



2.32839

PORCUPINE JOINT VENTURE

RESISTIVITY / INDUCED POLARIZATION
AND MAGNETIC FIELD SURVEYS

HIGHWAY 144 PROJECT

TOWNSHIPS OF THORNELOE, DENTON & CARSCALLEN
TIMMINS, ONTARIO, CANADA

LOGISTICS AND INTERPRETATION REPORT

05N882

NOVEMBER 2005

CONSULTATION ET LEVÉS GÉOPHYSIQUES AU SOL ET EN FORAGE / SURFACE & BOREHOLE GEOPHYSICAL SURVEYS AND CONSULTING

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ABSTRACT

On behalf of the Porcupine Joint Venture, magnetic field and resistivity / induced polarization surveys were performed on the Highway 144 Project, Districts of Timiskaming & Cochrane, northeastern Ontario.

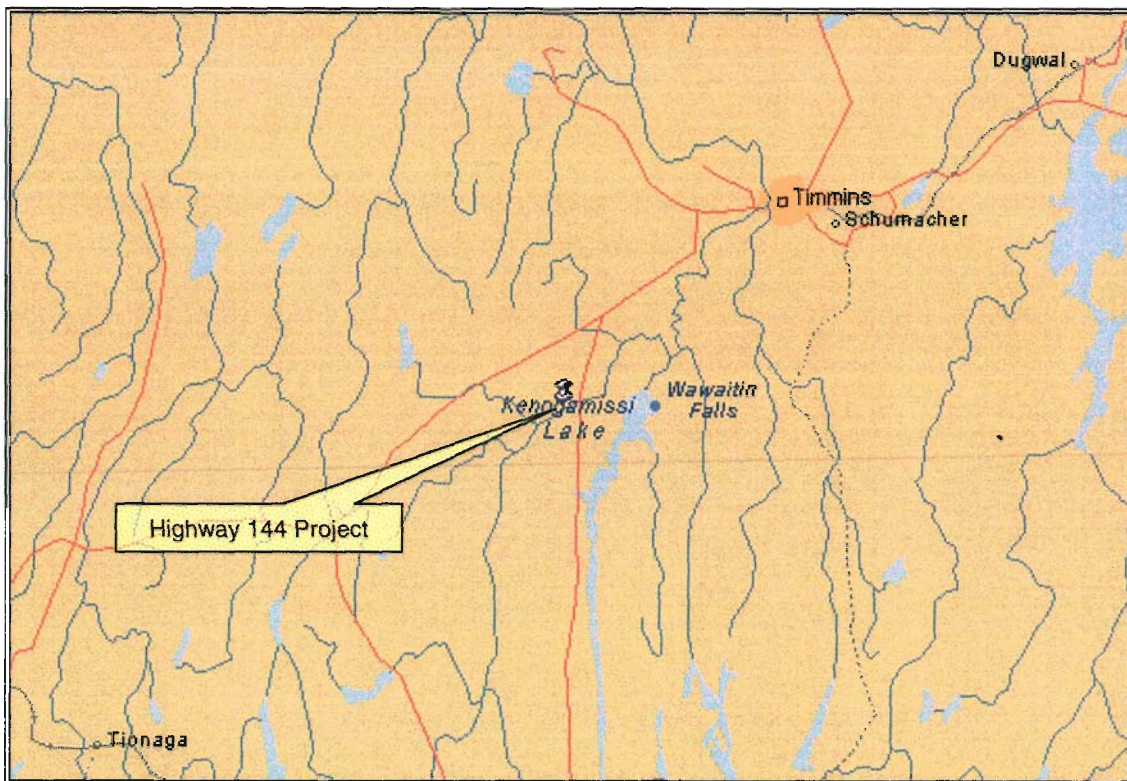
During November 2005, a total of 64.3 km of magnetic surveying and 45.3 km of IP (pole-dipole, $a = 25\text{ m}$, $n = 1\text{ to }6$ and $n = 1\text{ to }8$) surveying were carried out over the property. Survey specifications, instrumentation control, data acquisition, processing and interpretation were all successfully performed within our quality system framework.

Following meticulous interpretation of pseudosections and image2D[®] true-depth sections, a total of forty chargeability anomalies were identified and prioritized accordingly. They are fully described in the Appendix found at the end of this report and have been posted on both the pseudosection plates and the Interpretation Map (10.0). Follow-up recommendations are summarized in a tabulated form:

| Follow-up | Priority | | | Total |
|-------------------------|----------|---|---|-------|
| | 1 | 2 | 3 | |
| Drill-testing | 9 | 4 | 2 | 15 |
| Prospecting / trenching | 0 | 4 | 2 | 6 |
| Total | 9 | 8 | 4 | 21 |

1. THE MANDATE

- | | |
|---|--|
| <input type="checkbox"/> PROJECT ID | Highway 144 Project (Our reference: 05N882) |
| <input type="checkbox"/> GENERAL LOCATION | 20 km southwest of Timmins, Districts of Timiskaming & Cochrane, northeastern Ontario. |
| <input type="checkbox"/> CUSTOMER | Porcupine Joint Venture A Joint Venture of <i>Placer Dome (CLA) Ltd.</i> and <i>Kinross Gold Corp.</i> 1 Gold Mine Road, P.O. Box 70 South Porcupine, Ontario P0N 1H0 Telephone: (705) 235-6312 Fax: (705) 235-6316 |
| <input type="checkbox"/> REPRESENTATIVE | Mr. Paul Brown, ^BM.Sc., P.Geo Exploration Geologist – Regional Exploration Paul.Brown@placerdome.com |
| <input type="checkbox"/> SURVEY TYPES | <ul style="list-style-type: none"> • Ground Total Magnetic Field • Time Domain Resistivity / Spectral IP |
| <input type="checkbox"/> GEOPHYSICAL OBJECTIVES | <ul style="list-style-type: none"> • Identification of potential DDH targets and follow-up geophysical campaign. • Assess the potential for gold and base metals mineralization. • Assist in lithological discrimination and structure mapping. |

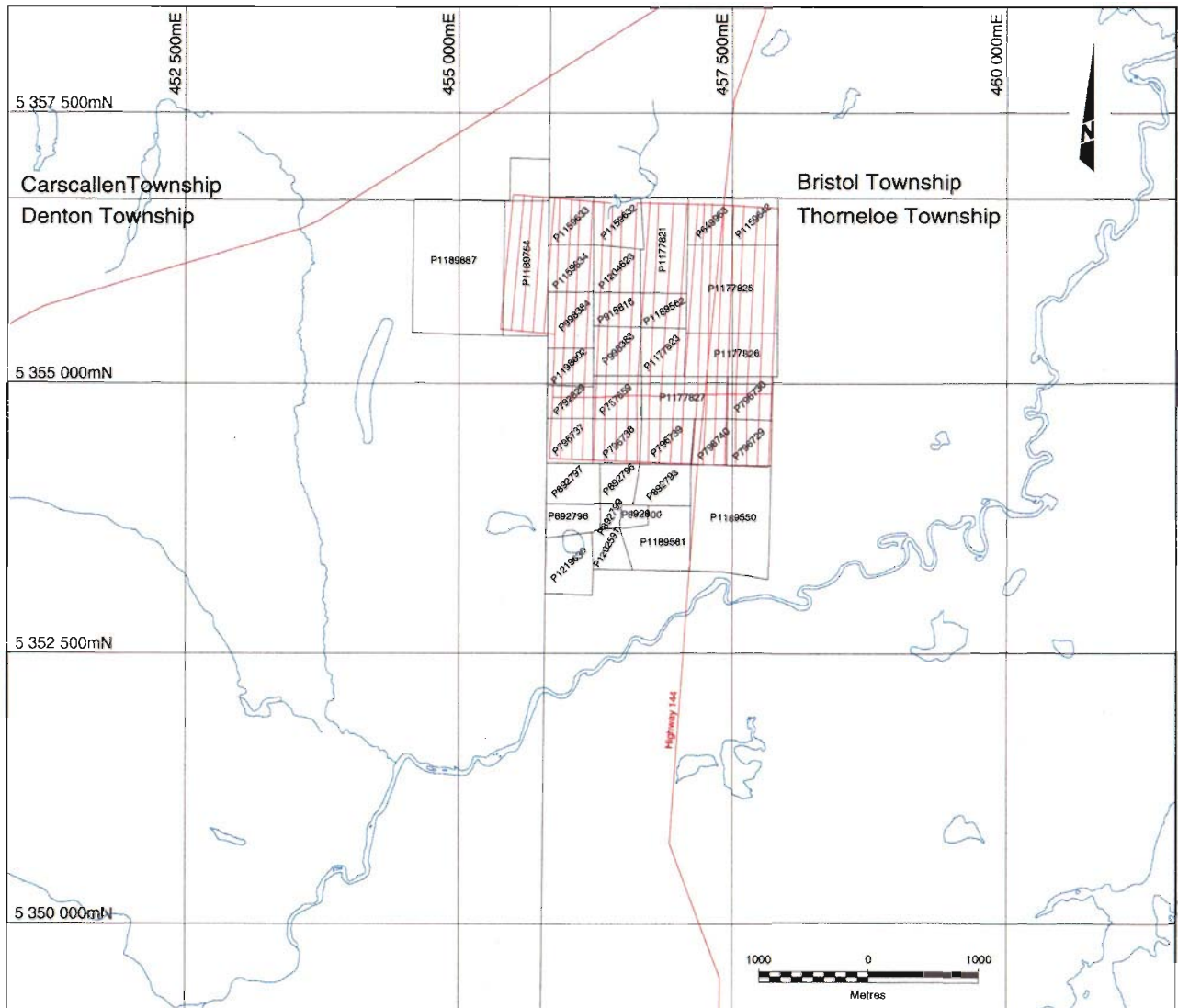


GENERAL LOCATION OF THE HIGHWAY 144 PROJECT

2. THE HIGHWAY 144 PROJECT

- LOCATION* Townships of **Thorneloe, Denton & Carscallen**
 Districts of Timiskaming & Cochrane, Ontario, Canada
 Centred on 48° 21' N and 81° 35' W
 NTS sheet: **42A/05**
- NEAREST SETTLEMENT* Timmins, 20 km to the northeast.
- ACCESS* From Timmins drive west onto highway 101 to the junction with highway 144, then turn south on highway 144 for approximately 3 km. At this point, the road crosses the Highway 144 Project from north to south.
- GEOMORPHOLOGY* The surveyed area lies within low-lying terrain with modest to none topographic relief. Most of the grid is bush covered with muskegs and bogs in the more depressed areas.
- CULTURAL FEATURE* A relatively busy highway crosses the property from north to south and a few drill access roads are located within the property boundaries. None of these features have any apparent effect upon data quality.
- LAND TENURE* The property is held 100% by the Porcupine Joint Venture (Placer Dome (CLA) Limited 51% and Kinross Gold Corporation 49%). The claim numbers encompassed in the present survey are illustrated on the following page.
- SURVEY GRID* The survey grid was cut by R. Picard, subcontractor, prior to the geophysical campaign. Twenty-six cross-lines, 100 m apart (from 5+00W to 20+00E), three tie-lines (18+50N, 22+50N & 35+00N) and a baseline (11+00N) complete the grid for a total of 64.0 km of line cutting.

