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CANADIAN EXPLORATION SERVICES LTD

BATTERY MINERAL RESOURCES LTD.

Q2620 – McAra Project – South Grid
3D Distributed Induced Polarization Survey

C Jason Ploeger, P.Geo.
Melanie Postman, GIT

April 22, 2019

Abstract

Canadian Exploration Services Limited (CXS) was contracted to perform a detailed 3D Distributed IP survey on Battery Mineral Resources Limited's McAra Project – South Grid. The survey was designed to investigate a signature of interest from a previously flown airborne survey.

The 3D Distributed IP survey highlighted a linear chargeability anomaly striking at 20 degrees across the survey area. This anomaly appears to be displaced near the center of the survey area by a resistivity low feature striking at 100 degrees. The resistivity low most likely represents a structural feature. The chargeability response should be investigated further.

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Contributions by Andrew Salerno (B.Sc.) & Mandy Lim (GIT)

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1. SURVEY DETAILS

1.1 Project Name

This project is known as the **McAra Project – South Grid**

1.2 Client

Battery Mineral Resources Limited

Level 36
Governor Phillip Tower
1 Farer Place
Sydney
Australia

1.3 Overview

In the spring of 2019, Canadian Exploration Services Limited (CXS) performed a detailed 3D distributed induced polarization (3D IP) survey for Battery Mineral Resources Limited over the McAra Project in Dufferin Township. A total of 14.15-line kilometres of current injection was performed at an approximate injection interval of 50m. This consisted of 256 injection locations that spanned a footprint of 1.68 km^2. The survey was performed between April 2nd and April 11th, 2019.

1.4 Objective

The objective of the 3D distributed IP survey was to perform a multidirectional reconnaissance survey of the area. A previous airborne survey indicated a similar signature to that seen over a nearby massive sulphide. This airborne signature is to be investigated further from this survey.

1.5 Survey & Physical Activities Undertaken

Survey/Physical Activity	Dates	Total Days in Field	Total Line Kilometres
Line Cutting	March 16 to March 22, 2019	7	14.2
3D Distributed IP	April 2 to April 11, 2019	10	14.15

Table 1: Survey and Physical Activity Details

1.6 Summary of Results, Conclusions & Recommendations

A total of 10133 filtered data points was collected from this 3D IP survey. An inversion model of the resistivity and chargeability was produced with a depth up to 400 metres.

The 3D Distributed IP survey highlighted a linear chargeability anomaly striking at 20 degrees across the survey area. This anomaly appears to be displaced near the center of the survey area by a resistivity low feature striking at 100 degrees. The resistivity low most likely represents a structural feature.

It is recommended to investigate the chargeability response.

1.7 Co-ordinate System

Projection: UTM zone 17N
Datum: NAD83
UTM Coordinates near center of grid: 503500 Easting, 5242951 Northing

2. SURVEY LOCATION DETAILS

2.1 Location

The McAra Project – South Grid is in Dufferin Township, approximately 37 kilometres southwest of Gowganda, Ontario or 33 km southeast of Shining Tree, Ontario.

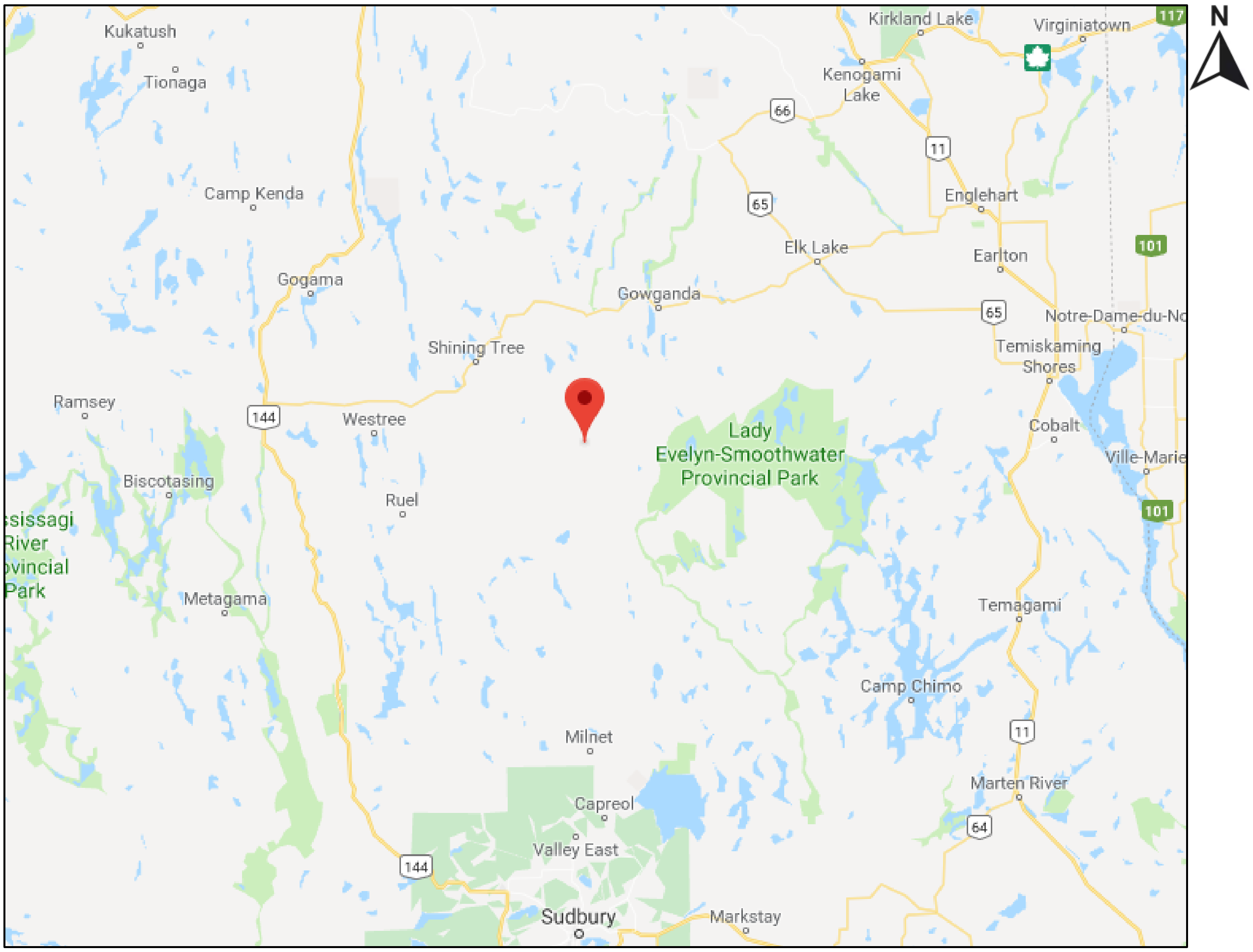


Figure 1: Location of the McAra Project - South Grid (Map data ©2019 Google)

2.2 Access

Access to the property was attained with a 4x4 truck via Beauty Lake Road. Beauty Lake Road heads south from Hwy 560, approximately 23 kilometres west of Elk Lake, Ontario. Beauty Lake Road was travelled for approximately 60 kilometres to the survey grid.

2.3 MINING CLAIMS

The survey area covers a portion of mining claims 182648, 125201, 125200, 218509, 238087, 125202, 344131, 304733, 137530, 201678, 312262 and 201677 located in Dufferin Township, within the Larder Lake Mining Division.

Cell Number	Provincial Grid Cell ID	Ownership of Land	Township
182648	41P07E346	Battery Mineral Resources Limited	Dufferin
125201	41P07E347	Battery Mineral Resources Limited	Dufferin
125200	41P07E348	Battery Mineral Resources Limited	Dufferin
218509	41P07E349	Battery Mineral Resources Limited	Dufferin
238087	41P07E366	Battery Mineral Resources Limited	Dufferin
125202	41P07E367	Battery Mineral Resources Limited	Dufferin
344131	41P07E368	Battery Mineral Resources Limited	Dufferin
304733	41P07E369	Battery Mineral Resources Limited	Dufferin
137530	41P07E386	Battery Mineral Resources Limited	Dufferin
201678	41P07E387	Battery Mineral Resources Limited	Dufferin
312262	41P07E388	Battery Mineral Resources Limited	Dufferin
201677	41P07E389	Battery Mineral Resources Limited	Dufferin

Table 2: Mining Lands and Cells Information

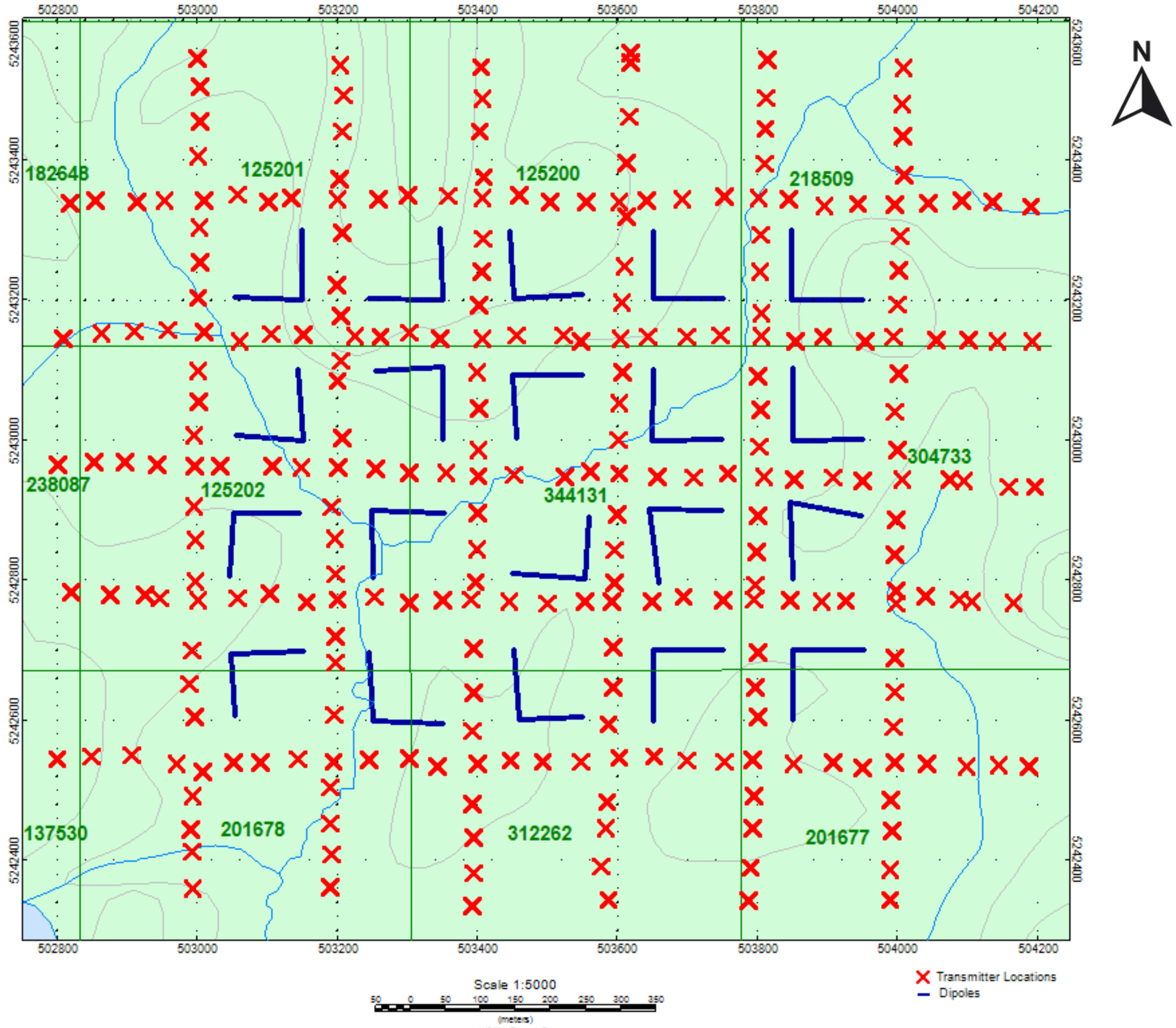


Figure 2: Operational Claim Map with 3D IP Electrode Sites – Red=Transmit Locations – Blue=Read Dipole

2.4 Property History

Some historical exploration has been carried out over the years over the survey area. The following list describes details of the previous geoscience work which was collected by the Mines and Minerals division and provided by OGSEarth (MNDM & OGSEarth, 2018).

- **1984: Golden Shield Resc Ltd, Mcfinley Red L Gold Mines Ltd (File 41P06SE0002)**

Geochemical Assaying and Geological Mapping – Browning Townships

Field mapping and assaying of 128 samples consisting mostly of middle Lorraine quartzites and pebble conglomerates occurred. Late cross cutting quartz veins in upper Lorraine quartzites and in diabase sills contain sub-economic concentrations of gold (0.08 to 0.10 oz. Au/Ton).

- **2016: Battery Mineral Resources Limited (File 20000015781)**

Airborne Geophysical Survey – Donovan Townships

Precision GeoSurveys conducted airborne magnetometer and radiometric surveys over 12 024 line-km of land for the Cobalt Project. Geophysical maps were generated with data obtained, but no solid interpretation was made. Additional geophysical surveying was recommended for accurate interpretation of airborne data collected.

2.5 General Regional/Local Geological Settings

Regional Geology:

The project area occurs within the Superior Province that is composed of northeast trending Paleo- to Neoarchean gneissic complexes, granite-greenstone terranes, and sedimentary basins that were assembled by repeated island arc-microcontinent collisions (Bauer et al., 2011). The McAra project partially comprises Paleoproterozoic (2.5-2.2 Ga) metasedimentary rocks of the Huronian Supergroup (HS) that form a ~60,000 km2 irregular-shaped siliciclastic paleo-basin, colloquially known as the Cobalt Embayment (Potter and Taylor, 2009). The HS unconformably overlies complexly folded and subvertically dipping Neoarchean volcanic, intrusive, and sedimentary rocks of the Wawa-Abitibi terrane that forms the southernmost subprovince of the Canadian portion of the Superior Province (Stott et al., 2010; Stott, 2011; Lodge, 2013). Both Archean rocks and the HS were intruded by Nipissing Diabase sills that are primarily tholeiitic and were sourced from MORB-type parental magma (Potter and Taylor, 2009). These intrusive rocks were emplaced along reactivated pre-HS faults at ca. 2,219 (Corfu and Andrews, 1986) and are envisioned as the heat source that drove hydrothermal fluid circulation responsible for Ag-Co mineralization.

Archean Rocks:

Archean rocks in the region are part of the Wawa-Abitibi subprovince and dominantly comprise mafic to felsic volcanic and volcanoclastic rocks, syn- to post-volcanic intrusions and lesser siliciclastic and chemical sedimentary rocks deposited at ca. 2.7 Ga. The volcanic rocks were deposited in an oceanic arc setting during collision between the Wawa terrane and the Superior Craton in the Neoarchean time period. Paleotectonic settings (e.g., arc, back-arc, rifted arc) and crustal architecture and thickness varies both between and within greenstone belts in the Wawa-Abitibi terrane, which has resulted in a diverse petrogenesis of igneous rocks and related mineralization styles (Mercier-Langevin et al., 2014).

Deformation in the Archean resulted in tight folding and tilting of the rocks to subvertical dips. The stress field was also accommodated by thrust faulting as evidenced by duplication of rock sequences and implied in areas where strain intensity is too low to account for the subvertical rock orientations. Major thrust faults may have been reactivated as deep-seated normal faults developed during extension and deposition of the volcanic facies (Bleeker, 2015). After Archean deformation and deposition of the Huronian Supergroup, the rocks were deformed during the Penokean orogeny that resulted in local reactivation of faults developed in the Archean and Proterozoic (Potter and Taylor, 2009).

Paleoproterozoic Huronian Supergroup:

The Huronian Supergroup comprises a southward-thickening sequence of mainly siliciclastic sedimentary rocks that reach a maximum thickness of 12 km in the southern part of the basin but have an estimated thickness of ~6 km near Cobalt, Ontario (Young et al., 2001). The HS is subdivided in Lower and Upper Huronian. The Lower Huronian comprises, from top to bottom, the Elliot Lake, Hough Lake, and Quirke Lake groups, while the Upper Huronian is solely composed of the Cobalt group. The Lower Huronian has a restricted distribution and was deposited in a rift controlled, non-marine environment. After a significant hiatus, deposition of the more homogenous Upper Huronian is interpreted to have taken place at a passive margin under submarine conditions (Young et al., 2001).

Inversion of the Huronian basin resulted in lower greenschist metamorphism of the sedimentary rocks and caused basin-scale hydrothermal fluid flow that resulted in regionally extensive Na and Ca alteration of the rocks (Potter and Taylor, 2009).

Property Geology:

Most of the Dufferin township is covered by flat lying sediments of the Huronian Supergroup. These are mainly quartzites and quartz-pebble conglomerates of the Lorrain Formation. Intruding these sedimentary sequences are dykes and sills of Nipissing diabase. Massive to foliated granodiorite to granite outcrops may also be found in the area.

Archean basement rock is found as isolated outliers northwest of McKee Lake in Dufferin township and extend to the north into the southern part of North Williams township. These formations which consist mostly of mafic metavolcanic and metasedimentary rocks host most of the mineralization found in the area. Intruding these units and underlying the Huronian is a body of dark red, coarse grained granite.

2.6 Target of Interest

The targeting of the survey was to investigate the south part of the McAra Project. Previous airborne surveys indicated a similar signature to that seen over a nearby massive sulphide. This location is also like the interpreted geological model from the nearby massive sulphide.

3. PLANNING

3.1 Exploration Permit/Plan

The 3D Distributed Induced Polarization survey was performed over mining claims held by Battery Mineral Resources Limited. This required plan PL-18-010983 for the entire area of the survey coverage.

3.2 Survey Design

Specialized IP survey design software was used as a tool to assist in the targeting of the survey. In this case a theoretical survey distribution scenario was established to determine the survey results coverage.

For optimal coverage, 20 receivers with 3 read electrodes each were planned in selected locations in between the current injection paths. The 3 read electrodes of each receiver were planned in 2 orthogonal directions, with 100-metre dipole lengths (north-south and east-west). Current injections were planned at 50 metre intervals along cut lines. An infinite was planned far from the survey location to achieve a pole-dipole array scenario. A theoretical depth of 480 metres was obtained from the software with this layout.

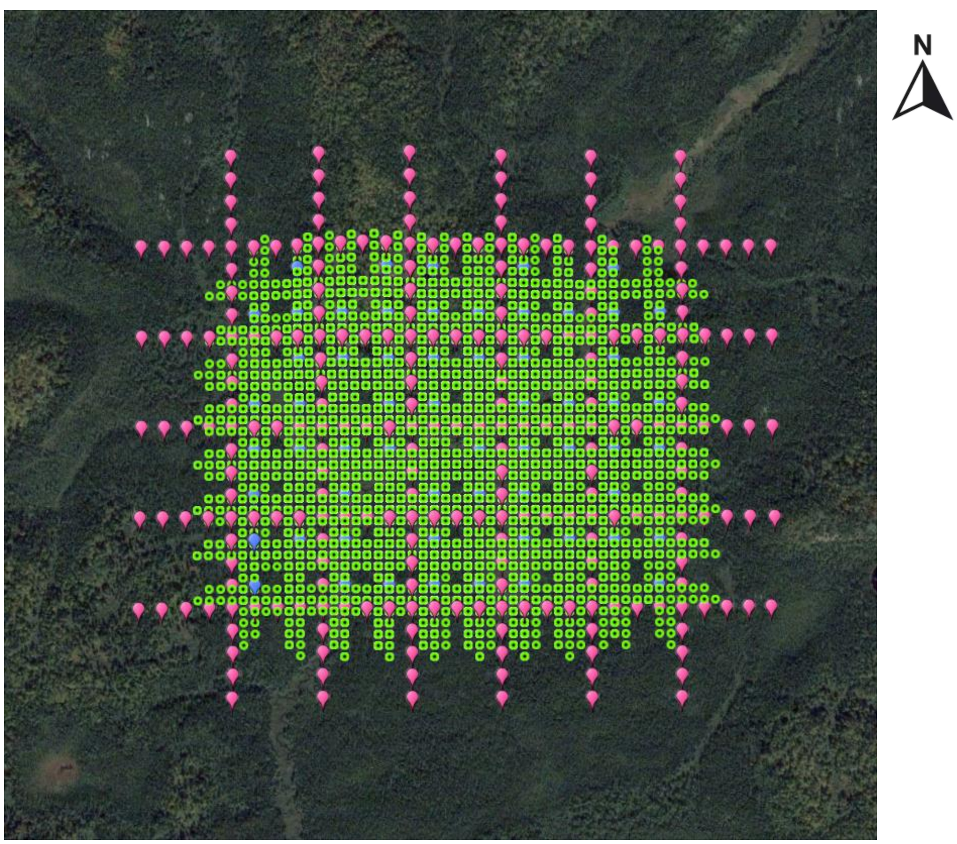


Figure 3: Survey Design Model Looking Down – Pink=Current Injection, Blue=Receiver Electrodes, Green=Theoretical Data Point (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

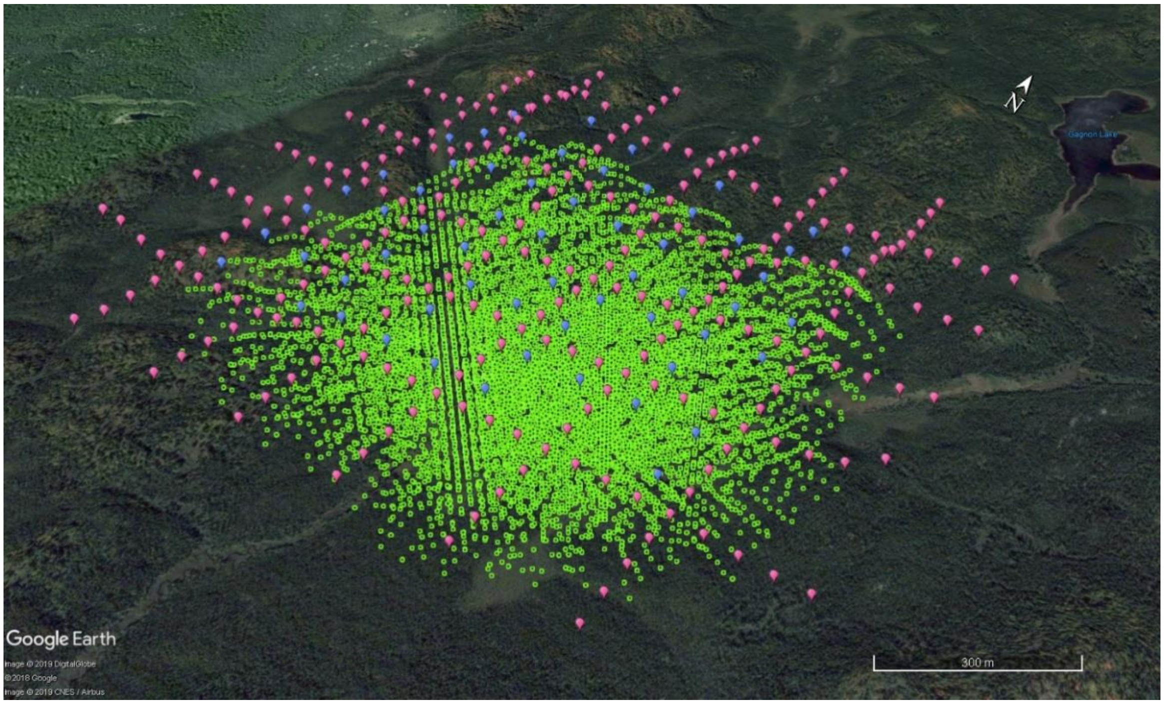


Figure 4: Survey Design Model Looking Northwest – Pink=Current Injection, Blue=Receiver Electrodes, Green=Theoretical Data Point (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

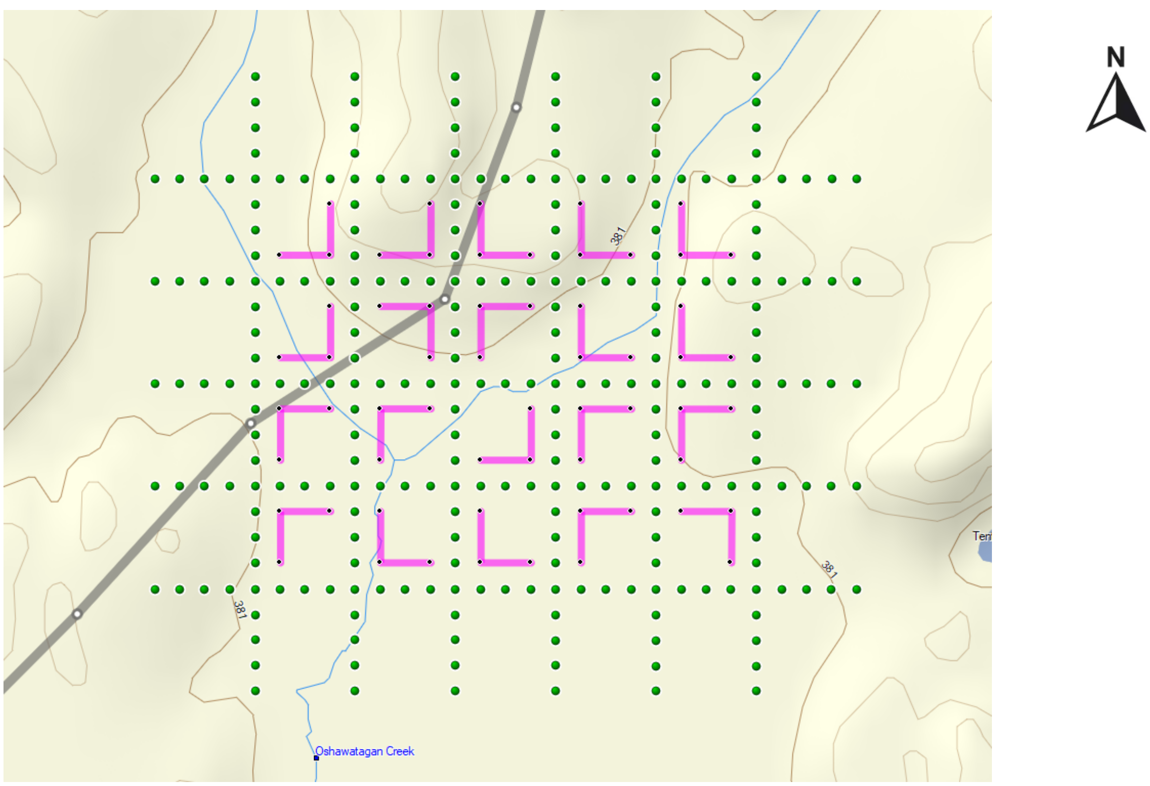


Figure 5: Planned Survey Layout – Green Circles=Current Injections, Pink Lines=Dipoles, Black Dots=Read Electrodes

4. SURVEY WORK UNDERTAKEN

4.1 Summary

CXS was contracted to cut a grid and perform a 3D Distributed Induced Polarization survey over the South Grid for the McAra Project. The CXS 3D IP crew occupied the site in April of 2019. A total length of 14.15 kilometers was covered with 265 injected current points for this survey occurring between April 2nd and April 11th, 2019. True GPS locations were collected upon setting up the grid and utilized as field electrode locations for data processing. The survey area footprint was 1.68 km^2 (1400m x 1200m).

