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# Geophysical Survey Summary Interpretation Report

2.17847



***Regarding the INDUCED POLARIZATION  
SURVEYS over the MAGINO MINE  
PROJECT, Finan Township, ON  
on behalf of  
GOLDEN GOOSE RESOURCES Inc.,  
Toronto, Ontario, Canada***

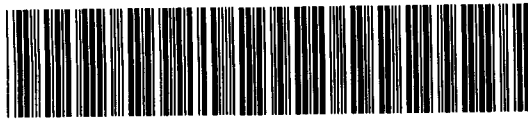
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C. Williston,  
JM Legault  
June, 1997  
C374



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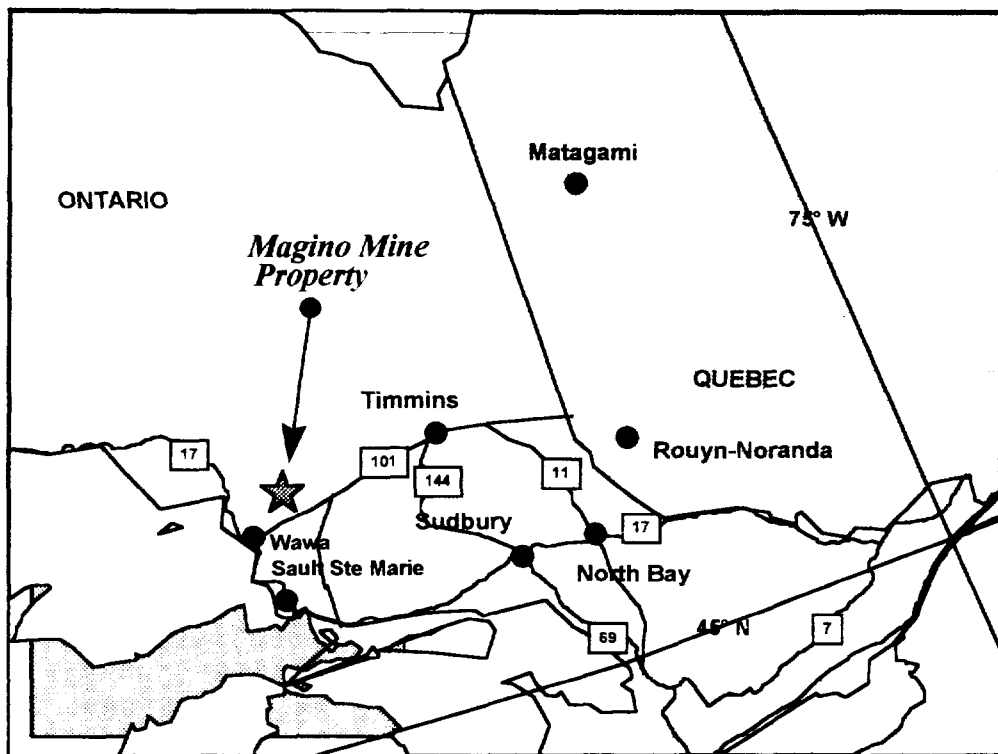
## 1. INTRODUCTION

- **QIP Project No:** C374
- **Project Name:** Magino Mine Project
- **General Location:** Goudreau, ON
- **Survey Period:** May 16<sup>TH</sup> to 30<sup>TH</sup>, 1997
- **Survey Type:** Time Domain Induced Polarization
- **Client:** **Golden Goose Resources Inc.**
- **Client Address:** 390 Bay Street Suite 2008  
Toronto, ON  
M5H 2Y2
- **Client Representative:** Ken Hawrelak, John Reddick
- **Objectives:**
  1. **Exploration objectives:** To explore the property for disseminated sulphide mineralization and structures related to potential gold mineralization.
  2. **Geophysical objectives:** To detect and delineate potential sulphide concentrations by measurement of their IP and Resistivity physical properties.
- **Report Type:** Summary Interpretation suitable for assessment purposes

## 2. GENERAL SURVEY DETAILS

### 2.1 LOCATION

- Township: Finan Twp
- Province: Ontario
- Country: Canada
- Nearest Settlements: Dubreuilville, Goudreau, ON
- NTS Map Number: 42C/SE



**Figure 1: General Survey Location of the Magino Mine Property.**

**2.2 ACCESS**

- **Base of Operations:** Magino Minesite
- **Access:** East out of Dubreuilville on the Goudreau gravel road.
- **Distance by Land to Property:** 0km (crew based on the grid)
- **Nearest Road:** Goudreau - Dubreuilville road
- **Mode of Access to Property:** 4x4 truck
- **Mode of Access to Lines:** foot

**2.3 SURVEY GRID**

- **Coordinate Reference System:** Local cut and picket survey grids (non UTM)
- **Established By:** Kanadian Exploration Services
- **Method of Chaining:** Linear, Imperial
- **Line Direction:** N000°E (N-S)
- **Line Separation:** 400 feet
- **Station Interval:** 100 feet
- **Claims Covering Property:** see property claim map (Appendix I)
- **Claims Covered by Survey:**

1174400	847805	847804
1110086	2052	2051
2050	2049	2048
575265	2053	

**3. SURVEY WORK UNDERTAKEN****3.1 GENERALITIES**

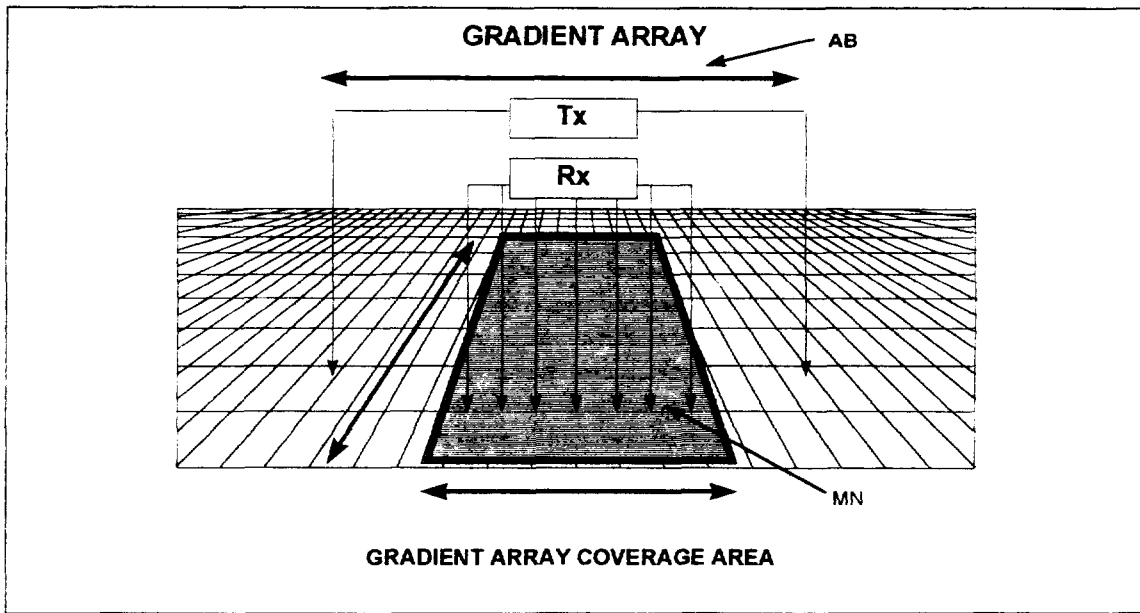
- **Survey Dates:** May 16<sup>TH</sup> to 30<sup>TH</sup>, 1997
- **Survey Period:** 15 days
- **Survey Days:** 12.5 days (read time)
- **Weather Days:** .5
- **Mob/Demob Days:** 2
- **Total Miles Surveyed:** 15.4 miles

**3.2 PERSONNEL**

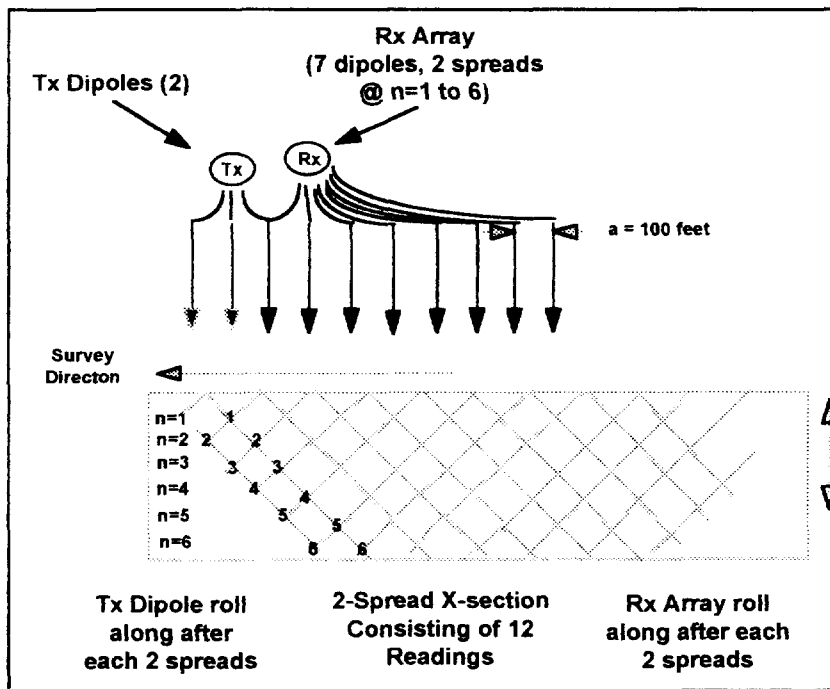
- **Supervisor:** Sherwood Coulson, South Porcupine ON
- **Project Manager:** Derrick Hall, Orangeville, ON
- **Field Assistants:** Martin Kratochville, Brampton, ON  
Charlie Magnuson, Waterloo, ON  
Dean Presseault, Matachewan, ON
- **Interpretation:** JM Legault, Timmins

**3.3 TDIP SURVEY SPECIFICATIONS**

- **Arrays:** 1) Gradient (fig. 2)  
2) Dipole-Dipole (fig. 3)
- **Transmitter Dipole Separation:** 1) Gradient Array - 5000 feet (AB)  
2) Dipole-Dipole Array - 100 feet
- **Receiver Dipole Separation:** Gradient Array - 100 feet (MN)  
Dipole-Dipole Array - 100 feet (a)
- **# Dipole Separations:** Dipole-Dipole Array - 1 to 6 (n)
- **Sampling Interval:** 100 feet
- **Total Line Coverage:** Gradient Array - 13 miles (incl. overlap)  
Dipole-Dipole Array - 2.4 miles
- **Approximate Aerial Coverage:** .8 miles<sup>2</sup>



**Figure 2: Gradient Array Layout.**



**Figure 3: Dipole-Dipole Array Layout.**

## 3.4 SURVEY COVERAGE

- Gradient Array Reconnaissance Coverage: 58100 feet (see Table I)

LINE	Min. Extent	Max. Extent	Length (FT)
3200W	600N	1100N	500
"	1900N	3500N	1600
2800W	600N	3500N	2900
2400W	600N	3500N	2900
2000W	600N	1800N	1200
"	2100N	3500N	1400
1600W	600N	1900N	1300
"	2300N	3500N	1200
1200W	600N	1900N	1300
"	2900N	3500N	600
800W	600N	2000N	1400
"	3000N	3500N	500
400W	600N	2200N	1600
"	3100N	3500N	400
0E	600N	2600N	2000
"	3300N	3500N	200
400E	600N	3200N	2600
800E	1500N	3500N	2000
1200E	1000N	3500N	2500
1600E	1800N	3500N	1700
2000E	1900N	3900N	2000
2400E	1900N	4300N	2400
2800E	2100N	3900N	1800
3200E	2100N	4300N	2200
3600E	600N	1800N	1200
"	2200N	4300N	2100
4000E	600N	2200N	1600
"	2400N	4300N	1900
4400E	600N	1400N	800
"	1700N	4300N	2600
4800E	600N	1400N	800
"	2300N	3500N	1200
5200E	600N	2400N	1800
"	3200N	4000N	800
5600E	600N	2200N	1600
6000E	600N	1600N	1000
"	1800N	2700N	900
6400E	1100N	2700N	1600
		<b>TOTAL</b>	<b>58100</b>

***Table I: Gradient Reconnaissance Survey Coverage.***



- **Gradient Array Overlap Coverage:** 10600 feet (see Table II)

LINE	#ABs Surveyed	Min. Extent	Max. Extent	Length (feet)
1600W	1 & 2	600N	1900N	1300
"	"	2300N	3500N	1200
0E	2 & 3	600N	2600N	2000
"	"	3300N	3500N	200
1600E	3 & 4	1800N	3500N	1700
3200E	4 & 5	2100N	4300N	2200
4800E	5 & 6	600N	1400N	800
"	"	2300N	3500N	1200
			<b>TOTAL</b>	<b>10600</b>

**Table II: Gradient Overlap Survey Coverage.**

- **Dipole-Dipole Coverage:** 12700 feet (see Table III)

Line	Min. Extent	Max. Extent	Total (feet)
2800W	600N	1800N	1200
2400W	600N	2100N	1500
2000W	600N	1800N	1200
1600W	600N	1900N	1300
800E	1500N	3500N	2000
1200E	1600N	3500N	1900
1600E	1800N	3500N	1700
2000E	2000N	3900N	1900
<b>TOTAL</b>			<b>12700</b>

**Table III: Dipole-Dipole Survey Coverage.**

### 3.5 INSTRUMENTATION

- **Receiver:** IRIS IP-6 (6 channel / Time Domain)
- **Transmitter:** Phoenix IPT-1 (2.5 kWatt)
- **Power Supply:** Phoenix MG-3 2.5 kVA Power Supply:

**3.6 PARAMETERS**

- **Input Waveform:** Square wave @ 0.125 hz, 50% duty cycle.
- **Receiver Sampling Parameters:** Standard Semi-Log windows (see Table III)
- **Measured Parameters:**
  1. Chargeability in mV/V across max. 10 time-gates, plus area under decay curve.
  2. Primary Voltage in millivolts and Input Current in milli-amperes for Resistivity in  $\Omega$ -m calculated according to Dipole-Dipole or Gradient Array geometry factor<sup>1</sup>.

Slice	Duration (msec)	Start (msec)	End (msec)	Mid-Point (msec)
T <sub>d</sub>	80	0	80	
T <sub>1</sub>	80	80	160	120
T <sub>2</sub>	80	160	240	160
T <sub>3</sub>	80	240	320	200
T <sub>4</sub>	80	320	400	360
T <sub>5</sub>	160	400	560	480
T <sub>6</sub>	160	560	720	640
T <sub>7</sub>	160	720	880	800
T <sub>8</sub>	320	880	1200	1040
T <sub>9</sub>	320	1200	1520	1360
T <sub>10</sub>	320	1520	1840	1680
<b>Total T<sub>p</sub></b>	<b>1840</b>			

***Table IV: Decay Curve Sampling*****3.7 MEASUREMENT ACCURACY AND REPEATABILITY**

- **Chargeability:** generally less than  $\pm 0.5$  mV/V but acceptable to  $\pm 1.0$  mV/V.
- **Resistivity:** less than 5% cumulative error from Primary voltage and Input current measurements.

<sup>1</sup> Ref. BRGM ELREC-6 Operating Manual.

### 3.8 DATA PRESENTATION

- **Maps:**

**Reconnaissance Coverage (1:4800):** Posted and contoured (unleveled) Total Chargeability and Apparent Resistivity compiled from all gradient AB blocks (1-6)

**Dipole-Dipole Coverage (1:2400):** Stacked Contoured Pseudosections of Total Chargeability and Apparent Resistivity

**Interpretation Plan Map (1:4800):** Interpreted chargeability anomalies and axes, according to strength (very strong, moderate-strong, moderate, weak), resistivity association (high, nil, low), low resistivity units, drill targets and topography

**Property Claims and Line Location Map (1:24000):** Property Claims, Survey Lines and topography (roads, lakes)

- **Digital:**

**Raw data:** IP-6 digital dump file format with filename relating to date surveyed (ddmmyy) ie 180597.raw (see Appendix D)

**Gradient Array Processed data:** ASCII Geosoft .XYZ format.

using the following format:

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

**Dipole-Dipole Processed data:** ASCII GEOSOFT .DAT format with filename relating to profile, for example:  
**L2800w.DAT** = Line 28+00W

using the following format:

Line 1:	Title
Line 2:	Header information, including Line, Array, Dipole, Units.
Line 3:	Column headings
Columns 1-4:	Electrode station positions (feet)
Column 5:	Primary Voltage (mVolts)
Column 6:	Transmitted Current (amperes)
Column 7:	Not used
Column 8:	Total Chargeability (msec)

## 4. SUMMARY INTERPRETATION

### 4.1 OVERVIEW

The Gradient and Dipole-dipole IP\Resistivity surveys at **Magino** were designed to help detect potential gold mineralization associated with disseminated sulphides. The exploration targets are extensions to the **Magino Mine** as well as other potential ore-bodies in the vicinity, where <5% disseminated Au-bearing sulphides occur in silicified to carbonate altered dioritic intrusives, along discordant, EW trending, subvertical structurally-controlled shears, within a ENE trending mafic-intermediate volcanic environment. The disseminated character of the mineralization make the induced polarization method the tool of choice - with the gradient array chosen based on its rapid reconnaissance, high resolution and deep penetration characteristics - and designed to provide survey coverage in the ≈0-600ft depth-range. The more conventional dipole-dipole (DPDP) survey was chosen for detailed follow-up of gradient anomalies and to provide better shallow depth-control, in the ≈0-200ft range.

The survey area is mainly underlain by alternating bands of steeply dipping and ENE-trending Archean mafic and intermediate to felsic volcanic rocks, with minor chert-iron formation metasedimentary intercalations, which have been intruded by granodiorites through the grid-center, and by more mafic dioritic and gabbroic intrusives to the grid NW<sup>2</sup>. The granodiorites intrude the mafic volcanics in particular and also preferentially host the gold-mineralization, due to favourable host-rock properties (J. Reddick, GGR, pers. comm., 07/97). The geology outcrops/subcrops in the vicinity of the mine-site, but becomes progressively overburden-covered to the west and SE - the key granodiorite is believed to extend to the grid SW, which remains largely unexplored and a smaller mineralized pluton has been DDH-tested NW of Lovel Lake. The **Magino Mine**, no longer in production, consists of three ore-zones (Main/East, NE and West), whose strongest mineralization occurs along EW to ESE trending, subvertical to steep north-dipping, qtz-carbonate altered shear-vein systems, which extend from surface to >600 ft depths. The mineralization, consisting of weakly disseminated (2-5%) pyritic sulphides, occurs primarily within the granodiorite and extends in a ENE trend, from ≈L8E/19N to L46E/40N. The iron formation hosts barren, stratigraphic py/po disseminated sulphides.

Structurally, the key EW-ESE mineralized shear trends extend from the granodiorite into the mafic hanging/footwall rocks where they weaken/thin. Elsewhere on the property, ENE trends, following the Lochalsh Fault Zone in Goudreau Lake, also host mineralization, including showings in a) faulted mafic volcanics at Tower Creek, just north-west of the grid, b) in the granodiorite plug west of Lovel Lake, c) in vein-hosted felsic volcanics at the 2048 Patent, on the SE shore of Webb Lake, and d) the Salvation Vein, south of Goudreau Lake, along the felsic/mafic volcanic contact. Although the volcanics (particularly the mafics) are Au-mineralized and largely unexplored, the exploration model concentrates on the granodiorites, which are preferential hosts, due to favourable compositional and mechanical properties (IBID). Previous geophysics includes recent airborne magnetics (results unavailable for this report) and ground magnetics, horizontal loop and VLF electromagnetics - anomaly axes are shown on the interpretation/compilation plan map.

### 4.2 GEOPHYSICAL RESULTS AND INTERPRETATION

The chargeability anomalies identified in the gradient **Magino** IP\Resistivity results have been categorized according to their strength (weak, moderate, strong, very strong), classified according to their resistivity association (high  $\rho$ , low  $\rho$ , nil/contact), the results tabled in Appendix G and compiled on the interpretation plan map. The anomalies have also been correlated from line-to-line into major and minor axes on the basis of a) their strength, b) resistivity association, and c) the regional geologic/geoelectric strike-trends. In order to better visualize the relationships between the IP and Resistivity parameters, contrasting zones of high/low resistivity have also been identified - as these potentially relate to contrasting lithologies (felsic vs mafic, for example) and, more significantly, the key structurally-controlled/hosted

<sup>2</sup> Note, geologic information from Magino Gold Property, 1996 Exploration Proposal, 1:4800 scale base map.

quartz/carbonate altered shears - some of which also host coincident IP anomalies. The dipole-dipole data, which are limited to seven (7) follow-up lines, have also been interpreted, with the results compiled on the individual pseudosections and correlated with the gradient results discussed below. It is important to note that differences in the position of DPDP relative to the Gradient array anomalies often relate to their relative penetration depths (shallow vs deep) and provide indications of dip and vertical extent, as well as depth of burial - at **Magino** for example, the gradient anomalies are often shifted >100ft relative to the DPDP axes, due to lithologic dips. Finally, we also note that the following interpretation references the geology and DDH information from the Muscocho (1996) geologic base-map and **Magino** mine cross-sections - contributing to the detailed descriptions.

- **Gradient/Plan Interpretation**

The Gradient IP/Resistivity survey results at **Magino** are characterized by a well-defined, ENE trending fabric, reflecting the concordant geologic strike, upon which cross-cutting, EW to ESE discordant linear trends are also super-imposed - relating to possible structurally-controlled, shear hosted mineralization which represents the exploration target. The apparent resistivities in plan display a moderate range - varying between 400-80k ohm-metres (9k  $\Omega$ -m avg.) - this high average resistivity reflects the mixed felsic/mafic volcanic and intrusive geology and likely the presence of pervasive qtz-alteration. Polarizeable conductive linears often correlate with all VLF/HLEM conductor axes relating the pyrrhotitic iron formation, and elsewhere  $\rho_A$  lows likely relate to fault-fracturing ( $\pm$  clay/chlorite), zones of deeper overburden, and also metallic culture, observed near the mine-site and relating to underground workings. Resistivity highs reflect the more felsic volcanic/intrusive units, as well as bedrock topographic highs and/or more significantly, possible shear hosted qtz-carbonate alteration. The mafic intrusive/mafic volcanic contact to the grid NW coincides with a well-defined increase to high bulk resistivities (20k-40k  $\Omega$ -m) along a thin, linear ENE resistivity low- the lower porosities causing the high  $\rho_A$  likely the result of contact-metamorphism and the  $\rho_A$  indicating a possible faulted contact. The mafic/felsic volcanic contacts also generally correspond to moderate  $\rho$  /high  $\rho$  transitions, however the bulk resistivities are more variable - reflecting contrasting alteration, fault-fracturing and likely also compositional patterns - except for the felsics SE of Webb lake whose high resistivity (20k-50k) suggests more massive rhyolites or tuffs. The Iron Formations are easily identified as long, linear resistivity lows, occurring particularly along the felsic-mafic volcanic and volcanic-granodioritic contacts.

The **Magino** granodiorite feature an unusual low-moderate resistivity, despite its widespread qtz-carbonate alteration, which may reflect the pronounced/pervasive foliation observed in the mine horizon rocks which could be overprinting the high  $\rho$  normally associated with silicification. In fact, spatial comparisons between the IP axes and the known mineralization at the mine-site (digitized onto interpretation plan) shows a widely variable resistivity association - from low  $\rho$ , high  $\rho$  and nil/contact-type responses - although the presence of culture (buildings, workings, etc.) has also likely affected/distorted the geologic/geophysical comparison. On the other hand, the Lovel Lake granodiorite coincides with a resistivity high - which is more consistent with its qtz-altered composition (?). Nevertheless, this suggests that the IP anomaly's resistivity association may not be a reliable tool in targeting altered mineralization at **Magino** due to metamorphic and structural overprinting. On the other hand, this uncertainty may be offset by the identification of distinctive ENE and EW trends, which agrees with the geology (J. Reddick, GGR, pers. comm., 07/97) and which is used to differentiate / discriminate between respective concordant lithologic and discordant structural bedrock sources.