GPS points were recorded along every lines, baseline and tie-lines at 100 m interval as fine-tuned grid location.
- COORDINATE SYSTEM* Projection: Universal Transverse Mercator
 Datum: NAD27
 Central meridian: 81°00' W (UTM Zone 17N)



INDEX OF CLAIMS AND SURVEY GRID ON THE HIGHWAY 144 PROJECT

3. MAGNETIC FIELD SURVEY

- TYPE OF SURVEY**

Measurement of the Total Magnetic Field every 12.5 m. The plotted values were corrected for diurnal variations using readings from a synchronized MAG base station.
- PERSONNEL**

| | |
|-----------------------|-----------------------------------|
| Paul Mélançon, | crew chief, geophysical operator |
| Jocelyn Desgagnés, | geophysical operator |
| Pierre Bérubé, Eng., | fieldwork supervision & logistics |
| Carole Picard, Tech. | data processing & plotting |
| Helene Rivest, Geop., | QC & interpretation |
- DATA ACQUISITION**

November 7th and 8th and 23rd to 25th, 2005
- SURVEY COVERAGE**

64.3 line-km
- FIELD MAGNETOMETER**

GEM Systems GSM-19, s/n 43318 & 44321
 Proton precession magnetometer with Overhauser effect
 Resolution: 0.01 nT
 Absolute accuracy: 0.2 nT
 Gradient tolerance: >10 000 nT/m
 TF sensor: at a height of 1.8 m above ground.
- BASE STATION**

GEM Systems GSM-19, s/n 21147
 Proton precession magnetometer with Overhauser effect
 Resolution: 0.01 nT
 Absolute accuracy: 0.2 nT
 Cycle time: **10 seconds**
 Location (UTM NAD27): 12+50E, 18+75N
 (457 108m E, 5 355 021m N)
- QUALITY CONTROLS**
 (RECORDS AVAILABLE UPON REQUEST)

Before the survey:

 - ✓ Magnetometers were successfully field-tested on Abitibi Geophysics' private control line.

Every day during data acquisition:

 - ✓ Every morning, the operators had to successfully test for any magnetic contamination.
 - ✓ In the evening, the crew chief reviewed the base station recordings and the repeat stations using our proprietary *MAGneto*TM processing and QC software. No active periods were encountered during the survey.

At the Base of Operations:

 - ✓ Field QCs were inspected & validated.
 - ✓ All profiles were inspected and no readings were removed from the database.

4. RESISTIVITY / INDUCED POLARIZATION SURVEY

TYPE OF SURVEY

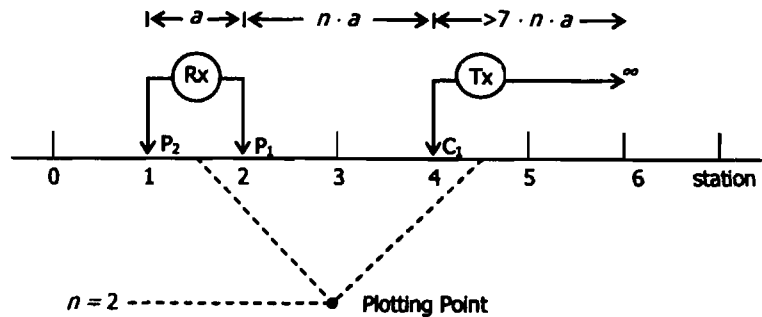
Time domain resistivity / induced polarization

Pole-dipole array, "a" = 25 m, "n" = 1 to 6 (L 5+00W - 11+00E)

"a" = 25 m, "n" = 1 to 8 (L 12+00E - 20+00E)

Locations of C_{∞} (NAD27): 457 119m E, 5 353 069m N

456 981m E, 5 352 860m N



PERSONNEL

| | |
|-----------------------|---------------------------------------|
| Paul Mélançon, | crew chief, geophysical operator |
| Michael Boutin, | field assistant |
| Jocelyn Desgagnés, | field assistant |
| Pascal Lefebvre, | field assistant |
| Pierre Bérubé, Eng., | fieldwork supervision, logistics & QC |
| Carole Picard, Tech., | data processing & plotting |
| Helene Rivest, Geop., | interpretation |

DATA ACQUISITION

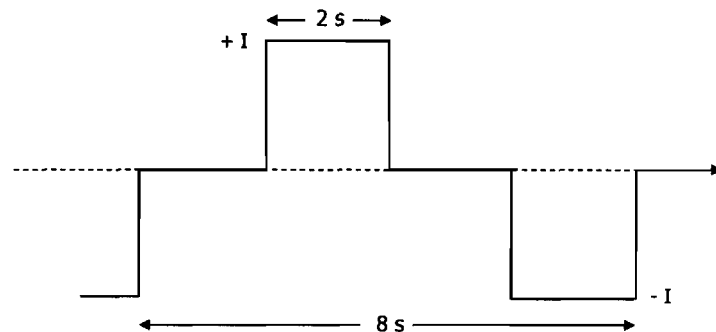
November 1st to 6th and 10th to 22nd, 2005

SURVEY COVERAGE

45.3 line-km

IP TRANSMITTER (Tx)

GDD Instruments TxIII, s/n 215
 Power supply: Kodiak 1800 W
 Maximum output: up to 1.8 kW or 10 A or 2000 V
 Electrodes: stainless steel stakes
 Resolution: 1 mA on output current display I
 Waveform: bipolar square wave with 50% duty cycle
 Pulse duration: 2 seconds



IP RECEIVERS (RX)

IRIS Elrec-PRO (s/n 131) & Elrec-10 (s/n 114), both 10 input channels models

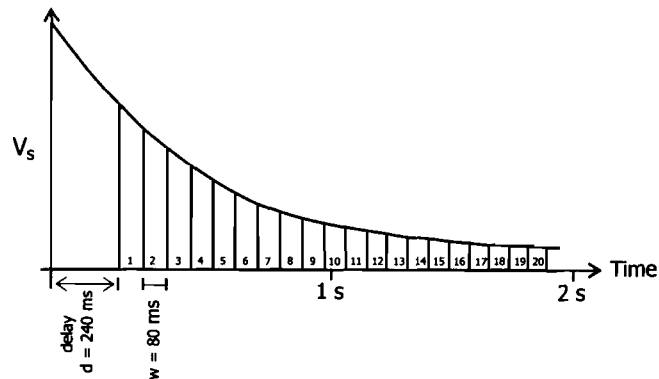
Electrodes: stainless steel stakes

V_p Primary voltage measurement:

- ◇ Input impedance: 100 M Ω
- ◇ Resolution: 1 μ V
- ◇ Typical accuracy: 0.2%

M_a Apparent chargeability measurement:

- ◇ Resolution: 0.01 mV/V
- ◇ Typical accuracy: 0.4%
- ◇ Arithmetic sampling mode, 20 time slices (M_1 to M_{20})



- ◇ All windows are normalized with respect to a standard decay curve for QC in the field.

APPARENT RESISTIVITY CALCULATION

$$\rho_a = 2 \cdot \pi \cdot \frac{V_p}{I} \cdot n \cdot (n + 1) \cdot a \quad (\text{in } \Omega \cdot m)$$

Cumulative error: 5% max, mainly due to chaining accuracy.

QUALITY CONTROL
(RECORDS AVAILABLE UPON REQUEST)

Before the survey:

- ✓ Transmitter & motor generator were checked for maximum output using calibrated loads.
- ✓ Receivers were checked using the Abitibi Geophysics SIMPTM certified and calibrated V_p & M signal simulator.

During data acquisition:

- ✓ Rx & Tx cable insulation was verified every morning.
- ✓ Proprietary Software *Refusilo*TM allowed a daily thorough monitoring of data quality and survey efficiency.
- ✓ Enough pulses were stacked: 6 pulses for every reading.

At the Base of Operations:

- ✓ Field QCs were inspected & validated.
- ✓ Each IP decay curve was analyzed with *Refusilo*TM. The few windows that were rejected were not included in the calculation of the plotted M_a .

☐ QUALITY STATISTICS

| Highway 144 Project | | | | |
|--|----------------|-----------|----------------|-----------|
| Pole-Dipole: a = 25 m | n = 1 to 6 | | n = 1 to 8 | |
| Average contact resistance at the R_x | 1.8 k Ω | | 3.3 k Ω | |
| Average output current across C_1 - C_2 | 1090 mA | | 1308 mA | |
| Average measured voltage V_p across P_1 - P_2 | n = 1 | 1757 mV | n = 1 | 1770 mV |
| | n = 6 | 279 mV | n = 8 | 203 mV |
| Observed windows found to fit a pure electrode polarization relaxation curve | 99.96% | | 99.87% | |
| Average deviation of the validated normalized windows with respect to the plotted mean chargeabilities | n = 1 | 0.07 mV/V | n = 1 | 0.08 mV/V |
| | n = 6 | 0.06 mV/V | n = 8 | 0.06 mV/V |

5. DATA PROCESSING AND DELIVERABLES

□ SPECTRAL IP PROCESSING

The spectral analysis of the measured IP decay curve results in a quantitative evaluation of the IP time constant of the various sources. This parameter is the fingerprint of the mineral causing the IP response whereas chargeability is indicative of the amount of this polarizable mineral; both are complementary.

So spectral analysis may lead to mineral discrimination based upon the textural characteristics of the source (graphite, sulphides, oxides, clay minerals). Inversion of the IP decay curves was done using the Australian AGR robust core algorithm. A map of the time constant at a depth of 50 m is presented in addition to the resistivity and chargeability maps.

□ TRUE-DEPTH IP SECTIONS

Apparent resistivity and chargeability pseudosections were inverted using our proprietary *image2D*[®] package. The process is fully automated as there is no need to guess a starting model or to filter the pseudosection to generate one. The ground is divided in cells of $\frac{1}{4}$ side and a back-projection of the raw data is performed.

The result is a smooth earth model showing all conductive, resistive and polarizable sources. The resulting true-depth sections integrate all possible solutions, highlighting the most probable ones.

A synthetic example showing the ability of *image2D*[®] to resolve sources and to facilitate the location of DDH is presented on the next page.

□ PRECISIONS CONCERNING *image2D*[®]

Imaging cannot create information that is not in the raw data set (pseudosections), i.e., the limitations of the technique and array that was used will still prevail. With pole-dipole, for instance, resolution is asymmetrical and vertical sources may show a false dip. However, noise is efficiently rejected, near-surface effects are easily identified and complex responses, such as two adjoining sources, a wide body or a dipping geological contact, are well resolved.