4.2 Survey Grid

A grid was cut along the intended current injection paths. The grid consisted of 6 north-south lines spaced at 200-metre intervals and 5 east-west lines spaced at 200-metre intervals, with stations picketed at 25-metre intervals (Figure 6). All lines were cut by Five on Line Contracting based out of Belleterre, Quebec in March 2019.

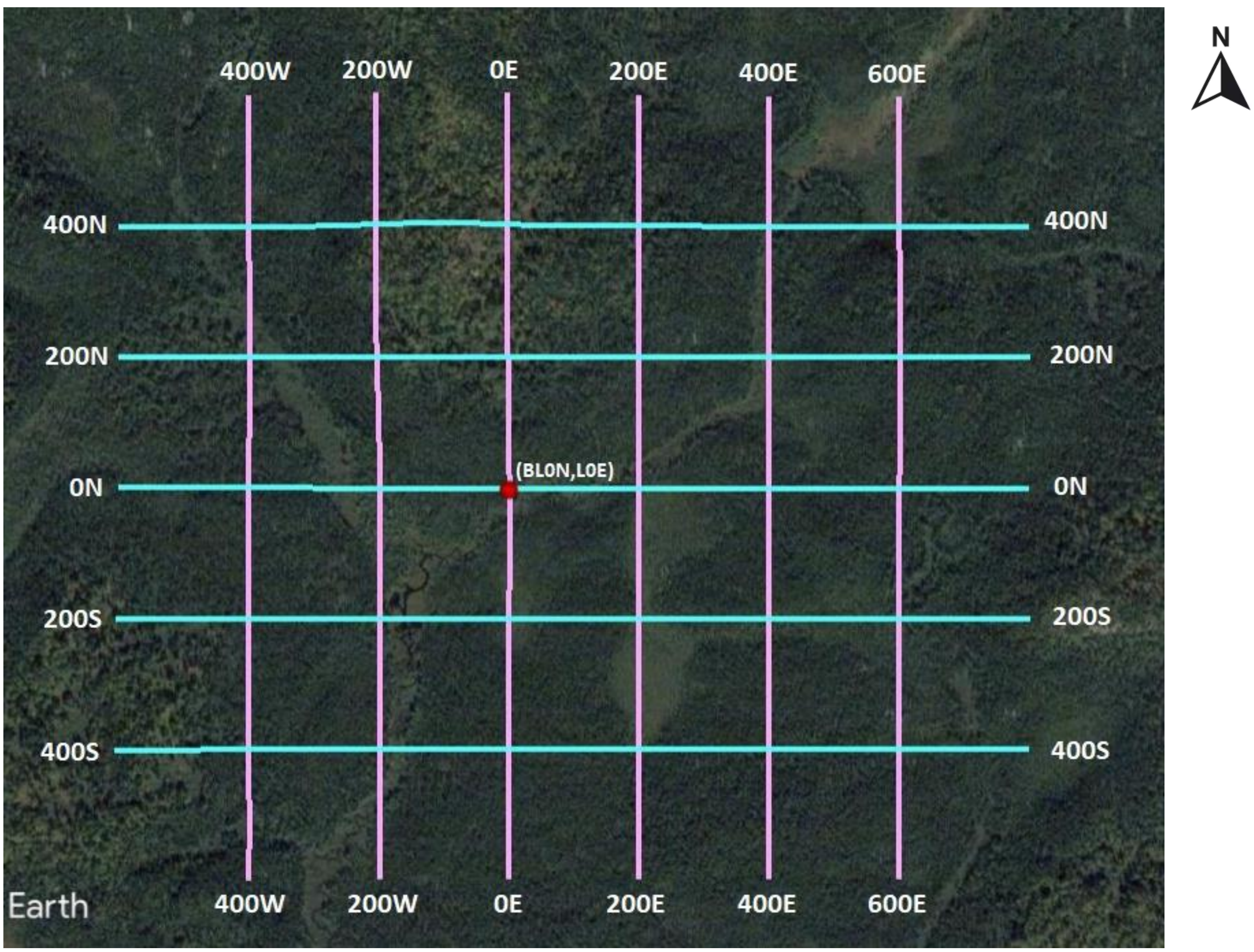


Figure 6: Survey Grid Image (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

4.3 Survey Setup

20 receivers were placed in 20 previously selected locations scattered between the grid lines. Each receiver was connected to 2 approximately orthogonal, ~100-metre dipoles (north-south and east-west). The coordinates of the read electrodes were recorded by GPS and are listed in Table 3. Due to field conditions exact locations and directions were not always achieved. The infinite was located approximately 4.5 km north-northeast from the centre of the survey area at 504568E, 5247581N to achieve a pole-dipole array scenario. The survey layout covered a footprint of 1.68 km^2 with dimensions of 1.4 km (X) x 1.2 km (Y).

Read Electrode	UTM X (m)	UTM Y (m)
402-P1	503149	5243300
402-P2	503150	5243200
402-P3	503052	5243201
403-P1	503144	5243102
403-P2	503151	5243000
403-P3	503056	5243008
404-P1	503045	5242806
404-P2	503052	5242897
404-P3	503145	5242897
405-P1	503054	5242607
405-P2	503048	5242695
405-P3	503151	5242700
406-P1	503245	5242697
406-P2	503251	5242600
406-P3	503350	5242596
407-P1	503251	5242804
407-P2	503249	5242900
407-P3	503352	5242896
408-P1	503350	5243002
408-P2	503350	5243105
408-P3	503255	5243099
409-P1	503347	5243303
409-P2	503351	5243201
409-P3	503246	5243199
410-P1	503447	5243298
410-P2	503452	5243202
410-P3	503549	5243205
411-P1	503455	5243004

Read Electrode	UTM X (m)	UTM Y (m)
412-P1	503559	5242891
412-P2	503553	5242802
412-P3	503450	5242810
413-P1	503451	5242701
413-P2	503460	5242602
413-P3	503550	5242606
414-P1	503650	5242600
414-P2	503650	5242701
414-P3	503751	5242701
415-P1	503658	5242796
415-P2	503646	5242902
415-P3	503749	5242901
416-P1	503650	5243102
416-P2	503649	5243000
416-P3	503749	5243002
417-P1	503650	5243299
417-P2	503651	5243202
417-P3	503751	5243201
418-P1	503849	5243301
418-P2	503849	5243201
418-P3	503949	5243200
419-P1	503851	5243103
419-P2	503851	5243000
419-P3	503949	5243002
420-P1-Apr4 420-P1-Apr5+	503850 503850	5242837 5242802
420-P2	503846	5242911
420-P3	503947	5242893
421-P1	503850	5242602

411-P2	503450	5243093	421-P2	503850	5242701
411-P3	503549	5243093	421-P3	503951	5242701

Table 3: Receiver Electrode Coordinates

4.4 Data Acquisition

CXS began acquiring data on April 4, 2019. Current injection sites were injected along the grid lines at approximately 50-metre increments. GPS points were collected at each injection rod location prior to each current injection and recorded along with their respective injection details, such as injection file numbers and ground conditions. There was a total of 265 injection locations for this survey.

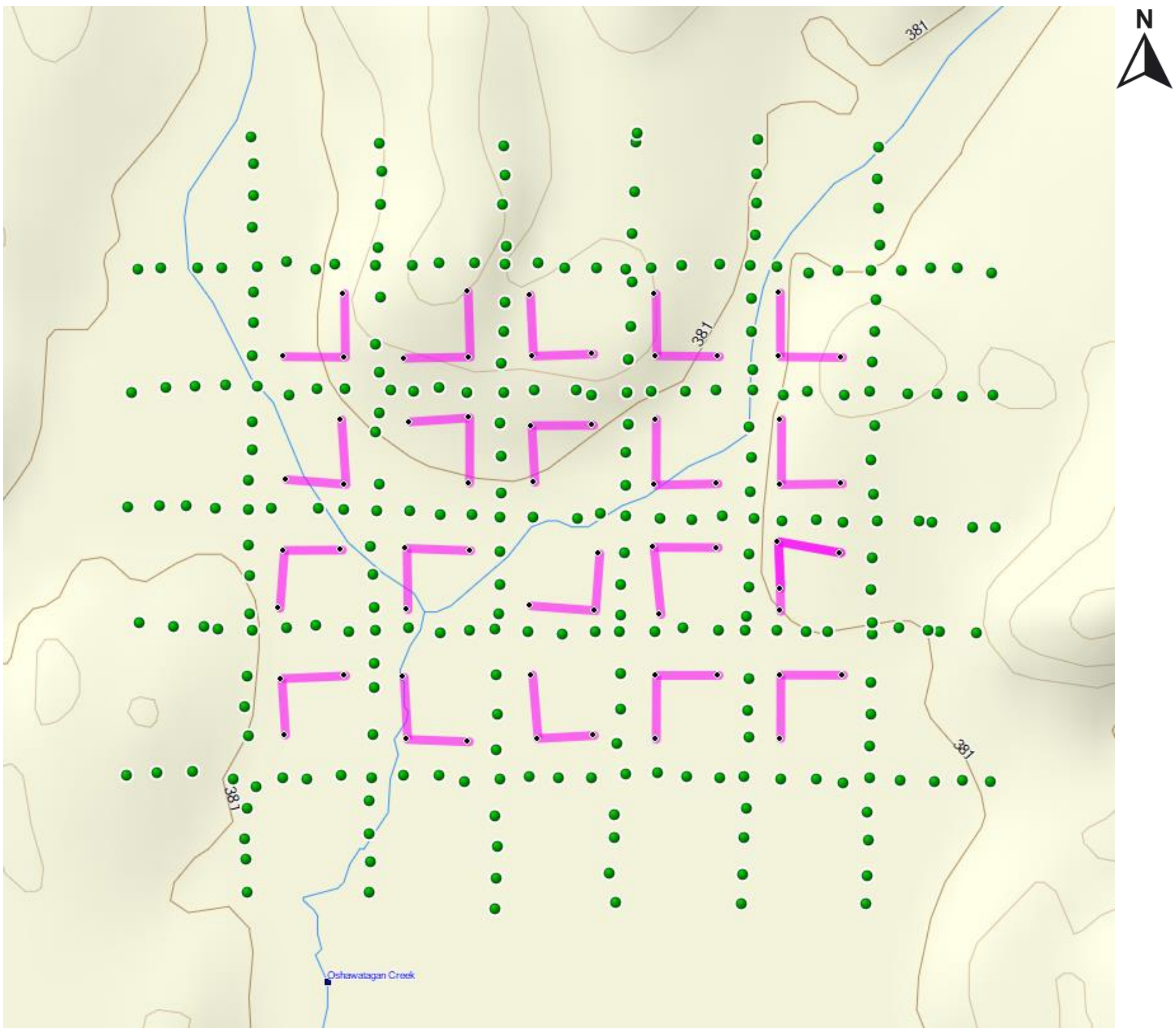


Figure 7: Field survey layout with injection sites (green dots) and dipoles (pink lines)

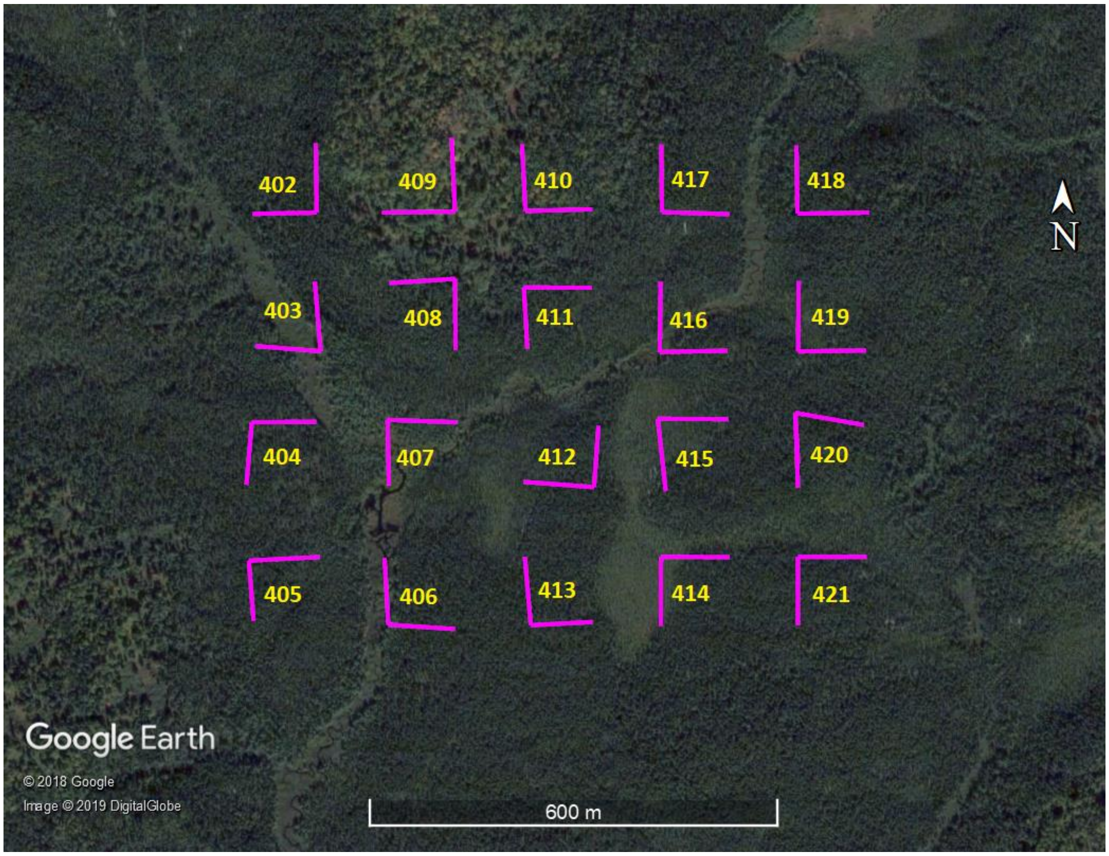


Figure 8: Receiver Dipole Orientations on Google Earth (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

Figure 9: Topographical Relief with the Survey Deployment Looking Northeast (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

4.5 Survey Log

3D IP Survey Log					
Date	**Description**	**Line**	**Min Extent**	**Max Extent**	**Total Survey (m)**
April 2, 2019	Mobilized to survey area, checked access. Unloaded snowmobiles, trailers and equipment. Began setup of Loggers and infinite sites.	-	-	-	-
April 3, 2019	Continued setup of Loggers and infinite sites.	-	-	-	-
April 4, 2019	Finished setup of Logger sites. Setup power wire. Began acquisition; read partial of L400N. Started cutting access to East side.	L400N	450E	800E	350
		8 injections and 0.35 km			
April 5, 2019	Continued IP survey. Finished remainder of L400N. Completed L200N.	L400N	600W	450E	1050
		L200N	600W	800E	1400
		50 injections and 2.45 km			
April 6, 2019	Continued IP survey. Read L0N completely. Moved to L200S and read partial.	L0N	600W	800E	1400
		L200S	450W	775E	1225
		55 injections and 2.625 km			
April 7, 2019	Continued IP survey. Read remainder of L200S. Moved to L400S and read complete. Finished access to the East.	L200S	575W	450W	125
		L400S	600W	800E	1400
		32 injections and 1.525 km			
April 8, 2019	Continued IP survey. Started and completed L600E. Partially read L400E.	L600E	600S	600N	1200
		L400E	200S	600N	800
		33 injections and 2.0 km			
April 9, 2019	Continued IP survey. Read remainder of L400E. Started and completed L200E and L0E.	L400E	600S	200S	400
		L200E	600S	600N	1200
		L0E	600S	600N	1200
		47 injections and 2.8 km			
April 10, 2019	Continued IP survey. Read and completed L200E and L400E.	L200W	600S	600N	1200
		L400W	600S	600N	1200
		40 injections and 2.4 km			

3D IP Survey Log					
Date	**Description**	**Line**	**Min Extent**	**Max Extent**	**Total Survey (m)**
April 11, 2019	Dismantle setup. End survey. Demobilize.	-	-	-	-
Total	**256 injections and 14.15 km**				

Table 4: 3D IP Survey Log

4.6 Personnel

Crew Member	Position	Resident	Province
Bruce Lavalley	Crew Chief	Britt	Ontario
Claudia Moraga	Transmitter Operator	Britt	Ontario
Neil Jack	Transmitter Operator	Kirkland Lake	Ontario
David Ellerton	IP Technician	Englehart	Ontario
Andrew Johnson	IP Technician	Kirkland Lake	Ontario
Joey Emmell	IP Technician	Englehart	Ontario
Five on Line Contracting	Line Cutters	Belleterre	Quebec
C Jason Ploeger P.Geo.	Senior Geophysicist	Larder Lake	Ontario
Melanie Postman GIT	Junior Geophysicist	Larder Lake	Ontario
Mandy Lim GIT	Junior Geophysicist	Saint John’s	NL
Andrew Salerno	Junior Geologist in training	Waterloo	Ontario

Table 5: CXS Induced Polarization Personnel

4.7 Field Notes: Condition and Culture

The average weather over the ten field days was -2°C with highs up to 6.3°C and lows down to -11.4°C. There was heavy precipitation throughout the survey period with the heaviest (18.5mm) falling on April 8th.

No culture was noted in the survey area that would affect the data. Topographical features and ground characteristics along the read dipoles and current injection lines are noted in the following two tables (Table 6 & 7, respectively).

Logger Field Notes (Soil/Topography/Vegetation/Culture notes on dipoles and corresponding electrodes P1/P2/P3)		
402	**Soil**	P1 and P2 Sandy. P3 Swamp
	Topo	P3 to P2 Flat for 75m, up to hill for 25m. P2 top of hill. P2 to P1 Up hill
	Veg	P1, P2 and P3 Balsam and Jack Pine.
403	**Soil**	P1 and P3 Rocky, sandy. P2 Swamp
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Mixed bush
404	**Soil**	P1 Sandy, rocky. P2 Wet, soft (sand). P3 Sand
	Topo	P1 to P2 Flat. P2 to P3 Up hill
	Veg	P1, P2 and P3 Mixed bush
405	**Soil**	P1 Sandy, rocky. P2 Wet, soft. P3 Sandy, rocky
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Mixed bush
406	**Soil**	P1, P2 and P3 Swamp
	Topo	P2 to P1 and P2 to P3 Flat
	Veg	P2 to P1 Spruce Swamp. P2 to P3 Alder and Spruce Swamp
407	Soil	P1, P2 and P3 Swamp
	Topo	P1 to P2 and P2 to P3, Flat
	Vegeta-tion	P2 to P1 and P2 to P3 Alder and Spruce Swamp
408	**Soil**	P1 Swamp, P2 Wet-Sandy, P3 Rocky
	Topo	P2 to P1 Down hill into swamp. P2 to P3 Flat, into open rock pit
	Veg	P2 to P1 Open bush. P1 Spruce Swamp. P2 to P3 open
	Culture	P2 to P1 and P2 to P3 runs directly along main road
409	**Soil**	P1 Rocky, sandy. P2 Sandy. P3 Rocky, mossy
	Topo	P2 to P1 Up hill. P2 to P3 Downhill. P1 Side hill. P2 and P3 Level
	Veg	P1, P2 and P3 Open mixed bush
410	**Soil**	P1, P2 and P3 Sandy
	Topo	P3 to P2 Up hill. P2 to P1 Down hill
	Veg	P1, P2 and P3 Balsam and Jack Pine

Logger Field Notes (Soil/Topography/Vegetation/Culture notes on dipoles and corresponding electrodes P1/P2/P3)		
411	**Soil**	P1 and P3 Swamp. P2 Sandy
	Topo	P2 to P1 and P2 to P3 Steady down hill
	Veg	P2 to P1 and P2 to P3 Mixed bush for 50m then Spruce Swamp.
412	**Soil**	P1, P2 and P3 Wet, soft
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Mixed bush
413	**Soil**	P1, P2 and P3 Wet, soft
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Mixed bush
414	**Soil**	P1, P2 and P3 Mossy, wet
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Black Spruce
415	**Soil**	P1, P2 and P3 Mossy, wet
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Black Spruce
416	**Soil**	P1 and P2 Swamp. P3 Sandy
	Topo	P2 to P3 Slight up hill. P2 to P1 Flat
	Veg	P1, P2 and P3 Balsam and Jack Pine
417	**Soil**	P1 Rocky, mossy, sandy. P2 and P3 Mossy, sandy
	Topo	P1 and P2 Side hill. P2 to P1Up hill. P2 to P3 Down hill. P3 Top of hill, side hill. P3 Level
	Veg	P2 Open Spruce bush. P2 to P1 Open bush. P2 to P3 medium Spruce bush. P1 and P3 Open Pine and Spruce
418	**Soil**	P1 Rocky, sandy. P2 and P3 Mossy, sandy
	Topo	P2 Side hill. P2 to P1 Level (light topo). P1 Level. P2 to P3 Up hill/Side hill. P3 Top of hill, side hill
	Veg	P2 Open Pine and Spruce. P1 Thick Tag Alders and Pine. P3 Open Pine and Spruce
419	**Soil**	P1 Mossy, rocky, sandy. P2 and P3 Mossy, sandy
	Topo	P2 and P3 Flat. P2 to P1 Up and down. P2 to P3 Up hill. P1 Top of outcrop
	Veg	P1 and P2 Open pine. P3 Open Cedar Swamp. P2 to P1 Open bush. P2 to P3 Medium Pine bush.
420	**Soil**	P1, P2 and P3 Mossy, wet
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Black Spruce

Logger Field Notes (Soil/Topography/Vegetation/Culture notes on dipoles and corresponding electrodes P1/P2/P3)		
421	**Soil**	P1, P2 and P3 Mossy, wet
	Topo	P1 to P2 and P2 to P3, Flat
	Veg	P1, P2 and P3 Black Spruce
Infi-nite	**Soil**	Swamp, mossy
	Topo	Flat
	Veg	Alder, Balsam
	Culture	Beside main trail

Table 6: Logger Electrode & Dipole Field Notes

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
4-Apr-19	**L400N**				
	800E	504190	5243334	300	Flat, sandy, rocky
	750E	504135	5243341	1200	Flat swamp
	700E	504092	5243342	1100	Flat swamp
	650E	504044	5243339	600	Uphill, sandy, rocky
	600E	503996	5243337	800	Downhill, sandy, rocky
	550E	503943	5243338	500	Flat swamp
	500E	503895	5243335	600	Flat swamp
	450E	503844	5243344	600	Flat swamp
5-Apr-19	**L400N**				
	400E	503801	5243347	1000	Flat, beside creek
	350E	503753	5243348	600	Uphill, sandy, rocky
	300E	503692	5243345	500	Uphill, sandy, rocky
	250E	503641	5243342	500	Uphill, sandy, rocky
	200E	503602	5243340	700	Uphill, sandy, rocky
	150E	503555	5243341	400	Uphill, sandy, rocky
	100E	503503	5243341	400	Flat, sandy
	50E	503460	5243350	500	Flat, sandy
	0	503407	5243347	500	Flat, sandy
	50W	503358	5243349	400	Uphill, sandy, rocky
	100W	503301	5243350	600	Flat, sandy, rocky
	150W	503258	5243345	600	Downhill, sandy, rocky
	200W	503200	5243345	600	Downhill, sandy, rocky

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	275W	503134	5243347	800	Downhill, sandy, rocky
	300W	503102	5243340	900	Flat swamp
	350W	503057	5243351	1200	Flat swamp
	400W	503009	5243342	1200	Flat swamp
	450W	502953	5243342	1200	Flat swamp
	500W	502914	5243341	1200	Flat swamp
	550W	502855	5243342	1200	Flat swamp
	600W	502818	5243339	1000	Flat swamp
	L200N				
	600W	502808	5243146	1200	Flat swamp
	550W	502863	5243153	1200	Flat swamp
	500W	502910	5243156	1300	Flat swamp
	450W	502958	5243158	1400	Flat swamp
	400W	503010	5243155	1500	Flat swamp
	350W	503060	5243142	1400	Flat swamp
	300W	503105	5243152	1000	Flat swamp
	250W	503151	5243151	600	Uphill, sandy, rocky
	175W	503225	5243149	400	Flat, sandy, rocky
	150W	503261	5243148	800	Flat, sandy, rocky
	100W	503302	5243154	400	Flat, sandy, rocky
	50W	503347	5243145	600	Flat, sandy, rocky
	0	503407	5243145	600	Flat, sandy, rocky
	50E	503455	5243150	500	Flat, sandy, rocky
	125E	503523	5243150	400	Flat, sandy, rocky
	150E	503547	5243142	800	Flat, sandy, rocky
	200E	503604	5243145	700	Downhill, sandy, rocky
	250E	503643	5243148	1600	Flat swamp
	300E	503699	5243148	1300	Flat swamp
	350E	503747	5243150	1600	Flat swamp
	400E	503805	5243149	1500	Flat swamp
	450E	503854	5243142	800	Flat swamp
	500E	503893	5243148	600	Uphill, sandy, rocky
	550E	503953	5243142	900	Uphill, sandy, rocky
	600E	503994	5243148	800	Flat, sandy, rocky
	650E	504055	5243144	700	Downhill, sandy, rocky
	700E	504101	5243143	500	Flat, sandy, rocky
	750E	504142	5243141	700	Uphill, sandy, rocky
	800E	504192	5243141	900	Flat, sandy, rocky

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
6-Apr-19	**BL0**				
	600W	502801	5242966	1200	Flat swamp
	550W	502852	5242969	1100	Flat swamp
	500W	502896	5242969	1400	Flat swamp
	450W	502942	5242965	600	Flat, sandy
	400W	502996	5242963	500	Flat, sandy
	375W	503033	5242964	1500	Flat, sandy
	300W	503107	5242964	1500	Flat swamp
	250W	503148	5242962	1100	Flat swamp
	200W	503201	5242961	1100	Flat swamp
	150W	503255	5242960	800	Flat swamp
	100W	503303	5242954	1300	Flat swamp
	50W	503355	5242954	700	Flat swamp
	0	503401	5242949	1500	Flat swamp
	50E	503452	5242951	1100	Flat swamp
	125E	503524	5242948	1500	Flat swamp
	150E	503561	5242956	1300	Flat swamp
	200E	503602	5242953	1200	Flat swamp
	250E	503657	5242948	1200	Flat swamp
	300E	503708	5242947	600	Flat swamp
	350E	503757	5242953	500	Flat, sandy
	400E	503809	5242948	500	Flat, sandy, rocky
	450E	503852	5242944	1100	Flat, sandy
	500E	503907	5242947	1200	Flat, sandy
	550E	503950	5242943	600	Uphill, sandy
	600E	504006	5242944	1200	Flat swamp
	675E	504074	5242944	1400	Flat swamp
	700E	504094	5242943	1200	Flat swamp
	750E	504159	5242934	600	Flat, sandy, rocky
	800E	504196	5242934	1100	Flat, sandy, rocky
	L200S				
	775E	504165	5242768	500	Uphill, sandy, rocky
	725E	504106	5242770	600	Flat swamp
	700E	504087	5242773	500	Flat swamp
	650E	504040	5242778	1000	Flat swamp
	600E	503997	5242767	1200	Flat swamp
	525E	503926	5242771	1100	Flat swamp

