ABITIBI GEOPHYSICS

TECK COMINCO LIMITED EXPLORATION

RESISTIVITY / INDUCED POLARIZATION SURVEY

THUNDERCLOUD PROJECT

KENORA DISTRICT
ONTARIO, CANADA

LOGISTICS AND INTERPRETATION REPORT

07N024 JUNE 2007

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ABSTRACT

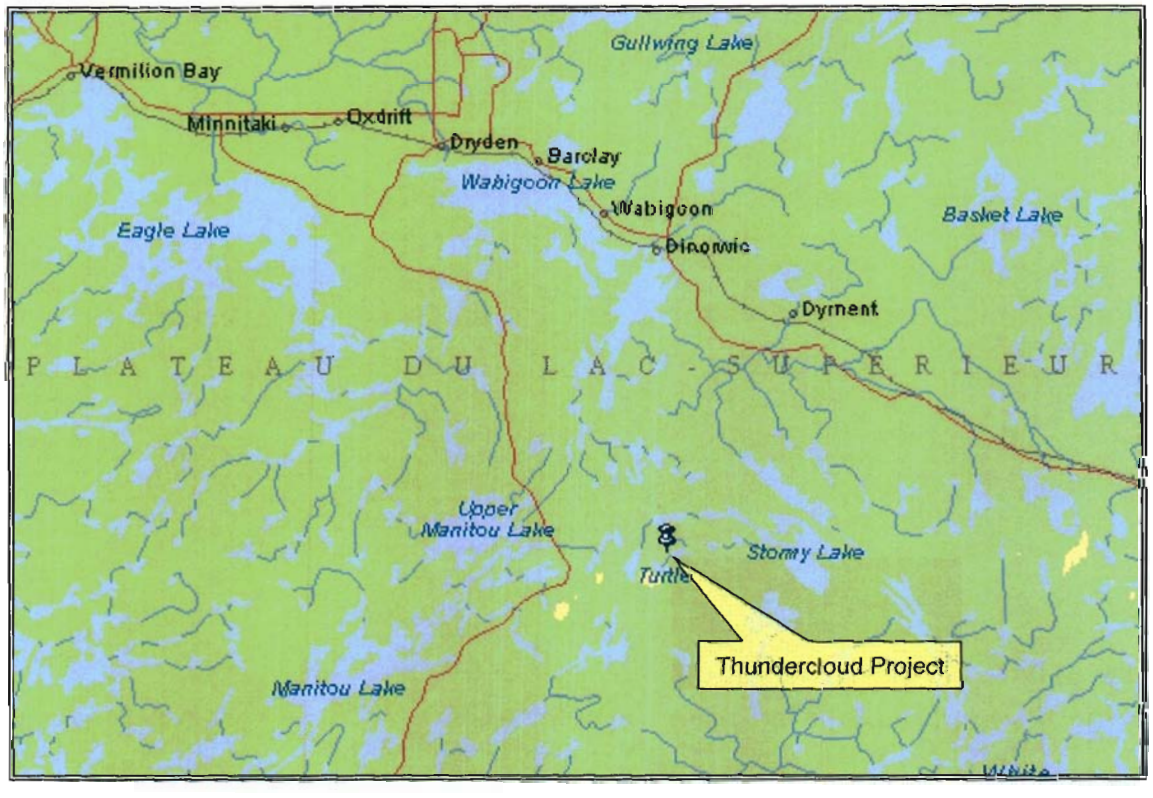
On behalf of Teck Cominco Limited Exploration, a resistivity / induced polarization survey was performed over the Thundercloud Project, located in the Dryden area of northwestern Ontario.

During the month of May 2007, a total of ***17.6 km*** *of IP surveying acquired in the pole-dipole configuration (electrode spacing of a = 50 m and number of dipoles n = 1 to 6) was 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, seventeen chargeability anomalous trends were identified over the Thundercloud Property. They have been posted on both the pseudosection plates and the Interpretation Map (10.0). Some initial prospecting has been recommended over fourteen anomalies likely resulting from subcropping-outcropping sources. Pending results, follow-up drilling could be carried out over six of the most promising anomalies. In order to establish consistent IP trends and thereby better evaluate the potential of these anomalies, an IP survey extension over the southern part of the grid and a magnetic survey covering the entire grid area should definitely be carried out prior further recommendations.*

1. THE MANDATE

❑ *PROJECT ID*	**Thundercloud** (Our reference: **07N024**)
❑ *GENERAL LOCATION*	50 km southeast of Dryden, northwestern Ontario.
❑ *CUSTOMER*	**Teck Cominco Limited Exploration** 855 Field Street Thunder Bay, ON P7B 6B6 Telephone: (807) 346-4322 Fax: (807) 346-4328
❑ *REPRESENTATIVE*	**Mr. Graeme Evans, B.Sc., P.Geo.** Senior Geologist Graeme. Evans@teckcominco.com
❑ *SURVEY TYPE*	• **Time Domain Resistivity / Induced Polarization**
❑ *GEOPHYSICAL OBJECTIVES*	• Identification of potential DDH targets and of a follow-up geophysical campaign. • Assess the potential for gold and base metals mineralization. • Assist in lithological discrimination and structure mapping.