The apparent chargeability results are marked by the large number ( $\approx$ 200 axes), unusual strength (60% of axes with above avg. IP) and strike-extent (800-4200ft EW) of anomalous axes present at **Magino**, which display a broad anomalous range, varying between 0-100 mV/V (18 mV/V avg.) - with the high avg. chargeability reflecting both the stratigraphic and economic mineralization present within the property. However, in the case of the highest chargeabilities (>40 mV/V), found inside the mine-perimeter, the **Magino Mine** results are almost certainly related to near-surface metallic culture present at the mine-site. Elsewhere, along the mine horizon, the chargeabilities better define the cross-cutting ENE and EW trends identified in the  $\rho_A$  results - relating the stratigraphic and structural mineralization, respectively. The highest chargeabilities (20-40 mV/V) are found within the central granodiorite ore-zones, the

nearby mineralized hanging-wall/footwall mafic volcanics and their SW extension (as hoped), as well as the mineralized mafic volcanic and granodiorites NW of Lovel Lake. Furthermore, all four (4) Au showings present on the property coincide with well-defined, moderate to very strong IP axes, and also feature the favourable EW to ENE trend and high/nil resistivity association, as per the target model. The lower bulk chargeability (10-15 mV/V) bands lying northwest of the mine-stratigraphy correlate with the felsic volcanic and mafic intrusive units. The weakest chargeabilities (<10mV/V) to the southeast of the mine-site correspond to both mafic and felsic volcanic horizons - whose lower porosities ± weaker pyritic content, and possibly heavier overburden cover are likely contributing factors. Structurally-controlled, graben-like, deep overburden features may also explain the lower IP\Resistivity values SW of Lovel Lake and west of Goudreau Lake<sup>3</sup>.

The chargeability axes at **Magino** are generally associated with high and nil/contact-type resistivity features - making up 80% of all IP anomalies - the strongest which relate to either stratigraphic-like ENE concordant sulphide mineralized horizons or dykes, as well as the targeted EW to ESE discordant disseminate-mineralized qtz-altered shears as noted. The metamorphic overprinting may explain the absence of high  $\rho$  association for IP anomalies associated with qtz-carbonate alteration. The weaker axes are more likely correspond to weakly pyritic or magnetite-rich stratigraphies, the weakest with even barren overburden-basement outcrop features, but potentially also representing thin, vertically-pinching or buried quartz-rich mineralization. Low resistivity IP axes are relatively common (20%), often hosting the strongest response, including those within the main mineralized granodiorite and almost always coincide with known EM conductors - indicating conductive, stringer to massive sulphides. The weaker axes likely correspond to mineralized fault-fracture zones or thin pyrrhotitic iron formation ± magnetite.

Overall, the bulk chargeabilities for anomalous axes are unusually high, excluding the mine-site's culturally related anomalies, despite the low sulphide (<5%) contents present within the shear zones. In fact, the strongest IP linears at **Magino** commonly (>20% of axes) feature >25mV/V values, normally consistent with stringer sulphides or graphite, which are indeed present in the pyrrhotitic iron formation but are not widespread as might be suggested from the gradient IP results. The high values may be explained by the relatively large volumes investigated using the gradient array and the resulting bulk average effects of the mine-horizon (J. Warne, QIP, pers. comm., 07/97) - indeed, the dipole-dipole chargeabilities and resistivities are generally lower, possibly due to the smaller array parameters - although this result is more easily explained by relative differences in penetration-depth and the influence of overburden (i.e. Gradient = deep, DPDP = shallow). It is likely therefore that the higher chargeabilities relate to the combination of a strongly foliated mine-stratigraphy (J. Reddick, pers. comm., 06/97) and its effects on the deeper penetration/bulk averaging characteristics of the gradient array - the stronger gradient anomalies relative to the DPDP also suggests that the **Magino** mineralization extends to >650 ft depths. It is also worthwhile noting the apparent direct correlation between the highest chargeability axes and the known mineralization within the ore-zones at **Magino Mine** - explaining the high priority assigned to the many strong axes found elsewhere on the property. Furthermore, all chargeable zones extend beyond the immediate survey area - increasing the exploration potential regionally.

#### • Detailed Interpretation

The **Magino** chargeability axes can be grouped into five (5) broad anomalous trends, identified as **Zones A-E**, which contain both multiple ENE "concordant" axes, as well as cross-cutting EW-ESE "discordant" IP axes - named **A1 to E6**, as shown on the interpretation plan map. In addition, the chargeability axes of interest, based on the geophysics alone (strength of chargeability, anomaly width, strike-length), the target model (high  $\rho$  or nil  $\rho$ , EW to ESE discordant strike) and the known mineralization (exclusion of previously drill-tested/mined targets) have been prioritized accordingly, and described below.

<sup>3</sup> Note, the mine-site data have been masked-out on the contour-plan maps and probable cultural signatures found elsewhere, based on their erratic chargeability signatures, have been identified accordingly on the interpretation plan.

## 4.2.1 FIRST PRIORITY TARGETS (A1, A2, A5, A6, C1, C2, C4, E1, E5-E5', E6)

NAME	LINE	STATION	RELATIVE STRENGTH	RESISTIVITY ASSOCIATION	TARGET DEPTH	PRIORITY	COMMENTS
A1	L5200E	3650N	Moderate	Nil	--	2	Strike-extensive (1 mile), possibly discontinuous, moderate to very strong, mixed (nil to high) resistivity IP axis, whose variable ENE to ESE trend suggests a mixed stratigraphic and shear-hosted bedrock source. Between L44E-L32E, its EW-discordance coincides with the south-limit of <u>NE Zone</u> orebody with the granodiorite; from L30E-L24E, it extends concordantly (ENE) across the mafic/granodiorite contact and coincides with northern limit of <u>Main Zone</u> orebody; between L22E-L20E, it is aligned with A3-A4 along an ESE discordant trend extending from the <u>Main Zone</u> granodiorite into the mafic volcanics to the east-tip of the iron formation, where it features strong chargeabilities and is possibly not DDH-tested; between L8E-L20E, it is ENE concordant and coincides with the mapped iron formation, but possibly extends discordantly between L8E to L4E where it pinches/weakens across the mafic-felsic contact. DPDP results along L20E-L16E indicate the zone subcrops and is either narrow and steeply dipping or resembles a thin, flat-lying/ sheet-like zone. The L12E-L8E DPDP-iron formation anomalies are stronger and better defined in the DPDP relative to the gradient data - suggests that the zone subcrops but pinches-out quickly at depth or dips south (?). Pending review of previous drilling, we recommend 1 <sup>ST</sup> to 2 <sup>ND</sup> priority DDH targets along L20E-L24E, where IP results suggest A1 coincides with a possible ESE discordant, qtz-carbonate altered mineralized shear - possibly represents west extension of north <u>Main Zone</u> into the mafic volcanics (cautioning for IF). Also recommend additional coverage near L52E
	L4400E	3450N	Moderate	High	--	NE Zone	
	L4000E	3350N	Very Strong	Nil	--	NE Zone	
	L3600E	3350N	Strong	High	--	NE Zone	
	L3200E	3300N	Very Strong	High	--	NE Zone	
	L2800E	3200N	Very Strong	High	--	Main Zone	
	L2400E	3000N	Strong	Nil	--	2/MZ?	
	L2000E	3050N	Strong	High	>50-600ft	1/IF	
	L1600E	3000N	Strong	Nil	>50-600ft	Iron Formation	
	L1200E	2850N	Moderate	Nil	<<600-50ft	Iron Formation	
	L800E	2650N	Strong	Nil	<<600-50ft	Iron Formation	
	L400E	2800N	Moderate	Nil	--	3	
A2	L2000E	2850N	Strong	Low	<<600-50	Main Zone/IF	Moderately long (<1/2 mile), possibly discontinuous, moderate to very strong, mixed (low to nil/contact) resistivity IP axis, with variable ENE to ESE trend, suggests a stratigraphic-like horizon which is cross-cut by 2-3 discordant shear zones. Between L16E-L20E, zone coincides with iron formation and is also conductive - this area also hosts Au mineralization extending from the <u>Main Zone</u> orebody along ESE shear aligned with A3-A4; between L12E-L8E, it extends concordantly (ENE) inside mafic volcanic rocks NW of granodiorite - but may be cross-cut by ESE shear aligned with A1 and is not DDH-tested; from L0-L4E, it is aligned along an unexplored ESE discordant trend which extends from the <u>West Zone</u> orebody, and also cross-cuts zones A2', A3', A4, A5 & A6. Zone A2 appears to pinch or deepen near Lovel Lake. DPDP results along L20E-L16E indicate the zone subcrops and resembles a thick, shallow south-dipping (?) sheet-lying zone, which strengthens at depth; the L16E DPDP indicates a near-surface flat-lying zone and L12E-L8E DPDP suggest partial burial, subvertical dips, and weak mineralization or thin-widths in near-surface but strengthening at depth. (continued)
	L1600E	2650N	Strong	Low	<<600-50	Main Zone/IF ?	
	L1200E	2600N	Very Strong	Nil	>50-600ft	1	
	L800E	2450N	Strong	Nil	>50-600ft	2	
	L400E	2350N	Very Strong	Low	--	1	
	L000	2450N	Moderate	Nil	--	3	

Table V: Recommended First Priority Targets at Magino

NAME	LINE	STATION	RELATIVE STRENGTH	RESISTIVITY ASSOCIATION	TARGET DEPTH	PRIORITY	COMMENTS
A2 (cont)							Recommend 1 <sup>ST</sup> priority DDH target along L12E and L4E, which feature very strong chargeabilities (possibly stringer sulphides or iron formation) and where IP results suggest A2 is cross-cut by two EW to ESE discordant, qtz-carbonate altered mineralized shears - possibly representing the western extension of <u>Main Zone</u> and <u>West Zone</u> orebodies into the mafic volcanics. Also recommend 2 <sup>ND</sup> priority DDH test along L8E along strong ENE-concordant axis - cautioning for possible barren stratigraphic sulphide mineralization.
A5	L3200E L2800E L2400E L2000E L1600E L1200E L800E	2650N 2450N 2250N 2050N 1850N 1750N 1750N	Very Strong Very Strong Very Strong Very Strong Very Strong Very Strong Very Strong	High Nil Nil Low Low Low Low	-- -- -- 100-600? 100-600? 100-600? --	Main Zone Main Zone West Zone/IF WZ (powerline?) 1 (powerline?) 1 2	Moderately long (>1/2 mile), very strong, mixed (low + nil + high) resistivity IP axis, whose linear ENE trend and variable host rock (intrusive, volcanic-contact, iron formation) suggests a stratigraphic horizon or concordant ±discordant shear trend or powerline-culture effect. Between L24E-L32E it coincides with granodiorite hosted <u>Main Zone</u> and <u>West Zone</u> featuring the strongest chargeabilities at <u>Magino</u> - it possibly represents mine-culture but its nil/high ρ association is consistent with concordant to cross-faulted, qtz-altered shear-hosted mine horizon; from L20E-L16E, it lies inside granodiorite near the volcanic-intrusive contact - possibly represents the down-dip extension of nearby Iron Formation (also consistent with conductivity) - however, it could also represent a powerline-cultural effect (see operator comments); between L16E-L8E, its near-discordant EW trend, absence of visible culture (powerline to south) and position inside the granodiorite suggest a possible faulted shear-hosted system, which is unexplored - alternatively, it could also represent buried, north-dipping iron formation, extending below the intrusive contact (explains conductivity + strong IP). Incomplete DPDP coverage also detects the conductive IP axis, but cannot determine exact position or depth. Recommend 1 <sup>ST</sup> and 2 <sup>ND</sup> priority DDH targets along L8E-L16E, where IP results suggest A5 coincides with possible faulted or strongly foliated, EW to ESE discordant, (clay-altered) stringer to strongly disseminate-mineralized shear - cautioning for powerline effect and possible iron formation bedrock source.
A6	L3200E L2800E L2400E	2150N 2150N 2050N	Very Strong Very Strong Very Strong	Nil Nil High	-- -- --	1 (culture?) 2 (culture?) IF (powerline?)	Short strike-length (≈400ft), but very strong, mixed nil/high resistivity IP axis, with near-discordant EW trend suggests a possible structural shear zone lying south of main orebody - but IP also indicates possible cultural source. Between L28E-L32E, A6 coincides with mapped mafic volcanics, along north shore of Webb Lake - sharp IP peaks suggest culture but none visible (possibly buried pipeline?); along L24E, IP axis may represent NE extension of mapped Iron Formation but nearby powerline (50ft north) and IP response suggest cultural source. No DPDP coverage (depth-dip information unknown). After verifying for culture, recommend 1 <sup>ST</sup> & 2 <sup>ND</sup> priority DDH tests of L28E-L32E axes, for qtz-altered disseminated to stringer sulphides in EW sheared mafics.

**Table V (continued): Recommended First Priority Targets at Magino.**



NAME	LINE	STATION	RELATIVE STRENGTH	RESISTIVITY ASSOCIATION	TARGET DEPTH	PRIORITY	COMMENTS
C1	L800E	1550N	Strong	High	--	3	Strike extensive (<1/2 mile), strong to very strong, high resistivity IP axis, whose mixed sinuous ENE trend, with discordant ESE splays, suggests a stratigraphic horizon, which is cross-cut by 1-2 mineralized shear zones. Between L0-L8E, coincides with along mapped/inferred granodiorite-mafic volcanic contact, and may represent disseminated po+py in Iron Formation; from L4E-L0E, it is aligned along an unexplored ESE discordant trend within the granodiorite - possibly extending to C4 but weakening or deepening; between L12W-L4W, C1 is ENE concordant and likely represents stratigraphic sulphides or magnetite - extends off the southern survey coverage; however, between L4W-L0, C1 is cross-cut by a short but discordant EW IP axis and hosts the strongest chargeabilities in south-grid area (pinches to east). No DPDP coverage (depth/dip information unknown) - more follow-up may be required prior to DDH testing. Otherwise, due to strength of IP response, recommend 1 <sup>ST</sup> priority DDH tests along L4W and possibly L4E, for stratigraphic sulphides which are cross-cut by discordant, qtz-carbonate altered shear zones. Also target EW extensions of shear zones and ENE stratigraphy - cautioning for pinching-out away from main stratigraphy.
	L400E	1450N	Strong	High	--	1.5	
	L000	1550N	Mod-Strong	High	--	2	
	L000	1250N	Strong	High	--	2	
	L000	1000N	Very Strong	High	--	2	
	L400W	950N	Very Strong	High	--	1	
	L800W	800N	Strong	High	--	2	
L1200W	650N	Strong	High	--	2		
C2	L1400E	1300N	Very Strong	High	--	2	Moderate-short length (>1200ft), but very strong, high resistivity IP axis, coincides with a well-defined EW-ENE resistive lineament - suggests possible stratigraphic mineralization or near-concordant ±discordant mineralized-altered shear zone. Overburden-covered, but mafic volcanics indicated. Possibly related to nearby C1, along discordant ESE trend, which also feature very high chargeabilities. Pinches to SW and poorly defined to NE due to limited survey area. No DPDP coverage (dip/depth information unknown) - more follow-up may be required prior to DDH testing. Otherwise, due to strength of IP response, recommend high priority DDH-test along L000, for possible ESE qtz-altered shear zone extending from C1 - cautioning for stratigraphic sulphides. Also target NE extension - particularly L12E axis, which may be buried below OB - cautioning for OB topographic effect along L4E.
	L400E	900N	Very Strong	High	--	2	
	L000	800N	Very Strong	High	--	1	
C4	400W	1550N	Strong	Low	--	3	Strike-extensive (>1/2 mile), strong to very strong, mixed nil to low resistivity IP axis, with sinuous EW to ENE trend - suggests possible mixed stratigraphic sulphides and cross-cutting EW discordant shear zone. Lies in mapped mafic volcanics and closely parallels an Iron Formation HEM conductor - suggests C4 either represents the down-dip (north) extension of IF/C4' axis or a separate, contact-type mineralized zone - as supported in DPDP pseudosections, particularly L24E multiple response. DPDP results along L16W-L28W suggest a poor to moderately well defined, subcropping to buried feature, with high ρ association, which appears to flank C4' - a subcropping zone coinciding with (continued)
	800W	1550N	Strong	Nil	--	3	
	1200W	1350N	Strong	Low	--	2	
	1600W	1350N	Strong	Nil	>50-600	2/IF ?	
	2000W	1250N	Strong	Nil	>100-600	3/IF ?	
	2400W	1150N	Very Strong	Nil	>100-600	1/IF ?	
	2800W	1050N	Strong	Nil	50-600	2/IF ?	
	3200W	1050N	Strong	High	--	3	

**Table V (continued): Recommended First Priority Targets at Magino.**

NAME	LINE	STATION	RELATIVE STRENGTH	RESISTIVITY ASSOCIATION	TARGET DEPTH	PRIORITY	COMMENTS
C4 (cont)							mapped iron formation which is poorly resolved in the gradient profiles. These conflicting gradient/DPDP results possibly indicate that, C4-C4' anomalies represent the edges of a wide (200-300ft) shallow north-dipping iron formation between L24W-L16W - already DDH tested. Alternatively, C4'-C4 represent 2 separate zones: C4' is shallower but pinches-out at depth, and C4 represents a more deeply buried zone, 200ft further north, which is vertically extensive and untested. Elsewhere, C4 is EW discordant between L8W-L4W, L16W-L12W and L32W-L28W - possibly representing qtz-altered to shear mineralization along stratigraphic horizon. Despite possible Iron Formation source, because of high strength of IP anomaly and similarity with conductive and nil-type responses over <u>Main Zone/West Zone</u> , -recommend high priority DDH test of L24W zone. Also assign 2 <sup>ND</sup> priority along remainder of C4 axis having strongest EW trends for possible near-concordant mineralized shears - cautioning to stratigraphic sulphides. Anomalies without DPDP coverage should be followed up prior to DDH targeting.
E1	L1600W L2000W L2400W L2800W L3200W	2850N 2850N 2850N 2850N 2750N	Very Strong Strong Strong Strong Mod-Strong	Nil Nil Nil High High	-- -- -- -- --	1 2 3 3 2	Moderate length (>1600ft EW), strong to very strong IP axis, whose EW trend and nil/high resistivity suggests a possible discordant, qtz-altered mineralized shear. E1 lies north of the Lovel Lake granodiorite showing, and extends across the mafic volcanic/mafic intrusive contact, along the south flank of a prominent/well-defined high resistivity lineament. Aligned E1-E4-E5 may represent NE extension of Iron Formation HEM conductor at L20W/26N. No DPDP coverage (dip/depth extent unknown) and not DDH tested. Possibly requires additional follow-up prior to DDH targeting - otherwise recommend 1 <sup>ST</sup> priority DDH along L16W, due to strength of IP response and where possible stratigraphic sulphides are cross-cut by EW discordant, qtz-altered shear zone. Also target E1 along volcano-intrusive contact. Recommend additional coverage west of L32W where E1 appears to strengthen.
E5	L000 L400W L800W L1200W L1600W	3450N 3450N 3300N 3250N 3300N	Strong Strong Very Strong Very Strong Moderate	High Nil High High High	-- -- -- -- --	2 2 1 1 3	Moderate length (>1600ft EW), moderate to very strong IP axis, centred on well-defined ENE high resistivity lineament, which appears to be cross-cut by thinner ESE discordant, high $\rho$ IP linear - suggests concordant stratigraphic mineralization with attendant qtz-altered shear zone. E5 lies in mapped mafic volcanics, but cross-cuts the stratigraphy, intersecting the ENE mafic volcanic/mafic intrusive contact, where it pinches out. E5 also cross-cuts ENE trending HEM conductor along contact - suggests volcanic-intrusive contact is faulted but non-mineralized. E5-E5' are open to east and north. No DPDP coverage (depth/dip information unknown) - more follow-up may be required prior to DDH testing - otherwise recommend 1 <sup>ST</sup> priority DDH test along strongest portions of E5-E5' and additional coverage along L4W where IP anomalies are strong but poorly defined.

**Table V (continued): Recommended First Priority Targets at Magino.**

NAME	LINE	STN	RELATIVE STRENGTH	RESISTIVITY ASSOCIATION	PRIORITY	COMMENTS
E6	2000W	3450N	Mod-strong	Nil	3	Moderate length (>1200ft), strong to very strong IP axis, with discordant EW to ESE trend and favourable high $\rho$ association, occurring on northern limit of survey coverage. Extends from gabbroic intrusive across the NE-faulted mafic volcanic inlier and correlates with break in magnetic trend (ref. Muscocho/Magino base map) - may also coincide with Tower Creek Showing. Suggests E6 represents a possible an EW-trending qtz-altered shear. No DPDP coverage (dip/depth extent unknown) - additional follow-up may be required prior to DDH testing. Otherwise, recommend high priority DDH-target along L28W and L32W, where EW shear appears to cross-cut the NE-fault zone and Tower Creek. Also recommend extending coverage to north and west, where E6 strengthens but is poorly resolved.
	2400W	3400N	Mod-strong	High	3	
	2800W	3350N	Strong	High	2	
	3200W	3350N	Very Strong	High	1	

**Table V (continued): Recommended First Priority Targets at Magino.**

#### 4.2.2 SECOND PRIORITY TARGETS (A1, A2', B1, B2, B3, C3-C3', C5, D1, D2, E1', E2, E3, E4)

This group comprises the stronger, discordant EW axes - similar though slightly weaker than the highest priority shear-hosted targets - as well as the strongest concordant ENE linears, which either represent barren, stratigraphic sulphides  $\pm$  magnetite or possibly, faulted-shear mineralization, similar to the ENE trending showings at Tower Creek, 2048 Patent/Webb Lake and the Salvation Vein. These factors and their significant chargeability make these reasonable DDH targets, possibly during a secondary exploration stage, targeting signatures and orientations similar to those successfully drill-tested. Note, that axes without detailed coverage/depth control should be followed up prior to DDH testing.

**A2'** is a moderate-strong, concordant ENE-trending, nil-resistivity IP axis which lies along the mafic volcanic-granodiorite contact, which coincides with a prominent, sinuous ENE zone of low resistivity, extending to the SW and axis **C4-C4'**. **A2'**, however, parallels the high/low resistivity contact and is cross-cut by discordant ESE trends - extending westward from the West Zone orebody to **C4** and **A2**. Note that this horizon was also targeted for DDH-testing in the Muscocho 1996 exploration proposal. DPDP results along L8E indicate that the zone is partially buried - possibly explaining its weaker chargeability. It could be drill-tested along L8E/2250N and L4E/2000N, where possible ESE qtz-shear zones are indicated, and at L0/1850N where it diverges from the volcanic-intrusive contact.

**B1-B2** are moderate to strong, EW to ESE trending, resistive IP axes, which lie in a region of increasing chargeability, in felsic to mafic volcanics along the northern edge of the survey coverage, just south of the tailings area. **B1** is the stronger of the two axes and is also EW discordant - cross-cutting the known stratigraphy and suggesting a qtz-altered, mineralized shear. Although it may have been DDH-tested along L44E, where it is weakest, it strengthens with westing - particularly across a mapped (geophysically ?) diabase dyke, where the IP coverage ends. This favourable axis should be followed-up or detailed by extending the geophysical coverage north and west of L32E/42N. **B2** coincides with a thin, ENE trending, mafic volcanic horizon - although likely representing a stratigraphic-like disseminated sulphide/magnetite horizon, it is poorly resolved in the area where its chargeabilities are strongest- we also recommend that it be further detailed or followed-up north of L28E/3850N. Zone **B3**, a conductive, moderate to strong IP axis, lies along the ENE-trending, mafic-felsic volcanic contact, NW of the mine-horizon. It coincides with a prominent, linear zone of low resistivity which subparallels mapped iron formation to the NE and **A1** to the SW. Although consistent with a BIF IP\Resistivity signature, alternatively, it could represent a concordant-faulted or stringer-sulphide mineralized horizon. DPDP coverage along L20E/32N indicate it is subcropping to partially buried (>50ft?), but either thin and vertically dipping or flat-lying/sheet like. **B3** is known to also host Au-mineralization (see interpretation/compilation plan), however the DDH-coverage is sparse. If drill-tested, it should be targeted along L28E/3450N,

L24E/3350N and possibly also L32E/3650N where it hosts its strongest chargeabilities.