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	500E	503891	5242770	900	Flat swamp
	450E	503846	5242772	1000	Flat swamp
	400E	503794	5242773	500	Flat swamp
	350E	503750	5242772	500	Flat, sandy
	300E	503694	5242777	500	Flat, sandy
	250E	503649	5242770	400	Flat, sandy
	200E	503592	5242770	1100	Flat swamp
	150E	503553	5242770	500	Flat, sandy
	100E	503500	5242767	600	Flat, sandy
	50E	503445	5242770	1400	Flat swamp
	0	503391	5242773	1400	Flat swamp
	50W	503350	5242772	1000	Flat swamp
	100W	503303	5242768	1200	Flat swamp
	150W	503252	5242777	1500	Flat swamp
	200W	503200	5242773	1400	Flat swamp, next to creek
	250W	503156	5242769	800	Uphill, sandy
	300W	503103	5242781	500	Flat, sandy
	350W	503058	5242775	500	Flat, sandy
	400W	503001	5242772	400	Flat, sandy
	450W	502946	5242775	400	Flat, sandy, beside road
7-Apr-19	**L200S**				
	475W	502925	5242779	400	Flat, sandy, beside road
	525W	502875	5242779	400	Uphill, sandy, rocky
	575W	502820	5242784	400	Flat, sandy
	L400S				
	600W	502800	5242545	1000	Flat, sandy
	550W	502849	5242549	900	Flat, sandy
	500W	502906	5242551	500	Downhill, sandy
	425W	502970	5242539	400	Downhill, sandy
	400W	503008	5242527	400	Flat, sandy
	350W	503051	5242540	900	Flat, sandy
	300W	503090	5242540	1300	Flat, sandy
	250W	503144	5242545	900	Flat, sandy
	200W	503194	5242541	1200	Flat swamp, beside creek
	150W	503245	5242544	1400	Flat, swamp
	100W	503303	5242546	500	Uphill, sandy
	50W	503342	5242534	400	Uphill, sandy

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	0	503400	5242538	500	Flat, sandy
	50E	503447	5242543	400	Flat, sandy
	100E	503493	5242541	400	Flat, sandy
	150E	503547	5242541	400	Flat, sandy
	200E	503602	5242547	1000	Flat, sandy
	250E	503652	5242549	500	Uphill, sandy
	300E	503699	5242543	600	Uphill, sandy, rocky
	350E	503753	5242541	1100	Uphill, sandy, rocky
	400E	503792	5242544	600	Flat, sandy
	450E	503851	5242538	1100	Flat, sandy, rocky
	500E	503908	5242540	500	Flat, sandy, rocky
	550E	503950	5242533	600	Flat, sandy, rocky
	600E	503995	5242540	600	Flat, sandy, rocky
	650E	504042	5242538	800	Flat, sandy
	700E	504098	5242534	1400	Flat, sandy, rocky
	750E	504144	5242537	1400	Flat, sandy
	800E	504187	5242534	1500	Flat, sandy, rocky
8-Apr-19	**L600E**				
	600S	503989	5242344	1200	Up and down, sandy, rocky
	550S	503989	5242387	1100	Up and down, sandy, rocky
	500S	503992	5242443	1000	Flat, sandy, wet
	450S	503990	5242486	600	Flat, sandy
	350S	503994	5242591	800	Flat, sandy
	300S	503995	5242641	1000	Flat, sandy, rocky
	250S	503995	5242690	1200	Flat, sandy, rocky
	175S	503998	5242785	1500	Flat, sandy, rocky
	100S	503996	5242837	1200	Flat, sandy, rocky
	50S	503998	5242887	1400	Flat, sandy, rocky
	50N	503999	5242986	1000	Uphill, rocky
	100N	503996	5243041	1000	Uphill, rocky
	150N	504001	5243095	800	Uphill, rocky
	250N	503999	5243194	700	Uphill, sandy, rocky
	300N	504002	5243243	700	Flat, sandy
	350N	504003	5243292	700	Top of hill, sandy, rocky
	450N	504009	5243379	1400	Flat, sandy, wet
	500N	504007	5243435	1700	Flat swamp
	550N	504006	5243481	1700	Flat swamp
	600N	504008	5243532	1600	Flat swamp

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	L400E				
	600N	503814	5243543	1000	Flat, sandy, rocky
	550N	503812	5243489	700	Flat, sandy, rocky
	500N	503811	5243445	1700	Flat swamp
	450N	503810	5243395	1000	Flat swamp
	350N	503804	5243294	1700	Flat swamp
	300N	503803	5243241	1700	Flat, sandy, wet
	225N	503805	5243182	1500	Flat, sandy, rocky
	150N	503800	5243092	1500	Flat, sandy, wet
	100N	503804	5243044	1600	Flat, sandy, rocky
	50N	503802	5242991	500	Flat, sandy, rocky
	50S	503800	5242892	500	Flat, sandy, wet
	100S	503799	5242841	400	Flat, sandy, rocky
	150S	503796	5242794	600	Flat, sandy
9-Apr-19	**L400E**				
	250S	503800	5242697	600	Uphill, sandy, rocky
	300S	503797	5242647	400	Flat, sandy, rocky
	350S	503800	5242605	700	Flat, sandy, rocky
	450S	503795	5242493	700	Uphill, sandy, rocky
	500S	503792	5242447	800	Downhill, sandy, rocky
	550S	503790	5242390	500	Flat, sandy, rocky
	600S	503787	5242343	600	Flat swamp
	L200E				
	600S	503587	5242344	600	Flat, sandy
	550S	503576	5242392	500	Flat, sandy
	500S	503583	5242446	500	Flat, sandy, rocky
	450S	503585	5242484	700	Flat, sandy, rocky
	350S	503587	5242595	1700	Flat swamp
	300S	503594	5242648	1700	Flat swamp
	250S	503594	5242705	1700	Flat swamp
	150S	503595	5242797	1300	Flat swamp
	100S	503595	5242844	1500	Flat swamp
	50S	503599	5242895	1700	Flat swamp
	50N	503601	5243001	1600	Flat swamp
	100N	503602	5243053	1500	Flat swamp
	150N	503607	5243097	1600	Flat swamp

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	250N	503606	5243197	600	Uphill, sandy, rocky
	300N	503610	5243249	700	Uphill, sandy, rocky
	375N	503612	5243320	400	Downhill, rocky
	450N	503612	5243396	400	Flat, rocky
	500N	503617	5243462	600	Flat, rocky
	575N	503618	5243540	1400	Flat swamp
	600N	503619	5243553	1000	Flat swamp
	L0E				
	600N	503405	5243533	600	Flat, sandy, rocky
	550N	503407	5243488	600	Flat, sandy, rocky
	500N	503403	5243441	600	Flat, sandy, rocky
	425N	503409	5243376	600	Uphill, sandy, rocky
	350N	503408	5243288	500	Uphill, sandy, rocky
	300N	503406	5243241	500	Downhill, sandy, rocky
	250N	503402	5243193	500	Downhill, sandy, rocky
	150N	503399	5243097	400	Downhill, sandy, rocky
	100N	503402	5243046	1000	Downhill, sandy, rocky
	50N	503401	5242987	600	Downhill, sandy
	50S	503400	5242896	1500	Flat swamp
	100S	503399	5242845	1800	Flat swamp
	150S	503397	5242798	1400	Flat swamp
	250S	503394	5242703	1000	Flat swamp
	300S	503395	5242640	500	Uphill, sandy, rocky
	350S	503393	5242585	500	Flat, sandy, rocky
	450S	503392	5242481	600	Flat, sandy
	500S	503395	5242433	400	Flat, sandy
	550S	503395	5242382	400	Flat, sandy, rocky
	600S	503392	5242336	500	Flat, sandy, rocky
10-Apr-19	**L200W**				
	600S	503189	5242362	900	Flat swamp
	550S	503191	5242409	1100	Flat swamp
	500S	503190	5242453	1300	Flat swamp
	450S	503190	5242505	1500	Flat swamp
	350S	503195	5242608	1700	Flat swamp
	275S	503197	5242683	1800	Flat swamp
	250S	503197	5242720	1600	Flat swamp
	150S	503197	5242809	1700	Flat swamp

Date	Line/ Station	UTM X (m)	UTM Y (m)	I (mA)	Ground & Surrounding Area Characteristics
	100S	503196	5242860	2000	Flat swamp
	50S	503191	5242905	1800	Flat swamp
	50N	503207	5243003	1200	Flat, rocky
	125N	503200	5243085	900	Uphill, rocky
	175N	503205	5243114	700	Uphill, rocky
	225N	503205	5243178	400	Flat, rocky
	275N	503199	5243222	1000	Bottom of hill, sandy, rocky
	350N	503207	5243296	500	Flat, sandy
	425N	503203	5243373	700	Flat, sandy
	500N	503207	5243441	500	Flat, sandy, rocky
	550N	503209	5243493	500	Sidehill, rocky
	600N	503204	5243536	500	Uphill, rocky
	L400W				
	600N	503000	5243546	1000	Flat, sandy
	550N	503004	5243505	600	Flat, rocky
	500N	503004	5243455	600	Downhill, sandy, rocky
	450N	503001	5243406	900	Flat, rocky
	350N	503003	5243304	1800	Flat swamp
	300N	503004	5243255	1800	Flat swamp
	250N	503001	5243204	1900	Flat swamp
	150N	503001	5243100	1600	Flat swamp
	100N	503002	5243055	1900	Flat swamp
	50N	502995	5243007	1600	Flat swamp
	50S	502995	5242906	400	Flat, rocky
	100S	502997	5242858	800	Flat, rocky
	150S	502997	5242799	800	Flat, sandy, rocky
	250S	502992	5242700	500	Flat, rocky
	300S	502989	5242652	500	Flat, sandy, rocky
	350S	502996	5242606	400	Flat, sandy, rocky
	450S	502993	5242492	400	Flat, sandy, rocky
	500S	502990	5242444	1500	Flat, sandy, wet
	550S	502992	5242413	1400	Flat swamp
	600S	502993	5242360	700	Flat, sandy, rocky

Table 7: Current Injection Field Notes

4.8 SAFETY

Canadian Exploration Services Ltd prides itself in creating and maintaining a safe work environment for its employees. Each crew member is briefed on the jobsite location, equipment safety, standard operating procedures along with our health and safety manual. An emergency response plan is generated relating to the specific job and with the jobsite predominantly in the field, which is unpredictable, morning safety briefings are essential. Topics are generally chosen based off jobsite characteristics of the area, weather conditions, timing and crew experience. All possible topics discussed during a survey, dependent on field conditions and time of the year, are listed in the following table.

Safety Topic	Protocol
Active Work Site	Be aware of surrounding activities – drilling, mine monitoring, and traffic. Caution when working near roads, and post safety signs to alert passers-by of ongoing geophysical surveys.
ATV	Conduct circle check before operating an ATV. Ensure brakes and tires are in good working condition. Drive at reasonable speeds according to terrain to avoid accidents. The use of helmets is mandatory.
Extreme Temperatures	With temperatures down to -40, there is an increased risk of cold related injuries (i.e. frostbite, hypothermia). Dress accordingly and take breaks to warm up if necessary. Bring extra clothing to anticipate for possible drop in temperature throughout the day. With temperatures up to +30C, there is an increased risk of heat stroke. Keep hydrated throughout the day and in shaded areas if possible.
Communication	Check in with the crew leader or any crew member when working individually to inform the team of your safety and well-being.
Heavy Lifting	When lifting equipment individually, always lift with your legs rather than your back. Always ask fellow crew members for help when lifting or moving heavy and large equipment (i.e. transmitter, generator, snowmobile, etc.).
Hunting Seasons	There may be more traffic during hunting season. Be careful when crossing. Wear proper (high-visibility) attire to avoid being mistaken for an animal in the bush.
Power Protocol	When in doubt, always assume that power is on and stay clear of survey circuits until confirmed otherwise.
Power Tools	Be alert when operating power tools – chainsaw, Tanaka, etc. Do not operate equipment when unsure of safety instructions for the specific tool.

Safety Topic	Protocol
Rain	Terrains may be slippery. Traverse carefully to avoid slipping, especially when ascending, descending, or walking along side of hills. When there is a chance of thunderstorm, notify person in-charge of transmitter when thunder is heard. Be extra careful with power protocol due to increased risk of shock. Bring extra clothing in case gear gets too wet and heavy.
Sharp Tools	Be careful when handling tools such as a machete and knives to avoid injuries. Inform another crew member of any injuries.
Slips, Trips and Falls	Increased risk of hidden hazards with snow coverage. Proper use of snow shoes is encouraged to avoid injuries from slipping, tripping, or falling. 3 points of contact is encouraged.
Snowmobile	Proper use of PPE (i.e. safety helmet, high visibility attire, etc.). Practice safety checks before operating snowmobiles. Ensure that engines and brakes are in good working condition. Ensure that oil, coolant, and gasoline levels are sufficient for distance of travel. Check that snowmobile is physically safe to operate (i.e. no broken parts).
Truck and Trailer	Conduct safety checks prior to operation of company trucks to ensure engines, brakes, tires, and etc. are in good working condition prior to operating vehicle. Conduct circuit checks when mobilizing and de-mobilizing trailers.
Water Hazards	Creeks, lakes, and swamps may not be fully frozen even under very low temperatures. The use of a stick or pole is encouraged for testing water bodies prior to crossing.
Wildlife	Always be aware of surroundings, keeping an eye out for animals such as bears, moose and wolves. Carry bear spray when in the field during the summer.
Winter Driving	Snow accumulation, freezing rain and icy conditions create added road hazards. Road into field sites may be rough. Drive at appropriate speeds according to road conditions.

Table 8: General Safety Topic Protocols

Emphasized daily topics discussed in the field for this project include:

Date	Safety Topic
April 2, 2019	Mobilization. Trucks and trailers circle check. Drive according to road conditions.
April 3, 2019	Snowmobile circle check. Use helmet, drive according to trail conditions, windy and snowing, poor visibility.

April 4, 2019	Power protocol. Always assume Power is ON. Clear in the "Front/back". Do not clip in/out while transmitting.
April 5, 2019	Slips/trips/falls. Some high hills, branches and logs on lines. 3 points of contact.
April 6, 2019	Drive according to trail conditions. Stay on main road, steep edges, soft snow in afternoon. Use caution, branches, pun-gees and creek (some open spots) in the grid access trails.
April 7, 2019	Weekly review. Use caution with snowy conditions.
April 8, 2019	Weather; Freezing rain, rain and snow. Bad conditions on main trail and access to the grid.
April 9, 2019	Driving conditions on a secondary road.
April 10, 2019	Slips/trips/falls.
April 11, 2019	Demobilization. Trucks and trailers circle checks.

Table 9: Daily Field Safety Topics

5. INSTRUMENTATION & METHODS

5.1 INSTRUMENTATION[1]

20 two-channel Full Waver IP receivers were employed for the 3D IP survey. The transmitter consisted of a GDDII (5kW) with a Honda 6500 as a power plant. A current monitor was connected to the transmitter to record the current transmitted over 90s for each injection point.

Time-domain IP surveys involve measurement of the magnitude of the polarization voltage that results from the injection of pulsed current into the ground. Apparent resistivity and chargeability are the parameters of interest measured through this procedure.

5.2 THEORETICAL BASIS

Time domain IP (TD-IP) surveys involve measurement of the magnitude of the polarization voltage that results from the injection of pulsed current into the ground.

Two main mechanisms are known to be responsible for the IP effect although the exact causes are still poorly understood. The main mechanism in rocks containing metallic conductors is electrode polarization (overvoltage effect). This results from the buildup of charge on either side of conductive grains within the rock matrix as they block the flow of current. Upon removal of this current the ions responsible for the charge slowly diffuse back into the electrolyte (groundwater) and the potential difference across each grain slowly decays to zero.

The second mechanism, membrane polarization, results from a constriction of the flow of ions around narrow pore channels. It may also result from the excessive build up of positive ions around clay particles. This cloud of positive ions similarly blocks the passage of negative ions through pore spaces within the rock. Upon removal of the applied voltage the concentration of ions slowly returns to its original state resulting in the observed IP response.

In TD-IP, the current is usually applied in the form of a square waveform, with the polarization voltage being measured over a series of short time intervals after each current cut-off, following a short delay of approximately 0.5s. These readings are integrated to give the area under the decay curve. The integral voltage is divided by the observed steady voltage (the voltage due to the applied current, plus the polarization voltage) to give the apparent chargeability (Ma) measured in milliseconds. For a given charging period and integration time the measured apparent chargeability provides qualitative information on the subsurface geology.

[1] Refer to appendix B for instrument specifications.

The polarization voltage is measured using a pair of non-polarizing electrodes like those used in spontaneous potential measurements and other IP techniques.

5.3 Survey Specifications

3D Distributed Induced Polarization Array

The 3D Distributed Induced Polarization array configuration was used for this survey. This array consisted of 60 mobile stainless steel read electrodes and two current electrodes. 20 portable receivers were each connected to 3 read electrodes (P1, P2, and P3) to create 2 orthogonal components with 100m dipole spacings. The power location (CA) was chosen based on field conditions but placed throughout the survey area (randomly or in a grid-like manner). In this case, there were 6 north-south, spaced at 200m intervals and 5 east-west lines, spaced at 200m, used for power locations. Along each line the power transmits were injected at approximately every 50m. The infinite was located approximately 4.5 kilometres north-northeast of the center of the survey grid at 504568E and 5247581N. The infinite was placed as far as possible to achieve a pole-dipole array. The maximum theoretical depth obtained was approximately 480 metres. An 8 second transmit cycle time, with a 2 second energizing time was used for a duration of 90 seconds for approximately 12 stacks.

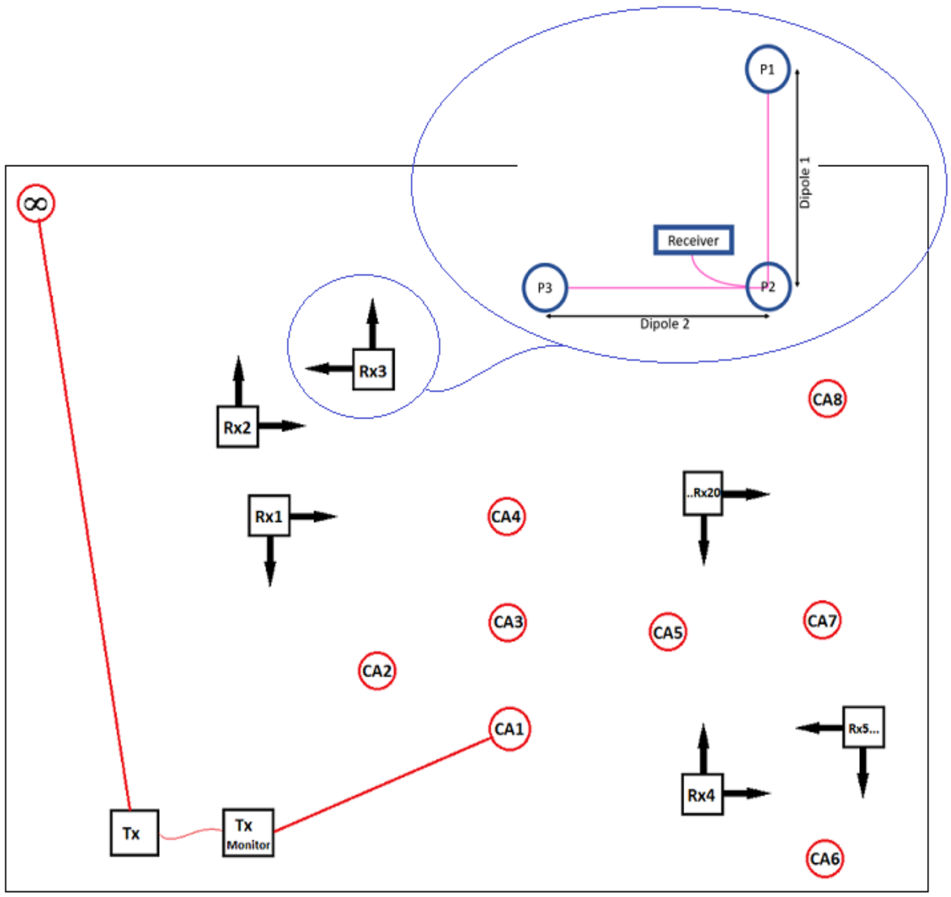


Figure 10: 3D Distributed IP Configuration

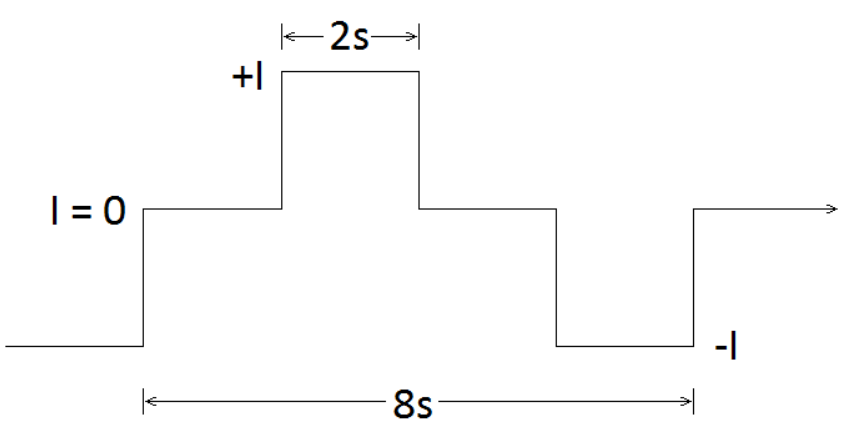


Figure 11: Transmit Cycle Used

6. QUALITY CONTROL & PROCESSING

6.1 Field Quality Control

Daily field quality control steps consisted of the following:

1. Resistivity checks – the resistivity of each dipole was recorded in the field pre- and post-acquisition to ensure dipoles were connected to the receiver properly and the electrode was well contacted with the ground.

2. GPS checks – internal GPS of each receiver was checked that they were placed in the proper position. GPS and injection file time stamps were compared to confirm correlation.

3. Data check – data was dumped daily and confirmed that the number of GPS points matched the number of injection files.

4. Backup – a second current monitor recorded the transmit cycles continuously throughout every acquisition day. If necessary, the backup was used.

5. Repeats – repeats of lines/data were taken if necessary.

6.2 Processing

In the office, processing of the data and quality control was done interchangeably. The steps included:

1. Import positions – GPS coordinates were imported into each corresponding current injection file (IAB) and receiver file (VMN) using the Fullwave Viewer Software.

2. GPS check – the imported positions were confirmed on Google Earth.

3. Synchronization check – in case of GPS lags or different time settings the synchronization of the files was checked to determine they match (Figure 12).

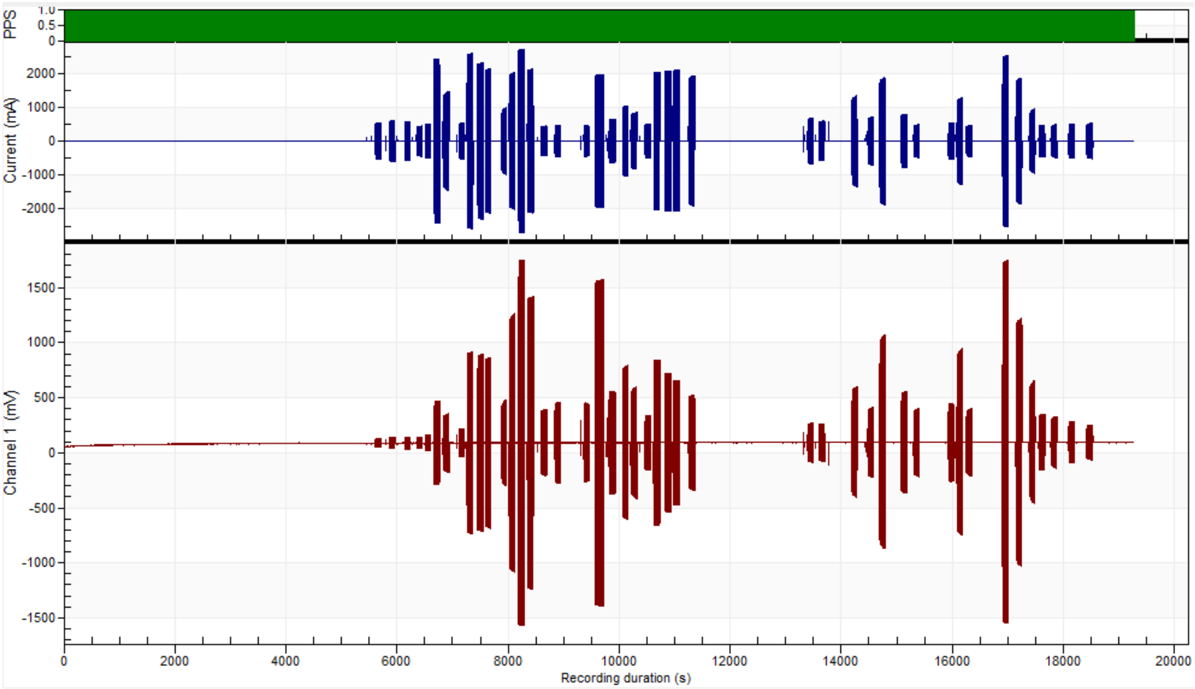


Figure 12: Receiver recordings (red) synchronized with the current injections (blue)

4. Prosys output – a complete .bin file was output from the Fullwave Viewer software.

5. Data quality control – values were viewed in the complete .bin file. Accepted values with a normal M1-M20 range would have a proper transmit cycle, a smooth curve, and a high amplitude low frequency narrow peak (Figure 13). Unaccepted values with an abnormal M1-M20 range (Figure 14, red circle) would not have proper signals (Figure 15). These abnormal values could be due to a few different things or a combination of the following; the dipole being too far from the current injected, the background noise being greater than that of the current injected, poor dipole coupling, and/or cultural features on surface causing coupling or a significant background noise interference. These were removed in step 7.

6. Topography – 1 arc-second Shuttle Radar Topography Mission (SRTM) topography data for Canada was downloaded from the Geosoft Public DAP server. The grid was sampled to the receiver and injection electrode coordinates to produce topography values above mean sea level (MSL) for each electrode.

