length (300-500m), EW oriented IP axis which is notable for its resemblance to Zone C-C' because of its strong, conductive and magnetic IP response, but nevertheless differs in its 100m offset from a nearby magnetic porphyry-like feature likening it to Zone D. It extends from possibly as far west as L900W/1175S to L400W/1175S, and generally consists of 1-2 well defined weak to moderate strength IP axes. Its predominantly high and contact-type resistivity signatures indicate probable disseminated sulphides except across L500W, where it is conductive and magnetic. Realsections indicate that it is partially buried, except along 700W-900W and 500W, where it subcrops. Steep south-dips are also indicated, but it may also pinch, below 250m depths across L500W/1175S elsewhere it appears depth-extensive. We assign Zone D' a high 1<sup>ST</sup> priority, and recommend testing it for shear-hosted, stringer sulphides, using a >200m long, 60 degree North dipping drill-hole, from L500W/1225S.
- 10) <u>ZONE D</u>" represents the center of a series of subparalleling, predominantly resistive IP axes which are defined in West Grid. This area covered VLF conductor A and a coincident magnetic high lineament, possibly relating to a porphyry intrusive, but also lying along strike with the Amphibolite Bay Cu-Ni occurrence, further west. Zone D" consists of 7-8 regularly spaced (50-100m), weak to strongly polarizeable, east-west to ENE trending IP axes, with mixed high to contact-type resistivity signatures indicating disseminated sulphides. The strongest chargeabilities measured at Niemetz (>20mV/V) are found along its centralmost IP axis, which is also coincident with the weak magnetic lineament (50-100nT). Realsections indicate that the IP axes along Zone D" are possibly moderately south-dipping and likely subcrop (see Interpreted RSIP). They also provide evidence for subhorizontal faulting below 120m depths, which might disrupt or truncate the IP horizons. Given the resistive nature of IP axes locally, the VLF-EM axis could be related to a WNW-ESE trending, fault-like, chargeability Low / Resistivity Low structure just north of the IP target, i.e. overburden or fault related. We recommend that D" be assigned a high 2<sup>ND</sup> priority, and that it be tested as either a shear-hosted or magmatic disseminated sulphide target, using a shallow, 250m long, 45 degree North dipping drill-hole, from L1750W/1250S.

# • Drill Recommendations

Although nearly all the strongest chargeability anomalies defined at **Niemetz** represent good drill targets, the list presented in Table III is designed to help direct DDH-testing into the best portion of each anomalous zone.

NAME	LINE	STATION	DIRECTION / DIP	LENGTH	PRIORIT Y	COMMENTS
A	100W	1+50S	60deg S	>300m	2	Test for possible shear-type, qtz-carb. altered dis- seminated to stringer sulphides $\pm$ magnet- ite/pyrrhotite, or magmatic sulphides in ultrama- fic/mafic intrusive, associated with HLEM D, and adjacent contact-type and resistive IP lineaments.
A'	100W	1+50N	60deg S	>300m	2	Test for possible shear-type, qtz-carb. altered dis- seminated to stringer sulphides $\pm$ magnetite / pyr- rhotite, or magmatic sulphides in narrow ultrama- fic/mafic intrusive, and adjacent contact-type to resistive IP lineaments.

В	400E	10+50S	60deg N	>300m	2	Test for possible shear-type, qtz-carb. altered dis- seminated sulphides ± magnetite/pyrrhotite, and nearby magnetic porphyry intrusive, as well as adjacent contact-type to resistive IP lineaments.
B'	500W	6+50S	60deg S	>325m	2	Test for possible shear-type, qtz-carb. altered dis- seminated sulphides, east of interpreted crossing structure.
	800W	7+00S	45deg S	>275m	2	Test for possible shear-type, qtz-carb. altered dis- seminated sulphides, west of crossing feature, and stringer to massive sulphides, associated with <b>C</b> .
Β"	1000W	800S	60deg N	>250m	2	Test for possible shear-type, qtz-carb. altered dis- seminated sulphides ± magnetite/pyrrhotite, and nearby magnetic porphyry intrusive, as well as adjacent contact-type to resistive IP lineaments.
С	950VV	1000S	60deg N	>225m	1	Test <b>Niemetz Showing</b> and possible shear-type, qtz-carb. altered disseminated to stringer sulphides ± magnetite/pyrrhotite in magnetic porphyry intru- sive to the north.
	700W	800S	70deg S	>300m	2	Test for possible shear-type, qtz-carb. altered dis- seminated to stringer sulphides $\pm$ magnetite / pyr- rhotite – caution for faulted diss. sulphide source.
C'	300W	1025S	60deg N	>250m	1	Test for possible shear-type, qtz-carb. altered dis- seminated to stringer sulphides ± magnet- ite/pyrrhotite, and possible coincident magnetic porphyry intrusive.
D	1100W	1300S	45deg N	>225m	2	Test for possible shear-type, qtz-carb. altered dis- seminated sulphides, and possible associated magnetic porphyry intrusive – caution for pinch- out.
D'	500W	1225S	60deg N	>225m	1	Test for possible shear-type, qtz-carb. altered, stringer to massive sulphides $\pm$ magnetite / pyr-rhotite – caution for pinch-out, at depth.
D"	1750W	1250S	45deg N	>250m	2	Test for possible shear-type, qtz-carb. altered or magmatic disseminated sulphides ± magnetite/ pyrrhotite, and/or possible associated magnetic porphyry intrusive – caution for pinch-out.

Table IV: Recommended Drill-Holes for Follow-up at Niemetz.

#### 5. CONCLUSIONS AND RECOMMENDATION

The Gradient Realsection IP/Resistivity results at the **Niemetz Property** identify potential chargeability and resistivity signatures relating to the subsurface geology, including possible lithologic discrimination, fault-fracture structures, geochemical alteration and, most importantly, disseminate to massive-stringer sulphide mineralization potentially relating to polymetallic-mineralized zones. In response to the geological objectives, as many as three (3) high priority targets have been identified which combine significantly high chargeability, low resistivity and nearby high magnetism to warrant immediate follow-up and possible drilltesting for either shear-hosted or magmatic stringer to massive sulphides. At least ten (10) second priority targets are also defined, which feature either slightly lesser chargeability, higher resistivity or weaker magnetic characteristics. These results highlight the high resolution and deep penetration capabilities of the gradient-Realsection technique, and suggest that the property continues to host an excellent exploration potential.

Of the eight (8) HLEM and VLF-EM conductors which were targeted for follow-up, unfortunately only two (2) are shown to coincide with favourable IP\resistivity signatures, indicating possible bedrock sulphides. Furthermore, neither the Gravel Pit nor the West Sulphide showings feature significant IP signatures, likely indicating probable small size/volume. However, both the Niemetz and Snowshoe Lake/Sturdy Mines showings feature significant IP anomalies nearby, with extended strike-length/depthextent to warrant follow-up by drill-testing. The IP axes of significance can be grouped into ten (10) basic zones of interest (A-D"), which include a) the Niemetz Cu-Ag-Au mineral occurrence (Zone C), and similar shear-hosted targets (Zones A', B'-B", C and D-D') occurring in the favourable rhyolitic and porphyry units, b) the Snowshoe Lake / Sturdy Mines occurrence which lies in dioritic rocks along a well-defined IP and resistive linear, subparallel to the Mark Lake Shear (Zone B), and c) two magmatic-type targets associated with a potential magnetic ultramafic intrusive within the qtz-diorites of North Grid (Zone A) and a similar magnetic qtz-porphyry intrusive signature (Zone D") possibly related to the Amphibolite Bay occurrence in West Grid.

We recommend that the current priority targets be combined with the existing geoscientific database and the results carefully evaluated prior to DDH-testing. Particular attention should be given to the probable type of mineralization and alteration indicated by the resistivity association (i.e. high  $\rho$  = diss. sulph. with qtz-carb., nil  $\rho$  = disseminate + weak silicic/argillic, low  $\rho$  = stringer to massive or argillization). The chargeability axes display a variety of strengths and resistivity associations, such that, based on the geophysics alone, all the most significant anomalies represent equally good targets – possibly differing only in their type-alteration and sulphide content. The inclusion of ground magnetic results has proven useful in targeting favourable IP signatures in close proximity, as well as determining their possible mineralogy. Following drilling, 3D Borehole TEM is recommended in order to establish the size and geometry of possible massively mineralized intersections, or to detect other zones lying within a +150m radius. Borehole IP may also prove useful in delimiting the extent, and direction of matrix to disseminate mineralization, using both peripheral and radial-directional arrays. Borehole physical property work should be used to crosscorrelate the geologic and geophysical signatures. Finally, these results should be combined into a common earth model, using GOCAD, in order to provide better corroboration between the measured physical parameters and the geology.

David MacGillivray Project Manager

- PA Perparin Alkaj, PHD

Chief Geoscientist

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RESPECTFULLY SUBMITTED QUANTEC GEOSCIENCE INC.

VT

Vicki Thomson Technical Services

12m JLp

Jean M Legault, P.Eng. Dir Technical Services









#### APPENDIX A

#### STATEMENT OF QUALIFICATIONS:

I, Jean M. Legault, declare that:

- 1. I am a consulting geophysicist with residence in South Porcupine, Ontario and am presently employed in this capacity with Quantec IP Inc. of Waterdown, Ontario.
- I obtained a Bachelor's Degree, with Honours, in Applied Science (B.A.Sc.), Geological Engineering (Geophysics Option), from Queen's University at Kingston, Ontario, in Spring 1982.
- 3. I am a registered professional engineer, since 1985, with license to practice in the Province of Ontario (Reg. # 90531542).
- 4. I have practiced my profession continuously since May, 1982, in North-America, South-America and North-Africa.
- 5. I am a member of the Association of Professional Engineers of Ontario, the Prospectors and Developers Association of Canada, and the Society of Exploration Geophysicists.
- 6. I have no interest, nor do I expect to receive any interest in the properties or securities of **Tryx Ventures Inc.**
- 7. I am the author of this report and the statements contained represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

Waterdown, Ontario October, 2000

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Jean M. Legault, P.Eng. (ON) Chief Geophysicist Dir. Technical Services Quantec Group

#### APPENDIX A

#### **STATEMENT OF QUALIFICATIONS**

I, Perparim Alikaj, declare that:

- 1. I am a consulting geophysicist with residence in Toronto, Ontario and am presently employed in this capacity with Quantec Geoscience Ltd of Waterdown, Ontario.
- 2. I obtained a Bachelor's Degree in Geophysics from Polytechnic University of Tirana, Albania in spring 1974, a M.Sc. Degree in Applied Geophysics in 1990 and a Ph.D. also in Applied Geophysics in 1995 from the same University.
- 3. I have practiced my profession continuously since December 1974 in Albania and since 1991 in Canada.
- 4. I obtained from the Polytechnic University of Tirana, Albania the titles Associate Professor in 1995 and "Full Professor" in 1999.
- 5. I am a member of the Prospectors and Developers Association of Canada, Canadian Exploration Geophysicists, Society of Exploration Geophysicist, European Association of Geoscientists & Engineers.
- 6. I have no interest, nor I expect to receive any interest, direct or indirect in the properties or securities of **Tryx Ventures Corporation**, or its joint-venture partners.
- 7. I am responsible for the plan and Realsection interpretation. I have reviewed this report as regards the survey results, their interpretation and analyzed the scientific aspects of the data based on the data provided by the field crew. The statements made in this report represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