**C3-C3'** and **C5** are moderate to strong and mainly high resistivity IP axes which parallel the ENE trending, mafic volcanic geology southwest of Lovel Lake, and for the most part could be ascribed to stratigraphic-like, concordant mineralization. However, **C3** lies on strike, just south-west of the West Zone Extension granodioritic horizon - where it could be DDH-targeted along L4W/1300N and L8W/1150N, and also features a conductive to nil resistivity association (faulted or stringer-sulphide mineralized ?) similar to the mine-horizon response. We would also recommend drill-testing along L16W/800N and L12W/900N, where **C3's** chargeabilities are strongest (despite poor resolution due to limited DPDP coverage) and may represent a qtz-altered concordant ENE shear zone. **C3'** is a weaker, uniformly resistive and discontinuous zone which closely subparallels **C3**. It is poorly resolved in the DPDP and is strongest along the southern border of the claim group - if it proves geologically significant, we recommend that the coverage be extended south of 6+00N near L28W. **C5** is the weakest of the three axes and coincides with a well-defined, narrow, ENE-trending high resistivity lineament which generally follows the main access road, south of Lovel Lake. **C5** either represent a weakly mineralized stratigraphy or concordant, qtz-altered fault-zone - or possibly a bedrock topographic effect (i.e. barren outcrop). To the west, it is poorly resolved in the DPDP results, due to limited coverage, as a thin, outcropping to sub-cropping, weak IP axis. At its east-extent, however, **C5** is strongest where it is aligned along a discordant ESE trend, with axes **A2'-A3'** extending from the West Zone orebody. It could be DDH-tested at L0/2100N where it intersects this linear.

Axes **D1-D2** are partially defined, moderate strength, ENE trending, high to nil resistivity IP axes, which represent the strongest responses in the south-eastern survey area and also appear to correlate with the 2048 Patent showing on the east Webb Lake shoreline. Both are hosted in highly resistive intermediate to felsic volcanics and the cross-cutting alignment of anomaly axes suggest that these represent thin zones of stratigraphic or possibly concordant qtz-sheared, disseminated sulphides or magnetite, which are cross-cut by favourable EW mineralized structures. Due to the poor anomaly definition, this area merits additional follow-up, possibly during the winter months - focusing on **D2** near L36E/1750N, which hosts the strongest chargeability, and **D2** between L40E/2150N and L44E/2350N - cautioning for a possible bedrock-topographic source.

Axes **E1'** to **E4** are all EW to slightly ESE trending, high to nil resistivity IP axes which lie NW of Lovel Lake, surrounding the small, plug-like Lovel Lake granodiorite showing and associated with the NE-trending (?) Tower Creek Fault showing. **E1'** is a short ( $\approx 400$ ft), conductive to nil/contact-type axis which extends across the mafic intrusive/volcanic contact, which appears to be faulted (i.e. narrow, linear ENE  $\rho_A$  Low). If targeted we recommend that it be tested at the contact (L24W/2650N) where it features its strongest chargeability - cautioning for a possible Iron Formation source. **E2** is the ESE-oriented, high  $\rho$  strong to very strong IP axis which coincides with the DDH-tested Lovel Lake showing, cross-cutting the granodiorite - although narrow, it represents the best defined IP axis in the area and would otherwise represent a high first priority target due to its high strength and favourable high resistivity association, consistent with a near-concordant qtz-altered shear. Lying on strike with an Iron Formation HEM axis in Lovel Lake, it is shown to extend westward into the mafic volcanics where it continues to coincide with a narrow high resistivity lineament. If targeted, we recommend the anomaly at L24W/2350N which continues to be strong and may cross-cut an iron formation - also, at L32W/2250N, on the mafic intrusive / volcanic contact, **E2** displays increasing strength and merits additional survey coverage to the west. **E3** is a similar, nearby EW paralleling axis which occurs at the SW tip of the Lovel Lake granodiorite. It strengthens with easting, where it has already been DDH-tested along L20W - if it merits additional attention, we recommend its west extension (L24W/2350N), where it features strong chargeability, but is narrow and pinches out nearby. Finally, **E4** is a long (>3000ft EW), nil to high resistivity, moderate to strong IP axis which features an unusual, discordant EW to ESE trend and cross-cuts the volcano intrusive contact - closely following a prominent, high resistivity lineament. If targeted, we recommend DDH-testing along L28W/3150N and L12W/3050N, on either side of the contact, where **E4** is the strongest and could be evaluated while drilling the 1<sup>ST</sup> priority **E6** and **E5** axes - otherwise **E4** is open to the east and west.

#### **4.2.3 THIRD PRIORITY TARGETS (A1', A3-A3', A4, A4', C4', D3, D4, D5)**

These axes represent the most significant of the weakest remaining discordant lineaments, as well as those which correlate with the known mineralization. If these retain sufficient geologic interest, in the future, the DDH targeting can be based on the position and source depths provided in Appendix G. Notable features include:

- i) Axes **A1'**, **A3-A3'** and **A4** are strong to very strong, sinuous ENE trending IP axes which coincide with **Magino's NE-Main-West Zone** orebodies. Their unusually high strength, relative to the weak (<2%) sulphide content in the ore, and conflicting high, nil and low resistivity associations (versus the known qtz-altered vein systems) may either result from the pervasive foliation or a possible cultural source - as noted earlier.
- ii) **A4'** is a short (~200ft), ENE trending, strong IP axis lying NE of the **Magino**, along the mine horizon granodiorite/mafic contact, near Goudreau Lake - where a long DDH indicated qtz-sulphide mineralization, possibly related to the Lochalsh Fault zone. However, along L48E, where it coincides with a VLF-EM conductor, its erratic and unusually high chargeability (30-80 mV/V) also suggests a possible cultural source.
- iii) Axis **C4'** represents the DPDP conductive anomaly axis which also coincides with a drill-tested HEM Iron Formation horizon, southwest of Lovel Lake - also possibly represents the up-dip extension of **C4**, as noted earlier.
- iv) Anomaly **D3**, at L64E/22N, which is a ENE trending, weak to moderate and resistive IP axis which lies on strike with the Salvation Vein showing, along the faulted felsic-mafic contact, south of Goudreau Lake - it strengthens with easting, off the survey area.
- v) **D4-D5** are similar weak to moderate, ENE to EW discordant IP axes in the mafic volcanics SE of **Magino**, whose weak chargeabilities either relate to thin/poor sulphide &/or magnetite mineralization or attenuation due to deep burial. If this area hosts heavy OB cover, these could represent significant targets - otherwise these and all other axes in the southeastern survey area may be too weakly mineralized to represent exploration targets.

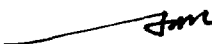
## 5. CONCLUSION AND RECOMMENDATIONS

The Gradient and Dipole-dipole IP/Resistivity results at **Magino Mine Property** identify potential chargeability and resistivity signatures relating to the subsurface geology, including possible lithologic discrimination, concordant and discordant fault-fracture structures, geochemical alteration and also weak concentrations of disseminated mineralization potentially associated with gold-mineralized, quartz / carbonate altered fault-fractures and shear zones. The geophysical interpretation has made extensive use of available geologic and DDH information, revealing a high degree of correlation between known geologic and geophysical targets, and providing a factual base in the prioritization of anomalies.

In response to the geologic objectives, as many as thirteen (13) high priority targets have been identified which host significant chargeability, width, strike-length and geoelectric characteristics to warrant immediate drill-testing. Most of these are high chargeability/high resistivity axes aligned along discordant EW to ESE trends, according to the target model, while others are highly polarizable zones which follow more concordant ENE directions, similar to other showings found on the property - all known mineralized zones at **Magino** coincide with well-defined IP anomalies. In addition to these highest priority targets, at least thirty (30) other 2<sup>ND</sup> priority targets are also identified along these horizons and their strike extensions, which feature similar but weaker signatures and have not been DDH-tested. These results highlight the high resolution and deep penetration capabilities of the gradient Realsection technique.

We recommend that these results be combined with existing geoscientific information prior to follow-up. We also recommend that the current priority targets be carefully evaluated prior to and during the DDH-testing stage - particularly with regards to the target model and the apparently preferred EW-ESE orientations. When DDH-targeting, particular attention should also be given to optimal target depth as well as the probable type of mineralization/alteration indicated by the resistivity association. We note several positional differences between the dipole-dipole and gradient anomalies, interpreted to be due to moderate dips and vertical extent of the mineralized zones (i.e. vertical pinching &/or depth of burial). As a result of the relative lack of depth control inherent with the gradient profiling technique, we recommend additional ground follow-up prior to DDH targeting. Finally, comparison with other geophysical results, particularly magnetics, should prove useful in distinguishing between pyritic and magnetite/pyrrhotite mineralization, and in identifying chemical alteration due to magnetite depletion.

RESPECTFULLY SUBMITTED  
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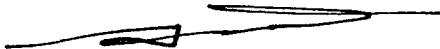
Porcupine, ON  
July, 1997

**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.
2. 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 (# 047032), with license to practice in the Province of Quebec, since 1985.
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 Society of Engineers of Quebec, the Quebec Prospectors Association, 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 **Golden Goose Resources Inc.**
7. 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.

Porcupine, Ontario  
June, 1997



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

**APPENDIX A****STATEMENT OF QUALIFICATIONS**

I, Christine Williston, hereby declare that:

1. I am a processing geophysicist with residence in South Porcupine, Ontario and am presently employed in this capacity with Quantec Consulting Inc. of Porcupine, Ontario.
2. I am a graduate of York University, North York, ON, in 1994, with an Honours Bachelor of Science Degree in Earth and Atmospheric Science.
3. I have practiced my profession in Canada since graduation.
4. I have no interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of **Golden Goose Resources Inc.**
5. The maps created and statements made by me in this report accurately represent the information given to me at the time of the preparation of this report.

Porcupine, Ontario  
June, 1997



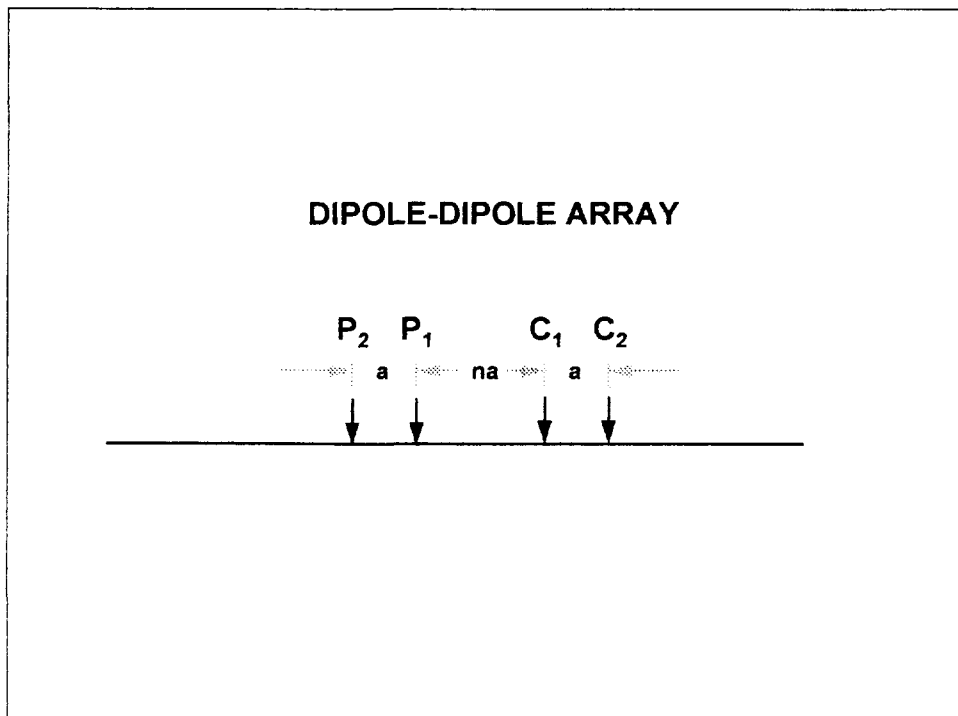
Christine Williston, B.Sc.  
Processing Geophysicist  
Quantec Technical Services



**APPENDIX B****THEORETICAL BASIS****DIPOLE-DIPOLE ARRAY TDIP SURVEYS**

The collected data sets are reduced, using the Geosoft™ program IPRED™, to apparent resistivity, total chargeability and metal factor as explained in the following figures and equations:

Using the following diagram (Fig. B1) for the electrode configuration and nomenclature:<sup>2</sup>



***Figure B1: Dipole-Dipole Electrode Array***

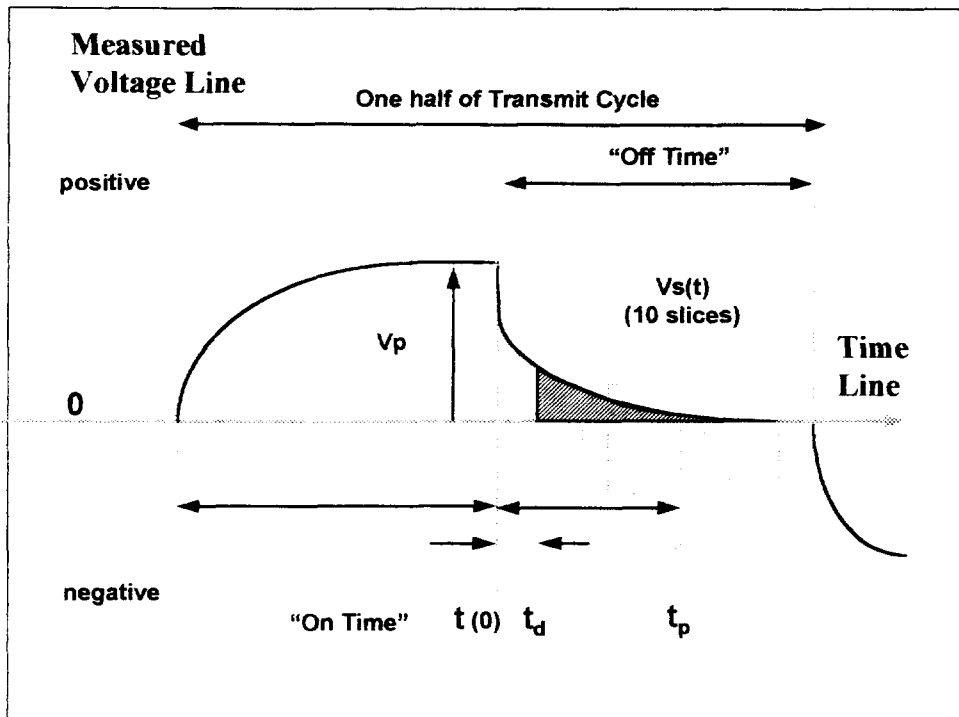
the apparent resistivity is given by:

$$\rho a = \pi n(n+1)(n+2)a \times \frac{V_P}{I} \text{ ohm-metres}$$

where: "a" is the MN dipole spacing (metres)  
 "n" is the separation parameter between C<sub>1</sub>C<sub>2</sub> and P<sub>1</sub>P<sub>2</sub>  
 "V<sub>P</sub>" is the primary voltage measured between P<sub>1</sub>P<sub>2</sub> (volts)  
 "I" is the output current between C<sub>1</sub>C<sub>2</sub> (amperes)

<sup>2</sup> From Telford, et al., Applied Geophysics, Cambridge U Press, New York, 1983..

Using the following diagram (figure 5) for the Total Chargeability:<sup>3</sup>



**Figure B2: Measurement of the IP Effect in the Time-Domain**

the total chargeability:<sup>4</sup> is given by:

$$M_{\text{Total}} = \frac{1}{V_p} \sum_{i=1}^{10} \int_{t_i}^{t_{i+1}} V_s(t) dt \quad \text{millivolt - seconds per volt}$$

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

The sets are then ready for plotting, profiling using the Geosoft **Sushi™** program. The **Apparent Resistivity** and total **Chargeability** results of the dipole-dipole surveys are presented in pseudo section format. All resistivities are in  $\Omega$ -metres and chargeabilities in mV/V.

<sup>3</sup> From Terraplus\BRGM, IP-6 Operating Manual, Toronto, 1987

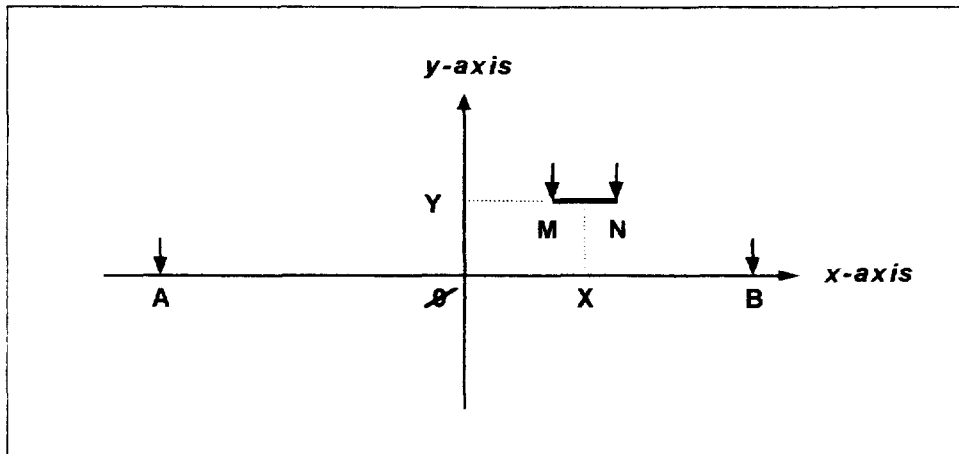
<sup>4</sup> From Telford, et al., Applied Geophysics, Cambridge U Press, New York, 1983..

## TDIP GRADIENT ARRAY TDIP SURVEYS

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 10 years of application. This technique has been further developed for application in Canada during the past four 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  $10^6$ . 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 polarizable 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 within 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 C1:: Gradient array configuration**

Using the diagram in Figure C1 for the gradient array electrode configuration and nomenclature:<sup>5</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  $b = MN/2$   
                               X 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:*

$$\rho_a = K \frac{VP}{I} \text{ ohm-metres}$$

$$\text{where: } K = \frac{2\pi}{(AM^{-1} - AN^{-1} - BM^{-1} + BN^{-1})}$$

$$AM = \sqrt{(a+x-b)^2 + y^2}$$

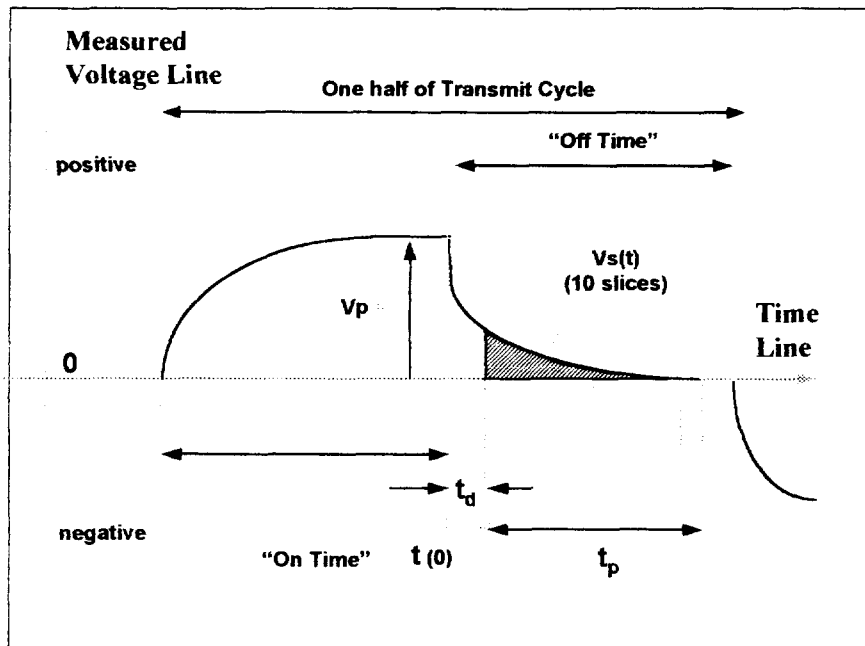
$$AN = \sqrt{(a+x+b)^2 + y^2}$$

$$BM = \sqrt{(x-b-a)^2 + y^2}$$

$$BN = \sqrt{(x+b-a)^2 + y^2}$$

Using the diagram in Figure C2 for the Total Chargeability:

<sup>5</sup> From Terraplus\BRGM, IP-6 Operating Manual, Toronto, 1987.



**Figure C2 The measurement of the time-domain IP effect.**

the total apparent chargeability is given by:

*Total Apparent Chargeability:*<sup>6</sup>

$$M_T = \frac{1}{t_p V_p} \sum_{i=1 \text{ to } 10} \int_{t_i}^{t_{i+1}} V_s(t) dt \quad \text{millivolts per volt}$$

where  $t_i$ ,  $t_{i+1}$  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>6</sup> From Telford, et al., *Applied Geophysics*, Cambridge U Press, New York, 1983..

