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Quantec IP Incorporated

Geophysical Survey & Summary Interpretation Report

Quantec

Regarding the
GRADIENT-REALSECTION TDIP INDUCED POLARIZATION SURVEY
at the COOPER LAKE PROPERTIES,
in Eldridge Twp., Temagami, ON,
on behalf of OREX VENTURES INC., Surrey, BC

QIP QIP QIP QIP QIP

K Blackshaw
JM Legault
G Kallfa
June, 1998
QIP P222

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

1. INTRODUCTION

- **QIP Project No:** P-222
- **Project Name:** Cooper Lake
- **General Location:** Eldridge and South Lorrain Township, Ontario
- **Survey Period:** April 30th to May 14th, 1998
- **Survey Type:** Time Domain Induced Polarization
- **Client:** Orex Ventures Inc.

  13 – 6380, 121ST Street
  Surrey, BC V3X 1Y6
- **Representative:** John Poloni, Gino Chitaroni
- **Objectives:**

  1. **Exploration objectives**: Use induced polarization and resistivity to assist in geologic mapping and to identify potential Cobalt-type Co-Ag-Au bearing disseminated to massive sulphide mineralization, in the vicinity of the Kerr Addison occurrence, from surface to 350m depths.
  2. **Geophysical objectives**: Use the reconnaissance gradient technique to identify lithologic, structural and alteration features in plan, based on their IP/Resistivity contrasts, and to target zones of mineralization having greater potential for follow up. The gradient technique was chosen based on its high resolution and deep penetration characteristics.
- **Report Type:** Summary interpretation, suitable for assessment filing.

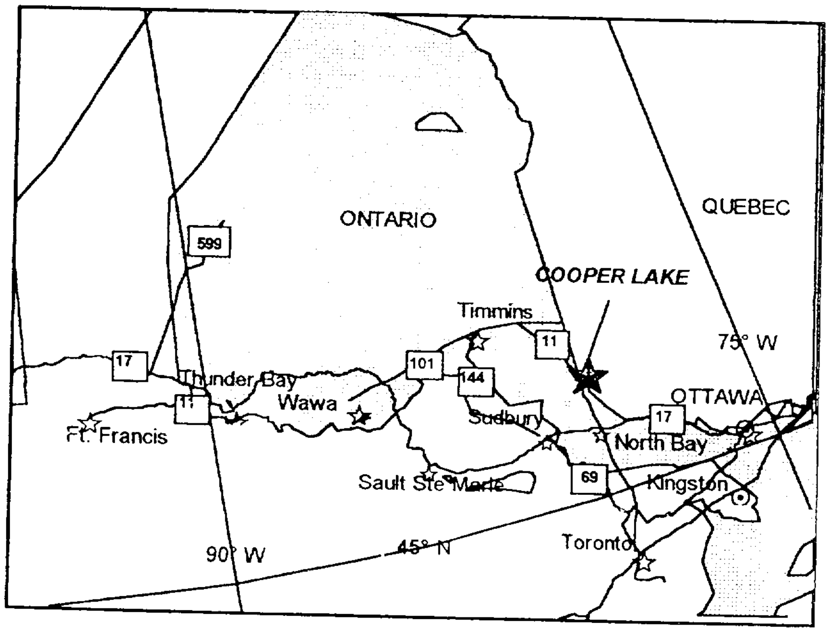


Figure 1: Cooper Lake Property Location

2. GENERAL SURVEY DETAILS

2.1 LOCATION

- **Township or District:** Eldridge and South Lorrain Township
- **Province or State:** Ontario
- **Country:** Canada
- **Nearest Settlement:** Temagami, ON
- **Nearest Highway:** Ontario highway 11
- **NTS Map Reference:** 31 M/4
- **Mining Claims Surveyed [1]:** 1118441, 1230822, 1165392

2.2 ACCESS

- **Base of Operations:** Angus Lake Lodge, approx. 10 km from Temagami
- **Mode of Access:** From the lodge by 4 wheel drive truck.

2.3 SURVEY GRID

- **Coordinate Reference System:** Local cut and picketed survey grids
- **Line Direction:** N 00^0
- **Line Separation:** 50 and 100 meters.
- **Station Interval:** 25 meters

[1] Ref. Cooper Lake Project, HLEM survey, Line Location Map (1:10 000 scale), MEEGWICH CONSULTANTS INC. (March 1998)

3. SURVEY WORK UNDERTAKEN

3.1 GENERALITIES

• **Survey Dates:**	April 30th to May 14th, 1998
• **Survey Period:**	15 days
• **Mobilization Days:**	2 day
• **Survey Days:**	12 days
• **Weather Days:**	1 day
• **Down Days:**	None
• **Total km Surveyed:**	32.075 km

3.2 PERSONNEL

• **Project Supervisor:**	Kevin Blackshaw, Owen Sound, ON
• **Field Assistant:**	Kevin McKenzie, Nova Scotia Tyler Raleigh, Oakville, ON David MacGillivray, Sudbury, ON Ludvig Kapllani, Toronto ,ON

3.3 SPECIFICATIONS

• **Array:**	Gradient (see also Figure 2)
• **AB (Tx dipole spacing):**	2400 meters
• **MN (Rx dipole spacing):**	25 metres
• **Sampling Interval:**	25 meters
• **Total Gradient AB Blocks:**	3 blocks
• **Total RealSections:**	None
• **Approximate Arial Coverage:**	2.0 km^2

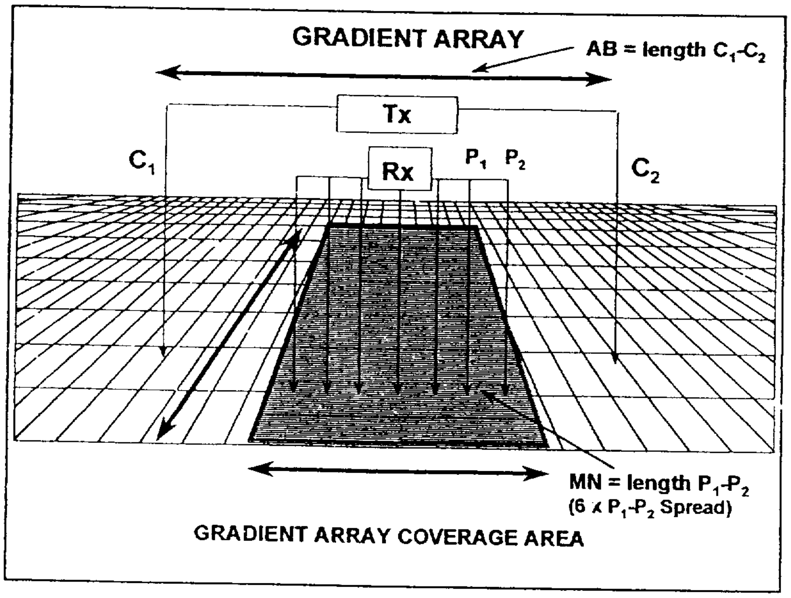


Figure 2 Gradient Array Layout

3.4 SURVEY COVERAGE:

1. **Reconnaissance:** 32.075 km
2. **Overlap:** 1650 metres

LINE	MIN EXTENT	MAX EXTENT	Length (m)
800N	500W	725E	1225m
750N	500W	675E	1175m
700N	500W	675E	1175m
650N	500W	675E	1175m
600N	500W	700E	1200m
550N	500W	700E	1200m
500N	500W	675E	1175m
450N	500W	675E	1175m
400N	500W	675E	1175m
350N	500W	675E	1175m
300N	500W	625E	1125m
250N	1050W	250E	1300m
200N	1000W	600E	1300m
150N	1075W	250E	160m
100N	1000W	575E	1325m
50N	550W	200E	1575m
0	1000W	575E	750m
50S	1050W	250E	1575m
100S	1050W	525E	1300m
200S	1000W	475E	1575m
300S	1000W	475E	1475m
400S	1000W	425E	1475m
500S	1000W	125E	1425m
600S	1000W	50W	1125m
Total			950m
			32075 m

Table I: Reconnaissance Survey Coverage

3.5 Instrumentation

- **Receiver:** BRGM/IRIS ELREC IP-6 (6 channel / Time Domain)
- **Transmitter:** Androtex STX-10 (10 kW)
- **Power Supply:** Kohler / Westinghouse motor generator system

3.6 Parameters

- **Input Waveform:** Square wave @ 0.0625 Hz, 50% duty cycle
- **Receiver Sampling Parameters:** QIP custom windows (see Table III)
- **Measured Parameters**:
  1) Chargeability in millivolts/Volt (10 time slices + total area under decay curve)
  2) Primary Voltage in millivolts and Input Current in amperes for Resistivity calculation cording to the gradient array geometry factor.

Slice	Duration (msec)	Start (msec)	End (msec)	Mid-Point (msec)
Td	60	0	60	
T_1	60	60	120	80
T_2	60	120	180	150
T_3	60	180	240	210
T_4	60	240	300	270
T_5	360	300	660	480
T_6	360	660	1020	840
T_7	360	1020	1380	1200
T_8	720	1380	2100	1740
T_9	720	2100	2820	2460
T_{10}	720	2820	3540	3180
Total T_p	**3540**			

Table II:Decay Curve Sampling)

3.7 Measurement Accuracy and Repeatability

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

3.8 Data Presentation

- **Maps:**

  Reconnaissance Coverage: Posted and contoured plan maps of Total Chargeability and Apparent Resistivity (1 :5000).

  Geophysical Interpretation: Interpreted chargeability axes, according to strength and resistivity association, geoelectric contacts and areas of priority follow-up, overlain onto topographic/claim base map (1:5000 scale).

- **Digital:**

  Raw data: IP-6 digital dump file (See also Appendix C).

  Processed data: Geosoft .XYZ format.

  using the following format:

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

4. DISCUSSION OF RESULTS AND INTERPRETATION

4.1 OVERVIEW

The gradient induced polarization and the resistivity surveys at the **Cooper Lake** property were designed to define and delineate chargeability and resistivity signatures associated with potential Cobalt-type precious and base-metal mineralization on the property. The target model is based on shear hosted Co-Ag-Au bearing disseminate to massive/stringer sulphides, associated with pervasive quartz-carbonate alteration, and occuring along subvertical structures, in association with Nippissing diabase and extending into the surrounding Archean country rocks. The gradient surveys provide a high resolution and deep penetration reconnaissance mapping capability, extending to 350-meter depths.

The property is predominantly underlain by Archean quartz dioritic and hornblende granodioritic basement rocks, intruded by a NE-trending Nippissing diabase dyke in the central survey area, and partially overlain by flat-lying Gowganda/Coleman arkosic to quartzoze sediments in the NW corner (A.F.Lawrence, ODMNA Regional Geological Map, South Lorrain Township, Timiskaming District, Map 2194, 1in = ½ mile scale, 1969). The potential for both NW and NE trending structure exist on the property, subparalleling the two major Cooper Lake Fault systems. Mineral occurrences consist of the Kerr-Addison Mines cobalt-gold-silver sulphide occurrences and mine workings, associated with narrow ENE and NW veins and carbonate alteration (IBID). Previous geophysics on the property include recent HLEM surveys (ref. Meegwich Consultants Inc. February-March 1998) which defined up to 20 weak to very weak strength conductors, including anomalies in close proximity to the known mineral occurrence, yet determined that, for the most part, the remainder are likely associated with structural and overburden sources – concluding that massive mineralization was absent in the 80-95 metres depth range, but remaining open to the possibility of disseminate to stringer sulphides.

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

a) High resistivity IP axes, related to disseminated sulphides possibly associated with the key **quartz-carbonate alteration systems** or, alternatively, within **more felsic/less porous** geology – including bedrock topographic effects;
b) Low resistivity IP axes, possibly related to **clay/chlorite altered systems**, or alternatively, within more porous geology or fault-fracture zones- as well as possibly **higher concentrations of sulphides**, ranging from stringer to massive; and
c) Nil ρ and contact-type IP axes, likely corresponding to either more **weakly-altered** mineralization, or in cases of **more deeply buried** silicified and/or **clay/sulphide**-rich mineralization (due to the fact that resistivity highs/lows are poorly resolved below deep overburden), or possibly mineralization occuring along **geologic/geoelectric contacts.**

Clearly, therefore, while the high resistivity/high chargeability association of the base model represents the key geophysical target signature, based on comparative evidence in the field, all anomaly types (high ρ / low ρ / nil ρ), could potentially represent equally valid exploration targets. It is also worthwhile noting that, because of the inherent sensitivity of geoelectric methods to conductive bodies, the low-porosity/high resistivity signatures associated with any possible attendant quartz-silicic alteration would most likely be overprinted by the conductivity associated with coincident fault-fracture structures, i.e. silicified zones could appear as nil or low resistivity axes when cross-cut by fractures, buried in deep overburden troughs or in the presence of massive to stringer sulphides.