Waterdown, Ontario October, 2000

PA

Prof.Perparim Alikaj, Ph.D Senior Research Geophysicist

### APPENDIX B

**PRODUCTION LOG** 

QUAN	TEC GEOSCIEN	NCE INC.			· · · · · · · · · · · · · · · · · · ·		
101 Ki	ing Street						
Porcu	pine, Ontario						
(705) -	235 - 2166						
					_		
Client	:		TRYX VE	NTURES C	CORP.		
Client	Representative		Gino Chit	aroni			
Projec	t Supervisor:		Kevin Bla	ckshaw			
Projec	t Manager:		David Ma	cGillivray			
Projec	il#: st Title:		Niomota E	Proporti-			
Projec	st Location:		Brigge tw	n Teman	ami		
Survey			Gradient \	P., Tennay Residence	ion IP		
Sampl	ling Interval		12.5 metre	ncuiscei Ag			
Survey	v Date:		July 31st	to August	17th. 2000		
Curve	y Duto.		ouly offer	to Auguot			
Date		Description	Grid	Line	Min Extent	Max Extent	Total Survey
							(incica)
							•
31-Jul	SOUTH GRID						
	Mob Timmins to Ter	nagami					
	Established base of	operations at Northland Paradise	Lodge				
	Located grid and be	nan establishing electrode nits for	multiple level a	radient arravs			
	Localed grid and be	gan establishing electrode pits for	manpie iever gi	adient anays			
01-Aug	Completed electrode ings, need to improv	e pits for the first block of the south re current for stronger Vps in the w	h grid, (1600m, /etter areas. Di	1200m, 875n sconnected g	n, 700m, 500m, rounds on the h	300m) took so ydro poles with	me test read- nin the survey
	area.						
02-Aug	Improved electrode	pits, Began detail survey					
	Survey depth 240m		South	6+00E	8+00S	9+25\$	125
			South	5+50E	8+258	9+50S	125
			South	5+00E	8+00S	9+758	175
			South	4+50E	9+00S	10+258	125
			South	4+00E	8+00S	11+00S	300
	Survey depth 180m		South	6+00E	8+12.5S	9+258	112.5
			South	5+50E	8+25S	9+50S	125
			South	5+00E	8+00S	9+75S	175
			South	4+50E	9+005	10+255	125
	Oursease de sale 400		South	4+00E	8+00S	11+00S	300
	Survey depth 135m		South	6+00E	8+005	9+255	125

#### QUANTEC GEOSCIENCE INC. Gradient RSIP Survey

Date	Description	Grid	Line	Min Extent	Max Extent	Total Survey (metres)
······		South	5+50E	8+25S	9+50S	125
		South	5+00E	8+00S	9+75S	175
		South	4+50E	9+00S	10+25S	125
		South	4+00E	8+00S	11+00S	300
	Survey depth 105m	South	6+00E	8+50S	9+25S	75
		South	5+50E	8+87.5S	9+50S	62.5
		South	5+00E	8+00S	9+75S	175
		South	4+50E	9+00S	10+25S	125
		South	4+00E	8+12.5S	11+00S	287.5
	Survey depth 75m	South	6+00E	8+00S	9+25S	125
		South	5+50E	8+25S	9+50S	125
		South	5+00E	8+00S	9+75S	175
		South	4+50E	9+00S	10+25S	125
		South	4+00E	9+25S	10+50S	125
	Survey depth 45m	South	6+00E	8+00S	9+25S	75
		South	5+50E	8+50S	9+50S	100
		South	5+00E	8+50S	9+75S	125
		South	4+50E	9+00S	10+00S	1 <b>0</b> 0
		South	4+00E	9+25\$	10+50S	125
	Total survey & charge					4462.5
	Continued Detailed survey Survey depth 240m Survey depth 180m Survey depth 135m Survey depth 105m Survey depth 75m Survey depth 45m	South South South South South South South South South South	3+00E 2+00E 3+00E 2+00E 3+00E 2+00E 3+00E 3+00E 2+00E 3+00E 3+00E	12+25S 11+75S 12+25S 11+75S 12+25S 11+75S 12+25S 11+75S 12+25S 11+75S 11+75S 11+00S	8+00S 8+00S 8+00S 8+50S 8+50S 8+50S 8+50S 8+50S 8+50S 8+50S 8+50S 8+50S	425 375 425 375 375 375 375 250 375 375 375 375 375
		South	2+00E	11+755	8+00S	375
	Total survey & charge					4350
04-000	Continued Detailed survey					
	Survey depth 240m	South	2+00F	13+005	11+755	125
		South	1+00E	13+505	8+005	550
	Survey depth 180m	South	2+00E	13+00S	11+755	125
		South	1+00E	13+50S	8+00S	550
	Survey depth 135m	South	2+00E	13+00S	11+758	125
		South	1+00E	13+00S	8+00S	500
	Survey depth 105m	South	1+00E	11+00S	8+00S	300
	Survey depth 75m	South	2+00E	13+00S	11+75S	125
	• ••••	South	1+00E	13+00S	8+00S	500

Date	Description	Grid	Line	Min Extent	Max Extent	Total Survey (metres)
	Survey depth 45m	South	2+005	13+005	11+758	125
		South	1+00E	13+00S	8+00S	500
	Removed AB cable and electrodes from line 2+00E an	d began estab	lishing electro	de pits on line 2	+00W for	3525
05.0	north and south grids					
02-40	Completed electrode pits for worth and South grids for	reconnaissan	ce and detail to	bilow up		
06-Aug	9 NORTH GRID					
	Began Detail Survey of North Block					
	Survey depth 240m	North	1+00E	2+258	1+50N	375
		North	0+00E	1+50N	0+25N	125
l	Survey depth 180m	North	1+00E	2+25S	1+50N	375
		North	0+00E	1+50N	0+25N	125
	Survey depth 135m	North	1+00E	2+258	1+50N	375
		North	0+00E	1+50N	0+25N	125
	Survey depth 105m	North	1+00E	2+25S	1+50N	375
		North	0+00E	1+50N	0+25N	125
	Heavy rain survey suspended, Weather day charge					2000
07-Aug	g Heavy rain, Thunder and lightning in the morning, surv	ey suspended	l			
	Survey depth 240m	North	0+00E	0+25N	1+00S	125
	Survey depth 180m	North	0+00E	0+25N	1+00S	125
	Survey depth 135m	North	0+00E	0+25N	1+00S	125
	Survey depth 105m	North	0+00E	0+25N	1+00S	125
	Thunder and lightning again in the afternoon, survey s	uspended, we	ather day char	æ		500
		,				
08-Au	a Survey death 240m	North	0+00E	1+00S	2+258	125
	Survey depth 180m	North	0+00E	1+005	2+255	125
	Survey depth 135m	North	0+00E	1+005	2+255	125
	Survey depth 105m	North	0+00E	1+005	2+255	125
	Survey depth 105m	North	1+00W	1+50N	2+255	375
	Survey depth 240m	North	1+00W	1+50N	2+255	375
	Survey depth 180m	North	1+00W	1+50N	2+255	375
	Survey depth 135m	North	1+00W	1+50N	2+258	375
	Survey depth 105m	North	1+00W	1+50N	2+25\$	375
	Survey depth 75m	North	1+00W	1+50N	2+258	375
	Survey depth 315m	North	2+00W	1+50N	2+25S	375
	Survey depth 240m	North	2+00W	1+50N	2+258	375
	Survey depth 180m	North	2+00W	1+50N	2+255	375
l	Survey depth 135m	North	2+00W	1+50N	2+25S	375
	Survey depth 105m	North	2+00W	1+50N	2+258	375
	Survey depth 75m	North	2+00W	1+50N	2+25S	375
	Survey depth 315m	North	3+00W	1+50N	2+258	375
	Survey depth 240m	North	3+00W	1+50N	2+25S	375
{	Survey depth 180m	North	3+00W	1+50N	2+255	375
	Survey depth 135m	North	3+00W	1+50N	2+25S	375
1						- · -

# QUANTEC GEOSCIENCE INC. Gradient RSIP Survey

	(motimo)
	(menes)
Survey depth 105m North 3+00W 1+50N 2+25S	375
Survey depth 75m North 3+00W 1+50N 2+25S	375
Survey depth 315m North 4+00W 1+50N 2+25S	375
Survey depth 240m North 4+00W 1+50N 2+25S	375
Survey depth 180m North 4+00W 1+50N 2+25S	375
Survey depth 135m North 4+00W 1+50N 2+25S	375
Survey depth 105m North 4+00W 1+50N 2+25S	375
Removed AB cable and electrode pits from North Grid.	9125
09-Aug SOUTH GRID	
Continued detail survey on the South Grid	
Survey depth 315m South 0+00E 13+50S 8+50S	500
Survey depth 240m South 0+00E 13+50S 8+50S	500
Survey depth 180m South 0+00E 13+50S 8+50S	500
Survey depth 120m South 0+00E 13+50S 8+50S	500
Survey depth 315m South 1+00W 13+50S 8+50S	500
Survey depth 240m South 1+00W 13+50S 8+50S	500
Survey depth 180m South 1+00W 13+50S 8+50S	500
Survey depth 120m South 1+00W 13+50S 8+50S	500
Survey depth 90m South 1+00W 13+50S 8+50S	500
Survey depth 60m South 1+00W 12+25S 8+50S	375
Survey depth 315m South 2+00W 13+75S 10+00S	375
Survey depth 240m South 2+00W 13+75S 10+00S	375
Survey depth 180m South 2+00W 13+75S 10+00S	375
Survey depth 120m South 2+00W 13+75S 10+00S	375
Survey depth 90m South 2+00W 13+75S 10+00S	375
Survey depth 60m South 2+00W 11+25S 10+00S	125
-	6875
10-Aug Continued detail survey on the South Grid	
Survey depth 315m South 2+00W 10+00S 6+25S	375
Survey depth 240m South 2+00W 10+00S 6+25S	375
Survey depth 180m South 2+00W 10+00S 6+25S	375
Survey depth 120m South 2+00W 10+00S 6+25S	375
Survey depth 90m South 2+00W 10+00S 6+25S	375
Survey depth 60m South 2+00W 10+00S 6+25S	375
Survey depth 315m South 3+00W 6+25S 13+62.5S	737.5
Survey depth 240m South 3+00W 6+25S 13+62.5S	737.5
Survey depth 180m South 3+00W 6+25S 13+62.5S	737.5
Survey depth 120m South 3+00W 6+25S 13+62.5S	737.5
Survey depth 90m South 3+00W 6+25S 13+62.5S	737.5
Survey depth 60m South 3+00W 6+25S 11+25S	500
Relocated electrode pits and AB cable from line 2+00W to 5+00W for shallow depth measurements, continue deta	ail survey
	-
Survey depth 315m South 4+00W 13+75S 8+75S	500
Survey depth 240m South 4+00W 13+75S 8+75S	500
Survey depth 140m South 4+00W 13+75S 8+75S	500
Survey depth 75m South 4+00W 10+00S 8+75S	125

