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GEOPHYSICAL REPORT

ANGEL WING METALS INC.
(formerly Huntington Exploration Inc.)

Alpha IP 2D and Ground Magnetic Surveys

Quartz Lake Project
Ear Falls Township (Red Lake District), Ontario

By: Haileyesus Wondimu and Riaz Mirza

NOVEMBER 9, 2022 **PROJECT # SGL-22134**

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EXECUTIVE SUMMARY

This report describes the field data acquisition, data processing, analysis and interpretation of 2D Alpha IP and Ground Magnetic Surveys conducted by Simcoe Geoscience Limited (Simcoe) over the Quartz Lake Project for Angel Wing Metals Inc.

The Quartz Lake project is located approximately 65 km northeast of Ear Falls Township, Ontario. The Key-Hole Claim Block is accessible by trucks from Ear Falls Township, Ontario via logging roads. The grid covers an area of approximately 6.7 Sq. Km. The topography of the project area is generally flat with an average elevation of 410 m above mean sea level. The base of operations was setup in Ear Falls, Ontario.

The Alpha IP and Ground Magnetic surveys were conducted on eleven (11) east-west profiles over the Key-Hole Claim Block grid. The geophysical data acquisition was completed over a period of 28 days, from September 8th to October 5th, 2022. The ground Magnetic data was acquired over the Alpha IP profiles and one small tie line. The Alpha IP™ and Magnetic survey coverages were 19.00-line Km and 19.70-line Km, respectively. The Alpha IP™ and the GSM-19/GSM-19W (Overhauser) Magnetometer systems were employed for IP and Magnetic data acquisition, respectively.

The high definition 2D Alpha IP data was acquired using 'dipole-pole-dipole' array configuration with a = 100 m station spacing and n = 1- up-to 22 levels. Extra current injections were used at the ends of each survey profile to improve depth of penetration and resolution. The length of the profiles varies from 1000 m to 2350 m. The line spacing varies between 200 m – 400 m. The profiles were setup and read in a single deployment. On the other hand, the high-resolution ground magnetic data was acquired using "walking mag" array configuration.

The exploration objective of the 2D Alpha IP and High-Resolution Ground Magnetics surveys at Quartz Lake Project is to explore for targets that are associated with gold mineralization. To achieve the objective of the project, mapping the chargeability, resistivity and total magnetic field intensity responses from surface up to 600 m depth becomes crucial.

Therefore, the Alpha IP™ – a Wireless Time Domain Distributed IP system and ground Magnetic surveys were employed to provide the following benefits to the exploration program:

- To detect and delineate chargeability, resistivity and magnetic anomalous zones over the survey area related to gold mineralization,
- To map resistivity, chargeability and Magnetic responses that may indicate geological structures like unconformities descending from the property to the north, faults, contacts and lineaments that may be related to gold mineralization.

The interpreted chargeability anomalous zones were prioritized according to the anomaly amplitude, size, possible profile-to-profile continuation and Chargeability, Resistivity and Magnetic association. The survey has successfully detected and characterized geophysical signatures possibly related to gold mineralization in the survey area.

The Alpha IP and ground magnetic surveys has helped to map at least thirty-five (35) chargeability anomalies. These anomalies were interpreted as potential exploration targets for the Quartz Lake project. Of the thirty-five (35) chargeability anomalies, thirty (30) of them are considered as first priority, one (1) as second priority and four (4) as third priority targets.

In addition to the interpreted chargeability anomalies on sections, three (3) anomaly zones (AZ-1, AZ-2 and AZ-3) have been identified based on the lateral continuity from line to line, and show the strike length of the chargeability anomalies.

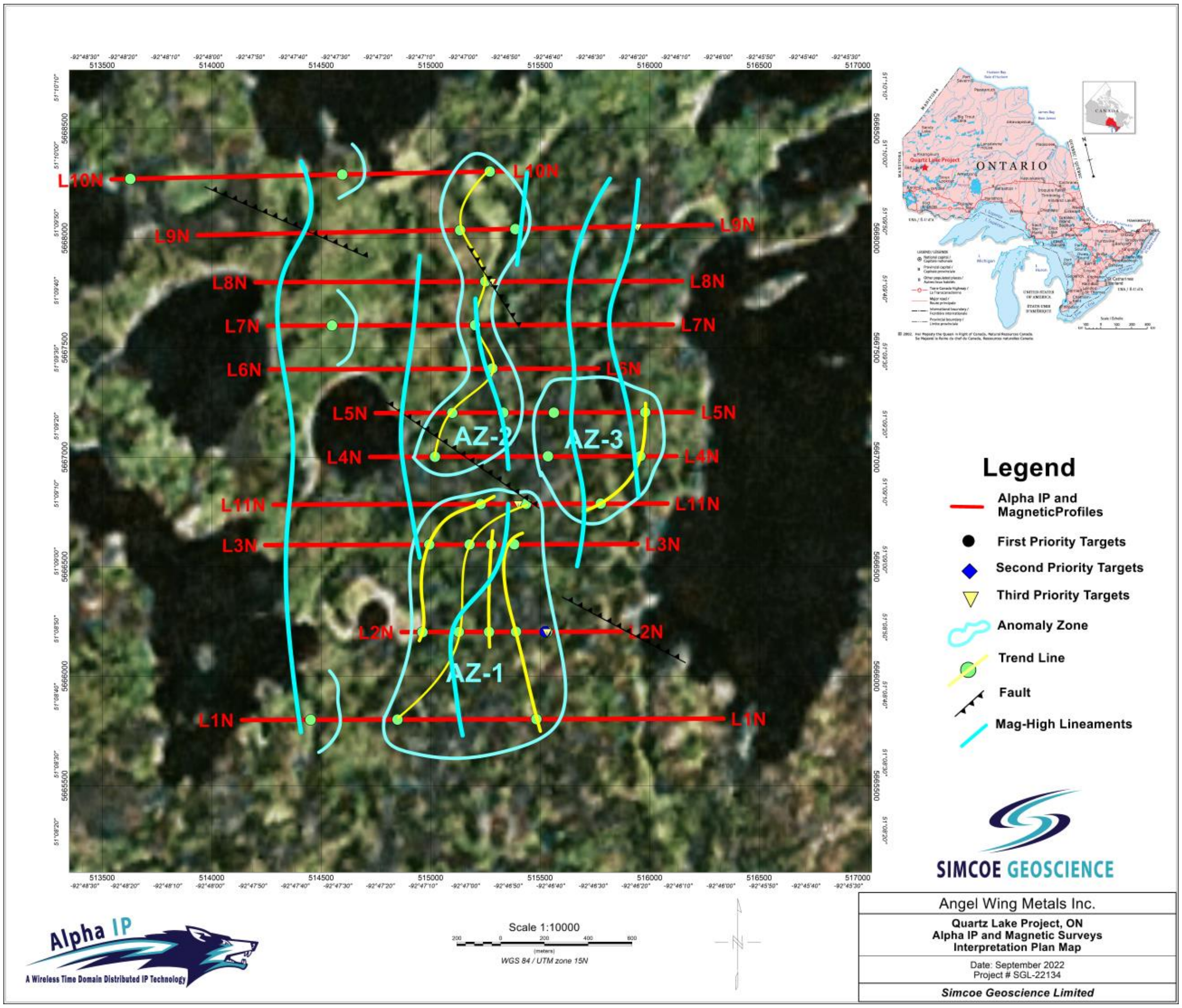
The interpreted targets are mostly associated with moderate to strong chargeability, moderate to high resistivity and moderate to high magnetic responses. These responses probably associated with gold mineralization in the survey area.

In general, the chargeability anomalies follow the magnetic high linear features trending north-south. These magnetic high linear features (Mag-High Lineaments) are probably representing the unconformities in the survey area. The Mag-High Lineaments are very well resolved distinctively on the ground magnetic data unlike the airborne magnetic which shows structures at greater depth. The drill collar locations should be picked from the first priority chargeability anomalies on the 2D cross-sections.

The total magnetic field (TMI) and calculated derivatives of Residual TMI, Reduced to the Pole (RTP), Analytic Signal (AS), First Vertical Derivative (1VD) and Tilt Derivative maps have helped in the structural interpretation. The 3D magnetic Susceptibility model has further enhanced both lateral and vertical distribution of the magnetic responses.

The following are recommendations derived from the interpretation of the 2D IP survey and ground Magnetics at Quartz Lake Project:

- Review the available geological, geophysical, and geochemical data (if available) in the vicinity of the priority target areas prior to drilling and commencing further exploration of these zones.
- In cases where the deep IP/chargeability anomalies are an extension of the shallower IP/chargeability anomalies related to known mineralization, then a higher priority may be given to these anomalies.
- Similarly, if mineralization and/or alteration are encountered when drilling the first priority targets, a step-back drilling should be considered to intersect the deeper anomalies.
- To drill-test the top and central parts of the interpreted high priority anomalies, perform vertical/angled drilling depending on the anomaly dip and strike. If favourable results are obtained, then test the deeper and unexplored areas/portions of the interpreted anomalies.
- A second priority exploratory drilling for targeting near surface and small size moderate and low amplitude chargeability responses with moderate/high resistivity and magnetic, and also deep anomalous zones that may represent extension of shallower anomalies should be considered for further exploration.



Interpretation Plan Map with Priority Targets, Anomaly Zones and Structures Overlay.

A summary of the interpreted geophysical anomalies/targets is presented in the following Table below.

Quartz Lake Project Geophysical Anomaly Interpretation Summary Table

Line	Easting	Northing	Surface Elevation (m)	ID	Priority	Target Depth (m)	Target Elevation (m)	Chargeability	Resistivity	Magnetic Susceptibility	Structure
L1N	514452	5665801	405	S1	1st	251	154	Moderate	High	High	
L1N	514849	5665802	418	S2	1st	84	334	Moderate	High	Moderate	
L1N	515483	5665804	411	S3	1st	266	145	Moderate	High	Moderate	
L2N	514963	5666201	407	S1	1st	232	175	Moderate	High	Moderate	
L2N	515129	5666202	419	S2	1st	45	374	Moderate	Moderate	Moderate	
L2N	515267	5666202	419	S3	1st	58	361	Moderate	High	Moderate	
L2N	515390	5666203	412	S4	1st	39	373	Moderate	High	High	
L2N	515524	5666203	408	W1	2nd	70	338	Moderate	High	Moderate	
L2N	515532	5666203	408	P1	3rd	285	123	Moderate	High	Moderate	
L3N	514994	5666601	417	S1	1st	54	363	Moderate	High	High	
L3N	515178	5666601	418	S2	1st	83	335	Moderate	High	Moderate	
L3N	515277	5666601	414	S3	1st	202	212	Moderate	High	High	
L3N	515382	5666602	415	S4	1st	70	345	Moderate	High	High	
L4N	515020	5667002	416	S1	1st	69	347	Moderate	High	Moderate	
L4N	515536	5667004	419	S2	1st	57	362	Moderate	High	Moderate	
L4N	515958	5667005	407	S3	1st	63	344	Moderate	High	High	Fault
L5N	515099	5667202	408	S1	1st	289	119	Moderate	High	Moderate	
L5N	515332	5667203	415	S2	1st	65	350	Moderate	High	High	
L5N	515563	5667203	413	S3	1st	79	334	Moderate	High	Moderate	
L5N	515980	5667205	412	S4	1st	86	326	Moderate	High	High	
L6N	515282	5667405	419	S1	1st	336	83	Strong	High	High	
L7N	514550	5667601	415	S1	1st	371	44	Moderate	Low	Moderate	
L7N	515203	5667603	408	S2	1st	207	201	Moderate	Low	High	
L8N	515250	5667802	409	S1	1st	121	288	Strong	High	Moderate	
L8N	515279	5667802	409	P1	3rd	394	15	Strong	High	Moderate	
L9N	515135	5668036	414	S1	1st	285	129	Moderate	Moderate	Moderate	Fault
L9N	515387	5668041	413	S2	1st	71	342	Moderate	Moderate	High	Fault
L9N	515945	5668052	406	P1	3rd	513	-107	Moderate	High	High	
L10N	513629	5668270	412	S1	1st	181	231	Moderate	High	High	
L10N	514597	5668290	415	S2	1st	69	346	Moderate	High	High	Bounded by Fault
L10N	515270	5668304	401	S3	1st	171	230	Moderate	Low	High	Bounded by Fault
L11N	515229	5666786	417	S1	1st	169	248	Moderate	High	Moderate	Fault
L11N	515436	5666787	420	S2	1st	66	354	Moderate	Moderate	Moderate	Fault
L11N	515777	5666788	403	S3	1st	106	297	Moderate	High	High	
L11N	515400	5666787	420	P1	3rd	480	-60	Moderate	High	Moderate	

DIGITAL ARCHIVE

The digital archive provided along with this geophysical interpretation report contains all the information about the 2D Alpha IP and Ground Magnetic Surveys conducted over the Key-Hole Claim Block grid of Quartz Lake Project in Ear Falls Township area, Ontario.

The archive contains copies of the survey proposal, contract, raw field data, processed data, preliminary field results, final inversion results, Geosoft products, image files, an electronic copy of this report and the appendices. The project folder is structured as following:

Folder	Content
…//Client Data/	Provided by Angel Wing Metals Inc.
…//Field Data/	Raw data folder containing the instrument "VMN & IAB" recording time, data and date stamp information. Ground Magnetic Raw data in .dat format.
…//Field Documents/	Detailed production log
…//Field Photos/	Photos taken for grid surveyed showing field operations.
…//Geosoft/	Folder containing plan maps and pseudo-sections plotted in Geosoft, 2D inversion sections and 3D models plotted in Geosoft. "Geosoft Products" folder and files including base maps, location and contoured grid "Maps". Geosoft "Database" for each line, "Grid Files" for each section. Pseudo-sections (In-line DC Resistivity and IP Chargeability pseudo sections, posted, contoured (equal area zoning) and plotted in ground units) and 2D cross sections, interpretation map files, "XYZ Model Files" and 3D "Voxel" volumes. Magnetic Susceptibility models and plans.
…//Geosoft Viewer/	Geosoft application that help view Geosoft maps, database, and 3D models.
…//Inversion/	Raw data with measured voltage error conditioning and inversion files required for chargeability and resistivity earth model creation. 3D susceptibility modeling of ground magnetic data.
…//Location Map/	Location maps
…//Preliminary Results/	PDF Presentation presented or emailed to client.
…//Processed Data /	Resistivity and chargeability processed data in BINARY, ASCII file format and Geosoft files for each individual survey line. Ground Magnetic processed data in. xyz and Geosoft database format.
…//Proposal & Contracts/	"SGL-C-20220351_V2_Angel Wing Metals Inc_Quartz Lake_Ontario_Alpha IP_Service Agreement.pdf"
…//Reports/	Final Geophysical Interpretation Report in PDF format.

CONTRACT RELEASE LETTER: SGL-22134

From: **Simcoe Geoscience Limited (Simcoe)**

13-11 Cardico Drive, Stouffville, Ontario, Canada L4A 2G5
Phone: +1 (905) 235 7822 / Toll Free: +1 (844) 794 7822
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Email: info@SimcoeGeoscience.com

To: **Angel Wing Metals Inc.**

Suite 1000 – 82 Richmond Street East Toronto, ON M5C 1P1
Phone: 1-416-543-9945
Email: bwilson@angelwingmetals.com

Attention to: **Mr. Brian Wilson, President, CEO & Director**.

Re: **Geophysical Interpretation Report (Quartz Lake - Key-Hole Claim Block Grid) regarding the contract "SGL-C-20220351_V2_Angel Wing Metals Inc_Quartz Lake_Ontario_Alpha IP_Service Agreement".**

Angel Wing Metals Inc. retained Simcoe Geoscience Limited (Simcoe) to carry out 2D Alpha IP and Ground Magnetic Surveys at Quartz Lake Project. The geophysical field survey was completed on 05/10/2022. Included, you will find the following items:

Item	Description	Quantity
Geophysical Interpretation Report	Geophysical survey report describing the data acquisition, methodology, data quality, processing and interpretation results relevant to survey objectives	1 Digital Copy of the Report
Digital Archive	Digital archive containing the acquired raw data and final processed results, digital maps, presentations and documents	1 Electronically Transferred Digital Data Compilation

This represents the end of our contractual agreement regarding the geophysical survey. Contact us if you need any additional material or information.