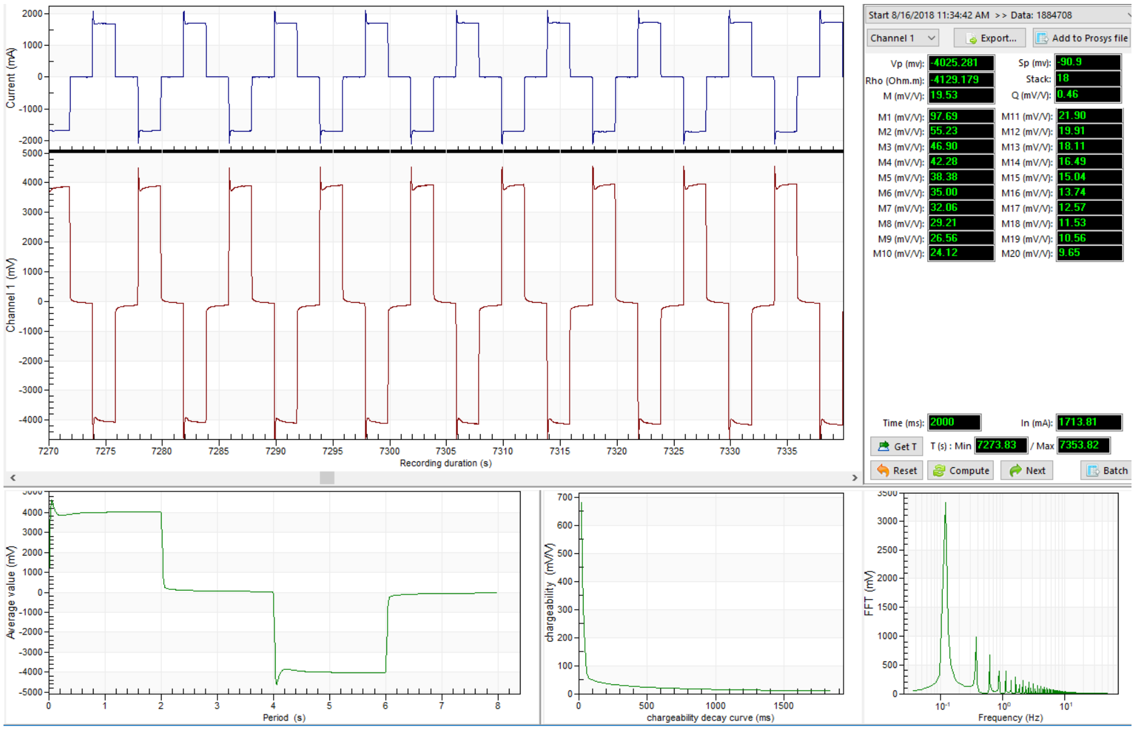


Figure 13: Good 90 second transmit/read pair. Injection (blue), read signal (red), transmit signal (bottom left), decay curve (bottom centre), FFT (bottom right).

M1 (...	M2 (...	M3 (...	M4 (...	M5 (...	M6 (...	M7 (...	M8 (...
69.11	45.44	39.99	36.58	33.48	30.76	28.53	26.05
75.78	48.86	41.69	37.53	34.34	31.16	27.97	25.89
75.73	50.14	43.65	39.60	36.34	33.18	30.49	27.90
81.56	54.13	46.51	41.97	38.16	34.65	31.68	28.80
69.46	44.71	38.75	35.17	32.20	29.45	27.06	24.76
94.25	66.44	57.79	52.34	47.77	43.66	40.14	36.61
128554.88	-11085.17	-14311.44	-14973.24	-16379.58	-4281.03	4318.25	-3929.44
67.53	41.83	35.59	32.24	29.36	26.85	24.26	22.33
65.87	42.73	37.79	34.62	31.80	29.44	27.04	24.97
91.27	62.90	54.94	49.39	45.30	41.31	37.83	34.67
91.55	63.34	55.08	50.01	45.57	41.54	38.07	34.83
124.30	92.27	80.17	72.73	66.38	61.02	56.01	50.97
66.66	44.00	37.08	32.36	29.95	27.68	24.13	22.05

Figure 14: Output .bin file viewed in Prosys. Larger abnormal M values circled in red.

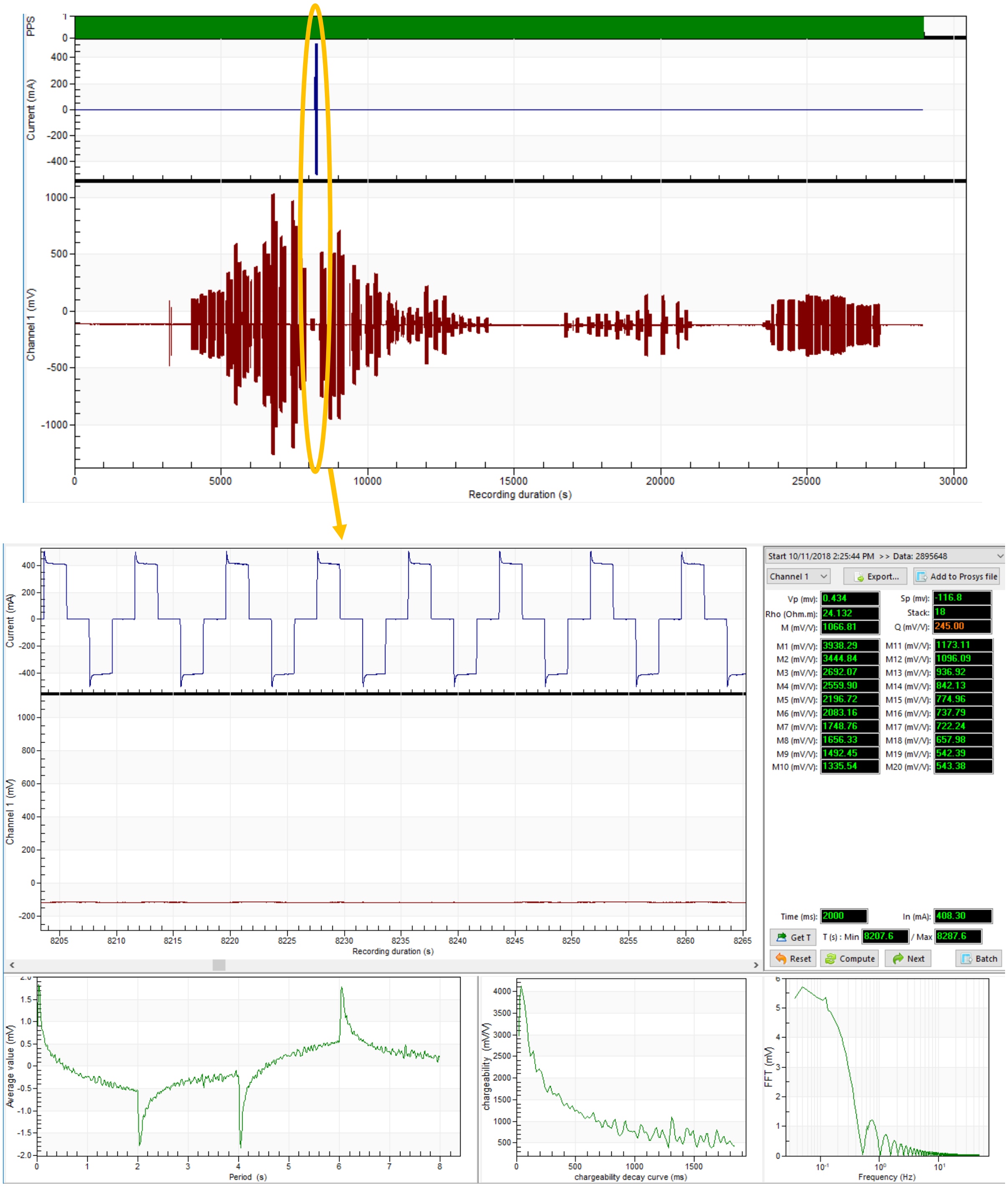


Figure 15: Signal, cycle, and curves of abnormal unaccepted M values.

7. Filtering – Values with unrealistic resistivities and chargeabilities, high standard deviations, large geometric factors, and that are oversaturated were filtered out (Figure 16).

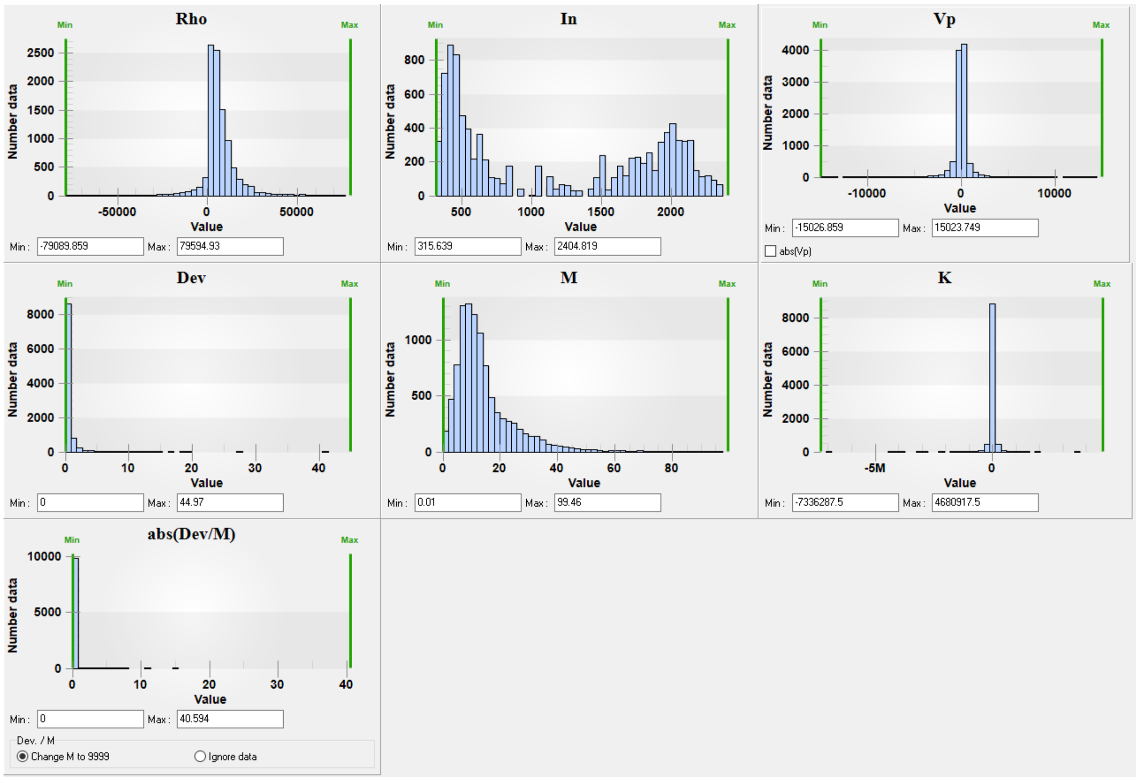


Figure 16: Filtering options

3D viewing of the raw calculated chargeability and resistivity results was observed in Geosoft Oasis (Figures 17-19; Y=North). Calculated report points from acquisition were recorded at a maximum depth of approximately 650 metres depth.

A total of 10133 filtered data points was collected from this 3D IP survey configuration over a period of 7 days.

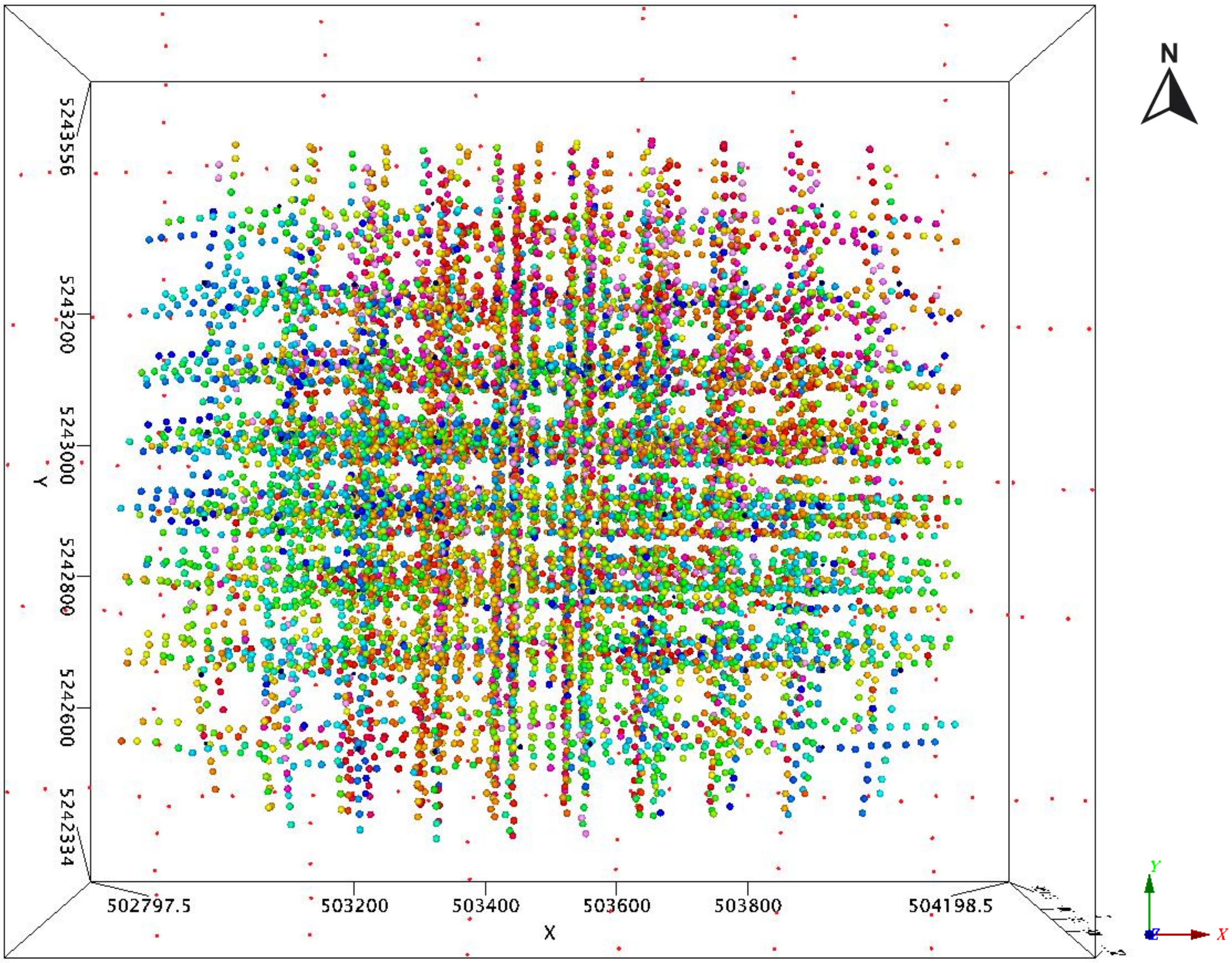


Figure 17: Measured chargeability data points (top down).

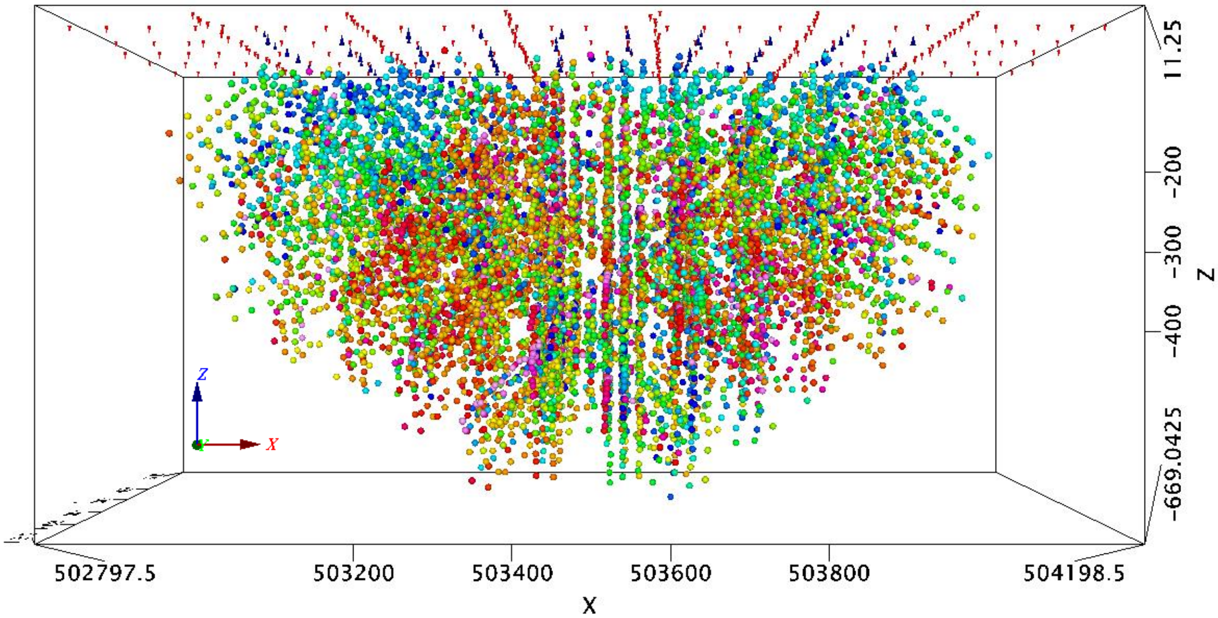


Figure 18: Side view of the complete measured chargeability dataset facing north with the survey layout on top

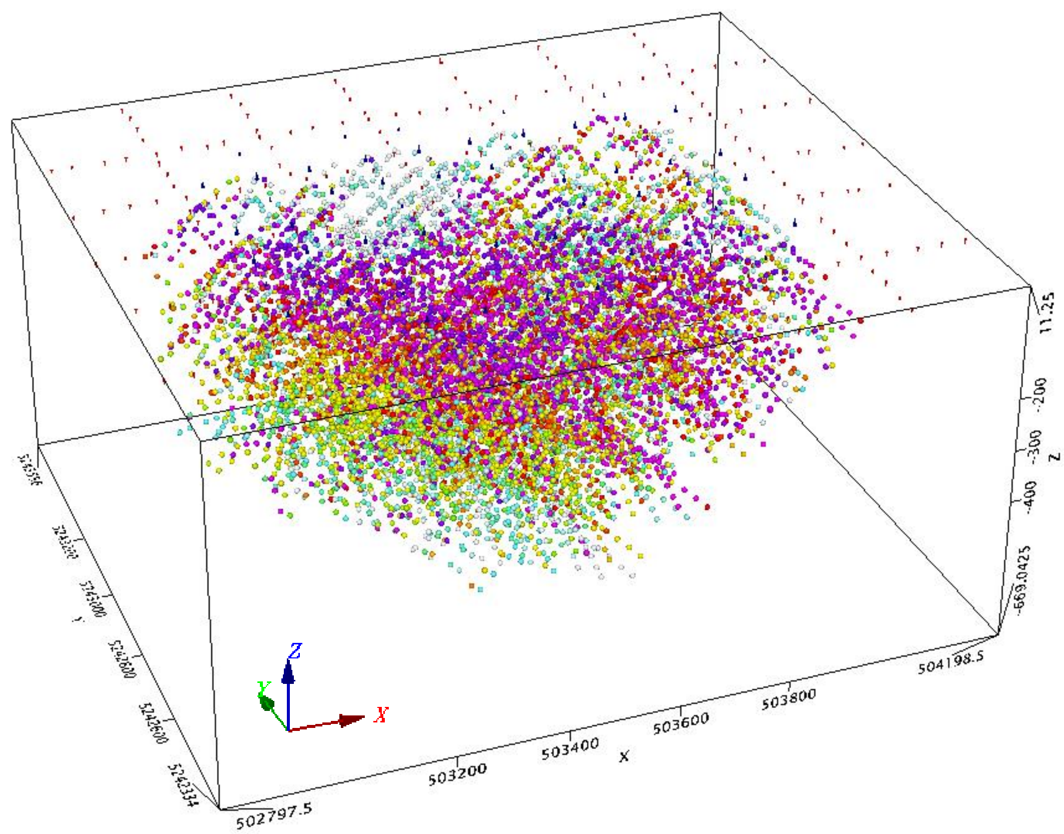


Figure 19: Angled view of the complete set of resistivity data points

6.3 Inversion

Inversions of the filtered data was done in RES3DINV Professional version 3.15.11. RES3DINV is a 3D inversion software specifically used for resistivity and induced polarization data. A RES3DINV format was created from the finalized Prosys file with specific selections depending on the survey type completed. The selections seen in Figure 20 are standard 3D distributed IP array settings. Depending on the intended survey array type, including the remote may or may not be used. For example, in this case there was a single remote electrode placed as far from the survey grid as possible to achieve a pole-dipole array scenario, thus it was not necessary to include the remote. Topography was included.

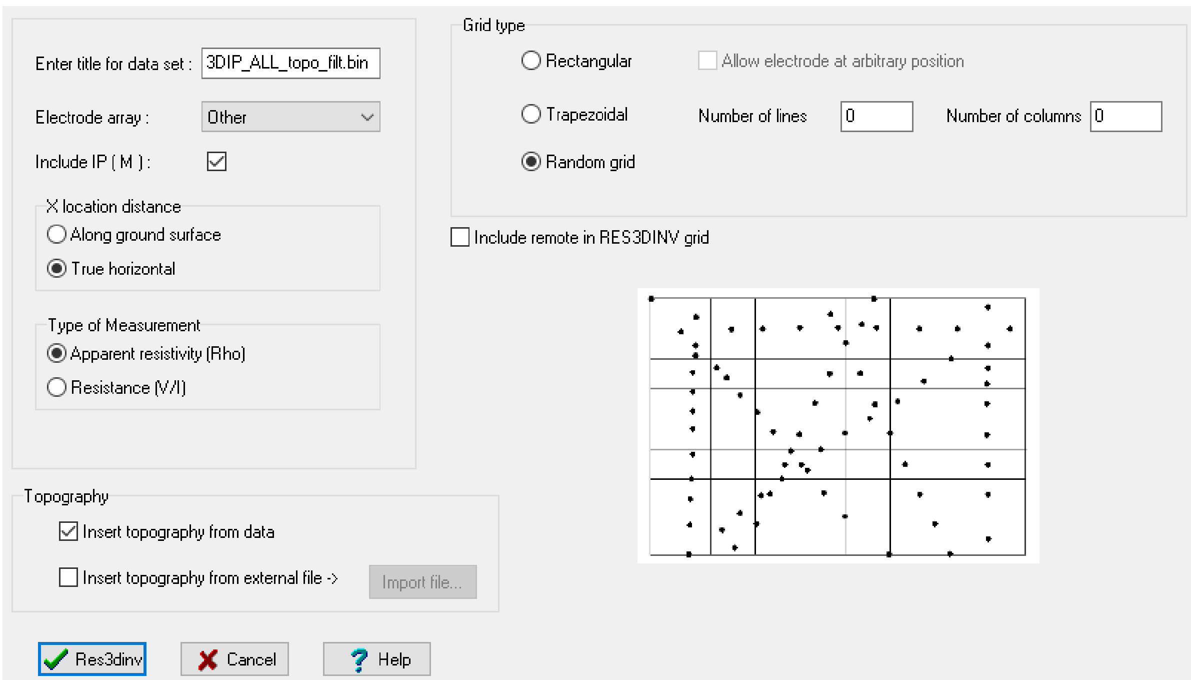


Figure 20: Export settings selection from Prosys to RES3DINV

Model grid settings were chosen based on the infinite locations and the dipole lengths. A uniform cell size was chosen to be ¼ or 1/5 of the dipole length, in this survey case a cell size of 25m was used (Figure 21). To reduce edge artifacts a few cells extension was added. Manual edits to the cell uniformity may be necessary depending on the location of the infinite. In this case manual edits were not made. Eleven model layers were used with depths to 15, 30, 50, 75, 105, 140, 180, 225, 275, 330, and 400 metres.

The theoretical maximum depth obtained from the Fullwave Designer was 480 metres. Calculated report points from acquisition were recorded at a maximum depth of approximately 650 metres depth. However, a maximum depth of 400 metres was used because resolution and sensitivity decrease as depth increases. Sensitivity values represent how well the model is constrained, with higher sensitivities providing less uncertainty and greater validity.

Important inversion parameters used for the creation of the model are described in Table 9[2].

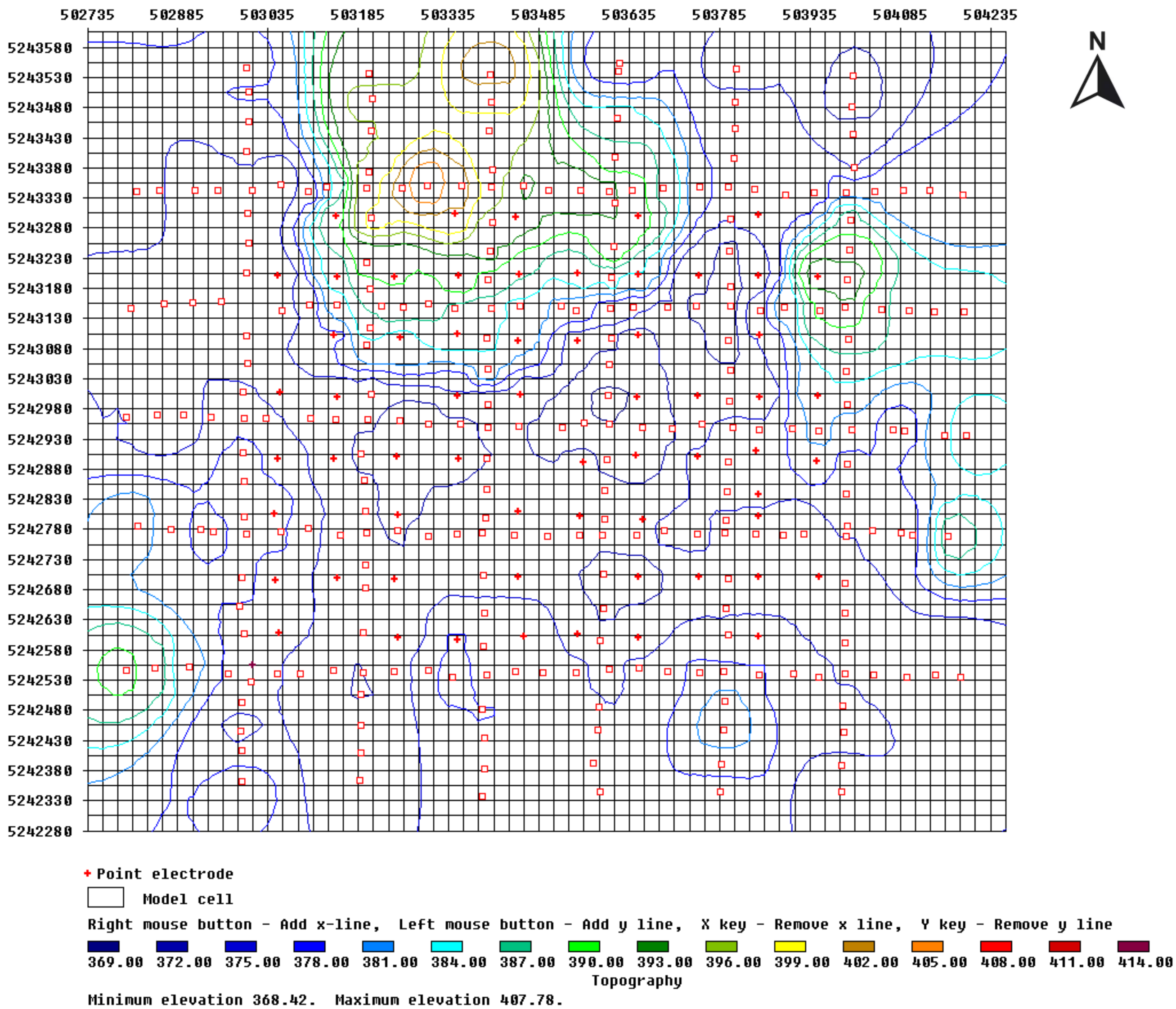


Figure 21: 25m model cell size with topographical contours – model viewer in RES3DINV

[2] Refer to the RES3DINV manual and tutorial by Dr. M.H. Loke.