#### QUANTEC GEOSCIENCE INC. Gradient RSIP Survey

Date	Description	Grid	Line	Min Extent	Max Extent	Total Survey (metres)
		_				(
	Survey depth 70m	South	4+00W	12+50S	11+25S	125
						8187.5
11-Aug	Continued detail survey on the South Grid					
	Survey depth 315m	South	4+00W	8+75S	6+25S	250
	Survey depth 240m	South	4+00W	8+75S	6+25S	250
	Survey depth 140m	South	4+00W	8+75S	6+25S	250
	Survey depth 75m	South	4+00W	8+75S	6+255	250
	Survey depth 315m	South	5+00W	6+37.5S	13+62.5S	725
	Survey depth 240m	South	5+00W	6+37.5S	13+62.58	725
	Survey depth 140m	South	5+00W	6+37.5S	13+62.5S	725
	Survey depth 75m	South	5+00W	6+37.5S	10+00S	362.5
	Survey depth 70m	South	5+00W	11+25S	13+62.5S	237.5
	Survey depth 315m	South	6+00W	13+00S	6+75\$	625
	Survey depth 240m	South	6+00W	13+00S	6+75S	625
	Survey depth 140m	South	6+00W	13+00S	6+75S	625
	Survey depth 75m	South	6+00W	13+00S	11+75S	125
	Survey depth 70m	South	6+00W	8+00S	6+75S	125
	Removed AB cable and electrode pits from lines 2+00W	& 5+00W				5900
12-Aug	Established electrode pits & AB cable on lines 8+00W &	10 <b>+00W</b>				
	Continued detail survey on the South Grid					
	Survey depth 240m	South	7+00W	6+25S	11+75S	550
	Survey depth 180m	South	7 <b>+00W</b>	6+25S	11+75S	550
	Survey depth 135m	South	7+ <b>00W</b>	6+25S	11+75S	550
	Survey depth 105m	South	7 <b>+00W</b>	8+00S	9+25S	125
	Survey depth 80m	South	7 <b>+00W</b>	6+25S	8+25S	200
	Survey depth 80m	South	7+00W	9+25S	11+75S	250
	Survey depth 50m	South	7 <b>+00W</b>	7+50S	8+25S	75
12 000	Continued datail supervise the South Crid					2300
13-Aug	Survey denth 240m	South	7+0011	11+755	14+255	250
	Survey depth 240m	South	7+001	11+755	14+255	250
	Survey depth 135m	South	7+00W	11+755	14+255	250
	Survey depth foom	South	7+00W	11+758	14+255	250
	Survey depth 240m	South	8+00W	14+005	6+505	750
	Survey depth 180m	South	8+00W	14+005	6+505	750
	Survey depth 135m	South	8+00W	14+005	6+505	750
	Survey depth 100m	South	8+00W	14+005	6+505	750
	Survey depth 50m	South	8+00W	9+005	6+505	250
	Survey depth 30m	South	8+00W	9+005	7+755	125
	Survey depth com	South	9+00W	6+505	12+755	625
	Survey depth 180m	South	9+00W	6+505	12+755	625
	Survey depth 135m	South	9+00W	6+50S	12+758	625
	Survey depth 80m	South	9+00W	6+50S	12+755	625
	Survey depth 50m	South	9+00W	7+75S	9+00S	125

#### QUANTEC GEOSCIENCE INC. Gradient RSIP Survey

Date	Description	Grid	Line	Min Extent	Max Extent	Total Survey (metres)
	Theorem 6.1: 14: 10: 0					(
	I nunder & Lightning late atternoon, survey suspended					7000
14-Aug	Continued detail survey on the South Grid					
	Survey depth 240m	South	9+00W	12+75S	13+75S	100
	Survey depth 180m	South	9+00W	12+75S	13+75S	100
	Survey depth 135m	South	9+00W	12+75S	13+75S	100
	Survey depth 80m	South	9+00W	12+75S	13+75S	100
	Moved shallow depth electrode pits from 8+00W to 10+0	0W, conť	detail survey			
	Survey depth 240m	South	9+50W	8+75S	11+25S	250
	Survey depth 180m	South	9+50W	8+75S	11+258	250
	Survey depth 120m	South	9+50W	8+75S	11+25S	250
	Survey depth 80m	South	9+50W	8+75S	11+25S	250
	Survey depth 45m	South	9+50W	8+75S	10+00S	125
	Survey depth 240m	South	10+00W	13+50S	6+00S	750
	Survey depth 180m	South	10+00W	13+50S	6+ <b>00S</b>	750
	Survey depth 140m	South	10+00W	7+25S	6+00S	125
	Survey depth 120m	South	10+00W	13 <b>+50S</b>	7+25S	625
	Survey depth 100m	South	10+00W	7+25S	6+00S	125
	Survey depth 80m	South	10+00W	13+50S	7+25S	625
	Survey depth 240m	South	10+50W	8+00S	10+50S	250
	Survey depth 180m	South	10+50W	8+00S	10+50S	250
	Survey depth 120m	South	10+50W	8+00S	10+50S	250
	Survey depth 80m	South	10+50W	8+00S	10+50S	250
	Survey depth 240m	South	11 <b>+</b> 00W	6+50S	9+00S	250
	Survey depth 180m	South	11+00W	6+50S	9+00S	250
	Survey depth 140m	South	11 <b>+00W</b>	6+50S	7+75S	125
	Survey depth 120m	South	11 <b>+00W</b>	7+75S	9+00S	125
	Survey depth 100m	South	11 <b>+00W</b>	6+50S	7+75S	125
	Survey depth 80m	South	11+00W	7+75S	9+00S	125
						6525
15-Aua	Continued detail survey on the South Grid					
Ŭ	Survey depth 240m	South	11 <b>+00W</b>	9+00S	13+62.55	462.5
	Survey depth 180m	South	11 <b>+00W</b>	9+00S	13+62.55	462.5
	Survey depth 140m	South	11 <b>+00W</b>	12+75S	13+62.58	87.5
	Survey depth 120m	South	11+00W	9+00S	12+75S	375
	Survey depth 80m	South	11+00W	9+00S	12+75S	375
	Survey depth 240m	South	12+00W	13+75S	6+75S	700
	Survey depth 180m	South	12+00W	13+75S	6+75S	700
	Survey depth 140m	South	12+00W	13+75S	11+25S	250
	Survey depth 140m	South	12+00W	8+75S	6+75S	200
	Survey depth 120m	South	12+00W	11+25S	8+75S	250
	Survey depth 80m	South	12+00W	12+50S	7+50S	500
	Line 1350M/was not cut approx 1.5 hrs lost trying to los	ata tha lin	e from the north o	and of the arid		

Line 1350W was not cut, approx. 1.5 hrs lost trying to locate the line from the north end of the grid

Removed AB cable and electrode pits from the south grid

Date	Description	Grid	Line	Min Extent	Max Extent	Total Survey (metres)
16-Aug	WEST GRID Brushed out and rechained lines from the old grid (lir equal to 13+50S on the new grid)	nes 17+00W & 1	18+00W are eq	ual to 17+50S	& 18+50S, bas	eline 0+00N is
	Established electrode pits and AB cable for multiple	gradient arrays				
	Began detailed survey					
	Survey depth 200m	West	17+50S	14+25S	10+50S	375
	Survey depth 135m	West	17+50S	14+25S	10+50S	375
	Survey depth 105m	West	17+50S	14+25S	10+50S	375
	Survey depth 80m	West	17+50S	14+25S	10+50S	375
	Survey depth 200m	West	18+50W	14+25S	10+50S	375
	Survey depth 135m	West	18+50W	14+25S	10+50S	375
	Survey depth 105m	West	18+50W	14+25S	10+50S	375
	Survey depth 80m	West	18+50W	1 <b>3+8</b> 7.5S	10+50S	337.5
						2962.5
17-Aug Removed AB cable, electrode pits & equipment from the grid. Reconnected grounds on hydro poles. 1/2 day survey charge						
	Demob Temagami to Timmins					
	Total Surv	ey				68125

#### APPENDIX C

#### THEORETICAL BASIS AND SURVEY PROCEDURES

#### GRADIENT REALSECTION INDUCED POLARIZATION SURVEY

The "RealSection" survey design uses multiple gradient arrays - with variable depths of investigation controlled by successive changes in array size/geometry. The method of data acquisition and the "RealSection" presentation are based on the specifications developed by Dr. Perparim Alikaj, of the Polytechnic University of Tirana, Albania, over the course of approx. 20 years of application. This technique has been further developed for application in Canada during the past six years, in association with Mr. Dennis Morrison, president of Quantec IP Inc.

The Gradient Array measurements are unique in that they best represent a bulk average of the surrounding physical properties within a relatively focused sphere of influence, roughly equal to the width of the receiver dipole, penetrating vertically downward from surface to great depths. These depth of penetration and lateral resolution characteristics are showcased when presented in plan, however through the use of multiple-spaced and focused arrays, the advantages of the gradient array are further highlighted when the IP/Resistivity data are fully developed in cross-section, using RealSections.

The resistivity is among the most variable of all geophysical parameters, with a range exceeding 10<sup>6</sup>. Because most minerals are fundamentally insulators, with the exception of massive accumulations of metallic and submetallic ores (electronic conductors) which are rare occurrences, the resistivity of rocks depends primarily on their porosity, permeability and particularly the salinity of fluids contained (ionic conduction), according to Archie's Law. In contrast, the chargeability responds to the presence of polarizeable minerals (metals, submetallic sulphides and oxides, and graphite), in amounts as minute as parts per hundred. Both the quantity of individual chargeable grains present, and their distribution with in subsurface current flow paths are significant in controlling the level of response. The relationship of chargeability to metallic content is straightforward, and the influence of mineral distribution can be understood in geologic terms by considering two similar, hypothetical volumes of rock in which fractures constitute the primary current flow paths. In one, sulphides occur predominantly along fracture surfaces. In the second, the same volume percent of sulphides are disseminated throughout the rock. The second example will, in general, have significantly lower intrinsic chargeability.



