

GM 65377

GROUND MAGNETIC FIELD SURVEY, IRON-TEE PROJECT

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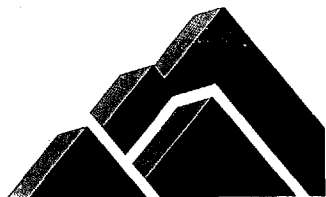


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APELLA RESOURCES INC.

GROUND MAGNETIC FIELD SURVEY

IRON-TEE PROJECT

ISLE-DIEU, GALINÉE, LOZEAU AND COMPORTÉ TOWNSHIPS
MATAGAMI, QUÉBEC, CANADA

LOGISTICS AND INTERPRETATION REPORT

10N094

NOVEMBER 2010

GM653 77

RECU AU MRNF
06 DEC. 2010
COLLECTION DES TITRES MINERS

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MRNFP - SECTEUR DES MINES
REÇU LE
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Ressources naturelles et Faune
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ABSTRACT

On behalf of Apella Resources Inc., a GPS-Integrated ground magnetic survey extension was carried out over the western part of the Iron-Tee property located in Isle-Dieu, Galinée, Lozeau & Comporté Townships, Québec. This geophysical survey is part of an ongoing exploration campaign over the property. The objective is to assess the potential for Iron-Vanadium-Titanium mineralization.

*From **October 18 to November 3, 2010**, a total of **212 km** of magnetic-field surveying was carried out over the property. Survey specifications, instrumentation control, data acquisition, processing and interpretation were all successfully performed within our Quality System framework.*

***Two** priority target areas have been identified over the property. Their favourable magnetic signatures (moderate to high magnetic susceptibility contrast) suggest that they may correspond to iron units which the TiO_2 and V_2O_5 mineralization is associated.*

Target location zones where follow-up is recommended are presented at the end of this report, in order to guide future exploration and to develop exploration drilling program.

1. THE MANDATE

- | | |
|---|---|
| <input type="checkbox"/> PROJECT ID | Iron-Tee
(Our reference: 10N094)
(Previous projects on this property: 07N060 & 10N027) |
| <input type="checkbox"/> GENERAL LOCATION | Matagami municipality, Abitibi, Québec. |
| <input type="checkbox"/> CUSTOMER | Apella Resources Inc.
1600-543 Granville Street
Vancouver, BC, Canada V6C 1X8
Telephone: (604) 683-8990 Fax: (604) 683-8903 |
| <input type="checkbox"/> REPRESENTATIVE | Mr. Christian Dérosier, P.Geo.
Vice-President, Exploration
Chris_dero_2000@yahoo.com |
| <input type="checkbox"/> SURVEY TYPE | GPS-integrated ground total magnetic field |
| <input type="checkbox"/> GEOPHYSICAL OBJECTIVES | <ul style="list-style-type: none"> • To improve the geological understanding of the property (lithological discrimination and structural mapping). • To assess the potential for Vanadium-Titanium-Iron (V-Ti-Fe) mineralization • To assist in planning a follow-up drilling program. |



FIGURE 1. GENERAL LOCATION OF THE IRON-TEE PROJECT

2. IRON-TEE PROJECT

LOCATION

Isle-Dieu, Galinée, Lozeau & Comporté Townships,
Québec, Canada,
Centred on 49°44' N and 77°31' W,
UTM NAD83, zone 18: 317 600 mE , 5 512 760 mN
NTS sheets: **32F/11-12-13 & 14**

NEAREST SETTLEMENT

Matagami, QC: approximately 15 km to the west.

ACCESS

From Matagami, drive about 10 km north the James Bay road 109. At the intersection with the 1055 Road, turn right and continue approximately 8 km. This road leads to the grid.

GEOMORPHOLOGY

The relief in the survey area consists of moderate to none topographic features. Elevations across the property range approximately from 260 to 290 m above mean sea level. All the survey area is wooded, with the exception of a few rivers and several streams connected to shallow and moderate lakes (Lac Shallow), partially covering the south eastern part of the property.

CULTURAL FEATURES

No cultural features have affected the quality of the collected geophysical data.