Parameter	Description
Refined Topography	Estimates topography of each interior node individually to take non-linear topography variations within each model block into account.
Higher Damping of 1st layer	Useful to avoid unusually large resistivity variations in the top layer (Loke and Dahlin 2010).
Diagonal Filter Components	Reduces effects of produced structures with boundaries aligned along the horizontal and vertical directions.
Robust Data Constraint	Attempts to minimize the absolute difference between the measured and calculated apparent resistivity values (Claerbout and Muir 1971). Less sensitive to very noisy data point.
Robust Model Constraint	Produces models with regions of more uniform resistivity values with sharper boundaries.
Incomplete Gauss-Newton	An approximate solution of the least-squares equation that uses an iterative linear conjugate-gradient method.
Reference Model	An additional constraint on the model to limit the deviation of the model resistivity from a homogenous reference model. This is normally the average of the apparent resistivity values.
Logarithm of Apparent Resistivity	In 2D systems it is ~impossible to determine whether the measured potential has the same sign as the transmitted current, thus it was assumed apparent resistivity is always positive and the logarithm is used. However, negative apparent resistivity values not caused by noise are observed in 3D distributed IP systems, especially with near-surface large resistivity contrasts and topography. Thus, the logarithm of apparent resistivity is not used because negative apparent resistivity values are real and kept throughout the inversion for a more accurate model. (Loke, 2018)
Forward Modeling Method	The finite-element method with a medium extended 4 horizontal node mesh between electrodes is used for datasets with topography and for improved accuracy.
Non-Linear IP Complex Method	The non-linear method calculates apparent IP using a complex resistivity formula. This method treats the conductivity as a complex quantity with real and imaginary components (Kenma et al. 2000). The complex conductivity and complex potential are calculated. These components are calculated in a two-step inversion process during each iteration. First the resistivity model is calculated, then the IP model is calculated.
IP Model Transformation	The “range-bound” transformation method is used to ensure the model IP values produced by the inversion program does not exceed the lower or upper limits of 0-800 mV/V.

Table 10: Inversion Parameter Descriptions (© (1996-2018) M.H.Loke)

7. RESULTS, INTERPRETATION & CONCLUSIONS

7.1 RESULTS

The inversion was run through many iterations to reduce the misfit error of the model. Iteration 7 was the chosen version. This produced an absolute error of 3.97% and 0.31% for the resistivity and IP models, respectively. Eight of the eleven depth sections of the IP and resistivity from the RES3DINV viewer of iteration 7 is shown in the next two figures, respectively. From top left to top right and bottom left to bottom right the blocks are at depths: 15-30m, 30-50m, 50-75m, 75-105m, 105-140m, 140-180m, 180-225m, and 225-275m.

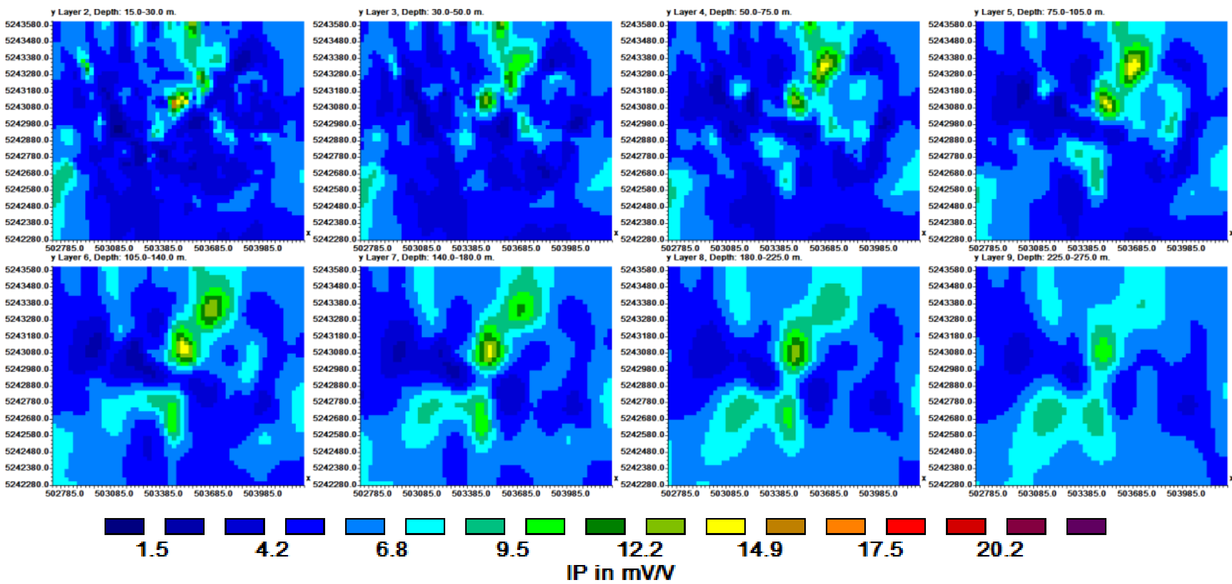


Figure 22: 8 IP depth sections ranging from 15-275m as viewed in RES3DINV

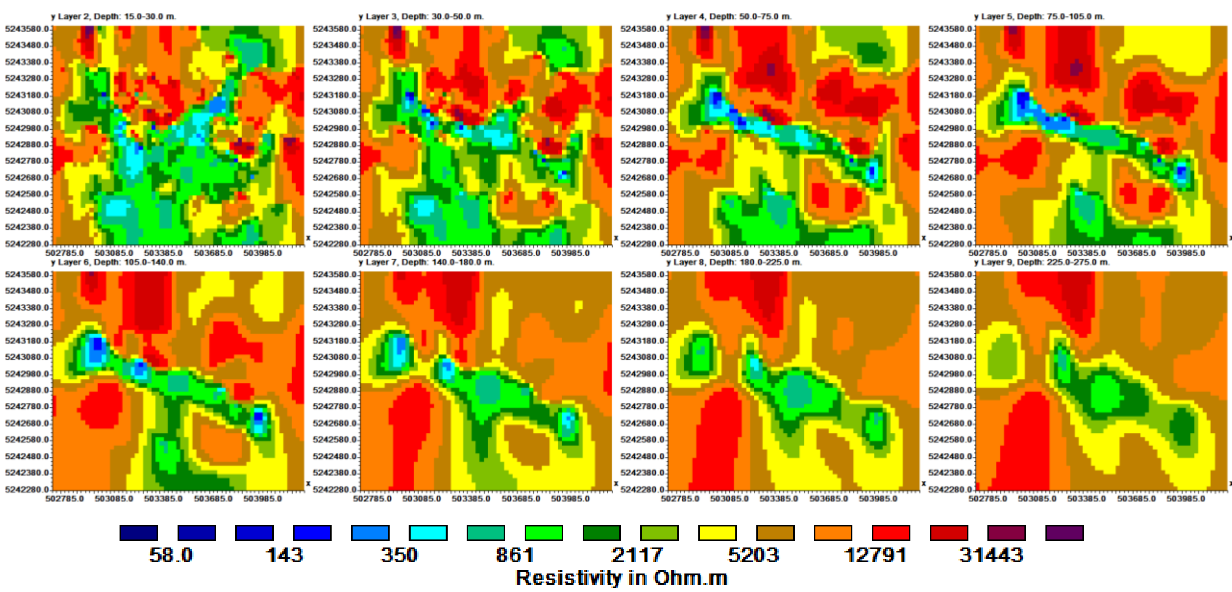


Figure 23: 8 resistivity depth sections ranging from 15-275m as viewed in RES3DINV

A final XYZ was output from iteration 7 of the inversion and provided the resistivity, conductivity, chargeability, and sensitivity values at the centre and the corner of the model blocks. In this case resolution was also calculated. This was imported and modelled in Geosoft Oasis. The model was then trimmed to the survey boundary to refrain from including edge effects into the interpretation.

A horizontal slice of the chargeability and resistivity from the final inversion model overlaid in Google Earth is seen in the following two figures.

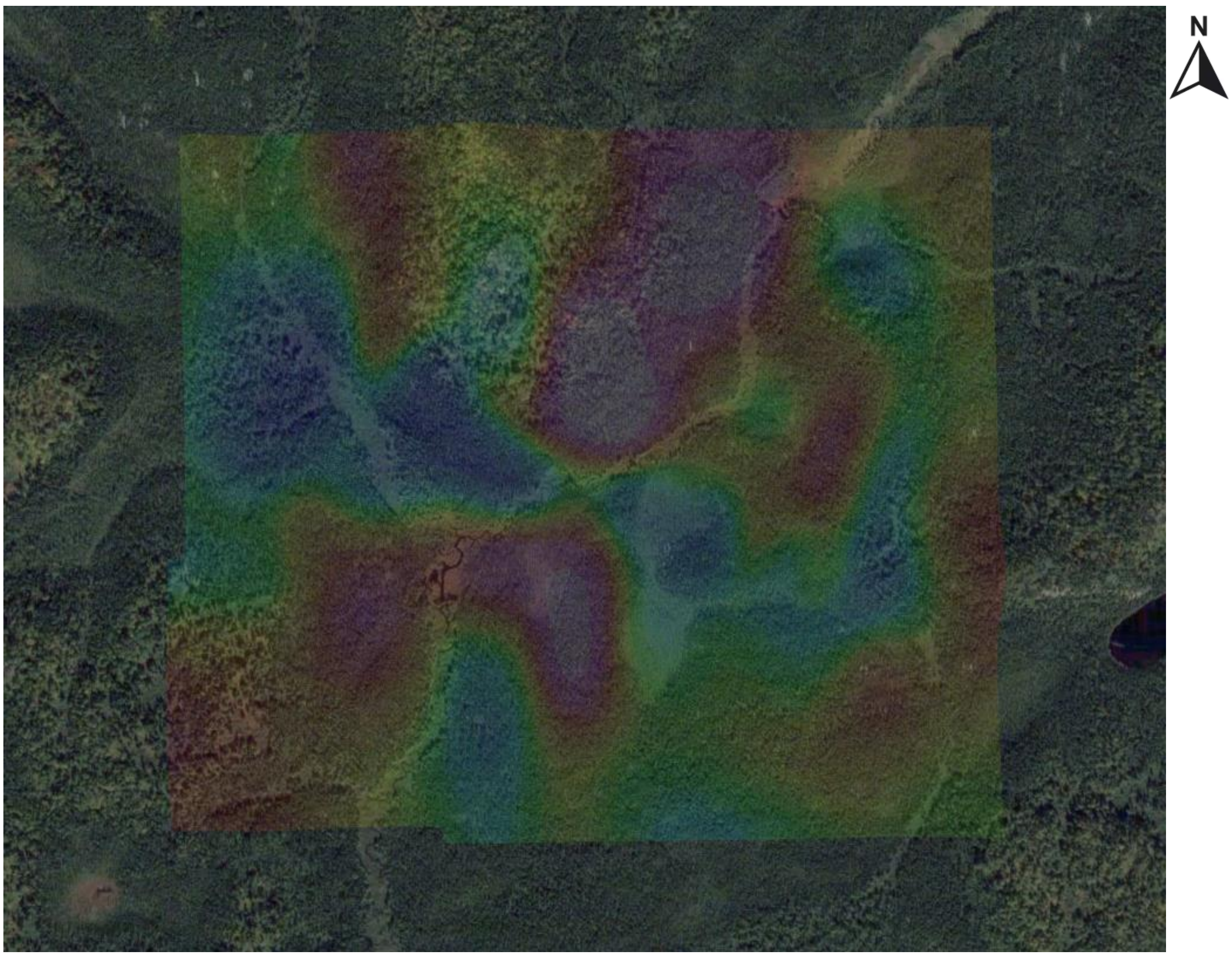


Figure 24: Chargeability grid (250m MSL) overlaying Google Earth. (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

Figure 25: Resistivity grid (250m MSL) overlaying Google Earth. (©2018 Google, Image ©2019 CNES/Airbus, Image ©2019 DigitalGlobe)

7.2 INTERPRETATIONS[3]

Targeting of the 3D Distributed IP array was based on favourable geology correlating to airborne magnetic signatures.

Both the inverted chargeability and resistivity data were modelled in 3D. Some chargeability responses were detected, and the resistivity response was dominated by the conductive over burden.

Below are examples of the 3D chargeability model at 10mV/V superimposed on a 200 metre MSL chargeability slice (Figures 26 and 27).

[3] Note for all interpretation figures North is in the Y-direction.

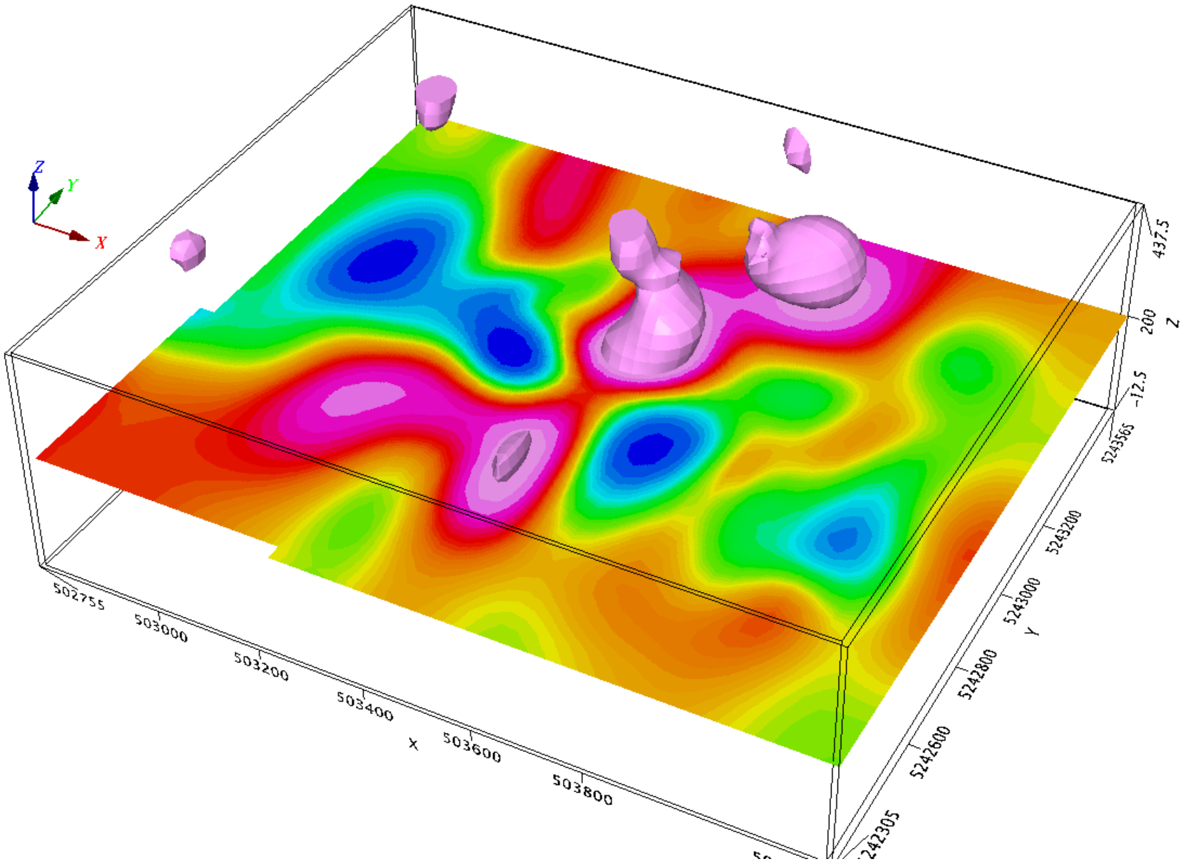


Figure 26: 3D chargeability model (pink=10mV/V) with a 200m MSL chargeability slice

A chargeability trend is seen striking across the survey area at 20 degrees (Figure 27; 1). Near the centre of the survey area the chargeability trend appears to be laterally shifted. This may indicate that there is a northwest-southeast structural feature (Figure 27; 2).

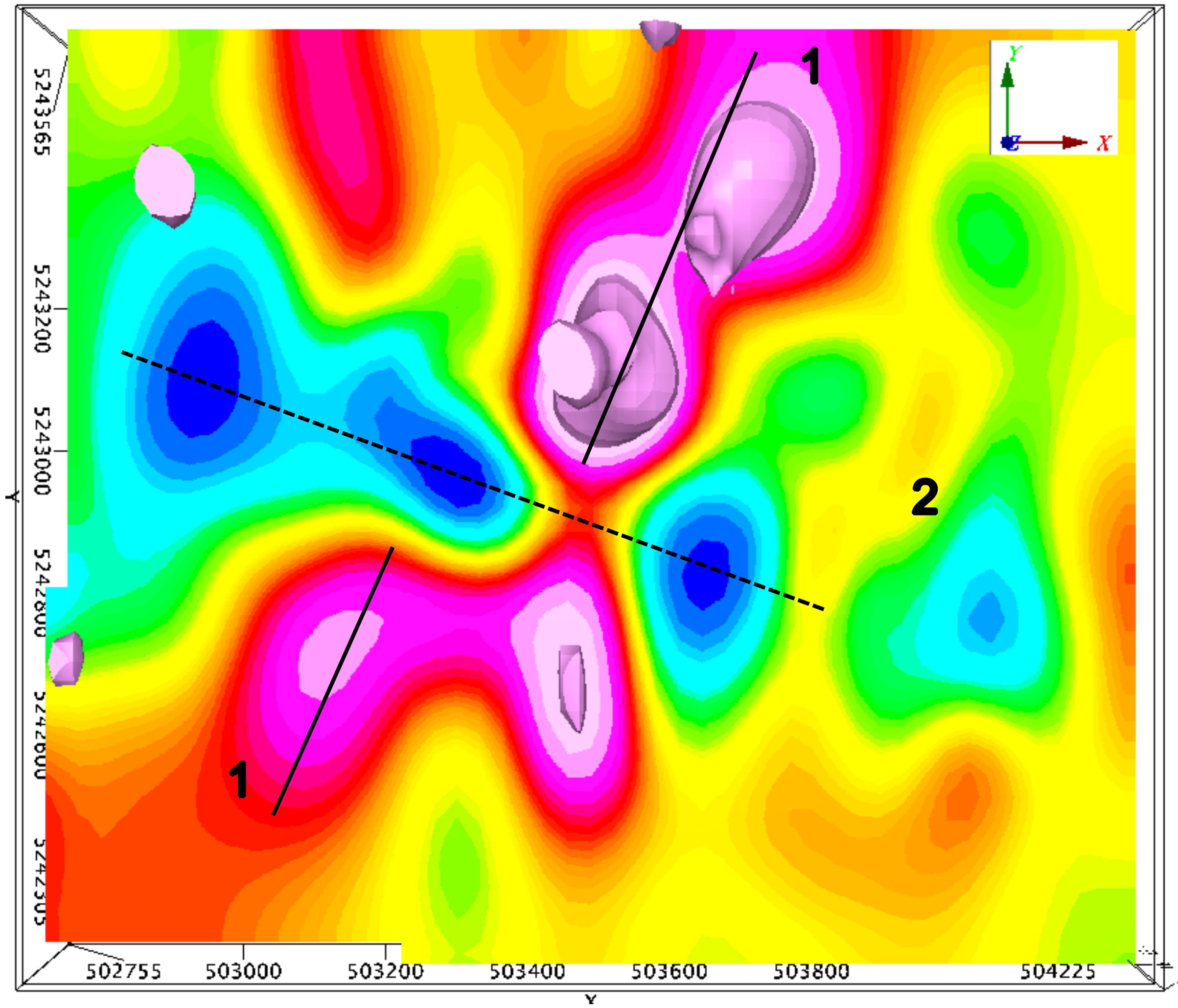


Figure 27: Top view of the 3D chargeability model (pink=10mV/V) with a 200m MSL chargeability slice with interpretations

Figure 28 and 29 shows the resistivity model on the resistivity 200m MSL plane. A low resistivity response correlated with the swamp at shallow depths of the model. Thus, the top 100m of the model was removed to highlight the larger/deeper trends.

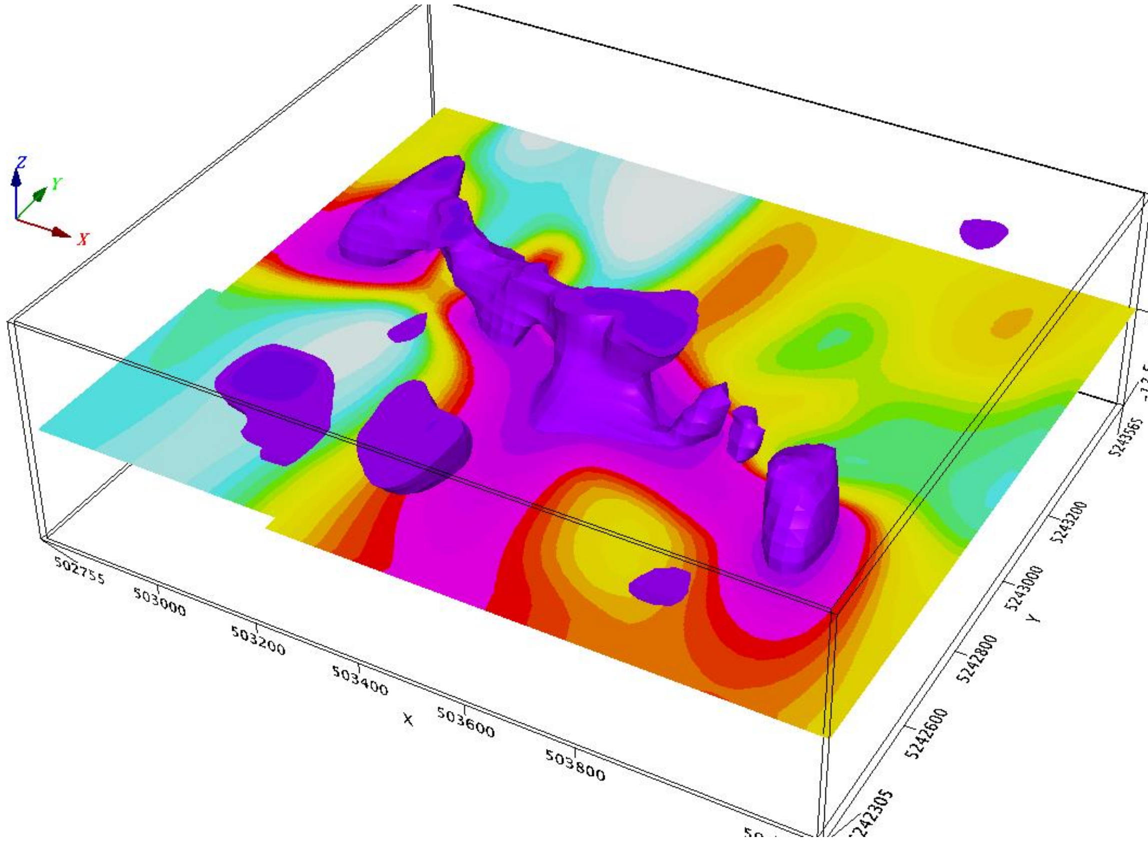


Figure 28: 3D resistivity model with a 200m MSL slice (purple = <1000 ohm*m)

One low resistivity trend was highlighted within the model. This is a narrow resistivity low response that strikes at approximately 100 degrees across the survey area (Figure 29; 1).

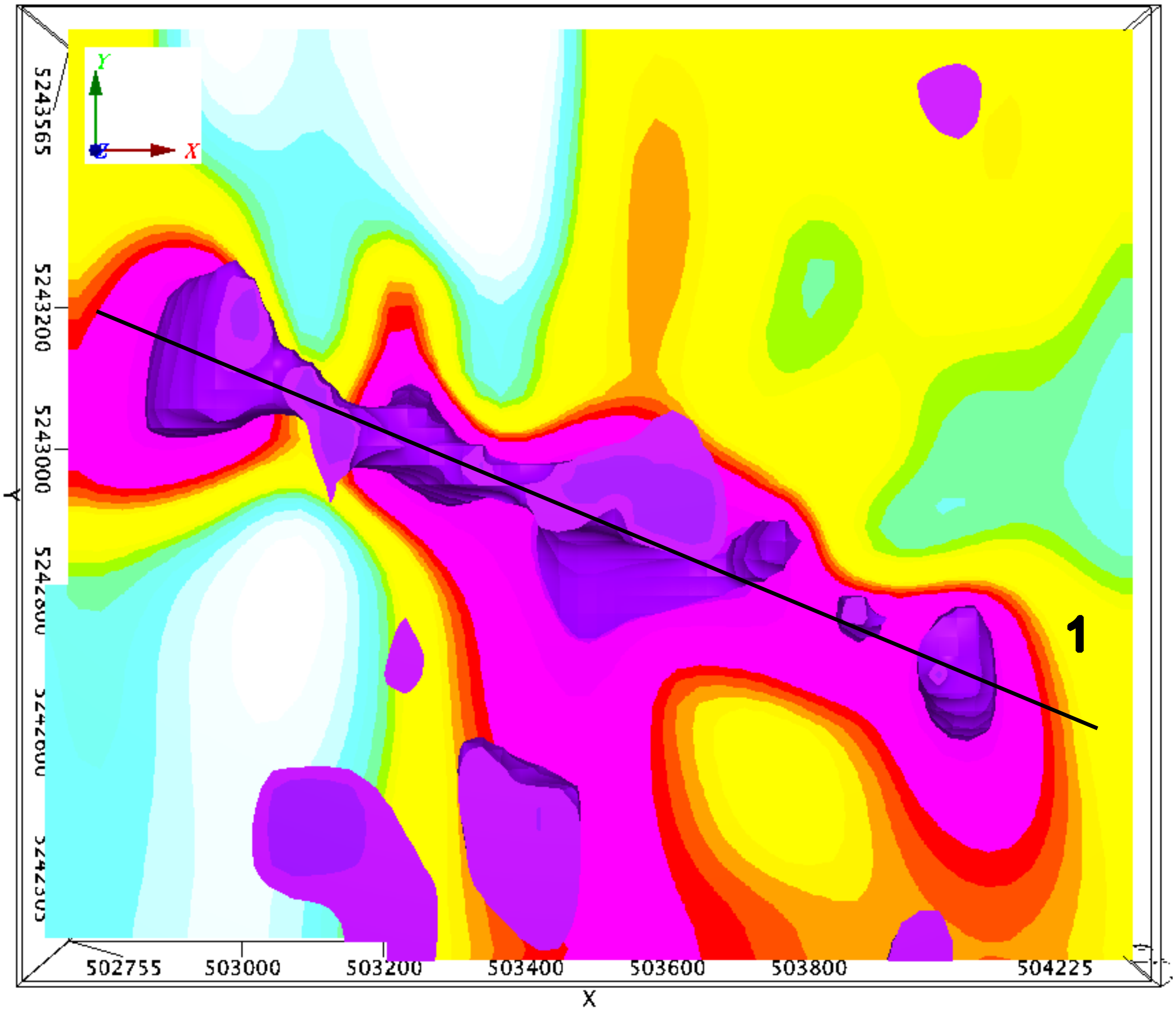


Figure 29: 3D resistivity model with a 200m MSL slice (purple = <1000 ohm*m) and interpretations

The chargeability and resistivity models are merged in Figure 30. No obvious correlation is seen between the low resistivity signatures and the moderate chargeability response.