Figure B1: Gradient array configuration

QUANTEC GEOSCIENCE INC. Gradient RSIP Survey

Using the diagram in Figure B1 for the gradient array electrode configuration and nomenclature:<sup>3</sup>, the gradient array apparent resistivity is calculated:

where:

the origin 0 is selected at the center of AB the geometric parameters are in addition to a = AB/2 and b = MN/2X is the abscissa of the mid-point of MN (positive or negative) Y is the ordinate of the mid-point of MN (positive or negative)

# Gradient Array Apparent Resistivity:



Using the diagram in Figure B2 for the Total Chargeability:



Figure B2: The measurement of the time-domain IP effect

<sup>&</sup>lt;sup>3</sup> From Terrapius\BRGM, <u>iP-6 Operating Manual</u>, Toronto, 1987.

the total apparent chargeability is given by:

# Total Apparent Chargeability:<sup>₄</sup>

$$M_{T} = \frac{1}{t_{p}V_{p}} \sum_{i=1 \text{ to } 10} \int_{t_{i}}^{t_{i+1}} Vs \quad (t) \text{ } dt \qquad \text{millivolts per volt}$$

where  $t_{j}$ ,  $t_{j+1}$  are the beginning and ending times for each of the chargeability slices,

More detailed descriptions on the theory and application of the IP/Resistivity method can be found in the following reference papers:

Cogan, H., 1973, Comparison of IP electrode arrays, Geophysics, 38, p 737 - 761.

Langore, L., Alikaj, P., Gjovreku, D., 1989, Achievements in copper sulphide exploration in Albania with IP and EM methods, Geophysical Prospecting, 37, p 925 - 941.

<sup>&</sup>lt;sup>4</sup> From Telford, et al., <u>Applied Geophysics</u>, Cambridge U Press, New York, 1983...
#### APPENDIX D

#### **INSTRUMENT SPECIFICATIONS**

Iris ELREC 10 Receiver (From Iris ELREC 10 Operating Manual)

#### Weather proof case

Dimensions: Weight: Operating temperature: Storage: Power supply:

Input channels: Input impedance: Input over voltage protection: Input voltage range:

SP compensation: Noise rejection:

Primary voltage resolution: accuracy:

Secondary voltage windows:

Sampling rate: Synchronization accuracy: Chargeability resolution: accuracy:

Battery test: Grounding resistance: Memory capacity: Data transfer:

31.0 cm x 21.0 cm x 25.0 cm 9.0 kg (with internal battery) -30°C to 70°C (-30°C to 50°C) 1 x 12.0 V external battery (30 hr. @ 20°C) or 2 x 6.0 V NiCad rechargeable (20 hr. @ 25°C) or 10 10 Mohm up to 1000 volts 10 V maximum on each dipole 15 V maximum sum over ch. 1 to 10 Automatic ± 15 V with linear drift correction 100 dB common mode rejection (for Rs = 0) automatic stacking 1 µV after stacking 0.3% typically; maximum 1 over whole temperature range up to 20 windows; preset window specs for Cole-Cole parameter analysis. 10 ms 10 ms, minimum 40  $\mu$ V 0.1 mV/V typically 0.6%. maximum 2% of reading ± 1 mV/V for  $V_p > 10 \text{ mV}$ manual and automatic before each measurement 0.1 to 100 kohm 3200 records, 1 dipole/record serial link @ 300 to 19200 baud

### **IRIS IP 10 Dump File Format**

Chani	nel: 1 I	Date	e: 08/10/199	99 11:1	3:34				
Spac:	ing (foot	t):	XP : 0	li.P:	4800 D	: -	-100 XA	: 2600	ХВ
: -50	200 1.	AB:	3200						
Rs:	0.15	koł	าฑ						
	M1/5		M6/10	•	M11/1	5.	M16/2	0.	
				<u>:</u> -		:		:	
	39.10	:	: 17.24	4 :	0.0	0:	0.0	0:	
	33.94	:	: 14.22	2 :	0.0	0:	0.0	0 :	
	30.77	:	11.5	ς.	0.0	0 1	0.0	0 .	
	27.85		9.24	1 ·	0.0	ñ ·	0.0	0 ·	
	22.61		7 6'	 -	0.0	0 ·	0.0	0 ·	
	22.01	•		•	0.0	••••	0.0	••••	
Sp:	40.92	mV							
In:	8200.00	mΑ		Rho:	804.35	ohm.m		#:	10
:qV	42.880	mV		Ma:	13.74	mV/V		0:	0.22
mV/V								<b>.</b>	
Tau:	0.000	) s		Mcc:	0.00	mV/V		rms:	0.00
2									
Chanı	nel: 2 I	Date	e: 08/10/199	99 11 <b>:</b> 1	3:34				
Spac:	ing (foot	t):	XP : -100	li.	P: 4800	D	: -100	XA : 2	600
XB	: -5000	]	L.AB: 3200						
Rs:	0.20	koł	1m						
	M1/5	:	: M6/10	:	M11/1	5:	M16/2	0:	
		:		:-		:		:	
	37.92	:	16./	:	0.0	0:	0.0	0 :	
	32.89	:	: 13.69	) :	0.0	0:	0.0	0 :	
	29.70	:	: 11.13	3:	0.0	0:	0.0	0 :	
	27.15	:	: 8.90	3:	0.0	0:	0.0	0 :	
	21.93	:	: 7.40	3:	0.0	0:	0.0	0:	
Sp:	-144.83	mV							
In:	8200.00	mΑ		Rho:	806.64	ohm.m		#:	10
Vp:	42.071	mV		Mg:	13.31 1	mV/V		Q:	0.30
mV/V									
Tau:	0.000	) s		Mcc:	0.00	mV/V		rms:	0.00
00									

### APPENDIX D

**INSTRUMENT SPECIFICATIONS** 

	Phoenix IP Transmitter Model IPT-1
Power Sources:	Phoenix MG-3 (2.5KVA, 60V, 3 phase, 400 Hz) motor generator
Output Voltage:	75 to 1200V in 5 steps. 75 - 150 - 300 - 600 - 1200V Voltage is continuously variable ± 20% from each nominal step value.
Output Power:	Maximum continuous output power is 2.5KW.
Maximum Current:	10 Amps
Ammeter Ranges:	50m A, 100m A, 500mA, 1A, 3A, and 10A full scale.
Meter Display:	A meter function switch selects the display of current level, regulation status, input frequency, output voltage, line voltage
Current regulation:	The change in output current is less than 0.2% for a 10% change in input voltage or electrode impedance. Regulation is achieved by feedback to the alternator of the motor generator unit.
Output waveform:	Either DC, single frequency, two frequencies simultaneously, or time do- main (50% duty cycle). Frequencies of 0.078, 0.156, 0.313, 1.25, 2.5 and 5.0 Hz are standard, whereas 0.062, 0.125, 0.25, 1.0, 2.0 and 4.0 Hz are optionally available. The simultaneous transmission mode has 0.313 and 5.0 Hz as standard, whereas 0.156 and 2.5 Hz are optional.
Operating Temperature:	-40°C to +60°C
Frequency Stability:	$\pm$ 1% from -40°C to +60°C is standard. A precision time base is optionally available for coherent detection and phase IP measurements.
Transient Protection:	Current is turned off automatically if it exceeds 150% full scale or is less than 5% full scale.
Dimensions:	18cm x 40cm x 53cm
Weight:	4 kg

#### APPENDIX E

### TDIP ANOMALY TABLE

LINE	STN_MIN	STN_MAX	CHARACTER	
-1850	-1388	-1362	High Chargeability and Highly Resistive	
-1850	-1350	-1312	High Chargeability and Highly Resistive	
-1850	-1288	-1250	Weak Chargeability and Flat Resistivity	
-1850	-1225	-1180	Moderate Chargeability and Highly Resistive	
-1850	-1180	-1138	Moderate Chargeability and Highly Resistive	
-1850	-1112	-1100	Moderate Chargeability and Flat Resistivity	
-1850	-1088	-1050	Moderate Chargeability and Highly Resistive	
-1750	-1425	-1403	Weak Chargeability and Mod Conductive/Low Resistivity	
-1750	-1375	-1350	Moderate Chargeability and Contact-type Resistivity	
-1750	-1330	-1306	Moderate Chargeability and Mod Conductive/Low Resis	
-1750	-1288	-1260	Moderate Chargeability and Highly Resistive	
-1750	-1260	-1232	Moderate Chargeability and Highly Resistive	
-1750	-1212	-1188	Moderate Chargeability and Highly Resistive	
-1750	-1175	-1125	Moderate Chargeability and Highly Resistive	
-1750	-1100	-1075	Moderate Chargeability and Highly Resistive	
-1750	-1070	-1055	Moderate Chargeability and Flat Resistivity	
-1200	-1370	-1338	Weak Chargeability and Moderately Resistive	
-1200	-1275	-1245	Weak Chargeability and Moderately Resistive	
-1200	-1225	-1200	Weak Chargeability and Moderately Resistive	
-1200	-1188	-1162	Weak Chargeability and Mod Conductive/Low Resistivity	
-1200	-1138	-1112	Weak Chargeability and Moderately Resistive	
-1200	-1088	-1062	Weak Chargeability and Moderately Resistive	
-1200	-1025	-1015	Weak Chargeability and Contact-type Resistivity	
-1200	-975	-962	Weak Chargeability and Mod Conductive/Low Resis	
-1200	-925	-900	Weak Chargeability and Highly Resistive	
-1200	-868	-850	Weak Chargeability and Highly Resistive	
-1200	-788	-738	Moderate Chargeability and Flat Resistivity	
-1200	-712	-675	Weak Chargeability and Flat Resistivity	
	-1362	-1338	Weak Chargeability and Highly Resistive	
-1100	-1262	-1225	Moderate Chargeability and Highly Resistive	
	-1155	-1112	Weak Chargeability and Flat Resistivity	
-1100	-1095	-1068	Weak Chargeability and Highly Resistive	
-1100	-1025	-1012	Weak Chargeability and Mod Conductive/Low Resistivity	
-1100	-970	-955	Weak Chargeability and Highly Resistive	
-1100	-925	-888	Weak Chargeability and Moderately Resistive	
-1100	-870	-850	Weak Chargeability and Highly Resistive	
-1100	-825	-838	Weak Chargeability and Moderately Resistive	
-1100	-762	-755	Weak Chargeability and Mod Conductive/Low Resistivity	
-1100	-738	-712	Moderate Chargeability and Mod Conductive/Low Resis	
-1100	-700	-675	Moderate Chargeability and Moderately Resistive	
LINE	STN_MIN	STN_MAX	CHARACTER	
-1100	-662	-650	Moderate Chargeability and Contact-type Resistivity	
-1050	-1020	-1000	Weak Chargeability and Highly Resistive	