## APPENDIX C

## PRODUCTION LOG

GOLDEN GOOSE RESOURCES INC.  
MAGINO MINE PROJECT

Date	Task	Description	AB	Line	Coverage	Start	End
16-May	Mob	Mob Porcupine to Magino Minesite. Check out grid to orient ourselves.					
17-May	Survey	Lay out AB number one on L2400W. Start surveying L3200W (L800 for program), line actually crosses Spring Lake. Resistivities high with a range from 1100 to 49,000 ohm-meters. Tested pots as opposed to stainless steel electrodes with good results. Decided to use porous pots for survey	1	L3200W	500	600N	1100N
			1	L3200W	1600	1900N	3500N
			1	L2800W	1200	2300N	3500N
18-May	Survey	Finish off AB # 1. Begin to lay out wire for AB # 2. South side of AB complete. North side in need of 500 ft of wire and rods to complete.	1	L2800W	1700	600N	2300N
			1	L2400W	2900	600N	3500N
			1	L2000W	1400	2100N	3500N
			1	L2000W	1200	600N	1800N
			1	L1600W	1300	600N	1900N
			1	L1600W	1200	2300N	3500N
19-May	Survey weather	Early am rain. Finish set north AB2 and repeat north of lake L1600W. Heavy wet snow and rain by late am.. Return to camp dry out equipment and wait for rain to stop. Dean out Jason Flood in.			0		
20-May	survey	Finish off AB # 2. Pick up wire from electrodes. L0+00 not cut North of the lake, used an existing line and chained with read wires.	2	L1600W	1200	2300N	3500N
			2	L1200W	600	2900N	3500N
			2	L800W	500	3000N	3500N
			2	L400W	400	3100N	3500N
			2	L0	200	3300N	3500N
			2	L0	2000	600N	2600N
			2	L400W	1600	600N	2200N
			2	L800W	1400	600N	2000N
			2	L1200W	1300	600N	1900N
			2	L1600W	1300	600N	1900N
21-May	survey	Lay out AB # 3. Problems in the South as L8+00E ended at 1500N. Line was offset to the west but not able to continue. Line only chained to 1000N, no cutting, possibly only paced. AB line not cut to south, we place it in by topophil, found a picket labelled as 800W, 300S. no evidence of cutting, a line or topophil. Start surveying AB #3.	3	L0	2000	600N	2600N
			3	L400E	2600	600N	3200N
			3	L0	200	3300N	3500N
			3	L800E	2000	1500N	3500N
22-May	Survey	Finish AB#3. Set up AB#4 and start surveying.	3	L1200E	2500	1000N	3500N
			3	L1600E	1700	3500N	1800N
			4	L1600E	1700	1800N	3500N
			4	L2000E	2000	3900N	1900N
			4	L2400E	2400	1900N	4300N
			4	L2800E	600	3900N	3300N

Date	Task	Description	AB	Line	Coverage	Start	End
23-May	survey	Rain showers all day. Finish surveying AB # 4. Set up AB # 5.	4	L2800E	1200	2100N	3300N
			4	L3200E	2200	2100N	4300N
24-May	survey	Survey on AB # 5	5	L3200E	2200	2100N	4300N
			5	L3600E	2100	2200N	4300N
			5	L4000E	1900	2400N	4300N
			5	L4800E	1200	2300N	3500N
			5	L4800E	800	600N	1400N
			5	L4400E	800	600N	1400N
			5	L4400E	2600	1700N	4300N
			5	L4000E	1200	1000N	2200N
25-May	survey	Finish surveying AB # 5. Lay out AB # 6 and finish surveying all lines South of the Lakes. L5600E was only cut to 200N. Large lake paced down to 50S in the swamp for electrode placement. AB length was only 4600 feet.	5	L4000E	400	600N	1000N
			5	L3600E	1200	600N	1800N
			6	L4800E	800	600N	1400N
			6	L5200E	1800	600N	2400N
			6	L5600E	1600	600N	2200N
			6	L6000E	1000	600N	1600N
			6	L6400E	1600	1100N	2700N
			6	L6000E	900	1800N	2700N
26-May	survey	Finish off AB # 6. Pick up wire from electrodes, pack gear for Demob tomorrow. Informed of dipole-dipole survey over two sections of the grid this afternoon.	6	L4800E	1200	2300N	3500N
			6	L5200E	800	3200N	4000N
27-May	survey	Started the dipole-dipole survey on the South-West detail block today.		L2800W	1200	600N	1800N
				L2400W	1500	600N	2100N
				L2000W	1200	600N	1800N
28-May	survey	Finish off the South West detail block and move to the North East detail block		L1600W	1300	600N	1900N
				L2000E	1900	2000N	3900N
				L1600E	1700	1800N	3500N
29-May	survey	Finish off North East detail block, wind up wire and prepare for Demob.		L1200E	1900	1600N	3500N
				L800E	2000	1500N	3500N
30-May	Demob	Demob Magino Mine to Porcupine then to Orangeville.			0		
				<b>TOTAL</b>	<b>81400</b>		

**APPENDIX D****INSTRUMENT SPECIFICATIONS:****Iris IP-6 (6 channel) Receiver**

(from IRIS Instruments IP 6 Operating Manual)

**Weather proof case**

<b>Dimensions:</b>	31 cm x 21 cm x 21 cm
<b>Weight:</b>	6 kg with dry cells 7.8 kg with rechargeable bat.
<b>Operating temperature:</b>	-20°C to 70°C (-40°C to 70°C with optional screen heater)
<b>Storage:</b>	(-40°C to 70°C)
<b>Power supply:</b>	6 x 1.5 V dry cells (100 hr. @ 20°C) or 2 x 6 V NiCad rechargeable (in series) (50hrs @ 20°C) or 1 x 12 V external
<b>Input channels:</b>	6
<b>Input impedance:</b>	10 Mohm
<b>Input overvoltage protection:</b>	up to 1000 volts
<b>Input voltage range:</b>	10 V maximum on each dipole 15 V maximum sum over ch 2 to 6
<b>SP compensation:</b>	automatic $\pm 10$ V with linear drift correction up to 1 mV/s
<b>Noise rejection:</b>	50 to 60 Hz powerline rejection 100 dB common mode rejection (for $R_s=0$ ) automatic stacking
<b>Primary voltage resolution:</b>	1 $\mu$ V after stacking
<b>accuracy:</b>	0.3% typically; maximum 1 over whole temperature range
<b>Secondary voltage windows:</b>	up to 10 windows; 3 preset window specs. plus fully programmable sampling.
<b>Sampling rate:</b>	10 ms
<b>Synchronization accuracy:</b>	10 ms, minimum 40 $\mu$ V
<b>Chargeability resolution:</b>	0.1 mV/V
<b>accuracy:</b>	typically 0.6%. maximum 2% of reading $\pm 1$ mV/V for $V_p > 10$ mV
<b>Battery test:</b>	manual and automatic before each measurement
<b>Grounding resistance:</b>	0.1 to 467 kohm
<b>Memory capacity:</b>	2505 records, 1 dipole/record
<b>Data transfer:</b>	serial link @ 300 to 19200 baud remote control capability through serial link @ 19200 baud



## APPENDIX E

## IP 6 DUMP FILE FORMAT

```
* IP 6 (V9.1)*
*=====*
```

```
#77 Jul 1 1980 11:57
```

```
dipole 1 trigger 1 domain Time T wave
Programmable wind. Grad. RCTGL array
```

```
V= 331.605 Sp= -319 I= 1350.00 Rs= 0.50
Ro= 6679.4 Ohm.m M= 11.97 E= 0.4
M1= 40.44 M2= 33.55 M3= 29.48 M4= 26.68
M5= 20.95 M6= 15.52 M7= 12.50 M8= 9.77
M9= 7.50 M10= 6.05
```

```
cycl= 19 Time= 2000 V_D= 1260 M_D= 40
T_M1= 20 T_M2= 30 T_M3= 30 T_M4= 30
T_M5= 180 T_M6= 180 T_M7= 180 T_M8= 360
T_M9= 360 T_M10= 360
```

```
Spacing config.: Imperial grid
XP=-1300.0 Line= 400.0
D= -100.0 AB/2= 2500.0
```

```
#78 Jul 1 1980 11:57
```

```
dipole 2 trigger 1 domain Time T wave
Programmable wind. Grad. RCTGL array
```

```
V= 265.781 Sp= 388 I= 1350.00 Rs= 1.41
Ro= 4687.7 Ohm.m M= 26.75 E= 0.0
M1= 76.18 M2= 66.06 M3= 59.31 M4= 54.53
M5= 44.38 M6= 34.29 M7= 28.35 M8= 22.83
M9= 18.06 M10= 14.96
```

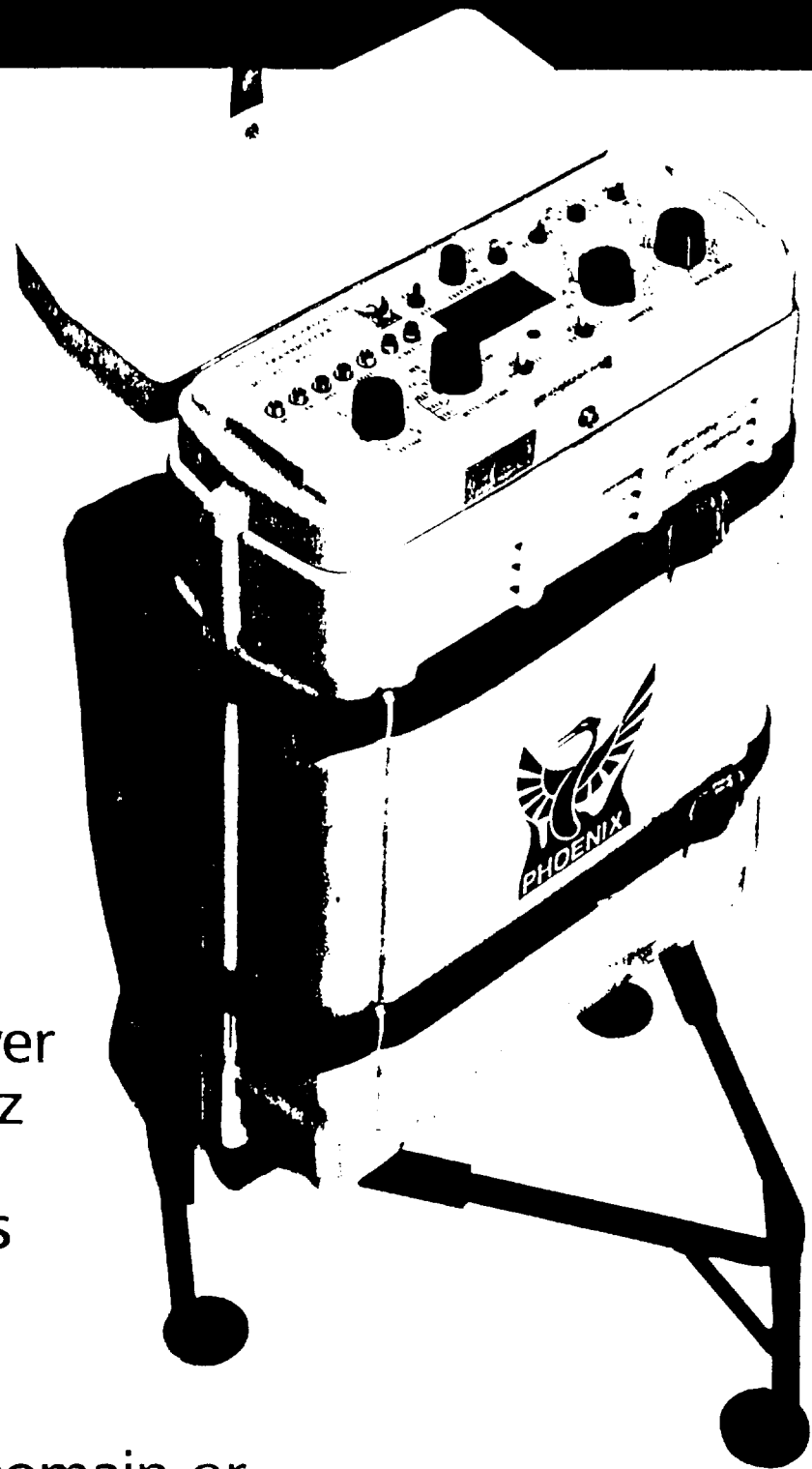
```
cycl= 19 Time= 2000 V_D= 1260 M_D= 40
T_M1= 20 T_M2= 30 T_M3= 30 T_M4= 30
T_M5= 180 T_M6= 180 T_M7= 180 T_M8= 360
T_M9= 360 T_M10= 360
```

```
Spacing config.: Imperial grid
XP=-1400.0 Line= 400.0
D= -100.0 AB/2= 2500.0
```

# IPT-1

Induced Polarization (Time Domain or Frequency Domain), CSAMT, Time Domain EM, Resistivity

## TRANSMITTER



- Lightweight: 12 kg
- Low cost
- Wide range of power sources: 50Hz, 60Hz or 400Hz motor generators or mains power; or 12V batteries
- DC-8192Hz, Time Domain or Frequency Domain
- The most versatile geophysical transmitter ever made



# Applications

The IPT-1 is a highly versatile, multipurpose geophysical power source which may be used for several different geophysical techniques. The IPT-1 accommodates either inductive loads (loops) used in the TDEM, or FDEM techniques, or grounded dipoles as used in IP and CSAMT techniques.

The IPT-1 design is based on more than 35 years experience of Phoenix transmitter designers, and it has been used in countless field surveys under every climatic condition worldwide.

The IPT-1 may be equipped with three different internal power modules. The BPS-3 module utilizes rechargeable gel cell batteries. The AC3006 and AC3007 modules utilize AC power provided by motor generators or mains power supply. When equipped with an optional inverter, the AC3006 and AC3007 may also utilize 12V batteries.

One of the most beneficial features of the IPT-1 is its ability to use a wide range of input power sources. These include standard geophysical 3-phase 400Hz motor generators, such as Phoenix MG 1, MG 2 or MG 3 units; commercially available single-phase 50Hz or 60Hz motor generators; 50Hz or 60Hz mains power supply; or 12V batteries. The ability to use commercially available 50Hz/60Hz motor generators means that the user can easily obtain spare parts/service for the motor generator almost anywhere in the world.

The motor generators may be of any power up to 3.5KVA, with output frequency in the range 50Hz to 1,000Hz. The actual output power of the IPT-1 is limited by the input power.

The IPT-1 is lightweight and highly portable: 13 kg with BPS-3 power module; 12kg with either AC3006 or AC3007 power modules.

# Specifications

<b>Dimensions</b>	20 x 40 x 55 cm (9 x 16 x 22 in.)	<b>Output power</b>	Maximum 3 Kw (AC3006, AC3007); 250 W (BPS-3) Limited by maximum available input power
<b>Weight</b>	13 Kg (29 lb) with internal battery pack 12 Kg (27 lb) with AC3006 or AC3007 power modules	<b>Output current</b>	3mA to 3A (BPS-3); 20mA to 10A (AC3006, AC3007)
<b>Environmental</b>	Operable over the temperature range -40°C to +50°C Thermal protection for over-temperature Note: BPS 3 battery capacity is significantly reduced at lower ambient temperatures	<b>Timing options</b>	A wide range of internal and external timing options is available, for both frequency domain waveforms (square wave) or time domain waveforms (50% duty cycle square wave). The time domain waveforms are suitable for Time Domain IP and (in AC3007) for Time Domain EM. Standard internal timing is based on crystal oscillators with frequency stability of nominal $\pm 50$ ppm. The IPT-1 may also be slaved to an external timing source. This may be accomplished by cable link to any suitable geophysical receiver. For receiver operation without connection to the transmitter, any suitable "transmitter controller" may be utilized, with or without precision oscillators, as required. Contact Phoenix for details of timing options.
<b>CONTROLS, METERS, REGULATION</b>			
<b>Ammeter</b>	6 ranges 30mA, 100mA, 300mA, 1A, 3A, 10A full scale	<b>TDEM operation</b>	The turn-off time of AC3007 into a resistive load is approximately 3 microseconds. The turnoff time into a typical 100m x 100m loop as used in TDEM is a linear ramp of duration approximately 100 microseconds.
<b>Meter display</b>	A function switch selects display of: current, regulation status, input frequency, output voltage, control voltage, line voltage	<b>Frequency range</b>	DC-8192Hz (AC3007) DC-4Hz (BPS-3, AC3006)
<b>Current regulation</b>	Output current change is controlled to $\pm 0.2\%$ for $\pm 10\%$ change in input voltage or electrode impedance. Regulation is done internally, without connection to MG unit		
<b>Protection</b>	Overcurrent (150% of full scale) Undercurrent (5% of full scale) Overvoltage (130% of full scale) Undervoltage (10% of full scale)		
<b>Output voltage:</b>	100, 200, 300, 500, 800V nominal (BPS-3) 300, 600, 1200V nominal (AC3006) 200, 400, 800V nominal (AC3007)		



## PHOENIX GEOPHYSICS LIMITED

3781 Victoria Park Avenue, Unit 3, Scarborough, Ontario, Canada M1W 3K5

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Quantec

## APPENDIX F

## OPERATOR COMMENTS

CULTURAL AND TOPOGRAPHICAL NOTES  
MAGINO MINE PROJECT  
GOLDEN GOOSE RESOURCES Inc.**L3200W**

lake @ 11+10 N  
O/C under moss at 11+00 N

**L2800W**

creek 10 ft West of 3500 N  
road @ 27+10 N  
creek @ 26+40 N  
creek @ 23+90 N  
creek @ 20+10 N  
creek @ 19+95 N  
road 15+95 N  
sand 17+00 N to 15+00 N poor contact  
swamp 14+20 N to 12+00 N

**L2400W**

swamp 14+10 N to 10+70 N  
road @ 18+05 N  
creek @ 20+40 N  
logging road 15 ft West of 21+00 N  
sand 6+00 N to 11+00 N poor contact

**L2000W**

downhill from 35+00 N  
road @ 32+00 N  
swamp 29+00 N to 20+95 N  
lake @ 20+95 to 18+00 N  
road @ 16+10 N  
swamp 11+00 N to 15+00 N

**L1600W**

pond 10+40 N to 12+50 N  
road @ 15+70 N  
lake 19+65 N to 22+90 N  
trench @ 27+60 N  
diamond drill hole @ 28+20 N  
sand lake to 14+00 N poor contact  
swamp 14+00 N to 9+70 N

**L1200W**

lake 28+80 N to 19+50 N  
swamp 11+90 N to 14+90 N  
road @ 16+50 N

**L800W**

lake 29+95 N to 20+00 N  
O/C 34+00 N  
creek @ 31+00 N  
swamp 13+90 N to 15+80 N  
road @ 18+20 N

**L400W**

lake 30+70 N to 22+30 N  
pond 7+10 N to 7+45 N  
swamp 14+70 N to 17+90 N  
road @ 20+75 N

**L0E**

lake 33+05 N to 26+08 N  
swamp 20+00 N to 16+00 N  
small hill 16+00 N to 14+00 N (poss. O/C)  
swamp 13+50 N to 12+10 N

**L400 E**

gentle downslope from 7+00 N to 11+00 N  
old road @ 11+10 N  
swamp 14+70 N to 16+50 N  
road @ 22+80 N

**L800 E**

creek @ 35+30 N  
swamp 33+00 N to 36+00 N  
swamp 30+10 to 26+20 N  
road @ 23+90 N  
old road @ 19+95 N  
lake @ 16+00 N

**L1200 E**

road @ 11+00 N  
road @ 13+20 N  
pond @ 9+95 N  
line not cut 18+00 N to 20+00 N  
road @ 23+20 N  
road @ 30+25 N  
O/C 24+50 ?? small ridge  
swamp 19+90 N to 19+00 N  
swamp 26+20 N to 24+50 N

**L1600E**

pond 34+85 N to 32+50 N  
pond 29+20 N to 28+50 N  
road 24+20 N  
lake @ 18+30 N  
hydro wires @18+00 N

**L2000E**

garbage dump 33+00 N to 32+00 N  
road @ 31+10 N  
diamond drill hole @ 28+10 N  
road @ 25+10 N  
lake @ 18+67 N hydro wires @ 19+70 N  
sandy gravely for entire line dipole-dipole

**L2400E**

lake 25+90 N  
diamond drill hole @ 25+00 N  
hydro wires @ 21+00 N  
road @ 30+10 N  
pond 10 ft East of 31+00 N

**L2800E**

pond 36+00 N to 34+90 N  
diamond drill hole @ 31+00 N  
diamond drill hole @ 27+00 N  
road @ 23+00 N  
hydro wires @ 23+00 N  
lake @ 20+50 N

**L3200E**

EOL @ lake 20+60 N  
waste (ore) rock pile 21+20 N to 29+00 N  
road 24+40 N  
hydro wires @ 24+25 N  
hydro wires parallel to line approx. 70 ft East from  
27+00 N to 43+00 N  
road @ 35+00 N  
diamond drill hole @ 36+75 N  
swamp 40+50 N 39+25 N

**L3600E**

lake @ 21+95 N  
O/C 32+50 N to 33+70 N  
hydro wires @ 24+15 N  
hydro wires @ 25+90 N  
hydro wires @ 28+40 N  
hydro wires @ 30+60 N  
swamp 34+00 N to 34+90 N  
pond 36+60 N  
pond 37+50 N to 38+50 N  
swamp 6+00 N to 11+60 N  
lake @ 18+40 N

**L4000E**

diamond drill hole @ 37+05 N  
pond 40+30 N to 40+80 N  
diamond drill hole @ 35+00 N  
core shack @ 32+40 N  
hydro wires @ 32+50 N  
hydro wires @ 31+50 N  
mill building 29+00 N to 27+90 N  
lake @ 23+90 N  
hydro @ 27+80 N

**L4400E**

lake @ 25+50 N  
road @ 35+50 N  
teach pond 28+00 N to 27+50 N  
buildings 32+50 N to 33+50 N  
hydro @ 31+ 00 N  
road @ 37+50 N  
lake 14+50 N to 17+20 N  
lake 24+45 N to 25+50 N

**L4800E**

stations 23,24,and 25+00 N bush crashed into beaver pond  
swamp 25+50 N to 22+75 N  
lake @ 13+85 N

**L5200E**

O/C cliff @ 10+00 N 40 ft up to 9+00 N  
O/C cliff @ 14+85 N  
swamp 17+50 n TO 21+50 n  
lake @ 24+00 N  
lake @ 31+90 N  
hydro wires @ 38+70 N

**L5600E**

swamp 22+00 N to 21+10 N  
pond 15+50 N to 1400 N

**L6000E**

pond @ 1620 N to 18+00 N  
lake @ 27+00 N  
swamp 25+10 N to 23+40 N

**L6400E**

creek @ 15+10 N  
swamp 15+10 to lake  
lake @ 27+35 N

D Hall  
Field Manager  
pers.com., 06/97



## APPENDIX G

## TDIP ANOMALY TABLE

LINE	STATION	RESISTIVITY ASSOCIATION	QUALITY/COMMENTS
3200W	650N	High	Moderate
3200W	1050N	High	Mod-Strong
3200W	2250N	Nil	Mod-Strong
3200W	2750N	High	Mod-Strong
3200W	3150N	Nil	Mod-Strong
3200W	3350N	High	Very Strong
2800W	650N	High	Mod-Strong
2800W	1050N	Nil	Mod-Strong
2800W	1300N	Low	Moderate
2800W	1900N	High	Moderate
2800W	2300N	High	Mod-Strong
2800W	2650N	Nil	Mod-Strong
2800W	2850N	High	Mod-Strong
2800W	3150N	Nil	Mod-Strong
2800W	3350N	High	Mod-Strong
2400W	800N	High	Moderate
2400W	1150N	Nil	Very Strong
2400W	1450N	High	Moderate
2400W	1950N	High	Moderate
2400W	2150N	High	Mod-Strong
2400W	2350N	High	Mod-Strong
2400W	2650N	Low	Mod-Strong
2400W	2850N	Nil	Mod-Strong
2400W	3150N	High	Moderate
2400W	3400N	High	Mod-Strong
2000W	650N	High	Moderate
2000W	1250N	Nil	Mod-Strong
2000W	1550N	High	Mod-Strong
2000W	2150N	High	Mod-Strong
2000W	2450N	Nil	Mod-Strong
2000W	2850N	Nil	Mod-Strong
2000W	3050N	High	Moderate
2000W	3450N	Nil	Moderate
1600W	800N	High	Moderate
1600W	1050N	Nil	Moderate
1600W	1350N	Nil	Mod-Strong
1600W	1650N	High	Moderate
1600W	2550N	High	Very Strong
1600W	2850N	Nil	Very Strong
1600W	3050N	High	Mod-Strong
1600W	3300N	High	Moderate
1200W	650N	High	Mod-Strong
1200W	900N	High	Mod-Strong
1200W	1350N	Low	Mod-Strong
1200W	1850N	High	Moderate
1200W	3050N	Nil	Very Strong
1200W	3250N	High	Very Strong
800W	800N	High	Mod-Strong
800W	1150N	Nil	Mod-Strong
800W	1550N	Nil	Mod-Strong
800W	1950N	High	Moderate
800W	3300N	High	Very Strong
400W	950N	High	Very Strong
400W	1300N	Low	Moderate
400W	1550N	Low	Moderate

LINE	STATION	RESISTIVITY ASSOCIATION	QUALITY/COMMENTS
400W	1750N	Nil	Moderate
400W	2050N	High	Moderate
400W	3150N	High	Very Strong
400W	3450N	Nil	Mod-Strong
0E	800N	High	Very Strong
0E	1000N	High	Very Strong
0E	1250N	High	Mod-Strong
0E	1550N	High	Mod-Strong
0E	1850N	Nil	Mod-Strong
0E	2100N	High	Mod-Strong
0E	2450N	Nil	Moderate
0E	3450N	High	Mod-Strong
400E	900N	High	Very Strong
400E	1250N	Low	Mod-Strong
400E	1450N	High	Mod-Strong
400E	2000N	Nil	Mod-Strong
400E	2350N	Low	Very Strong
400E	2800N	Nil	Moderate
800E	1550N	High	Mod-Strong
800E	1750N	Low	Very Strong
800E	1950N	High	Mod-Strong
800E	2250N	Nil	Mod-Strong
800E	2450N	Nil	Mod-Strong
800E	2650N	Nil	Mod-Strong
800E	3250N	High	Moderate
800E	3450N	Low	Moderate
1200E	1300N	High	Very Strong
1200E	1750N	Low	Very Strong
1200E	2200N	High	Mod-Strong
1200E	2600N	Nil	Very Strong
1200E	2850N	Nil	Moderate
1200E	3150N	High	Moderate
1200E	3450N	High	Moderate
1600E	1850N	Low	Very Strong
1600E	2200N	High	Mod-Strong
1600E	2650N	Low	Moderate
1600E	3000N	Nil	Mod-Strong
1600E	3450N	High	Moderate
2000E	2050N	Low	Very Strong
2000E	2250N	Low	Mod-Strong
2000E	2500N	High	Mod-Strong
2000E	2850N	Low	Mod-Strong
2000E	3050N	High	Mod-Strong
2000E	3600N	High	Moderate
2000E	3850N	Low	Moderate
2400E	2050N	High	Very Strong
2400E	2250N	Nil	Very Strong
2400E	2450N	Low	Mod-Strong
2400E	2700N	Nil	Mod-Strong
2400E	3000N	Nil	Mod-Strong
2400E	3350N	Low	Mod-Strong
2400E	3650N	Low	Moderate
2400E	4000N	Nil	Moderate
2400E	4250N	Low	Moderate
2800E	2150N	Nil	Very Strong
2800E	2450N	Nil	Very Strong
2800E	2650N	Low	Very Strong
2800E	2950N	Nil	Mod-Strong
2800E	3200N	High	Mod-Strong
2800E	3450N	Low	Very Strong
2800E	3650N	Nil	Moderate
2800E	3850N	High	Mod-Strong