The chargeability axes identified on the anomaly axis map have been: a) categorized according to their strength (weak, moderate, strong, very strong) using symbols, and b) classified according to their resistivity association (high ρ, nil ρ/contact-type, low ρ) using colored axes. The line-to-line correlation of anomalies into axes is based primarily on the resistivity association (i.e. resistive and conductive anomalies never aligned along the same axis due to likely dissimilar mineralogy / alteration / origin) – thereby providing some measure of geologic/geophysical control to the interpretation. Note that, due to the absence of Realsection follow-up, target depths have not been determined for the anomalies of interest. In order to better highlight the close relationship between the IP (sulphides) and Resistivity (lithology, structure, alteration), the areas of interest have been identified on the interpretation plan, using variable cross-hatching styles: a) contrasting zones of high resistivity, highlighting potential geological contacts, alteration zones and fault-fracture structure, b) zones of high chargeability, outlining potential regions of increased sulphide mineralization. Fault structures have also been interpreted based on evidence from the apparent resistivity, generally represented by lower resistivity and lower chargeability

4.2 Geophysical Survey Results

The IP\Resistivity results over **Cooper Lake** successfully discriminates signatures potentially associated with lithology, fault-fracture structures, chemical alteration, and, most importantly, chargeability responses related to sulphides and precious/base metals mineralization. The reconnaissance gradient information presented plan maps were specifically designed to provide information on the bulk sulphide and porosity from surface to 350m depths. However, despite their high lateral resolution and deep penetration, the gradient IP\Resistivity results, by their nature, will show the influences of both subvertical and subhorizontal features not only occuring at mid-level depths, but also those at the near-surface, as well as, to a lesser extent, causative bodies occuring at greater depths. By the same token, evidence of near-surface features may not be well defined in the plan maps (i.e. thin, flat-lying geology), due to the bulk averaging effects.

The **Cooper Lake** IP\Resistivity survey results are characterized by highly anomalous low to very strong apparent chargeabilities and resistivities, having a broad range (IP= 2-32 millivolts per volt / ρ_A = 0.4-40k ohm-metres), which is consistent with prevalent fault-fracture structures and mineralization within the mixed felsic to intermediate intrusive geology. In plan, stronger chargeabilities occur in a NNE-trending band, which extends through the central portion of the survey area – likely reflecting increases in the barren Coleman Formation cover rocks to the NW, the corresponding plunge of the Archean basement to the NW and increased overburden to the SE – as well as prominent chargeability high to the grid NE, near the Cooper Lake shoreline. Overall, the moderate chargeabilities (8mV/V) are above average and consistent a 2-3% sulphide background and the generally thin, resistive glacial till overburden. The resistivities display a differing trend in plan – increasing from east to west and generally following topographic trends, which reflect deeper, drainage-controlled overburden overlying the granites to the east and thicker Gowganda Formation units dominating the higher elevations to the west.

Despite the relatively high average resistivity (8k Ω-m), which reflects the relatively non-porous and felsic intrusive Archean basement, the presence of narrow/sharp resistivity lows identifies fault-fracture zones and, when combined with increased chargeability, although rare, also consistent with either fault-fractured or stringer mineralization. The quartz-diorite/granodiorite contacts are not well defined – except for possibly a transition from high ρ/high IP to lower ρ/lower IP in the NE corner. The Nippissing diabase coincides with a narrow, discontinuous band of lower resistivity/lower chargeability – which either reflects its more mafic mineralogy and/or contact metamorphic effects. Indeed, generally speaking, the various geologic contacts on the property are not accurately defined in either the gradient resistivity or chargeability results - likely reflecting the combined effects of volume averaging, dipping contacts, possibly metamorphic overprinting relating to the Grenville Front to the south-east, and, in particular, the presence of discordant overprinting features. These include two types, each with separate orientations: a) NNW to NNE trending narrow high chargeability and resistivity linears which likely represent discordant, shear-hosted mineralization and alteration, as well as b) NW and NE trending low chargeability/low resistivity linears, consistent with graben-like overburden-filled or clay/oxide altered fault zones, which often offset the IP axes and parallel the known regional fault trends– the latter which are easily defined in shadowed plans.

As indicated on the interpretation plan map, more than fifty (**50**) chargeability axes of significance have been identified, which define narrow (<25-50m), likely subvertically dipping, NNE to NW trending zones of bedrock mineralization, including as many as ten (**10**) strong to very strong linears which are consistent with strong concentrations of disseminate to stringer sulphides. These tend to be short to moderate in length (50-400m), and sinuous – with abrupt changes in strike and strength reflecting structural offsets and fault-fracture control to the mineralization. The chargeability axes are equally divided between high and high/nil resistivity trends, reflecting their largely disseminate nature and the pervasive quartz-carbonate alteration associated. In contrast, low resistivity IP axes are few in number (accounting for <10%) and also tend to have limited strike lengths (<100m) – often occuring as short segments along the longer high/nil resistivity IP axes – either reflecting fault-fracturing or a transition to more stringer-like mineralization along strike. Still, while the presence of at least **3** anomalously high and conductive IP linears argues favorably for stringer to massive sulphides (including one which coincides with the Kerr workings), the fact that there are far fewer polarizeable, low resistivity axes than HLEM linears agrees with the previous conclusion that the near-surface mineralization is largely disseminate and conductors are dominantly structurally controlled. Spatially, while the IP axes clearly cross-cut the inferred Nippissing-Archean contacts, the strongest portions of the axes lie closer proximity to the diabase – agreeing with the geologic model.

The chargeability axes of interest (**8**-1ST priority and **10**-2ND priority), chosen based on the geophysics alone (strength, width, strike-length) have been prioritized and described in the following table. In addition to **Zone A** which encompasses the Kerr Addison showing and other nearby axes, at least three (**3**) other similar areas of interest have been identified: a) **Zone B** which lies 250m south of the showing, possibly represents its strike extension, and consists of multiple, narrow axes, extending across the southern diabase-granodiorite contact; b) **Zone C** lying 500m south-west of the Kerr showing, has good strike-length and width and appears to extend from inside the diabase into the dioritic country rocks; and c) **Zone D** to the northeast, which hosts the strongest chargeabilities measured at **Cooper** and lies at the contact of the Nippissing and the NW Cooper Lake Fault. With the absence of Realsection coverage, we are unable to provide an indication of source depth or vertical extent the chargeability anomalies defined at **Cooper**. Although nearly all the strongest chargeability anomalies represent good drill targets, the list presented in Table III is designed to help direct DDH-testing and ground follow-up into the best portion of each major axis.

NAME	LINE	STATION	STRENGTH	RESISTIVITY ASSOCIATION	PRIORITY	COMMENTS
A	**650N**	**0+38E**	**Mod-strong**	**High**	**2**	Possible qtz-carb. altered disseminated sulphides
	500N	0+88W	Mod-Strong	Nil	2	Possible weakly altered diss. or thin stringer sulphides
	400N	0+38W	Very Strong	Low	1	Probable stringer sulphides, 100m north of shaft
	250N	0+12E	Very Strong	Nil	2	Probable stringer sulphides, 50m south of shaft
	250N	2+12W	Mod-Strong	High	2	Possible qtz-carb. altered disseminated sulphides
B	100N	6+38W	Strong	High	1	Possible qtz-carb. altered disseminated sulphides
	000N	6+88W	Strong	Nil	1	Possible weakly altered diss. or thin stringer sulphides
	300S	5+62W	Strong	Low	1	Probable clay-altered or stringer sulphides
	300S	6+12W	Mod-Strong	High	2	Possible qtz-carb. altered diss. sulphides – test w. 562W
C	150N	3+38W	Mod-Strong	Nil	2	Possible weakly altered diss. or thin stringer sulphides
	050S	1+88W	Strong	High	2	Possible qtz-carb. altered disseminated sulphides
	100S	0+62E	Strong	Nil	2	Possible weakly altered diss. or thin stringer sulphides
	200S	1+62W	Strong	Nil	2	Possible weakly altered diss. or thin stringer sulphides
	300S	1+88W	Strong	High	1	Possible qtz-carb. altered disseminated sulphides
	500S	1+12W	Mod-Strong	High	2	Possible qtz-carb. altered disseminated sulphides
D	550N	6+62E	Very Strong	High	1	Possible qtz-carb. altered disseminated sulphides
	500N	6+38E	Very Strong	Low	1	Probable stringer to thin massive sulphides – test w. 550N
	350N	6+00E	Very Strong	High	1	Possible qtz-carb. altered disseminated sulphides

Table III: Recommended Targets for Follow-up.

5. CONCLUSIONS AND RECOMMENDATION

The Gradient Realsection IP/Resistivity results at the **Cooper Lake Property** identify potential chargeability and resistivity signatures relating to the subsurface geology, including possible lithologic discrimination, fault-fracture structures, geochemical alteration and, most importantly, disseminate to massive-stringer sulphide mineralization potentially associated Cobalt-type polymetallic-mineralized, structurally-controlled and hydrothermally altered targets. In response to the geological objectives, as many as eight (**8**) high priority targets have been identified which host significant chargeability, width, strike-length, geoelectric and characteristics to warrant immediate follow-up and possible drill-testing – at least ten (**10**) second priority targets are also defined. The IP axes of significance can be grouped into four (**4**) basic zones of interest (**A-D**), which include a) the known Co-Ag-Au mineral occurrence (**A**) and nearby anomalies, b) its possible extension south of the main diabase (**B**), c) a third which lies further 500m south-west (**C**), and d) the strongest (**D**) which lies 700m east of the workings, at the NE edge of the mapped Nippissing, and remains open. These results highlight the high resolution and deep penetration capabilities of the gradient technique, and suggest the property hosts an excellent exploration potential.

We recommend that the current priority targets be combined with the existing geoscientific database and the results carefully evaluated prior to DDH-testing. Particular attention should be given to the probable type of mineralization and alteration indicated by the resistivity association (i.e. high ρ = silicic, nil ρ = weak silicic/argillic, low ρ = argillic or stringer). The chargeability axes display a variety of strengths and resistivity associations, such that, based on the geophysics alone, all the most significant anomalies represent equally good targets – possibly differing only in their type-alteration. Finally, despite its high lateral resolution and deep penetration, as a result of the relative lack of depth control inherent with the gradient profiling technique, a follow-up detailed Realsection IP program is strongly recommended prior to DDH testing - in order to fully explain the nature, optimal source depth and vertical extent of these anomalous zones.

RESPECTFULLY SUBMITTED

QUANTEC IP INC.