-1050	-930	-87 <u>5</u>	Weak Chargeability and Moderately Resistive	
-1050	-862	-850	Weak Chargeability and Moderately Resistive	
-1000	-1280	-1250	Weak Chargeability and Highly Resistive	
-1000	-1245	-1212	Moderate Chargeability and Highly Resistive	
-1000	-1200	-1180	Weak Chargeability and Flat Resistivity	
-1000	-1147	-1120	Weak Chargeability and Moderately Resistive	
-1000	-1120	-1088	Weak Chargeability and Contact-type Resistivity	
-1000	-1012	-970	Weak Chargeability and Moderately Resistive	
-1000	-970	-946	Moderate Chargeability and Highly Resistive	
-1000	-946	-912	Weak Chargeability and Moderately Resistive	
-1000	-900	-890	Weak Chargeability and Moderately Resistive	
-1000	-875	-850	Weak Chargeability and Flat Resistivity	
-1000	-788	-775	Weak Chargeability and Flat Resistivity	
-1000	-762	-755	Weak Chargeability and Flat Resistivity	
-1000	-738	-725	Weak Chargeability and Highly Resistive	
-1000	-700	-675	Weak Chargeability and Moderately Resistive	
-1000	-638	-600	Moderate Chargeability and Highly Resistive	
-950	-1112	-1095	Weak Chargeability and Highly Resistive	
-950	-1075	-1050	Weak Chargeability and Highly Resistive	
-950	-1012	-990	Weak Chargeability and Mod Conductive/Low Resistivity	
-950	-970	-960	Weak Chargeability and Moderately Resistive	
-950	-960	-930	High Chargeability and Mod Conductive/Low Resistivity	
-950	-930	-888	Weak Chargeability and Moderately Resistive	
-900	-1375	-1362	Weak Chargeability and Highly Resistive	
-900	-1338	-1312	Weak Chargeability and Highly Resistive	
-900	-1300	-1280	Weak Chargeability and Highly Resistive	
-900	-1280	-1255	Weak Chargeability and Moderately Resistive	
-900	-1225	-1200	Weak Chargeability and Flat Resistivity	
-900	-1188	-1162	Weak Chargeability and Moderately Resistive	
-900	-1162	-1138	Weak Chargeability and Highly Resistive	
-900	-1100	-1088	Weak Chargeability and Highly Resistive	
-900	-1025	-1006	Weak Chargeability and Mod Conductive/Low Resistivity	
-900	-1006	-988	Weak Chargeability and Highly Resistive	
-900	-925	-897	Moderate Chargeability and Mod Conductive/Low Resis	
-900	-888	-862	Moderate Chargeability and Moderately Resistive	
-900	-850	-825	Weak Chargeability and Moderately Resistive	
-900	-788	-762	Weak Chargeability and Flat Resistivity	
-900	-725	-712	Weak Chargeability and Flat Resistivity	
-900	-662	-650	Weak Chargeability and Contact-type Resistivity	
-800	-1400	-1362	Weak Chargeability and Highly Resistive	
-800	-1350	-1330	Weak Chargeability and Highly Resistive	
-800	-1330	-1306	Weak Chargeability and Moderately Resistive	
LINE	STN_MIN	STN_MAX	CHARACTER	
-800	-1250	-1235	Weak Chargeability and Moderately Resistive	
-800	-1165	-1145	Weak Chargeability and Highly Resistive	
-800	-1145	-1110	Weak Chargeability and Highly Resistive	
-800	-1088	-1062	Weak Chargeability and Flat Resistivity	
-800	-1038	-1012	Weak Chargeability and Mod Conductive/Low Resistivity	
-800	-988	-975	Weak Chargeability and Contact-type Resistivity	

-800	-962	-950	Weak Chargeability and Contact-type Resistivity	
-800	-888	-875	Weak Chargeability and Highly Resistive	
-800	-862	-855	Weak Chargeability and Contact-type Resistivity	
-800	-855	-838	Moderate Chargeability and Contact-type Resistivity	
-800	-825	-812	Weak Chargeability and Highly Resistive	
-800	-812	-788	Weak Chargeability and Highly Resistive	
-800	-788	-750	Moderate Chargeability and Flat Resistivity	
-800	-750	-725	Weak Chargeability and Flat Resistivity	
-800	-725	-688	Weak Chargeability and Contact-type Resistivity	
-800	-675	-670	Weak Chargeability and Highly Resistive	
-700	-1412	-1388	Weak Chargeability and Highly Resistive	
-700	-1375	-1350	Weak Chargeability and Highly Resistive	
-700	-1238	-1225	Weak Chargeability and Contact-type Resistivity	
-700	-1212	-1200	Weak Chargeability and Highly Resistive	
-700	-1165	-1130	Weak Chargeability and Moderately Resistive	
-700	-1088	-1075	Weak Chargeability and Highly Resistive	
-700	-1055	-1025	Weak Chargeability and Flat Resistivity	
-700	-1012	-1000	Weak Chargeability and Highly Resistive	
-700	-988	-975	Weak Chargeability and Mod Conductive/Low Resistivity	
-700	-955	-925	Weak Chargeability and Mod Conductive/Low Resistivity	
-700	-912	-870	Weak Chargeability and Highly Resistive	
-700	-870	-850	High Chargeability and Highly Conductive	
-700	-850	-825	Weak Chargeability and Highly Resistive	
-700	-780	-750	High Chargeability and Highly Resistive	
-700	-750	-725	Weak Chargeability and Highly Resistive	
-700	-712	-675	Weak Chargeability and Contact-type Resistivity	
-600	-1275	-1250	Weak Chargeability and Contact-type Resistivity	
-600	-1200	-1138	Weak Chargeability and Contact-type Resistivity	
-600	-1055	-1038	Weak Chargeability and Contact-type Resistivity	
-600	-1020	-1000	Weak Chargeability and Contact-type Resistivity	
-600	-988	-975	Weak Chargeability and Highly Resistive	
-600	-962	-938	Weak Chargeability and Contact-type Resistivity	
-600	-900	-880	Weak Chargeability and Flat Resistivity	
-600	-825	-805	Weak Chargeability and Highly Resistive	
-600	-762	-700	Weak Chargeability and Highly Resistive	
-500	-1350	-1338	Weak Chargeability and Highly Resistive	
-500	-1325	-1312	Weak Chargeability and Highly Resistive	
-500	-1300	-1255	Weak Chargeability and Moderately Resistive	
LINE	STN_MIN	STN_MAX	CHARACTER	
-500	-1225	-1200	Weak Chargeability and Highly Resistive	
-500	-1188	-1162	High Chargeability and Mod Conductive/Low Resistivity	
-500	-1125	-1100	Weak Chargeability and Moderately Resistive	
-500	-1050	-1012	Weak Chargeability and Moderately Resistive	
-500	-988	-975	Weak Chargeability and Highly Resistive	
-500	-962	-930	Weak Chargeability and Moderately Resistive	
-500	-862	-850	Weak Chargeability and Highly Resistive	
-500	-830	-790	Weak Chargeability and Highly Resistive	
-500	-750	-688	High Chargeability and Highly Resistive	
-400	-1338	-1300	Weak Chargeability and Highly Resistive	

-400	-1275	-1262	Weak Chargeability and Highly Resistive	
-400	-1250	-1225	Weak Chargeability and Mod Conductive/Low Resistivity	
-400	-1188	-1170	Weak Chargeability and Contact-type Resistivity	
-400	-1170	-1150	Weak Chargeability and Contact-type Resistivity	
-400	-1138	-1105	Weak Chargeability and Highly Resistive	
-400	-1062	-1012	Weak Chargeability and Moderately Resistive	
-400	-962	-925	Weak Chargeability and Moderately Resistive	
-400	-925	-888	Weak Chargeability and Highly Resistive	
-400	-865	-805	Weak Chargeability and Contact-type Resistivity	
-400	-765	-700	Weak Chargeability and Highly Resistive	
-400	-200	-188	Weak Chargeability and Moderately Resistive	
-400	-150	-125	Weak Chargeability and Mod Conductive/Low Resistivity	
-400	-125	-100	Weak Chargeability and Contact-type Resistivity	
-400	-12	5	Weak Chargeability and Mod Conductive/Low Resistivity	
-400	5	25	Weak Chargeability and Mod Conductive/Low Resistivity	
-400	62	75	Weak Chargeability and Flat Resistivity	
-400	88	100	Weak Chargeability and Highly Resistive	
-400	112	125	Weak Chargeability and Mod Conductive/Low Resistivity	
-300	-1338	-1325	Weak Chargeability and Highly Resistive	
-300	-1312	-1300	Weak Chargeability and Highly Resistive	
-300	-1288	-1262	Weak Chargeability and Highly Resistive	
-300	-1250	-1238	Weak Chargeability and Highly Resistive	
-300	-1175	-1150	Weak Chargeability and Highly Resistive	
-300	-1125	-1095	Weak Chargeability and Highly Resistive	
-300	-1055	-1038	Weak Chargeability and Mod Conductive/Low Resistivity	
-300	-988	-975	Weak Chargeability and Highly Resistive	
-300	-962	-925	High Chargeability and Mod Conductive/Low Resistivity	
-300	-862	-838	Weak Chargeability and Contact-type Resistivity	
-300	-825	-805	Weak Chargeability and Highly Resistive	
-300	-770	-725	Weak Chargeability and Highly Resistive	
-300	-688	-675	Weak Chargeability and Highly Resistive	
-300	-662	-650	Weak Chargeability and Highly Resistive	
-300	-212	-200	Weak Chargeability and Highly Resistive	
-300	-188	-170	Weak Chargeability and Mod Conductive/Low Resistivity	
LINE	STN_MIN	STN_MAX	CHARACTER	
-300	-112	-88	Weak Chargeability and Contact-type Resistivity	
-300	-55	-25	Weak Chargeability and Moderately Resistive	
-300	0	30	Weak Chargeability and Moderately Resistive	
-300	55	65	Weak Chargeability and Highly Resistive	
-300	88	100	Weak Chargeability and Mod Conductive/Low Resistivity	
-300	100	125	Weak Chargeability and Mod Conductive/Low Resistivity	
-200	-1338	-1325	Weak Chargeability and Mod Conductive/Low Resistivity	
-200	-1300	-1288	Weak Chargeability and Contact-type Resistivity	
-200	-1250	-1238	Weak Chargeability and Flat Resistivity	
-200	-1225	-1212	Weak Chargeability and Highly Resistive	
-200	-1162	-1125	Weak Chargeability and Moderately Resistive	
-200	-1112	-1100	Weak Chargeability and Highly Resistive	
-200	-1062	-1038	Weak Chargeability and Highly Resistive	
-200	-1012	-1000	Weak Chargeability and Highly Resistive	