LAND TENURE

The claims included in the present survey are illustrated on the following page. They belong 100% to Apella Resources Inc.

SURVEY GRID

The entire grid area consists of ninety-five N-S lines extending from L 72+00W to L 165+00W. The lines vary in length from about 0.4 km to roughly 5.7 km and maintained as close as possible with interval spacing of 100 m.

As part of an ongoing geophysical campaign, the present survey extension 10N094 covers the western portion of the property. Previous surveys, 07N060 and 10N027 covered lines from 17+00E to 80+00W.

Refer to the figure below "*Index of Claims and Survey area of the Iron-Tee Project*" for a better visualisation of all survey areas.

The survey lines were accurately positioned using the GPS guidance system integrated into the GSM-19 magnetometers.

COORDINATE SYSTEM

Projection: Universal Transverse Mercator, zone 18N
Datum: NAD 83

3. GPS-INTEGRATED GROUND MAGNETIC FIELD SURVEY

- TYPE OF SURVEY**

Observation of the Total Magnetic Field (TMF) with GPS readings recorded every second. The plotted values were corrected for diurnal variations using readings from a synchronized MAG base station.

- PERSONNEL**

Michel Crépeau,	Crew chief, geophysical operator
Philippe Larouche,	Geophysical assistant
Marcel Naud,	Crew chief, geophysical operator
Carole Picard, Tech,	Data processing & plotting
Denis McNichols, P.Geo,	Logistics
Madjid Chemam, P.Geo,	QC, data processing & interpretation
Chris Brown, G.I.T,	Final validation of product conformity

- DATA ACQUISITION**

October 18 to November 3, 2010

- SURVEY COVERAGE**

212 km

- FIELD MAGNETOMETERS**

GEM Systems GSM-19W, s/n 7032241 & 2071191
 Proton precession magnetometers with overhauser effect and built-in GPS.

Resolution:	0.01 nT/1m
Absolute accuracy:	0.2 nT / 2-5m
Gradient tolerance:	>10 000 nT/m
TMI sensor:	at a height of 1.8 m above ground

- BASE STATION**

GEM Systems GSM-19, s/n 61519
 Proton precession magnetometer with Overhauser effect

Resolution:	0.01 nT
Absolute accuracy:	0.2 nT
Cycle time:	10 seconds
Location (UTM NAD83):	5 512 751 mN, 323 336 mE
Reference field (10N027):	57 240 nT
Reference field (10N094):	57 180 nT

- QUALITY CONTROLS**
 (RECORDS AVAILABLE UPON REQUEST)

Before the survey:

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

Every day during data acquisition:

 - ✓ Every morning, the operator had to successfully test for any magnetic contamination.
 - ✓ In the evening, the geophysical operator reviewed the base station and the mobile unit recordings using our proprietary MAGneto[®] processing and QC software.
 - ✓ The geophysical operator ensures no active geomagnetic activity would be encountered during the survey by visiting the Space Weather Canada website (www.spaceweather.gc.ca).

At the Base of Operations:

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

☐ QUALITY STATISTICS

Table 1. Quality statistics

IRON-TEE PROJECT – MAG-GPS SURVEY		
Operator: Michel Crépeau Field magnetometer s/n: 7021191		
Reading	Readings towards	
	North	South
1	57053.09 nT	57055.72 nT
2	57053.20 nT	57056.02 nT
3	57053.00 nT	57056.15 nT
Average	57053.10 nT	57055.96 nT
Difference	2.86 nT (must be ≤ 2 nT)	
* Test conducted in an anomalic area		
Operator: Philippe Larouche Field magnetometer s/n: 7032241		
Reading	Readings towards	
	North	South
1	55760.88 nT	55762.20 nT
2	55761.25 nT	55762.04 nT
3	55761.90 nT	55762.33 nT
Average	55761.34 nT	55762.19 nT
Difference	0.85 nT (must be ≤ 2 nT)	

4. DATA PROCESSING AND DELIVERABLES

- TOTAL MAGNETIC FIELD**

The total magnetic field was gridded using a bi-directional gridding method (BIGRID GX) with a final grid cell size of 25 m. This method is ideal for line-oriented data for it inherently tends to strengthen trends perpendicular to the survey lines direction. One pass of a 3 x 3 Hanning filter was then applied to improve the overall appearance of the final total field contour map. The Geosoft colour table was used with linear intervals of 100 nT, from 55 500 to 61 900 nT.