LINE	STATION	RESISTIVITY ASSOCIATION	QUALITY/COMMENTS
3200E	2150N	Nil	Very Strong
3200E	2650N	High	Very Strong
3200E	2850N	Nil	Very Strong
3200E	3300N	High	Mod-Strong
3200E	3650N	Low	Mod-Strong
3200E	3950N	Nil	Mod-Strong
3200E	4250N	Nil	Mod-Strong
3600E	750N	Low	Weak
3600E	950N	Nil	Weak
3600E	1150N	Low	Weak
3600E	1400N	High	Weak
3600E	1750N	Nil	Moderate
3600E	2350N	Low	Questionable/Culture?
3600E	2650N	Low	Questionable/Culture?
3600E	2900N	Nil	Questionable/Culture?
3600E	3100N	Low	Questionable/Culture?
3600E	3350N	High	Mod-Strong
3600E	3550N	High	Mod-Strong
3600E	4050N	Nil	Moderate
3600E	4250N	High	Mod-Strong
4000E	650N	High	Weak
4000E	1050N	High	Weak
4000E	1250N	Nil	Weak
4000E	1450N	Low	Weak
4000E	1750N	High	Weak
4000E	1950N	Nil	Moderate
4000E	2150N	High	Moderate
4000E	2650N	Low	Questionable/Culture?
4000E	2850N	High	Questionable/Culture?
4000E	3150N	Low	Questionable/Culture?
4000E	3350N	Nil	Very Strong
4000E	3650N	High	Mod-Strong
4000E	4000N	Nil	Moderate
4000E	4250N	High	Moderate
4400E	850N	High	Weak
4400E	1200N	High	Weak
4400E	1950N	High	Weak
4400E	2150N	High	Moderate
4400E	2350N	High	Moderate
4400E	2850N	Low	Questionable/Culture?
4400E	3150N	Nil	Questionable/Culture?
4400E	3450N	High	Moderate
4400E	3800N	High	Moderate
4400E	4250N	High	Mod-Strong
4800E	650N	High	Weak
4800E	1000N	Nil	Weak
4800E	1250N	Nil	Weak
4800E	2450N	Low	Weak
4800E	2750N	High	Moderate
4800E	3050N	High	Questionable/Culture
4800E	3250N	Low	Questionable/Culture?
5200E	650N	High	Weak
5200E	950N	High	Weak
5200E	1200N	Low	Weak
5200E	1450N	High	Weak
5200E	1950N	Low	Moderate
5200E	2250N	High	Weak
5200E	3350N	High	Mod-Strong
5200E	3650N	Nil	Moderate
5200E	3950N	High	Weak
5600E	650N	High	Moderate
5600E	950N	High	Weak

LINE	STATION	RESISTIVITY ASSOCIATION	QUALITY/COMMENTS
5600E	1150N	High	Weak
5600E	1350N	Low	Weak
5600E	1750N	High	Weak
5600E	1950N	High	Weak
5600E	2150N	Low	Weak
6000E	750N	Nil	Weak
6000E	1050N	High	Weak
6000E	1250N	High	Weak
6000E	1550N	Low	Weak
6000E	2000N	Nil	Weak
6000E	2550N	High	Weak
6400E	1250N	High	Weak
6400E	1450N	Nil	Questionable
6400E	1650N	Low	Weak
6400E	2200N	High	Moderate
6400E	2400N	High	Weak
6400E	2650N	Nil	Weak

**APPENDIX H****LIST OF MAPS**

- **Plan Maps:** (Scale of 1:4800)
 

1) Posted/Contoured Total Chargeability	DWG# C-174-PLAN-CHG-1
2) Posted/Contoured Apparent Resistivity	DWG# C-174-PLAN-RES-1
3) Geophysical Interpretation	DWG# C-174-PLAN-INT-1
4) Property Claim/Survey Line Location Map	DWG# C-174-LL (1:24000 Scale)
  
- **Stacked Pseudosections:** (Scale of 1:2400, Contoured Apparent Resistivity and Total Chargeability)
 

1) Line 2800W	C359-IP-DD-28W
2) Line 2400W	C359-IP-DD-24W
3) Line 2000W	C359-IP-DD-20W
4) Line 1600W	C359-IP-DD-16W
5) Line 800E	C359-IP-DD-8E
6) Line 1200E	C359-IP-DD-12E
7) Line 1600E	C359-IP-DD-16E
8) Line 2000E	C359-IP-DD-20E

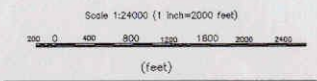
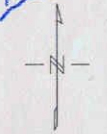
  

Total Plan Maps:	4
Total Pseudosections:	<u>8</u>
Total Maps:	12

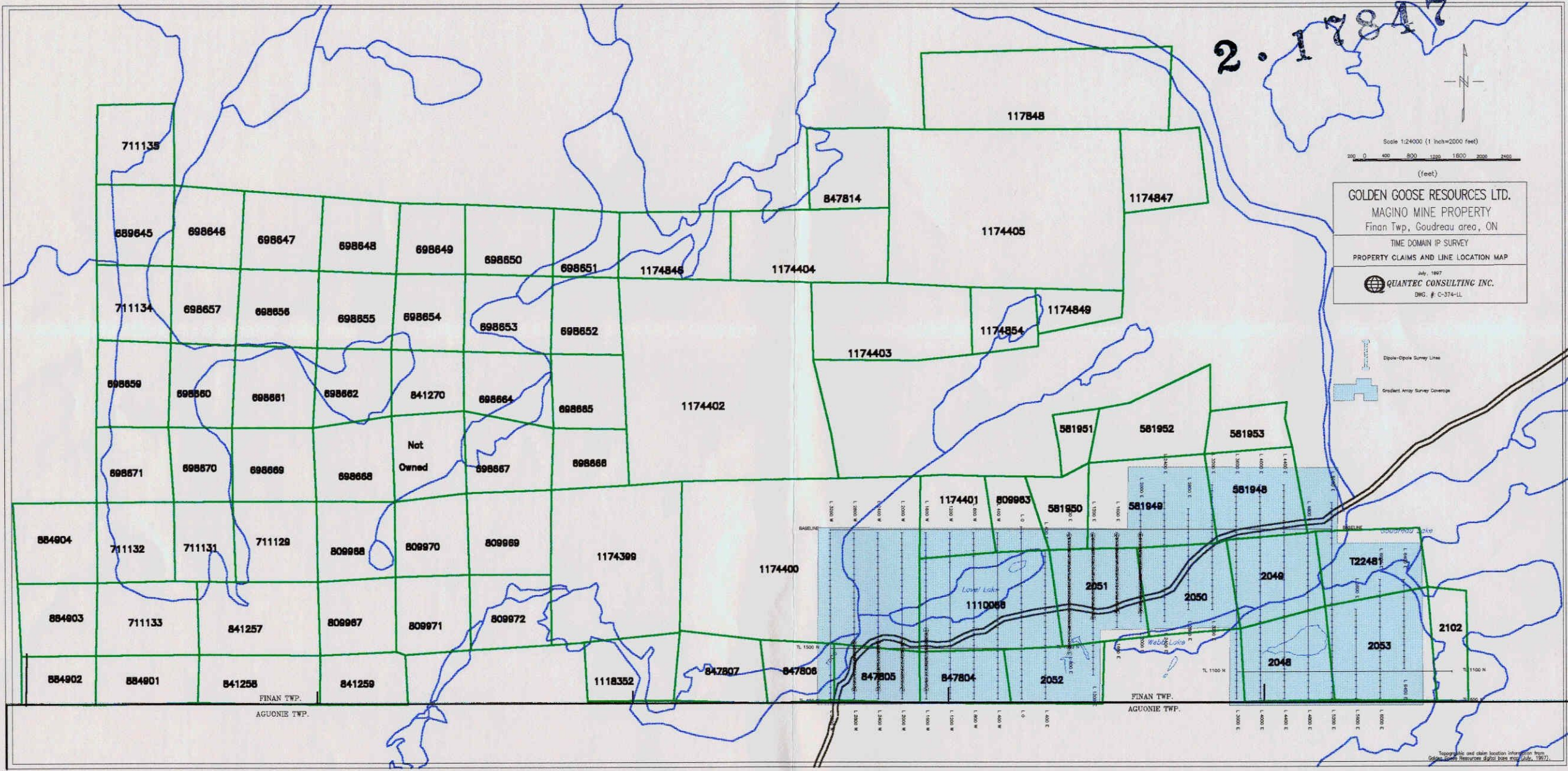
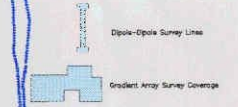
**APPENDIX I**

**PLAN MAPS AND PSEUDOSECTIONS**

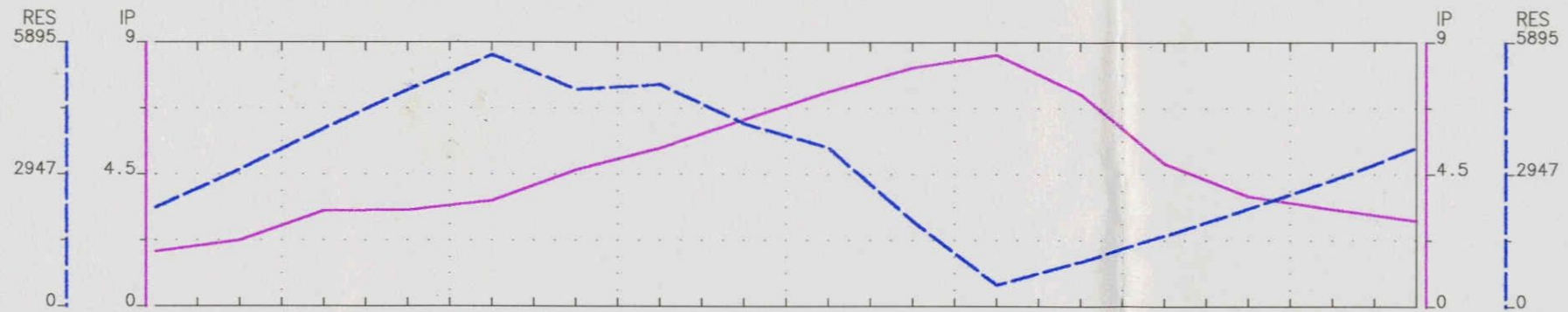
2.17847



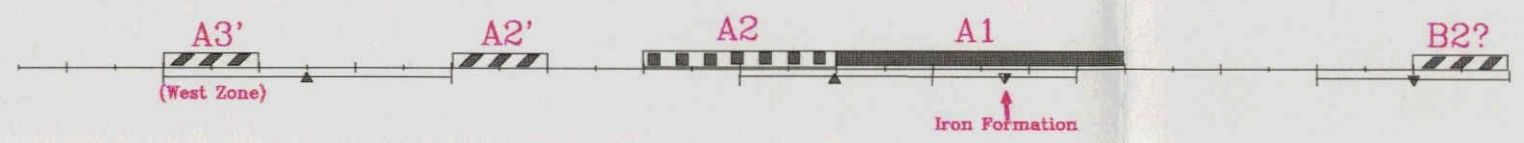
GOLDEN GOOSE RESOURCES LTD.  
MAGINO MINE PROPERTY  
Finan Twp, Goudreau area, ON  
TIME DOMAIN IP SURVEY  
PROPERTY CLAIMS AND LINE LOCATION MAP  
July, 1997  
QUANTEC CONSULTING INC.  
DWC # C-374-LI



Topographic and other location information from  
Geological Resources Division maps (400, 1997)

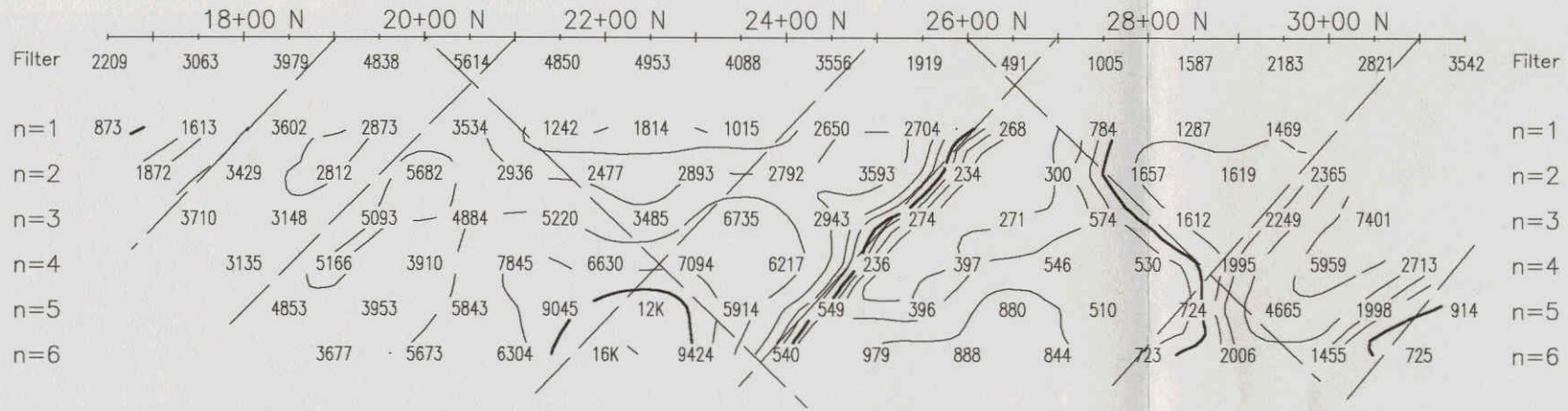


Interpretation



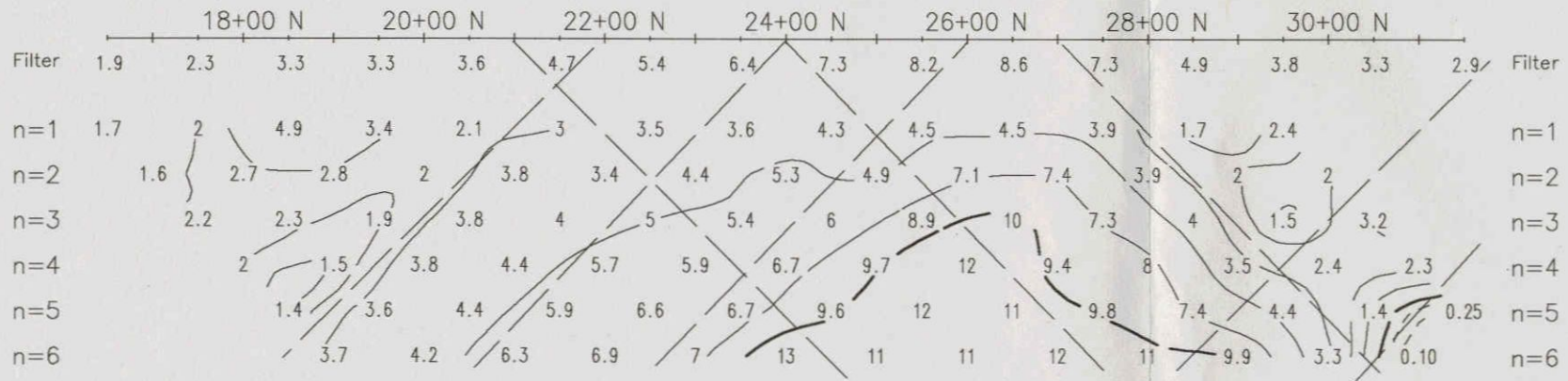
Interpretation

Apparent Resistivity (ohm-m)



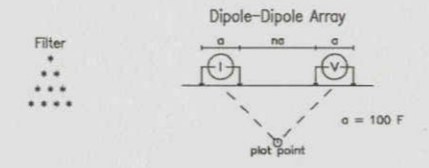
Apparent Resistivity (ohm-m)

Total Chargeability (mV/V)



Total Chargeability (mV/V)

### Line 800 E



2.17847

### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨ ▨ ▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature  
Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature  
Strong, Moderate, Weak

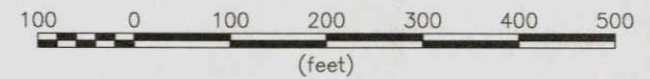
### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

### MAP SPECIFICATIONS

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

Scale 1:2400



**GOLDEN GOOSE RESOURCES INC.**

**INDUCED POLARIZATION SURVEY  
MAGINO MINE PROPERTY**

Finan Twp., Goudreau, ON

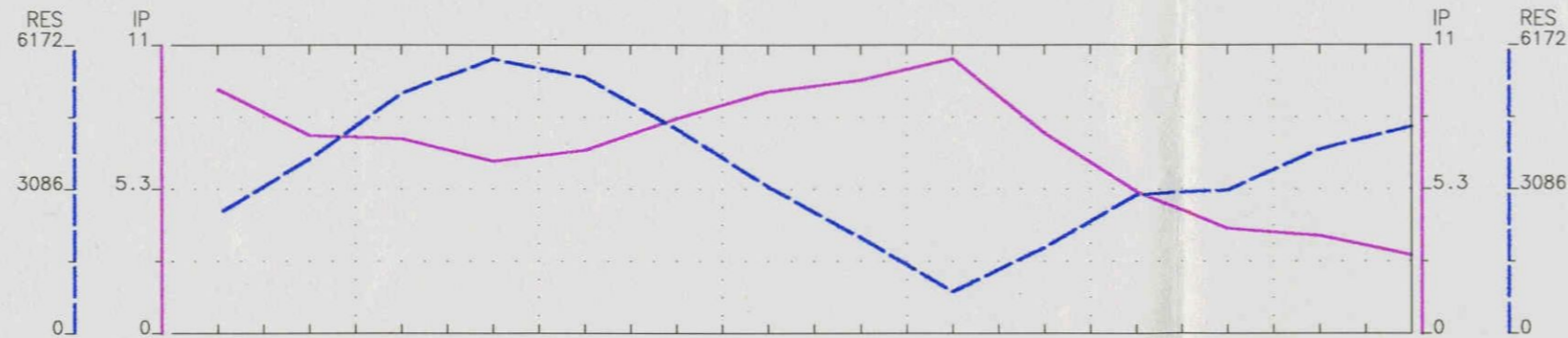
Date: June, 1997

Drawing Number: C374-IP-DD-8E

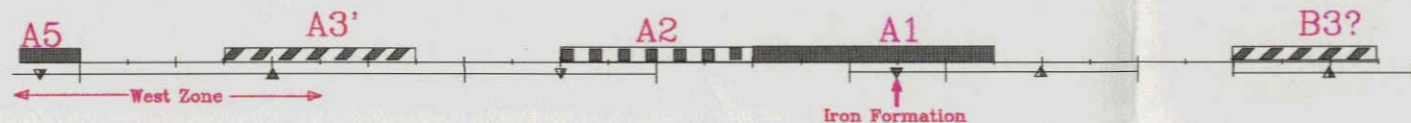


**QUANTEQ CONSULTING INC.**



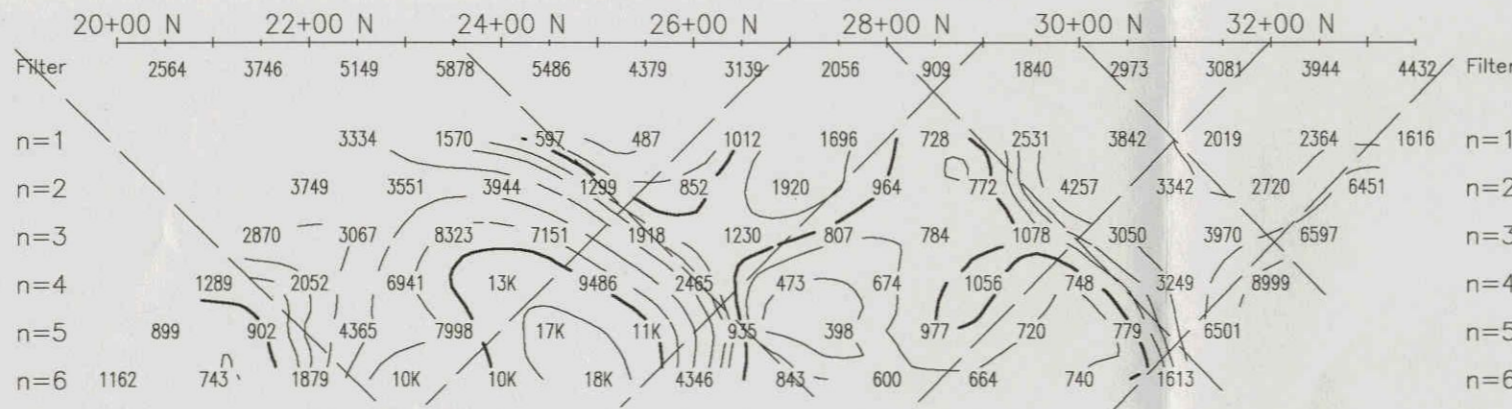


Interpretation



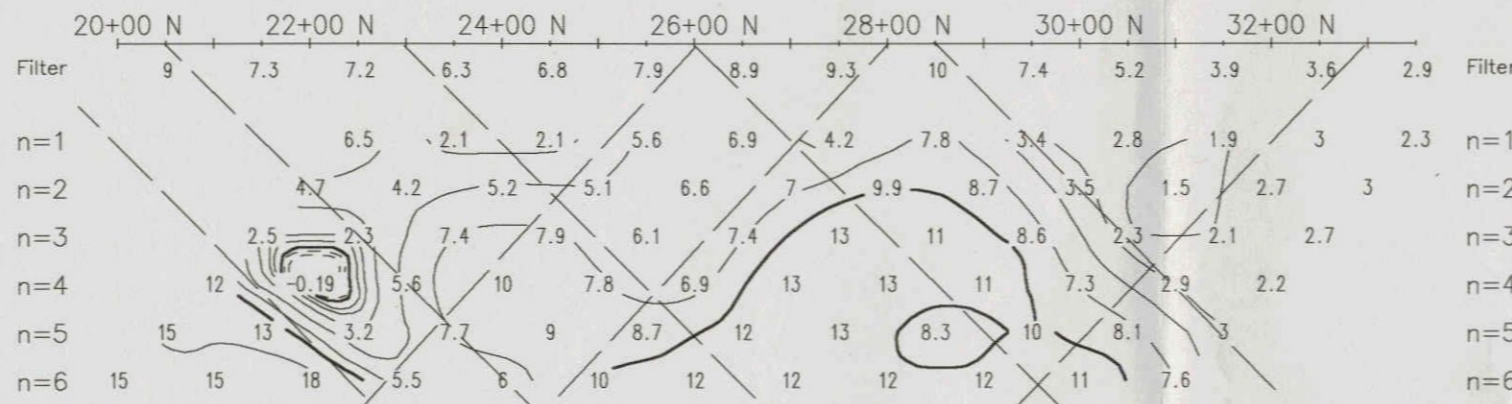
Interpretation

Apparent Resistivity  
(ohm-m)



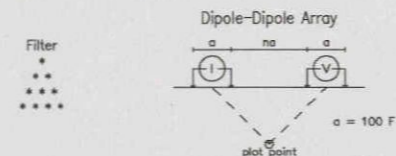
Apparent Resistivity  
(ohm-m)

Total Chargeability  
(mV/V)



Total Chargeability  
(mV/V)

### Line 1200 E



2.17847

#### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨ ▨ ▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature  
Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature  
Strong, Moderate, Weak