GENERAL LOCATION OF THE THUNDERCLOUD PROJECT

2. THE THUNDERCLOUD PROJECT

- *LOCATION*: Kenora District
  Northwestern Ontario, Canada
  Centred on 49° 23' N and 92° 27' W
  NTS sheet: **52F/07**

- *NEAREST SETTLEMENTS*: Dryden: 50 km to the northwest
  Thunder Bay: 250 km to the southeast

- *ACCESS*: From Dryden, drive east onto Highway 17 for about 40 km. Just past Jackfish Lake, turn south on a logging road and continue for approximately 35 km. At that point, the road crosses the Thundercloud Property.

- *GEOMORPHOLOGY*: The property is located within relatively hilly terrain with maximum elevation reaching values of approximately 50 m above local water level. Some outcropping areas are locally exposed throughout the property. A few swamps and small interconnected lakes are located within the most depressed areas of the grid. Thundercloud Lake is located just south of the grid while Kennewapekko Lake and Washeibemaga Lake respectively border the west and east sides of the survey area.

- *CULTURAL FEATURE*: Logging roads cross the property without any apparent effect on data quality.

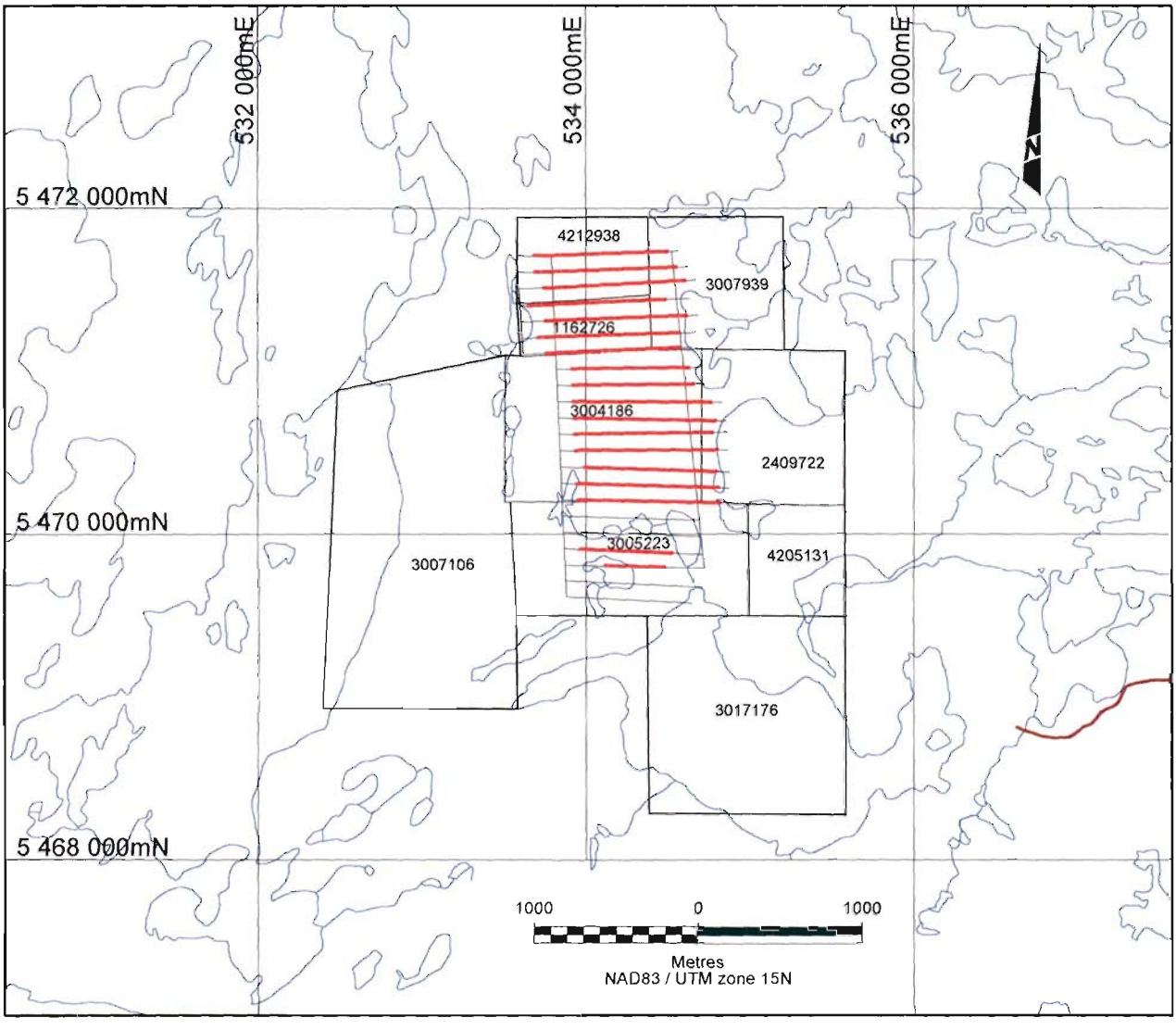
- *LAND TENURE*: The claim numbers encompassed in the present survey are illustrated on the following page.