- CALCULATED VERTICAL GRADIENT CONTOURS**

The vertical gradient was calculated from the total field grid by convolution. One pass of a 3 x 3 Hanning filter was then applied to improve the overall appearance of the final *Vertical Magnetic Gradient Contour map* (1.4). The Geosoft colour table was used with linear intervals of 1 nT/m between -32 and 32 nT/m.

- MAPS PRODUCED**

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

Table 2. Maps produced

Map Number	Description	Scale
1.1	GPS-Integrated Magnetic Field Survey – Total Field Profiles	1:10 000
1.2	GPS-Integrated Magnetic Field Survey – Total Field Contours	1:10 000
1.4	GPS-Integrated Magnetic Field Survey – Calculated Vertical Gradient Contours	1:10 000
10.0	Geophysical Interpretation	1:10 000

- DIGITAL DATA**

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

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

5. GEOPHYSICAL INTERPRETATION

The area of investigation is located between 77°36' and 77°29' W, and latitude 49°43' and 49°45'N. This geophysical survey is part of ongoing exploration campaigns (07N060 & 10N027) over the Iron-T property. The ground magnetic survey has been carried out in order to aid in the lithological discrimination and structural mapping of the study area as well as to locate the iron formations which the TiO₂ and V₂O₅ mineralization is associated with.

From a detailed study of the total magnetic intensity (TMI) and DT field maps (fig. 3-A & D), three zones can be distinguished, each zone exhibiting a distinct magnetic character.

Zone I. This zone is referred to the southern and south eastern parts of the property. The zone is characterized by a low magnetic background **MS-01** (lighter blue coloured area) interpreted to be 56 500 nT. It is free from any significant magnetic anomalies, except in its southern portion where a NW-SE high magnetic lineament (dike structure) of 5000 nT amplitude, this may represent a recent intrusion in the non magnetic background.

Zone II. This zone shows moderate magnetic signature **MS-02** (green shaded areas), covers nearly the central and the eastern part of the property. **MS-02** contrasts with a moderate amplitude (500 to 1000 nT below background), and could be related to layered mafic intrusion (the Bell River Complex).

Zone III. This zone covers the central part and the northeastern portion of the study grid. The zone is characterized by high magnetic anomalies **MS-03** (magenta coloured zones) within **MS-02**. Generally the delineated magnetic anomalies show elongated and irregular shaped signatures. Amplitude of these anomalies varies from 3000 to 14 000 nT above a background of 57 100 nT. These anomalies are thought to be mafic units to iron formations according to their height magnetic susceptibility contrasts.

To isolate the local magnetic signature from the regional magnetic background, an IGRF (International Geomagnetic Reference Field) grid was calculated for the survey area. The residual anomaly (DT magnetic field) was then obtained by subtracting the extracted IGRF values from the TMI values (fig. 3-D). Another residual anomaly was performed by subtracting a second-order polynomial surface from the TMI grid values (fig.4-A).

To derive further information about the sources, their depths, dip and physical properties, a 2.5-D inversion was performed on some selected profiles of interest. The models resulting from the inversion are defined as rectangular prisms (fig. 5, 6 & 7) with specific top center locations (easting, northing), widths (thickness), depth-to-tops, dips, and susceptibility contrasts product as summarized in tables at pages 14, 15 and 16.

To help with the interpretation procedure, an enhancement technique (fig 4-B & C) consisting of vertical derivative of the TMI reduced-to-pole and total gradient (analytic signal amplitude) are used in order to define the magnetic contacts or boundaries of the causative sources. The inferred surface projection of all relatively moderate to high magnetic features, were shaded in green and reported on the *Geophysical Interpretation map* (10.0). Several lineations that are indicative of faults have been mapped across the property and reported on the *Geophysical Interpretation map* (10.0). An apparent susceptibility map was also calculated to classify and map variations in rock magnetisation (differentiation in magnetic rock mafic) over the property. Figure 4-D, illustrates the variation and distribution of the magnetic susceptibility of different rock units of the Iron-Tee property.