The interaction of the two trends where they intersect indicates that the resistivity low marks the offset of the chargeability response. This indicates that the resistivity low may be related to a structure.

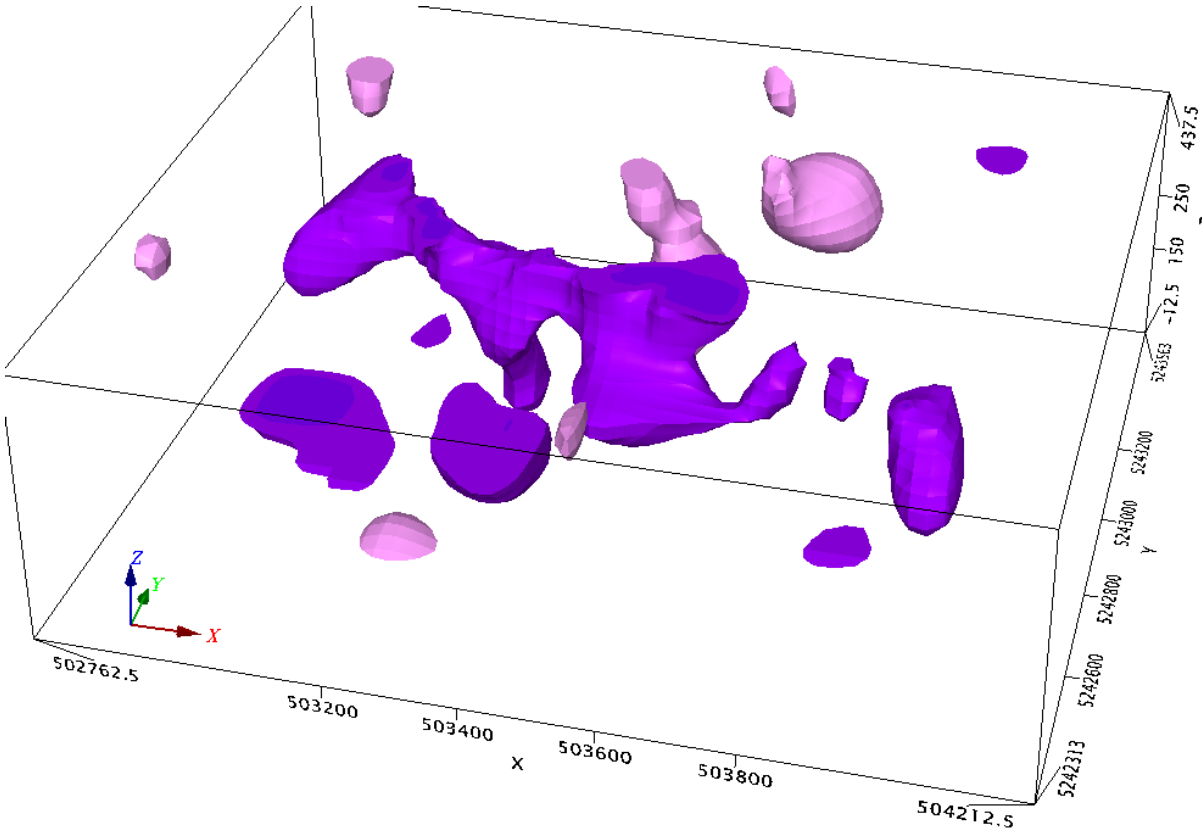


Figure 30: 3D resistivity model (purple <1000 ohm*m) with 3D chargeability model (pink >10 mV/V)

7.3 Recommendations

The chargeability response should be prospected to help determine if it is structural in nature. The most favorable locations to prospect would be near UTM coordinates 503523E, 5243118N and 503690E, 5243350N. These areas exhibit a shallow response which may help identify the source of the anomaly.

It is also recommended to perform soil sampling in these areas to help determine if favorable mineralization is the source of the chargeability response.

7.4 Conclusions

The 3D Distributed IP survey highlighted a linear chargeability anomaly striking at 20 degrees across the survey area. This anomaly appears to be displaced near the center of the survey area by a resistivity low feature striking at 100 degrees. The resistivity low most likely represents a structural feature. The chargeability response should be investigated further.

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, C. Jason Ploeger, hereby declare that:

1. I am a professional geophysicist with residence in Larder Lake, Ontario and am presently employed as a Geophysicist and Geophysical Manager of Canadian Exploration Services Ltd. of Larder Lake, Ontario.

2. I am a Practicing Member of the Association of Professional Geoscientists, with membership number 2172.

3. I graduated with a Bachelor of Science degree in geophysics from the University of Western Ontario, in London Ontario, in 1999.

4. I have practiced my profession continuously since graduation in Africa, Bulgaria, Canada, Mexico and Mongolia.

5. I am a member of the Ontario Prospectors Association, a Director of the Northern Prospectors Association and a member of the Society of Exploration Geophysicists.

6. I do not have nor expect an interest in the properties and securities of **Battery Mineral Resources Ltd.**

7. I am responsible for the final processing and validation of the survey results and the compilation of the presentation 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.

PROFESSIONAL GEOSCIENTIST
C. JASON PLOEGER
PRACTISING MEMBER
2172
ONTARIO

C. Jason Ploeger, P.Geo., B.Sc.
Geophysical Manager
Canadian Exploration Services Ltd.

Larder Lake, ON
April 22, 2019

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Melanie Postman, hereby declare that:

1. I am a Geoscientist-in-Training with residence in Larder Lake, Ontario and am presently employed as a Junior Geophysicist with Canadian Exploration Services Ltd. of Larder Lake, Ontario.

2. I graduated with a Bachelor of Science Honors specialization degree in geophysics for professional registration from the University of Western Ontario, in London Ontario, in 2017.

3. I am a member of the Association of Professional Geoscientists as a Geoscientist-in-Training (Member ID 10710).

4. I have previous geophysical work experience during and following my education.

5. I do not have nor expect an interest in the properties and securities of **Battery Mineral Resources Ltd.**

6. I am responsible for assisting with the final processing and validation of the survey results and the compilation of the presentation of this report. The statements made in this report represent my opinion based on my consideration of the information available to me at the time of writing this report.

Melanie Postman, GIT, B.Sc.
Junior Geophysicist

Larder Lake, ON
April 22, 2019

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Mandy Lim, hereby declare that:

1. I am a Geoscientist-in-Training with residence in Virginiatown, Ontario and am presently employed as a Junior Geophysicist with Canadian Exploration Services Ltd. of Larder Lake, Ontario.

2. I graduated with a Bachelor of Science Honours specialization degree in earth sciences, with focus on geophysics from Memorial University of Newfoundland, in St. John's, Newfoundland, in 2018.

3. I am a member of the Professional Engineers and Geoscientists Newfoundland and Labrador as a Geoscientist-in-Training under registration number G4352.

4. I have previous geological and geophysical work experience during my education.

5. I do not have nor expect an interest in the properties and securities of **Battery Mineral Resources Ltd**.

6. I am responsible for assisting with the final processing and validation of the survey results and the compilation of the presentation of this report. The statements made in this report represent my opinion based on my consideration of the information available to me at the time of writing this report.

Mandy Lim, GIT, B.Sc.
Junior Geophysicist

Larder Lake, ON
April 22, 2019

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Andrew Salerno, hereby declare that:

1. I am a soon-to-be Geoscientist-in-Training with residence in Virginiatown, Ontario and am presently employed as a Junior Geologist with Canadian Exploration Services Ltd. of Larder Lake, Ontario.

2. I graduated with a Bachelor of Science Honors specialization in geology from the University of Waterloo, in Waterloo, Ontario, in 2018.

3. I am currently undergoing the application process to register as a Geoscientist-in-Training to later become a practicing member of the Association of Professional Geoscientists.

4. I do not have nor expect an interest in the properties and securities of **Battery Mineral Resources Ltd.**

5. I am responsible for assisting with the final processing and validation of the survey results and the compilation of the presentation 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.

Andrew Salerno, B.Sc.
Junior Geologist
(non-Professional)

Larder Lake, ON
April 22, 2019

APPENDIX B

IRIS V-FullWaver Receiver[4]

2 CHANNELS IP FULL WAVE RECORD

- 2 simultaneous dipoles
- Several weeks recording
- Time stamped data

V-Full Waver: this logger for electrical signal is a new concept of compact and low consumption unit designed for advanced Time Domain Induced Polarization, Resistivity and SP measurements. It can work in all field conditions, small, discrete, autonomous and can record continuously without operator.

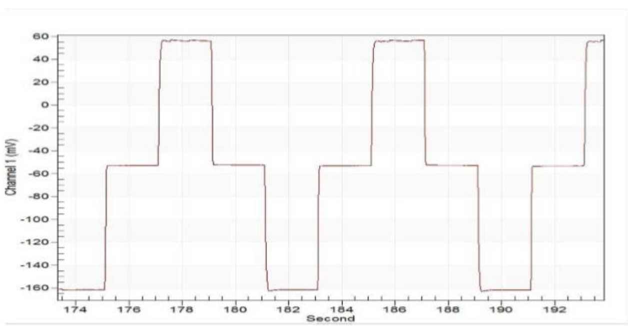
Compactness: light, discrete and easy to setup on the field, even on remote areas. Autonomous two dipoles logger, no need of the operator during acquisition. V-Full Waver allows a high productivity for dipole-dipole, gradient, extended pole-pole and other arrays. A network of several tens of channels can be quickly installed on the field for deep exploration and advanced processing (perpendicular dipoles, remote reference...)

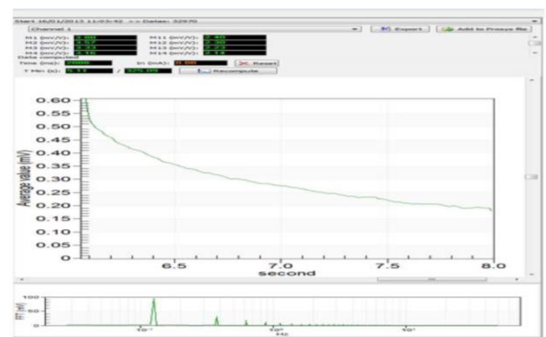
Internal GPS: an integrated GPS, very accurate and providing PPS signal (one pulse per second) allows to store all time series with time information. This is crucial to process data from several V-Full Waver loggers installed in a same area. This is also useful to correlate with injection dipole waveform, in case this has also been recorded with a I-Full Waver logger.

[4] Information obtained from http://www.iris-instruments.com/Pdf_file/V_fullwaver.pdf

High resolution: samples are recorded every 10 (ten) milliseconds (100 Hz sampling frequency). Data from several recorders can be merged and processed together with the Full Wave Viewer program delivered with the system. All data is synchronized through the GPS-PPS time stamping. A post acquisition processing permits to improve the signal-to-noise ratio. This also allows good quality IP data for deep investigations and for noisy areas.

Internal memory: the memory can store up to one month recording time. Then data can directly be transferred to a USB key in a few seconds.





TECHNICAL SPECIFICATIONS

- Max. input voltage: 15 V
- Protection: up to 1 000 V
- Accuracy: 0.2 % typical
- Resolution: 10 µV
- Sampling rate: 10 milli seconds (100 Hz)
- Induced Polarization (chargeability) measured every 10 milliseconds (200 IP windows for a 2 sec pulse)
- Input impedance: 100 MΩ
- Low pass filter Cut off frequency: 10 Hz
- Upper frequency which can be resolved: 50 Hz
- Frequency resolution: up to 34 micro Hz
- Internal GPS with PPS (one pulse per second)
- Time resolution: 250 micro seconds (time stamped samples)
- Battery test
- Contact resistance check

GENERAL SPECIFICATIONS

- LCD display, graphic and alpha numeric with 16 lines of 40 characters
- Data flash memory: one-month recording
- After acquisition: possibility of data storage on a USB key (8 GB or more).
- Power supply: internal Li-Ion rechargeable battery; optional external 12V standard car battery can be also used

- Autonomy: 20 operating hours with the internal Li-Ion battery
- Weather proof IP 67
- Shock resistant resin NK-7, case with handle
- Operating temperature: -20 °C to +70 °C
- Dimensions: 31 x 25 x 15 cm
- Weight: 2.8 kg

APPENDIX B

IRIS I-FullWaver Current Monitor[5]

IP Fullwave Record

• Recording injected current
• Several weeks recording
• Time stamped data

Fullwaver: this logger for electrical signal is a new concept of compact and low consumption unit designed for advanced Time Domain Induced Polarization, Resistivity and SP measurements. It can work in all field conditions, small, discrete, autonomous and can record continuously without operator. I-Fullwaver is connected in series on the AB injection line, it measures and logs very accurately the injected current IAB.

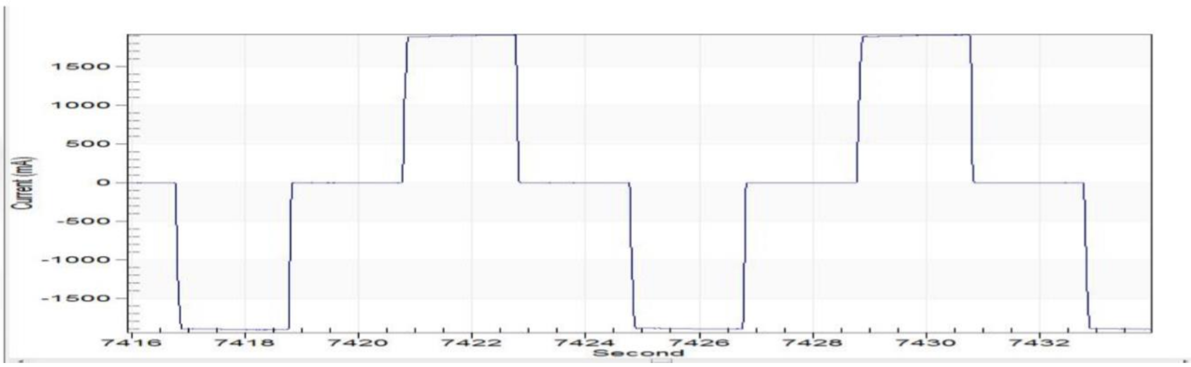
Compactness: light, discrete and easy to setup on the field, even on remote areas. This autonomous logger does not need any operator during the acquisition. I-Fullwaver is connected close to the transmitter or close to any injection electrode

Integrated GPS: an integrated gps, very accurate and providing PPS signal (one pulse per second) allows to store all time series with time information. This is crucial to correlate and process data with V-Fullwaver receiver loggers installed in a same area. This information displays the behaviour of the transmitter, its regulation specifications and the value of Iab in order to compute accurately the apparent resistivity.

[5] Information obtained from http://www.iris-instruments.com/Pdf_file/I_fullwaver.pdf

High resolution: samples are recorded every 10 (ten) milliseconds (100 Hz sampling frequency). Data from several recorders (for current and received voltages) can be merged and processed together with the FullWaveViewer program delivered with the system. All data is synchronized through the GPS-PPS time stamping. A post acquisition processing allows to improve the signal-to-noise ratio, giving good quality IP data for deep investigations in noisy areas.

Internal memory: the memory can store up to three months recording time. Then data can directly be transferred to a USB key in a few seconds.



TECHNICAL SPECIFICATIONS

- Current range: +/- 25 000 mA
- Current resolution: 0.1 mA
- Accuracy: +/- 1 mA
- Protection: up to 50 A and 3 000 V
- Magnetic sensor
- Magnetization offset (offset memory): up to 0.05%
- Offset calibration
- Sampling rate: 10 milliseconds (100 Hz)
- Integrated GPS with PPS (one pulse per second)
- Time resolution: 250 micro seconds (time stamped samples)
- Battery test

GENERAL SPECIFICATIONS

- LCD display, alpha numeric with 4 lines of 20 characters
- Data flash memory: three months recording
- After acquisition: possibility of data storage on a USB key (8 Gb or more).
- Power supply: internal Li-Ion rechargeable battery; optional external 12V standard car battery can be also used
- Autonomy: 20 operating hours with the internal Li-Ion battery.
- Weather proof IP 67
- Shock resistant resin NK-7, case with handle
- Operating temperature: -20 °C to +70 °C
- Dimensions: 31 x 25 x 15 cm
- Weight: 3.0 kg

APPENDIX B

GGD II 5kW

SPECIFICATIONS

- Protection against short circuits even at 0 ohms
- Output Voltage range: 150V to 2400V in 14 steps
- Power source is a standard 220/240V, 20/60 Hz source
- Displays electrode contact, transmitting power and current

ELECTRICAL CHARACTERISTICS

- Standard Time Base of 2 seconds for time domain – 2 seconds on, 2 sec-onds' off
- Optional Time Base of DC, 0.5, 1, 2, 4 or 8 seconds
- Output Current Range, 0.030 to 10A
- Output Voltage Range, 150 to 2400V in 14 steps
- Ability to Link 2 GDD transmitters to double power output

CONTROLS

- Switch ON/OFF
- Output Voltage Range Switch: 150V, 180V, 350V, 420V, 500V, 600V, 700V, 840V, 1000V, 1200V, 1400V, 1680V, 2000V and 2400V

DISPLAYS

- Output Current LCD: reads +- 0.0010A

- Electrode Contact Displayed when not Transmitting
- Output Power Displayed when Transmitting
- Automatic Thermostat controlled LCD heater for LCD
- Total Protection Against Short Circuits
- Indicator Lamps Indicate Overloads
-

GENERAL SPECIFICATIONS

- Weather proof
- Shock resistant pelican case
- Operating temperature: -40 °C to +65 °C
- Dimensions: 26 x 45 x 55 cm
- Weight: 40 kg

APPENDIX C

REFERENCES

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APPENDIX D

DIGITAL DATA

The digital data contains

- PDF copy of this report
- PDF copy of the maps
- Raw data in binary format
- Raw data in CSV format
- Ascii XYZ of inversion results
- RES3DINV INV output of inversion results
- Text document of electrode GPS Coordinates
- KMZ of final survey layout
- Packed Oasis maps
- Oasis databases
- 3D Oasis voxels created

APPENDIX E

LIST OF MAPS (IN MAP POCKET)

Grid Sketch (1:5000)

1) Q2620-Battery-McAra-South-3DIP-Layout-Claims

IP Plan Map (1:5000)

2) Q2620-Battery-McAra-South-3DIP-INV-CHR-400MSL
3) Q2620-Battery-McAra-South-3DIP-INV-CHR-350MSL
4) Q2620-Battery-McAra-South-3DIP-INV-CHR-300MSL
5) Q2620-Battery-McAra-South-3DIP-INV-CHR-250MSL
6) Q2620-Battery-McAra-South-3DIP-INV-CHR-200MSL
7) Q2620-Battery-McAra-South-3DIP-INV-CHR-150MSL
8) Q2620-Battery-McAra-South-3DIP-INV-CHR-100MSL
9) Q2620-Battery-McAra-South-3DIP-INV-RES-400MSL
10) Q2620-Battery-McAra-South-3DIP-INV-RES-350MSL
11) Q2620-Battery-McAra-South-3DIP-INV-RES-300MSL
12) Q2620-Battery-McAra-South-3DIP-INV-RES-250MSL
13) Q2620-Battery-McAra-South-3DIP-INV-RES-200MSL
14) Q2620-Battery-McAra-South-3DIP-INV-RES-150MSL
15) Q2620-Battery-McAra-South-3DIP-INV-RES-100MSL

TOTAL MAPS = 15

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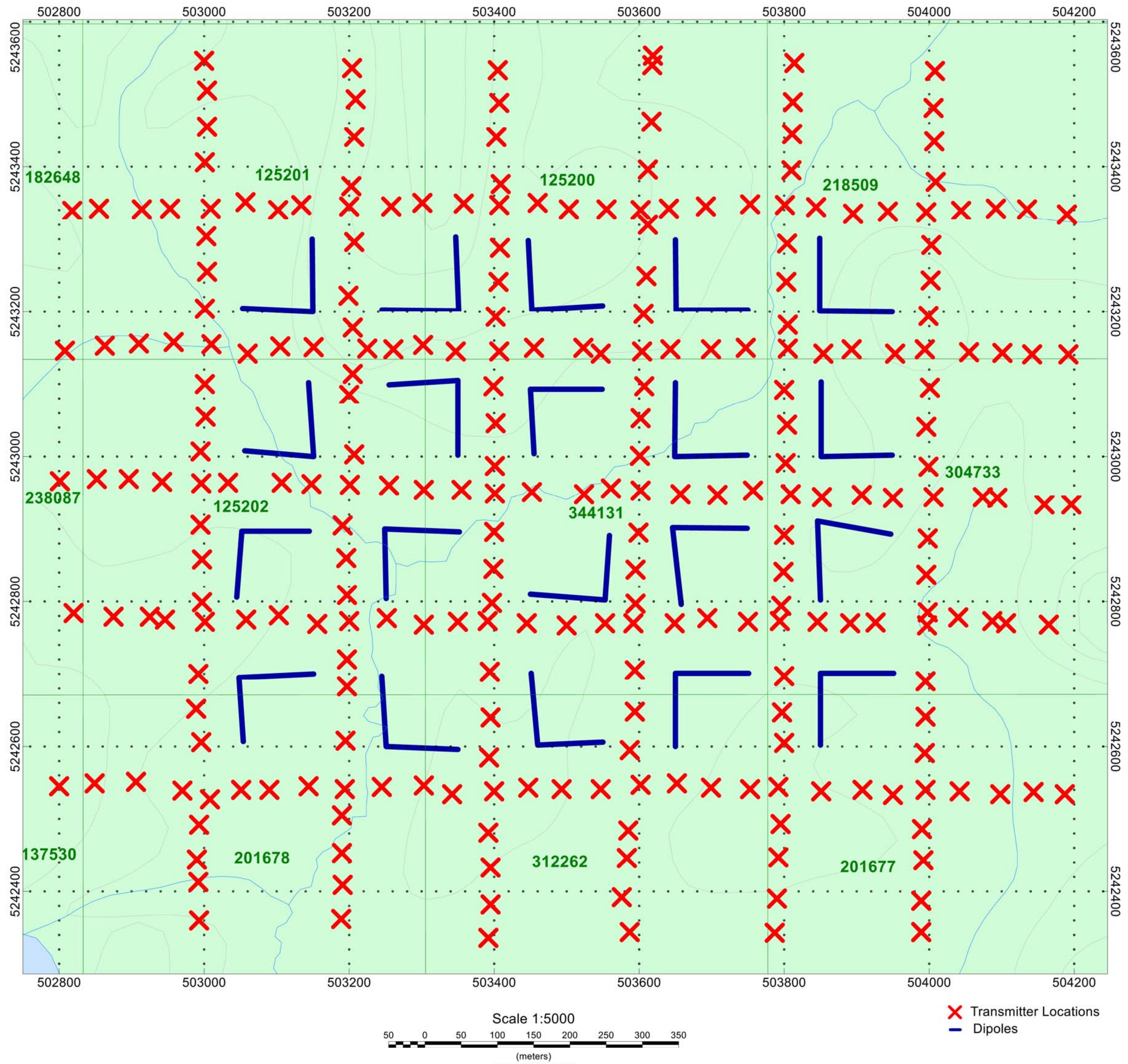


BATTERY MINERAL RESOURCES

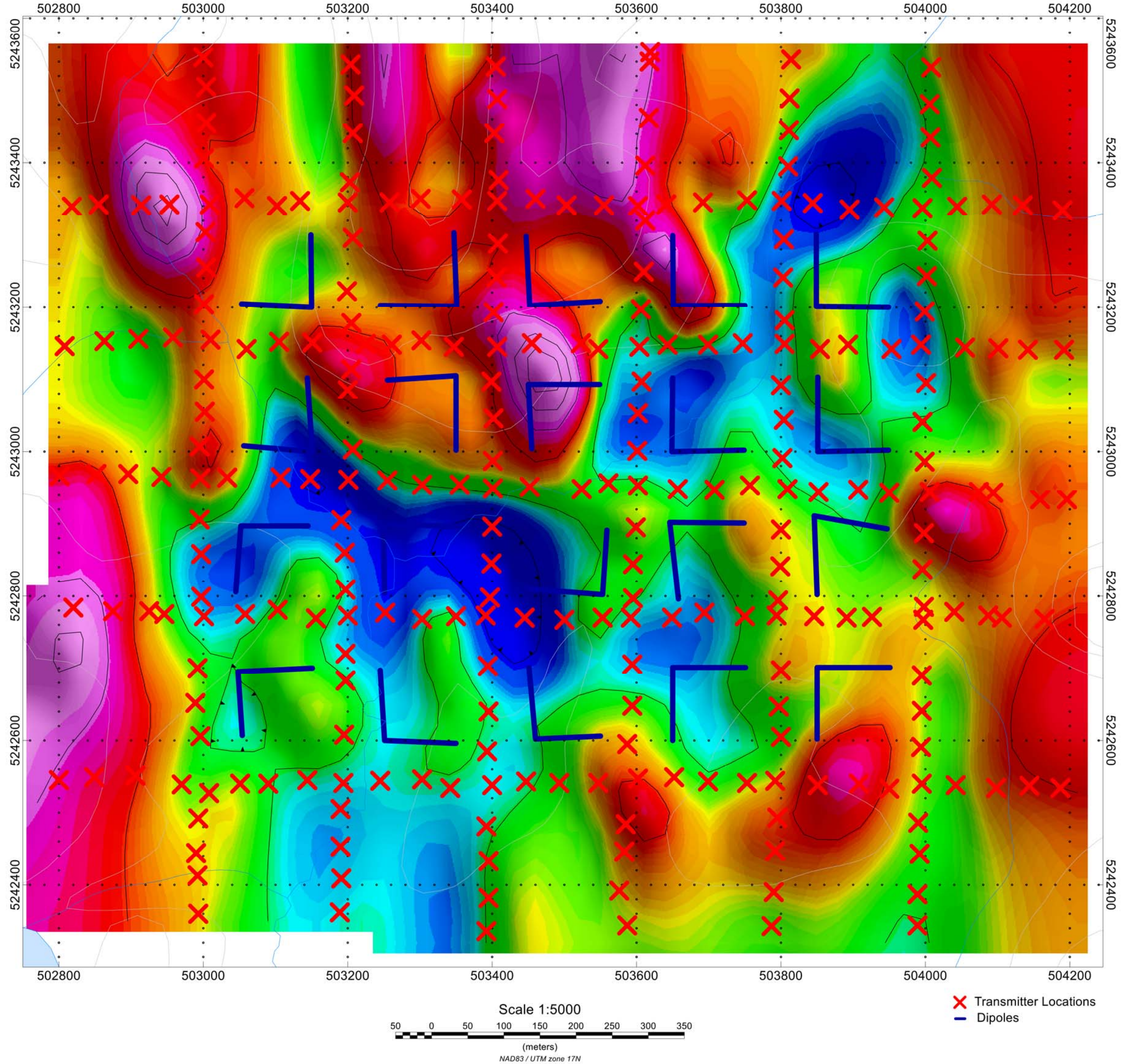
McAra Project - South Grid
Dufferin Township, Ontario