JML for KB

Kevin Blackshaw
Operations Manager/QIP

Jean M. Legault, P.Eng.
Chief Geophysicist

Genc Kallfa
Senior Geophysicist

Porcupine, ON
June, 1998

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 Honors, 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) since 1985, with license to practice in the Province of Ontario.
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 Ontario, the Northern 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 **Orex Ventures Inc.**
7. I oversaw the construction of the report, the plots and co-authored of report. 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, 1998

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

APPENDIX A

STATEMENT OF QUALIFICATIONS:

I, Genc Kallfa, declare that:

1. I am presently employed as geophysicist with Quantec IP Inc. of Waterdown, Ontario.
2. I obtained a M.D. in Geophysics, from Polytechnic University at Tirana, Albania, in February 1987.
3. I have practiced my profession continuously since May, 1987, in Albania and Canada.
4. I have no interest, nor do I expect to receive any interest in the properties or securities of **Orex Ventures Inc.**

8. I am the technical writer and co-author of this report. 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, 1998

Genc Kallfa
Senior Geophysicist - QTS
Quantec Group

APPENDIX B

PRODUCTION SUMMARY:

PROJECT	P-222 Orex Ventures Ltd.					
SURVEY	Gradient "Realsection" IP Survey					
DATE	DESCRIPTION	Line	Block	Start	End	Total
30-Apr-98	Mob from Timmins to Angus Lake Lodge					
1-May-98	Located grid Establish transmitting dipole					
2-May-98	Problems with the truck Establish transmitting dipole					
3-May-98	Reconnaissance Survey	800N	A	725E	500W	1225m
		700N	A	500W	675E	1175m
		600N	A	700E	500W	1200m
	Total Survey					3600m
4-May-98	Reconnaissance Survey	500N	A	500W	675E	1175m
		400N	A	675E	500W	1175m
		300N	A	500W	625E	1125m
	Total Survey					3475m
	Establish transmitting dipole					
5-May-98	Reconnaissance Survey					
	Overlap line	300N	B	100E	500W	600m
		200N	B	1000W	600E	1600m
		100N	B	625E	475W	1050m
	Total Survey					3250m
6-May-98	Reconnaissance Survey	100N	B	475W	1000W	525m
		0	B	1000W	500E	1575m
		100S	B	575E	475W	450m
	Total Survey					2550m
7-May-98	Reconnaissance Survey	100S	B	75E	1050W	1125m
	Overlap line	200S	B	850W	200E	1050m
		50S	B	250E	1050W	1300m
	Total Survey					3475m
8-May-98	Reconnaissance Survey	50N	B	550W	200E	750m
		150N	B	250E	1075W	1325m
	Re-established 2425M AB on line 450N for block A	250N	B	1050W	250E	1300m
	Total Survey					3375m
9-May-98	2400m AB, Block A	350N	A	675E	500W	1175m
		450N	A	500W	675E	1175m
		550N	A	700E	500W	1200m
	Total Survey					3550m
10-May-98	Reconnaissance Survey	650N	A	500W	675E	1175m
	Starting to establish transmitting dipole	750N	A	675E	500W	1175m
	Total Survey					2350m

APPENDIX C

INSTRUMENT SPECIFICATIONS:

IRIS ELREC 6 Receiver
(from IRIS Instruments IP 6 Operating Manual)

Weather proof case

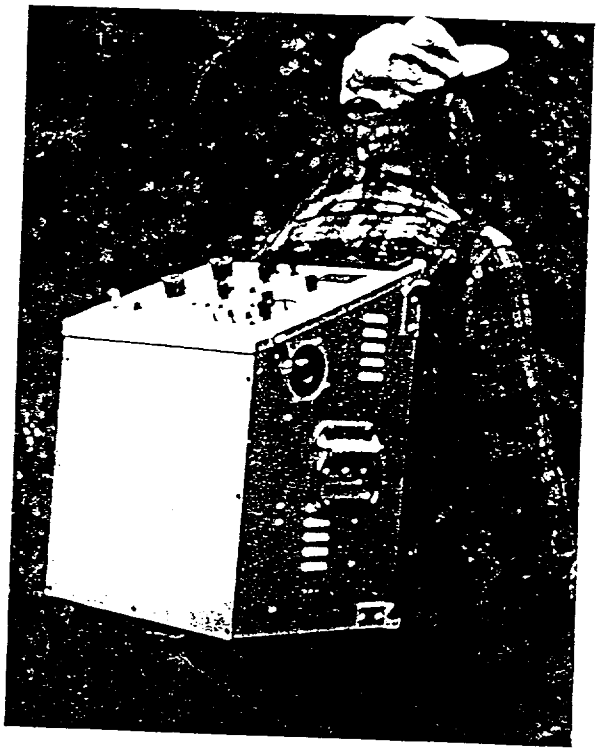
Dimensions:	31 cm x 21 cm x 21 cm
Weight:	6 kg with dry cells 7.8 kg with rechargeable bat.
Operating temperature:	-20°C to 70°C (-40°C to 70°C with optional screen heater)
Storage:	(-40°C to 70°C)
Power supply:	6 x 1.5 V dry cells (100 hr. @ 20°C) or 2 x 6 V NiCad rechargeable (in series) (50 hr. @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