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-200	-980	-962	Weak Chargeability and Highly Resistive
-200	-950	-925	Weak Chargeability and Highly Resistive
-200	-912	-875	Weak Chargeability and Highly Resistive
-200	-850	-838	Weak Chargeability and Highly Resistive
-200	-760	-720	Weak Chargeability and Moderately Resistive
-200	-700	-690	Weak Chargeability and Highly Resistive
-200	-662	-650	Weak Chargeability and Moderately Resistive
-200	-220	-212	Weak Chargeability and Flat Resistivity
-200	-188	-175	Weak Chargeability and Mod Conductive/Low Resistivity
-200	-150	-138	Weak Chargeability and Highly Resistive
-200	-112	-100	Weak Chargeability and Mod Conductive/Low Resistivity
-200	-62	-50	Weak Chargeability and Contact-type Resistivity
-200	-20	10	Weak Chargeability and Highly Resistive
-200	25	38	Weak Chargeability and Mod Conductive/Low Resistivity
-200	50	75	Weak Chargeability and Flat Resistivity
-200	100	125	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-1312	-1300	Weak Chargeability and Moderately Resistive
-100	-1262	-1245	Weak Chargeability and Contact-type Resistivity
-100	-1225	-1180	Weak Chargeability and Moderately Resistive
-100	-1162	-1138	Weak Chargeability and Highly Resistive
-100	-1112	-1088	Weak Chargeability and Highly Resistive
-100	-1075	-1050	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-1030	-1000	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-970	-950	Weak Chargeability and Contact-type Resistivity
-100	-950	-920	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-900	-888	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-875	-862	Weak Chargeability and Highly Resistive
-100	-220	-212	Weak Chargeability and Highly Resistive
-100	-112	-90	Weak Chargeability and Mod Conductive/Low Resistivity
-100	-75	-62	Weak Chargeability and Contact-type Resistivity
LINE	STN MIN	STN MAX	CHARACTER
-100	-12	12	Weak Chargeability and Contact-type Resistivity
-100	50	62	Weak Chargeability and Mod Conductive/Low Resistivity
-100	88	110	Weak Chargeability and Moderately Resistive
-100	125	145	Weak Chargeability and Highly Resistive
0	-1338	-1325	Weak Chargeability and Highly Resistive
0	-1312	-1288	Weak Chargeability and Highly Resistive
0	-1270	-1255	Weak Chargeability and Highly Resistive
0	-1238	-1225	Weak Chargeability and Highly Resistive
0	-1200	-1188	Weak Chargeability and Highly Resistive
0	-1175	-1162	Weak Chargeability and Highly Resistive
0	-1138	-1112	Weak Chargeability and Highly Resistive
0	-1100	-1088	Weak Chargeability and Highly Resistive
0	-1075	-1062	Weak Chargeability and Highly Resistive
0	-1038	-1025	Weak Chargeability and Highly Resistive
0	-1012	-1000	Weak Chargeability and Contact-type Resistivity
0	-975	-962	Weak Chargeability and Highly Resistive
0	-962	-938	Weak Chargeability and Mod Conductive/Low Resistivity
0	-912	-890	Weak Chargeability and Highly Resistive
K			

0	-212	-200	Weak Chargeability and Mod Conductive/Low Resistivity
0	-155	-138	Weak Chargeability and Moderately Resistive
0	-125	-100	Weak Chargeability and Mod Conductive/Low Resistivity
0	-88	-75	Weak Chargeability and Mod Conductive/Low Resistivity
0	-65	-55	Weak Chargeability and Contact-type Resistivity
0	-45	-30	Weak Chargeability and Highly Resistive
0	-12	20	Weak Chargeability and Highly Resistive
0	75	100	Weak Chargeability and Mod Conductive/Low Resistivity
0	112	145	Weak Chargeability and Contact-type Resistivity
100	-1300	-1290	Weak Chargeability and Highly Resistive
100	-1275	-1250	Weak Chargeability and Highly Resistive
100	-1200	-1188	Weak Chargeability and Highly Resistive
100	-1175	-1165	Weak Chargeability and Flat Resistivity
100	-1125	-1100	Weak Chargeability and Mod Conductive/Low Resistivity
100	-1075	-1070	Weak Chargeability and Highly Resistive
100	-1038	-1020	Weak Chargeability and Contact-type Resistivity
100	-988	-975	Weak Chargeability and Contact-type Resistivity
100	-950	-938	Weak Chargeability and Highly Resistive
100	-920	-888	Weak Chargeability and Highly Resistive
100	-850	-838	Weak Chargeability and Flat Resistivity
100	-188	-162	Weak Chargeability and Highly Resistive
100	-138	-112	Weak Chargeability and Highly Resistive
100	-100	-88	Weak Chargeability and Contact-type Resistivity
100	-20	0	Weak Chargeability and Highly Resistive
100	12	38	Weak Chargeability and Contact-type Resistivity
100	62	75	Weak Chargeability and Highly Resistive
LINE	STN_MIN	STN_MAX	CHARACTER
100	100	125	Weak Chargeability and Contact-type Resistivity
100	125	145	Weak Chargeability and Mod Conductive/Low Resistivity
200	-1245	-1225	Weak Chargeability and Mod Conductive/Low Resistivity
200	-1212	-1200	Weak Chargeability and Highly Resistive
200	-1170	-1155	Weak Chargeability and Contact-type Resistivity
200	-1135	-1100	Weak Chargeability and Highly Resistive
200	-1050	-1025	Weak Chargeability and Highly Resistive
200	-1012	-1000	Weak Chargeability and Highly Resistive
200	-988	-975	Weak Chargeability and Highly Resistive
200	-950	-930	Weak Chargeability and Highly Resistive
200	-912	-888	Weak Chargeability and Highly Resistive
200	-875	-860	Weak Chargeability and Highly Resistive
200	-812	-800	Weak Chargeability and Highly Resistive
300	-1220	-1212	Weak Chargeability and Highly Resistive
300	-1200	-1175	Weak Chargeability and Highly Resistive
300	-1155	-1135	Weak Chargeability and Highly Resistive
300	-1075	-1038	Weak Chargeability and Moderately Resistive
300	-1025	-1012	Weak Chargeability and Flat Resistivity
300	-1000	-975	Weak Chargeability and Highly Resistive
300	-950	-875	Weak Chargeability and Highly Resistive
400	-1075	-1065	Weak Chargeability and Highly Resistive
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400	-962	-925	Weak Chargeability and Moderately Resistive	
400	-912	-900	Weak Chargeability and Contact-type Resistivity	
450	-988	-975	Weak Chargeability and Highly Resistive	
450	-955	-910	Weak Chargeability and Mod Conductive/Low Resistivity	
500	-962	-950	Weak Chargeability and Contact-type Resistivity	
500	-938	-900	Weak Chargeability and Highly Resistive	
500	-865	-850	Weak Chargeability and Mod Conductive/Low Resistivity	
500	-812	-800	Weak Chargeability and Flat Resistivity	
550	-945	-925	Weak Chargeability and Moderately Resistive	
550	-890	-875	Weak Chargeability and Highly Resistive	
600	-925	-912	Weak Chargeability and Highly Resistive	
600	-920	-912	High Chargeability and Moderately Resistive	
600	-862	-850	Weak Chargeability and Contact-type Resistivity	

### **APPENDIX F**

#### LIST OF MAPS

#### • Plan Maps at scale of 1: 5000

	TOTAL PLANS	3
3.	Geophysical Interpretation/Compilation	QG-125-GRAD-PLAN-ROT-INT-1
2.	Posted/Contoured Apparent Resistivity	QG-125-GRAD-PLAN-ROT-RES-1
1.	Posted/Contoured Total Chargeability	QG-125-GRAD-PLAN-ROT-CHG-1
	DESCRIPTION	DRAWING NUMBER

### • Posted/contoured Realsection™ at a scale of 1:2500

LINE	TOTAL CHARGEABILITY / APPARENT RESISTIVITY	INTERPRETED
1.	QG-125-RSIP-CHG-RES-6+00E SOUTH GRID	
2.	QG-125-RSIP-CHG-RES-5+50E SOUTH GRID	
3.	QG-125-RSIP-CHG-RES-5+00E SOUTH GRID	
4.	QG-125-RSIP-CHG-RES-4+50E SOUTH GRID	
5.	QG-125-RSIP-CHG-RES-4+00E SOUTH GRID	YES
6.	QG-125-RSIP-CHG-RES-3+00E SOUTH GRID	
7.	QG-125-RSIP-CHG-RES-2+00E SOUTH GRID	
8.	QG-125-RSIP-CHG-RES-1+00E SOUTH GRID	
9.	QG-125-RSIP-CHG-RES-0+00E SOUTH GRID	
10.	QG-125-RSIP-CHG-RES-1+00W SOUTH GRID	
11.	QG-125-RSIP-CHG-RES-2+00W SOUTH GRID	
12.	QG-125-RSIP-CHG-RES-3+00W SOUTH GRID	YES
13.	QG-125-RSIP-CHG-RES-4+00W SOUTH GRID	
14.	QG-125-RSIP-CHG-RES-5+00W SOUTH GRID	YES
15.	QG-125-RSIP-CHG-RES-6+00W SOUTH GRID	
16.	QG-125-RSIP-CHG-RES-7+00W SOUTH GRID	
17.	QG-125-RSIP-CHG-RES-8+00W SOUTH GRID	YES
18.	QG-125-RSIP-CHG-RES-9+00W SOUTH GRID	
19.	QG-125-RSIP-CHG-RES-9+50W SOUTH GRID	YES
20.	QG-125-RSIP-CHG-RES-10+00W SOUTH GRID	
21.	QG-125-RSIP-CHG-RES-10+50W SOUTH GRID	
22.	QG-125-RSIP-CHG-RES-11+00W SOUTH GRID	YES
23.	QG-125-RSIP-CHG-RES-12+00W SOUTH GRID	
24.	QG-125-RSIP-CHG-RES-17+50W WEST GRID	YES
25.	QG-125-RSIP-CHG-RES-18+50W WEST GRID	
26.	QG-125-RSIP-CHG-RES-1+00E NORTH GRID	
27.	QG-125-RSIP-CHG-RES-0+00E NORTH GRID	
28.	QG-125-RSIP-CHG-RES-1+00W NORTH GRID	YES
29.	QG-125-RSIP-CHG-RES-2+00W NORTH GRID	1
30.	QG-125-RSIP-CHG-RES-3+00W NORTH GRID	
31.	QG-125-RSIP-CHG-RES-4+00W NORTH GRID	
TOTAL	31	8

#### TOTAL PLANS= 3 TOTAL REALSECTIONS= 31 TOTAL INTERPRETED REALSECTIONS = 8

### **APPENDIX G**

MAPS AND SECTIONS

· · · · · ·		MNDM	Copy#1 J
Ministry Northern	Declaration of Assess	ment Work	Number (office use)
	Mining Act, Subsection 65(2) and	66(3), R.S.O. 1990	Files Research Imaging
AN TRANSMINISTRA DATA KATA MANAN DA DAMIM MANA DATA MANAN MANA DATA MANANA MANANA DATA			
n an an ann an ann ann an am ann an ann an	f subsection 65 assesment wor Northern Develo	2) and 66(3) of the Mining Act. Under and correspond with the mining lan pment and Mines. 3rd Floor 933 F	er section 8 of the Mining Ad d holder, Questions about th Ramsey Lake Read, Sudbur
1L13NW2011 2.20729 BRIGGS	900	Nien	netz Propor
lost ctions - For work performe	ed on Crown Lands before recording a cl	aim, usę form 0240.	. 0/11
- Please type or prin	nt in ink. Niste: Send	all copies te	5: 15/ackstan
1. Recorded holder(s) (Attach	a list if necessary)	Client Number	
Jon Von Car	dinal	2057 Zelephone Number	724
Address P.O. Box 58		(705) 6 76-20 Fax Number	13 or 647-1
Latchford, Ontar	io POJINO	(705) 647-	- 1541
Name	· / · · · /	Telephone Number	
Address	/		/
EM-Induced Blar. TReport	zation Geophysical Sur	Commodity Total \$ Value of	
+ Report		Total \$ Value of	1152 00
Dates Work From 315t 07	2003 TO 17 08 200	<ul> <li>NTS Reference</li> </ul>	7.0.0
Performed Day Moniti Global Positioning System Data (if available)	Township/Area Briags	Mining Division	16mil
NTS: 316/13	M or G-Plan Number G-3411	Resident Geologist District	Kland Lake
Please remember to: - obtain a w - provide pro - complete a - provide a r - include two	ork permit from the Ministry of Natural Re oper notice to surface rights holders befor and attach a Statement of Costs, form 02 map showing contiguous mining lands that to copies of your technical report.	sources as required; e starting work; 2; t are linked for assigning work	
3. Person or companies who p	prepared the technical report (Attach a	list if necessary)	
Name Quarter Geos	CiPARE TAG.	Telephone Number	- 0600
Address 35 Main Street	North. 3rd Floor	Fax Number 1905 689	- 64 04
Waterdown	Dataria LOR 240	- Solophane Number	
Address		Fax Number	/
Name	RECEIVE	Telephone Number	/
Advent /	NOV 3 2 2000	Fax Number	
proved H	older or Ager GEOSCIENCE ASSESSM		
	the having caused the work to be perform	ed or witnessed the same duri	ing or after its
CALANTICAL IN DE	Yo Blackstone Dev Inc. 1 taris POJICO (705)	Number 679-5500 Fax Nu	00 23,200,