- *SURVEY GRID*: The survey grid was cut during the winter of 2007, just prior to the geophysical campaign. It consists of twenty east-west trending cross-lines (lines 698+00N to 717+00N) cut at a nominal spacing of 100 m. These lines are 1 km long and extend eastwardly from tie-line 36+00E in the northern part of the grid and from tie-line 38+00E in the southern area. All lines are picketed every 25 m.

  The survey grid was thereafter accurately positioned using GPS points recorded at end of lines. The survey area covering the Thundercloud Project is illustrated on the next page.

  Note that logging activities going on at the time of the geophysical campaign prevented survey coverage over a few southern lines of the grid.

- *COORDINATE SYSTEM*: Projection: Universal Transverse Mercator
  Datum: NAD83
  Central meridian: 93°00' W (UTM Zone 15N)



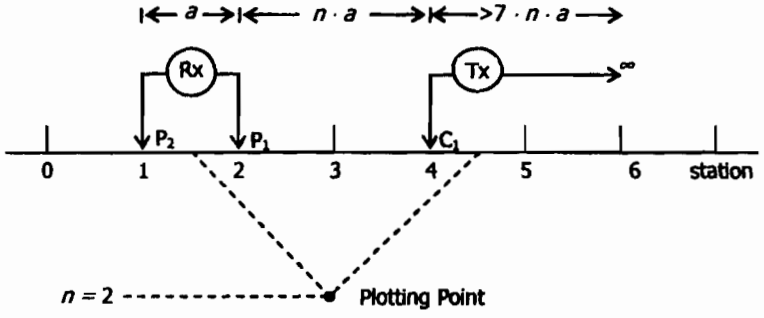
INDEX OF CLAIMS AND SURVEY AREA OF THE THUNDERCLOUD PROJECT

ABITIBI GEOPHYSICS

3. RESISTIVITY / INDUCED POLARIZATION SURVEY

❑ *TYPE OF SURVEY*

Time domain resistivity / induced polarization
Pole-dipole array, "a" = 50 m, "n" = 1 to 6
UTM Location (NAD83) of C_∞ : 536 385 mE / 5 469 266 mN



❑ *PERSONNEL*

Israël Bacon,	crew chief, geophysical operator
Francis Thibeault,	field assistant
Daniel Ricard,	field assistant
Bruno Tremblay,	field assistant
Yoan Hébert Lapointe,	field assistant
Carole Picard, Tech.,	data processing & plotting
Helene Rivest, Geo.,	fieldwork supervision, logistics, QC & interpretation

❑ *DATA ACQUISITION*

May 22 to 30, 2007.

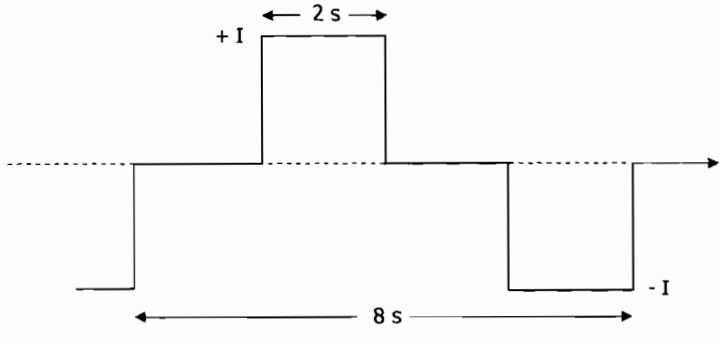
❑ *SURVEY COVERAGE*

17.6 km

❑ *IP TRANSMITTER (TX)*

GDD Instrument TxIII, s/n 260

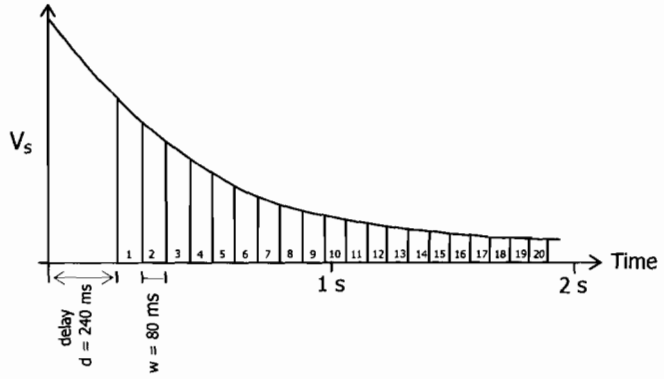
Power supply:	Honda 2000 W
Maximum output:	up to 1.8 kW or **10 A** or 2000 V
Electrodes:	stainless steel stakes
Resolution:	1 mA on output current display **I**
Waveform:	bipolar square wave with 50% duty cycle
Pulse duration:	2 seconds



❑ *IP RECEIVER (RX)*

IRIS Elrec-PRO, s/n 104, 10 input channels model
Electrodes: stainless steel stakes
V_P Primary voltage measurement:
- ✧ Input impedance: 100 MΩ
- ✧ Resolution: 1 µV
- ✧ 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*

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

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.
- ✓ Receiver was checked using the Abitibi Geophysics SIMP™ certified and calibrated V_P & M signal simulator.