It is worth mentioning the presence of circular magnetic anomalies which could be related to a pipe-like intrusion. These anomalies are located in the central part of the grid exactly on lines 114+00 W and 109+00W, centered at UTM coordinates (616 898 mE; 5 513 235 mN) and (617 390 mE; 5 513 040 mN).

6. RESULTS AND CONCLUSION

The interpretation of the GPS-Integrated ground magnetic survey has improved the knowledge of the structural and geological setting on part of the Iron-Tee Property (Map #10 & fig. 4-C).

Two high priority targets areas (**Target-area 1** & **Target-area 2**) have been selected for V-Ti-Fe exploration on the basis of their favourable magnetic signatures. Thus, a follow-up program should be carried out incorporating the following:

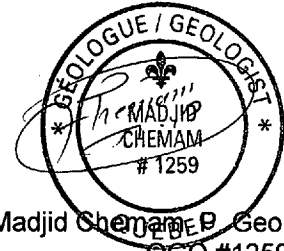
- Drilling*

Table 3. Proposed diamond drill hole (DDH) targets

TARGET AREA	UTM LOCALISATION NAD 83		TARGET CHARACTERISTICS
	X (mE)	Y (mN)	
1	319 805	5 513 755	Zone of high magnetic anomalies reaching amplitudes of 5000 nT.
	320 705	5 513 900	
	320 830	5 512 195	Zone of strong magnetic anomalies ranging from 3500 to 15 000 nT.
2	315 620	5 513 070	Zone of high to strong magnetic anomalies showing amplitudes ranging from 6000 to 14 000 nT.
	316 027	5 512 945	
	316 333	5 512 425	
	316 725	5 512 350	
	314 590	5 513 765	
	315 695	5 513 460	
	317 480	5 511 380	Magnetic lineament signature with amplitudes varying from 4000 to 6000 nT.

The interpretation of the geophysical data embodied in this report is essentially a geophysical appraisal of the Iron-Tee 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 downgraded or upgraded.

Respectfully submitted,
Abitibi Geophysics inc.