IRIS 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

    cycle  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

    cycle  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
```

ANDROTEX STX-10

INDUCED POLARIZATION TRANSMITTER



Induced Polarization Transmitter Model STX-10 is designed for Time Domain and Resistivity surveys.

The wide output voltage range makes the STX-10 applicable for large electrode spacing, under most geological conditions. Stabilized output currents may vary from 30 mA up to 20 Amperes. The operator is able to monitor the input voltage, frequency, and output current on a large 2.5 cm high LCD display. The resolution of current readings is 1 mA.

The compact STX-10 IP Transmitter weighs only 30 kg, and it can be carried by one person, as a backpack unit. This relatively light weight qualifies the unit as checked baggage on commercial airlines.

The STX-10 can be powered from a single source; however for maximum output power, a standard three-phase aircraft generator is recommended.

Specifications

Input	- Voltage	210 V / 400 Hz or 110 V / 400 Hz
	- Phase	Single or Three
Output	- Power (Max)	10 kW
	- Voltage	120 to 4800 Volts
	- Current	30 mA to 20 Amperes
	- Waveform	
	On / Off Time	1, 2, 4, or 8 seconds
	Frequency	0.1; 0.3 ; 1 ; or 3 Hz
	- Current Stability	0.1% for 20% of load change
	- Time Stability	50 ppm in full temp. range
Operating temp. range		- 40° to +50° C
Display		Digital LCD 2.5 cm high
Protections		Automatic
Dimensions (HxWxD)		47 x 37 x 31 cm (18.5 x 14.5 x 12.0 in)
Weight		30 kg (66 lbs.)

Quantec

APPENDIX D

THEORETICAL BASIS

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 polarizeable minerals (metals, submetallic sulphides and oxides, and graphite), in amounts as minute as parts per hundred. Both the quantity of individual chargeable grains present and their distribution with in subsurface current flow paths are significant in controlling the level of response. The relationship of chargeability to metallic content is straightforward, and the influence of mineral distribution can be understood in geologic terms by considering two similar, hypothetical volumes of rock in which fractures constitute the primary current flow paths. In one, sulphides occur predominantly along fracture surfaces. In the second, the same volume percent of sulphides are disseminated throughout the rock. The second example will, in general, have significantly lower intrinsic chargeability.

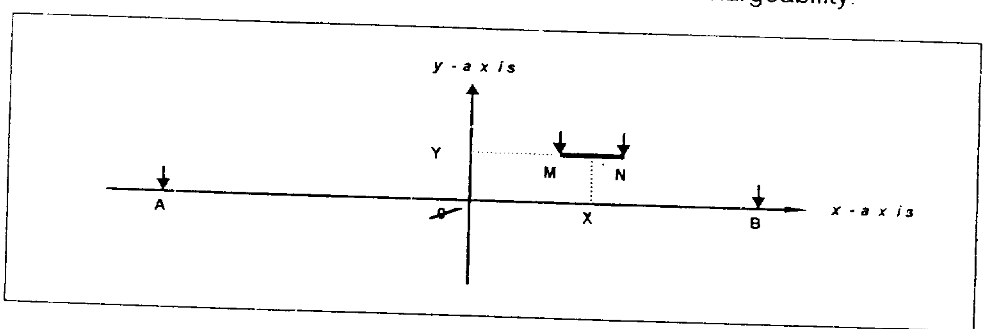


Figure D1: Gradient array configuration

Using the diagram in Figure D1 for the gradient array electrode configuration and nomenclature:[2], 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:

$$\rho a = K \frac{VP}{I} \quad ohm\text{-}metres$$

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

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

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

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

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

Using the diagram in Figure D2 for the Total Chargeability:

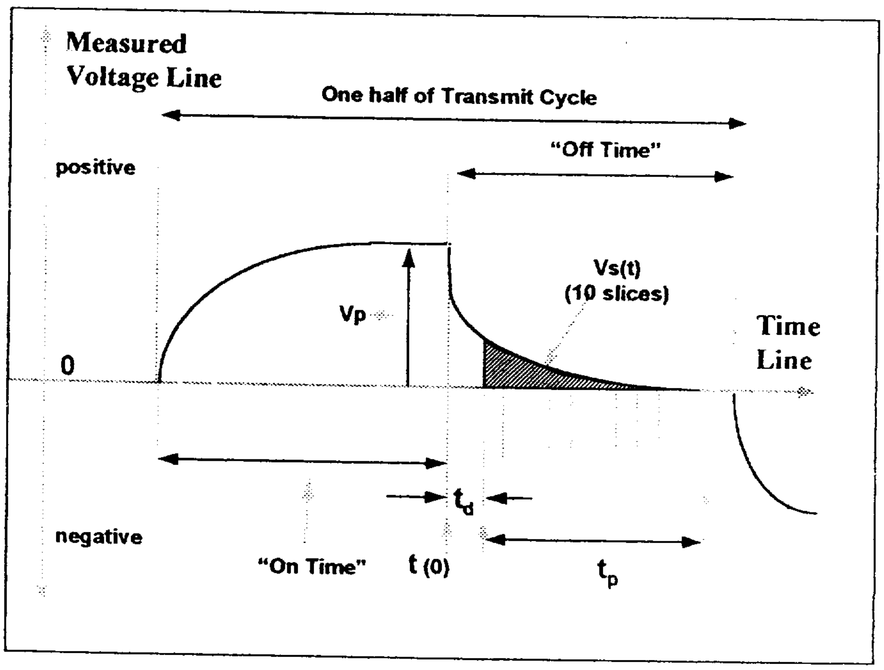


Figure D2 The measurement of the time-domain IP effect

[2] From Terraplus\BRGM, IP-6 Operating Manual, Toronto, 1987.

the total apparent chargeability is given by:

Total Apparent Chargeability:[3]

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

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.

[3] From Telford, et al., Applied Geophysics, Cambridge U Press, New York, 1983.

APPENDIX E

OPERATOR COMMENTS