Thank you,

Signed by: ________________________________ November 9, 2022

Riaz Mirza, Director and Geoscientist
Simcoe Geoscience Limited

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1 INTRODUCTION

This report describes the field data acquisition, data processing, analysis and interpretation of 2D Alpha IP and Ground Magnetic Surveys conducted by Simcoe Geoscience Limited (Simcoe) over the Quartz Lake Project for Angel Wing Metals Inc. The project general location map is shown in Figure 1-1.

The Quartz Lake Project (Key-Hole Claim Block grid) is located approximately 65 km northeast of Ear Falls Township, Ontario. The grid is accessible by trucks from Ear Falls Township, Ontario via logging roads. The weather in the Project area was mild fluctuating between 15.6^{0}C to 6.1^{0}C with a rain fall of 85 mm of precipitation during the survey period. The topography of the project area is generally flat with an average elevation of 410 m above mean sea level. The crew drove 130 Km (two ways) every survey day to the grid. The Alpha IP and ground Magnetic profiles of the Key-Hole Claim Block grid is shown in **Error! Reference source not found.**.

The Alpha IP and ground Magnetic survey profiles were designated by Angel Wing Metals Inc. to identify Alpha IP targets and Magnetic structures that are associated with gold mineralization in the survey area. According to Angel Wing management, the two known regional unconformities which descend north from the Key-Hole Claim Block grid to the Prosper Gold's property are associated with gold mineralization. Angel Wing management believes that Prosper Gold's gold mineralization may be duplicated or enhanced on the Key-Hole claim block.

Accordingly, the Alpha IP and Ground Magnetic surveys were conducted on eleven (11) profiles over the Key-Hole Claim Block grid. The 2D Alpha IP™ and the GSM-19/GSM-19W (Overhauser) Magnetometer systems were used for IP and Magnetic data acquisitions, respectively.

The geophysical data acquisition was completed over a period of 28 days, from September 8th to October 5th, 2022. The ground Magnetic data was acquired over the Alpha IP profiles besides a tie line and acquisition was completed over a period of 6 days (from September 23rd to September 27th, and October 5th, 2022). The Alpha IP and Magnetic survey coverages were 19.00-line Km and 19.70-line Km, respectively.

The high definition 2D Alpha IP data was acquired using 'dipole-pole-dipole' array configuration with 100 m station spacings and n = 1-22 levels. Extra current injections were used at the ends of each profile to improve depth of penetration and resolution. The length of the profiles varies from 1000 m to 2350 m. The line spacing varies between 200 m – 400 m. The profiles were setup and read in a single deployment. On the other hand, the high-resolution ground magnetic data was acquired using "walking mag" array configuration.

This report consists of two parts. The first part of the report contains the geophysical data acquisition, methodology, survey parameters, inversion results, geophysical interpretations, discussion of the targets, geophysical sections, plan maps and volumes. The second part of the report contains the appendices, survey logistics, instrument specifications and 2D inversion sections.

All available information and products will be provided in digital format, including raw field measurements, the operators log and processed data. The data will be provided in an instrument file format as well as ASCII formatted files. The final inversion results will also be provided digitally in a geographically referenced WGS84/UTM Zone 15 N file format. Table 1 shows the project specifications and personnel contacts.

Figure 1-1: Quartz Lake Project General Location Map.

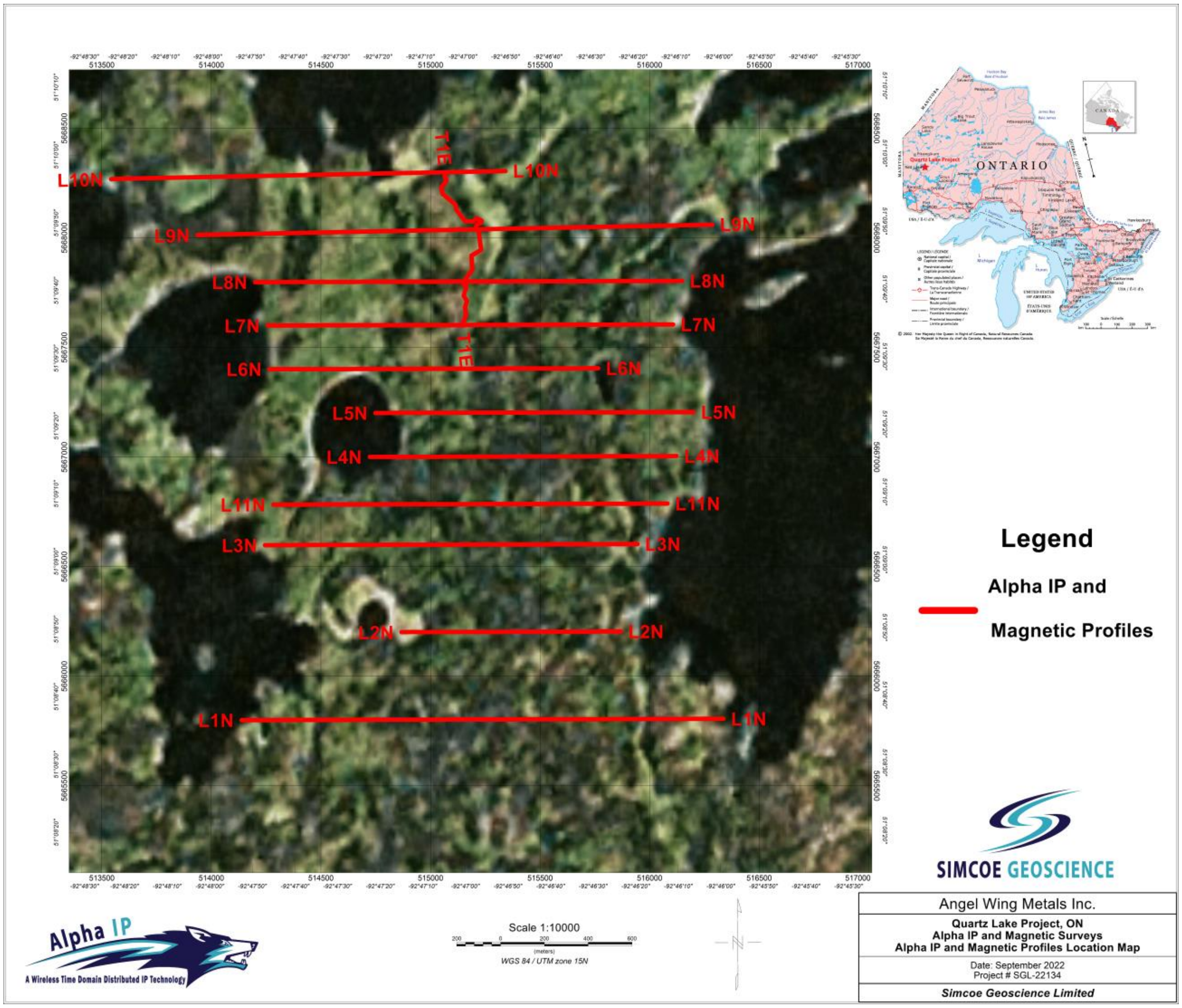


Figure 1-2: Quartz Lake Project Alpha IP and Ground Magnetic Profiles Location Map.

Table 1: Project Specifications and Personnel Contacts

Contract	
Project Name	Quartz Lake Project
Reference Number	SGL-22134
Report Date	November 9, 2022
Client	
Legal Name	Angel Wing Metals Inc.
Address	82 Richmond Street East, Suite 1000, Toronto, ON, Canada M5C 1P1
Web Site	https://www.angelwingmetals.com
Phone	1-416-543-9945
Contact	
Client Representative:	Brian Wilson,
Qualifications:	President, CEO & Director
Email	bwilson@angelwingmetals.com
Survey Description	
Objectives	Exploration of Gold
Methodology	2D Alpha IP and Ground Magnetic Surveys
Survey Type	100 m Dipole-Pole-Dipole Reverse and Forward array Configuration
Location	Near Quartz Lake, Ear Falls Township, Ontario.
Completion Date	05/10/2022
Contractor	
Contracted by	Simcoe Geoscience Limited (Simcoe)
Principal	Riaz Mirza
Qualifications	Director & Geoscientist, M.Sc., P.Geo.
Phone	+1 (905) 252-5922
Email	rmirza@simcoegeoscience.com
Surveyed by	Simcoe Geoscience Limited (Simcoe)
Web Site	https://www.simcoegeoscience.com

1.1 Project Location and Access

The Quartz Lake Project is located approximately 65 Km northeast of Ear Falls Township (Red Lake District), Ontario. The project area is centered at 515355 m E and 5666987 m N in WGS84 UTM Zone 15N. Access to the Quartz Lake Project property is by truck using logging roads. The crew drove 130 Km (two ways) every survey day to the grid. The base of operations at Ear Falls Township and access roads to the Key-Hole Claim Block grid are shown in Figure 1-3.

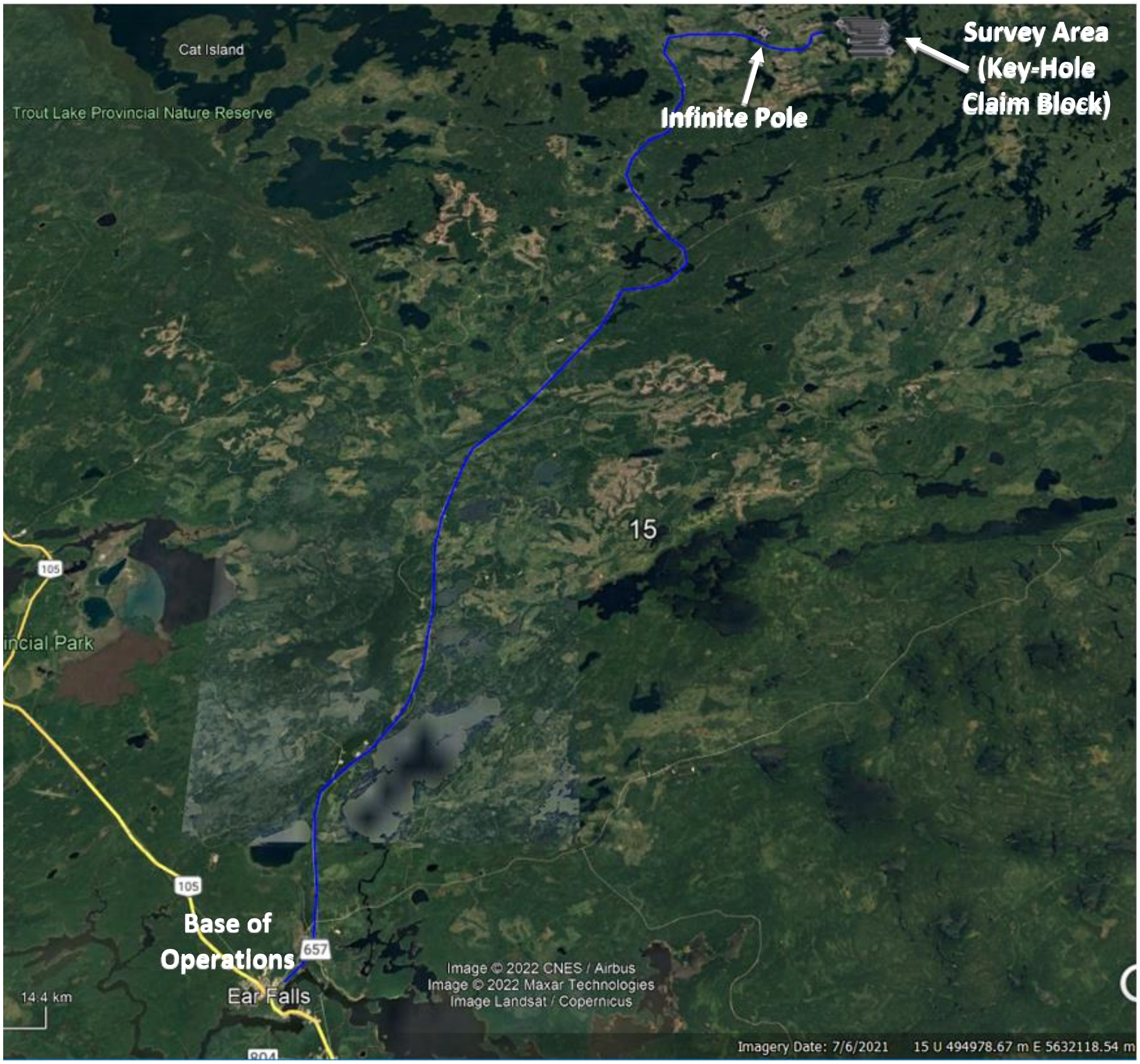


Figure 1-3: Quartz Lake Project Alpha IP and Ground Magnetic Profiles in Relation to Base of Operations (Ear Falls) and Access Roads.

1.2 Objectives

The exploration objectives of the 2D Alpha IP™ and High-Resolution Ground Magnetics surveys at Quartz Lake Project is to explore for targets that are associated with gold mineralization. To achieve the objective, mapping the chargeability, resistivity and total magnetic field intensity responses from surface up to 600 m depth becomes crucial.

To conduct the surveys, the Alpha IP™ – a Wireless Time Domain Distributed IP system and ground Magnetic surveys were employed to provide the following benefits to the exploration program:

- To detect and delineate chargeability, resistivity and magnetic anomalous zones over the survey area related to gold mineralization,
- To map resistivity, chargeability and Magnetic responses that may indicate geological structures like, unconformities descending from the property to the north, faults, contacts and lineaments related to gold mineralization.

1.3 Survey Scope

Based on the exploration objectives and survey design, Simcoe Geoscience Limited (Simcoe) deployed its “state of the art” “Alpha IP™” – a Wireless Time Domain Distributed Induced Polarization technology, which is aimed to provide high resolution data and greater depths in difficult terrains and to resolve smaller targets which could be missed in conventional 2D IP surveys.

The Alpha IP™ – a Wireless Time Domain Distributed System is the world first wireless IP system, where a minimum amount of wire is being used and can be expanded to as many channels and eliminates the concept of limited “n” values. Alpha IP™ provides full waveform data with 24-bit digital sampling and advanced signal processing. The chargeability and resistivity components provide an excellent means of delineating target mineralization.

The ground Magnetic survey was aimed to provide high resolution data to resolve structures and smaller targets which could be missed in airborne Magnetic surveys.

The GEM Advanced Magnetometer system was used to provide the following benefits to the exploration program:

- To provide improved data acquisition, processing, and quality while providing a robust and comparable system to costlier ground Magnetic surveys.
- To map Magnetic responses that may indicate geological structures (unconformities, faults, contacts), lineaments and alterations related to gold mineralization in the survey area.

1.4 Project Physiography and Weather

The geophysical data acquisition was carried out in the months of September and early October 2022. The Quartz Lake Project is approximately 65 km northeast of Ear Falls Township, Ontario. The weather in the Project area was mild fluctuating between 15.6^{0}C to 6.1^{0}C with a rain fall of 85 mm of precipitation during the survey period. The topography of the project area is generally flat with an average elevation of 410 m above mean sea level (395 m to 425 m). In the survey area, trees, bushes, grasses, swamps and small lakes are observed.

The following site photographs illustrate the field conditions, land cover, IP and Magnetic survey crew, and weather at the time of the geophysical survey execution.

2 GEOLOGY

2.1 REGIONAL GEOLOGY/MINERAL OCCURRENCES

Figure 2-1 shows past producing mines, developed prospect and mineral occurrences in and around the survey area (Key-Hole Claim Block Grid). Only limited information was available at the time of this report.