Madjid Chemama, Geo.
OGQ #1259
Geophysicist

MC/mw

NUMÉRIQUE

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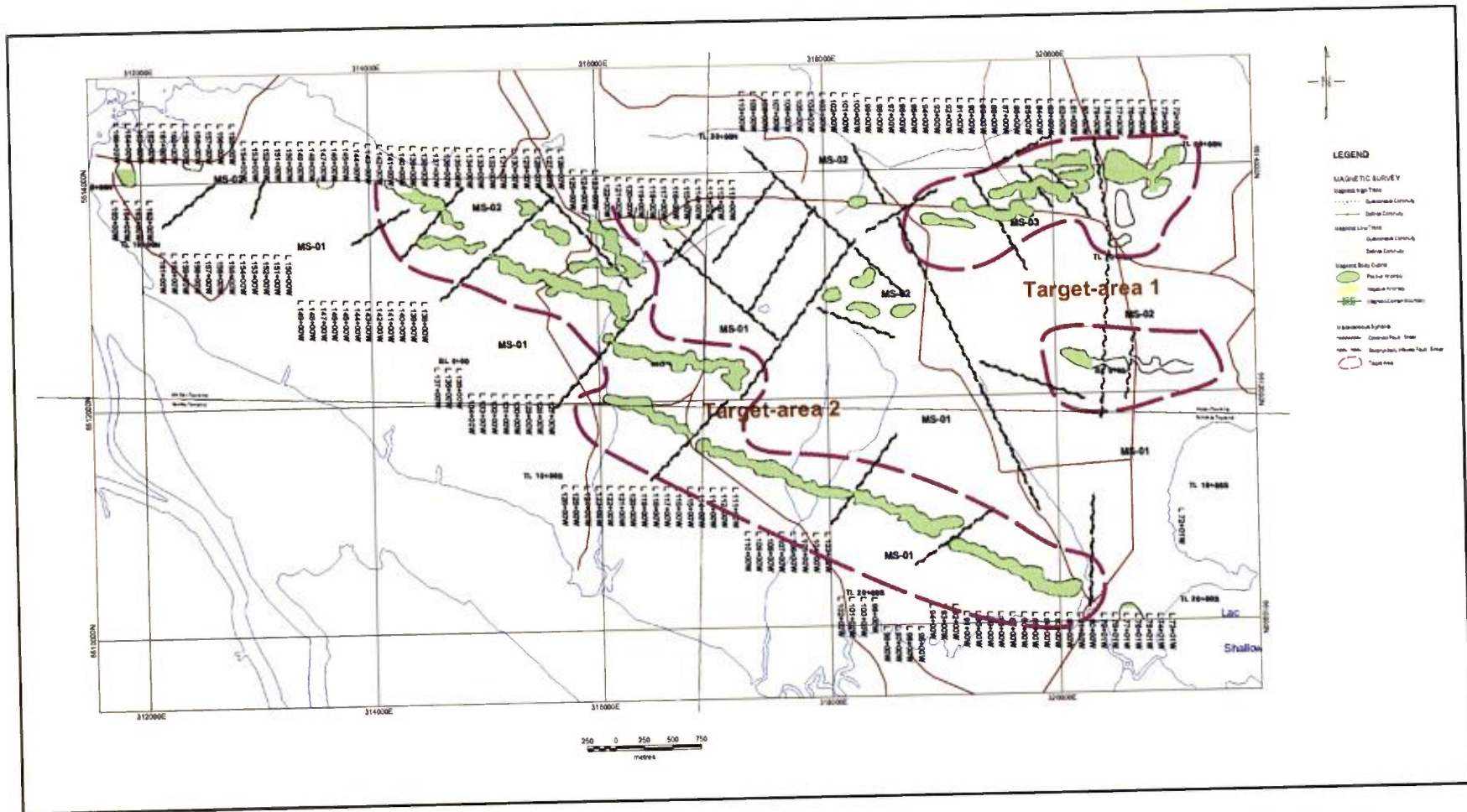


FIGURE 5. SIMPLIFIED STRUCTURAL INTERPRETATION MAP OF THE IRON-T PROJECT

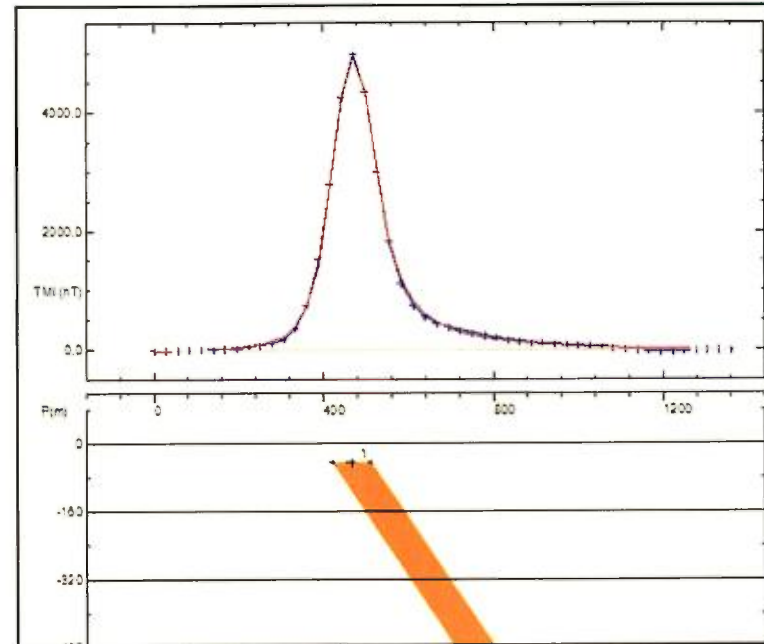
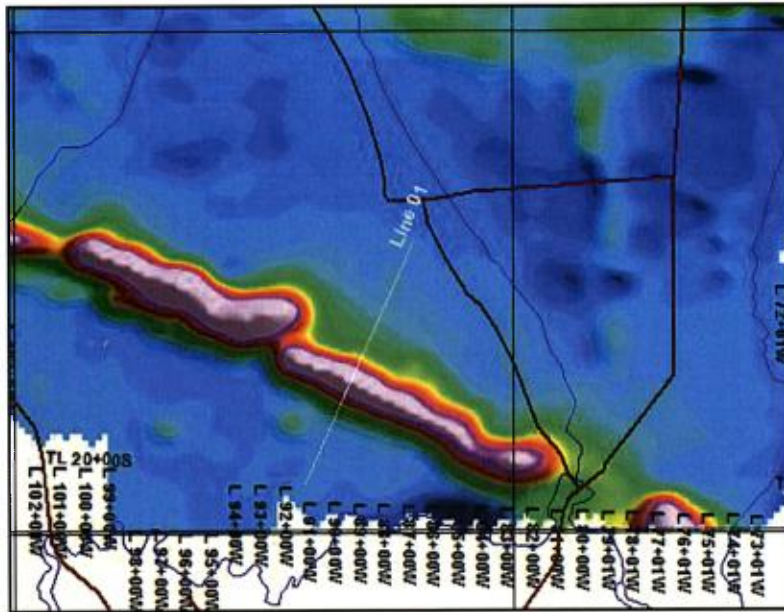