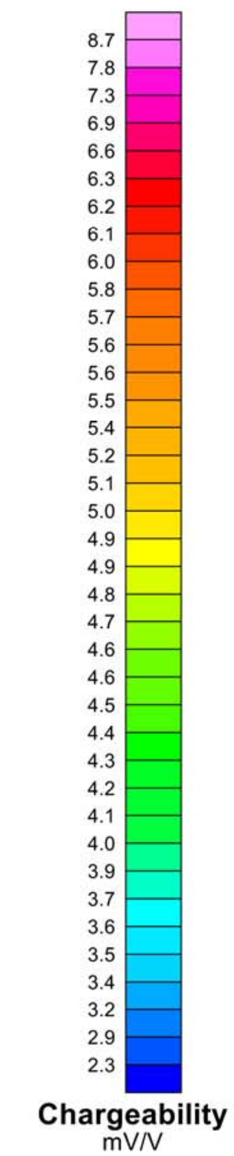
3D Distributed Induced Polarization Array
Survey Layout
Operational Claim Fabric

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2620-Battery-McAra-South-3DIP-Layout-Claims





BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 400m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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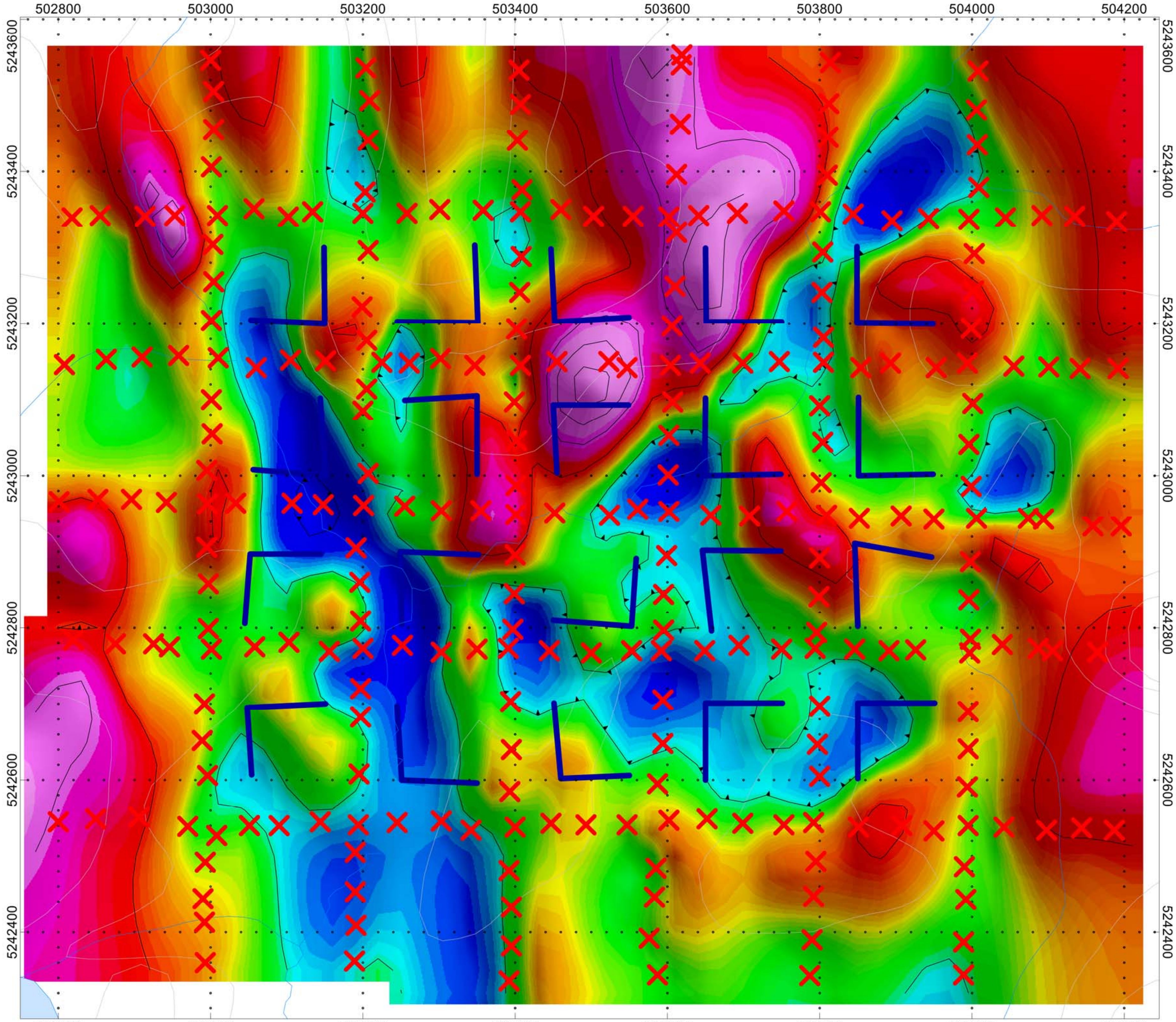
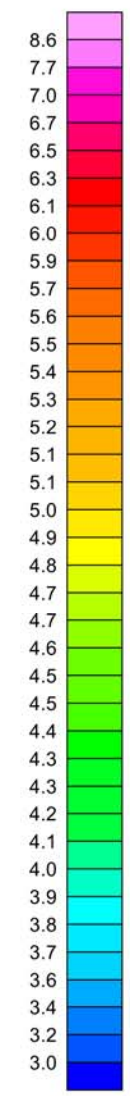
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-400MSL





Scale 1:5000

50 0 50 100 150 200 250 300 350

(meters)

NAD83 / UTM zone 17N

Transmitter Locations

Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 350m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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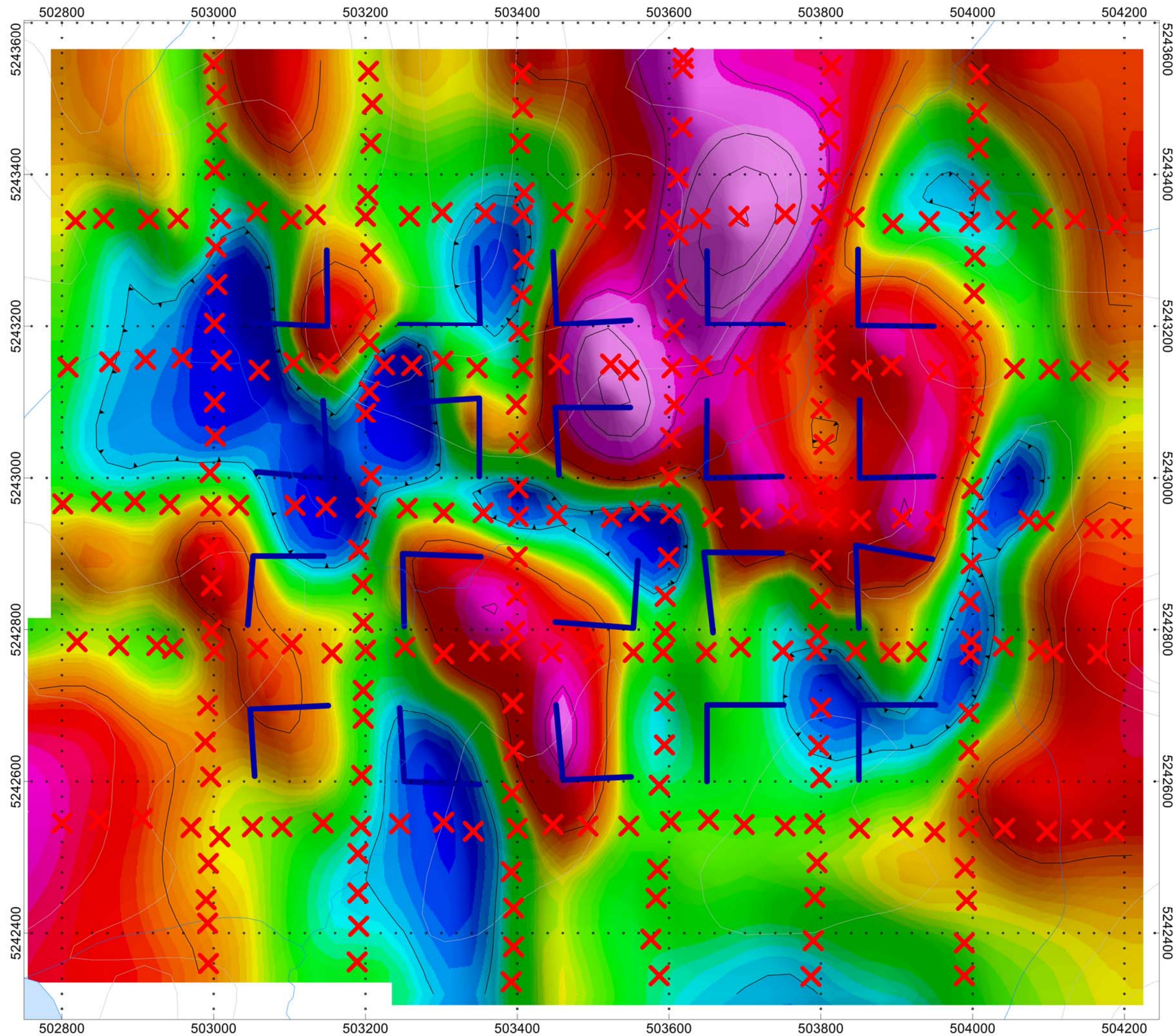
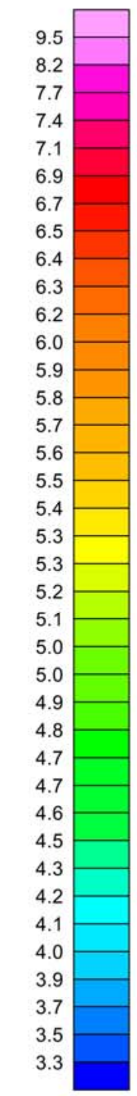
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-350MSL





Chargeability
mV/V

Scale 1:5000

50 0 50 100 150 200 250 300 350

(meters)

NAD83 / UTM zone 17N

Transmitter Locations

Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 300m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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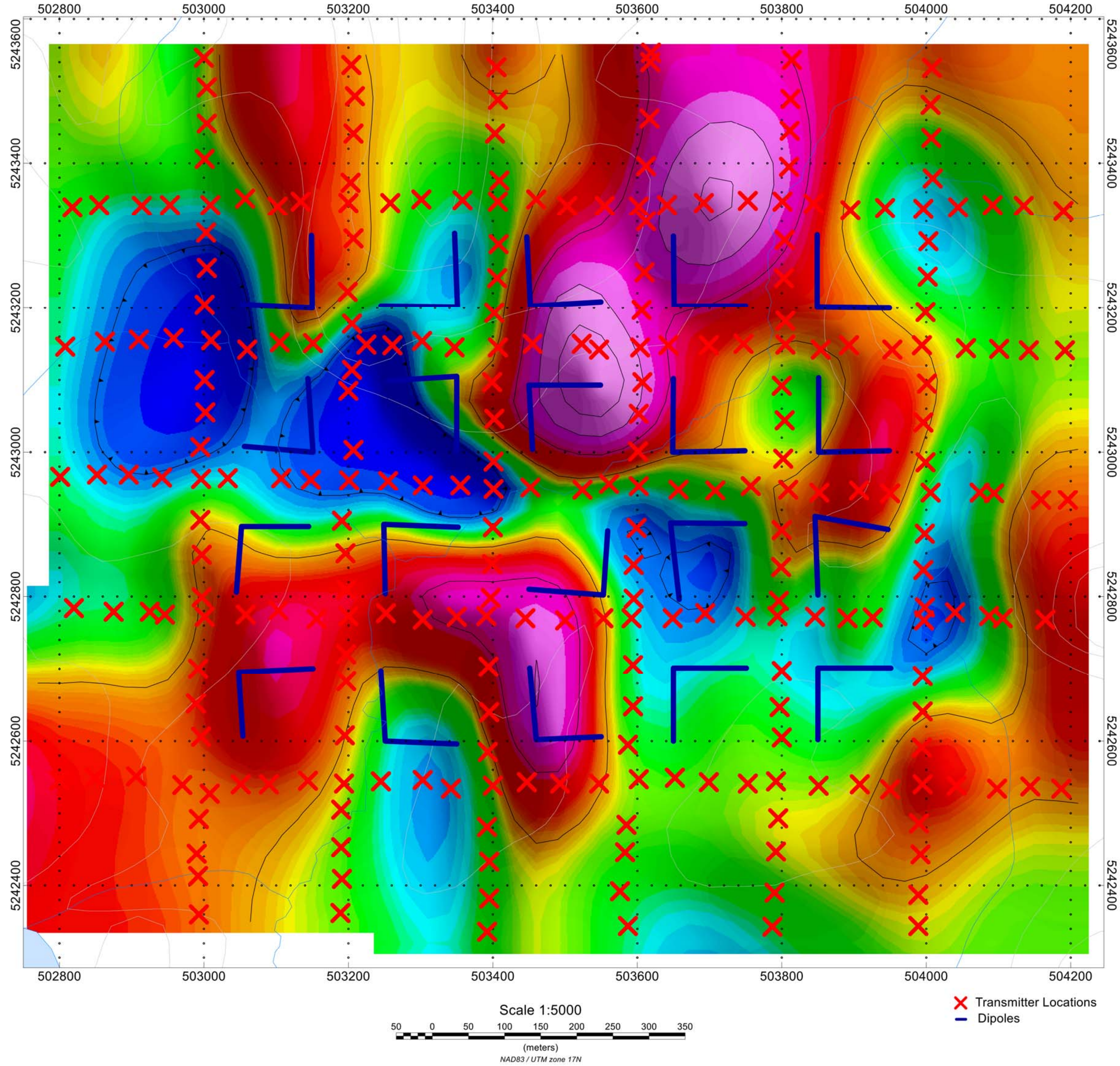
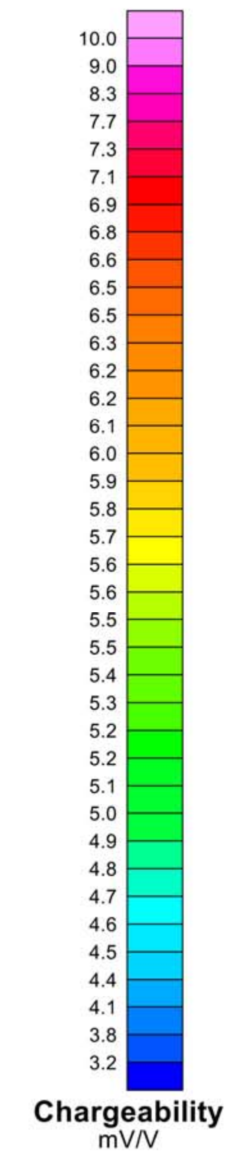
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-300MSL





BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 250m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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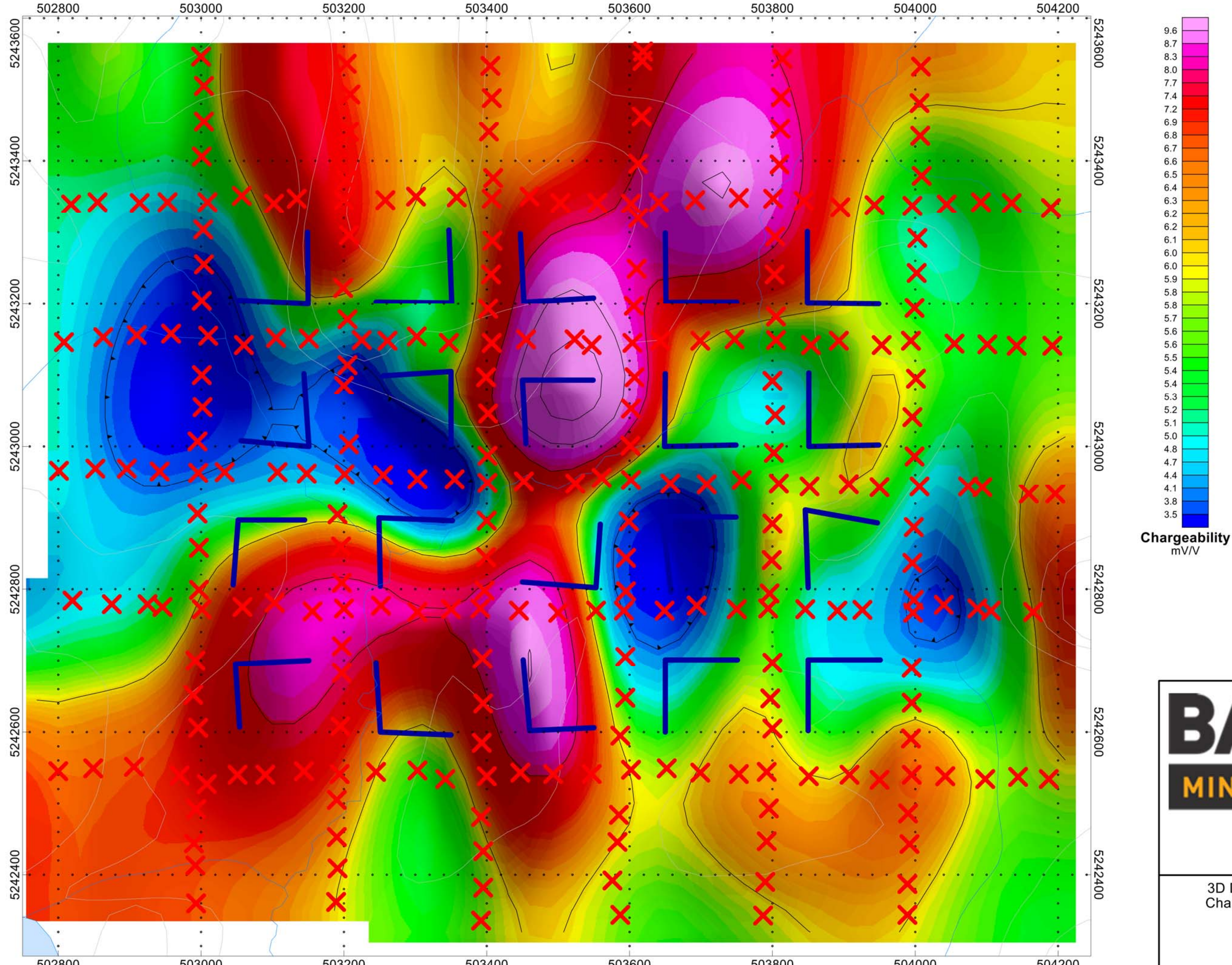
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-250MSL



Scale 1:5000

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(meters)

NAD83 / UTM zone 17N

Transmitter Locations

Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 200m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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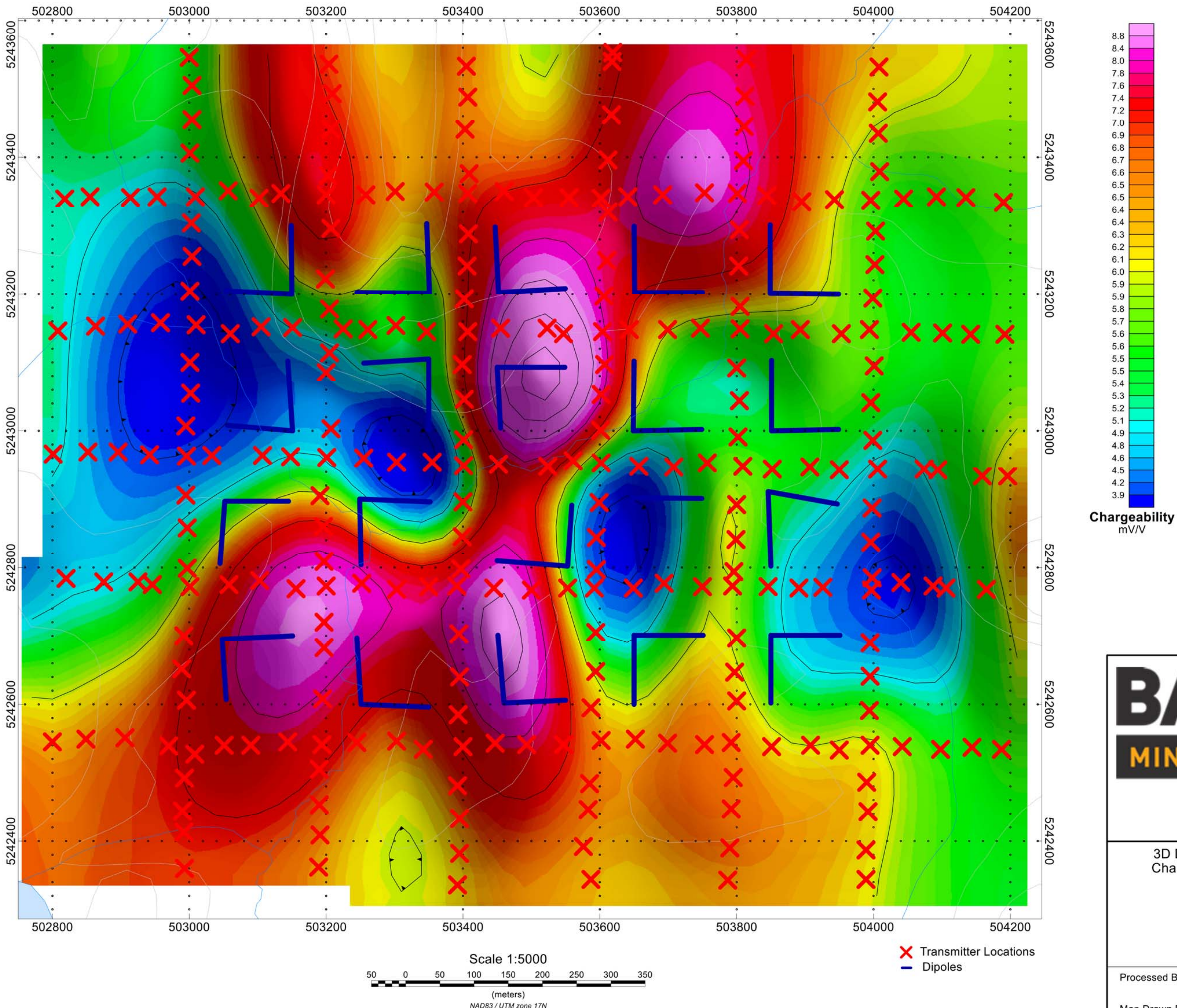
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-200MSL



McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 150m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 1 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
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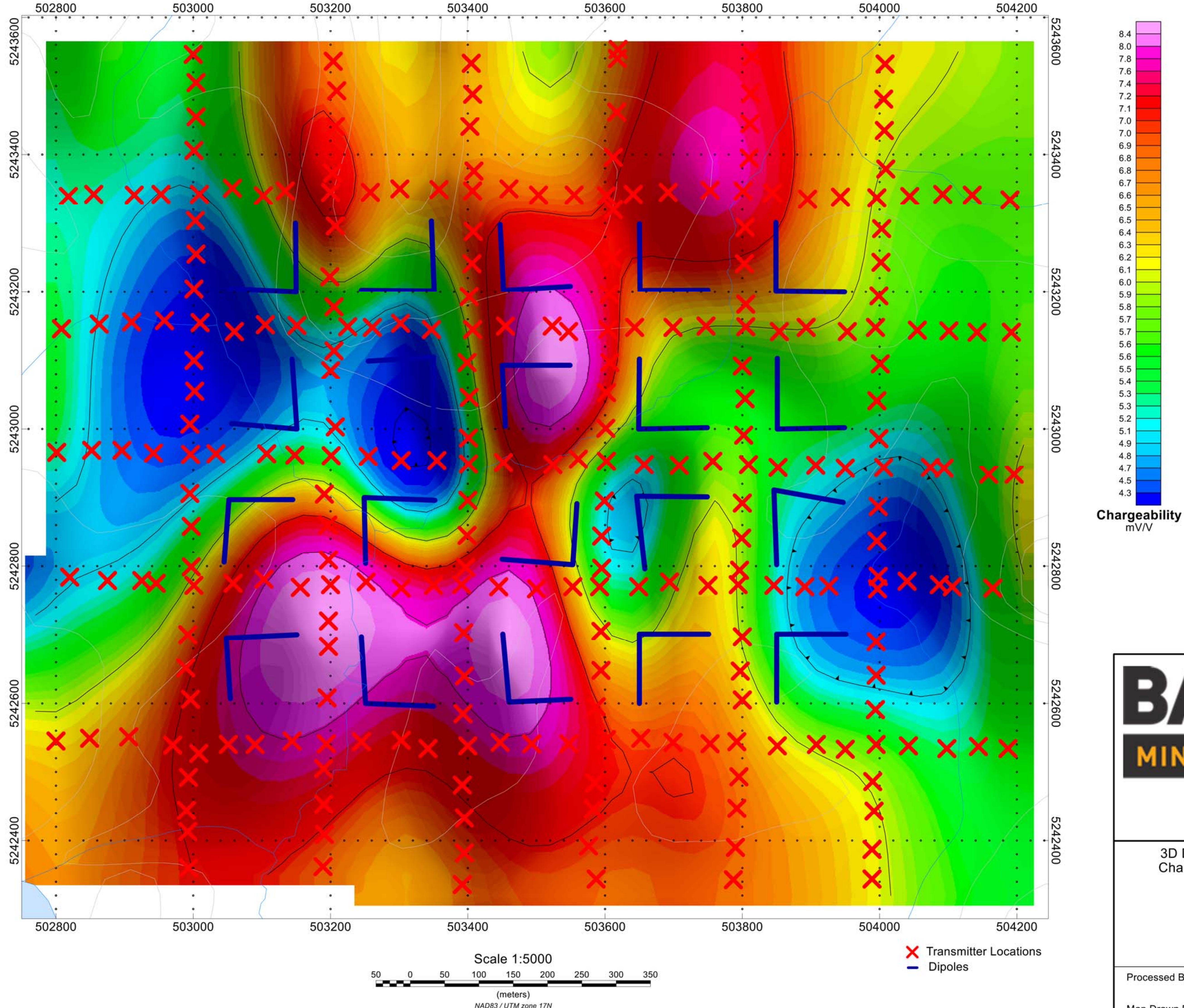
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-150MSL



BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Chargeability Inversion Slice at 100m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 1 mV/V