According to Angel Wing Metals Inc., the Quartz Lake Project has similar geological criteria used to explore in the Red Lake District. The criteria are:

- The unconformity between the Balmer-Confederation and intervening assemblages
- Rheological contrast (brittle vs soft) between mafic volcanic rocks with underlying ultramafic and gabbroic rocks
- Linear magnetic lows (magnetic destruction)
- Resistivity highs correlating with silica alteration
- Prospective cross structures that trend WNW

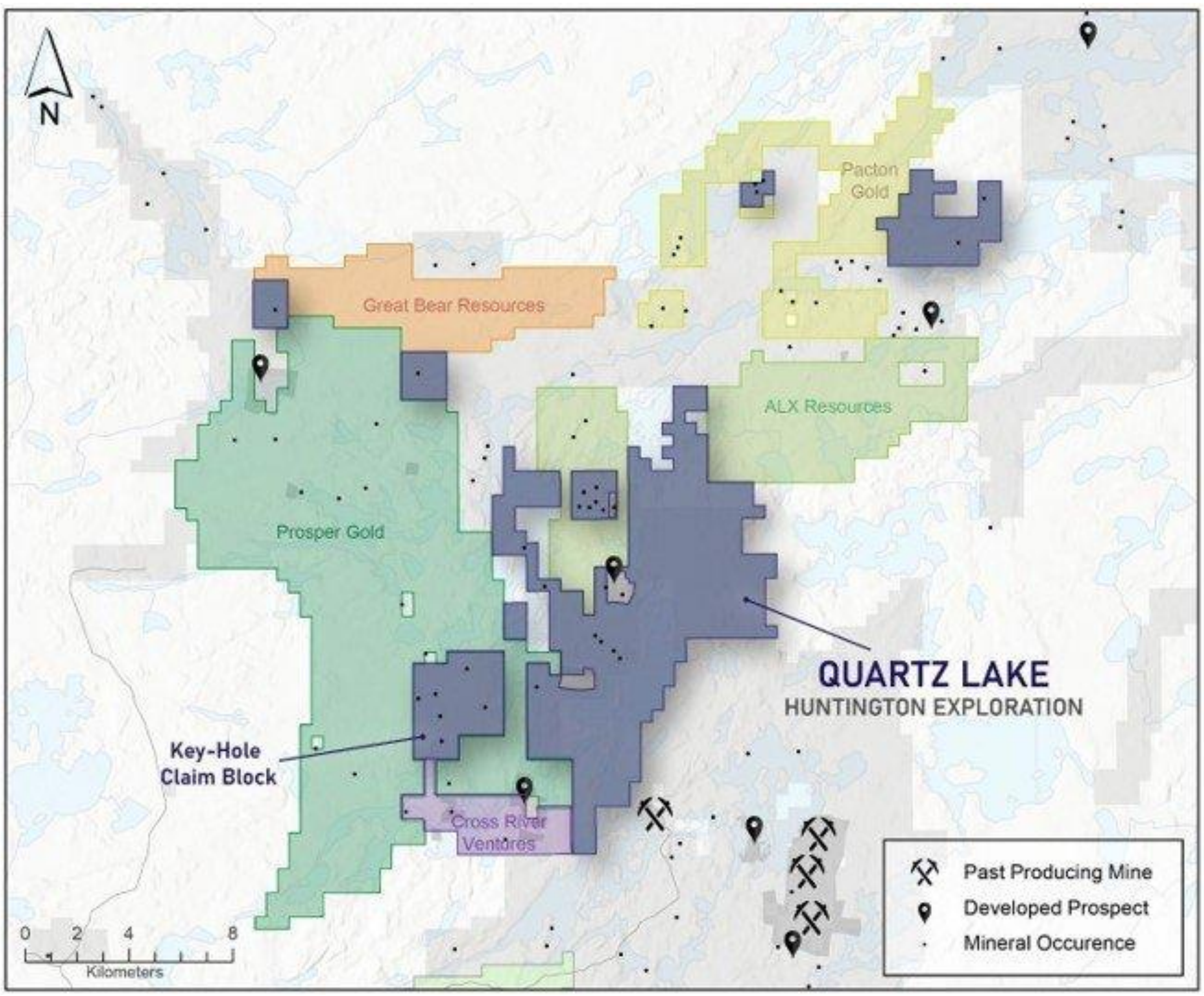


Figure 2-1: Mineral Occurrences Map (www.Angelwingmetals.com).

3 Survey Methodology

3.1 Time Domain Induced Polarization and Resistivity Theory

Direct Current (DC) Resistivity and Induced Polarization (IP) is an electrical method that uses the injection of current and the measurement of voltage difference along with its rate of decay to determine the subsurface resistivity and chargeability, respectively. Depth of investigation is mainly controlled by the array geometry, but may also be limited by the received signal, which is dependent on transmitted current, and overall ground resistivity.

The chargeability parameter is particularly susceptible to cases with a low signal-to-noise ratio. Low signal-to-noise happens when insufficient current is injected due to highly resistive materials. The accuracy of dip and strike positions of structures is decreased (side shift) if only pole-dipole (PDR) or (PDL) is used, combining the PDR and PDL overcome misleading positions of structures, so the choice of Dipole-Pole-Dipole array configuration becomes so crucial to avoid such position shifts.

Time Domain Induced polarization (IP) is a rather complex phenomenon but easy to measure. When a voltage applied between two electrodes is abruptly interrupted the electrodes used to monitor the voltage do not register an instantaneous drop to zero but rather records a fast-initial decay followed by a slower decay. If the current is switched on again, the voltage will first increase at a very high rate and then build up slowly. This phenomenon is known as induced polarization (Figure 3-1). The technique is mostly concerned with measuring the electrical surface polarization of metallic minerals.

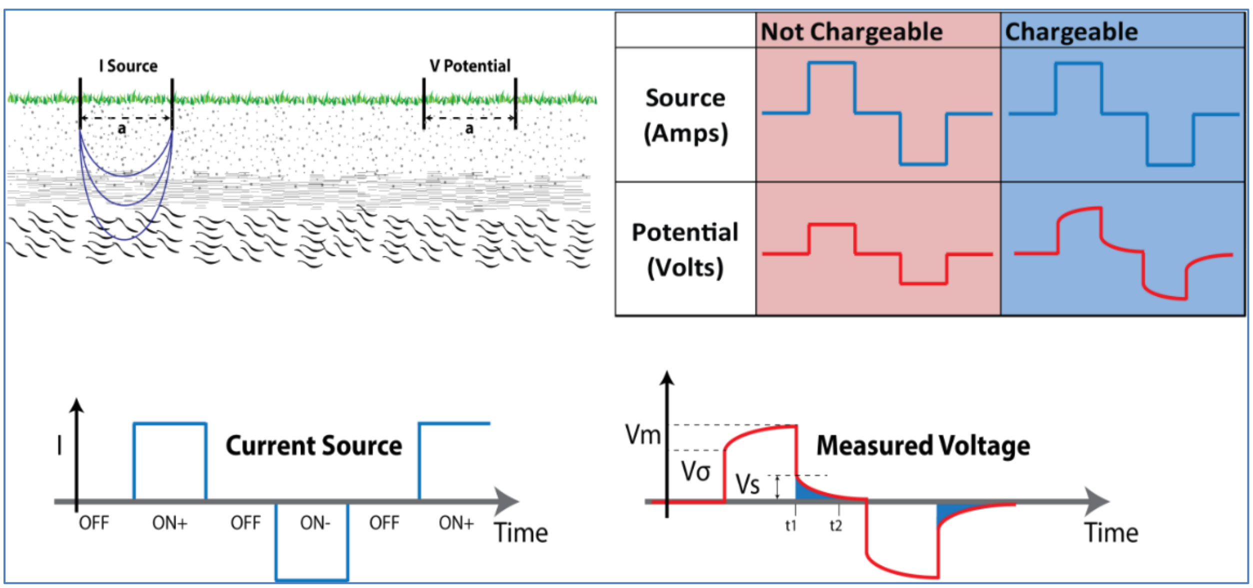


Figure 3-1: Example of Time Domain IP Measurement Sequence and Parameters.

The purpose of resistivity and IP surveys is to determine the subsurface resistivity and chargeability distributions by making measurements on the ground surface. From these measurements, the true resistivity of the subsurface can be estimated. The ground resistivity is related to various geological parameters such as the mineral and fluid content, porosity and degree of water saturation in the rock.

Disseminated sulphides have very good, induced polarization responses. In theory, massive sulphides should have lower responses but in practice they can have very good responses. This is due to the mineralization halo generally surrounding massive sulphides. Clay minerals may also produce significant IP responses. The IP technique is often used to distinguish between clay and for example water saturated media which have similar resistivities but different chargeability.

The data are acquired in a similar manner to resistivity, in fact resistivity is measured by default during an IP survey. The same electrode configurations used for resistivity are also used for IP investigations. Various electrode layouts can be used (pole-dipole, dipole-dipole, etc.); varying the distance between the electrodes results in soundings to different depths, which may be used to map the variations of resistivity and chargeability with depth.

3.2 Alpha IP System Setup

Simcoe used its “state of the art” Alpha IP™ - Wireless Time Domain Distributed Induced Polarization system with the simultaneous deployment of 22 receiver dipoles (11 Alphi) along the longest (2350 m) profile in single deployment. A schematic field setup with Alpha IP is described in Figure 3-2.

The Alpha IP system provides precise full waveform time series data including Induced Polarization, Resistivity and SP (self potential) measurements. Each receiver unit (Alphi) is a dual channel system and continuously record at a 10 millisecond (ms) sample rate. The Alphi’s synchronizes the GPS PPS signal with transmitter and current recording unit, allowing for smooth processing of the signal.

Each Alphi is fully independent, incorporating its own power source, GPS module and digital memory for up to 3 months continuous recording. Data on the memory can be downloaded directly on a simple USB stick for post processing.

Figure 3-2: Alpha IP Schematic Spread Setup with Current Injection Offset.

In its standard configuration (a = 100m / n = 0.5-40) Alpha IP surveys typically image DC resistivity to depths of 800-1000m, and the IP typically images to 700-1000m in sub-vertical tabular geologic settings and up to 50% more for sub-horizontal.

The differences in penetration are a function of the relative property contrasts and relative signal-to-noise levels between the two measurements. Penetration also decreases or increases proportionally to the dipole-size (i.e., 400-600m for 50m dipoles, and 900-1200m for 200m dipoles) with good signal. A detailed introduction to Time Domain IP surveys is given in Telford, et al. (1976).

Each Alphi has a common electrode (P2) at the receiver. Electrodes P1 and P2 are setup in opposite directions. The current recording unit, which sits in series between the injection electrode and transmitter records the injected current. GPS is used to synchronize an internal clock in order to accurately time stamp each record within an absolute accuracy of 250 microseconds (µs).

Detailed technical specifications of the "Alpha IP™ - Wireless Time Domain Distributed Induced Polarization" system is provided in Appendix B: Instrument Specifications.

3.3 2D Alpha IP Data Acquisition

Simcoe was responsible for staking and positioning the survey lines for this project. One of the crew members flagged the lines at every 50 m intervals with two color flags in order to differentiate between receiver and injection dipoles. Non-polarized stainless-steel electrodes were used for both receiver and injection electrodes at 100 m intervals up to n = 22 along the profile orientation (Figure 3-3 and Figure 3-4).

The infinite pole was setup in conductive ground before data acquisition. The infinite pole location was setup 6.5 km away from the survey area. A "10kw" power transmitter (Walcer TX KW10) was used and powered by a Honda Motor Generator MG12A. The generator can output regulated 125V/220V AC, 20KVA maximum at 400 Hz/ 3 phase to the transmitter which has an output of 100-3200V in 10 steps with regulated current ranges from 0.05 – 20 Amps. The switching can be set to 1sec, 2sec, 4sec, 8sec. For this project 2sec ON+ OFF- were used.

The current injection points were located at every 50 m between the potential dipoles. Data were acquired with dipole-pole-dipole (Reverse & Forward) current injections configuration. Extra current injections were also made at the end of the lines for additional depth coverage.

At the end of each day, data is retrieved from both current recorder and receiver units (Alphi) on USB sticks, which are binary format files contains UTM positions of each receiver and injection electrodes, input and output voltages and input currents for every injection. Data is dumped to a field computer and field QA/QC is performed at the end of the survey day. If the data quality is acceptable the crew will be notified, and the line will be picked up and moved to next position if re-acquisition is not required.

The parameters used to acquire the Induced Polarization and Resistivity field data is given in Table 2.

Table 2: Alpha IP Field Survey Specifications and Parameters

Quartz Lake Project	
Survey Array	Dipole-Pole-Dipole Array
Receiver Configuration	100 m Rx = Continuous In-line voltages
Array Length	1000 m – 2350 m
Dipole length	Rx = 100 meters
Sampling Interval	Tx = 100 meters
Rx-Tx Separation	N-spacing = 1-22
Tx Current	+/- 1 - 20 Amps
Input Impedance	100 MOhms
Input Voltage	15V, automatic gain, input protection 1000V
Readings	Full waveform 10ms (100Hz) sampling rate
Noise Rejection	Power line rejection, SP linear drift correction
Transmitter Square wave Switching	2 sec., (2 sec. ON+, 2sec. OFF, 2 sec. ON-, 2sec. OFF)
Chargeability Windows	20 Programmable
Time-Series Stacking	up to 100 cycles (full waveform)
Read Time	approx. 5.0 minutes per station
Time-Domain Decay Window	1600 ms
Integration Start Time	220 ms
Integration End Time	1820 ms

Figure 3-3: Example of Transmitter Current Waveform Recording System.

Figure 3-4: Example of Alpha IP Receiver.

3.4 Ground Magnetics Survey

The aim of a magnetic survey is to investigate subsurface geology on the basis of the anomalies in the earth's magnetic field resulting from the magnetic properties of the underlying rocks. In general, the magnetic content (susceptibility) of rocks is extremely variable depending on the type of rock and the environment it is in. Common causes of magnetic anomalies include dykes, faults and lava flows.

The magnetic method involves the measurement of the earth's magnetic field intensity. Typically, the total magnetic field and/or vertical magnetic gradient is measured. Measurements of the horizontal or vertical component or horizontal gradient of the magnetic field may also be made. Magnetism is, just like gravity, a potential field. Anomalies in the earth's magnetic field are caused by induced or remnant magnetism. Induced magnetic anomalies are the result of secondary magnetization induced in a ferrous body by the earth's magnetic field.

The shape, dimensions, and amplitude of an induced magnetic anomaly is a function of the orientation, geometry, size, depth, and magnetic susceptibility of the body as well as the intensity and inclination of the earth's magnetic field in the survey area.

Ground magnetic survey is an essential geophysical method employed in locating subsurface magnetic materials for possible exploration. In nature, the anomalous magnetization might be associated with local mineralization that is potentially of economic interest. Ground magnetic surveys map the magnetism of underlying rocks.

The most common magnetic minerals found are pyrrhotite, (iron sulphide), and magnetite. Pyrrhotite is important because it's often associated with pyrite, another iron sulphide mineral, which may contain gold. Other valuable minerals often associated with pyrrhotite include; chalcopyrite (copper sulphide), sphalerite (zinc sulphide), and pentlandite (nickel sulphide).

Although ground magnetic surveys measure rock magnetism, they can help find minerals that aren't magnetic, including gold. In fact, the areas that aren't magnetic can be as significant as those that are. Ground magnetic surveys are also used to understand the general structure of underlying rock, identifying faults and folds otherwise hidden beneath cover rocks and for identifying demagnetised zones associated with hydrothermal activity. The most common system configuration used in exploration is shown in **Error! Reference source not found.** and Figure 3-5.

Figure 3-5: Example of Ground Magnetics System Setup in Continuous Walking Mode.

3.5 Survey Coverage

The Alpha IP and Magnetic survey coverage over the eleven (11) profiles were 19.00-line Km and 19.70-line Km respectively, in total 38.70-line Km.

The Alpha IP and MAG survey profile's location is shown in Figure 3-6. Table 3 below shows the Alpha IP and Magnetic profiles and their respective lengths with start and end coordinates.

The daily production, which includes setup, data recording, personnel and move to the next line is included in the production log which is provided in the digital archive.

Table 3: 2D Alpha IP and Magnetic Survey Coverage with Lines Start and End Coordinates.