Table 4. Parameters resulted from the magnetic inversion on L 01

PROFILE	TARGET CENTER LOCATION (UTM/ NAD 83)		2.5-D INVERSION RESULTS					MAGNETIC SOURCE
	Easting (m)	Northing (m)	Width (m)	Depth (m)	Dip (degree)	Depth Extent (m)	Magnetic Susceptibility (SI)	
L 01	319 371	5 510 564	90	40	57 NE	> 1000	0.42	

FIGURE 6. 2.5-D MAGNETIC INVERSION RESULTS ON NE-SW PROFILE (L 01) CROSSING DIKE STRUCTURE

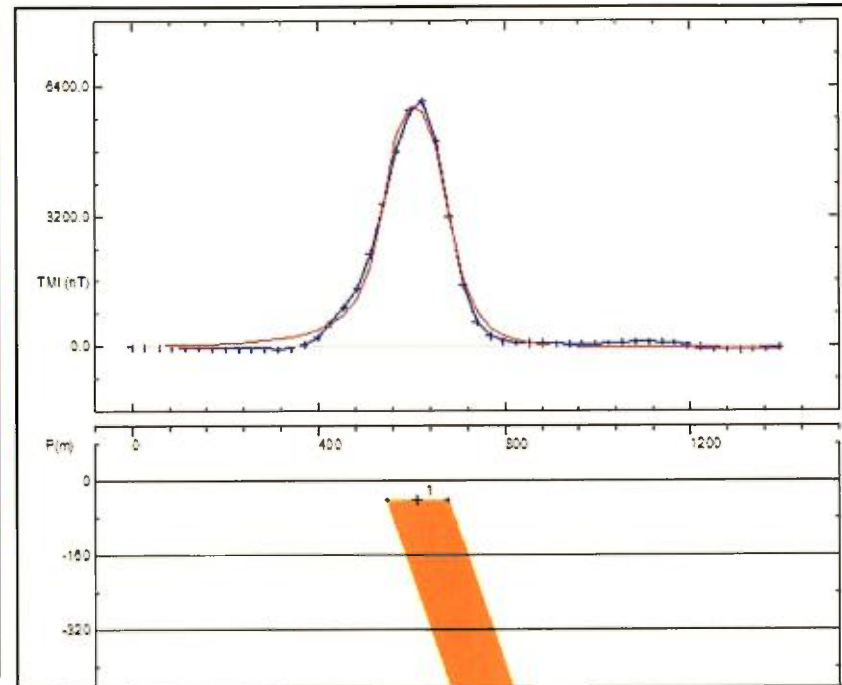
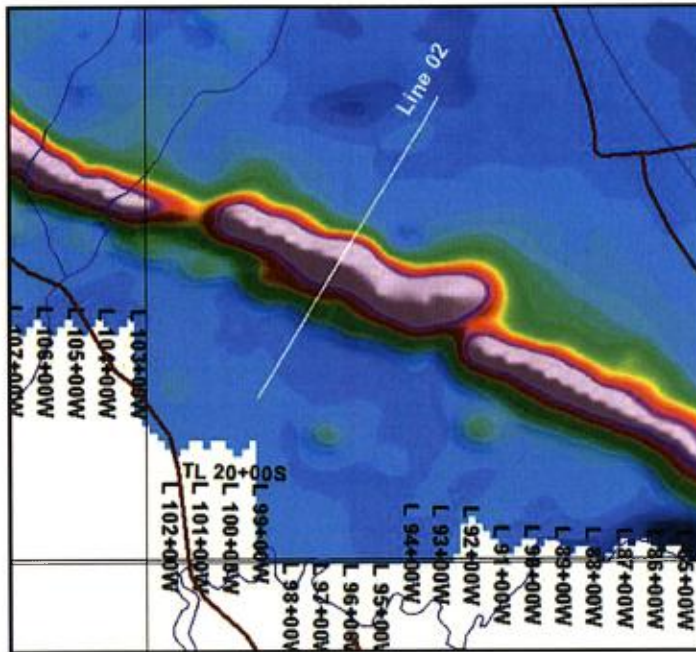