This imaging process will not recover intrinsic resistivities unless the source is very wide. However, as opposed to pseudosections, geological data from drill-holes may be superimposed on *image2D*[®] true-depth sections.

□ MAPS PRODUCED

The following colour maps are delivered or inserted in pouches at the end of this report. Our Quality System requires that every final map be inspected by at least two qualified persons before being approved and included within a final report.

| Map Number | Description | Scale |
|---|--|---------|
| Line 5+00W to Line 20+00E (23 plates) | Colour Apparent Resistivity & Chargeability Pseudosections and <i>image2D</i> [®] True-depth Sections with Total Magnetic Field Profiles and Interpretation | 1:2 500 |
| 1.1 | Ground Magnetic Field Survey – Total Field Profiles | 1:5 000 |
| 1.2 | Ground Magnetic Field Survey – Total Field Contours | 1:5 000 |
| 1.4 | Ground Magnetic Field Survey – Calculated Vertical Gradient Contours | 1:5 000 |
| 8.2 | IP Survey - <i>image2D</i> [®] Resistivity at a depth of 50 m | 1:5 000 |
| 8.3 | IP Survey - <i>image2D</i> [®] Chargeability at a depth of 50 m | 1:5 000 |
| 8.5 | IP Survey - <i>image2D</i> [®] Time Constant at a depth of 50 m | 1:5 000 |
| 10.0 | Geophysical Interpretation | 1:5 000 |

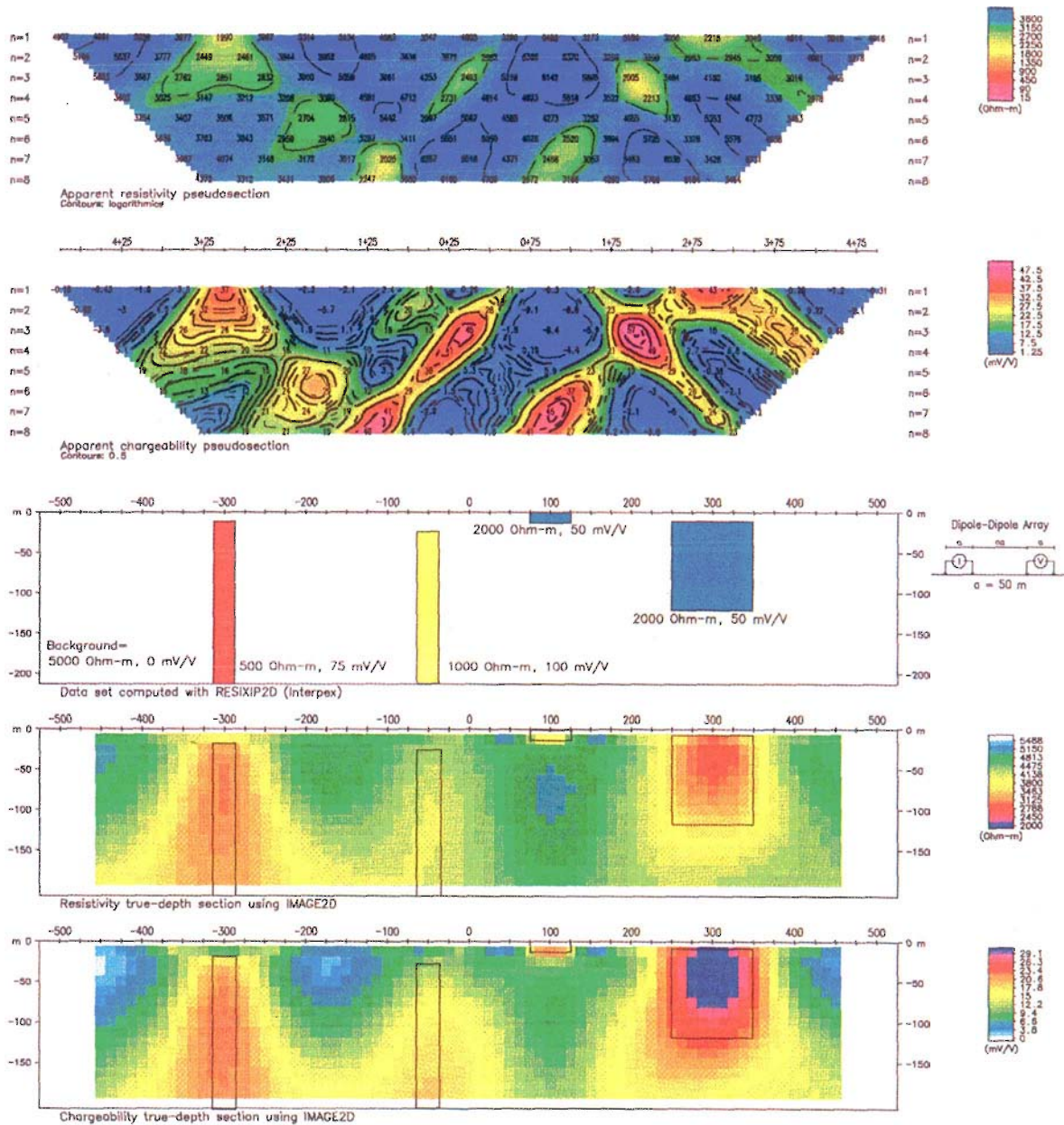
DIGITAL DATA

The above-described maps are delivered in the Oasis Montaj map file format on CD-Rom.

A copy of all survey acquisition data (ASCII text format) and processed data (Geosoft Montaj databases) are also delivered on CD-Rom.

image2D[®] demo on synthetic datasets

Top half of figure: classic apparent resistivity and chargeability pseudosections.
 Centre of plate: the synthetic model that generates these pseudosections.



Bottom half of figure: the reconstructed resistivity and chargeability true-depth sections after inversion of the pseudosections using *image2D*[®].
 The model is superimposed on these sections.

6. RESULTS AND RECOMMENDATIONS

□ TOTAL FIELD MAGNETIC MAP

Detailed analysis of the total field map enabled interpretation of higher amplitude magnetic bodies, outlined by the green shaded 57 600 nT contour line. Throughout the grid, the maximum magnetic amplitude reaches up to 3 000 nT over a pervasive background of 57 000 nT. Magnetic highs associated with more resistive environment yield shorter wavelength, indicative of thinner overburden layer and then again other magnetic highs are characterized by longer wavelength suggestive of deeper sources.

The magnetic lineaments, outlined in green on the Interpretation Map (10.0), represent the surface projection of these magnetic sources and were defined from the total field profiles. They are generally ENE trending (~ 60° to 80° from North) and likely represent mafic dykes and sills, or units with a magnetic susceptibility exceeding that of the background. The Highway 144 Project is thus characterized by an overall low magnetic relief, intruded by strongly magnetic features seated under variable overburden thickness. Most IP trends are at least partly associated with these magnetic anomalies. Those bordering such intrusive features may often be signature of subsidiary fracturing events offering favourable gold mineralization environments.

Curiously, survey carried out over line 19+00E resulted as a local north-south trending anomalous high reaching values of 200 nT to 400 nT over next lines values. This line was thus surveyed twice by different operators carrying different magnetometer units and the resulting magnetic readings were very similar. This north-south linear feature rather stands out from the local ENE strike trend but is neither associated with Highway 144 (crossing the grid in the same direction) located 500 m away. Perhaps regional geophysical / geological knowledge would help interpretation of this magnetic feature.

□ RESISTIVITY MAP

Over the PJV Highway 144 survey grid, gradual rises in resistivity, reaching values of nearly 10 000 Ωm, have been delineated choosing the 900 Ωm contour line (blue-shaded areas). These could represent a lithological contact or a shift in the overburden thickness associated with bedrock uplifting. These resistivity features also offer environments favorable to quartz vein style mineralization related to shear zones. All IP anomalies embedded within these zones result from probable shallow sources where prospecting (stripping / trenching) and drilling have been recommended over the best targets. They have been reported on the Geophysical Interpretation Map (10.0) and those with an associated chargeability response have been labeled and will be described in detail later in this report.

□ CHARGEABILITY MAP

Following interpretation of pseudosections, *image2D*[®] true-depth and chargeability map, plotted at a depth of 50 m, a total of forty polarizable features were compiled on the Highway 144 Project. Nine of these were rated as first priority DDH targets and additional drilling and / or prospecting was recommended over seven second priority targets and over four remaining third priority targets. As expected, strongest IP amplitudes are located within more resistive environment where depth to source is relatively shallow. A few weaker anomalies were delineated in the southwest part of the grid where the overburden cover appears much thicker.

These anomalies have been correlated from line-to-line according to their strength, strike-trend, magnetic association, Cole-Cole time constant and other similar characteristics. They are shown on the Geophysical Interpretation Map 10.0, and are fully described in Appendix A.

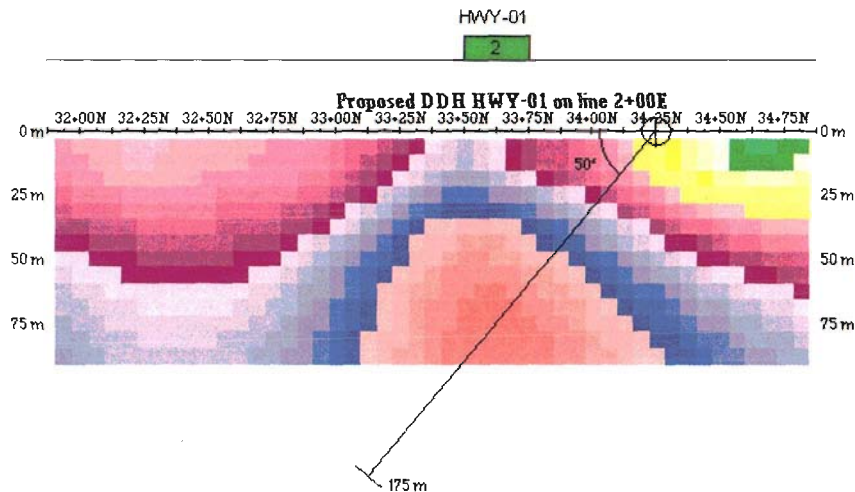
☐ *TIME CONSTANT MAP*

Only a few structures are noteworthy on the time constant map plotted at a depth of 50 m. IP trends (HWY-04, HWY-05, HWY-06, HWY-08, HWY-18?, HWY-19?) are both magnetic and partly associated with lower time constant values, indicative of oxide minerals (such as magnetite). These IP anomalies may therefore wholly result from magnetite but small amounts of sulphides mineralization still may be present.