WGS84/UTM Zone 15N					
Prospect	**Line**	**Azimuth**	**Start UTM**	**End UTM**	**Line-km**
Key-Hole Claim Block Grid	L1N	89.8^0 N	514138 m E 5665800 m N	516337 m E 5665806 m N	2.200
Key-Hole Claim Block Grid	L2N	89.8^0 N	514868 m E 5666201 m N	515868 m E 5666204 m N	1.000
Key-Hole Claim Block Grid	L3N	89.8^0 N	514245 m E 5666598 m N	515945 m E 5666603 m N	1.700
Key-Hole Claim Block Grid	L4N	89.8^0 N	514723 m E 5667001 m N	516123 m E 5667005 m N	1.400
Key-Hole Claim Block Grid	L5N	89.8^0 N	514749 m E 5667201 m N	516200 m E 5667205 m N	1.450
Key-Hole Claim Block Grid	L6N	89.8^0 N	514266 m E 5667401 m N	515766 m E 5667405 m N	1.500
Key-Hole Claim Block Grid	L7N	89.8^0 N	514257 m E 5667600 m N	516107 m E 5667605 m N	1.850
Key-Hole Claim Block Grid	L8N	89.8^0 N	514200 m E 5667798 m N	516149 m E 5667804 m N	1.950
Key-Hole Claim Block Grid	L9N	88.8^0 N	513937 m E 5668013 m N	516286 m E 5668060 m N	2.350
Key-Hole Claim Block Grid	L10N	88.8^0 N	513543 m E 5668268 m N	515342 m E 5668305 m N	1.800
Key-Hole Claim Block Grid	L11N	89.8^0 N	514283 m E 5666783 m N	516082 m E 5666788 m N	1.800
Key-Hole Claim Block Grid	T1E	0^0	515132 m E 5667602 m N	515064 m E 5668299 m N	0.700
Total Survey Coverage (2 x 19.00 Km + 0.7 Km)					**19.70 Km**

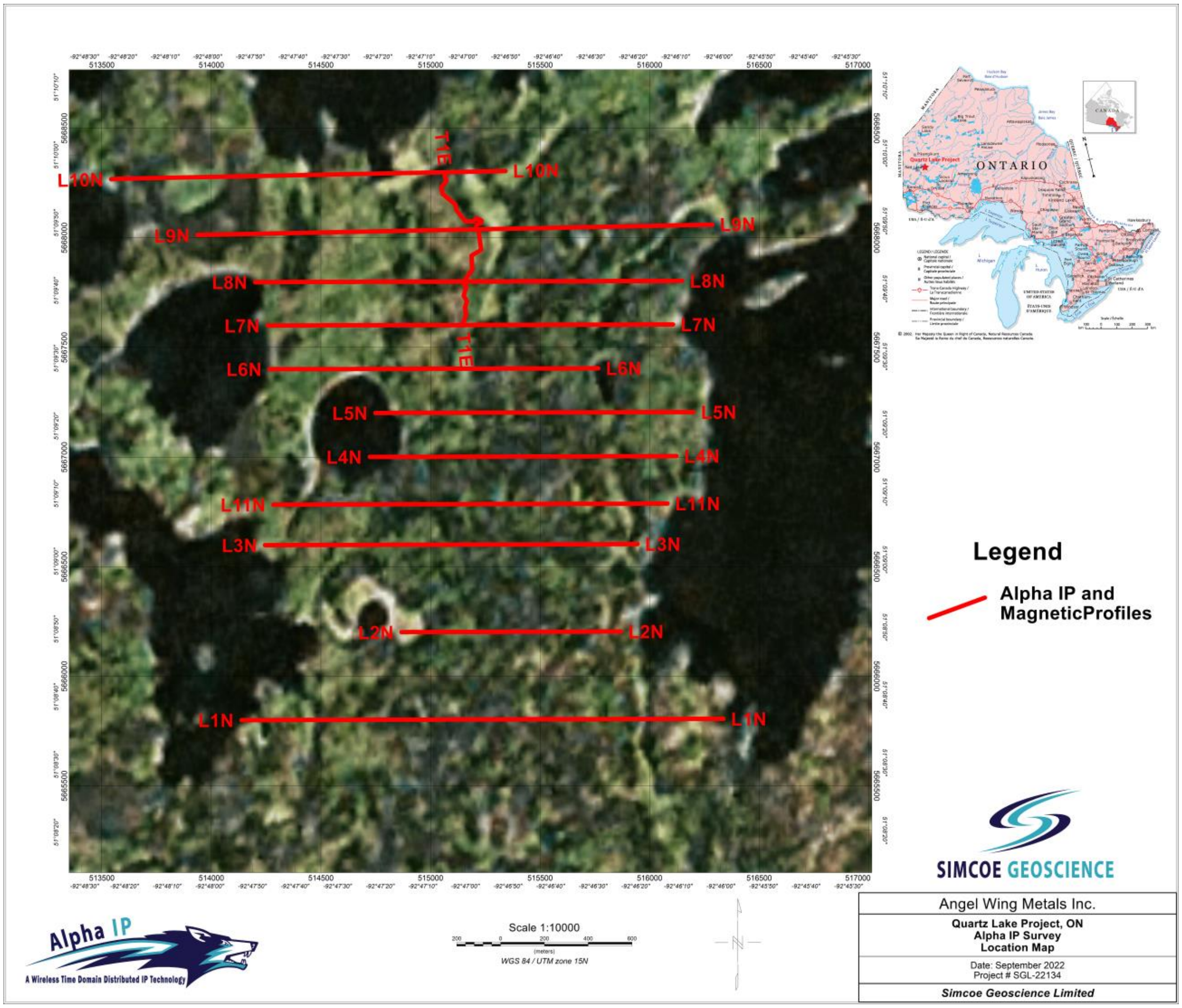


Figure 3-6: 2D Alpha IP and Magnetic Profiles Location Map.

4 PROCESSING AND MODELING

4.1 ALPHA IP DATA QA/QC AND POST-PROCESSING

The final processing of Time Domain IP is complicated and performed in several steps using different processing platforms. Infield QA/QC and processing is completed with proprietary software. The software allows review of the full waveform raw data, the stacked readings and the chargeability decay (M) for each acquisition channel.

The data is displayed, current and voltage records are synchronized, edited if necessary and processed. “Noisy” data is rejected using an arithmetic algorithm to identify noisy half-cycles and to enhance Rx – Tx synchronization (Figure 4-1).

Once the data is synchronized and UTM coordinates of both current injections and receiver dipoles are verified, data is exported to Post Processing software, where data can be displayed both numerically and graphically. Conditioning of both resistivity and IP data involves adjustment of data errors and removal of poor-quality data for inversions.

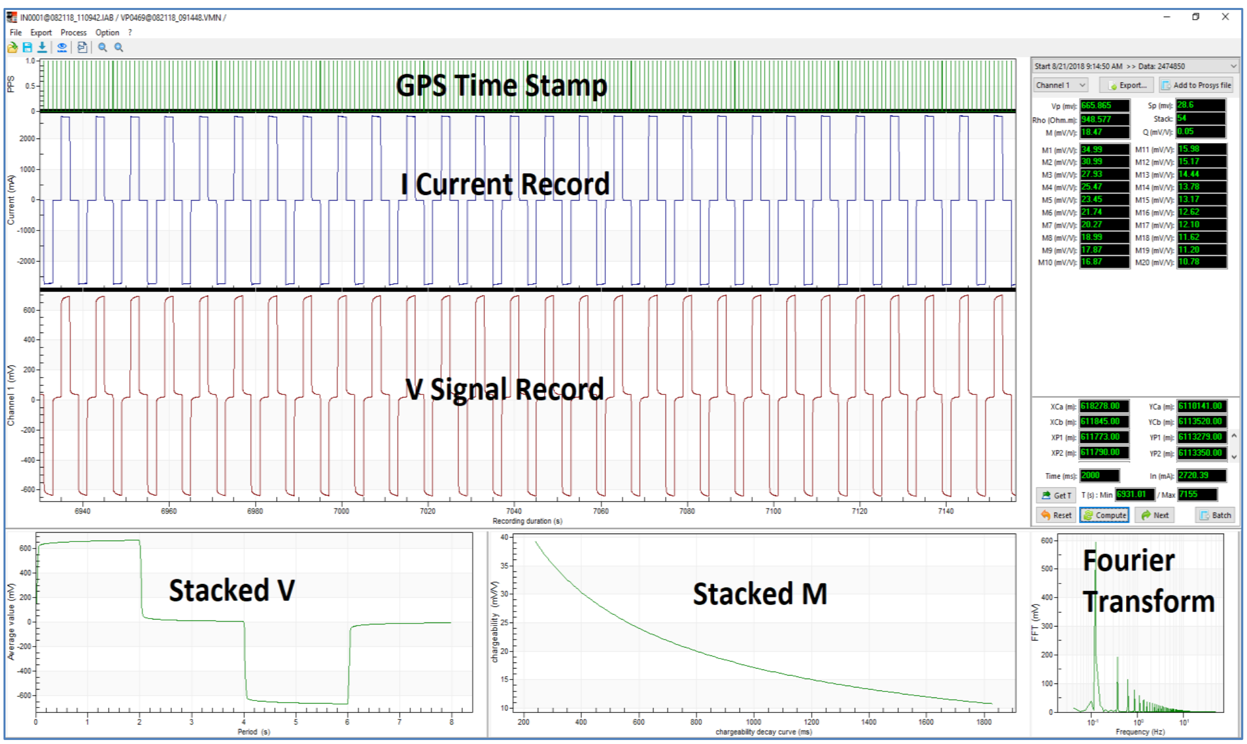
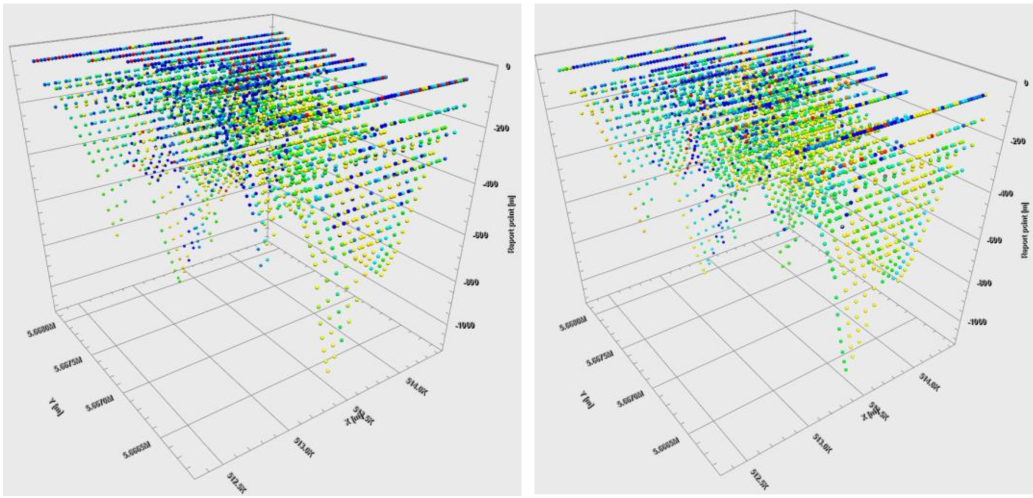


Figure 4-1: Example of Data Viewer with Rx, Tx and GPS Time Synchronization.

Individual transmission events are viewed and analysed before the stacking process. Pseudo-section plots along with individual stacked curves, current values, resistivity and decay curves are reviewed. Data density of individual profiles as well as combines is shown in Resistivity Chargeability

Figure 4-2 and **Error! Reference source not found.**.

Once the data satisfy the QA/QC process, the entire line file is exported onto UBC format to run the model inversions. In general, for the Quartz Lake Project, the quality of the raw data is good, and the repeatability is excellent.



Resistivity *Chargeability*

Figure 4-2: Data QA/QC and Post-Processing Results and Data Density.

4.2 2D Induced Polarization and Resistivity Inversions

The primary tool for evaluating the resistivity and induced polarization data is through the model inversion in two-dimensions (2D). The goal of the inversion is to generate an earth model which acceptably reproduces the observed field data. However, two inverse problems must be resolved. Firstly, the DC potentials are used to recover the electrical conductivity, and secondly, the IP data are used to recover the chargeability.

An inversion model depends not only on the data collected but also on the associated data errors in the reading and the "model norm". It is also a good practice that inversion models be reviewed in context with the observed data (raw pseudo-sections), model fit, and with an understanding of the model norm used.

In general, the data are noise contaminated; therefore, to fit them precisely the process could lead to the introduction of inversion 'artifacts'. An inversion 'artifact' translates into a step up or down in resistivity or chargeability model values, usually around the periphery of the model to a level that is not logically reasonable.

A perfect fitting of the calculated data set with the measured data set is generally not practical because it creates a 'forced' earth model and some features observed in the constructed model would assuredly be artifacts of the noise. The error of each data point is adjusted for the inversion process using a general error equation:

$$errors\begin{pmatrix} Vp \\ IP \end{pmatrix} = \mathrm{A}\% \begin{vmatrix} Vp \\ IP \end{vmatrix} + B \times \mathrm{Acq\_Error}\begin{pmatrix} Vp \\ IP \end{pmatrix} + C\ (\mathrm{floor})$$

with the set of parameters $\{A, B, C\}$ adjusted (and large errors data points removed) for each dataset until we achieve convergence with relaxation of the resistivity or chargeability models.

The 2D inversions are carried out along each line to produce cross-sections of the resistivity and chargeability variations along the survey lines. The UBC DCIP2D (UBC-GIF) inversion suite1 (Oldenburg & Li, 1994) is used for the 2D inversion of the DC and IP data:

- DCINV2D: program to invert DC potentials to recover a 2D conductivity model.
- IPINV2D: program to invert IP data to recover a 2D chargeability model.

The programs use the potential difference (voltage) and apparent chargeability values as input data. Estimated errors on the resistivity and IP data are included in the inversion. The resistivity data is inverted using an unconstrained 2D inversion with a homogenous half-space of average input data as starting model. The resistivity models are labeled as 2D Resistivity. The IP inversions are calculated from the same data set and parameters. The models2 use a previously calculated 2D Resistivity model as the reference model. They are labeled the IP Chargeability model.

In general, the use of the previously calculated Resistivity model as a starting model is theoretically better, but some features on the Resistivity model might introduce 'artifacts' or 'false anomalies' on the IP Chargeability models. For example, it can be shown that the UBC code tends to add a very strong IP anomalous response below a very conductive overburden where this is not supported by the data. This appears due to the strong resistivity contrast on the Resistivity model. In this situation it is also a good practice to consider the half space reference IP Chargeability (HS) model which uses a constant resistivity value close to the area average as this will be not 'constrain' the IP by any pre-defined (resistivity) structure. This allows comparison of models and this can be used to validate chargeability anomalies.

The inversions are generally run for a maximum of 100 iterations with topography incorporated into the final inversion models. Before exporting the models for section plotting, each inversion model is examined with observed apparent data and predicted results.

For this study there were few models generated with a constant resistivity reference models as an optional geological constrain due to significant effects on the chargeability responses. The *Resistivity* and *Chargeability* inversions use the same mesh. The horizontal mesh is commonly set to 10 cells between electrodes. The vertical mesh is designed with a cell thickness from 7 m for the first few ten's meters to accommodate the topographic variation along the profile, and then it increases from 20 to 100 m with depth.

4.3 Ground Magnetics Data QA/QC and Post-Processing

The objective of magnetic data interpretation is to determine the type and location of the anomalous source along with interpreted structures. There are numbers of computer-based methods that have been developed to analyze/interpret the magnetic data.

For the Quartz Lake Project, the quality of the acquired ground magnetics data is good, and the repeatability was excellent. The Ground Magnetic Data QA/QC and Post-Processing Results are presented in Figure 4-3 to Figure 4-8.

[1] *A comprehensive theory and methodology for 2D inversions for those programs is also available at www.eos.ubc.ca/ubcgif.*

[2] *The reference model is used to calculate the sensitivity matrix used at each iteration for the IP inversion.*

Total Magnetic Field Intensity (TMI) is the measurement of the magnetic field recorded by the magnetometer over the survey area (Figure 4-3).