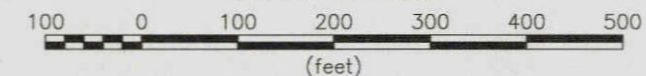
#### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

#### MAP SPECIFICATIONS

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

Scale 1:2400

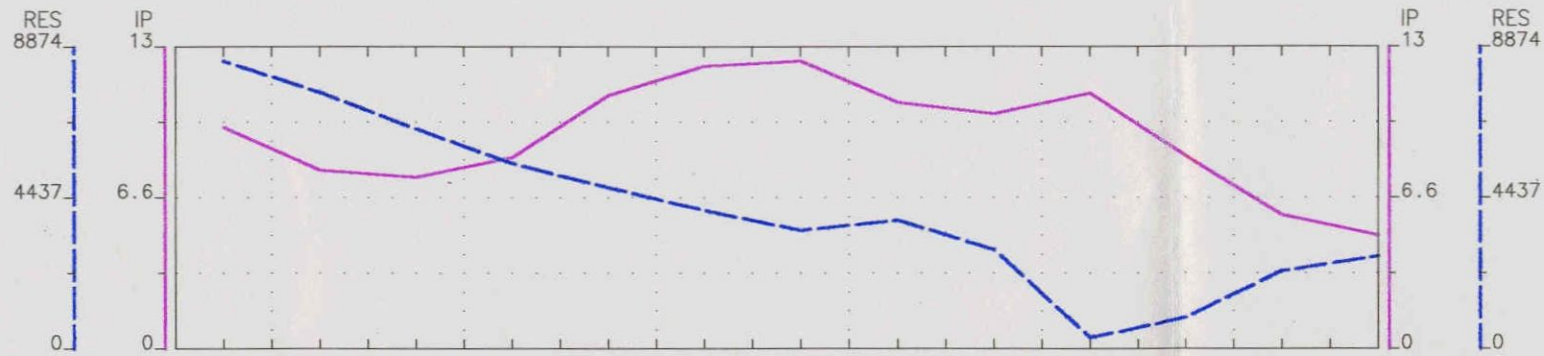


**GOLDEN GOOSE RESOURCES INC.**

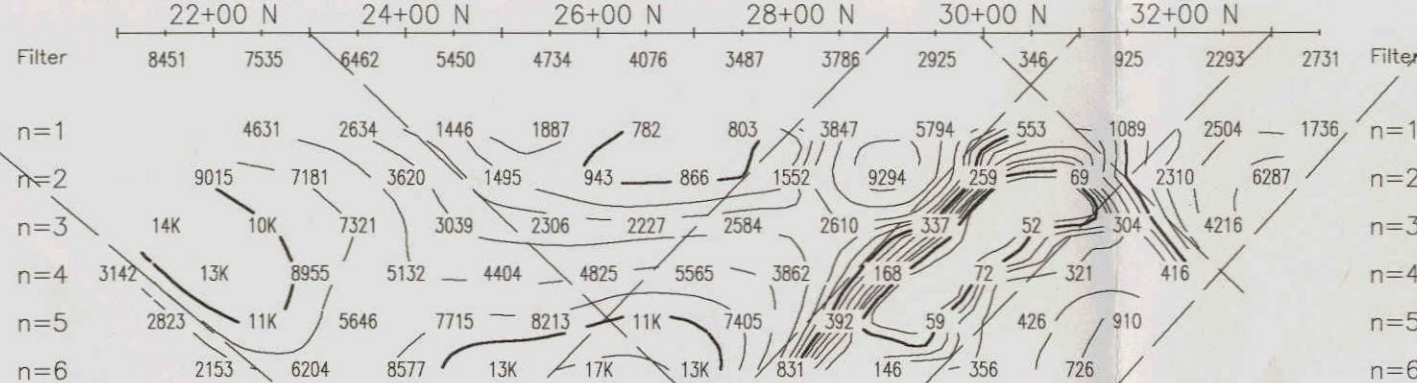
**INDUCED POLARIZATION SURVEY  
MAGINO MINE PROPERTY**  
Finan Twp., Goudreau, ON

Date: June, 1997  
 Drawing Number: C374-IP-DD-12E

**QUANTEC CONSULTING INC.**

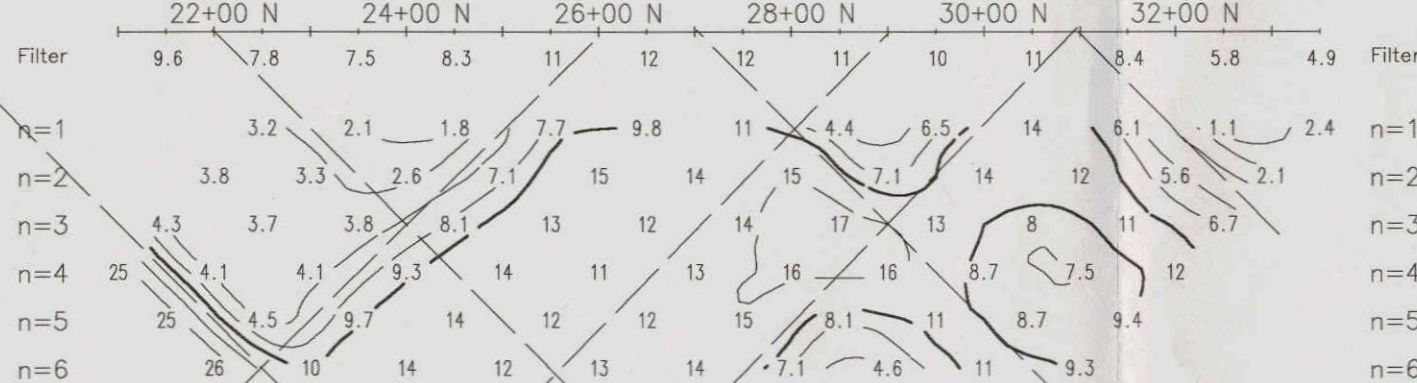


Apparent Resistivity  
(ohm-m)



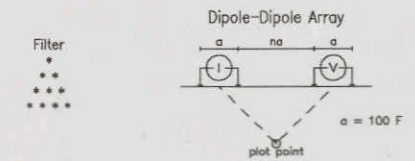
Apparent Resistivity  
(ohm-m)

Total Chargeability  
(mV/V)



Total Chargeability  
(mV/V)

### Line 1600 E



2.17847

### INTERPRETATION

- Strong increase in polarization
- Well defined increase in polarization
- Poorly defined polarization increase
- Low resistivity feature  
Strong, Moderate, Weak
- High resistivity feature  
Strong, Moderate, Weak

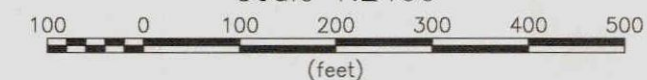
### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

### MAP SPECIFICATIONS

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

Scale 1:2400



**GOLDEN GOOSE RESOURCES INC.**

**INDUCED POLARIZATION SURVEY  
MAGINO MINE PROPERTY**

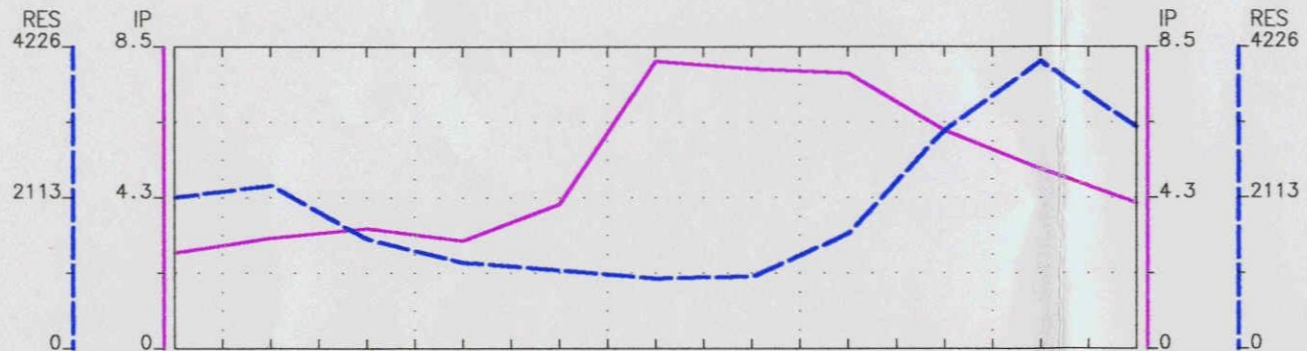
Finan Twp., Goudreau, ON

Date: June, 1997

Drawing Number: C374-IP-DD-16E



**QUANTEC CONSULTING INC.**

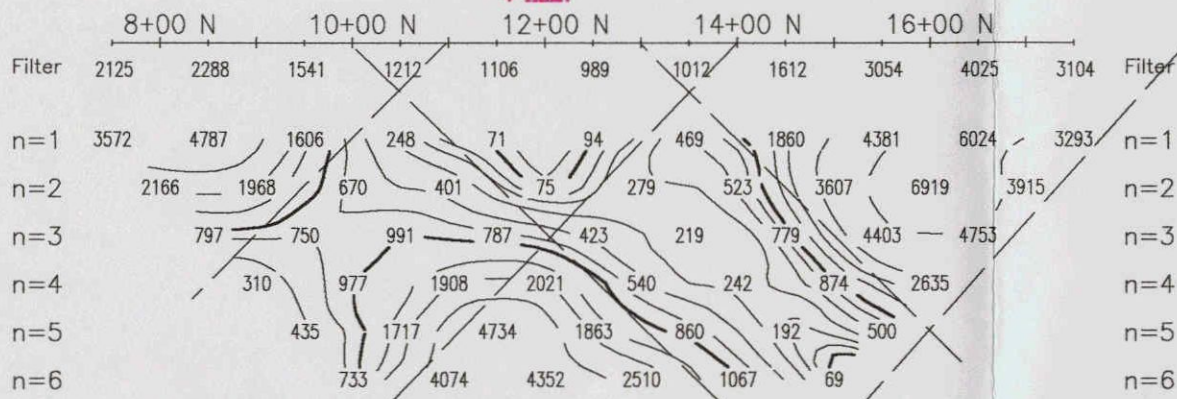


Interpretation



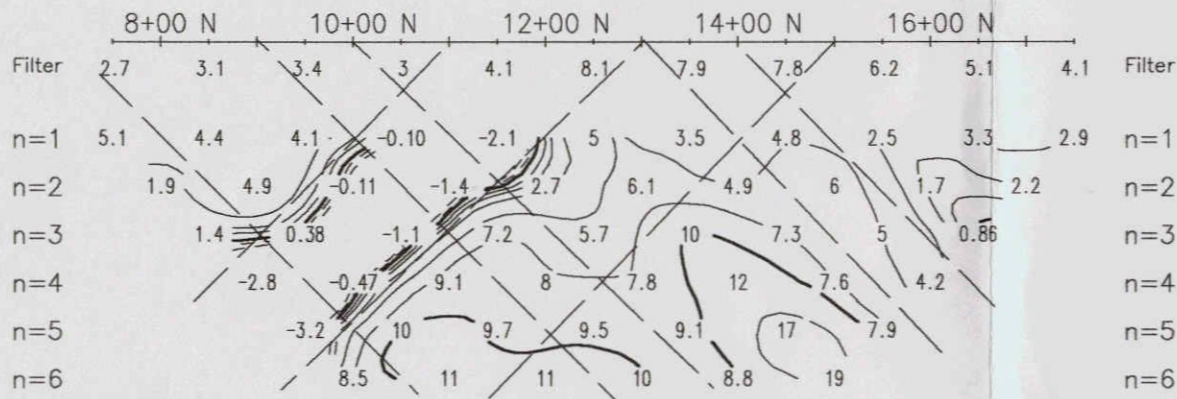
Interpretation

Apparent Resistivity (ohm-m)



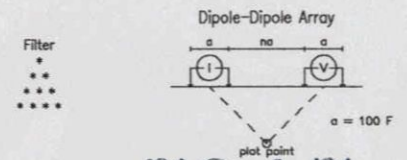
Apparent Resistivity (ohm-m)

Total Chargeability (mV/V)



Total Chargeability (mV/V)

### Line 1600 W



2.17847

#### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨▨▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature  
Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature  
Strong, Moderate, Weak

#### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

#### MAP SPECIFICATIONS

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

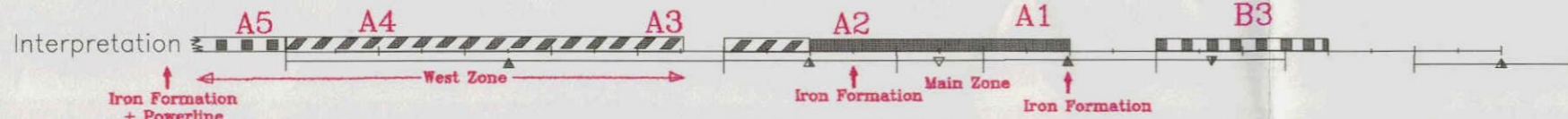
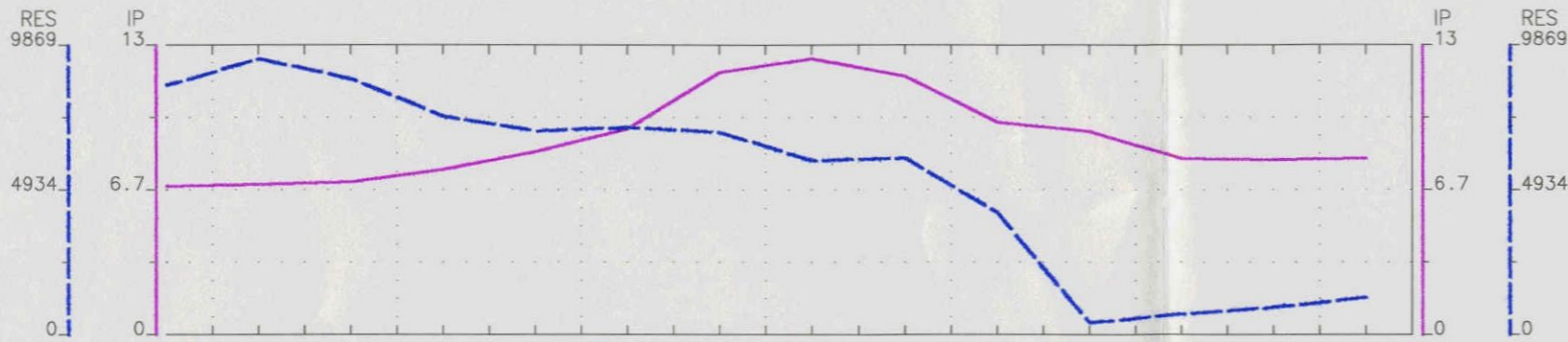


**GOLDEN GOOSE RESOURCES INC.**

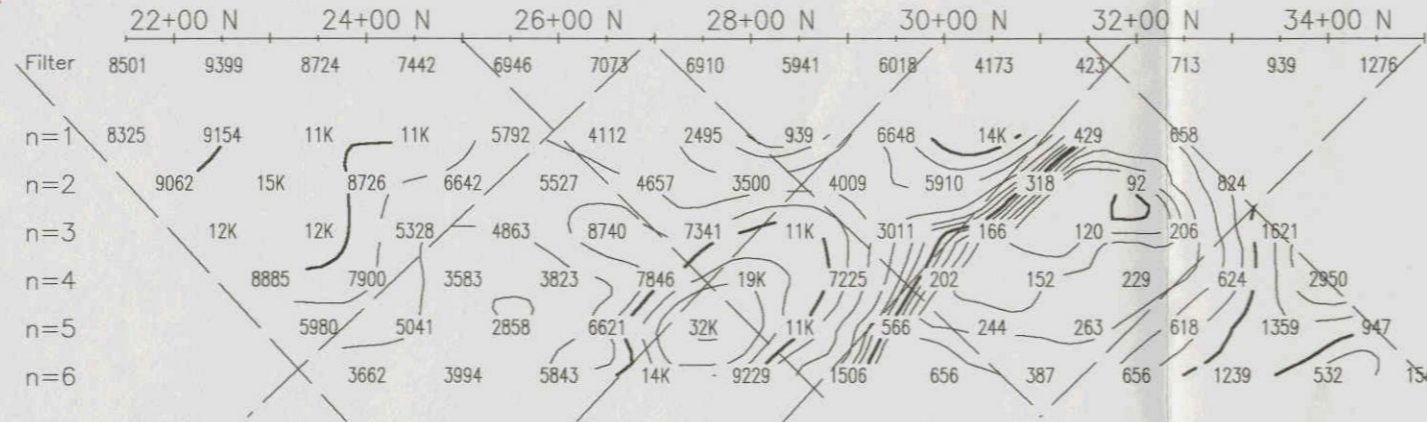
**INDUCED POLARIZATION SURVEY**  
**MAGINO MINE PROPERTY**  
 Finan Twp., Goudreau, ON

Date: June, 1997  
 Drawing Number: C374-IP-DD-16W

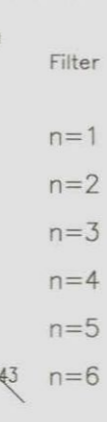
**QUANTEC CONSULTING INC.**



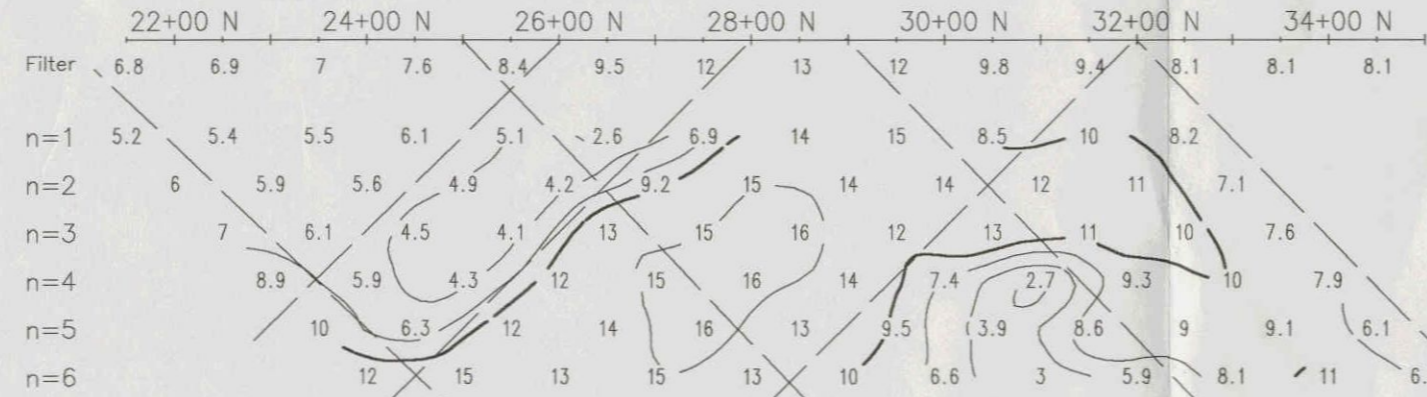
Apparent Resistivity (ohm-m)



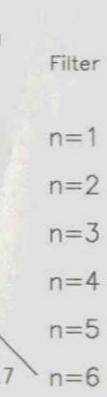
Apparent Resistivity (ohm-m)



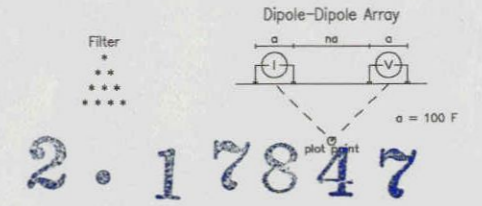
Total Chargeability (mV/V)



Total Chargeability (mV/V)



### Line 2000 E



### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨ ▨ ▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature  
Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature  
Strong, Moderate, Weak

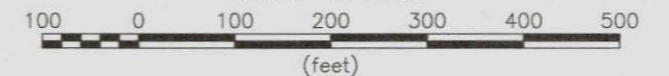
### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

### MAP SPECIFICATIONS

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

Scale 1:2400



**GOLDEN GOOSE RESOURCES INC.**

**INDUCED POLARIZATION SURVEY  
 MAGINO MINE PROPERTY**

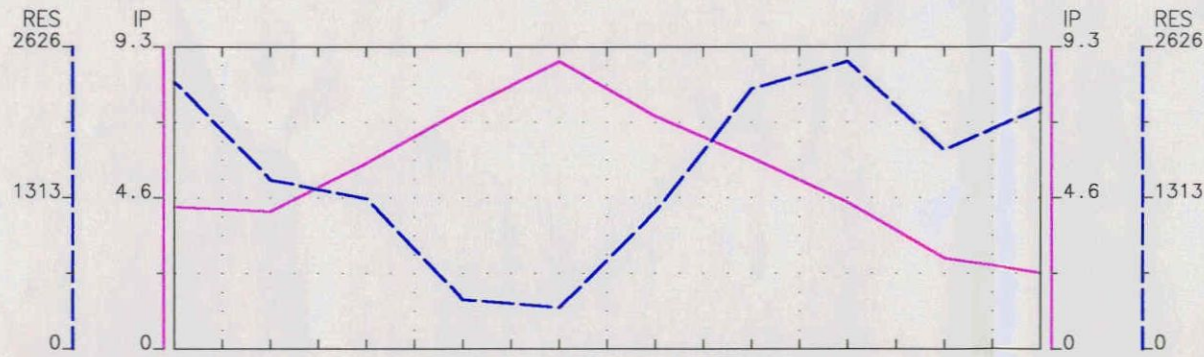
Finan Twp., Goudreau, ON

Date: June, 1997

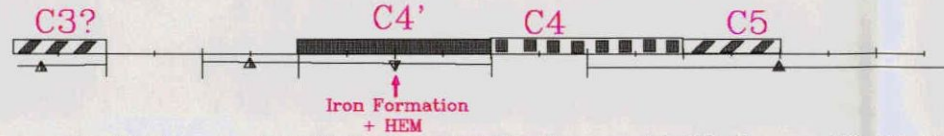
Drawing Number: C374-IP-DD-20E



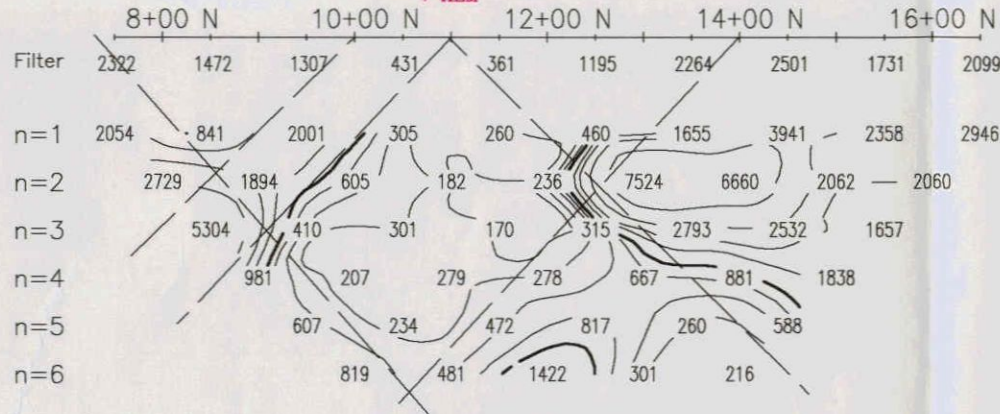
**QUATEC CONSULTING INC.**



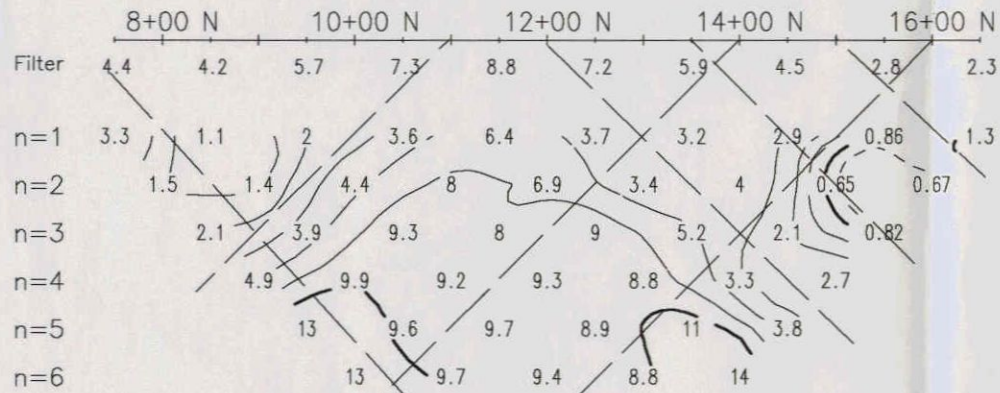
Interpretation



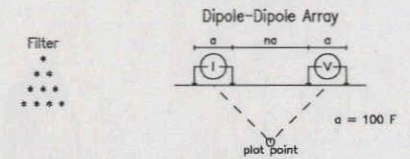
Apparent Resistivity  
(ohm-m)