Table 5. Parameters resulted from the magnetic inversion on L 02

PROFILE	TARGET CENTER LOCATION (UTM/ NAD 83)		2.5-D INVERSION RESULTS					MAGNETIC SOURCE
	Easting (m)	Northing (m)	Width (m)	Depth (m)	Dip (degree)	Depth Extent (m)	Magnetic Susceptibility (SI)	
L 02	318 659	5 510 968	130	37	71 NE	> 1500	0.356	

FIGURE 7. 2.5-D MAGNETIC INVERSION RESULTS ON NE-SW PROFILE (L 02) CROSSING DIKE STRUCTURE

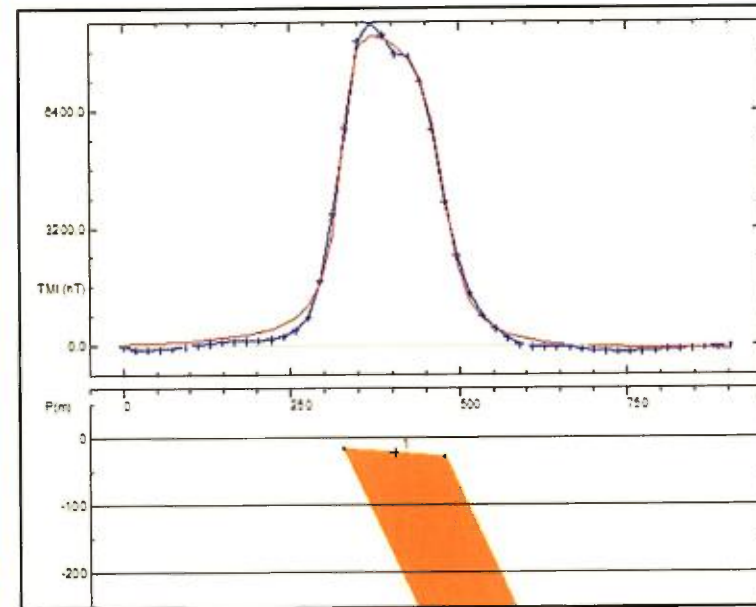
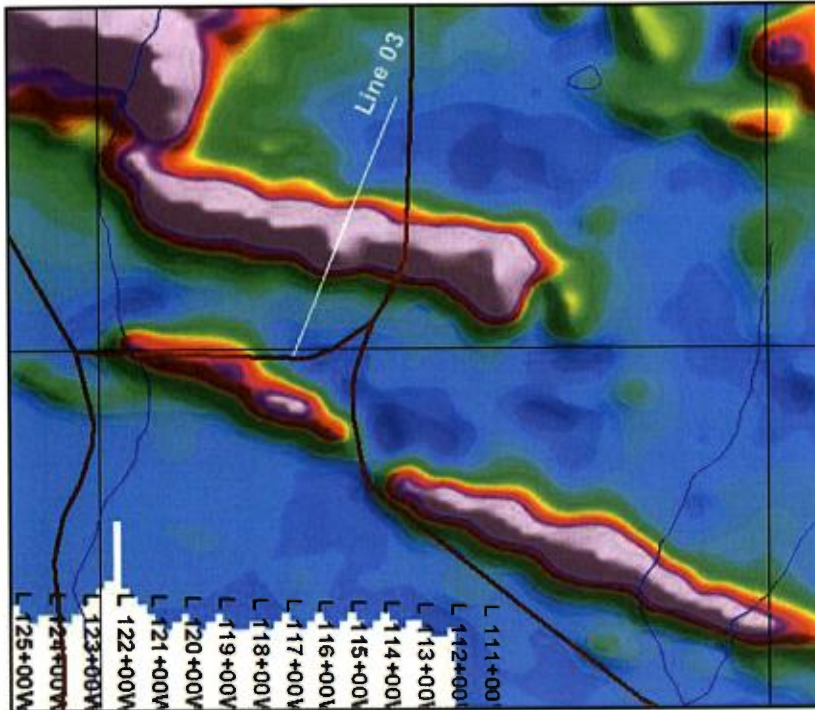