There was very little noise in the data and repeatability was within acceptable limits. The grid was winter cut lots of dead fall, swamp and steep outcrop. Time between readings varied from 5 to 15 minutes. The grid was well marked, spacing was accurate except for the spacing between the lines in the west end of the grid (refer to the grid map in the file).

APPENDIX F

LIST OF MAPS:

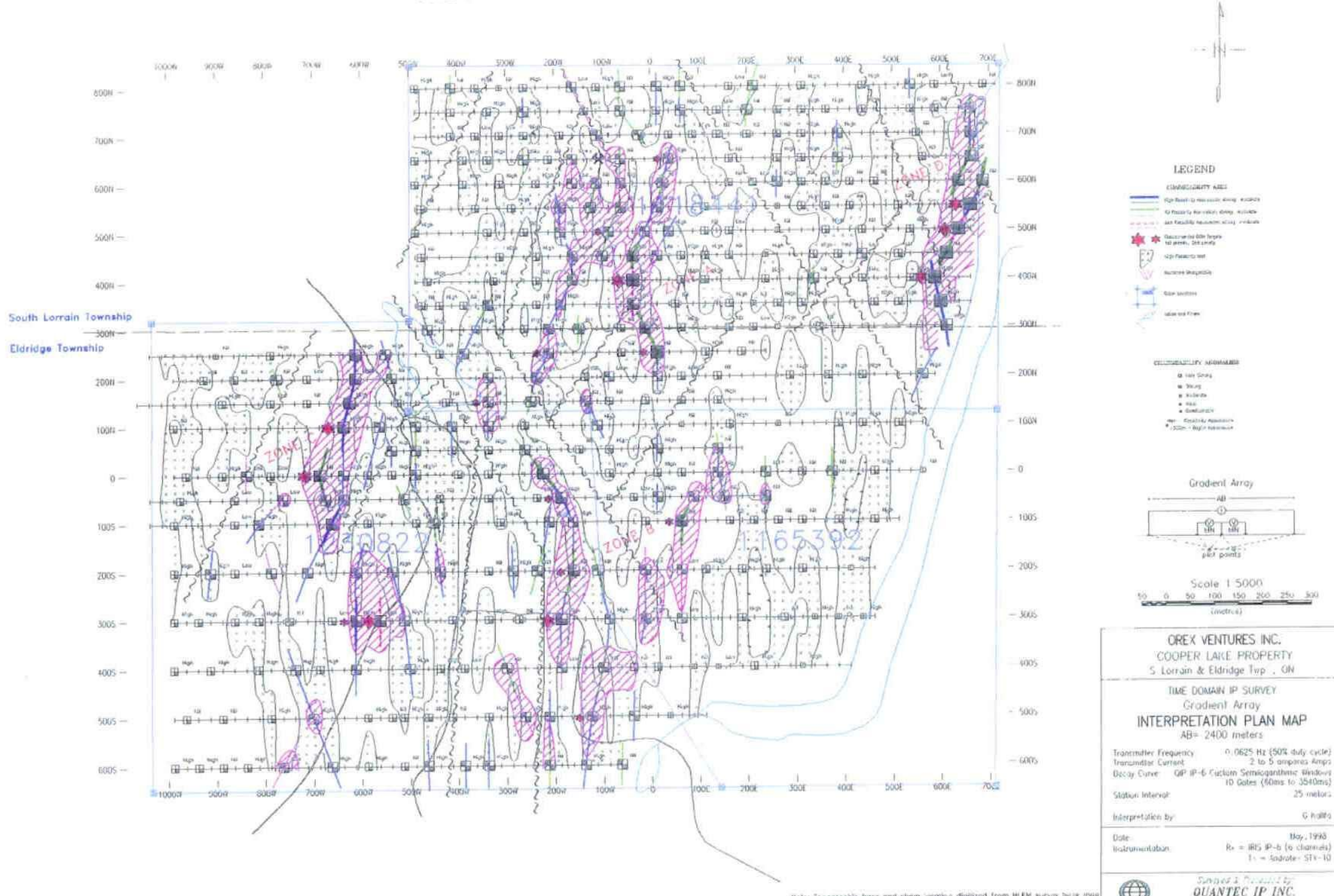
- Contoured Plan Maps (1:5000 scale)

MAP TYPE	
TOTAL CHARGEABILITY	P-222-PLAN-CHG-1
APPARENT RESISTIVITY	P222-PLAN-RES-1
INTERPRETATION	P-222-PLAN-INT-1
TOTAL	3maps

APPENDIX G

MAPS AND SECTIONS:

INTERPRETATION PLAN MAP



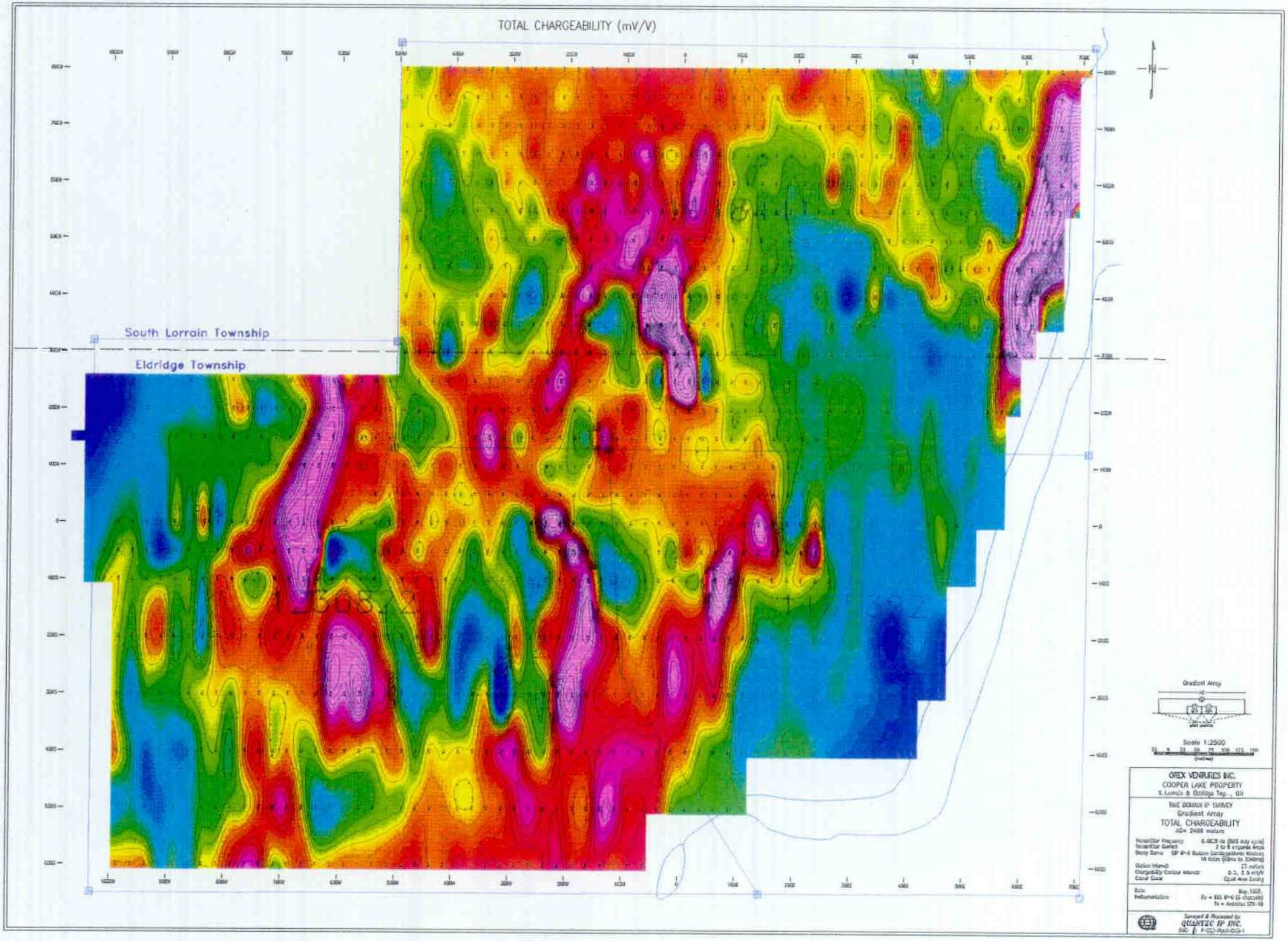
Note: Topographic base and claim location digitized from HLEM survey base map by Meegwich Consultants Inc., at 1:5000 scale (March, 1998)

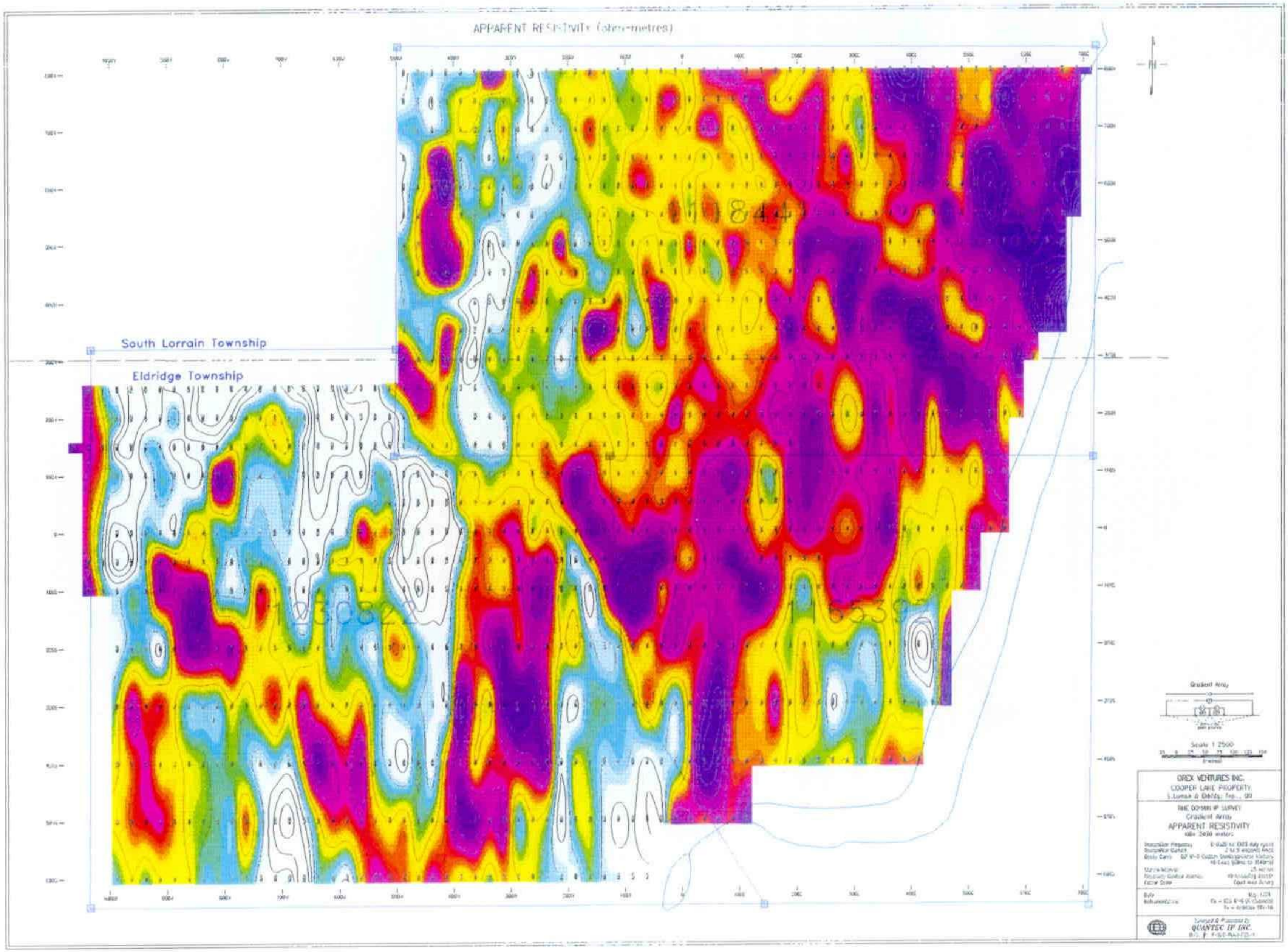
OREX VENTURES INC.
COOPER LAKE PROPERTY
S. Lorrain & Eldridge Twp., ON

TIME DOMAIN IP SURVEY
Gradient Array
INTERPRETATION PLAN MAP
AB= 2400 meters

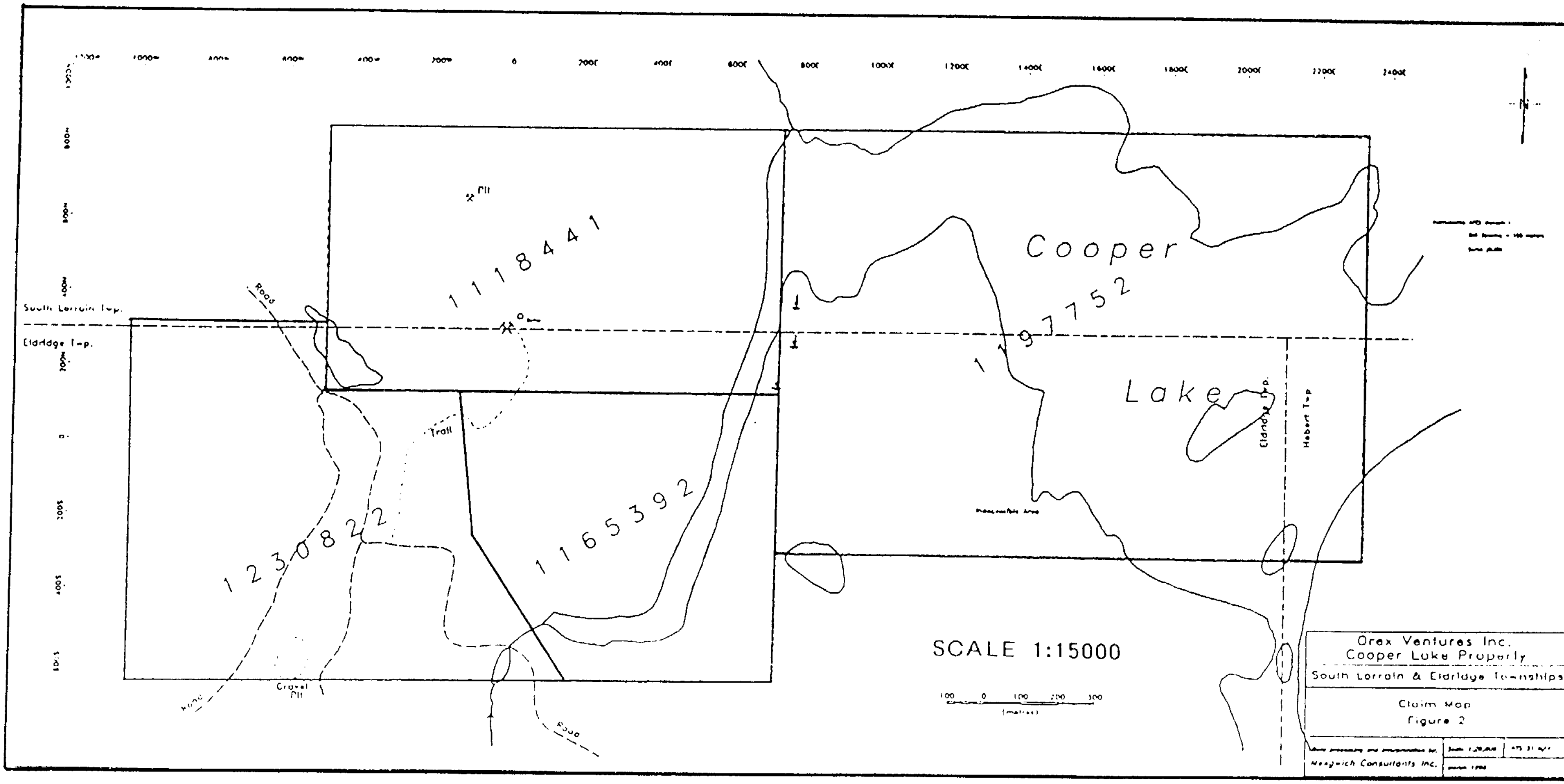
Transmitter Frequency	0.0625 Hz (50% duty cycle)
Transmitter Current	2 to 5 amperes Amps
Decay Curve	QIP IP-6 Custom Semilogarithmic Windows 10 Gates (60ms to 3540ms)
Station Interval	25 meters
Interpretation by	G. Kalita
Date	May, 1998
Instrumentation	Rx = IRIS IP-6 (6 channels) Tx = Sadrote STX-10

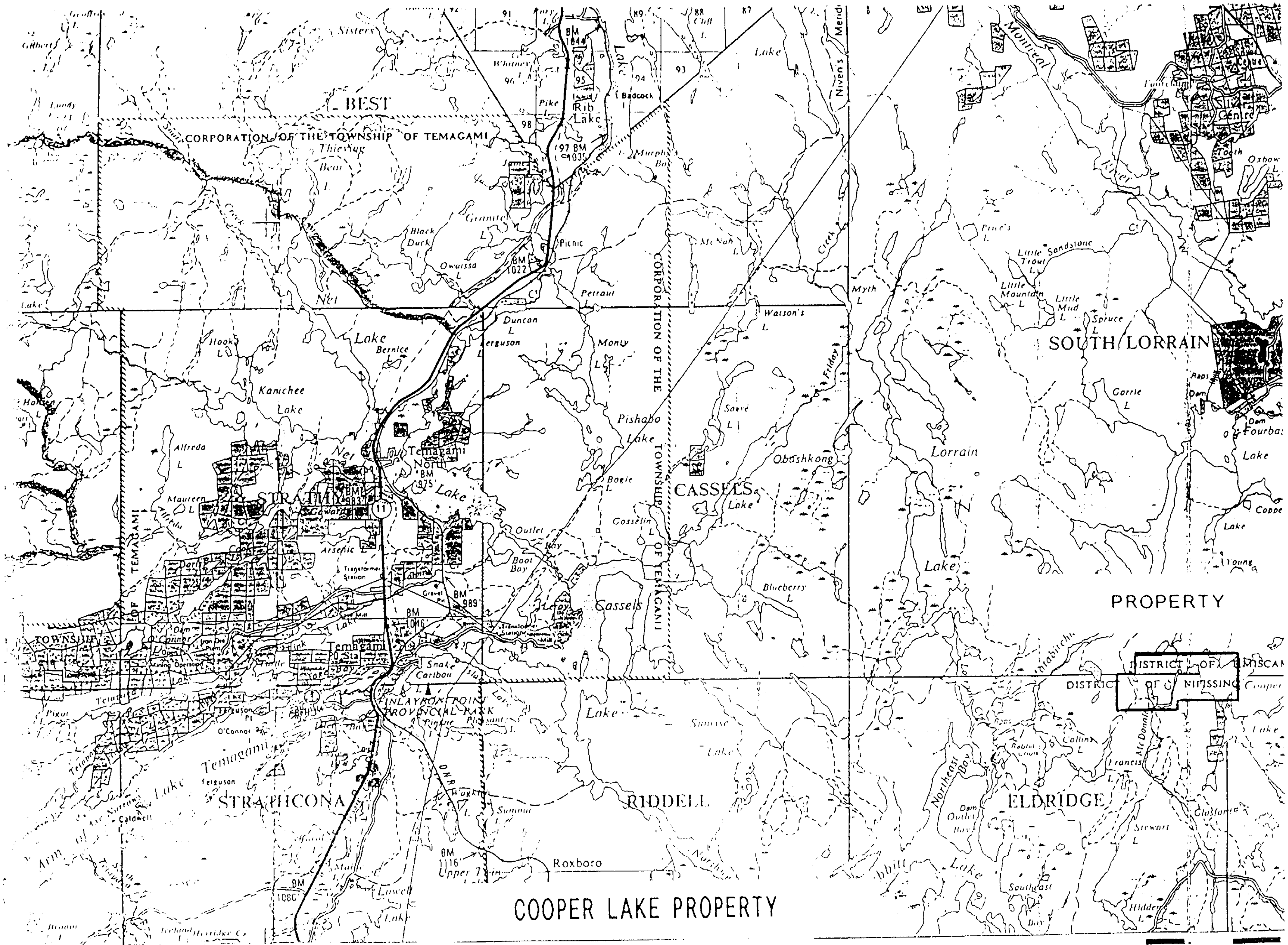
Surveyed & Processed by:
QUANTEC IP INC.
DWG #: P-222-INT-1


TOTAL CHARGEABILITY (mV/V)
South Lorrain Township
Eldridge Township
Gradient Array
Scale 1:2500
OREX VENTURES INC.
COOPER LAKE PROPERTY
TOTAL CHARGEABILITY
QUANTEC IP INC.



APPARENT RESISTIVITY (ohm-metres)
South Lorrain Township
Eldridge Township
Scale 1:2500
OREX VENTURES INC.
COOPER LAKE PROPERTY
TIME DOMAIN IP SURVEY
APPARENT RESISTIVITY
QUANTEC IP INC.


Cooper
Lake
1118441
1197752
1165392
1230822
South Lorrain Twp.
Eldridge Twp.
Eldridge Twp.
Hebert Twp.
Road
Road
Road
Trail
Pit
Gravel Pit
SCALE 1:15000
100 0 100 200 300
(metres)
Orex Ventures Inc.
Cooper Lake Property
South Lorrain & Eldridge Townships
Claim Map
Figure 2
Haagvich Consultants Inc.

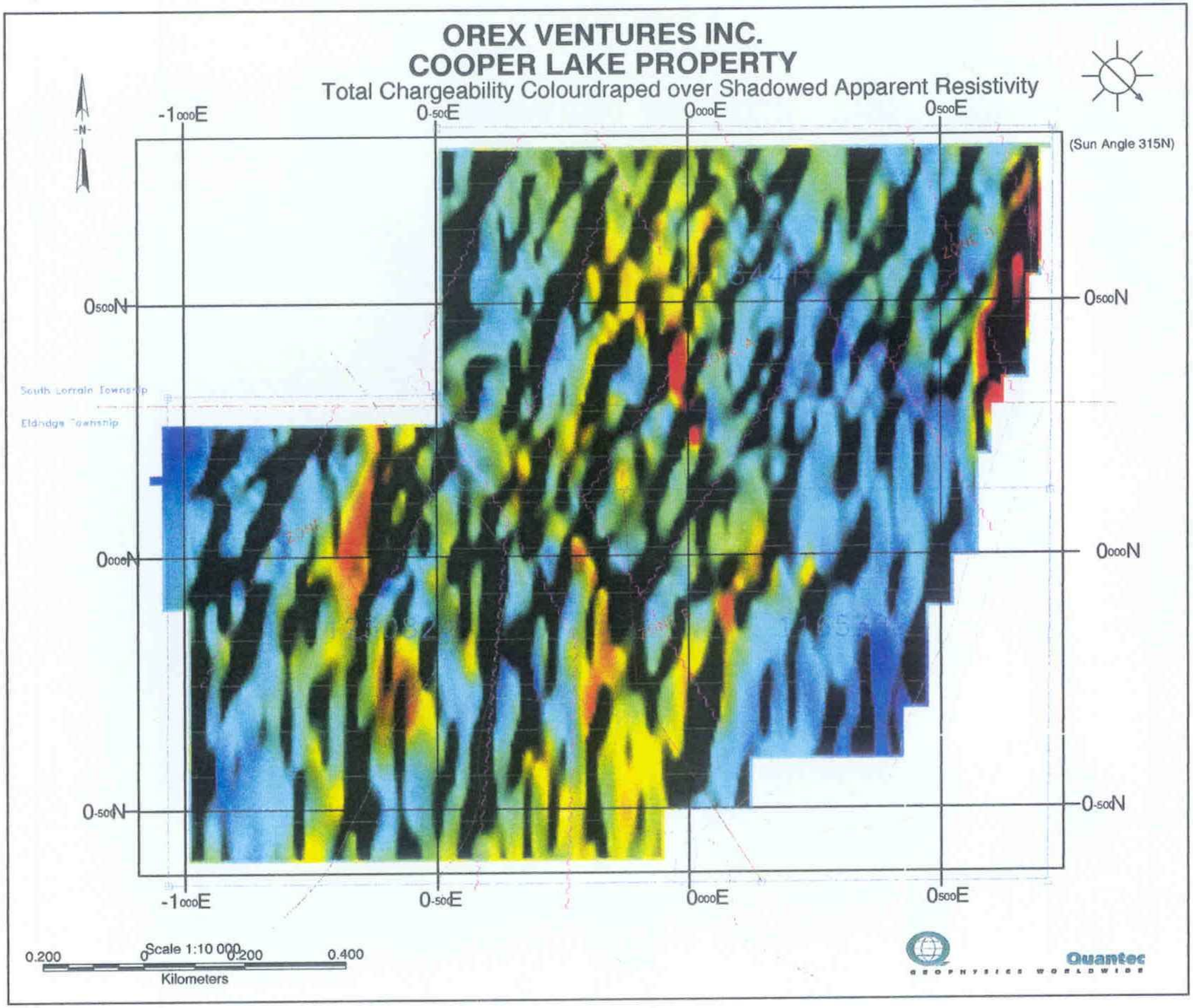


COOPER LAKE PROPERTY

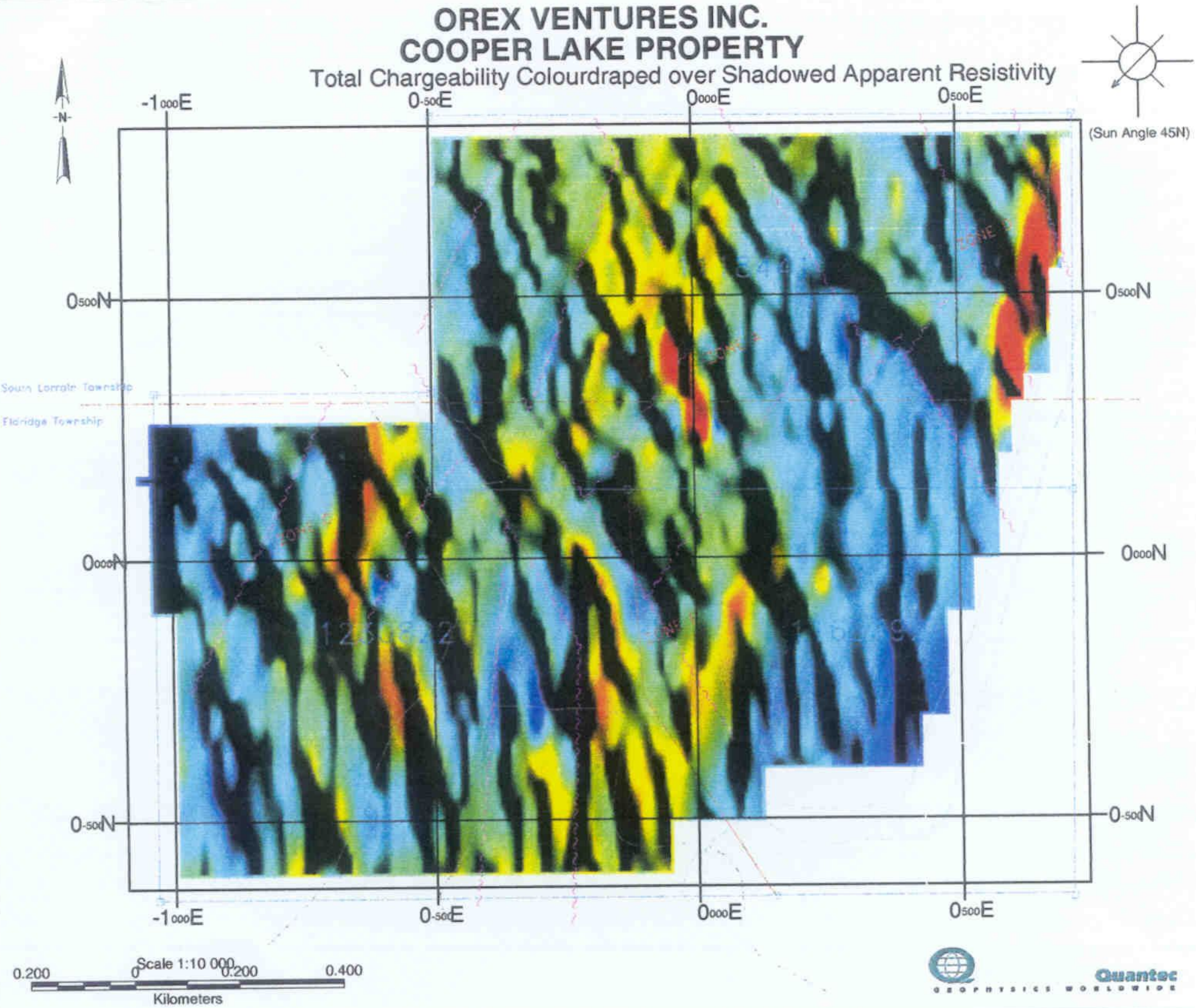
FIG. 1

LOCATION MAP

1:100,000


OREX VENTURES INC.
COOPER LAKE PROPERTY
Total Chargeability Colourdraped over Shadowed Apparent Resistivity
(Sun Angle 315N)
-N-
-1000E
0-500E
0000E
0500E
0500N
0000N
0-500N
South Lorrain Township
Eldridge Township
Scale 1:10 000
0.200
0
0.200
0.400
Kilometers
Quantec
GEOPHYSICS WORLDWIDE

OREX VENTURES INC.
COOPER LAKE PROPERTY
Total Chargeability Colourdraped over Shadowed Apparent Resistivity



Ontario | Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W0080.00075 & W0070.00036

Assessment Files Research Imaging

31M04SE2004 2.20058 SOUTH LORRAIN 900

...bsection 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, ...sesment work and correspond with the mining land holder. Questions about this ...thern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury,

Cooper Lake Property Pg. 1

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	Doug "Locky" Goddard	Client Number	137227
Address	P.O. Box 289	Telephone Number	(705) 569-33
	Temagami, Ontario P0H 2H0	Fax Number	—
Name	Orex Ventures Inc.	Client Number	—
Address	6380-121st Street Unit #13	Telephone Number	(604) 541-8828
	Surrey, British Columbia V3X 1Y6	Fax Number	(604) 541-8828 * 51 *

OR c/o John Poloni & Associates Ltd: 2110-150A Street Surrey B.C. V4A 9J6

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