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
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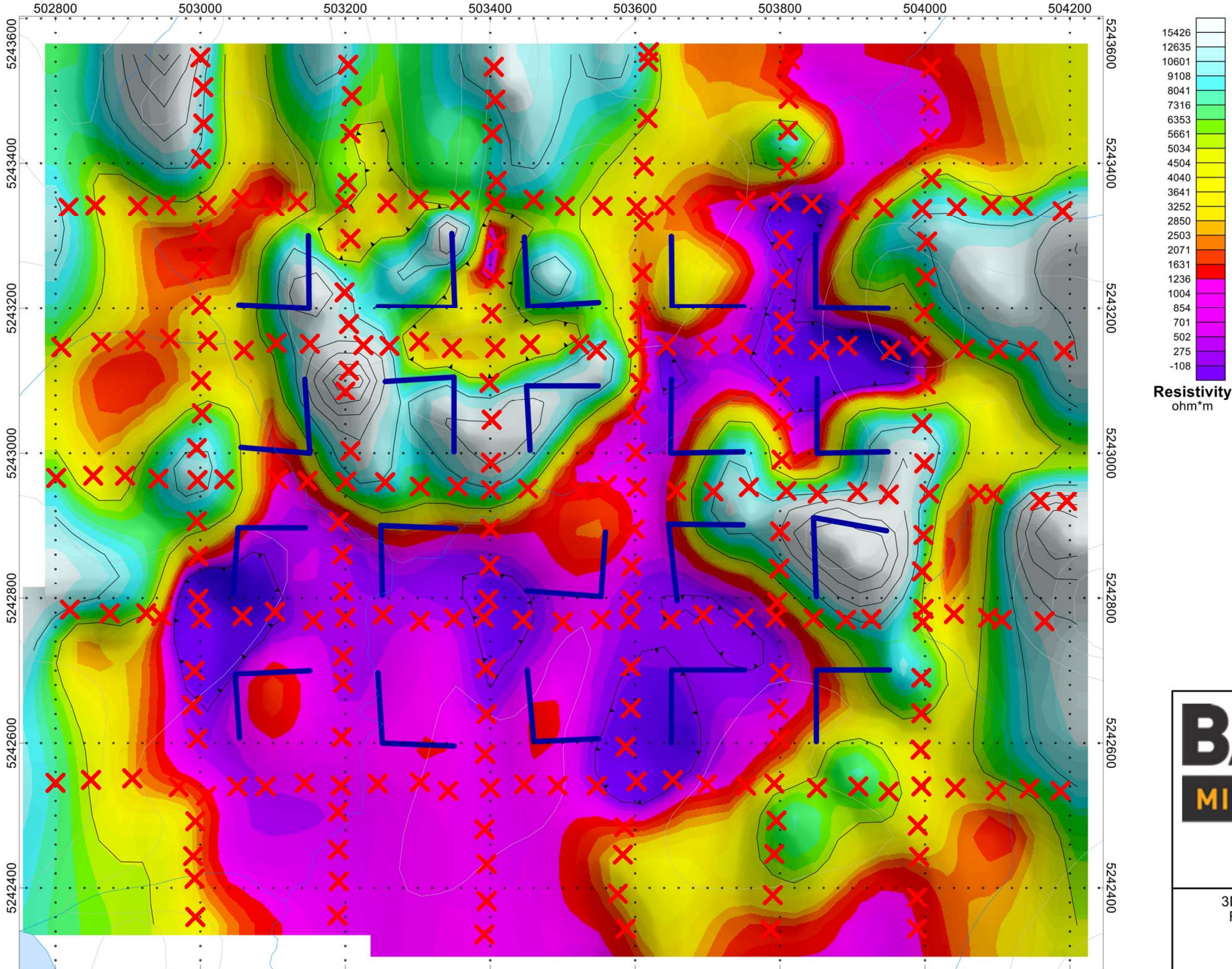
Drawing: Q2620-Battery-McAra-South-3DIP-INV-CHR-100MSL



Scale 1:5000

50 0 50 100 150 200 250 300 350

(meters)

NAD83 / UTM zone 17N

Transmitter Locations

Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 400m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 5000 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
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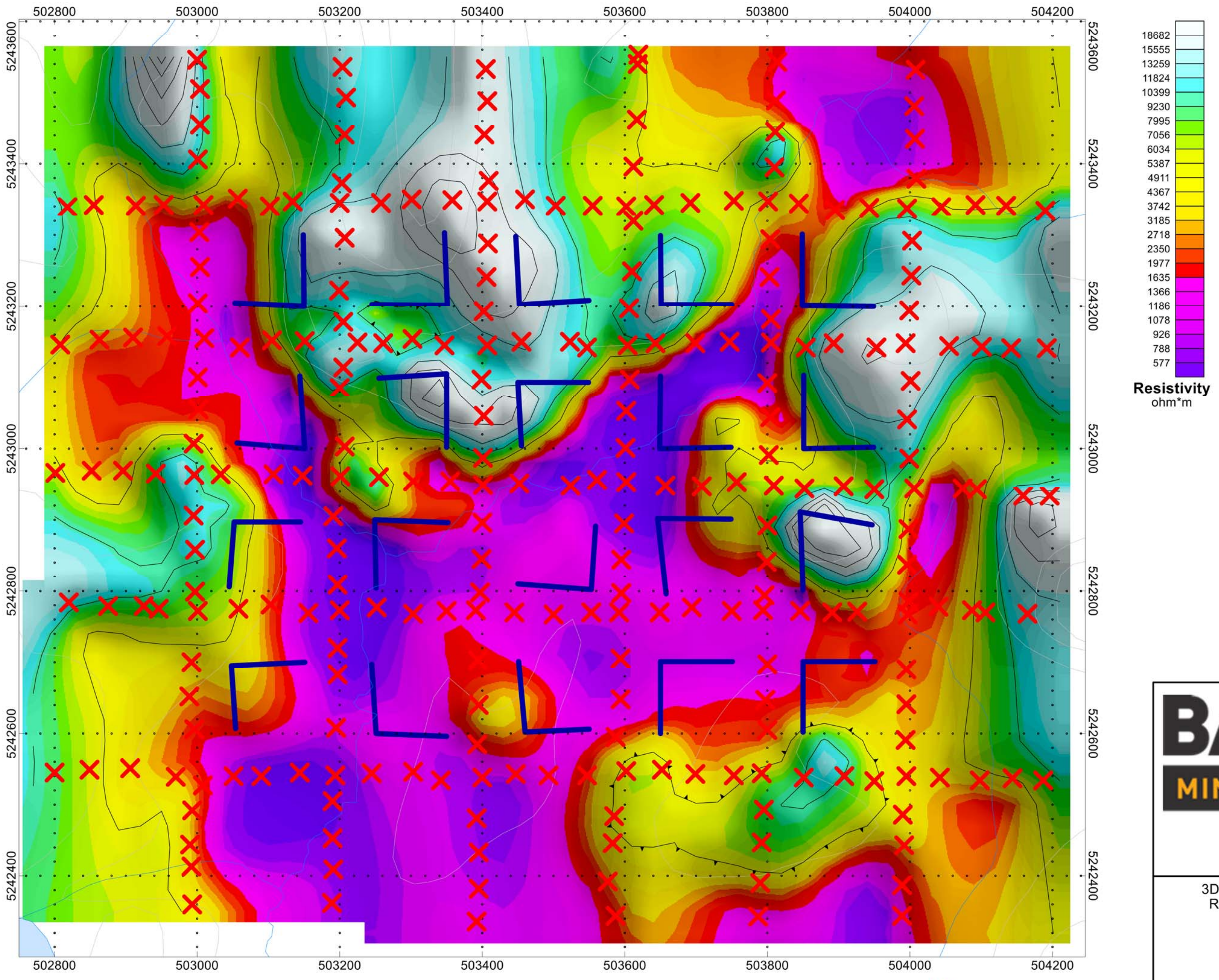
Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-400MSL



Scale 1:5000

50 0 50 100 150 200 250 300 350

(meters)

NAD83 / UTM zone 17N

✕ Transmitter Locations

— Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 350m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 5000 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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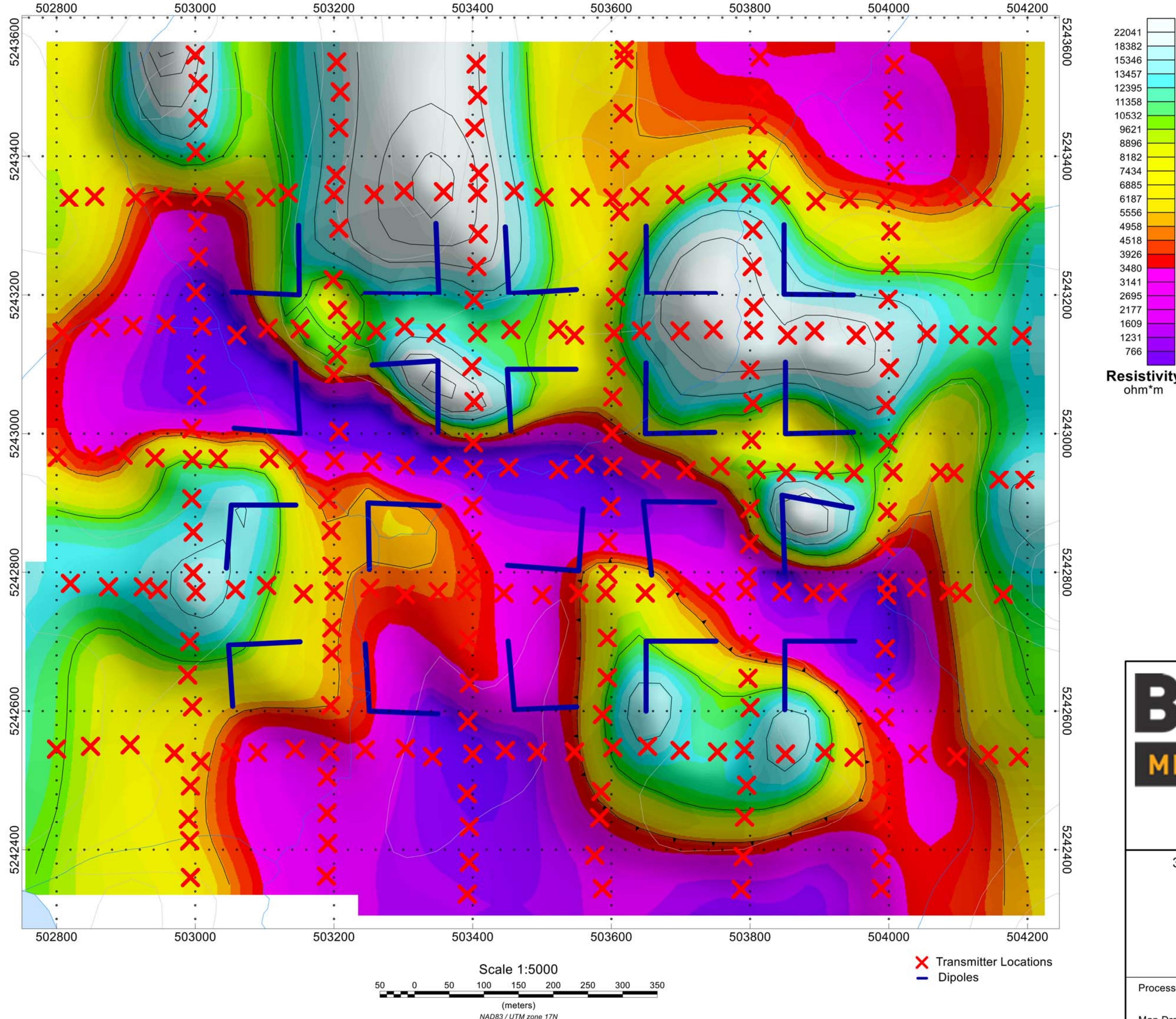
Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-350MSL



BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 300m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 5000 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

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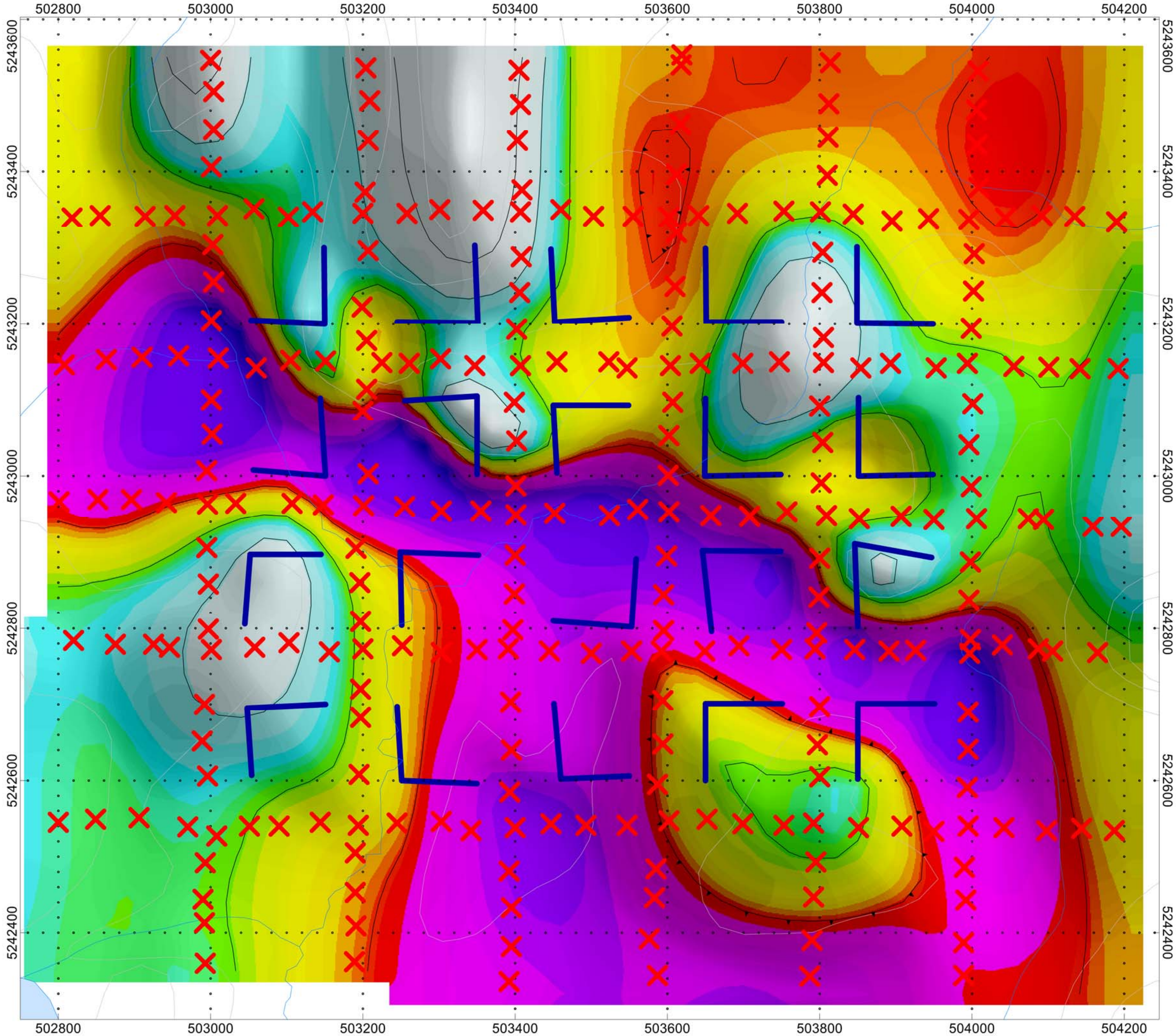
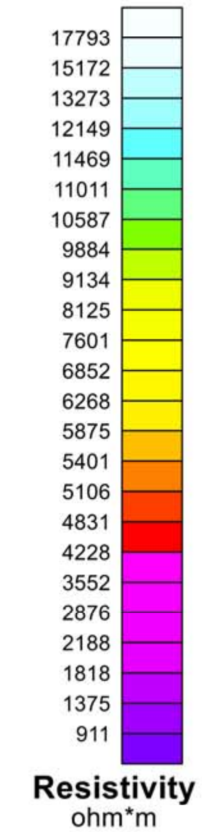
Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-300MSL





Scale 1:5000

50 0 50 100 150 200 250 300 350

(meters)

NAD83 / UTM zone 17N

Transmitter Locations

Dipoles

BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 250m MSL

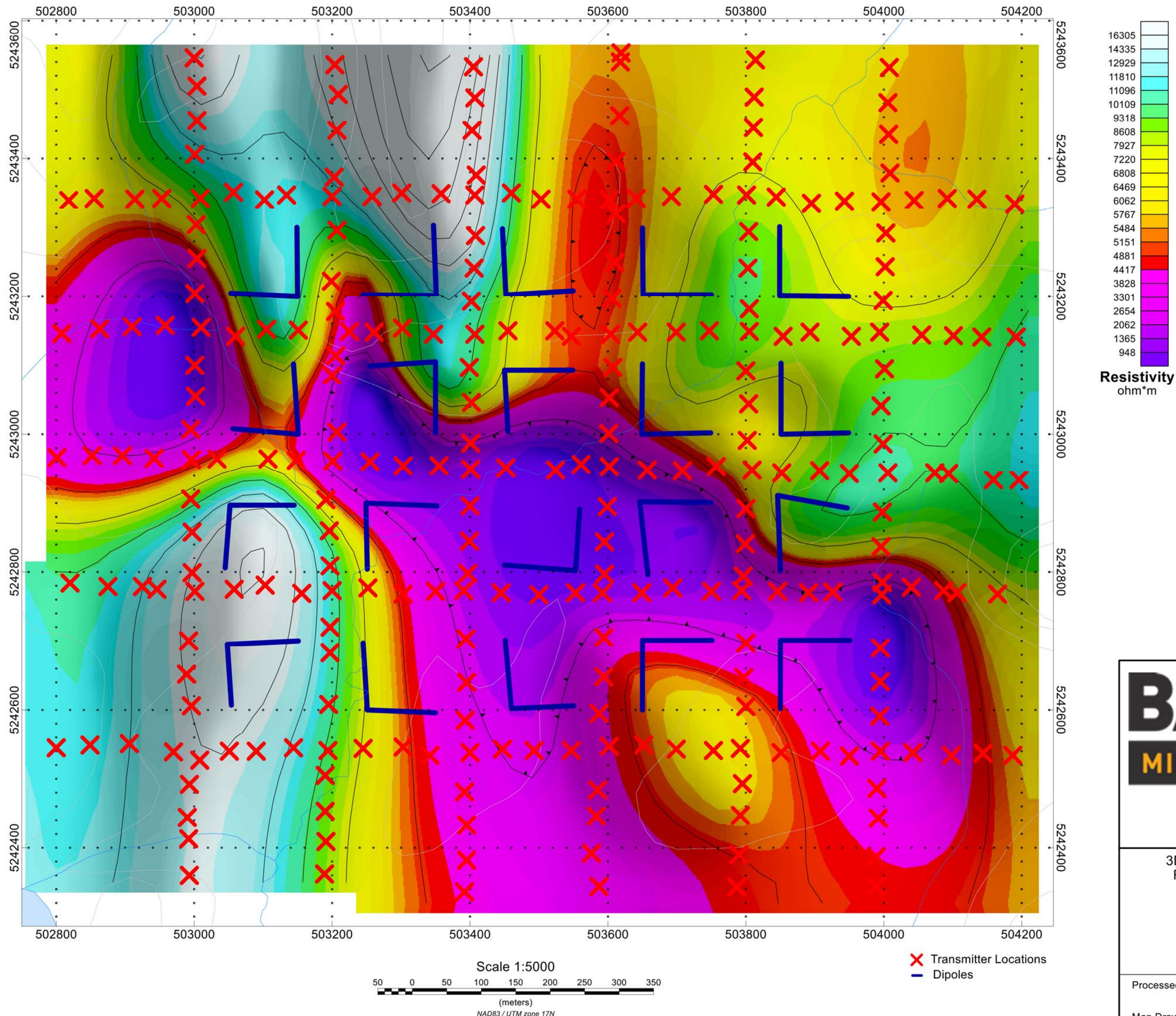
Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 5000 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-250MSL



BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 200m MSL

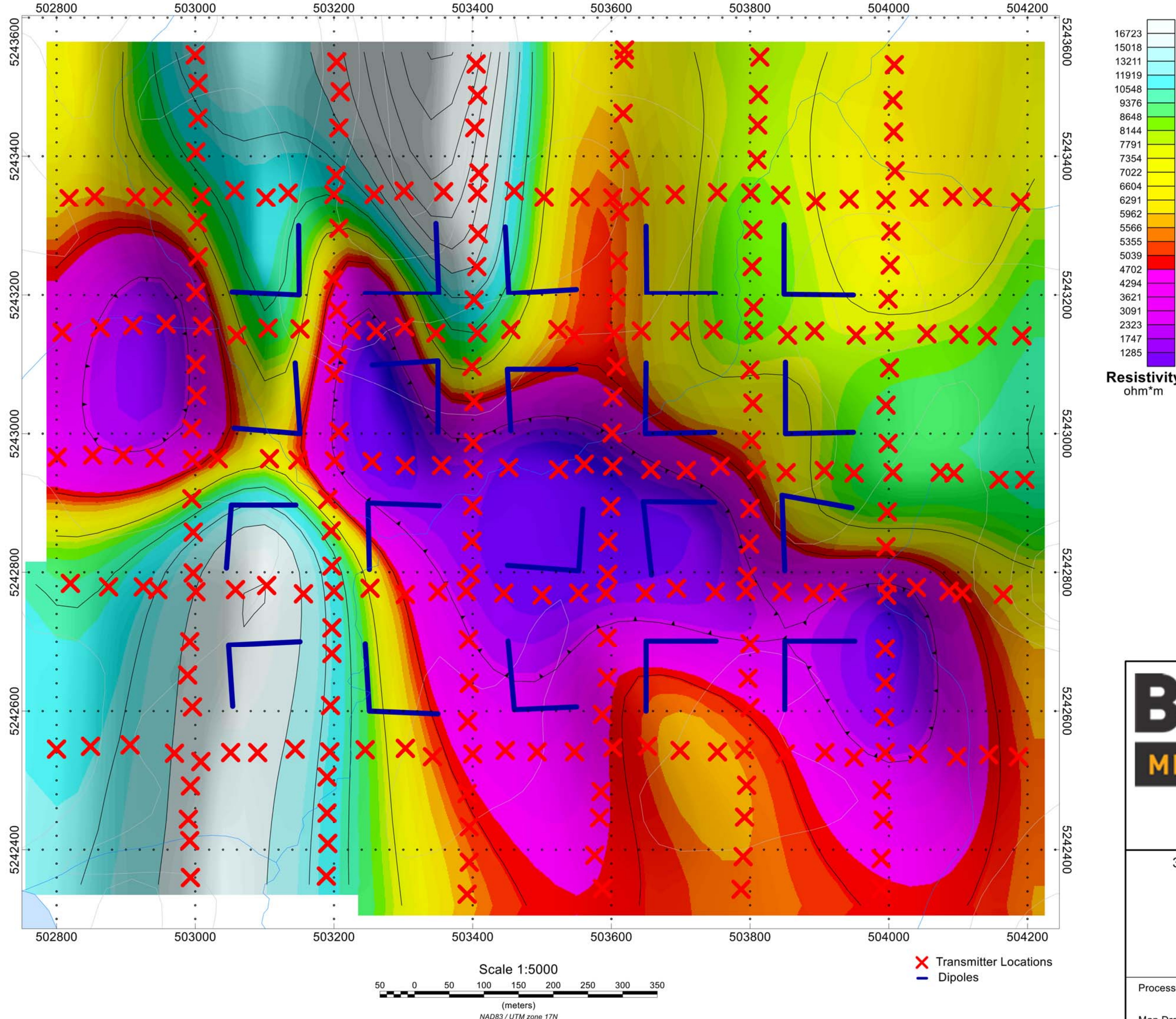
Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2500 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-200MSL



BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 150m MSL

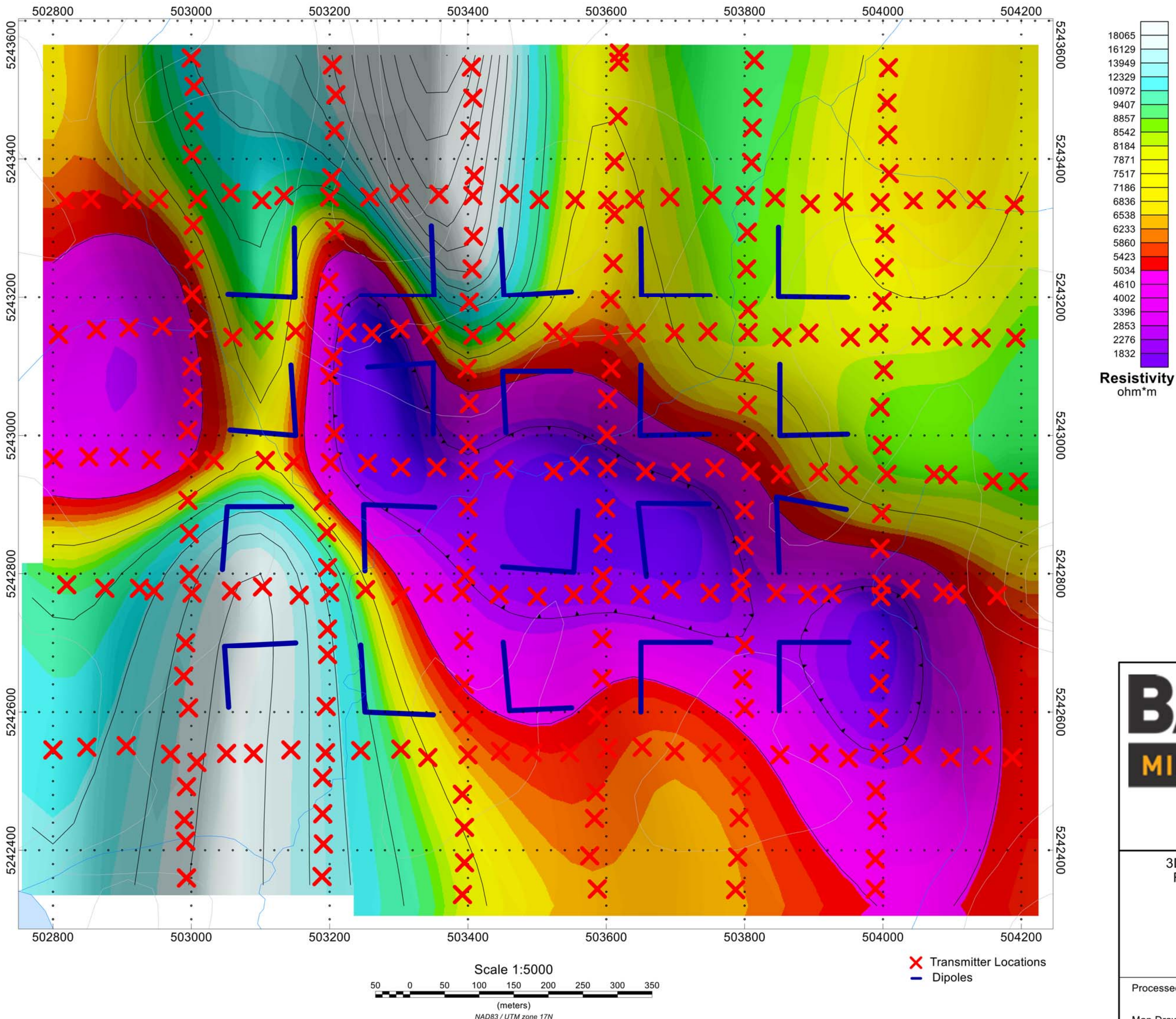
Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2500 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-150MSL



BATTERY MINERAL RESOURCES

McAra Project - South Grid
Dufferin Township, Ontario

3D Distributed Induced Polarization Array
Resistivity Inversion Slice at 100m MSL

Interval: 2 seconds
Rx: Iris V-Fullwaver
Tx: GDD II (5kW Time Domain)

Contour intervals: 2500 ohm*m

Processed By: Melanie Postman, GIT
Mandy Lim, GIT
Andrew Salerno, BSc
Map Drawn By: Mandy Lim, GIT
April 2019

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2620-Battery-McAra-South-3DIP-INV-RES-100MSL