42865

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

2

musi	accorripany this form.	_	w0070.	00240		
Mining work w mining column	g Claim Number. Or if vas done on other eligible ; land, show in this n the location number of on the claim man	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
-	12345€3	2	\$ 8, 892	\$ 4,000	0	\$4,892
1	5-1197570	1	# O	#800	\$ 0	Ħ Ø
2	5-1229493	Y 4	6.512	3,200	ð	3,312
3	5-1230613	3	4,884	2,400	1,376	1,108
4	5-1230653	2	3,256	1.600	Ø	1,656
5	5-1270655	3	4,884	2,400	2,484	Ø
6	5-1230656	1	1.628	800	828	Ø
7	5-1230657	7	ð	5.600	Ø	D
8	5-1230652	- 3	4,884	2,400	2,484	Ø
9	5-1230660	1	Ø	,800	ð	Ø
10	5-1230661	1	Ø	Boo	Ø	Ø
11	5-1230671	6	9,777	4,000	Ð	4,977
12	5-1240178	{	1.628-	800	928	0
13			,			
14	12 Claim or	33 U.t.				
15			41	11	H	4
	۵ <u></u>	Column Totals	37,453	26,400	8,000	\$ 19,053
	Min chit	<b>^</b> ( <b>^</b> )			hove work gradite	are eligible under

BINS CHILDIONI	, do hereby certify that the above work credits are eligible unde
(Print Full Name)	
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 Recorder Holder or Agent Authorized in Writing	Aut	Date Alion 23 2000
	d'oni rigent	1000 00 2000

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

Some of the credits claimed in this declaration may be cut back. Please check ( $\sim$ ) 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 comparing and the attached appendix or as follows (describe):

# NOY 2 3 2000

#### GEOSCIENCE ASSESSMENT OFFICE Note If you have not indicated how your credits are to be celeted, credits will be cut back from the Bank first,

followed by option number 2 if necessary.

For Office Use Only		
Peceived Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
		#2865

Approved for Recording by Mining Recorder (Signature)

#### Intario Ministry of Northern Development and Mines 8 ) (

### **Statement of Costs** for Assessment Credit

Transaction Number (office use) W0070.00240

4

3

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 685.

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
IP Geophysical Surve	24 Date: July 3t to Aug 17th	2000	37.453.34
+ Report	Survey Coverage: 68. 125 K	n	<u> </u>
	Survey Period: 18 days		
	Sending Interval: 12.5 net	es	
en e	Station I-tenal: 3500	res	
	* All Inclusi	Ne Costs	
Associated Costs (e.g. s	upplies, mobilization and demobilization).		
<b></b>	See Above		
······································			
Tr	ansportation Costs See Ahar C		
<u></u>	7, 0000		· · · · · · · · · · · · · · · · · · ·
<u></u>			
Foo	d and Lodging Costs See Abare		· ·
	20 20 // 6854		·····
	Total Va	alue of Assessment Work	37,453
<ol> <li>Calculations of Filing Discourt</li> <li>Work filed within two years of</li> <li>If work is filed after two years Value of Assessment Work.</li> </ol>	nts: f performance is claimed at 100% of the above Tot and up to five years after performance, it can only f this situation applies to your claims, use the calcu	al Value of Assessment Wor be claimed at 50% of the To lation below:	k. otal
TOTAL VALUE OF ASSESSME	NT WORK x 0.50 =	Total \$ value of w	orked claimed.
<ul> <li>Note:</li> <li>Work older than 5 years is not</li> <li>A recorded holder may be recorded to the request for verification and/or Minister may reject all or part</li> </ul>	ot eligible for credit. quired to verify expenditures claimed in this statem r correction/clarification. If verification and/or correct of the assessment work submitted.	ent of costs within 45 days o ction/clarification is not made	f a 9, the
Certification verifying costs:			
1. Gino Chitaroni	, do hereby certify, that the amounts sho	wn are as accurate as may i	easonably
(please print full name) be determined and the costs we	re incurred while conducting assessment work on the	ne lands indicated on the acc	ompanying
Declaration of Work form as	Agent	_ I am authorized to make t	his certification.
0212 (03/07)	RECEIVED NOV 2 3 2000 GEOSCIENCE ASSESSMEN 3	Date // o	v 23,2000
	LOFFICE		#2863



**D** Quantec Geoscience Inc.

101 King St. B.O. Bax 550, Porcupine, Onterio Canada, PON 1CO Phone: (706) 235-2166 Fax: (705) 235-2255

j.

***	INVOICE	
August 31, 2000		,
Tryx Ventures Corp. C/O John R. Poloni	Invoice: 191	
John R. Poloni & Associates Ltd. 2110 - 150A Street		
S. Surrey, BC V4A 936 Ph: 604-541-8828	Project: QG 125	
Fx: 604-541-8828 Attention: John Poloni	G.S.T. Reg. No.: R104359724	

#### Re: Real Section IP Survey over the Niemetz Property, Bridge Township, ON

	Description	Charge
Survey Period:	July 31 - August 17 <sup>m</sup> , 2000	
Survey Charges		
1 Mob / Demob Day 16 Survey Days @ \$ 1 Weather Day @ \$1	© \$1,200.00 / day 1,725.00 / day ,200.00 / day	1,200.00 27,600.00 1,200.00
Equipment Charge	8	
18 Day Truck Charge	@ \$75.00 / day	1,350.00
Execution Expenses ( 15% Handling Charge	meals, accommodation, field supplies)	3,625.61 543.84
Less Pre-Billing		-7 <mark>,892.52</mark>
	Subtr	27.526.93
	GST Ø 1	7% 1,933.89
	Tot	al: 29,560.82

#### Tenns: Payable Lipop Bacelos

Invalces may be paid by direct depage to

The Toronto Dominion Bank 141 Adelaide St. West Toronto, ON Act #: 1992 - 0302135

3745334 Jotal InVorce

Ministry of Northern Development and Mines	Ministère du Développement du Nord et des Mines	Geoscience Assessment Office
		933 Ramsey Lake Road
December 22, 2000		6th Floor
		Sudbury, Ontario
CARDINAL THOMAS VON P O BOX 58		P3E 6B5
LATCHFORD, Ontario		Telephone: (888) 415-9845
P0J-1N0		Fax: (877) 670-1555
		Visit our website at: www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm
Dear Sir or Madam:		Submission Number: 2.20729
		Status
Subject: Transaction Number	er(s): W0070.00240	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 JIM MCAULEY by e-mail at james.mcauley@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

Lucille Jerome

ORIGINAL SIGNED BY Lucille Jerome Acting Supervisor, Geoscience Assessment Office Mining Lands Section

Correspondence ID: 15543 Copy for: Assessment Library

## Work Report Assessment Results

Submission Nun	nber: 2.20729			
Date Correspondence Sent: December 22, 2000		per 22, 2000	Assessor:JIM M	CAULEY
Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0070.00240	1229493	BRIGGS	Approval	December 21, 2000
<b>Section:</b> 14 Geophysical IF	D			
At the discretion of at any time.	of the Ministry, the as	sessment work performed on the min	ing lands noted in this work re	port may be subject to inspection and/or investigation
Correspondence to:		Recorded Hold	ler(s) and/or Agent(s):	
Resident Geologi	st		Gino Chitaroni	
Kirkland Lake, Of	N		COBALT, ONTA	ARIO, CANADA
Assessment Files	s Library		CARDINAL TH	OMAS VON
Sudbury, ON	-		LATCHFORD, C	Dntario





200



Ministry of Northern Developmen and Mines

N SERVICE FEBRUARY IC, 1988

· ····

## INDEX TO LAND DISPOSITION

PLAN G-3411

TOWNSHIP

BRIGGS



## SYMBOLS

Boundary	
Township, Meridian, Baseline	
Road allowance; surveyed	
shoreline	
Lot/Concession; surveyed	
Linsurveyed	
Parcel; surveyed	
unsurveyed	
Right-of-way: road	
railway	
utility	
Reservation ·····	
Cliff, Pit, Pile	
Contour	
interpolated	
Approximate	
Depression	
Control point (horizontal)	
Flooded land	
Mine head frame 🕼	
Pipeline (above ground)	
Railway; single track	
double track	
abandoned	
Road; highway, county, township	
trail, bush · · · · · · · · · · · · · · · · · · ·	ക
Shoreline (original)	అ
Transmission line	
Wooded area	