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

Work Type: Induced Polarization - EM ground geophysical Survey + Maps/Report & Interpretation	**Office Use**
	Commodity
	Total $ Value of Work Claimed 35 275
Dates Work Performed From 30 04 98 (Day/Month/Year) To 14 05 98 (Day/Month/Year)	NTS Reference
Global Positioning System Data (if available) — Township/Area: Eldridge & South Lorrain Twps	Mining Division: Sudbury / Larder Lake
M or G-Plan Number: G-3426 + G-3448	Resident Geologist District: Kirkland Lake

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

RECEIVED
FEB 10 2000
GEOSCIENCE ASSESSMENT OFFICE

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

Name	Quantec IP Incorporated	Telephone Number	(905) 689-0600
Address	P.O. Box 1170, Suite 34; 35 Main Street North	Fax Number	(905) 689-6404
~~Name~~	Waterdown, Ontario L0R 2H0	~~Telephone Number~~	—
~~Address~~	Regional office: Quantec IP Inc.	~~Fax Number~~	—
~~Name~~	P.O. Box 580, 101 King Street	Telephone Number	(705) 235-2166
~~Address~~	Porcupine, Ontario P0N 1C0	Fax Number	(705) 235-2255

4. Certification by Recorded Holder or Agent

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

Signature of Recorded Holder or Agent: Gino Chitaroni		Date: Feb 3, 2000
Agent's Address: 50 Silver St, P.O. Box 699, Cobalt, Ont. P0J 1C0	Telephone Number: (705) 679-5500	Fax Number: (705) 679-5519

0241 (03/97)

879

W0080.00075 / W0070.00036 Pg. 2

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 Eldridge + South Lorrain Twps Cooper Lake Property

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map	Number of Claim Units. For other mining land, list hectares	Value of work performed on this claim or other mining land	Value of work applied to this claim	Value of work assigned to other mining claims	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	L 1118441	6	$ 13,637	$ 7,200	$ 6,437	$ 0
2	S 1230822	6	13,638	12,000	1,638	0
3	S 1165392	4	8,000	3,200	4,800	0
4	L 1197752	12	0	12,875	0	0
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15	4 Claims	28 units				
		Column Totals	$ 35,275	$ 35,275	$ 12,875	$ 0

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

Signature of Recorded Holder or Agent Authorized in Writing: [signature] Gino Chitaroni | Date: Feb 3, 2000

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

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

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

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FEB 10 2000
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
	Mining Recorder (Signature)	

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use)
W0080.00075
W0070.00036

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

Cooper Lake Property Pg. 3

Work Type	Units of work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Quantec IP Incorporated			
Induced Polarization	Survey Days 12	#Inv 1448 $	~~31,857.56~~
Survey	32.075 km		32,355.56
	Mobilization (2 days)		
2)	1 Weather Day		
Report Making/Printing	—	#Inv 1460TS $	468.66
3)			
Consulting Charges/	Interpretation	#Inv 1462TS $	2,450.30
Associated Costs (e.g. supplies, mobilization and demobilization).			
Demob-Mob - $1,200.00		$1,200.00	—
Transportation Costs			—
Equipment (Truck + Canoe)		$1,425.00	
Food and Lodging Costs			
Food, Accomodations & Supplies		$3,925.08	—

See Report/Invoices Included

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FEB 10 2000
GEOSCIENCE ASSESSMENT OFFICE

Total Value of Assessment Work $35,274.52

Rounded Off: $35,275

Calculations of Filing Discounts:

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

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

Note:

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

Certification verifying costs:

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

Signature: [signature] Date: Feb 3, 2000

0212 (03/97)

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

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

Telephone: (888) 415-9845
Fax: (877) 670-1555

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

April 28, 2000

DOUGLAS LOCKHART GODDARD
P.O. BOX 219
TEMAGAMI, Ontario
P0H-2H0

Submission Number: 2.20058

Dear Sir or Madam:

Subject: Transaction Number(s):		**Status**
	W0070.00036	Approval
	W0080.00075	Approval

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

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

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

If you have any questions regarding this correspondence, please contact STEVE BENETEAU by e-mail at steve.beneteau@ndm.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

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

Correspondence ID: 14816
Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.20058

Date Correspondence Sent: April 28, 2000 **Assessor:** STEVE BENETEAU

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0070.00036	1230822	ELDRIDGE	Approval	April 28, 2000

Section:
14 Geophysical IP

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0080.00075	1118441	SOUTH LORRAIN	Approval	April 28, 2000

Section:
14 Geophysical IP

Correspondence to:

Resident Geologist
Kirkland Lake, ON

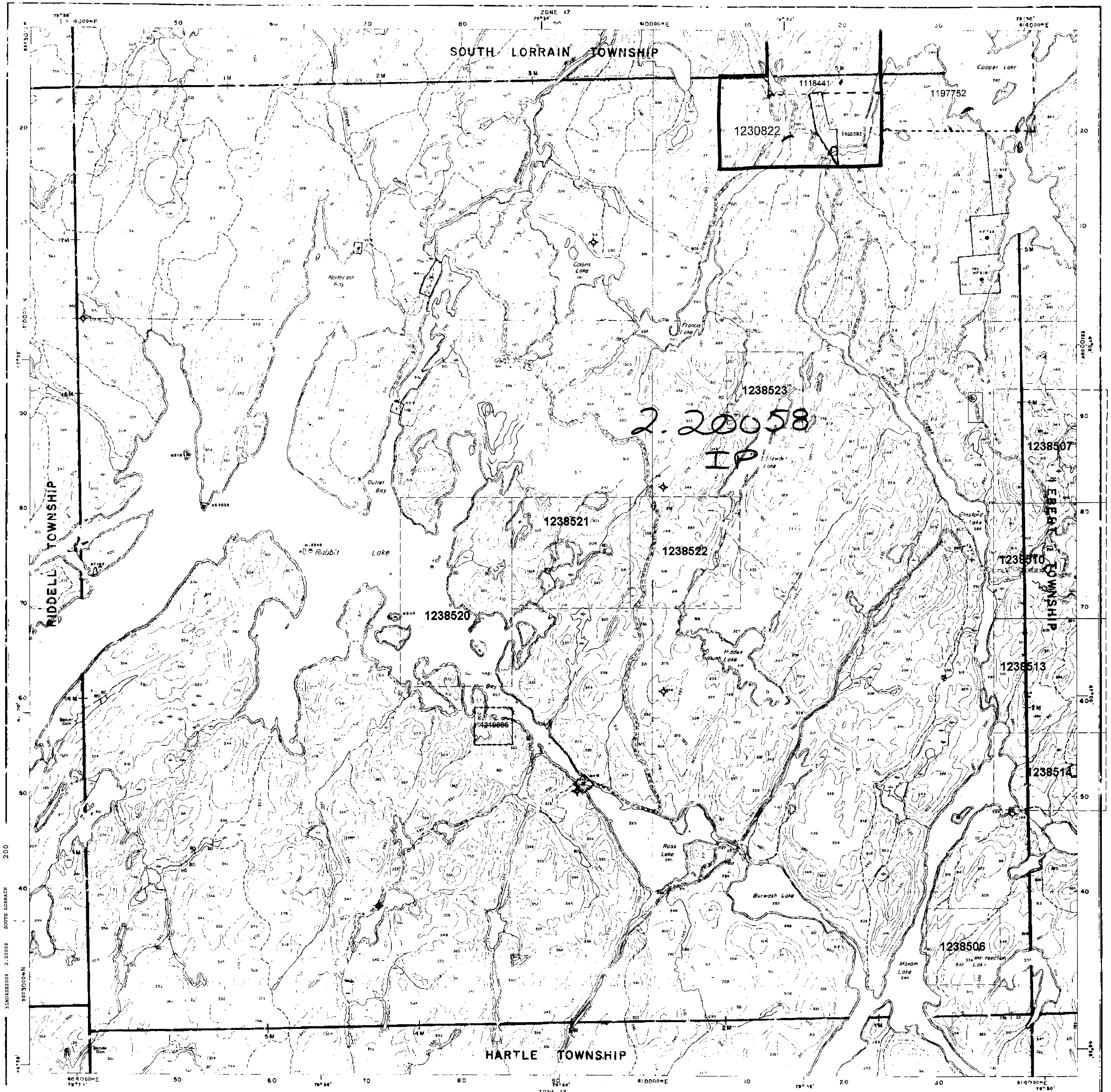
Assessment Files Library
Sudbury, ON

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

Gino Chitaroni
COBALT, ONTARIO, CANADA

DOUGLAS LOCKHART GODDARD
TEMAGAMI, Ontario

Correspondence ID: 14816



Ministry of Natural Resources
Ministry of Northern Development and Mines
Ontario

INDEX TO LAND DISPOSITION

PLAN
G-3426

TOWNSHIP
ELDRIDGE

M.N.R. ADMINISTRATIVE DISTRICT
TEMAGAMI
MINING DIVISION
SUDBURY
LAND TITLES/REGISTRY DIVISION
NIPISSING

Scale 1:20 000

Contour Interval 10 Metres

IN SERVICE JANUARY 10, 1990

SYMBOLS

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

AREAS WITHDRAWN FROM DISPOSTION

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

Description	Order No.	Date	Disposition	File
Aggregate Permit	#20935	Oct. 30/89		

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.

NOTES

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

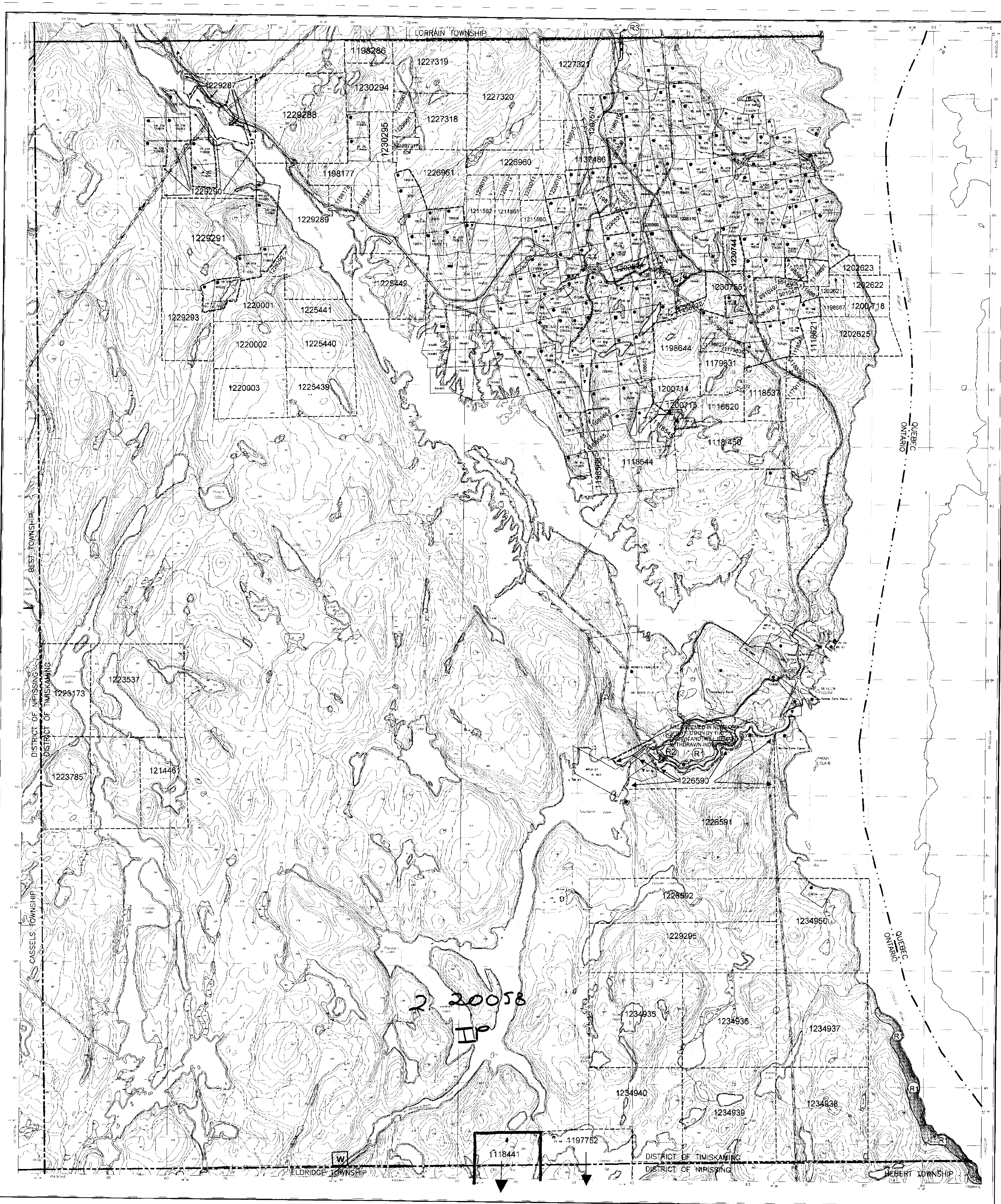
Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

- Licence of Occupation
- Order-in-Council
- Cancelled
- Reservation
- Sand & Gravel
- LAND USE PERMIT

THIS TOWNSHIP FALLS WITHIN THE TEMAGAMI COMPREHENSIVE PLANNING AREA. SPECIAL WORKING CONDITIONS MAY APPLY TO EXPLORATION ACTIVITIES. FOR MORE DETAILS PLEASE CONTACT:
DISTRICT MANAGER,
NORTH BAY DISTRICT
MINISTRY, NATURAL RESOURCES

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only



AREAS WITHDRAWN FROM DISPOSITION

MRO – Mining Rights Only
SRO – Surface Rights Only
M+S – Mining and Surface Rights

	Description	Order No.	Date	Disposition	File
R1	SEC.35/90	W-ONT-63/96	SEPT 17/96	M&S	
	COMPREHENSIVE PLANNING COUNCIL				
R2	NOT OPEN FOR STAKING - CONSERVATION RESERVE SECTION 1 OF THE MINING ACT				
R3	SEC	W-L-53/96 NER	SEPT 17/96	SRO	134327

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights ●
- Surface Rights Only
- Mining Rights Only

Lease
- Surface & Mining Rights ■
- Surface Rights Only
- Mining Rights Only