Total Chargeability  
(mV/V)



### Line 2000 W



2.17847

Interpretation

Apparent Resistivity  
(ohm-m)

Filter  
n=1  
n=2  
n=3  
n=4  
n=5  
n=6

### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨▨▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature, Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature, Strong, Moderate, Weak

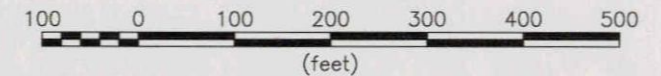
### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

### MAP SPECIFICATIONS

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

Scale 1:2400



**GOLDEN GOOSE RESOURCES INC.**

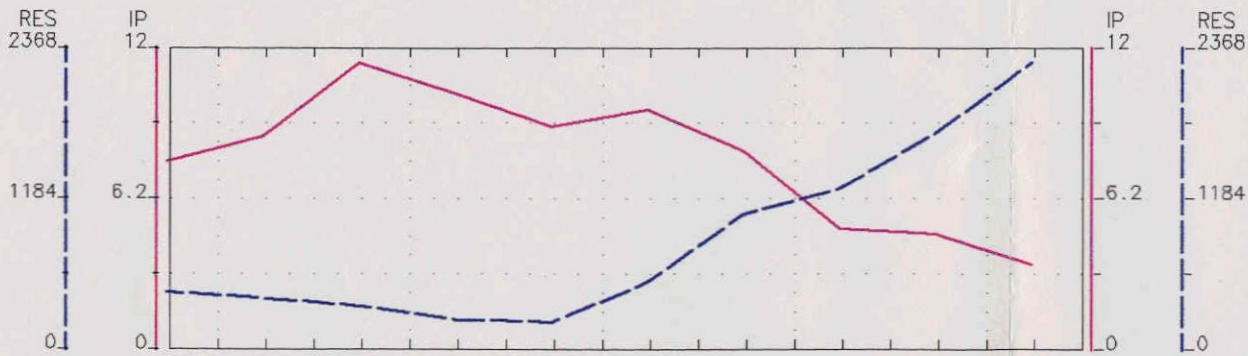
**INDUCED POLARIZATION SURVEY  
MAGINO MINE PROPERTY**

Finan Twp., Goudreau, ON

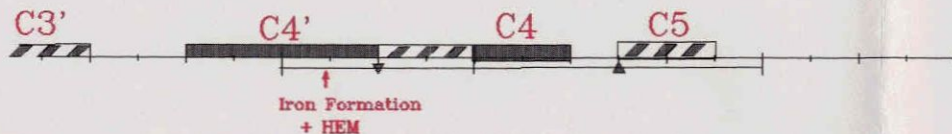
Date: June, 1997  
 Drawing Number: C374-IP-DD-20W



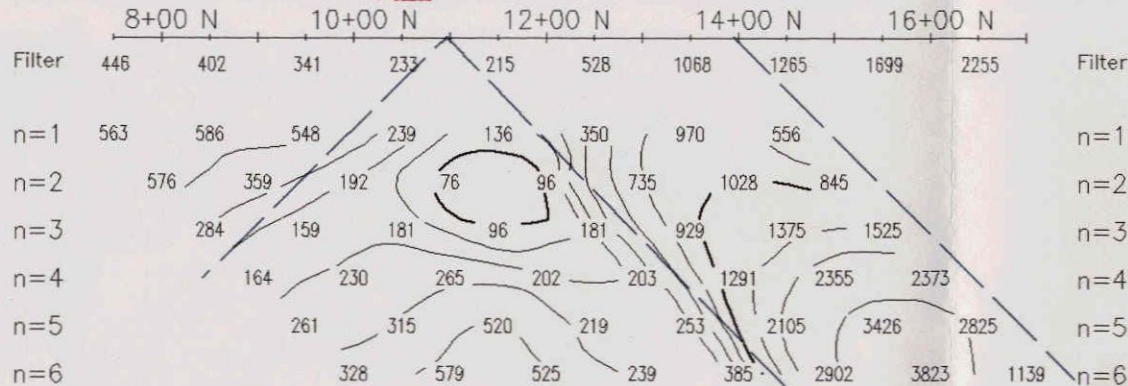
**QUANTEC CONSULTING INC.**



Interpretation

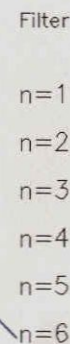


Apparent Resistivity  
(ohm-m)

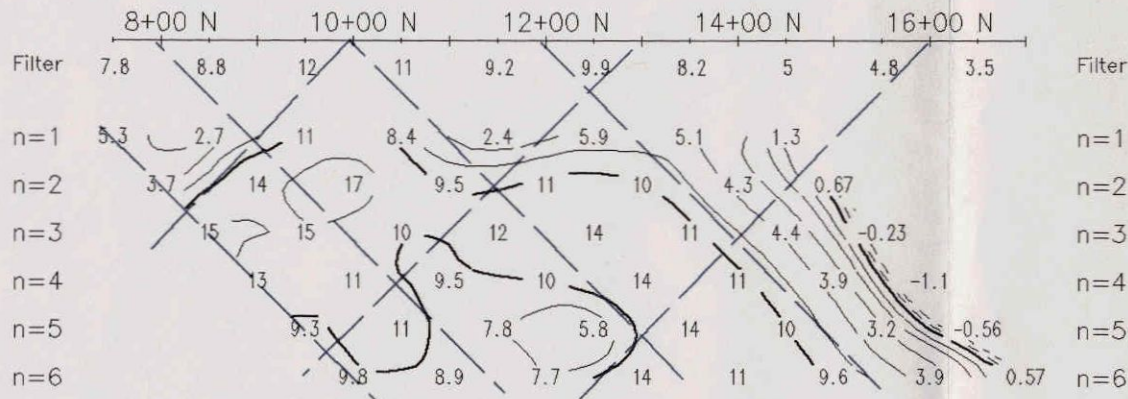


Interpretation

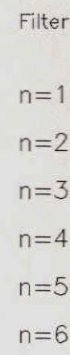
Apparent Resistivity  
(ohm-m)



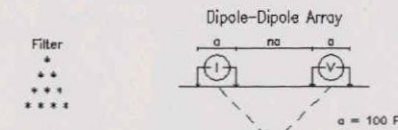
Total Chargeability  
(mV/V)



Total Chargeability  
(mV/V)



### Line 2400 W



2.17847

#### INTERPRETATION

- ▬ Strong increase in polarization
- ■ ■ Well defined increase in polarization
- ▨▨▨ Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature, Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature, Strong, Moderate, Weak

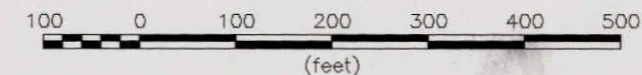
#### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

#### MAP SPECIFICATIONS

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

Scale 1:2400



GOLDEN GOOSE RESOURCES INC.

INDUCED POLARIZATION SURVEY  
 MAGINO MINE PROPERTY

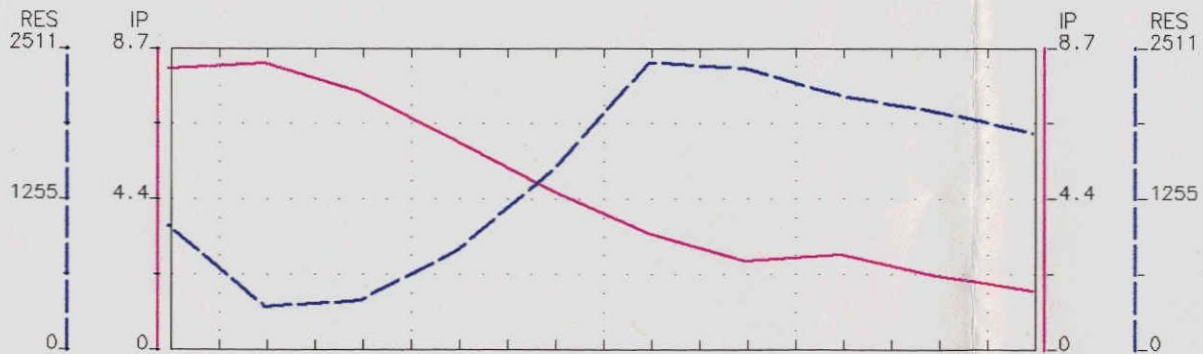
Finan Twp., Goudreau, ON

Date: June, 1997

Drawing Number: C374-IP-DD-24W



QUANTEC CONSULTING INC.

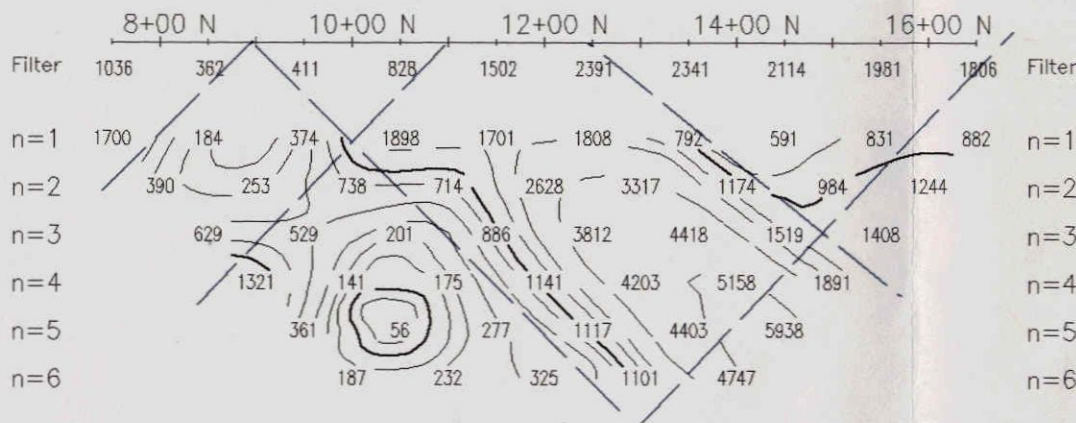


Interpretation



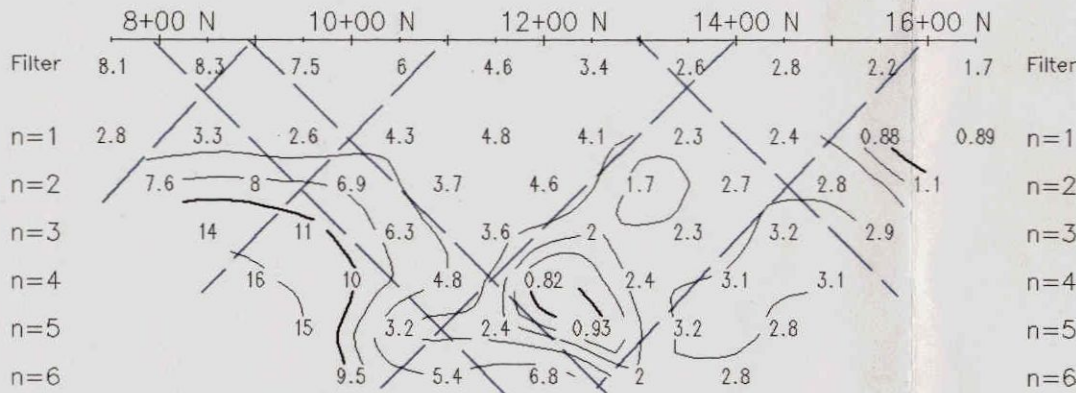
Interpretation

Apparent Resistivity  
(ohm-m)



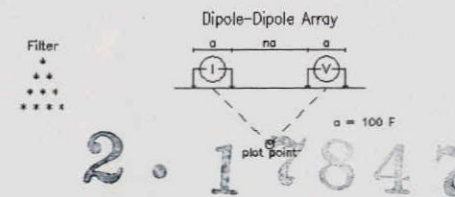
Apparent Resistivity  
(ohm-m)

Total Chargeability  
(mV/V)



Total Chargeability  
(mV/V)

### Line 2800 W



#### INTERPRETATION

- Strong increase in polarization
- ■ ■ Well defined increase in polarization
- /// Poorly defined polarization increase
- ▼ ▼ ▼ Low resistivity feature  
Strong, Moderate, Weak
- ▲ ▲ ▲ High resistivity feature  
Strong, Moderate, Weak

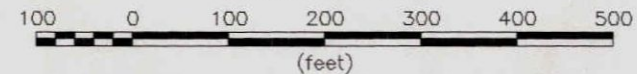
#### SURVEY SPECIFICATIONS

Instrumentation: IRIS ELREC-6, PHOENIX IPT-1  
 Input Waveform: .125 Hz., 50% duty cycle  
 Geophysicist/Operator: D. Hall  
 Tx Operator: M. Kratochville

#### MAP SPECIFICATIONS

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

Scale 1:2400



**GOLDEN GOOSE RESOURCES INC.**

**INDUCED POLARIZATION SURVEY  
MAGINO MINE PROPERTY**

Finan Twp., Goudreau, ON

Date: June, 1997

Drawing Number: C374-IP-DD-28W

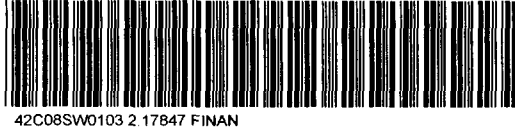


**QUANTEQ CONSULTING INC.**

Declaration of Assessment Work Performed on Mining Lands

Transaction Number (office use) W9758.00768
Assessment File Research Imaging

Personal information collect section 8 of the Mining Act, the mining land holder. Qut Mines, 6th Floor, 933 Rams



900

Work Regulation 6/96. Under assessment work and correspond with / of Northern Development and 10046

- Instructions:
- For work performed on Crown Lands before recording a claim, use form 0240.
  - Please type or print in ink.

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

Name <b>Golden Goose Resources</b>	Client Number <b>174165</b>
Address <b>365 Bay street, 11th Floor Toronto, Ontario, M5H 2V1</b>	Telephone Number <b>(416) 363-1124</b>
	Fax Number <b>(416) 360-0728</b>
Name	Client Number
Address	Telephone Number
	Fax Number

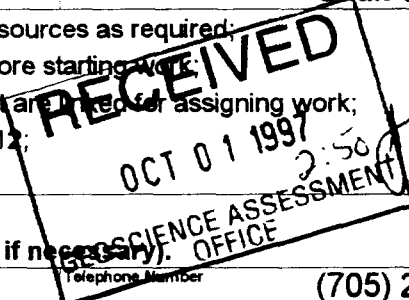
2.17847

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

- Geotechnical: prospecting surveys.       Physical: drilling, stripping, trenching.       Rehabilitation

Work Type <b>IP Geophysical Survey and Linecutting</b>	Office Use
Date Work Performed From <b>16/05/97</b> To <b>06/06/97</b> Day Month Year      Day Month Year	Commodity
Global Positioning System Data (if available)	Total \$ Value of Work Claimed <b>41,521<sup>00</sup></b>
Township/Area <b>Finan Twp</b>	NTS Reference <b>42 C/8</b>
M or G-Plan Number <b>M 1584</b>	Mining Division <b>Sault Ste Marie</b>
	Resident Geologist District <b>Sault Ste Marie</b>

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



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

Name <b>Quantec Consulting Inc.</b>	Telephone Number <b>(705) 235-2166</b>
Address <b>PO Box 580, 101 King St., Porcupine, Ont, P0N 1C0</b>	Fax Number <b>(705) 235-2255</b>
Name <b>Pearson, Hofman and Assoc. (PHA)</b>	Telephone Number <b>(416) 367-4330</b>
Address <b>365 Bay St., Suite 200, Toronto, Ontario, M5H 2V1</b>	Fax Number <b>(416) 367-5693</b>
Name	Telephone Number
Address	Fax Number

4. Certification by Recorded Holder or Agent

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

Signature of Recorded Holder or Agent 	Date <b>25 Sept 97</b>
Agents Address <b>as per PHA above.</b>	Fax Number

Deemed Dec 24/97





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.

Mining Claim Number.	Number of Claim Units.	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 TB7827	16 ha	\$28,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	\$0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 698645	1	\$0	\$0	\$0	\$0
2 698646	1	\$0	\$0	\$0	\$0
3 698647	1	\$0	\$0	\$0	\$0
4 698648	1	\$0	\$0	\$0	\$0
5 698649	1	\$0	\$0	\$0	\$0
6 698650	1	\$0	\$0	\$0	\$0
7 698651	1	\$0	\$0	\$0	\$0
8 698652	1	\$0	\$0	\$0	\$0
9 698653	1	\$0	\$0	\$0	\$0
10 698654	1	\$0	\$0	\$0	\$0
11 698655	1	\$0	\$0	\$0	\$0
12 698656	1	\$0	\$0	\$0	\$0
13 698657	1	\$0	\$0	\$0	\$0
14 698659	1	\$0	\$0	\$0	\$0
15 698660	1	\$0	\$0	\$0	\$0
16 698661	1	\$0	\$0	\$0	\$0
17 698662	1	\$0	\$0	\$0	\$0
18 698664	1	\$0	\$0	\$0	\$0
19 698665	1	\$0	\$0	\$0	\$0
20 698666	1	\$0	\$0	\$0	\$0
21 698667	1	\$0	\$0	\$0	\$0
22 698668	1	\$0	\$0	\$0	\$0
23 698669	1	\$0	\$0	\$0	\$0
24 698670	1	\$0	\$0	\$0	\$0
25 698671	1	\$0	\$0	\$0	\$0
26 711129	1	\$0	\$0	\$0	\$0
27 711131	1	\$0	\$0	\$0	\$0
28 711132	1	\$0	\$0	\$0	\$0
29 711133	1	\$0	\$0	\$0	\$0
30 711134	1	\$0	\$0	\$0	\$0
31 711135	1	\$0	\$0	\$0	\$0
32 809963	1	\$400	\$400	\$0	\$0
33 809967	1	\$0	\$400	\$0	\$0
34 809968	1	\$0	\$400	\$0	\$0
35 809969	1	\$0	\$400	\$0	\$0
36 809970	1	\$0	\$400	\$0	\$0
37 809971	1	\$0	\$400	\$0	\$0
38 809972	1	\$0	\$400	\$0	\$0
39 827520	1	\$0	\$0	\$0	\$0
40 841257	1	\$0	\$0	\$0	\$0
41 841258	1	\$0	\$0	\$0	\$0
42 841259	1	\$0	\$0	\$0	\$0
43 841270	1	\$0	\$0	\$0	\$0
44 847804	1	\$3,300	\$400	\$0	\$2,900
45 847805	1	\$3,300	\$400	\$0	\$2,900
46 847806	1	\$600	\$400	\$0	\$200
47 847807	1	\$0	\$0	\$0	\$0
48 847814	1	\$0	\$0	\$0	\$0

2. 784

**RECEIVED**  
 OCT 01 1997  
 2:50  
 GEO SCIENCE ASSESSMENT  
 OFFICE

HP 25 Oct 97

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.

Mining Claim Number.		Number of Claim Units.	Value of work performed	Value of work applied	Value of work assigned	Bank
Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.		For other mining land list hectares.	on this claim or other mining land.	to this claim.	to other mining claims.	Value of work to be distributed at a future date
49	884901	1	\$0	\$0	\$0	\$0
50	884902	1	\$0	\$0	\$0	\$0
51	884903	1	\$0	\$0	\$0	\$0
52	884904	1	\$0	\$0	\$0	\$0
53	1110086	2	\$5,600	\$800	\$0	\$4,800
54	1118352	1	\$0	\$400	\$0	\$0
55	1174399	4	\$0	\$1,600	\$0	\$0
56	1174400	6	\$5,521	\$2,400	\$0	\$3,121
57	1174401	1	\$400	\$400	\$0	\$0
58	1174402	9	\$0	\$3,600	\$0	\$0
59	1174403	2	\$0	\$800	\$0	\$0
60	1174404	2	\$0	\$800	\$0	\$0
61	1174405	6	\$0	\$2,400	\$0	\$0
62	1174846	1	\$0	\$400	\$0	\$0
63	1174847	1	\$0	\$400	\$0	\$0
64	1174848	2	\$0	\$800	\$0	\$0
65	1174849	1	\$0	\$400	\$0	\$0
66	1174854	1	\$0	\$400	\$0	\$0
67	2048	19.61 ha	\$4,000	\$0	\$4,000	\$0
68	2049	19.63 ha	\$3,000	\$0	\$0	\$3,000
69	2050	21.81 ha	\$3,000	\$0	\$0	\$3,000
70	2051	17.36 ha	\$3,000	\$0	\$3,000	\$0
71	2052	14.57 ha	\$1,000	\$0	\$1,000	\$0
72	2053	26.93 ha	\$4,000	\$0	\$4,000	\$0
73	T722481	18.81 ha	\$1,000	\$0	\$1,000	\$0
74	581948	19.44 ha	\$2,000	\$0	\$0	\$2,000
75	581949	27.25 ha	\$1,000	\$0	\$1,000	\$0
76	581950	10.16 ha	\$400	\$0	\$400	\$0
<b>Column Totals</b>			<b>\$41,521</b>	<b>\$19,600</b>	<b>\$14,400</b>	<b>\$21,921</b>

2 \$0 17847

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

Signature of Recorded Holder or Agent Authorized in Writing: [Signature] Date: 25 Sept 97

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

Some of the credits claimed in this declaration may be cut back. Please check (X) 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 started with the claims listed last, working backwards;
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

**RECEIVED**  
OCT 01 1997  
259  
GEOSCIENCE ASSESSMENT OFFICE

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

**For Office Use Only**

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approval for Recording by Mining Recorder (Signature)	

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines



December 10, 1997

RESSOURCES GOLDEN GOOSE INC.  
1210-111 RICHMOND STREET WEST  
TORONTO, Ontario  
M5H-2G4

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

Telephone: (888) 415-9846  
Fax: (705) 670-5863

Dear Sir or Madam:

**Submission Number: 2.17847**

**Status**

**Subject: Transaction Number(s):** W9750.00768 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.

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 Steve Beneteau by e-mail at [benetest@epo.gov.on.ca](mailto:benetest@epo.gov.on.ca) or by telephone at (705) 670-5855.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Blair Kite".

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

# Work Report Assessment Results

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**Submission Number:** 2.17847

**Date Correspondence Sent:** December 10, 1997

**Assessor:** Steve Beneteau

---

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9750.00768	809963	FINAN	Approval	December 09, 1997

**Section:**  
14 Geophysical IP

**Correspondence to:**

Resident Geologist  
Sault Ste. Marie, ON

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

Michael Perkins  
TORONTO, ONTARIO

Assessment Files Library  
Sudbury, ON

RESSOURCES GOLDEN GOOSE INC.  
TORONTO, Ontario

---

# FINAN

DISTRICT OF  
ALGOMA

SAULT STE. MARIE  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

**DISPOSITION OF CROWN LANDS**

PATENT, SURFACE AND MINING RIGHTS ●  
 SURFACE RIGHTS ONLY ○  
 MINING RIGHTS ONLY ◐  
 LEASE, SURFACE AND MINING RIGHTS ■  
 SURFACE RIGHTS ONLY ◑  
 MINING RIGHTS ONLY ◒  
 LICENCE OF OCCUPATION ▼

ROADS  
 IMPROVED ROADS  
 KING'S HIGHWAYS  
 RAILWAYS  
 POWER LINES  
 MARSH OR MUSKEG  
 MINES  
 CANCELLED

**NOTES**

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

ORDER NO.	DATE	FILE NO.	DISPOSITION
W-05/89	May 24/89		S.R. + M.R.