Removal of the International Geomagnetic Reference Field (IGRF) was done using the 2021 model year with a constant date of September 15, 2022 as the reference date. A constant altitude of 410 m, the mean corrected GPS altitude over the course of the survey, was specified as the elevation. The calculated IGRF values were subtracted from the levelled data to obtain the residual magnetic field data. For the final residual mag, a 3rd order polynomial trend was also removed (Figure 4-4).

In order to interpret magnetic data in terms of features and structures at depth, the anomalous field caused by buried features of interest must be isolated. In other words, we must try to remove the contribution to the measurements made by the earth's field and also from geologic features larger than the actual survey area.

Reduction to the Magnetic Pole filter reconstructs the magnetic field of a data set as if it were at the pole. This means that the data can be viewed in map form with a vertical magnetic field inclination and a declination of zero. The shape of any magnetic anomaly depends on the inclination and declination of the main magnetic field of the earth. Thus, the same magnetic body will produce an anomaly of different shape depending on where it happens to be and its orientation.

The interpretation of the Reduced to Pole magnetic data is straight forward as vertical bodies will produce magnetic anomalies that are centered symmetrically over the body. The parameters used for the reduction to pole were: a) IGRF Date: 2019/09/15; b) Magnetic Inclination: 75.4^{o}, and c) Magnetic Declination: -0.82^{o} (Figure 4-5).

First Vertical Derivative calculation is the rate of change of the residual RTP with height (Figure 4-6). It is used to enhance local anomalies and help outline the edges of anomalous bodies. A second vertical derivative map is a powerful interpretation tool that can be used to assist in the delineation of causative bodies and accurately locate changes in the magnetic field gradients. Better definition of discontinuities and their relation to geology can be gained from the use of this tool. A second vertical derivative map will show steep gradients over faults and positive closures over up-thrown blocks.

Analytic Signal is the square root of the sum of the squares of the derivatives in the x, y, and z directions of the total magnetic field. The analytic signal does not depend on the direction of magnetization or the direction of the Earth's magnetic field (Figure 4-7).

The bodies of the same geometry will have the same analytic signal shape, even where their total-field shapes would differ. The analytic signal is also useful in locating the edges of magnetic source bodies, particularly where remanence and/or low magnetic latitude complicates interpretation.

Tilt Derivative of residual magnetic field reduced to pole is the inverse tangent of the absolute value of the ratio of the first vertical derivative to the total horizontal derivative of the pole-reduced, residual total magnetic field grid, calculated using 2D Fast Fourier Transforms (Figure 4-8). It is compared with other edge detection measures such as horizontal gradient, second vertical derivative and the analytic signal and found to have the added advantage of responding well to both shallow and deep magnetic sources (Miller and Singh, 1994).

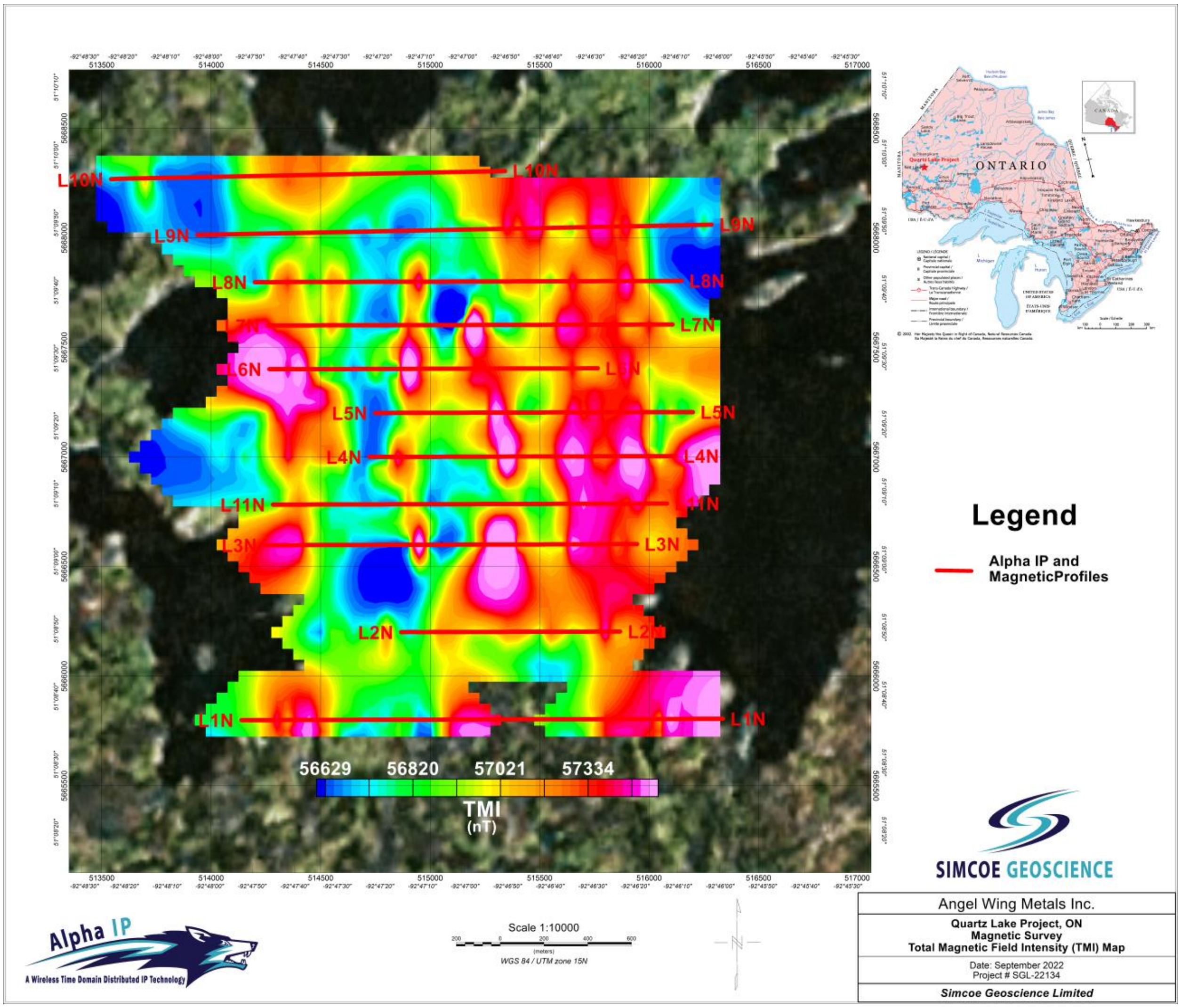


Figure 4-3: Total Magnetic Field Intensity (TMI) Map.

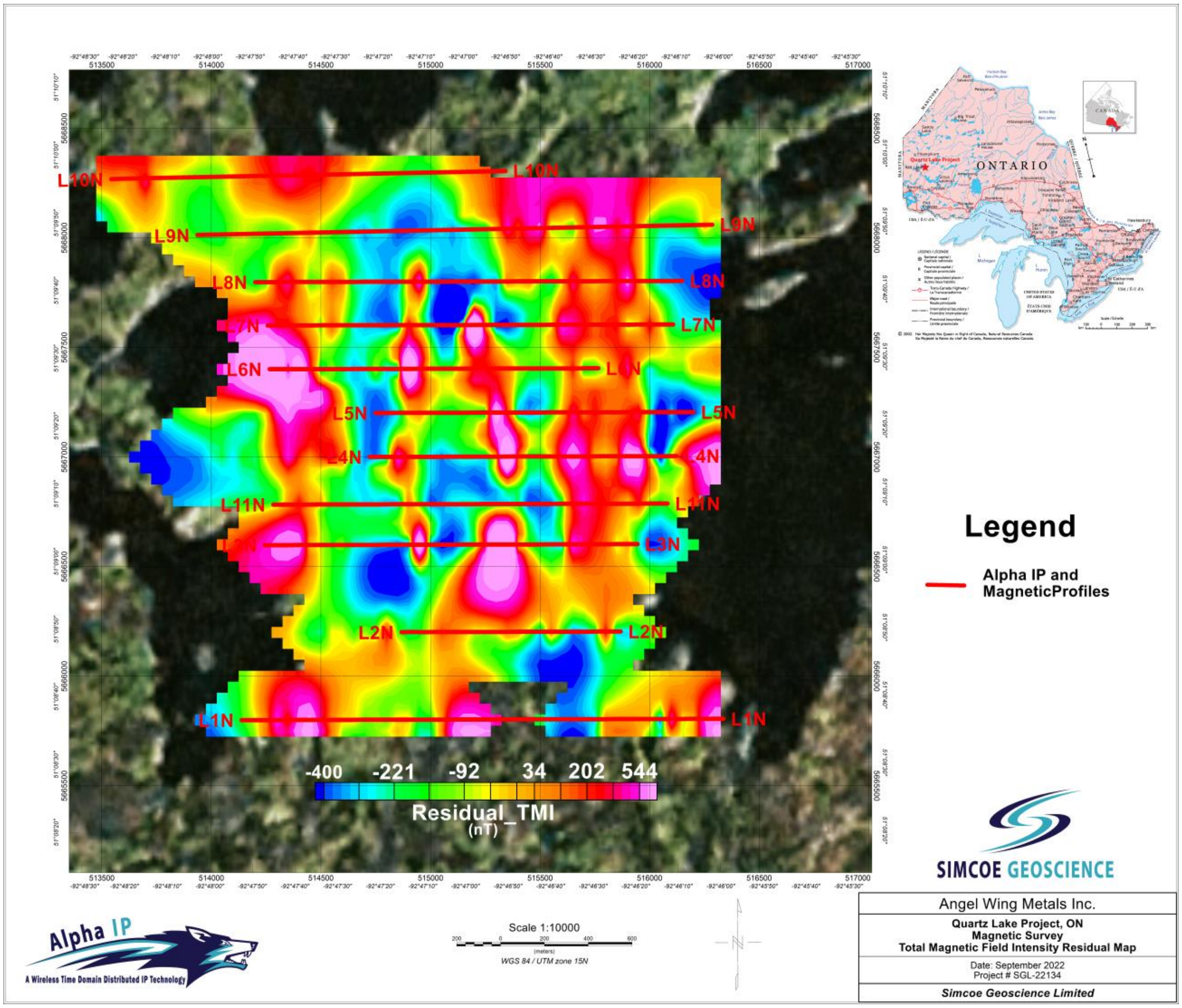


Figure 4-4: Residual Total Magnetic Field Intensity (TMI) Map.

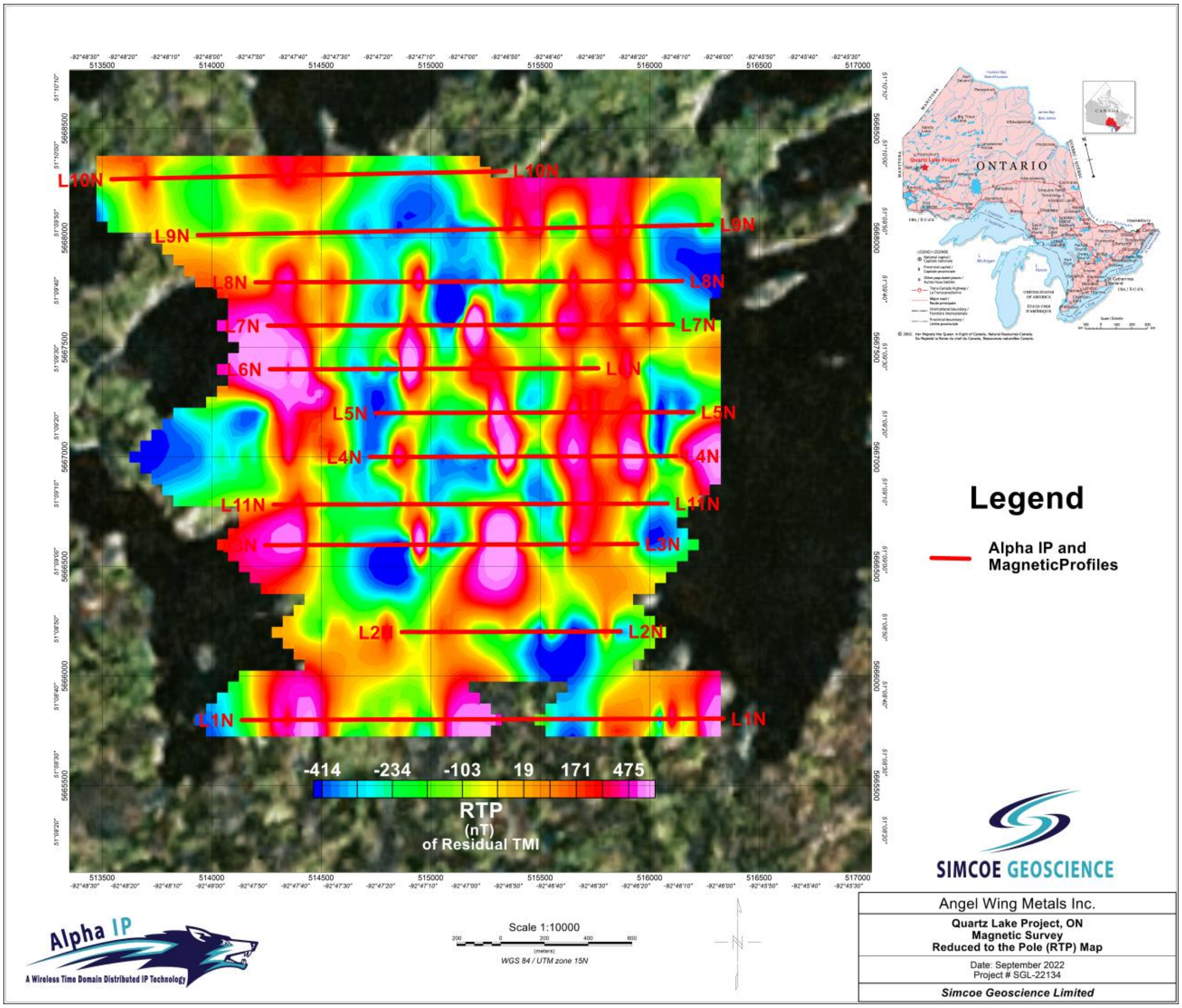


Figure 4-5: Reduced to the Pole (RTP) Map.

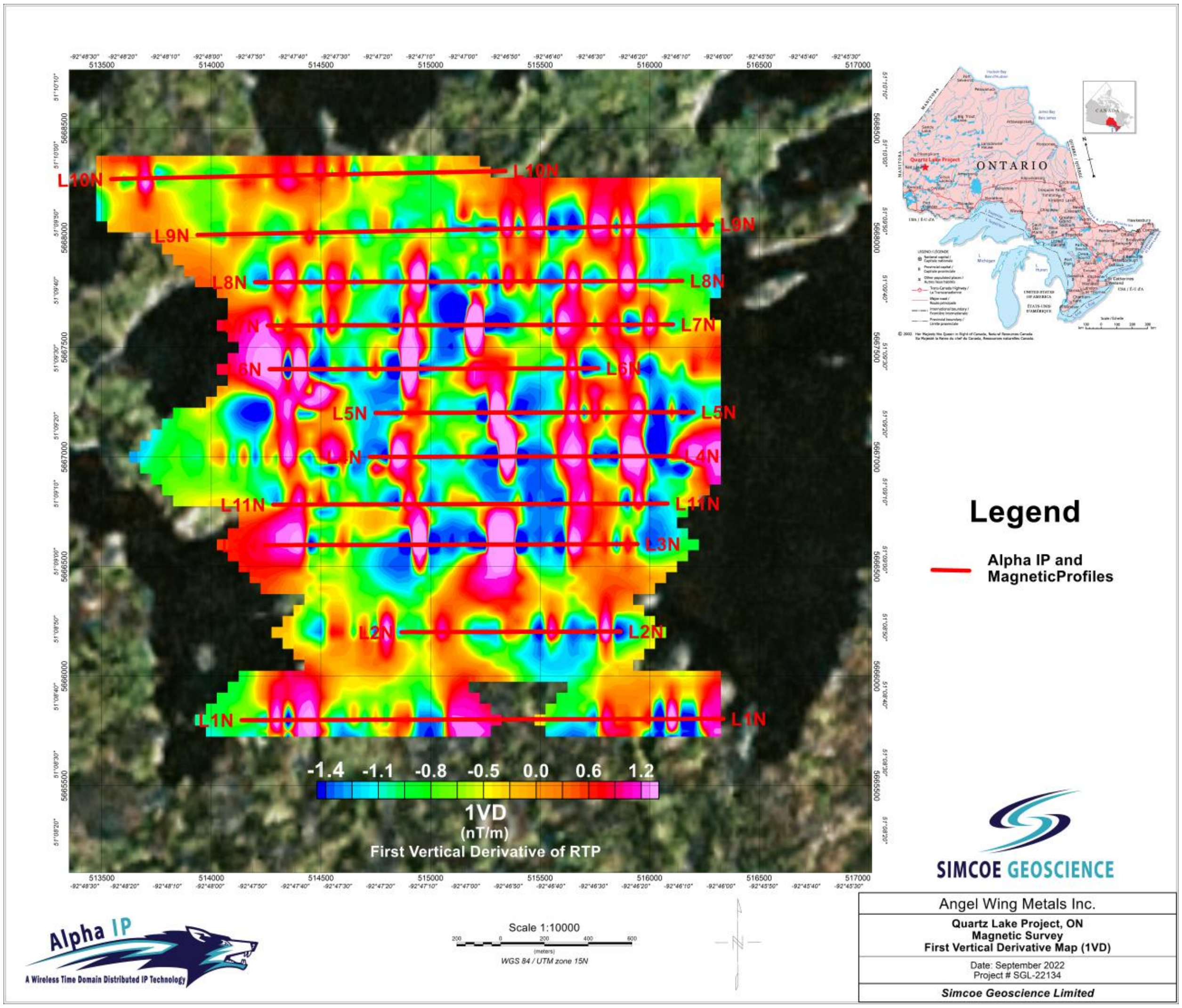


Figure 4-6: First Vertical Derivative (1VD) Map.