- Licence of Occupation ▼
- Order-in-Council OC
- Cancelled
- Reservation
- Sand & Gravel
- Land Use permit

W AREA DEEMED IN NEED OF PROTECTION BY THE CROWN AND WILL REMAIN WITHDRAWN INDEFINITRLY

Ontario
Ministry of Natural Resources
Ministry of Northern Development and Mines

INDEX TO LAND DISPOSITION

PLAN
G – 3448

TOWNSHIP
SOUTH LORRAIN

M.N.R. ADMINISTRATIVE DISTRICT
TEMAGAMI

MINING DIVISION
LARDER LAKE

LAND TITLES/REGISTRY DIVISION
TIMISKAMING

Scale 1:20 000

Contour Interval 10 Metres

SYMBOLS

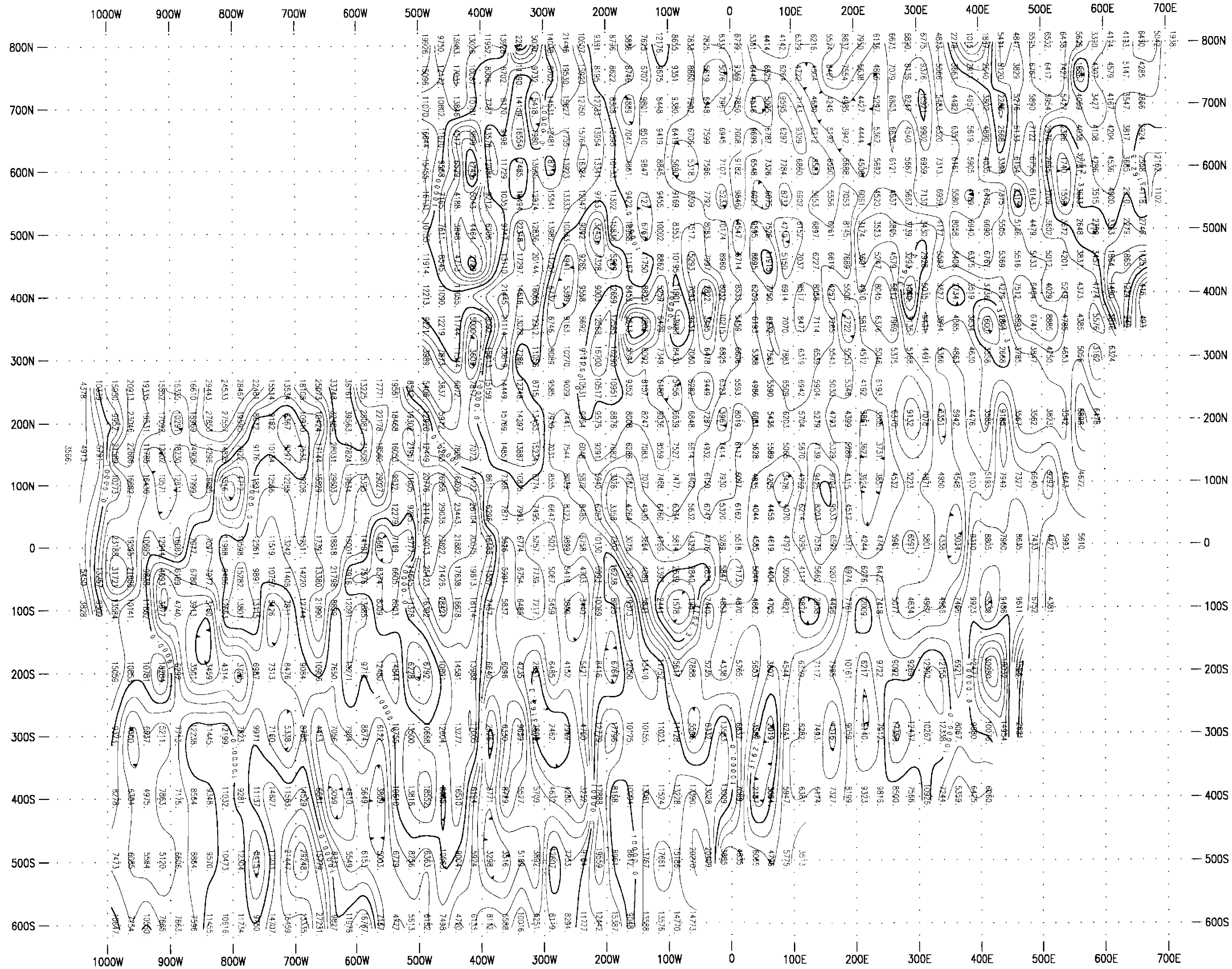
Boundary
- Administrative District
- Township, Meridian, Baseline
- Road allowance; surveyed
- shoreline
- Lot/Concession; surveyed
- unsurveyed
- Parcel; surveyed
- unsurveyed
- Right-of-way; road
- railway
- utility
- Reservation
- Cliff, Pit, Pile
- Contour
- Interpolated
- Approximate
- Depression
- Control point (horizontal) △

- Flooded land
- Mine shaft
- Pipeline (above ground)
- Railway; single track
- double track
- abandoned
- River/Stream/Creek
- Intermittent
- Road; highway, county, township
- access
- trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

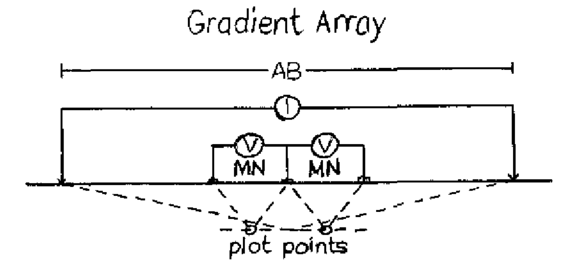
400' Surface Rights along the shores of all lakes and rivers

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.

APPARENT RESISTIVITY (ohm-metres)



Gradient Array



Scale 1:5000

50 0 50 100 150 200 250 300

(metres)

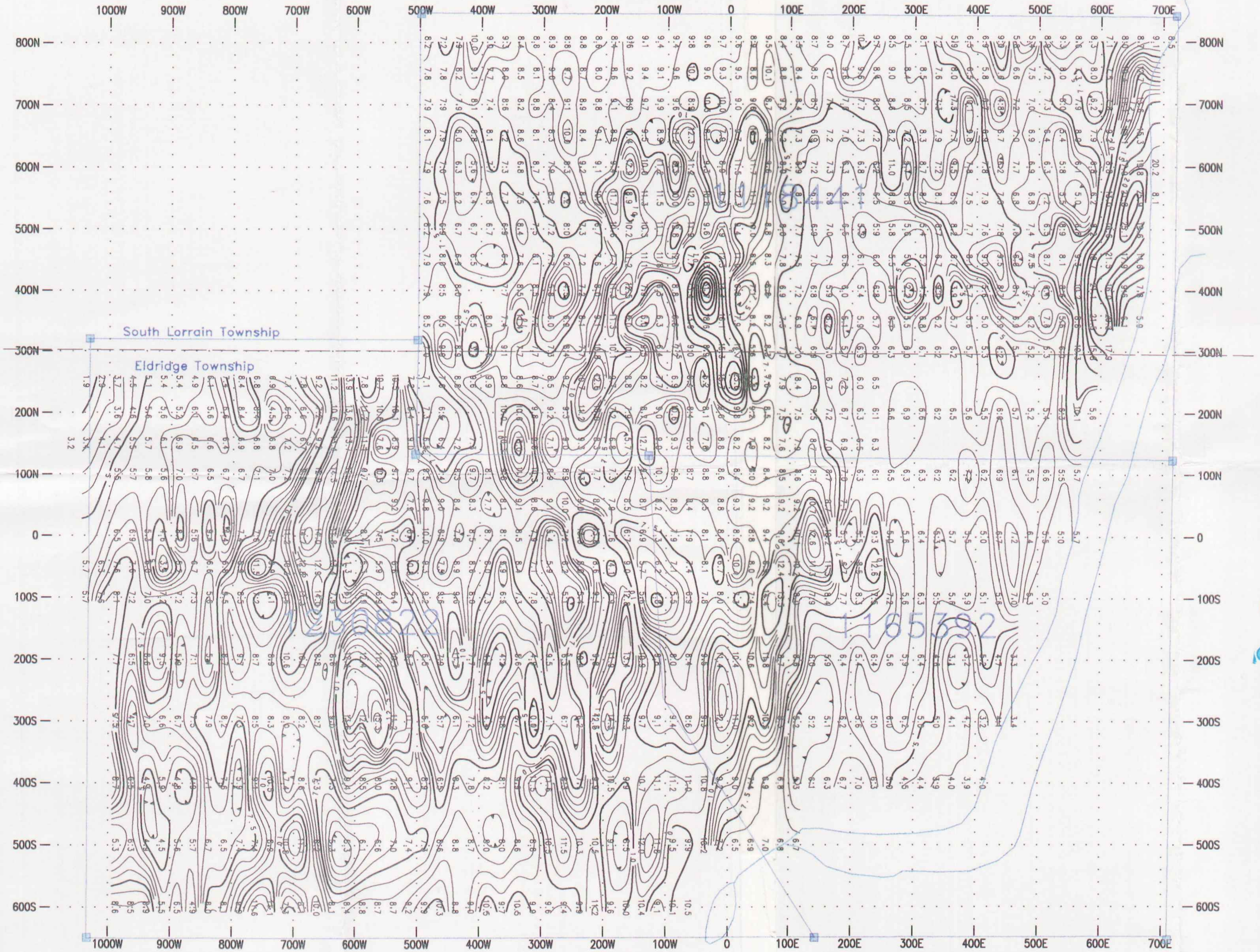
OREX VENTURES INC.
COOPER LAKE PROPERTY
S.Lorrain & Eldridge Twp., ON

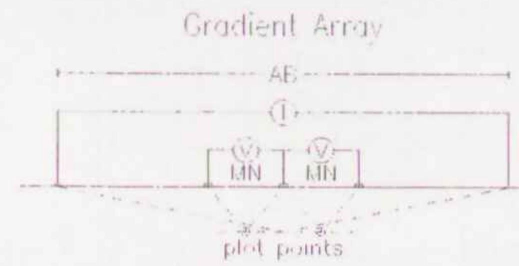
TIME DOMAIN IP SURVEY
Gradient Array
APPARENT RESISTIVITY
AB= 2400 meters

Transmitter Frequency	0.0625 Hz (50% duty cycle)
Transmitter Current	2 to 5 amperes Amps
Decay Curve:	QIP IP-6 Custom Semilogarithmic Windows 10 Gates (60ms to 3540ms)
Station Interval:	25 meters
Resistivity Contour Interval:	10 levels/log decade
Colour Scale:	Equal Area Zoning
Survey Date:	May, 1998.
Instrumentation:	Rx = IRIS IP-6 (6 channels) Tx = Androtex STX-10

Surveyed & Processed by:
QUANTEC IP INC.
DWG. #: P-222-PLAN-RES-1

TOTAL CHARGEABILITY (mV/V)





2.20058

Scale 1:5000

50 0 50 100 150 200 250 300

(metres)

OREX VENTURES INC.

COOPER LAKE PROPERTY

S.Lorrain & Eldridge Twp., ON

TIME DOMAIN IP SURVEY

Gradient Array

TOTAL CHARGEABILITY

AB= 2400 meters

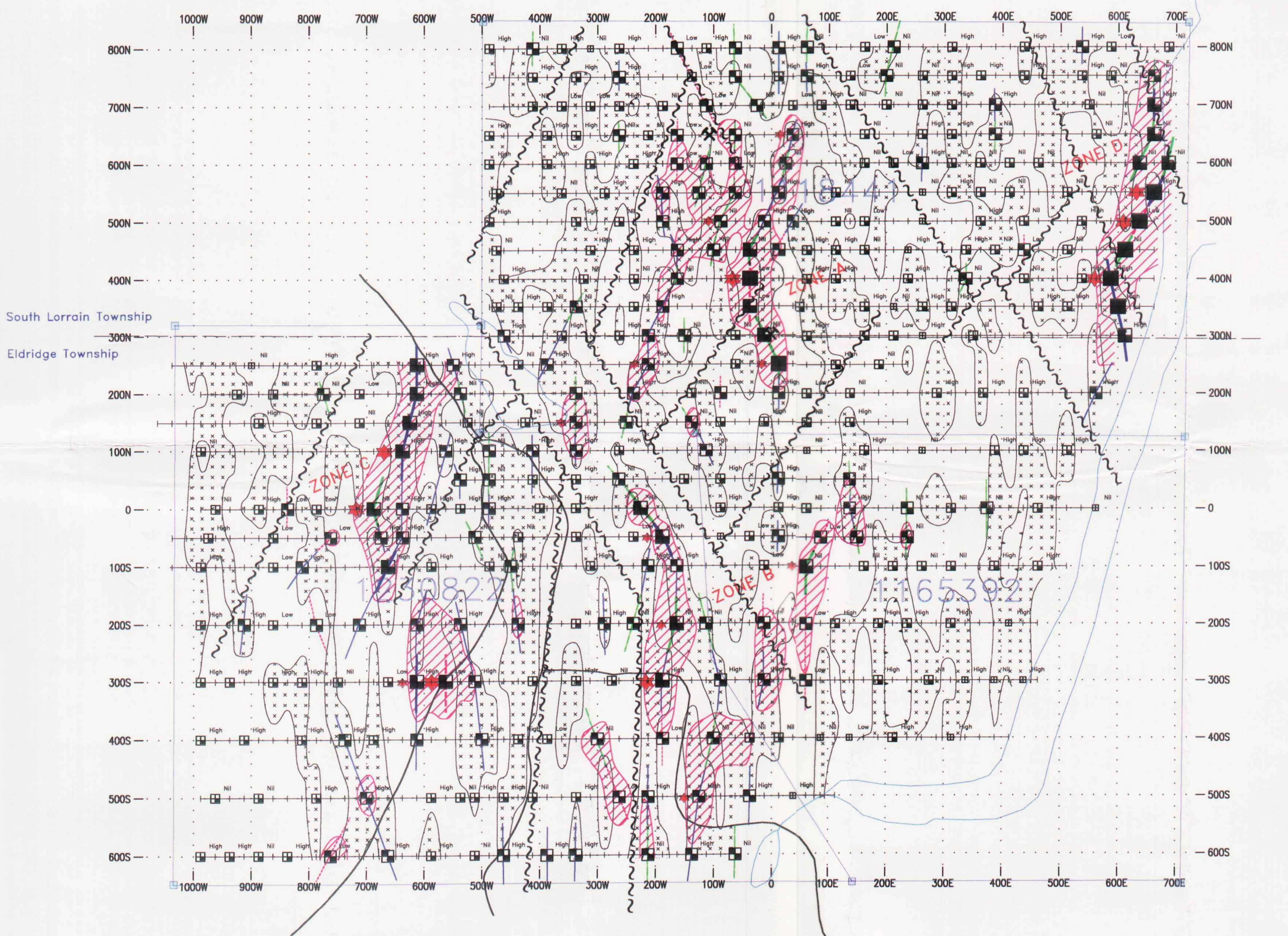
Transmitter Frequency	0.0625 Hz (50% duty cycle)
Transmitter Current	2 to 5 amperes Amps
Decay Curve:	QIP IP-6 Custom Semilogarithmic Windows 10 Gates (60ms to 3540ms)
Station Interval:	25 meters
Chargeability Contour Interval:	0.5, 2.5 mV/V
Colour Scale:	Equal Area Zoning
Survey Date:	May, 1998.
Instrumentation:	Rx = IRIS IP-6 (6 channels) Tx = Androtex STX-10

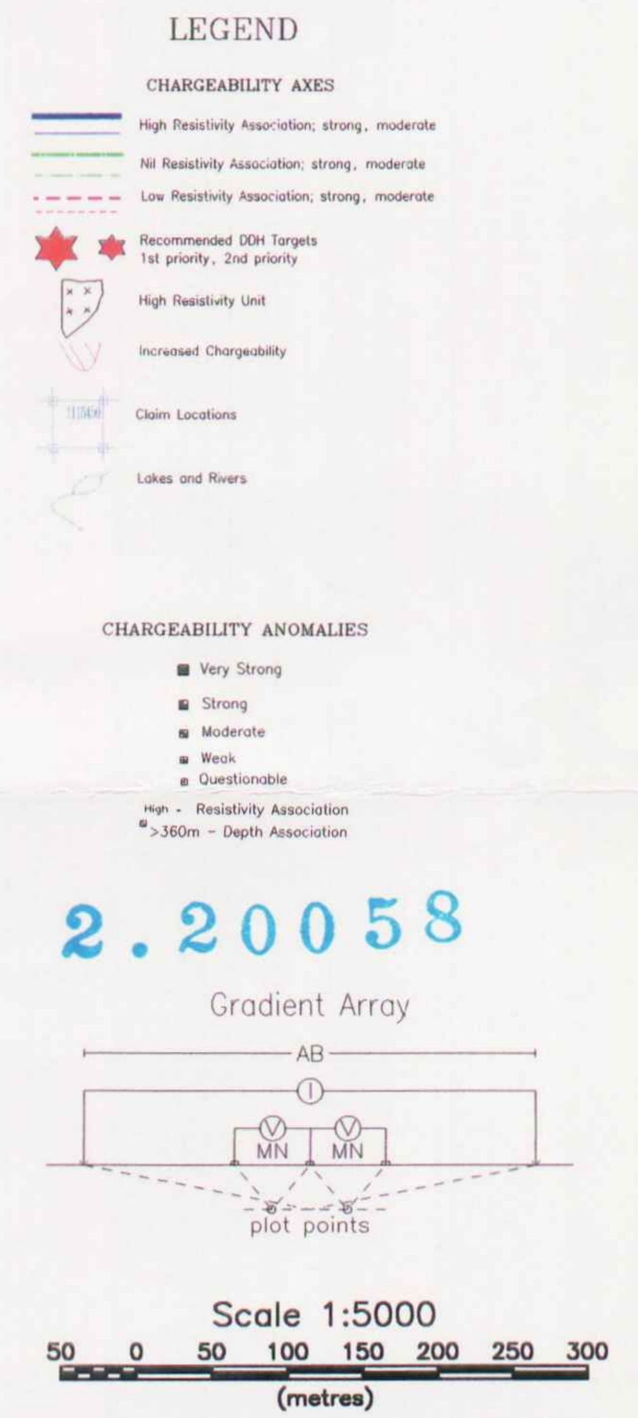
Surveyed & Processed by:

QUANTEC IP INC.

DWG. #: P-222-PLAN-CHG-1

INTERPRETATION PLAN MAP





OREX VENTURES INC.

COOPER LAKE PROPERTY

S.Lorrain & Eldridge Twp., ON

TIME DOMAIN IP SURVEY

Gradient Array

INTERPRETATION PLAN MAP

AB= 2400 meters

Transmitter Frequency	0.0625 Hz (50% duty cycle)
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Decay Curve:	QIP IP-6 Custom Semilogarithmic Windows 10 Gates (60ms to 3540ms)
Station Interval:	25 meters
Interpretation by:	G Kallfa
Date:	May, 1998.
Instrumentation:	Rx = IRIS IP-6 (6 channels) Tx = Androtex STX-10

Surveyed & Processed by:
QUANTEC IP INC.
DWG. #: P-222-INT-1

Note: Topographic base and claim location digitized from HLEM survey base map by Meegwich Consultants Inc., at 1:5000 scale (March, 1998)

31M04SE2004 2.20058 SOUTH LORRAIN 250