During data acquisition:
- ✓ Rx & Tx cable insulation was verified every morning.
- ✓ Proprietary Software *Refusilo*® 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*®. The few windows that were rejected were not included in the calculation of the plotted M_a.

❑ *QUALITY STATISTICS*

Pole-dipole: a = 50 m, n= 1 to 6		Thundercloud Project
Average contact resistance at the R_x		8 kΩ
Average output current across C_1-C_2		370 mA
Average measured voltage Vp across P_1-P_2	n = 1	5010 mV
	n = 6	580 mV
Observed gates found to fit a pure electrode polarization relaxation curve		98.9 %
Average deviation of the validated normalized gates with respect to the plotted mean chargeabilities	n = 1	0.03 mV/V
	n = 6	0.12 mV/V

4. DATA PROCESSING AND DELIVERABLES

❑ *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 $^{a}/_{4}$ 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 page 9.

❑ *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 bound 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
Lines 717+00N to 702+00N, 699+00N & 698+00N (18 plates)	Colour Apparent Resistivity & Chargeability Pseudosections and ***image2D***® True-depth Sections along with Interpretation	1: 5000
8.2	IP Survey - ***image2D***® Resistivity at a depth of 60 m	1: 5000
8.3	IP Survey - ***image2D***® Chargeability at a depth of 60 m	1: 5000
8.5	IP Survey - ***image2D***® Time Constant at a depth of 60 m	1: 5000
10.0	Geophysical Interpretation	1: 5000

❑ *DIGITAL DATA*

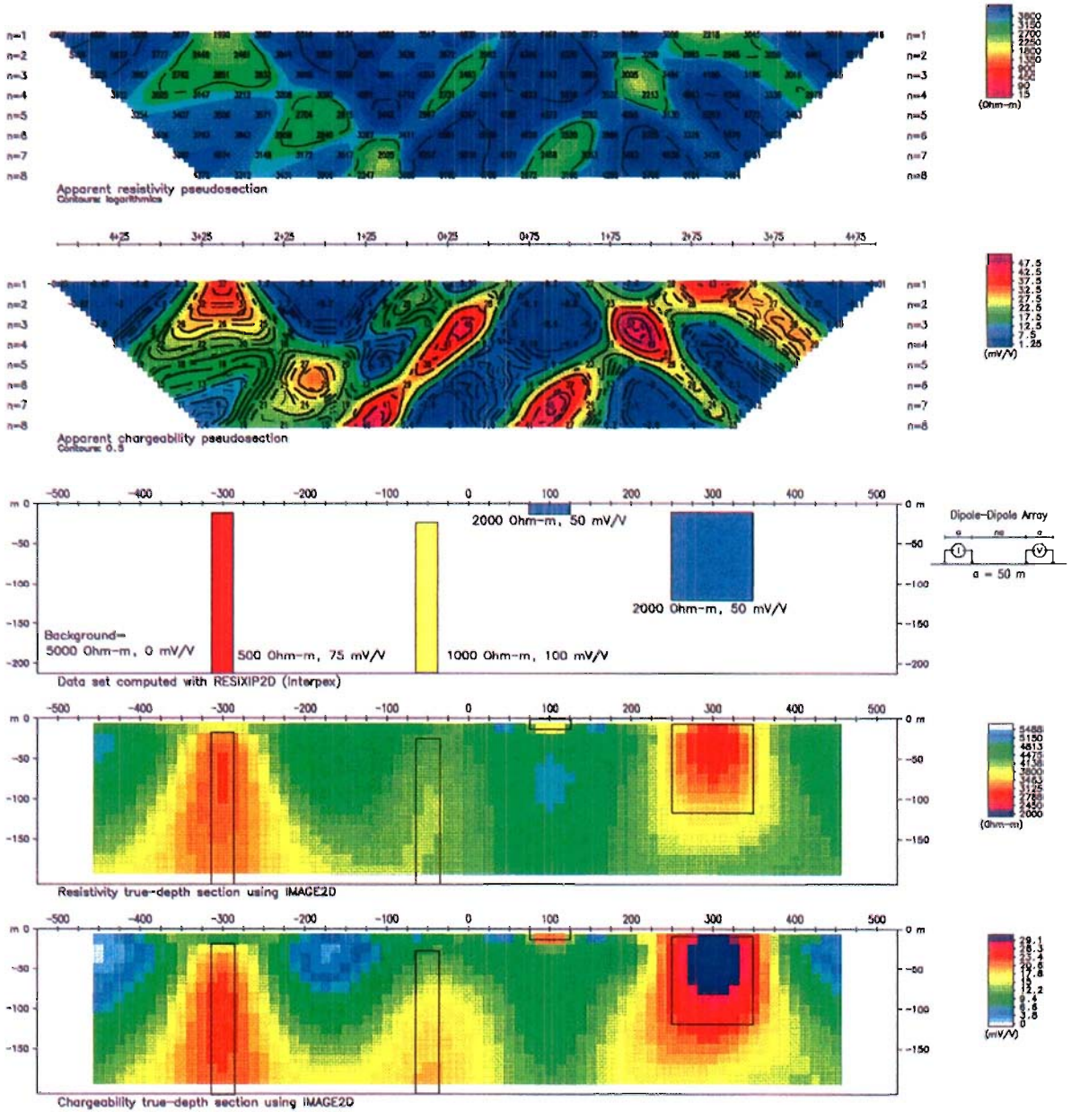
The above-described maps are delivered in the Oasis Montaj map file format on CD-Rom.