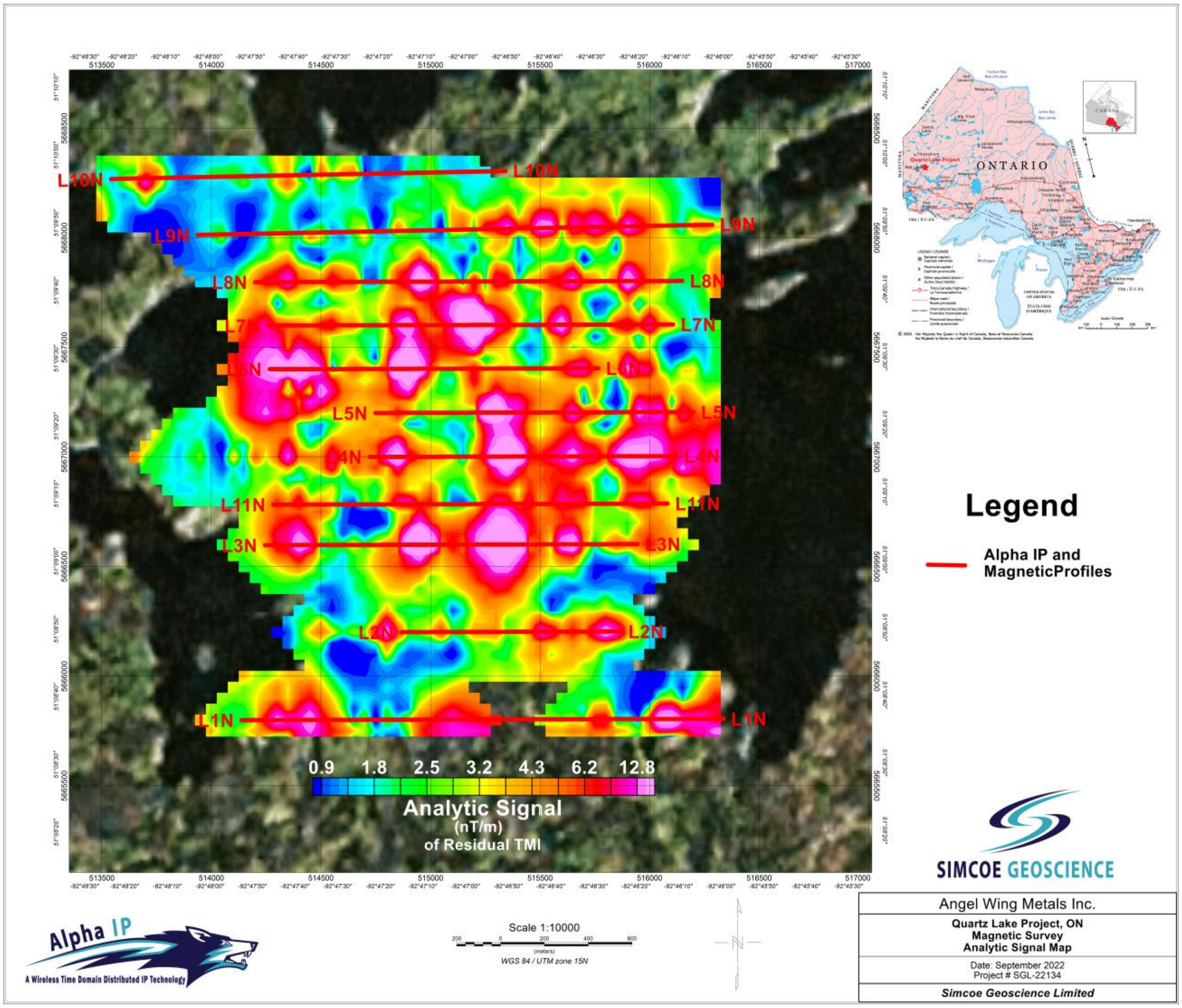


Figure 4-7: Analytic Signal (AS) Map.

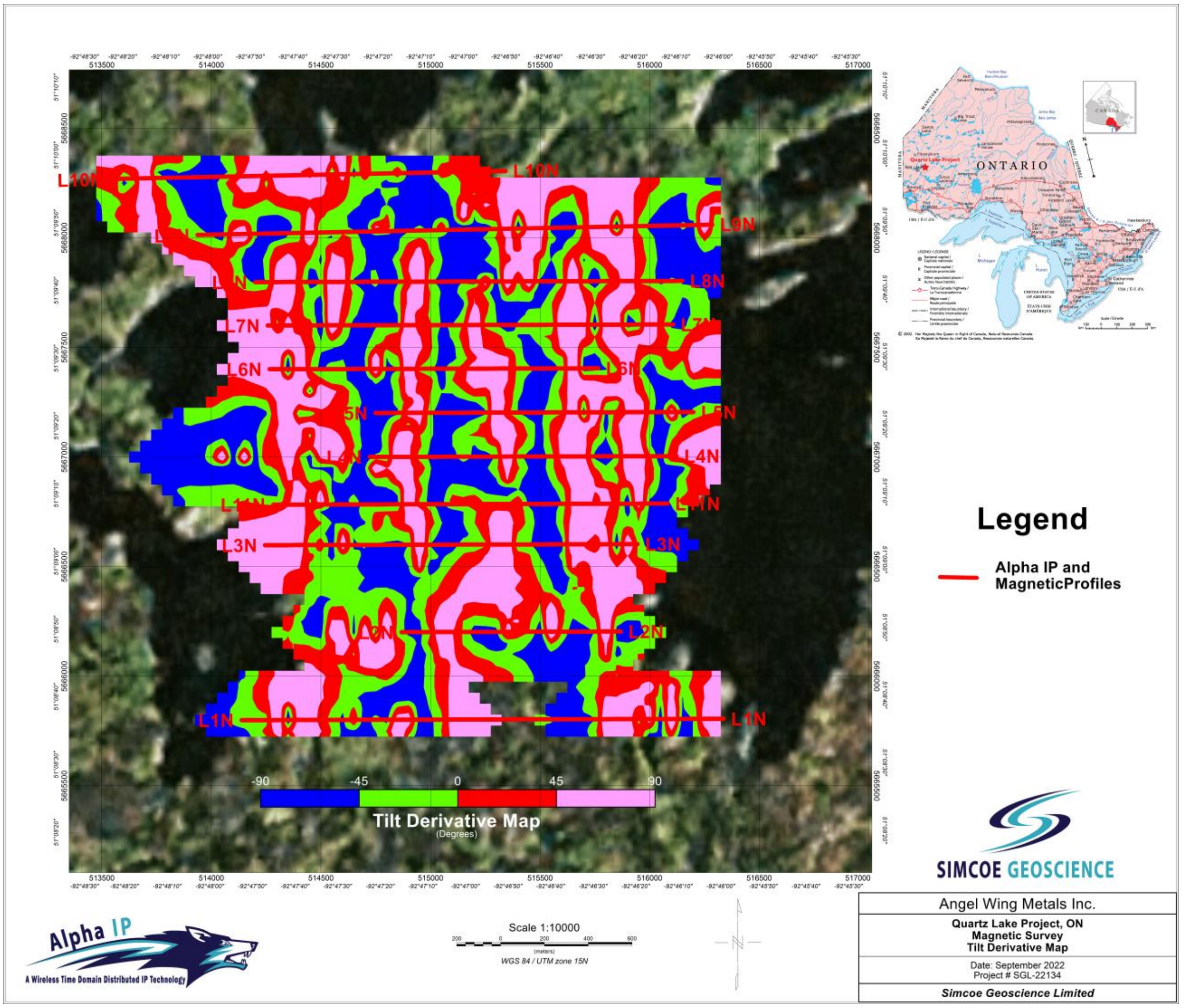


Figure 4-8: Tilt Derivative (Tilt) Map.

5 Results

This section presents the resistivity and chargeability 2D inversion results in cross-sections and plan maps including magnetic 3D inversion at various depth levels.

The quality of the raw resistivity, IP and magnetic data is good for the surveyed lines. Overall ground contacts were good and contact resistance at transmitting and receiving dipoles were low. The range of current injected into the ground was between 1 amp to 5 amps except for few locations where currents were as low as 1 amp. Generally, the IP decay curves are clean, however some noisy decay curves were also noticed at larger n vales, which were removed from the final inversions to avoid false anomalies. The current was injected for 5-7 minutes and up to 100 stacks were recorded to obtain cleaner data with a better signal to noise ratios. The magnetic survey was not affected by magnetic storms or local cultures.

A total of twenty-two (22) inversion models along eleven (11) profiles were computed to present resistivity and IP survey results. For the Mag data, 3D magnetic Susceptibility model has been computed, nine (9) depth slice maps, total magnetic field intensity (TMI), residual TMI, reduced to the pole TMI (RTP), Analytic Signal (AS), first derivative (1VD) and Tilt derivative maps have been produced. The 2D IP cross-sections and Mag plan maps were gridded using the minimum curvature gridding algorithm. Resistivity cross-sections were plotted on log-linear scale while chargeability cross-sections and mag plan maps were on linear scale.

The inversions were generally run with successive removal of poorly fitting data and error adjustment before arriving at the final 2D models. Some data acquired with large transmitter-receiver separations (deeper data) were not of high quality and were removed prior to inversion. The 2D models along each profile are presented to a maximum depth of 500 m+. In addition, 3D chargeability and resistivity models were also computed from the 2D data. The plan map interpretation was completed to show the anomalies lateral extents and continuation from profile-to-profile. A complete set of 2D cross-sections are included in Appendix A. Although all data are of good quality, Simcoe recommends caution must be taken when targeting deeper anomalies based only on geophysics.

The smooth resistivity and chargeability models were used for interpretation and targeting purposes. The structure and lithology are interpreted mainly from the resistivity cross-sections and magnetic maps. IP chargeability can be an indicator of the presence of disseminated sulfides that are associated with gold mineralization at Quartz Lake Project. Anomalous chargeability data are used to help target areas for further exploration work.

The interpreted results do not necessarily represent mineralization, mineral grade, and/or the full extent of the sources of the anomaly; furthermore, they are not intended for metal differentiation. Different geological, structural, and mineral assemblages may produce anomalies with similar response amplitude, shape, orientation, and size. All the above factors can be combined to yield alternative interpretations of the same geophysical response.

5.1 SECTION MAPS INTERPRETATION

For the 2D Alpha IP survey, at least thirty-five (35) chargeability anomalies have been identified from 2D cross-sections. These anomalies are interpreted and presented in the cross-sections and plan maps as potential exploration targets for this project. Of the thirty-five (35) chargeability anomalies, thirty (30) of them are considered as first priority, one (1) as second priority and four (4) as third priority targets. The drill targets can be picked from the first priority chargeability anomalies on the 2D cross-sections.

First priority should be given for drill targeting anomalies that indicate extension of the known mineral zones or favorable structural zones. The anomalies that exhibit high resistivity, moderate to high chargeability and moderate to high magnetic (majority) are of the first priority targets. The priority targets over the cross-sections are presented in Figure 5-2 through Figure 5-12.

The colour bar ranges vary for both chargeability and resistivity based on their values on each profile. Chargeability ranges from 0.5 mV/V up to 40 mV/V and resistivity ranges from 1.8 K Ωm – 396 K Ωm. In the cross-sections, the high and low resistivity values are represented by light blue to white and red colors, respectively. The high and low chargeability values are represented by red and blue colors, respectively. The dynamic color ranges used in this report are all relative and specific to the survey area. The interpretation legend is illustrated in Figure 5-1.

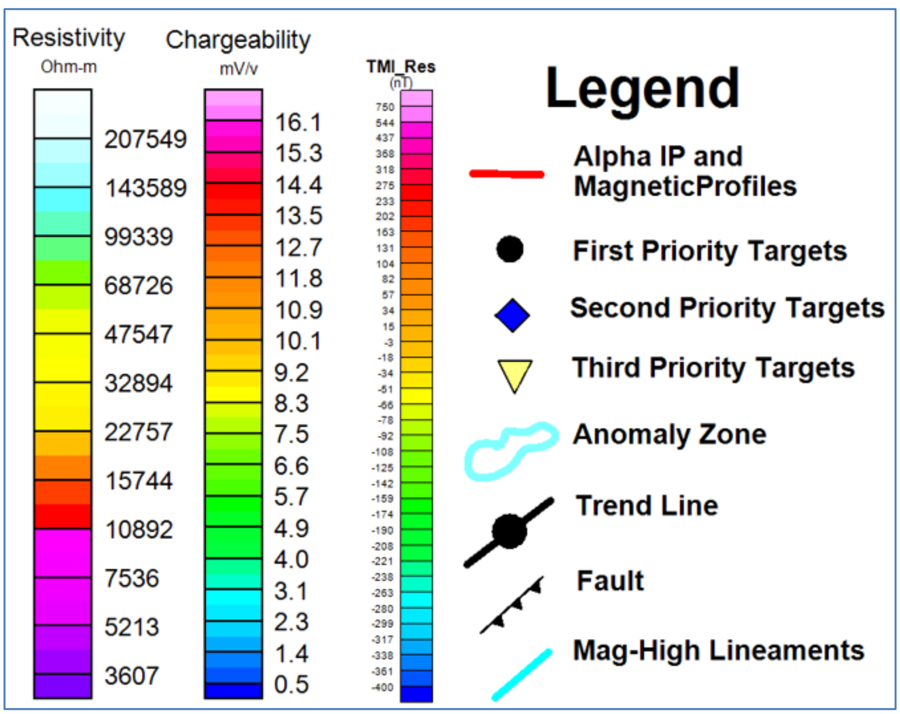


Figure 5-1: Interpretation legend with symbols and color bars.

The interpretation presented in this report is focused to target resistivity, chargeability and magnetic anomalous zones that might indicate the presence of gold mineralization, alteration zones and geological structures (faults, contacts, lineaments, etc.) which may be potentially related to economic mineralization in the Key-Hole Claim Block Grid. The structural interpretation of the 2D cross-sections and magnetic plan maps explains the potential dip and extension of the faults and contacts at greater depth. The characteristics and locations of the targets, along with the structural interpretation of the 2D cross-sections are described in the following sections. The interpreted resistivity and chargeability anomalous zones were classified according to the anomaly amplitude, size and multi-parameter (resistivity & chargeability) association as follows:

F*irst priority targets (S#):*

- Moderate to small area (≤50 m x ≤150 m) anomalies exhibiting a **Moderate** IP response (>10 mV/v), accompanied by a high resistivity (>15,000 Ohm-meters); interpreted probably as potential gold mineralization associated with quartz-carbon veins and silica alterations. These zones are at shallow to moderate depths.