REOPENED ORDER #0-SSM-22/93 NER MAY 27/93

**DATE OF ISSUE FORESTRY OPERATIONS**  
 DEC 10 1997

PROVINCIAL RECORDS OFFICE - SUDBURY

MINING RIGHTS (SEE ONTARIO GAZET) for prospecting, staking out, sale, ON LEASE  
 AT 7:00 AM STANDARD TIME JUNE 1/94.

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

HUOTARI Tp. M-1585

JACOBSON Tp. M-1583

DUNPHY Tp. M-1537

AGUONIE Tp. M-1526

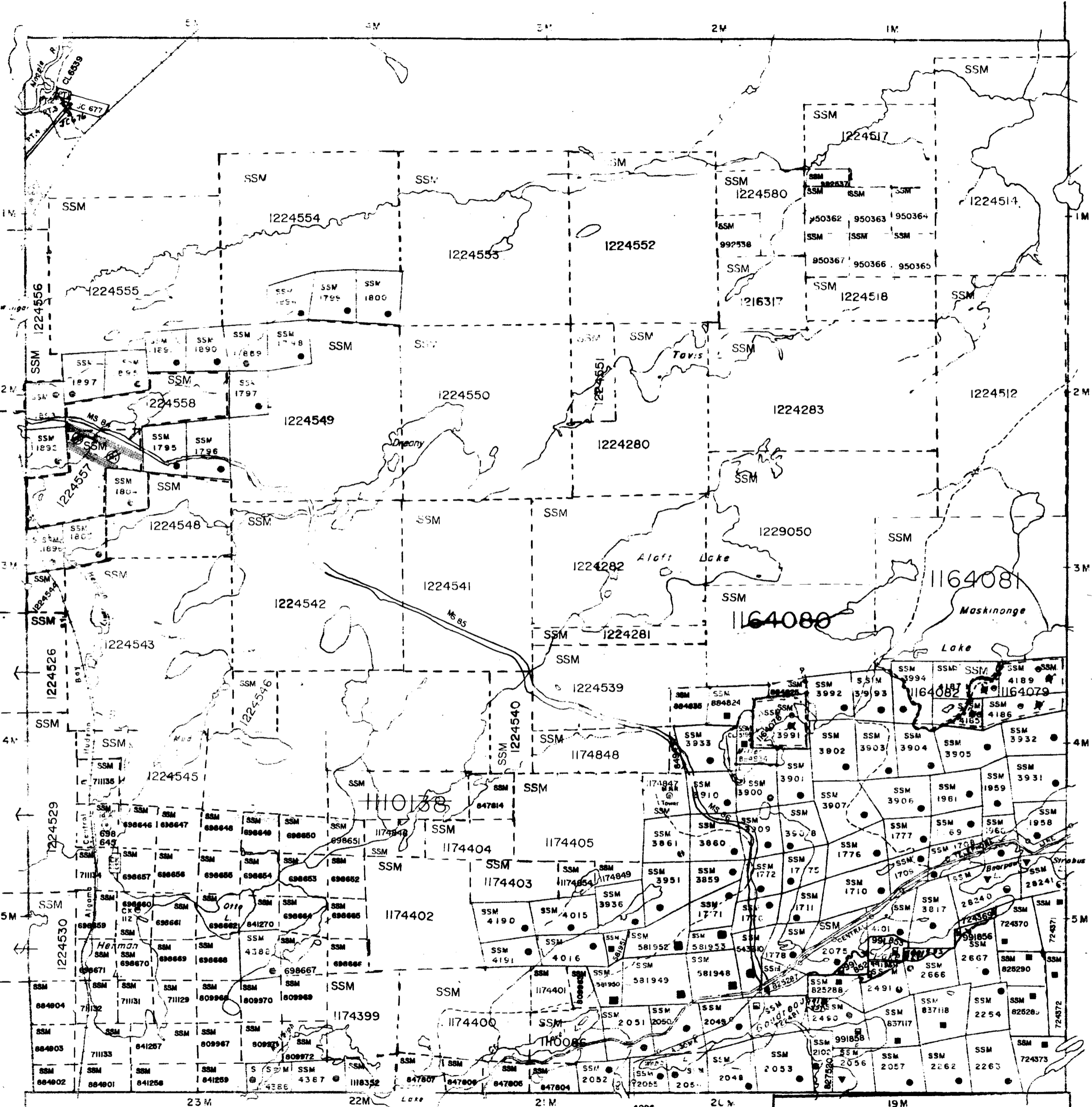
**2.17817**  
**IP**

**NOTICE OF FORESTRY ACTIVITY**

THIS TOWNSHIP / AREA FALLS WITHIN THE SS Marie Mining Division (Wawa District) AND MAY BE SUBJECT TO FORESTRY OPERATIONS. THE MNR UNIT FORESTER FOR THIS AREA CAN BE CONTACTED AT:  
 P.O. Box 1160  
 Highway 101  
 Wawa, Ontario P0S 1K0  
 (705) 856-2396  
 RE: Forest Management Activities

PLAN NO. **M.1534**

ONTARIO  
 MINISTRY OF NATURAL RESOURCES  
 SURVEYS AND MAPPING BRANCH



The 1975 magnetic bearing  
 and distance data were used in  
 the preparation of this map.

# INTERPRETATION PLAN MAP

581953



210

174402

581951

581952

Zone B

Zone A

Zone E

Zone A

Zone C

Zone D

Zone D'

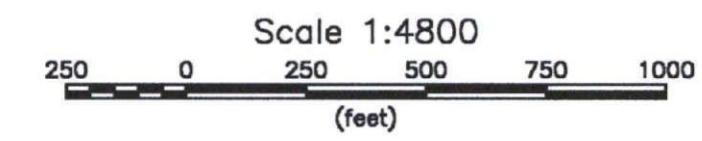
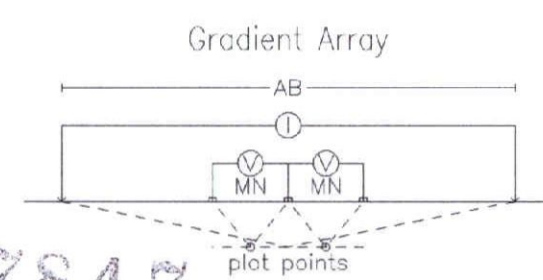
Zone E

Zone C

## LEGEND

- | CHARGEABILITY AXES  | CHARGEABILITY ANOMALIES        |
|---|--------------------------------|
| High Resistivity Association, major, minor                                  | Very Strong                    |
| Nil Resistivity Association, major, minor                                   | Strong                         |
| Low Resistivity Association, major, minor                                   | Moderate                       |
| Recommended DDH Targets<br>1st priority, 2nd priority                       | Weak                           |
| Follow-up Targets   | Questionable                   |
| Refer to text   | High - Resistivity Association |
| Low Resistivity Unit  | HLEM Conductors                |
| Gold intersections (50 ft intervals) from:<br>Magino Mine 1":50ft Sections. | Iron Formation                 |
|   | Drillhole                      |
|   | Showing                        |

NOTES:  
 1. Topographic and claim location information from Golden Goose Resources digital base map (July, 1997).  
 2. EM compilation and drillhole digitized from Muscovite Exploration Ltd. Magino Gold Property, 1995 Exploration Program.  
 3. Positive locations from operator field notes (June, 1997)



**GOLDEN GOOSE RESOURCES LTD.**  
**MAGINO MINE PROPERTY**  
 Finan Twp, Goudreau area, ON

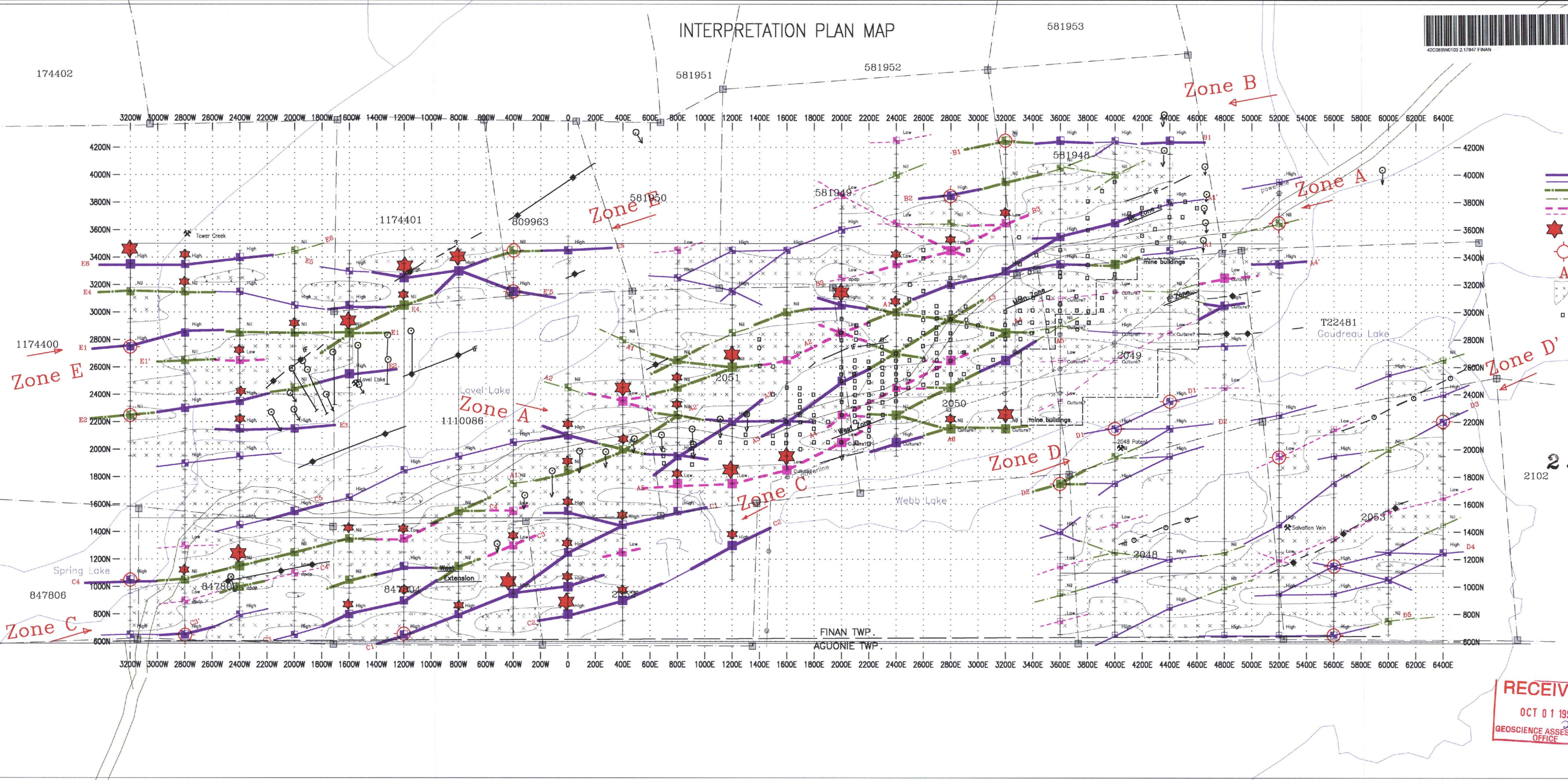
**TIME DOMAIN IP SURVEY**  
**Gradient Array**  
**INTERPRETATION PLAN MAP**  
 AB= 5000 feet

Transmitter Frequency: 0.125 Hz (50% duty cycle)  
 Transmitter Current: .21 - 2.2 Amps  
 Decay Curve: IRIS IP-6 Logarithmic Windows  
 10 Gates (80ms to 1840ms)  
 Station Interval: 100 feet

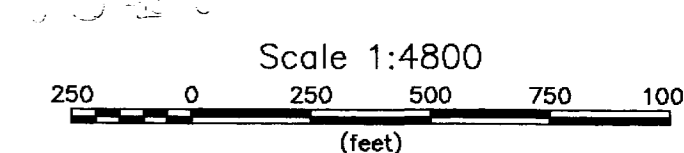
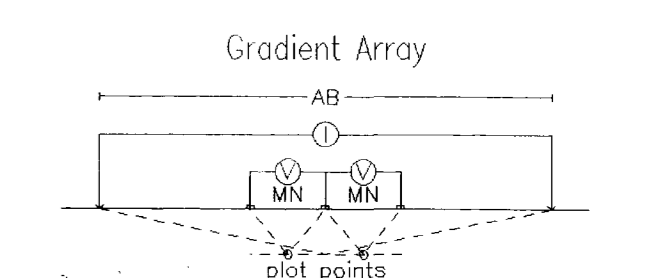
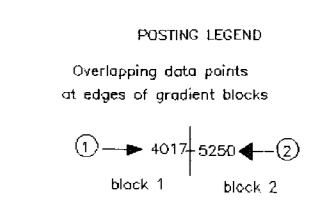
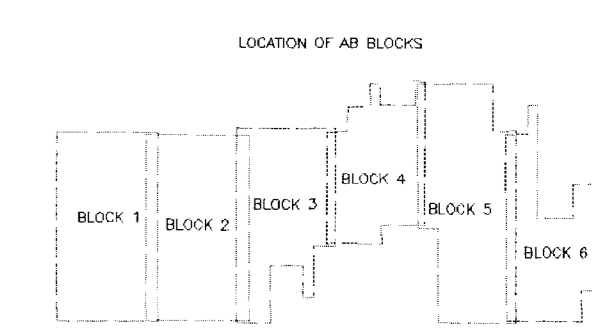
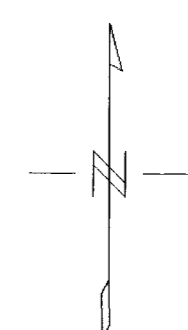
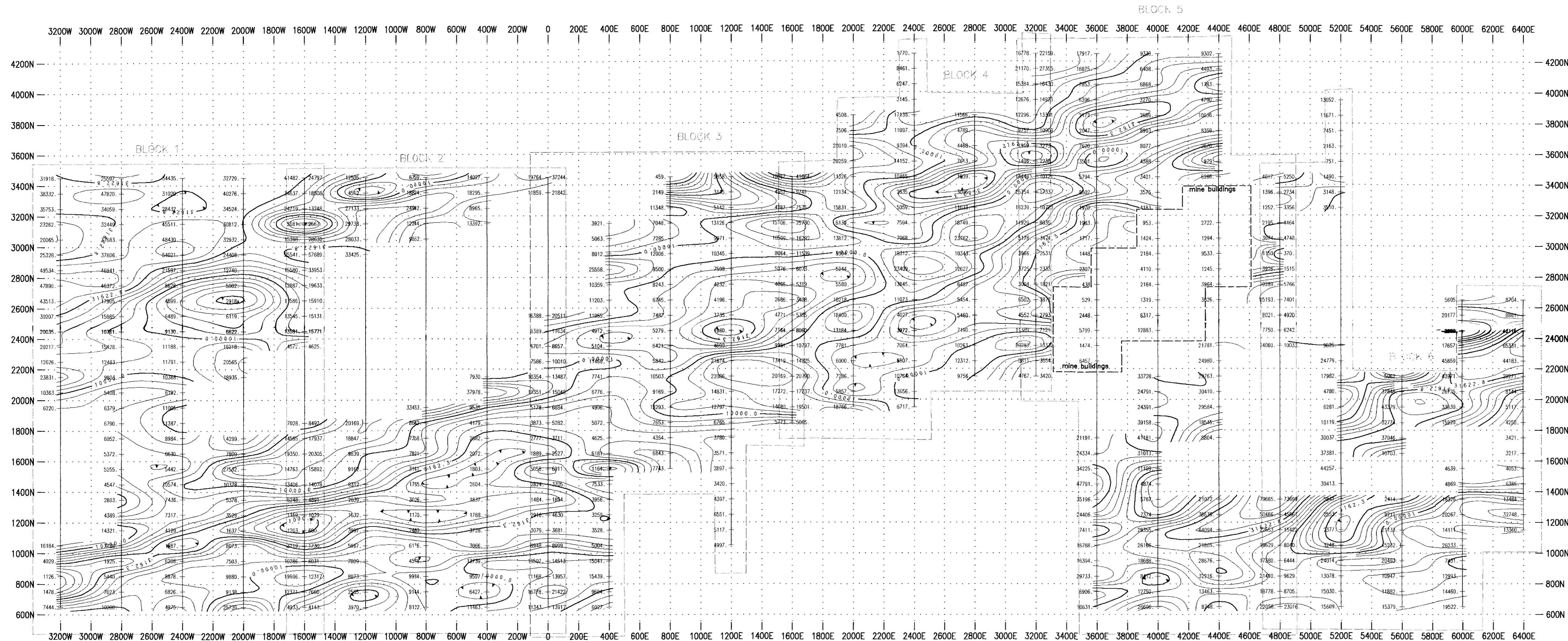
Interpretation by: JM Legault  
 Date: May 23, 1997  
 Instrumentation: Rx = IRIS IP-6 (6 channels)  
 Tx = Phoenix IPT-1

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# APPARENT RESISTIVITY (ohm-metres)



**GOLDEN GOOSE RESOURCES LTD.**  
**MAGINO MINE PROPERTY**  
 Finan Twp, Goudreau, ON

**TIME DOMAIN IP SURVEY**  
 Gradient Array  
**APPARENT RESISTIVITY**  
 AB= 5000ft

Transmitter Frequency: 0.125 Hz (50% duty cycle)  
 Transmitter Current: .12 - 2.2 Amps  
 Decay Curve: IRIS IP-6 Semi-Logarithmic Windows  
 10 Gates (80ms to 1840ms)

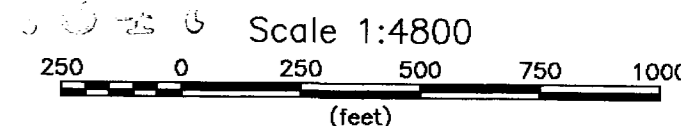
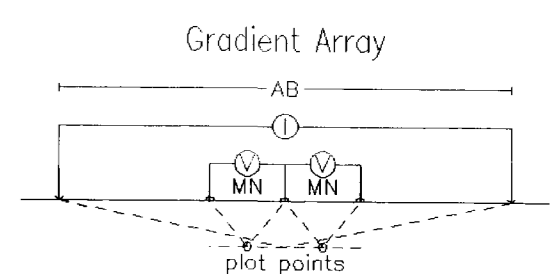
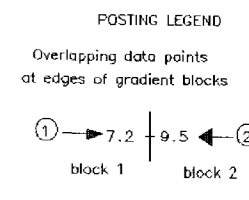
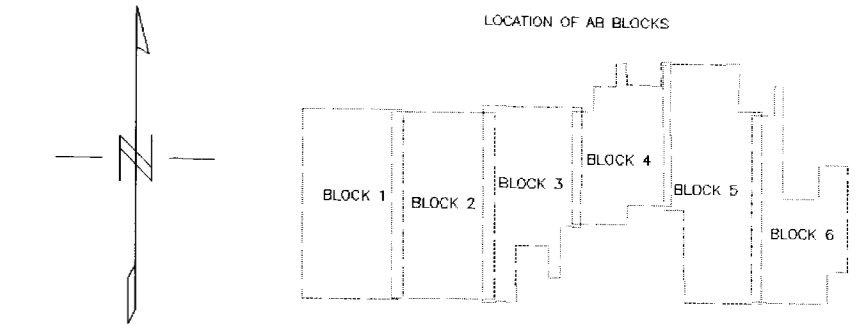
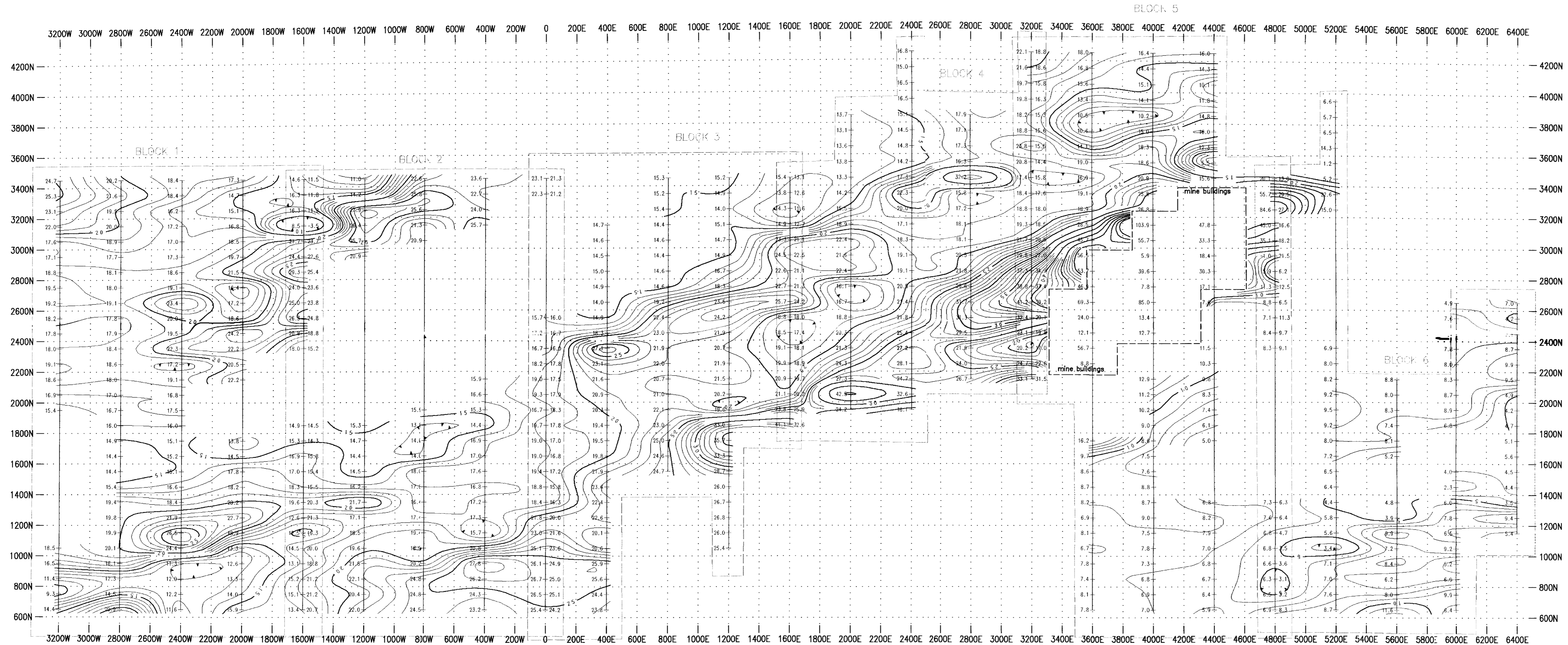
Station Interval: 100 feet  
 Resistivity Contour Interval: 10 levels/log decade  
 Colour Scale: Equal Area Zoning

Date: May, 1997  
 Instrumentation: Rx = IRIS IP-6 (6 channels)  
 Tx = Phoenix IPT-1

Surveyed & Processed by:  
**QUANTEC CONSULTING INC.**  
 DWG. #: C-374-PLAN-RES-1



# TOTAL CHARGEABILITY (mV/V)



**GOLDEN GOOSE RESOURCES LTD.**  
**MAGINO MINE PROPERTY**  
 Finan Twp, Goudreau, ON

**TIME DOMAIN IP SURVEY**  
 Gradient Array  
**TOTAL CHARGEABILITY**  
 AB= 5000ft

Transmitter Frequency 0.125 Hz (50% duty cycle)  
 Transmitter Current .12 - 2.2 Amps  
 Decay Curve: IRIS IP-6 Semi-Logarithmic Windows  
 10 Gates (80ms to 1840ms)

Station Interval: 100 feet  
 Chargeability Contour Interval: 1, 5 mV/V  
 Colour Scale: Equal Area Zoning

Date: May, 1997  
 Instrumentation: Rx = IRIS IP-6 (6 channels)  
 Tx = Phoenix IPT-1

Surveyed & Processed by:  
**QUANTEC CONSULTING INC.**  
 DWG. #: C-374-PLAN-CHG-1