M.N.R. ADMINISTRATIVE DISTRICT TEMAGAMI MINING DIVISION APP SUDBURY FROM	
M.N.R. ADMINISTRATIVE DISTRICT TEMAGAMI MINING DIVISION APP HAS SUDBURY	
M.N.R. ADMINISTRATIVE DISTRICT TEMAGAMI MINING DIVISION APP HAS SUDBURY	
M.N.R. ADMINISTRATIVE DISTRICT TEMAGAMI MINING DIVISION APP HAS SUDBURY FRO	
TEMAGAMI MINING DIVISION APP SUDBURY FRO	
SUDBURY FRO	INFORMATION THAT
	EARS ON THIS MAP BEEN COMPILED M VARIOUS SOURCES, ACCUBACY IS NOT
LAND TITLES/REGISTRY DIVISION	IRANTEED. THOSE HING TO STAKE MINING IMS SHOULD CONSULT
Min Dev	H THE MINING RECORDER ISTRY OF NORTHERN VELOPMENT AND MINES.
ON" LAN	CADUITIONAL INFORMATION THE STATUS OF THE IDS SHOWN HEREON.
1844 2800	
NON 6600 7000 1000 1004	18 500
19 Meires	
AREAS WITHDRAWN FROM DISP M.R.O MINING RIGHTS ONLY	POSTION
S.R.O SURFACE RIGHTS ON M.+S MINING AND SURFACE	ILY E RIGHTS
Description Order No. Date Dispositi	ion File
LANDS IN LAKE TENACANI W-5-7295 OWD056 M & 6	195150
2) SEC 35 W-S-42/98 NER 21/10/38 VISE	s 195150 S 195150
A SEC 35/90 W-S-60/96 09/13/96 M &	S 195150
(5) S∃C.35/90 V→S-55/98 NOV.27/98 M A	s 195150
AREA DEENED IN NEED OF PROTECTION BY TH REMAIN WITHDRAWN INDEFINITELY.	F CROWN AND WILL
_	
3 T AREA DEEMED IN NEED OF PROTECT	TON BY THE CHOWN EFINITELY.
SKYLINE RESERVE	RA)
NOTICE	0
Pursuant to Section 35, of the Mining Act, R.S.O.	1990, the
SKYLINE RESERVE and the land covered by the LAKE TEMAGAMI as indicated on this map w	the waters of fill be
RE-OPENED TO PROSPECTING AND STA. This Order comes into offect on October 27, 199	KING OUT. Bat 9:00 a.m.
Eastorn Standard Time, which is equivalent to 9:0 These lands will be subject to Ontario Regulation under the Mining Act. AT I. Cl. Alad STAKING	00 ø.m. local time. 1 356/98 made Agentyttere 151
THIS AREA is subject to this new regulation. M	ACTIVITY IN FAJOR
PRACTICES HAVE BEEN IMPLEM	ENTED FOR
1 JHS AREA. Consult and understand these at to carrying out any staking in this designated area information please contact the Provincial Records 888.415.9844	méndunents prior 1. For furthér ers Office at 1-
YIÆASE NOTE: THE ISLAND ON LAKE TI	EMAGAMI
ARE WITHDRAWN AND WILL <u>NOT</u> OPEN TO PROSPECTING AND STAK	ING OUT
NOTICE	
NOTICE WORK PERMITS FOR MINERAL EXPLO EFFECTIVE September 15 <sup>m</sup> 1998	RATION ACTIVITY
NOTICE WORK PERMITS FOR MINERAL EXPLOY EFFECTIVE September 15 <sup>th</sup> 1998 The area shown as SKYLINE RESERVE and th the waters of LAKE TEMAGAMI on this map y Ontario Parenterion 240000 and and an this map y	RATION ACTIVITY is land covered by will be subject to - 1 and a Acc
NOTICE WORK PERMITS FOR MINERAL EXPLOY EFFECTIVE September 15 <sup>m</sup> 1999 The area shown as SKYLINE RESERVE and the the waters of LAKE TEMAGAMI on this map to Ontario Regulation 349/98 made under the Public Depending on the type and timing of your explore may require a Work Permit For Souther information	RATION ACTIVITY is land covered by will be subject to a Lands Act. ation work you iton please content
NOTICE WORK PERMITS FOR MINERAL EXPLOY EFFECTIVE September 15 <sup>m</sup> 1999 The area shown as SKYLINE RESERVE and the the waters of LAKE TEMAGAMI on this map to Ontario Regulation 349/98 made under the Public Depending on the type and timing of your explore may require a Work Permit. For further informat Gerbard Meyer, Regional Resident Geologist at ( Jim Ireland, Regional Manager at (705) 235-1612	RATION ACTIVITY in land coverest by will be subject to a lands Act. ation work you fion please contact 7053 567-5242 or 2.
NOTICE WORK PERMITS FOR MINERAL EXPLOI EFFECTIVE September 15 <sup>m</sup> 1990 The area shown as SKYLINE RESERVE and the the waters of LAKE TEMAGAMI on this map of Outario Regulation 349/98 made under the Public Depending on the type and timing of your explore may require a Work Permit. For further informat Gerhard Meyer, Regional Resident Geologist at ( Jim Ireland, Regional Manager at (705) 235-1612	RATION ACTIVITY in land covered by will be subject to c Lands Act. ation work you ion please contact 705) 567-5242 or 2.
NOTICE WORK PERMITS FOR MINERAL EXPLOY EFFECTIVE September 15 <sup>m</sup> 1999 The area shown as SKYLINE RESERVE and the the waters of LAKE TEMAGAMI on this map to Ontario Regulation 349/98 made under the Public Depending on the type and timing of your explore may require a Work Permit. For further informat Gerbard Meyer, Regional Resident Geologist at ( Jim Ireland, Regional Manager at (705) 235-1612 The disposition of land, reation of lot fabric and pa- this index was compiled	RATION ACTIVITY to land covered by will be subject to c Lands Act. ation work you tion please contact 7053 567-5242 or 2.

DISPOSITION OF CROWN LANDS

Patent	
Surface & Mining Rights	
Surface Rights Only	
Nining Rights Only.	
Lease	
Surface & Mining Rights	
Surface Rights Only 📕	
Mining Rights Only	
Licence of Occupation	
Order-in-Council	;
Cancelled.	
Reservation (R	>
Sand & Gravel	)
0	

Mep base and lend disposition drafting by Surveys and Mepping Branch, Mhistry of Natural Resources.



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## LEGEND

	CHARGEABILITY AXES	CHARGEABILITY ANOMALIES	
	High Resistivity Associatio	ion Strong (>15mV/V)	
	(Major, Minor Axis) Contact or No Resistivity (Major, Minor Axis)	Moderate (10-15m y Association	
	Low Resistivity Associatio (Major, Minor Axis)	0 Weak (<10mV/V)	
-	High Resistivity Association	Questionable	
[	[High = Resi	epth	
C	Region of High Magnetic (Magnetite	c Susceptibility or Pyrrhotite)	
	Region of High Resistivit (Felsic Unit	ity t or Quartz/Corbonate Altered)	
	Recommended Drill Targ (!st, 2nd	gets Priority)	
μ	Interpretation by: Quantec Geoscier	nce - PAlikai + JM Legault (09-00)	
	incipietatori by. quance ocosile	nee - r Annaj - em Legaun (00-00)	
	Gradier	nt Array	
	AB		
	plot	points	
	Scale 50 _ 0 50 100	1:5000	
. 20	729 (me	eters)	
	TRYX VENT	URES CORP.	
	NIEMETZ PROPERTY		
	Briggs Twp.,	Temagami ON	
	TIME DOMAIN IP SURVEY		
	GRADIENT ARRAY (AB=1600 metres)		
	INTERPRETAT	ION PLAN MAP	
	Transmitter Frequency Transmitter Current Decay Curve:	0.125 Hz (50% duty cycle) 0.12 to 2.6 Amps ELREC IP-10 Cole-Cole Windows	
1.11	Station Interval:	12.5-25 metres	
	Gridding Method: Grid Cell Size:	Bi-Directional 12.5 1.0 (1x Hanning Filter Applied)	
	Colour Scale: Interpretation by:	Equal Area Zoning PAlikaj + JM Legault (09-00)	
-	Summer Data		
	Instrumentation:	Rx = IRIS ELREC-10 (10 channels)	
		Tx = Phoenix IPT-1 (2kVa)	
	Surveyed	d & Processed by:	
	QUANTEC GEOSCIENCE INC.		
ultants Inc. (05/00)	Quantos DWG. #: QG	125-GRAD-PLAN-INT-ROT-1	



31L13NW2011 2.20729 BRIGGS

220



31L13NW2011 2.20729 BRIGGS

230













BRIGGS

290

31L13NW2011

2.20729



BRIGGS

----

300

31L13NW2011

2.20729

APPARENT RESISTIVITY (ohm-m) - L2+00E SOUTH GRID

## LINE 2+00E SOUTH GRID





## LINE 1+00E SOUTH GRID





APPARENT RESISTIVITY (ohm-m) - L0+00E SOUTH GRID

31L13NW2011



۴,

LINE 1+00W SOUTH GRID



APPARENT RESISTIVITY (ohm-m) - L1+00W SOUTH GRID



2.20729

330

APPARENT RESISTIVITY (ohm-m) - L2+00W SOUTH GRID 1300S 1200S 1100S 1000S 900S 800S Ö -100 -∑5597 18325 13978 15474 279 241 DEPTH (metres) 684 724 13634 14818 902 1816 -200 --29954 39740 30229 46665 46665 46665 22730 22730 22730 19248 15828 15828 15828 15828 13252 11178 26830 -300 -<u>172</u>70 12957 14068 1100S 9005 1200S 800S 10005 1300S TOTAL CHARGEABILITY, (mV/V) L 200 W Ground Magnetice (100 nt/cm) 98 98 71 71 1125 113 78 78 **97** 102 1085 114 1300S 1200S 800S 1100S 1000S 900S 0 -100 -6.2 6.2 EPTH (metres) 5.0 5.5 -200 - $\Box$ 5.9 6.6 6.9 5 -300 -5.21300S 1200S 1100S 10005 900S 800S

Realsection Generated by DMG (23\08\00)







APPARENT RESISTIVITY (ohm-m) - L3+00W SOUTH GRID 1300S 1200S 1100S 1000S 900S 800S 700S 0 -100 -DEPTH (metres) -200 --300 13005 aoos 7005 10005 800S 1200S 1100S TOTAL CHARGEABILITY (mV/V) 300 W Ground Magnetics (100 nT/cm) - 1898 - 1898 - 145 - 145 - 145 - 145 - 145 - 145 - 145 - 145 - 145 - 1898 1127 1127 1127 \$3 **53 53 54 46 65** 95 84 80 93 97 2 5 2 2 1200S 900S 800S 1300S 1100S 1000S 0 · 5.3/ 5. 0. 5. 0. 5. 0. 1. 1. 5. 0 -100 -5 0 D DEPTH (metres) -200 -6.2 5.6 6 -300 5.8

1200S

1300S

Realsection Generated by DMG (23\08\00)

BRIGGS 350 31L13NW2011 2.20729

1100S

1000S



8005

900S





31L13NW2011 2.20729 BRIGGS 360



BRIGGS 370

31L13NW2011 2.20729

-t




### LINE 7+00W SOUTH GRID



APPARENT RESISTIVITY (ohm-m) - L8+00W SOUTH GRID







<sup>31</sup>L13NW2011 2.20729

BRIGGS 410











APPARENT RESISTIVITY (ohm-m) - L12+00W SOUTH GRID



APPARENT RESISTIVITY (ohm-m) - L17+50W WEST GRID



LEGEND

	High Chargeability Axis (Narrow Feature) Interpreted, Inferred
	High Chargeability Zone
5	Resistivity Association for IP Signature (HR=High Res, CR=Contact, LR=Low Res)
$\sim$	interpreted Fault Zone
Þ	Recommended Drill Hole
	Interpretation by: QGI - P. Alikaj (10-00)
	Ground Magnetic Profile (from Meegwich, 05/00)



APPARENT RESISTIVITY (ohm-m) - L18+50W WEST GRID

В

2.20729

31113NW2011

BRIGGS 480







31L13NW2011 2.20729 BRIGGS 510



## APPARENT RESISTIVITY (ohm-m) - L2+00W NORTH GRID



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LINE 2+00W NORTH GRID



520



# LINE 3+00W NORTH GRID



APPARENT RESISTIVITY (ohm-m) - L3+00W NORTH GRID



530



2.20729

540