- *Second priority targets (W#):*
- Small area (≤25 m x 35 m) anomalies exhibiting a **Well-defined** increase in IP response (>3 mV/v to 9 mV/v), by a marked relative resistivity decrease (<15,000 Ohm-meters); interpreted probably as potential gold mineralization associated with quartz-carbon veins and silica alterations.
- *Third priority targets (P#):*
  - Large area anomalies (~200 m x ≤ ~300 m) exhibiting a **Strong** IP response (>20 mV/v), with high resistivity signature (>70,000 Ohm-meters); interpreted probably as unaltered zones with weak to no mineralization, more likely contact or formational response. However, there is a potential for extension of shallower anomalies (e.g. Figure 5-9, Line L8N). The high resistivity features are potentially related to volcanic bodies or intrusive rocks or silica alterations.

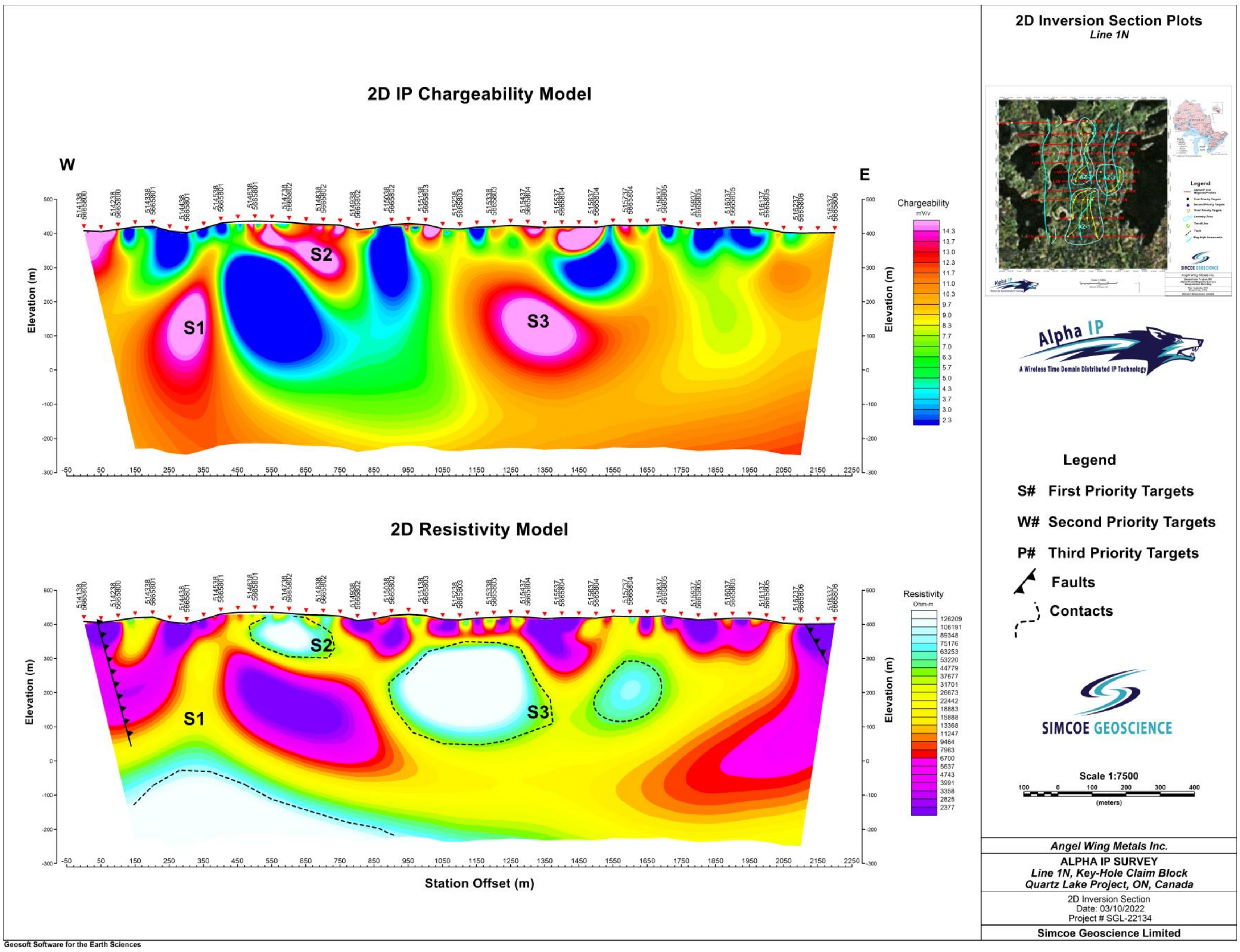


Figure 5-2: Line 1N interpreted chargeability and resistivity cross-sections.

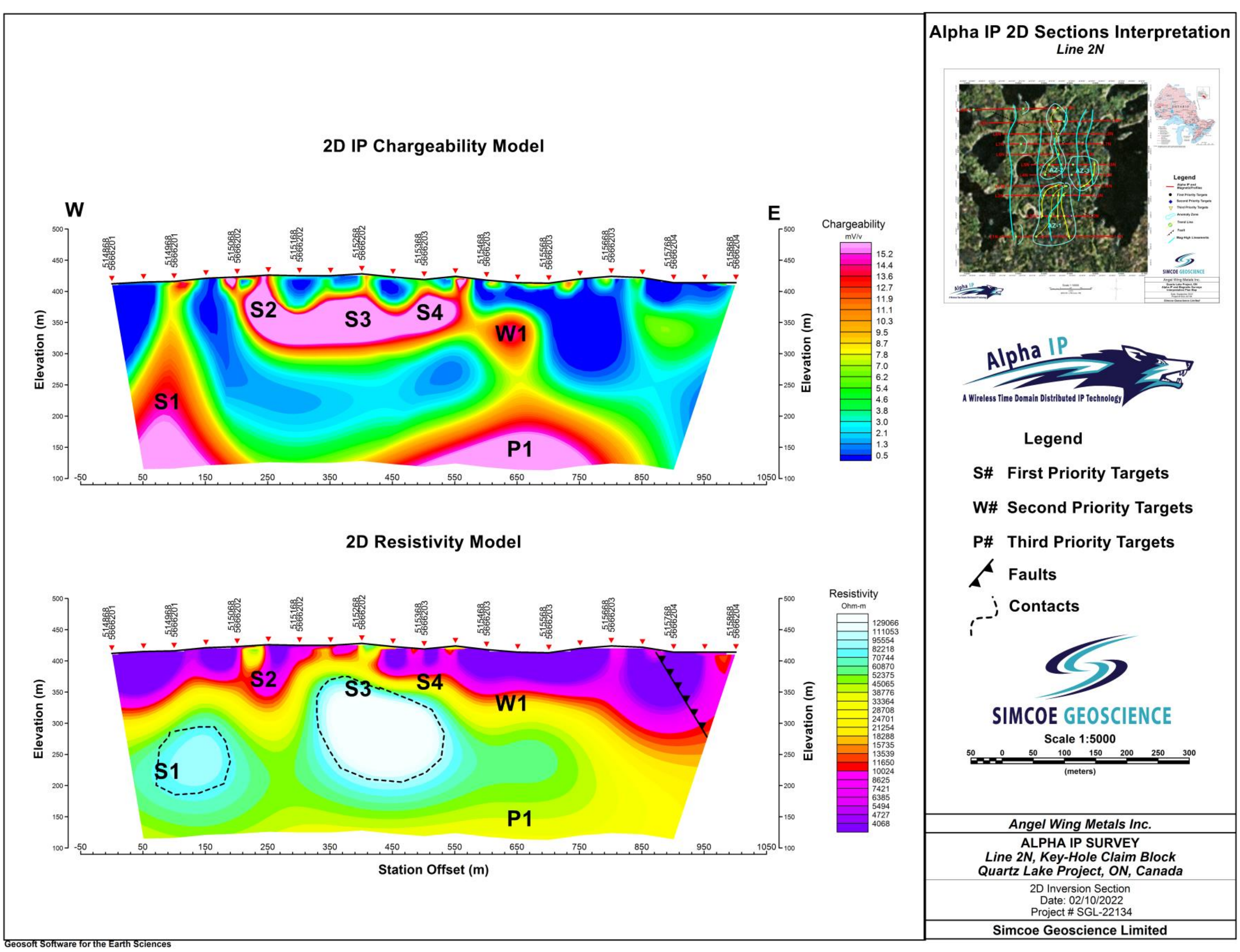


Figure 5-3: Line 2N interpreted chargeability and resistivity cross-sections.

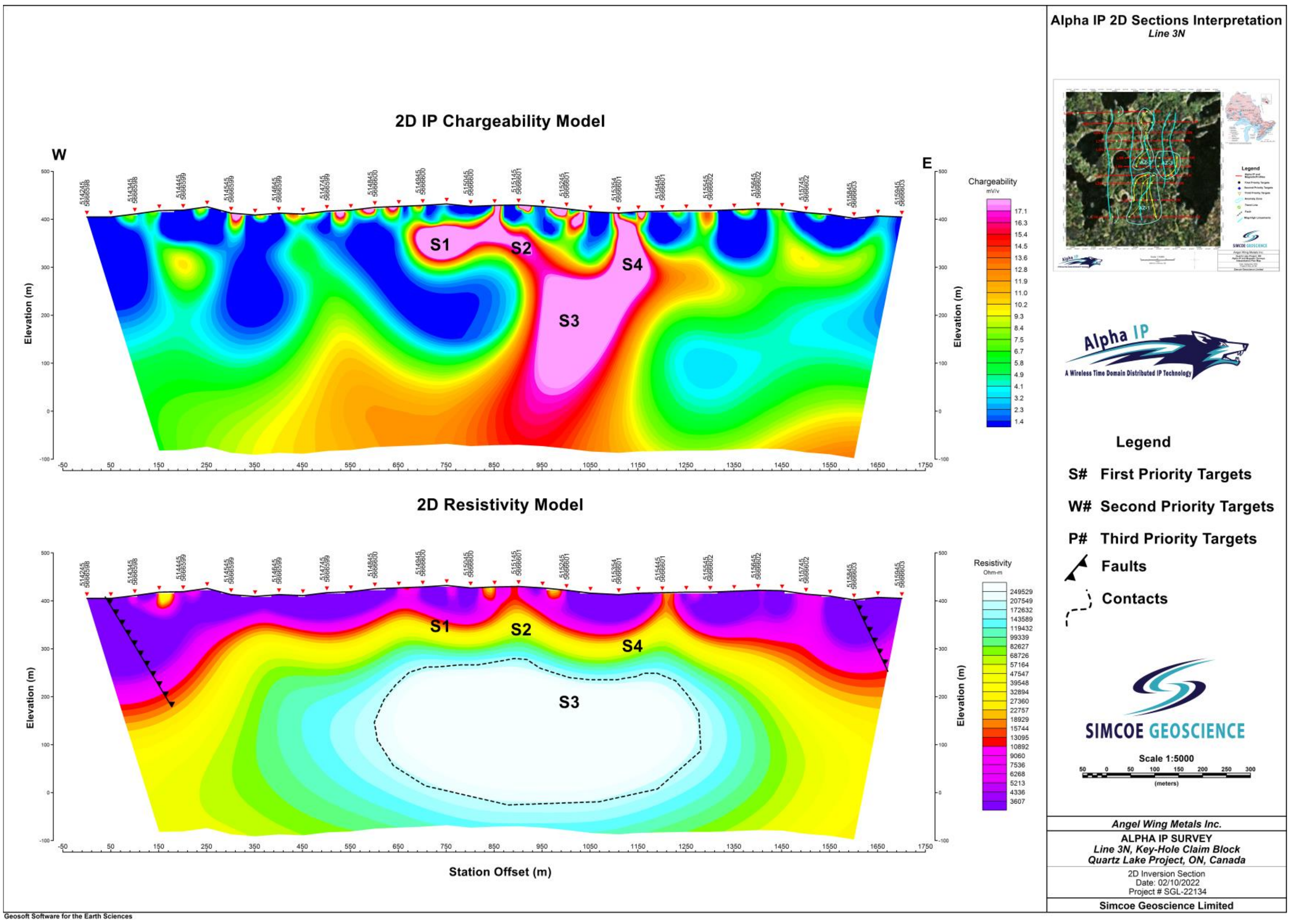


Figure 5-4: Line 3N interpreted chargeability and resistivity cross-sections.

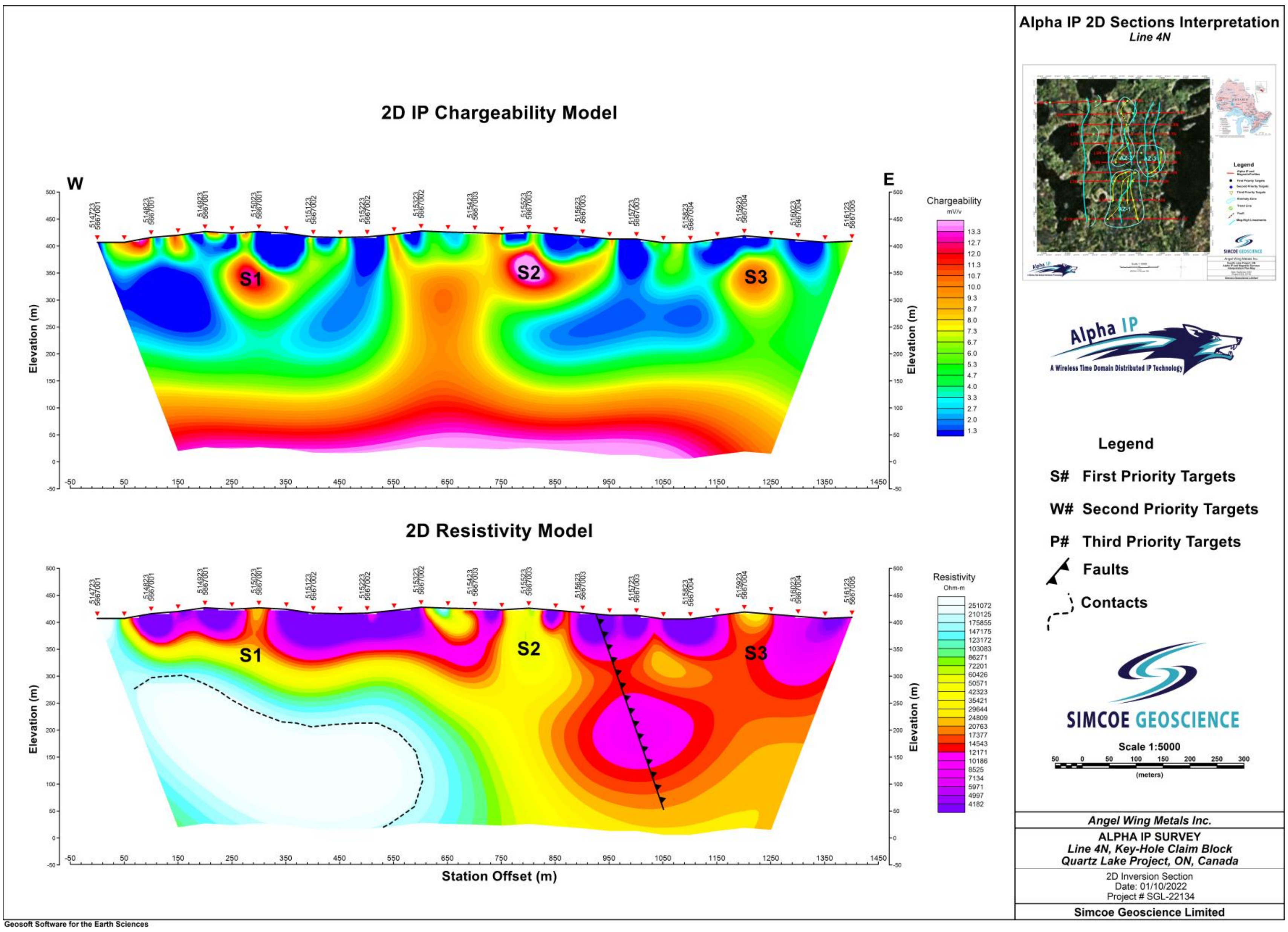


Figure 5-5: Line 4N interpreted chargeability and resistivity cross-sections.