Table 6. Parameters resulted from the magnetic inversion on L 03

PROFILE	TARGET CENTER LOCATION (UTM/ NAD 83)		2.5-D INVERSION RESULTS					MAGNETIC SOURCE
	Easting (m)	Northing (m)	Width (m)	Depth (m)	Dip (degree)	Depth Extent (m)	Magnetic Susceptibility (SI)	
L 03	316 708	5 512 325	150	20	61 NE	> 1000	0.415	

FIGURE 8. 2.5-D MAGNETIC INVERSION RESULTS ON NE-SW PROFILE (L 03) CROSSING HIGH MAGNETIC LINEAMENT

APPENDIX

DAILY REPORT OF THE GEOPHYSICAL SURVEY PERFORMED ON THE IRON-TEE PROJECT



Date (yyyy-mm-dd)	Activity	10N094, Apella Resources, Iron-Tee Project, MAG-GPS	Invoicing	
		Comments	Mob/ demob	Stand-By Time
Geophysicist in charge of the project:		Madjid Chemam, P.Geo.		
Operators:		Michel Crépeau, Philippe Larouche et Marcel Naud		
2010-10-17	Preparation	Equipment preparation, loading and briefing of the crew.	0.5	
2010-10-18	First mobilization Field operations	Abitibi crew mobilization from Val-d'Or, QC to Matagami, QC. Start of the MAG survey.	0.5	
2010-10-19	Field operations	MAG survey in progress.		
2010-10-20	Field operations	MAG survey in progress.		
2010-10-21	Field operations Stand-by time	MAG survey in progress. Stand-by due to weather and field conditions.		0.5
2010-10-22	Field operations	Stand-by due to weather and field conditions.		
2010-10-23	Field operations	MAG survey in progress.		
2010-10-24	Field operations	MAG survey in progress.		
2010-10-25	Field operations	MAG survey in progress.		
2010-10-26	Field operations	MAG survey in progress.		
2010-10-27	Field operations	MAG survey in progress.		
2010-10-28	Field operations Stand-by time	Stand-by due to weather and field conditions MAG survey in progress.		0.5
2010-10-29	Field operations	MAG survey in progress.		
2010-10-30	Stand-by N/C	AG vehicle stolen.		n/c
2010-10-31	Stand-by N/C			n/c
2010-11-01	Field operations	MAG survey in progress.		
2010-11-02	Field operations	MAG survey in progress.		
2010-11-03	Field operations	Resurveying of lines read the first day (October 18 th , 2010) due to base station failure.		
2010-11-04	Demobilization	Abitibi crew demobilization from Matagami, QC to Val-d'Or, QC. Unloading of the equipment and verification. Debriefing with geophysicist.	1	
TOTAL:			2 days	1 day