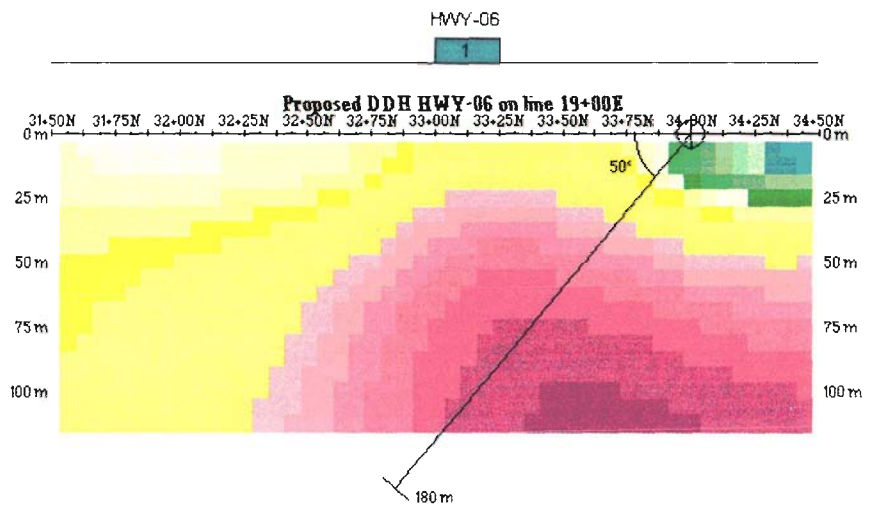
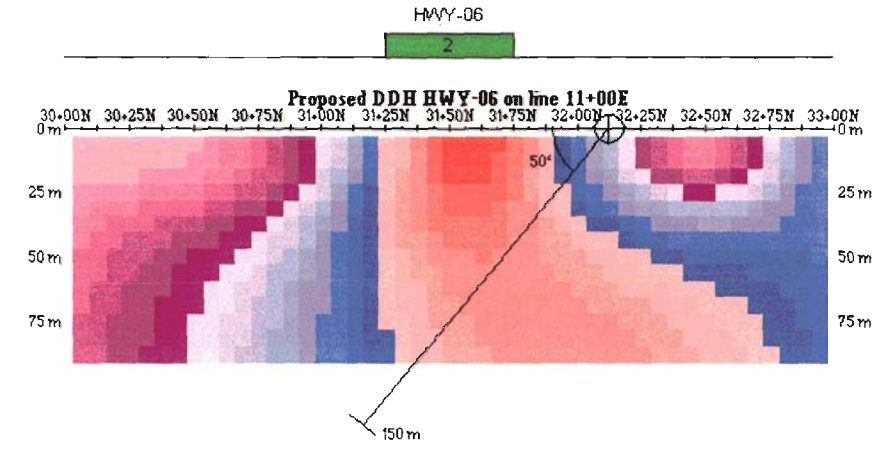
All priority DDH and prospecting targets are illustrated hereafter.

☐ *FIRST PRIORITY DDH TARGETS (HWY-01, HWY-06, HWY-07, HWY-21, HWY-25, HWY-26, HWY-28, HWY-30 & HWY-33)*

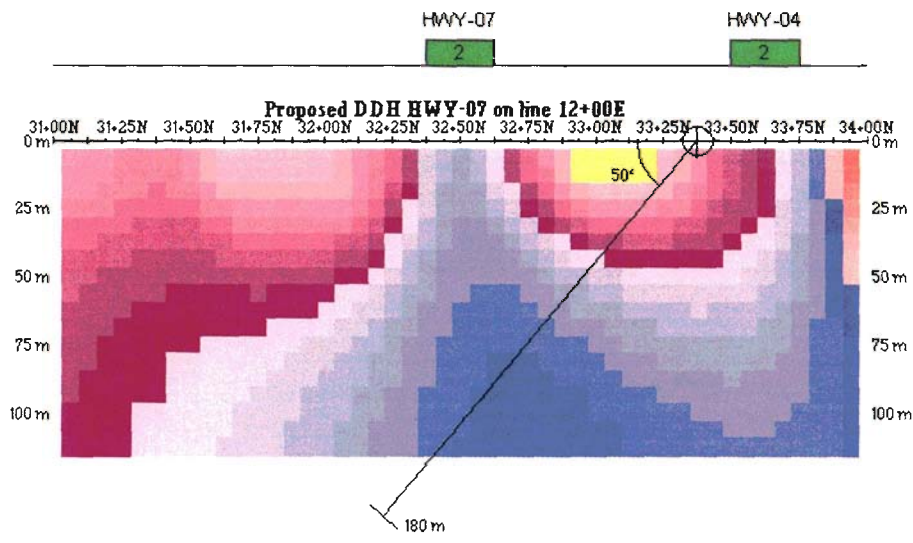
IP TREND HWY-01:



IP TREND HWY-06:

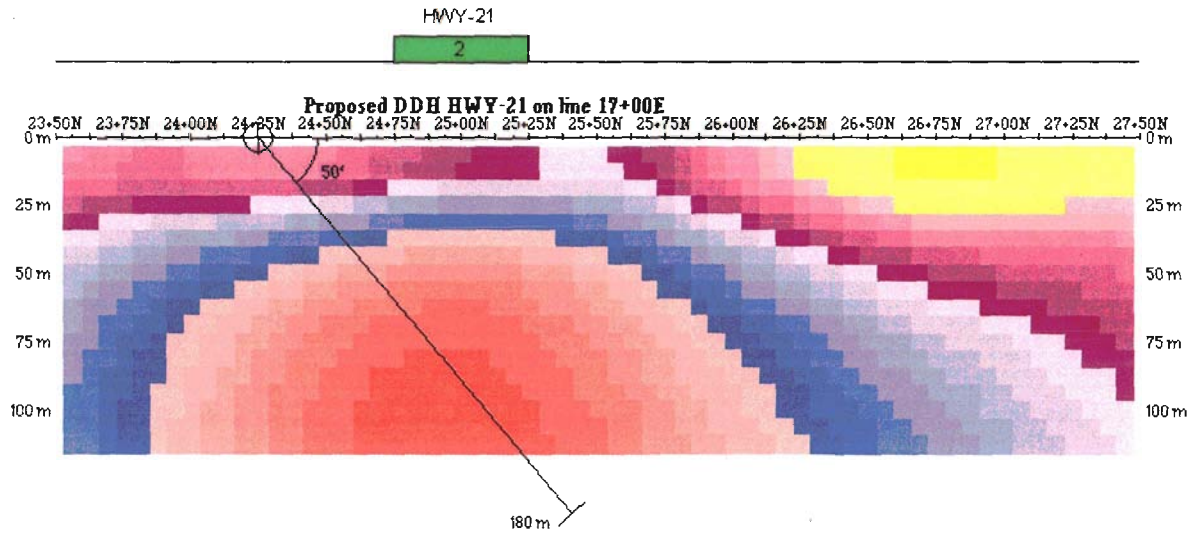


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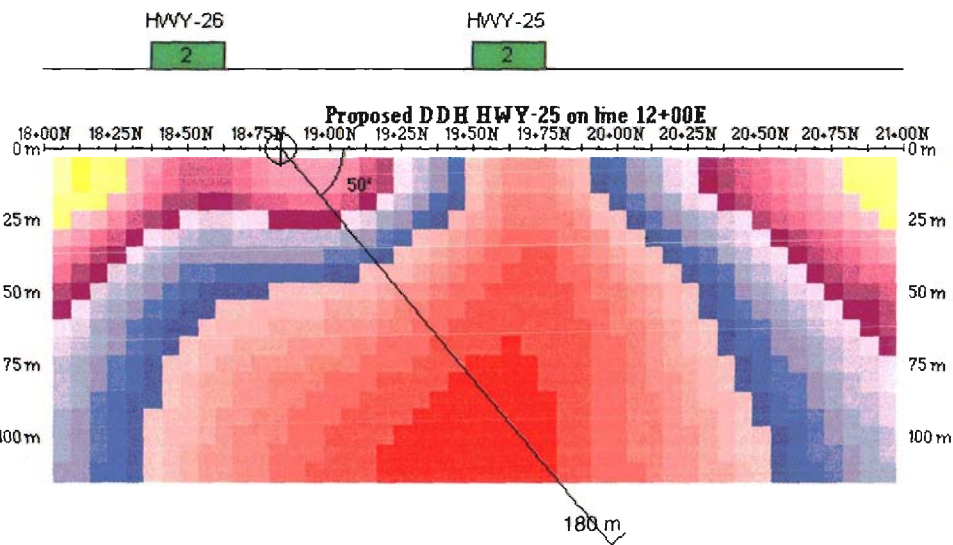


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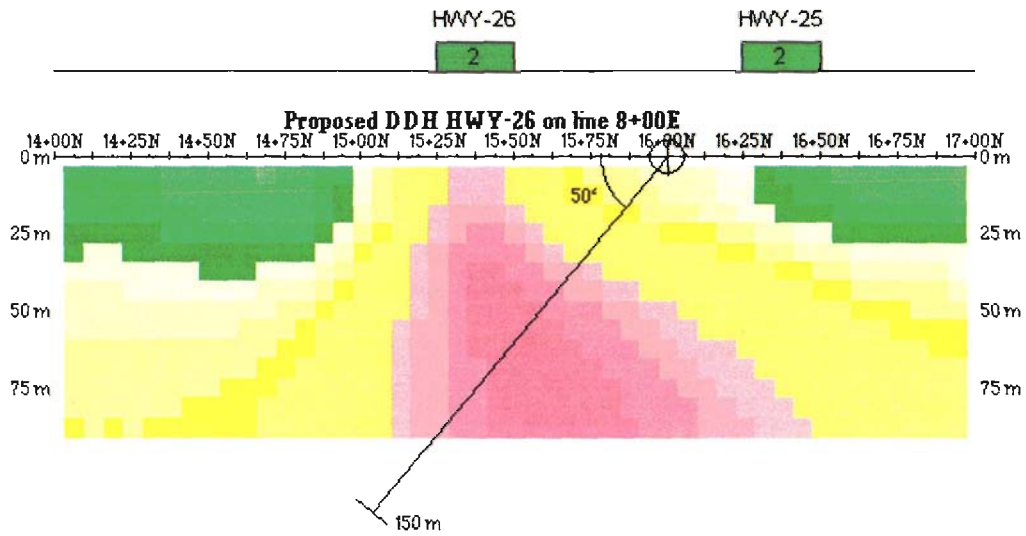
IP TREND HWY-21:



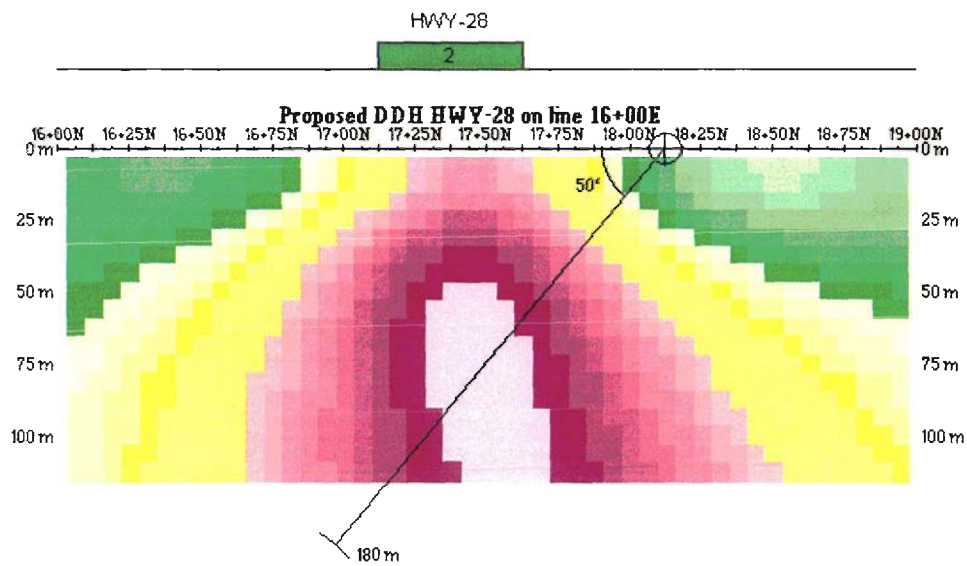
IP TREND HWY-25:



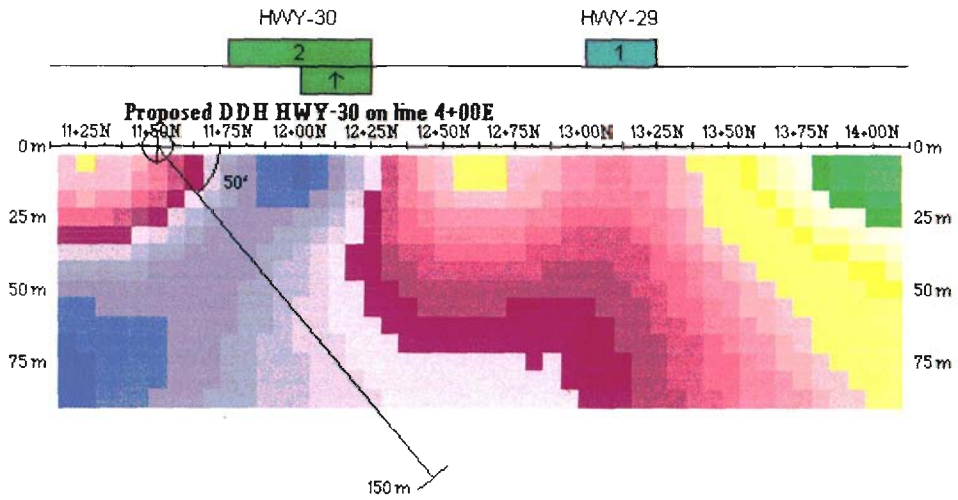
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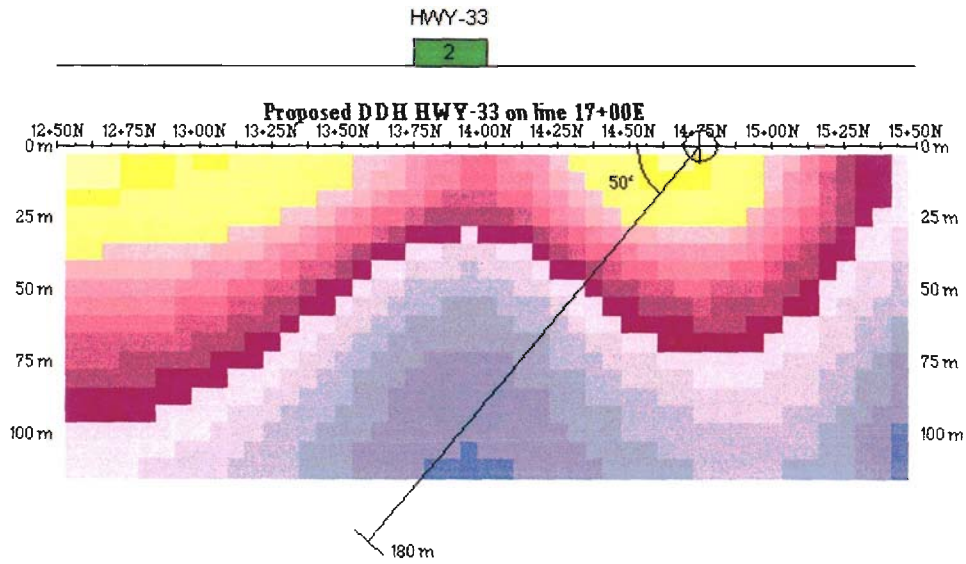
IP TREND HWY-28:



IP TREND HWY-30:

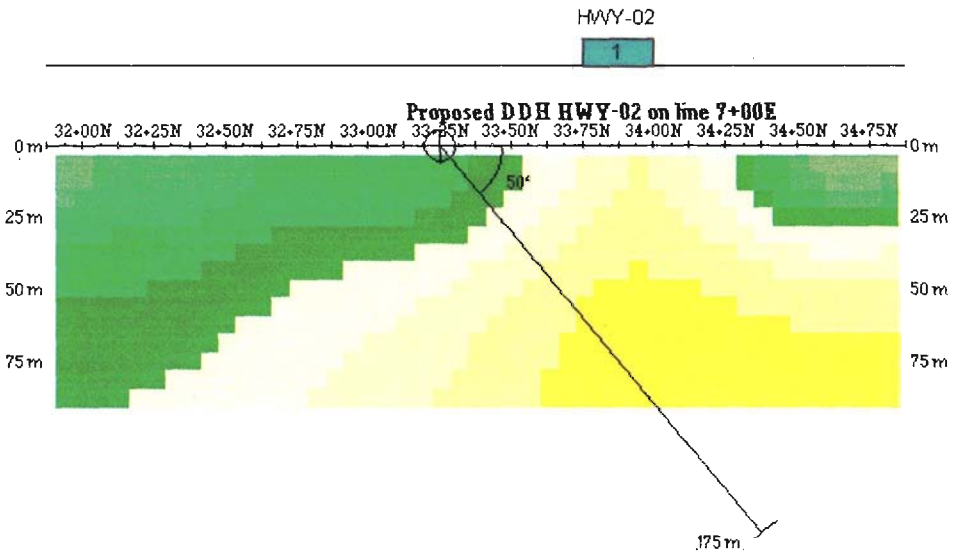


IP TREND HWY-33:

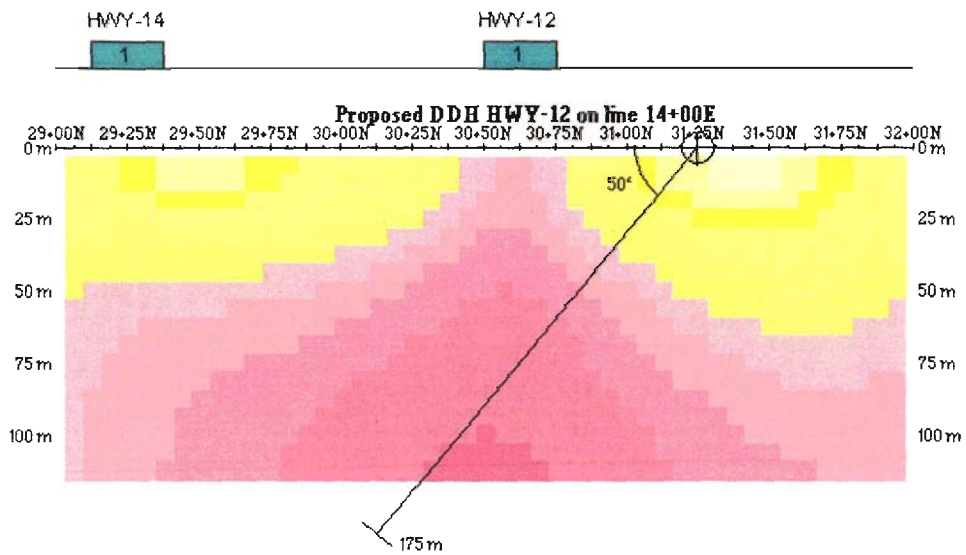


□ SECOND PRIORITY DDH TARGETS (HWY-02, HWY-12, HWY-19 & HWY-35)

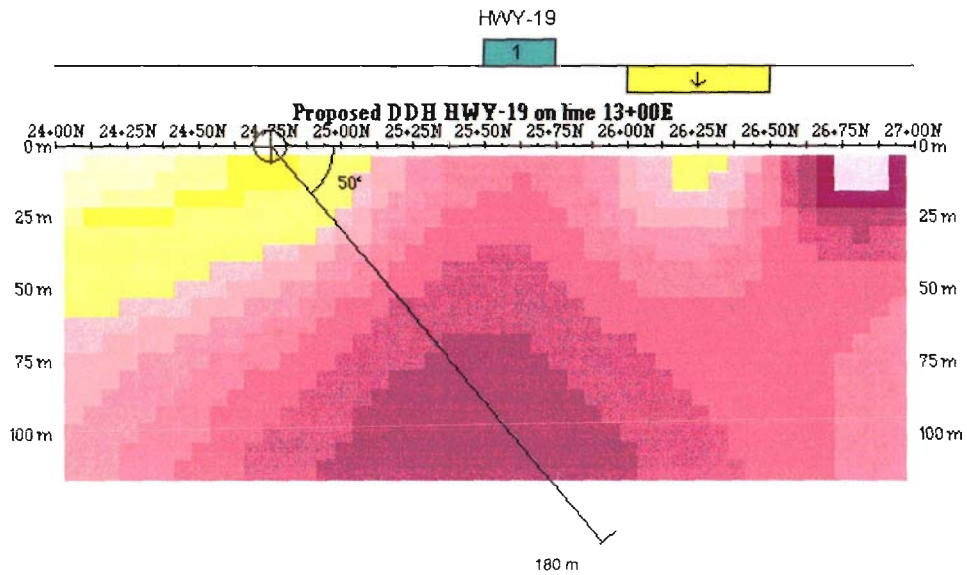
IP TREND HWY-02:



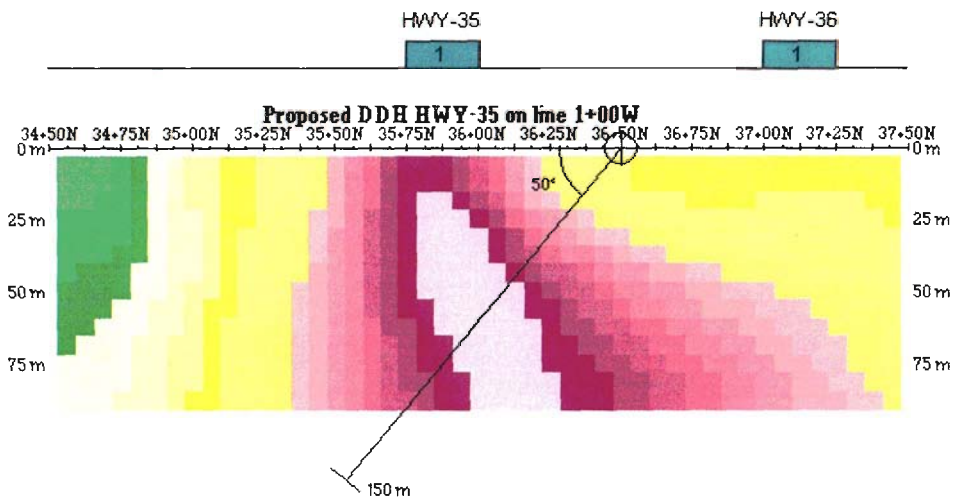
IP TREND HWY-12:



IP TREND HWY-19:

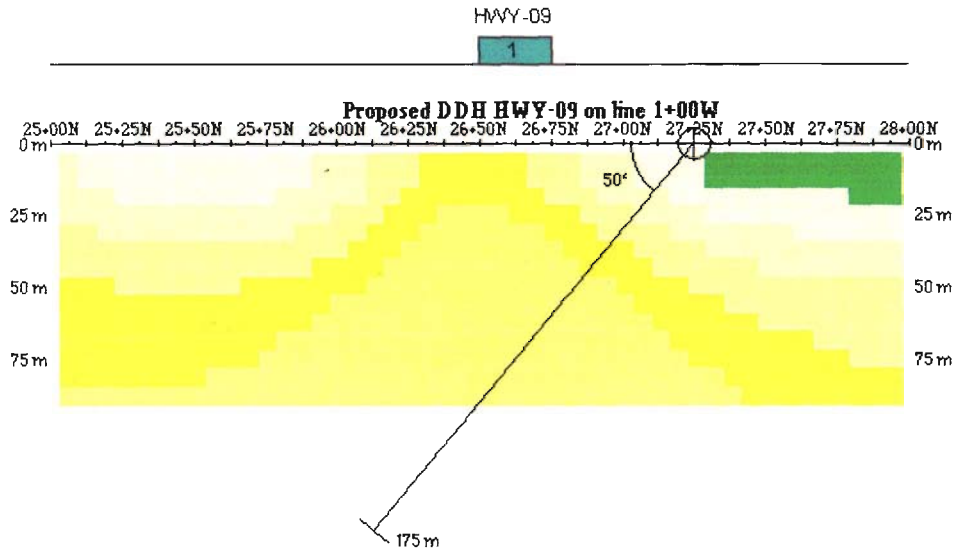


IP TREND HWY-35:

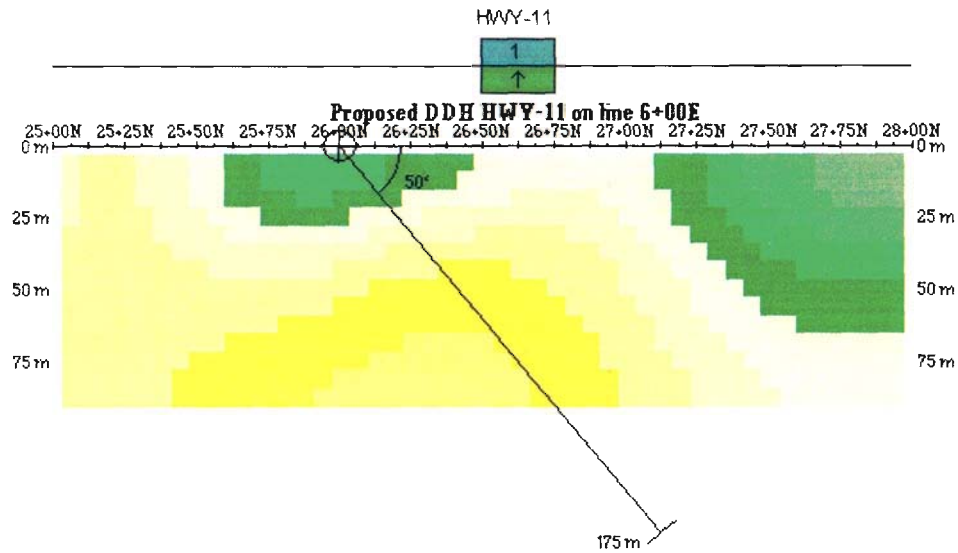


□ **THIRD PRIORITY DDH TARGETS (HWY-09 & HWY-11)**

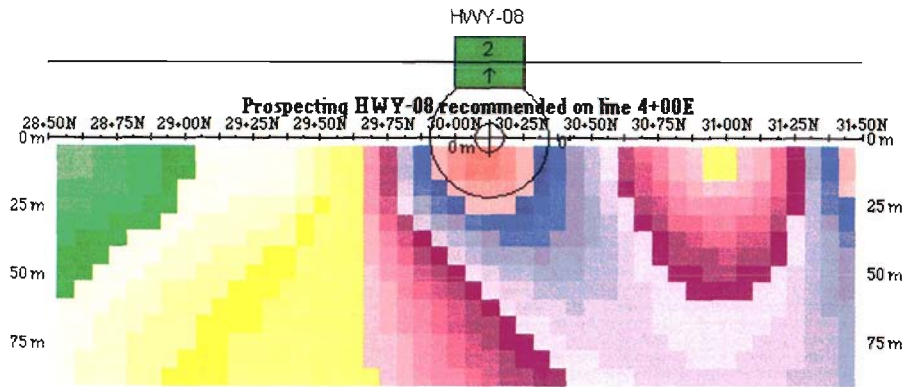
IP TREND HWY-09:



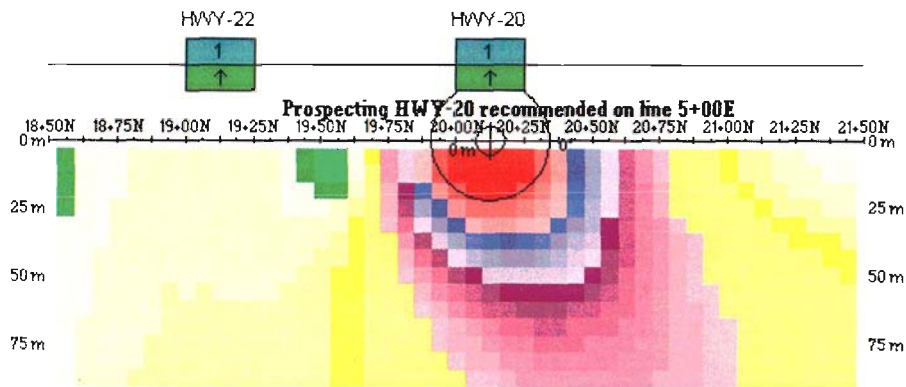
IP TREND HWY-11



IP TREND HWY-08:

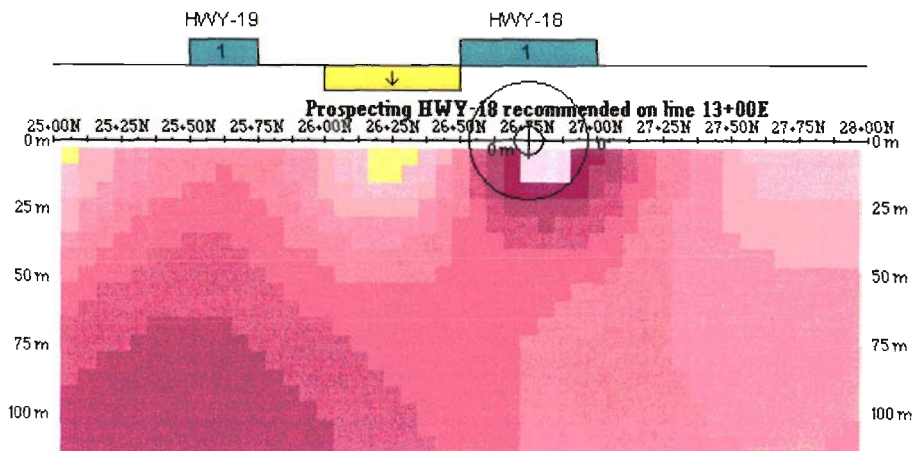


IP TREND HWY-20:

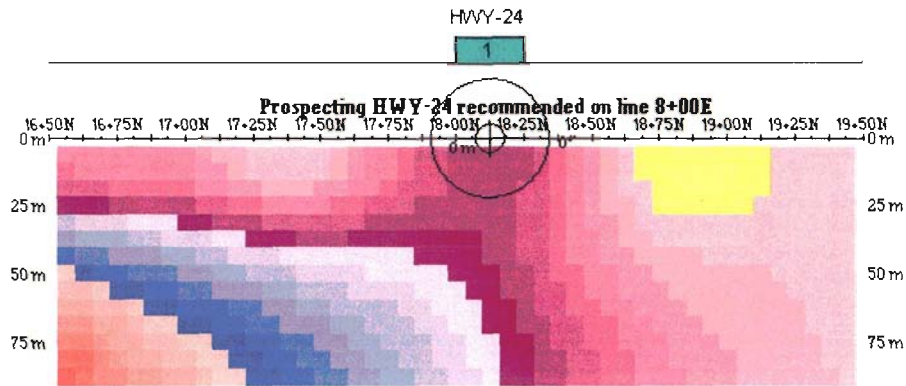


THIRD PRIORITY PROSPECTING TARGETS (HWY-18 & HWY-24)

IP TREND HWY-18:



IP TREND HWY-24:



7. FOLLOW-UP SUMMARY

DRILLING

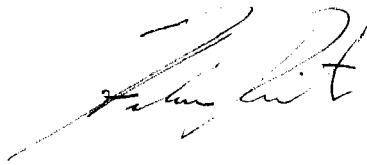
| Priority | Anomaly | DDH target (not collar) | | |
|----------|---------|-------------------------|---------|-----------|
| | | Line | Station | Depth (m) |
| 1 | HWY-01 | 2+00E | 33+63N | 75 |
| | HWY-06 | 11+00E | 31+50N | 70 |
| | | 19+00E | 33+13N | 100 |
| | HWY-07 | 12+00E | 32+50N | 100 |
| | HWY-21 | 17+00E | 25+00N | 85 |
| | HWY-25 | 12+00E | 19+63N | 100 |
| | HWY-26 | 8+00E | 15+38N | 75 |
| | HWY-28 | 16+00E | 17+38N | 85 |
| HWY-30 | 4+00E | 12+00N | 60 | |
| 2 | HWY-33 | 17+00E | 13+88N | 100 |
| | HWY-02 | 7+00E | 33+88N | 75 |
| | HWY-12 | 14+00E | 30+63N | 75 |
| | HWY-19 | 13+00E | 25+63N | 100 |
| 3 | HWY-35 | 1+00W | 35+88N | 75 |
| | HWY-09 | 1+00W | 26+63N | 70 |
| | HWY-11 | 6+00E | 26+63N | 75 |

PROSPECTING

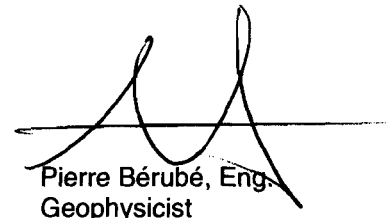
| Priority | Anomaly | Location | |
|----------|---------|----------|---------|
| | | Line | Station |
| 2 | HWY-02 | 12+00E | 34+38N |
| | HWY-04 | 3+00E | 31+38N |
| | | 10+00E | 33+50N |
| | HWY-08 | 4+00E | 30+13N |
| | HWY-20 | 5+00E | 20+13N |
| 3 | HWY-18 | 13+00E | 26+75N |
| | HWY-24 | 8+00E | 18+13N |

The interpretation of the geophysical data embodied in this report is essentially a geophysical appraisal of the Highway 144 Project. As such, it incorporates only as much geoscientific information as the author has on hand at the time. Geologists thoroughly familiar with the area are in a better position to evaluate the geological significance of the various geophysical signatures. Moreover, as time passes and information provided by follow-up programs are compiled, exploration targets recognized in this study might be down-graded or up-graded.