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.

5. RESULTS AND RECOMMENDATIONS

❑ *RESISTIVITY AND CHARGEABILITY MAPS*

Following interpretation of pseudosections and ***image2D***® true-depth sections, seventeen polarizable anomalous trends were compiled on the Thundercloud Project. These anomalies have been correlated from line-to-line according to their strength, resistivity association and the general strike orientation. The inferred surface projection of their IP signatures are shown along the survey lines on both the Geophysical Interpretation Map (10.0) and the pseudosection plates. They are briefly discussed in the section below but **refer to the Appendix found at the end of this report for a more detailed description of each of these anomalies.** In summary, an extensive initial prospecting program was recommended over fourteen anomalous trends interpreted as resulting from subcropping sources. Pending prospecting results, six of the most interesting anomalous trends (**TH-01**, **TH-02**, **TH-04**, **TH-07**, **TH-08** & **TH-12**) may warrant follow-up drilling. An IP survey extension recommended over the southern area along with a magnetic survey carried out over the entire grid would help to establish consistent polarizable trends in this area.

The chargeability map plotted at a depth of 60 m shows a local north-south orientation of higher values. However, a high amplitude chargeability feature located within the northern section of the grid (lines 712+00N, 713+00N & 714+00N) could actually be interpreted as WSW-ENE trending instead of being part of N-S trending anomalies **TH-01**, **TH-02**, **TH-03 & TH-04**. These higher chargeability values also seem to correspond to slightly more conductive values (resistivity map). Such a feature cross-cutting the local geology could results from an intrusive mafic dyke. A magnetic survey would confirm this possibility.

The resistivity map plotted at a depth of 60 m consists of generally resistive values ranging from 2000 to 35 000 Ohm-m. On the Geophysical Interpretation Map (10.0), the 10 000 Ωm contour line (resistivity map #8.2) was chosen to delineate the more resistive zones. These zones were then shaded in blue on the Geophysical Interpretation Map (10.0) and represent areas where bedrock is likely subcropping to outcropping.

Pending prospecting results, IP survey extensions could be carried out over several open-ended chargeability trends or single-line anomalies (**TH-09**, **TH-12**, **TH-13**, **TH-14**, **TH-15** and **TH-17**).

An E-W fault was inferred from a possible disruption observed from the interpreted IP trends. A magnetic survey would help confirm the presence of such feature.

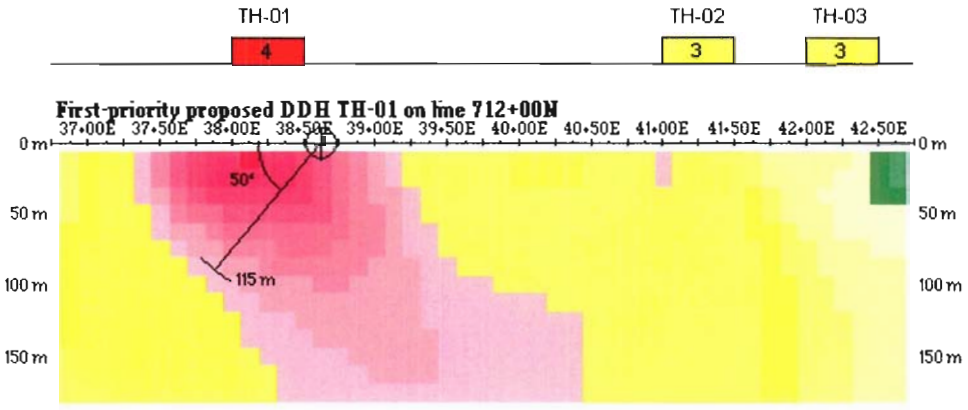
❑ *COLE-COLE TIME CONSTANT MAP*

The Cole-Cole time constant map plotted at a depth of 60 m has revealed a few higher values areas corresponding to a few interpreted IP anomalies (**TH-01**, **TH-02**, **TH-08** & **TH-09**). This parameter helps with mineral discrimination and higher values are generally indicative of the presence of clay altered minerals (OH-). All the above-mentioned IP anomalies thus result as higher potential targets for gold mineralization.

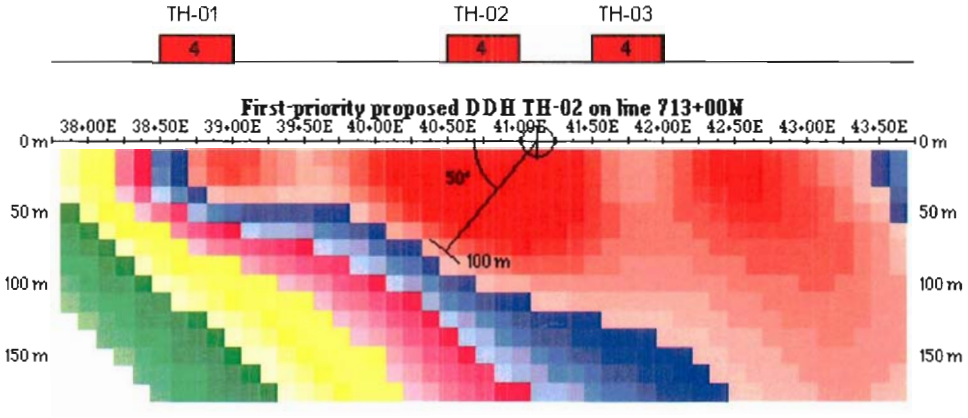
All-priority DDH targets are illustrated hereafter on their respective chargeability true depth sections. (Suggested initial prospecting over these DDH targets is indicated by *)

❑ *FIRST- PRIORITY DDH TARGETS: (**TH-01***, ***TH-02*** & ***TH-08****)*

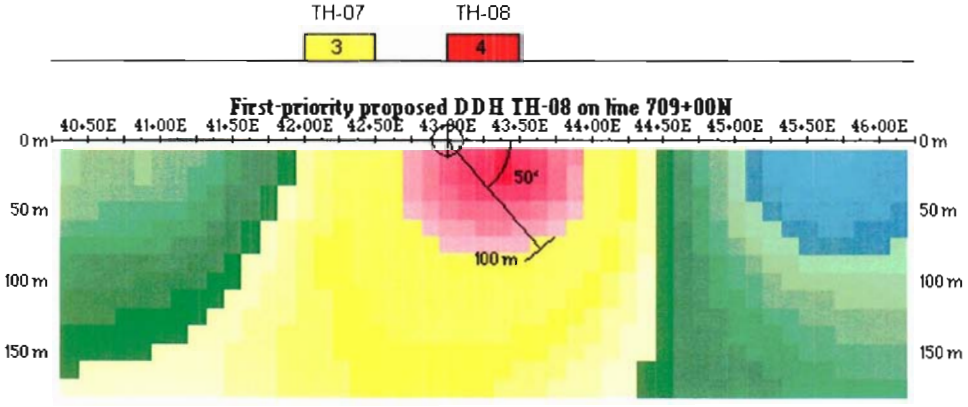
First-priority proposed DDH TH-01 on line 712+00N:



First-priority proposed DDH TH-02 on line 713+00N:

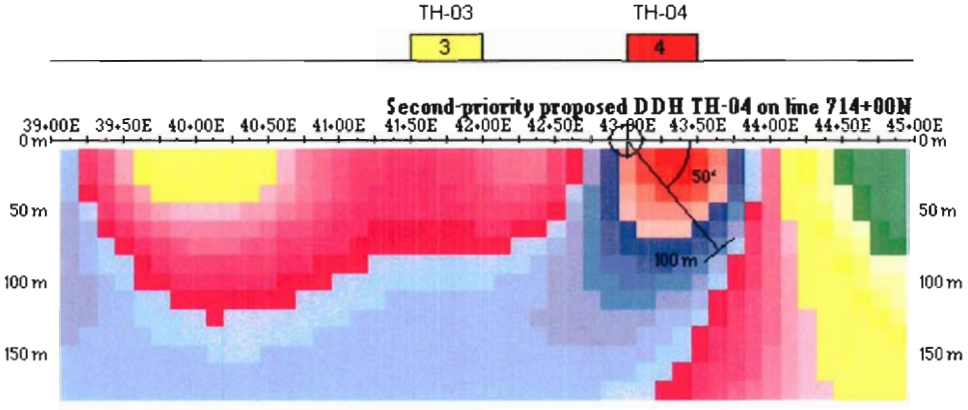


First-priority proposed DDH TH-08 on line 709+00N:

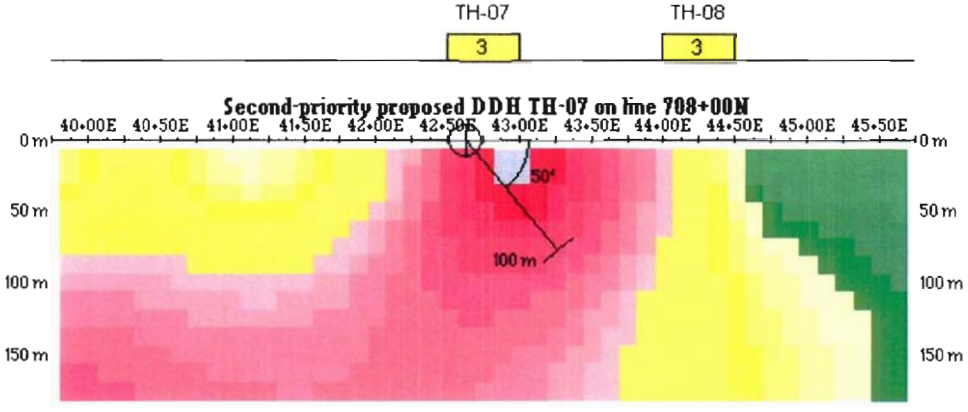


❑ *SECOND- PRIORITY DDH TARGETS: (**TH-04***, **TH-07*** & **TH-12***)*

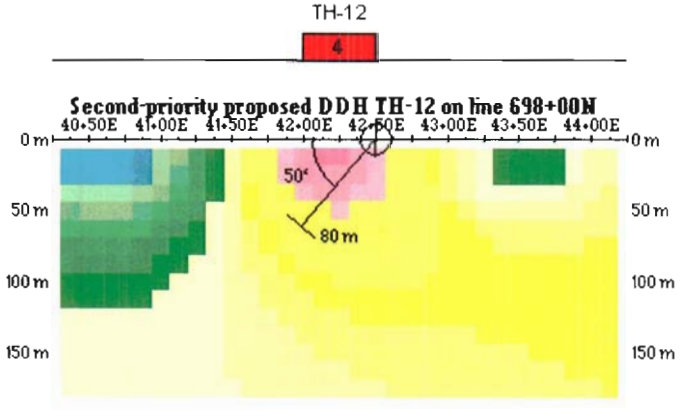
Second-priority proposed DDH TH-04 on line 714+00N:



Second-priority proposed DDH TH-07 on line 708+00N:



Second-priority proposed DDH TH-12 on line 698+00N:



6. FOLLOW-UP SUMMARY

❒ *PROSPECTING*

Priority	Anomaly	Location	
		Line	Station
1	TH-01	712+00N	38+25E
		713+00N	38+75E
		714+00N	38+25E
		715+00N	38+75E
	TH-02	713+00N	40+75E
	TH-03	713+00N	41+75E
	TH-08	709+00N	43+25E
		710+00N	43+25E
	TH-09	702+00N	39+50E
		703+00N	39+25E
		705+00N	39+25E
	TH-13	699+00N	40+75E
2	TH-04	714+00N	43+25E
	TH-07	706+00N	43+25E
		708+00N	42+75E
	TH-10	705+00N	41+25E
	TH-12	698+00N	42+25E
	TH-15	702+00N	42+25E
	TH-16	715+00N	44+00E
3	TH-11	703+00N	46+25E
	TH-14	699+00N	44+25E

❒ *DRILLING*

Priority	Anomaly	DDH target (not the collar location)		
		Line	Station	Depth (m)
1	TH-01*	712+00N	38+25E	40
	TH-02*	713+00N	40+75E	30
	TH-08*	709+00N	43+25E	30
2	TH-04*	714+00N	43+25E	25
	TH-07*	708+00N	42+75E	25
	TH-12*	698+00N	42+25E	30
*Pending prospecting results.				

❒ *IP SURVEY EXTENSION* (Pole-dipole: a = 50 m, n = 1 to 6)

Priority	Anomaly	Survey Direction
1	TH-09*	South
	TH-13*	In-fill lines 700+00N & 701+00N
3	TH-14*	North & South
	TH-17	Winter survey to the east, north & south
*Pending prospecting results.		

The interpretation of the geophysical data embodied in this report is essentially a geophysical appraisal of the Thundercloud 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, Geo.
Geophysicist

APPENDIX

DESCRIPTION OF IP / RESISTIVITY ANOMALIES INTERPRETED ON THE THUNDERCLOUD PROJECT

Anomaly	Location		Contrast		Comments	Priority
	Line	Station	Charg.	Res.		
TH-01	711+00N	38+75E	3	-	Strongly polarizable anomalous trend. Shows a local increase of associated time constant values, indicative of the presence of clay altered minerals. Source estimated subcropping. N-S trending. May extend to the south as **TH-09**. **Should be investigated by initial prospecting on lines 712+00N, 713+00N, 714+00N & 715+00N followed by possible drilling on line 712+00N.**	1
	712+00N	38+25E	4	-		
	713+00N	38+75E	4	-		
	714+00N	38+25E	4	-		
	715+00N	38+75E	4	-		
	716+00N	38+75E	3	-		
	717+00N	38+75E	2	-		
TH-02	711+00N	40+75E	3	-	Strongly polarizable anomalous trend. Shows a local increase of associated time constant values, indicative of the presence of clay altered minerals. Subcropping on line 713+00N. N-S trending. **Should be investigated by initial prospecting on line 713+00N followed by possible drilling on the same line.**	1
	712+00N	41+25E	3	-		
	713+00N	40+75E	4	-		
TH-03	712+00N	42+25E	3	-	Strongly polarizable anomalous trend. Closely related to **TH-01** & **TH-02**. Likely originates from the same type of source. Subcropping on line 713+00N. N-S trending. **Should be investigated by prospecting on line 713+00N.**	1
	713+00N	41+75E	4	-		
	714+00N	41+75E	3	-		
TH-04	711+00N	44+75E	3	-	Strongly polarizable anomalous trend. Subcropping on line 714+00N. Generally N-S trending. **Should be investigated by initial prospecting on line 714+00N followed by possible drilling on the same line.**	2
	712+00N	44+25E	3	-		
	713+00N	44+25E	4	-		
	714+00N	43+25E	4	-		
	715+00N	42+75E	3	↑↑		
	716+00N	42+75E	3	-		
	717+00N	41+75E	3	-		
TH-05	709+00N	West End	3	-	Strongly polarizable anomalous trend. Located at end of line. Incomplete signatures. Could be interpreted as the southern extension of **TH-01**. No further work recommended at the present time.	4
	710+00N	39+25E	3	-		
TH-06	706+00N	40+25E	3	-	Strongly polarizable anomalous trend. Best-response on line 706+00N. Located under a thin layer of overburden. N-S trending. No follow-up work recommended at the present time.	4
	707+00N	40+25E	3	-		
	708+00N	39+75E	3	-		