Respectfully submitted,
Abitibi Geophysics Inc.



Helene Rivest,
Geophysicist



Pierre Bérubé, Eng.
Geophysicist

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project



| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|-----------|-----------|----------|------|--|---|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-01 | 5+00W | 32+38N | 1 | - | - | Weak to moderate polarizable trend, non-magnetic (flanks the north side of a strongly magnetic feature on line 2+00E only) and located within a more conductive environment. Eastern part of trend is associated with lower time constant values indicating higher metallic mineral content. Drilling is recommended on line 2+00E. | 1 |
| | 3+00W | 33+13N | 1 | - | | | |
| | 1+00W | 32+88N | 1 | - | | | |
| | 1+00E | 32+88N | 1 | - | | | |
| | 2+00E | 33+63N | 2 | - | | | |
| HWY-02 | 4+00E | 34+13N | 1 | - | Magnetic at both extremities. | Weak to moderate polarizable trend, partly magnetic and associated with a resistive anomaly. Prospecting on line 12+00E where the anomaly is likely subcropping and drilling on line 7+00E is recommended. | 2 |
| | 5+00E | 33+63N | 1 | - | | | |
| | 6+00E | North End | 1 | ↑↑ | | | |
| | 7+00E | 33+88N | 1 | - | | | |
| | 8+00E | 34+13N | ? | - | | | |
| | 9+00E | 34+38N | 1 | - | | | |
| | 10+00E | 34+13N | 1 | - | | | |
| | 11+00E | 34+38N | 1 | ↑↑ | | | |
| | 12+00E | 34+38N | 2 | ↑↑ | | | |
| 13+00E | North End | 2 | - | | | | |
| HWY-04 | 5+00W | 28+38N | 1 | - | Corresponding to a strongly magnetic linear feature. | Weak to moderate polarizable trend, magnetic and associated with a resistive anomaly. Part of trend is associated with lower time constant values, indicating the presence of magnetite. HWY-04 may therefore be the result of magnetite content but still may hold small amounts of sulphides. Prospecting is recommended on lines 3+00E and 10+00E. | 2 |
| | 3+00W | 28+63N | 1 | - | | | |
| | 1+00W | 29+38N | 1 | - | | | |
| | 1+00E | 30+38N | 2 | - | | | |
| | 2+00E | 31+13N | 2 | - | | | |
| | 3+00E | 31+38N | 2 | - | | | |
| | 4+00E | 32+13N | 2 | ↑↑ | | | |
| | 5+00E | 32+50N | 1 | ↑ | | | |
| | 6+00E | 32+50N | 1 | - | | | |
| | 7+00E | 31+63N | ? | - | | | |
| | 8+00E | 32+38N | 1 | - | | | |
| | 9+00E | 32+88N | 1 | - | | | |
| | 10+00E | 33+50N | 1 | ↑↑ | | | |
| | 11+00E | 33+25N | 2 | ↑↑ | | | |
| | 12+00E | 33+63N | 2 | - | | | |
| 13+00E | 33+63N | 2 | - | | | | |
| 14+00E | 34+13N | 2 | ↑↑ | | | | |
| 15+00E | 34+38N | 1 | - | | | | |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project



| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|-----------|----------|------|---|--|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-05 | 16+00E | 33+63N | 1 | - | Corresponding to a moderately magnetic linear feature. | Weak polarizable trend, magnetic and associated with a resistive anomaly. Part of trend is associated with lower time constant values, indicating the presence of magnetite. Source closely related to HWY-06 . Wait for results of HWY-06 . | 4 |
| | 17+00E | 33+63N | 1 | - | | | |
| | 18+00E | 34+38N | 1 | - | | | |
| | 19+00E | North End | 1 | - | | | |
| | 20+00E | North End | 1 | - | | | |
| HWY-06 | 8+00E | 30+38N | 1 | - | Corresponding to a strongly magnetic feature. | Weak to moderate polarizable trend, magnetic and located within more resistive zones. Response on line 11+00E is associated with lower time constant values, indicating the presence of magnetite. HWY-06 may therefore be the result of magnetite content but still may hold small amounts of sulphides. Drilling on lines 11+00E and 19+00E is recommended. | 1 |
| | 9+00E | 30+25N | 1 | - | | | |
| | 10+00E | 31+13N | 1 | - | | | |
| | 11+00E | 31+50N | 2 | - | | | |
| | 12+00E | 31+13N | 1 | - | | | |
| | 13+00E | 31+38N | 1 | - | | | |
| | 14+00E | 32+38N | 1 | - | | | |
| | 15+00E | 32+75N | 1 | - | | | |
| | 16+00E | 32+63N | 1 | - | | | |
| | 17+00E | 32+88N | 1 | - | | | |
| | 18+00E | 33+13N | 1 | - | | | |
| 19+00E | 33+13N | 1 | - | | | | |
| 20+00E | 33+13N | 1 | - | | | | |
| HWY-07 | 12+00E | 32+50N | 2 | - | Flanking the north side of a strongly magnetic feature. | Moderately polarizable anomaly, magnetic and located within a more resistive zone. Single line anomaly. Drilling on line 12+00E is recommended. | 1 |
| HWY-08 | 1+00E | 29+13N | 1 | - | Corresponding to a strongly magnetic linear feature. | Weak to moderate polarizable trend, magnetic and associated with a resistive anomaly. Closely related to HWY-04 . Part of trend is associated with lower time constant values, indicating the presence of magnetite. HWY-08 may therefore be the result of magnetite content but still may hold small amounts of sulphides. Prospecting is recommended on line 4+00E. | 2 |
| | 2+00E | 29+38N | 2 | - | | | |
| | 3+00E | 30+38N | 2 | - | | | |
| | 4+00E | 30+13N | 2 | ↑ | | | |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project



| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|---------|----------|------|---|--|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-09 | 5+00W | 26+38N | 1 | - | Corresponding to a strongly magnetic feature. | Weak to very weak polarizable trend, magnetic and partly located within a more resistive zone. Drilling on line 1+00W is recommended. | 3 |
| | 3+00W | 26+38N | ? | - | | | |
| | 1+00W | 26+63N | 1 | - | | | |
| | 1+00E | 26+38N | 1 | - | | | |
| | 2+00E | 26+63N | 1 | - | | | |
| | 3+00E | 27+38N | ? | - | | | |
| | 4+00E | 27+63N | ? | - | | | |
| HWY-10 | 5+00E | 29+13N | ? | - | Corresponding to a strongly magnetic feature. | Weak to very weak polarizable and magnetic trend. Two lines anomaly only. No further work is recommended at the present time. | 4 |
| | 6+00E | 28+88N | 1 | - | | | |
| HWY-11 | 5+00E | 26+38N | ? | ↑ | Corresponding to a moderately magnetic feature. | Weak polarizable trend, magnetic and partly associated with a resistive anomaly. Drilling on line 6+00E is recommended. | 3 |
| | 6+00E | 26+63N | 1 | ↑ | | | |
| | 7+00E | 27+38N | 1 | - | | | |
| | 8+00E | 27+88N | 1 | - | | | |
| | 9+00E | 28+13N | 1 | - | | | |
| | 11+00E | 29+38N | 1 | ↑ | | | |
| HWY-12 | 14+00E | 30+63N | 1 | - | Corresponding to a moderately magnetic feature. | Weak to very weak polarizable trend, magnetic and partly located within a more resistive zone. Drilling on line 14+00E is recommended. | 2 |
| | 15+00E | 30+63N | 1 | - | | | |
| | 16+00E | 31+13N | 1 | - | | | |
| | 17+00E | 31+38N | 1 | - | | | |
| | 18+00E | 31+63N | ? | - | | | |
| | 19+00E | 31+38N | ? | - | | | |
| HWY-13 | 14+00E | 20+88N | 1 | ↑ | Corresponding to a strongly magnetic feature. | Weak polarizable and magnetic trend. Two lines anomaly only. No further work is recommended at the present time. | 4 |
| | 15+00E | 21+13N | 1 | - | | | |
| HWY-14 | 12+00E | 28+63N | 1 | - | Corresponding to a strongly magnetic feature. | Weak polarizable trend, magnetic and partly located within a more resistive zone. No further work is recommended at the present time. | 4 |
| | 13+00E | 28+88N | 1 | - | | | |
| | 14+00E | 29+25N | 1 | - | | | |
| | 16+00E | 29+88N | 1 | - | | | |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project



| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|---------|----------|------|--|---|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-15 | 5+00W | 23+13N | 1 | - | Partly corresponding to a moderately magnetic feature. | Generally very weak polarizable trend, magnetic and located under a thicker overburden layer which may, to a certain degree, mask the anomaly intensity. No further work is recommended at the present time. | 4 |
| | 3+00W | 23+13N | 1 | - | | | |
| | 1+00W | 23+13N | 1 | - | | | |
| | 1+00E | 22+88N | ? | - | | | |
| | 2+00E | 22+38N | ? | - | | | |
| | 3+00E | 22+38N | ? | - | | | |
| | 4+00E | 22+13N | ? | - | | | |
| | 6+00E | 22+13N | 1 | ↑ | | | |
| HWY-16 | 3+00W | 24+88N | 1 | - | Partly corresponding to a moderately magnetic feature. | Weak to very weak polarizable trend, magnetic and located under a thicker overburden layer. No further work is recommended at the present time. | 4 |
| | 1+00W | 24+13N | 1 | - | | | |
| | 2+00E | 24+63N | ? | - | | | |
| | 3+00E | 24+38N | ? | - | | | |
| | 4+00E | 24+38N | ? | - | | | |
| | 5+00E | 24+63N | ? | - | | | |
| | 6+00E | 25+13N | 1 | - | | | |
| HWY-17 | 1+00E | 25+38N | 1 | - | - | Weak single line polarizable anomaly. No further work is recommended at the present time. | 4 |
| HWY-18 | 7+00E | 26+25N | 1 | ↑ | Corresponding to a weak magnetic feature. | Weak polarizable trend, magnetic and located within a more resistive zone. Part of trend is associated with lower time constant values, indicating the presence of magnetite. HWY-18 may therefore be the result of magnetite content but still may hold small amounts of sulphides. Prospecting is recommended on line 13+00E. | 3 |
| | 8+00E | 26+75N | 1 | - | | | |
| | 10+00E | 27+13N | 1 | - | | | |
| | 11+00E | 27+13N | 1 | - | | | |
| | 12+00E | 26+63N | 1 | - | | | |
| | 13+00E | 26+75N | 1 | - | | | |
| HWY-19 | 10+00E | 24+88N | 1 | - | Corresponding to a moderately magnetic feature. | Weak to very weak polarizable trend, magnetic and partly located within a more resistive zone. Part of trend is associated with a lower time constant values, indicating the presence of magnetite. HWY-19 may therefore be the sole result of magnetite content but still may hold small amounts of sulphides. Drilling on line 13+00E is recommended. | 2 |
| | 11+00E | 25+63N | 1 | - | | | |
| | 12+00E | 25+13N | 1 | ↑ | | | |
| | 13+00E | 25+63N | 1 | - | | | |
| | 14+00E | 25+88N | 1 | - | | | |
| | 15+00E | 26+38N | 1 | - | | | |
| | 16+00E | 26+88N | 1 | - | | | |
| | 17+00E | 27+88N | 1 | - | | | |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project



| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|---------|----------|------|---|--|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-20 | 1+00E | 19+88N | ? | - | Corresponding to a moderately magnetic feature. | Weakly polarizable anomaly, magnetic and partly associated with a resistive anomaly. Prospecting is recommended on line 5+00E. | 2 |
| | 3+00E | 19+88N | ? | - | | | |
| | 4+00E | 19+88N | 1 | ↑ | | | |
| | 5+00E | 20+13N | 1 | ↑ | | | |
| | 6+00E | 20+75N | 1 | ↑ | | | |
| | 7+00E | 21+38N | 1 | - | | | |
| | 8+00E | 21+63N | 1 | - | | | |
| HWY-21 | 14+00E | 23+88N | 1 | - | Corresponding to a moderately magnetic feature. | Weakly to moderately polarizable and magnetic anomaly. Drilling is recommended on line 17+00E. | 1 |
| | 15+00E | 23+63N | 1 | - | | | |
| | 16+00E | 24+00N | 2 | - | | | |
| | 17+00E | 25+00N | 2 | - | | | |
| HWY-22 | 1+00E | 18+88N | ? | - | Corresponding to a weakly magnetic feature. | Generally very weak polarizable trend, magnetic and partly associated with a resistive anomaly. No further work is recommended at the present time. | 4 |
| | 2+00E | 18+88N | ? | - | | | |
| | 3+00E | 18+63N | ? | - | | | |
| | 5+00E | 19+13N | 1 | ↑ | | | |
| HWY-23 | 8+00E | 19+38N | 1 | - | Corresponding to a moderately magnetic feature. | Weak polarizable and magnetic trend. No further work is recommended at the present time. | 4 |
| | 9+00E | 20+63N | 1 | - | | | |
| HWY-24 | 7+00E | 17+63N | 1 | ↑ | Corresponding to a moderately magnetic feature. | Weak to moderate polarizable trend, magnetic and located within a more resistive zone. Prospecting is recommended on line 8+00E. | 3 |
| | 8+00E | 18+13N | 1 | - | | | |
| | 9+00E | 19+13N | 1 | - | | | |
| | 10+00E | 19+63N | 2 | - | | | |
| HWY-25 | 8+00E | 16+38N | 2 | - | Corresponding to a moderately magnetic feature. | Moderate polarizable and magnetic trend located within a more resistive zone. Drilling is recommended on line 12+00E. | 1 |
| | 9+00E | 17+50N | 2 | - | | | |
| | 10+00E | 18+38N | 2 | - | | | |
| | 11+00E | 19+38N | 2 | - | | | |
| | 12+00E | 19+63N | 2 | - | | | |
| | 13+00E | 19+63N | 1 | ↑ | | | |
| | 14+00E | 19+88N | 1 | - | | | |
| | 15+00E | 20+13N | ? | - | | | |
| | 16+00E | 20+63N | ? | - | | | |
| 17+00E | 21+13N | 1 | - | | | | |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project

| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|-----------|----------|------|---|---|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-26 | 6+00E | 14+88N | 1 | - | Flanks the southern edge of a magnetic feature. | Moderately polarizable and weakly magnetic trend located within a more resistive zone. Drilling is recommended on line 8+00E. | 1 |
| | 7+00E | 15+00N | 2 | - | | | |
| | 8+00E | 15+38N | 2 | - | | | |
| | 9+00E | 16+38N | 2 | ↑ | | | |
| | 10+00E | 17+63N | 2 | - | | | |
| | 11+00E | 18+00N | 2 | - | | | |
| | 12+00E | 18+50N | 2 | - | | | |
| | 13+00E | 18+63N | 1 | - | | | |
| HWY-27 | 15+00E | 18+38N | 1 | - | - | Weak to moderate polarizable and non-magnetic trend. No further work is recommended at the present time. | 4 |
| | 16+00E | 19+38N | 1 | - | | | |
| | 17+00E | 19+88N | 2 | ↓ | | | |
| HWY-28 | 13+00E | 16+88N | ? | - | Corresponding to a very weak magnetic feature. | Moderate to strong polarizable and slightly magnetic trend. Prospecting is recommended on line 16+00E. | 1 |
| | 14+00E | 16+88N | ? | ↑ | | | |
| | 15+00E | 17+38N | 2 | - | | | |
| | 16+00E | 17+38N | 2 | - | | | |
| | 17+00E | 17+25N | 3 | ↓ | | | |
| HWY-29 | 4+00E | 13+13N | 1 | - | - | Weak to moderate polarizable and non-magnetic trend. No further work is recommended at the present time. | 4 |
| | 5+00E | 13+50N | 1 | - | | | |
| | 6+00E | 13+63N | 1 | - | | | |
| | 7+00E | 13+75N | 2 | - | | | |
| | 8+00E | 14+13N | 2 | - | | | |
| HWY-30 | 4+00E | 12+00N | 2 | ↑ | - | Likely subcropping moderately polarizable trend. Drilling is recommended on line 4+00E. | 1 |
| | 5+00E | 12+38N | 1 | - | | | |
| | 6+00E | 12+25N | 1 | - | | | |
| | 7+00E | 12+38N | 2 | - | | | |
| | 8+00E | 12+13N | 2 | - | | | |
| | 9+00E | 11+88N | 2 | - | | | |
| | 10+00E | South End | 2 | - | | | |
| | 11+00E | South End | 2 | - | | | |
| | 12+00E | 11+63N | 2 | - | | | |
| HWY-31 | 7+00E | 11+50N | 2 | - | - | Moderate polarizable and non-magnetic single line anomaly. No further work is recommended at the present time. | 4 |

Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project

| Anomaly | Location | | Contrast | | Magnetic Association | Comments | Priority |
|---------|----------|-----------|----------|------|---|--|----------|
| | Line | Station | Charg. | Res. | | | |
| HWY-32 | 13+00E | 12+38N | 1 | - | - | Weakly polarizable and non-magnetic trend. No further work is recommended at the present time. | 4 |
| | 14+00E | 12+38N | 1 | - | | | |
| | 15+00E | 12+88N | 1 | - | | | |
| | 16+00E | 12+38N | 1 | - | | | |
| HWY-33 | 16+00E | 14+13N | 1 | - | Corresponding to a very weak magnetic feature. | Weak to moderate polarizable trend, Drilling is recommended on line 17+00E. | 1 |
| | 17+00E | 13+88N | 2 | - | | | |
| HWY-34 | 15+00E | South End | 1 | - | - | Weakly polarizable and non-magnetic trend. Ill-defined as the coverage is incomplete (end-of-line) No further work is recommended at the present time. | 4 |
| | 16+00E | South End | 1 | - | | | |
| | 17+00E | South End | 1 | - | | | |
| HWY-35 | 1+00W | 35+88N | 1 | - | ? (no coverage) | Weak but well defined single line polarizable anomaly. Drilling is recommended on line 1+00W. | 2 |
| HWY-36 | 1+00W | 37+13N | 1 | - | ? (no coverage) | Weak single line polarizable anomaly. No further work is recommended at the present time. | 4 |
| HWY-37 | 7+00E | 23+63N | 1 | - | Corresponding to a strong magnetic feature. | Weak polarizable trend, magnetic and located within a more resistive zone. No further work is recommended at the present time. | 4 |
| | 8+00E | 23+38N | 1 | - | | | |
| | 9+00E | 23+13N | 1 | - | | | |
| HWY-38 | 12+00E | 22+63N | 1 | - | Corresponding to a weak magnetic feature. | Weak polarizable and slightly magnetic trend. No further work is recommended at the present time. | 4 |
| | 13+00E | 22+88N | 1 | - | | | |
| | 14+00E | 22+88N | 1 | - | | | |
| | 15+00E | 23+13N | 1 | - | | | |
| | 16+00E | 23+13N | 1 | - | | | |
| HWY-39 | 15+00E | 25+38N | 1 | - | Corresponding to a weak magnetic feature. | Weak polarizable and slightly magnetic single-line anomaly. No further work is recommended at the present time. | 4 |
| HWY-40 | 14+00E | 28+38N | 1 | - | Flanking the southern edge of a magnetic feature. | Weak polarizable and slightly magnetic trend. No further work is recommended at the present time. | 4 |
| | 15+00E | 28+63N | 1 | - | | | |
| HWY-41 | 17+00E | 15+63N | 1 | - | Flanking a weak magnetic feature. | Weak polarizable and slightly magnetic anomaly. No further work is recommended at the present time. | 4 |



Appendix A

Description of all resistivity/IP anomalies interpreted on the Highway 144 Project

LEGEND:

Chargeability

Increase

? = Marginal

1 = Weak

2 = Moderate

3 = High

4 = Very High

Resistivity

Increase

↑ = Resistive

↑↑ = Very Resistive

(R) = Wide Resistive Zone

Decrease

↓ = Conductive

↓↓ = Very Conductive