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Anomaly	Location		Contrast		Comments	Priority
	Line	Station	Charg.	Res.		
TH-07	706+00N	43+25E	3	-	Strongly polarizable anomalous trend. Source estimated subcropping. N-S trending. **Should be investigated by initial prospecting on lines 706+00N & 708+00N followed by possible drilling on line 708+00N.**	2
	707+00N	43+25E	3	-		
	708+00N	42+75E	3	-		
	709+00N	42+25E	3	-		
	710+00N	41+75E	3	-		
TH-08	702+00N	43+25E	3	-	Moderately to strongly polarizable anomalous trend. Shows a local increase of associated time constant values, indicative of the presence of clay altered minerals. Subcropping on line 709+00N. Best-defined responses on lines 709+00N & 710+00N. Generally N-S trending. **Should be investigated by initial prospecting on lines 709+00N & 710+00N, followed by possible drilling on line 709+00N.**	1
	703+00N	44+25E	2	-		
	704+00N	44+75E	2	-		
	705+00N	45+25E	2	-		
	706+00N	45+25E	3	-		
	707+00N	44+75E	3	-		
	708+00N	44+25E	3	-		
	709+00N	43+25E	4	-		
	710+00N	43+25E	4	-		
TH-09	702+00N	39+50E	4	-	Strongly polarizable anomalous trend. Corresponds to an increase of time constant values, indicative of the presence of clay altered minerals. Depth to top of source estimated at 30 m or less. End of line anomaly, incomplete signatures. N-S trending. May extend to the north as **TH-01**. **Should be investigated by prospecting on lines 702+00N, 703+00N & 705+00N. Pending results, additional survey coverage could be carried out to the south.**	1
	703+00N	39+25E	4	-		
	704+00N	West End	4	-		
	705+00N	39+25E	4	-		
	706+00N	West End	3	-		
TH-10	703+00N	41+25E	3	-	Strongly polarizable anomalous trend. Could be interpreted as the southern extension of **TH-06**. N-S trending. Closely related to **TH-09**. Wait for results on **TH-09** prior drilling on **TH-10**. **Could be investigated by prospecting on line 705+00N.**	2
	704+00N	41+00E	3	-		
	705+00N	41+25E	3	-		
TH-11	702+00N	46+25E	3	-	Moderately to strongly polarizable anomalous trend. Subcropping. N-S trending. **Could be investigated by prospecting on line 703+00N.**	3
	703+00N	46+25E	2	-		
	704+00N	46+25E	2	-		
TH-12	698+00N	42+25E	4	-	Strongly polarizable anomalous trend. Subcropping. N-S trending. **Should be investigated by initial prospecting on line 698+00N followed by possible drilling on the same line.**	2
	699+00N	42+25E	3	-		

APPENDIX

DESCRIPTION OF IP / RESISTIVITY ANOMALIES INTERPRETED ON THE THUNDERCLOUD PROJECT

Anomaly	Location		Contrast		Comments	Priority
	Line	Station	Charg.	Res.		
TH-13	699+00N	40+75E	4	-	Strongly polarizable anomaly. Single-line anomaly that could be interpreted as the southern extension of **TH-09**. Outcropping to subcropping. **Prospecting and additional survey coverage (in-fill survey lines 700+00N & 701+00N) is recommended over TH-13.**	1
TH-14	699+00N	44+25E	3	-	Strongly polarizable anomaly. Single-line anomaly that could extend to the north or south. End-of-line signature that remains incomplete. Outcropping to subcropping. **Prospecting and additional survey coverage is recommended to the north and south.**	3
TH-15	702+00N	42+25E	3	-	Strongly polarizable anomaly. Single-line anomaly that could extend to the north or south. **Prospecting and additional survey coverage is recommended to the south.**	2
TH-16	715+00N	44+00E	3	-	Strongly polarizable anomaly that could be associated with a small conductive feature. Identified on one line only, **TH-15** could however be part of a SW-NE chargeable trend encompassing **TH-01**, **TH-02**, **TH-03** & **TH-04**. **Should be investigated by prospecting.**	2
TH-17	713+00N	46+25E	4	↑↑	Strongly polarizable and resistive anomaly. Identified on one line only, but remains open to the east, north and south. Anomaly likely located under water. **According to client's interest, additional survey coverage performed during the winter months could be carried out to the east, north and south of this anomaly.**	3

LEGEND:

Chargeability Increase
? = Marginal
1 = Weak
2 = Moderate
3 = High
4 = Very High

Resistivity Increase
↑ = Resistive
↑↑ = Very Resistive

Decrease
↓ = Conductive
↓↓ = Very Conductive