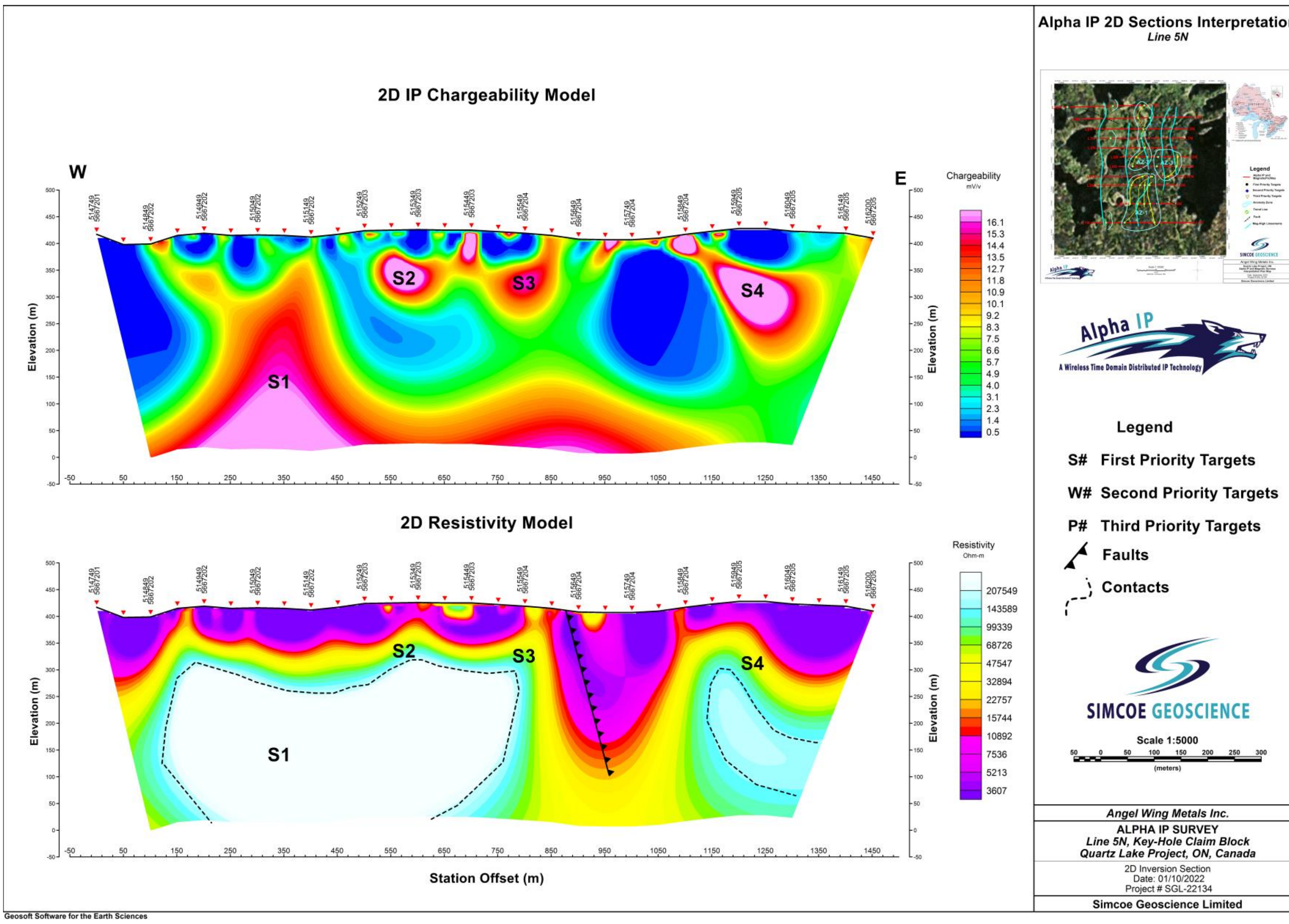


Figure 5-6: Line 5N interpreted chargeability and resistivity cross-sections.

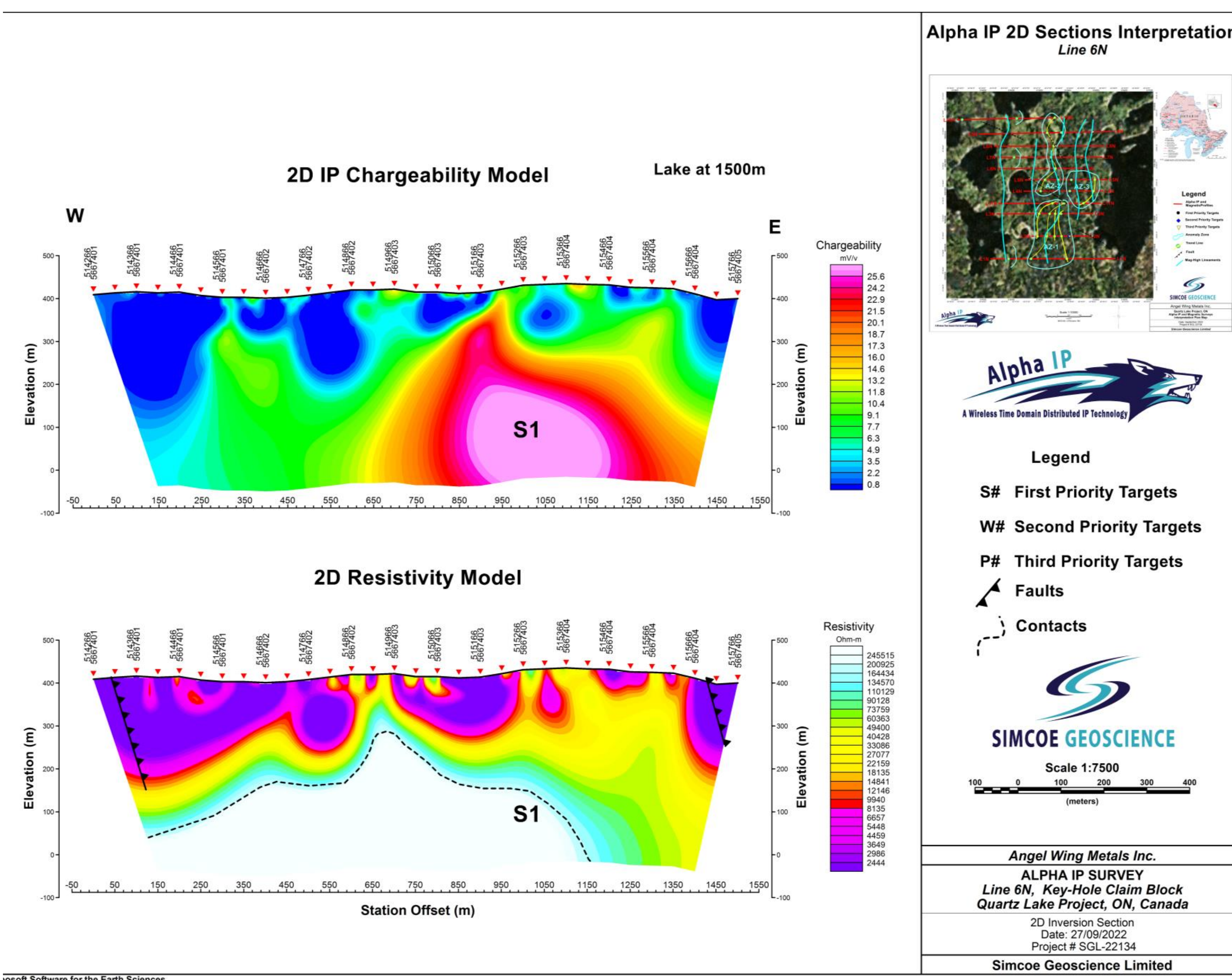


Figure 5-7: Line 6N interpreted chargeability and resistivity cross-sections.

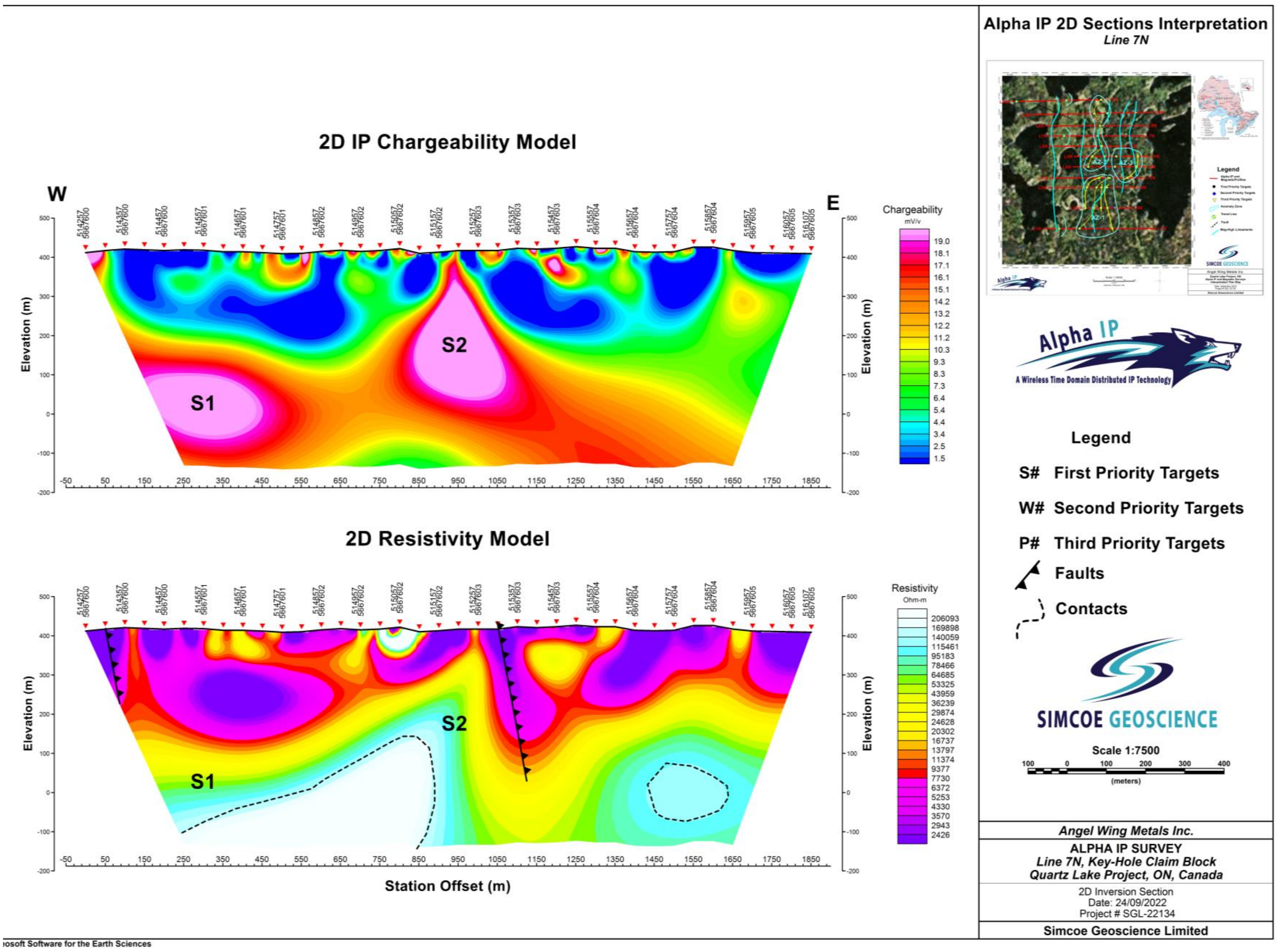


Figure 5-8: Line 7N interpreted chargeability and resistivity cross-sections.

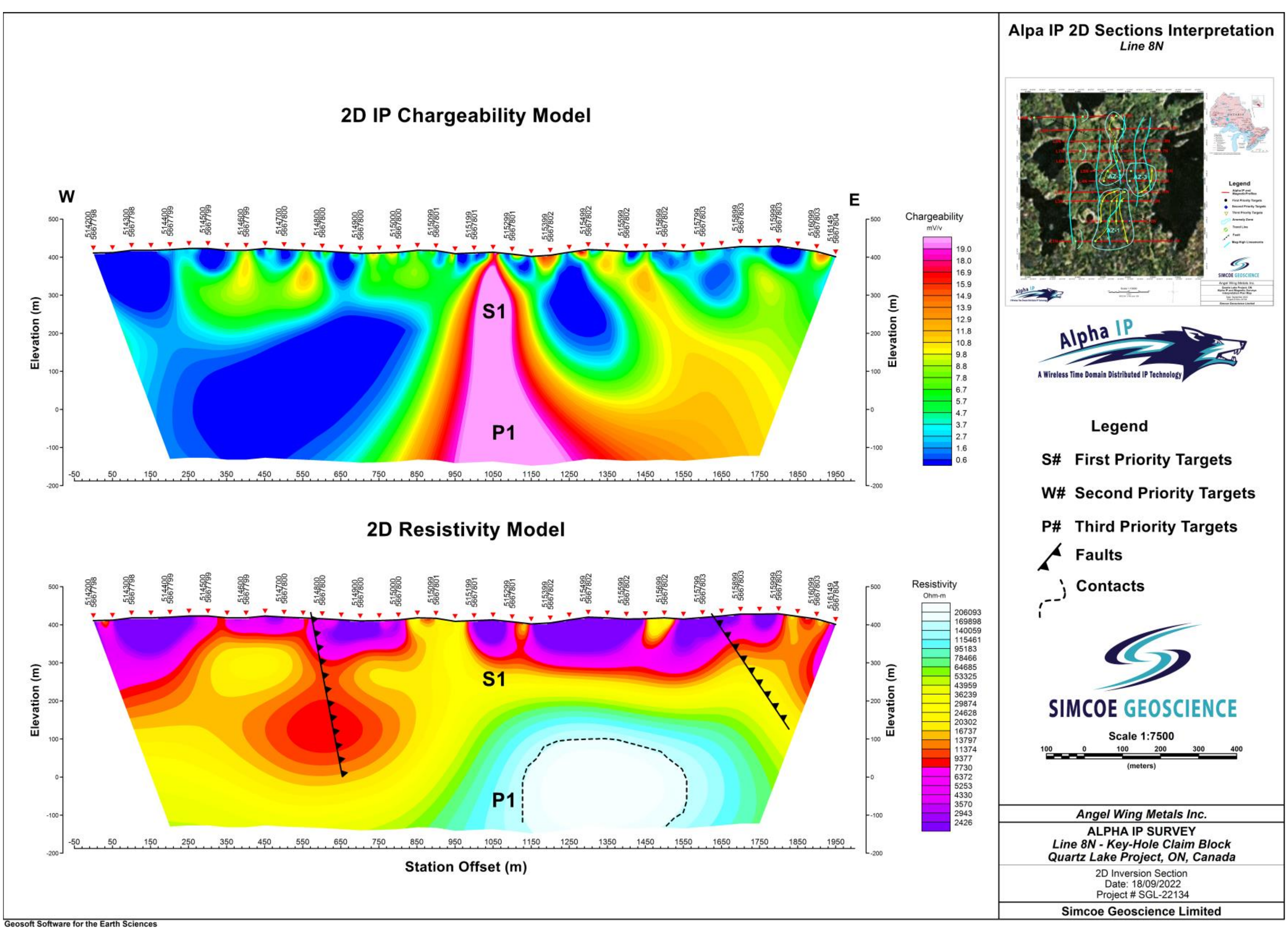


Figure 5-9: Line 8N interpreted chargeability and resistivity cross-sections.

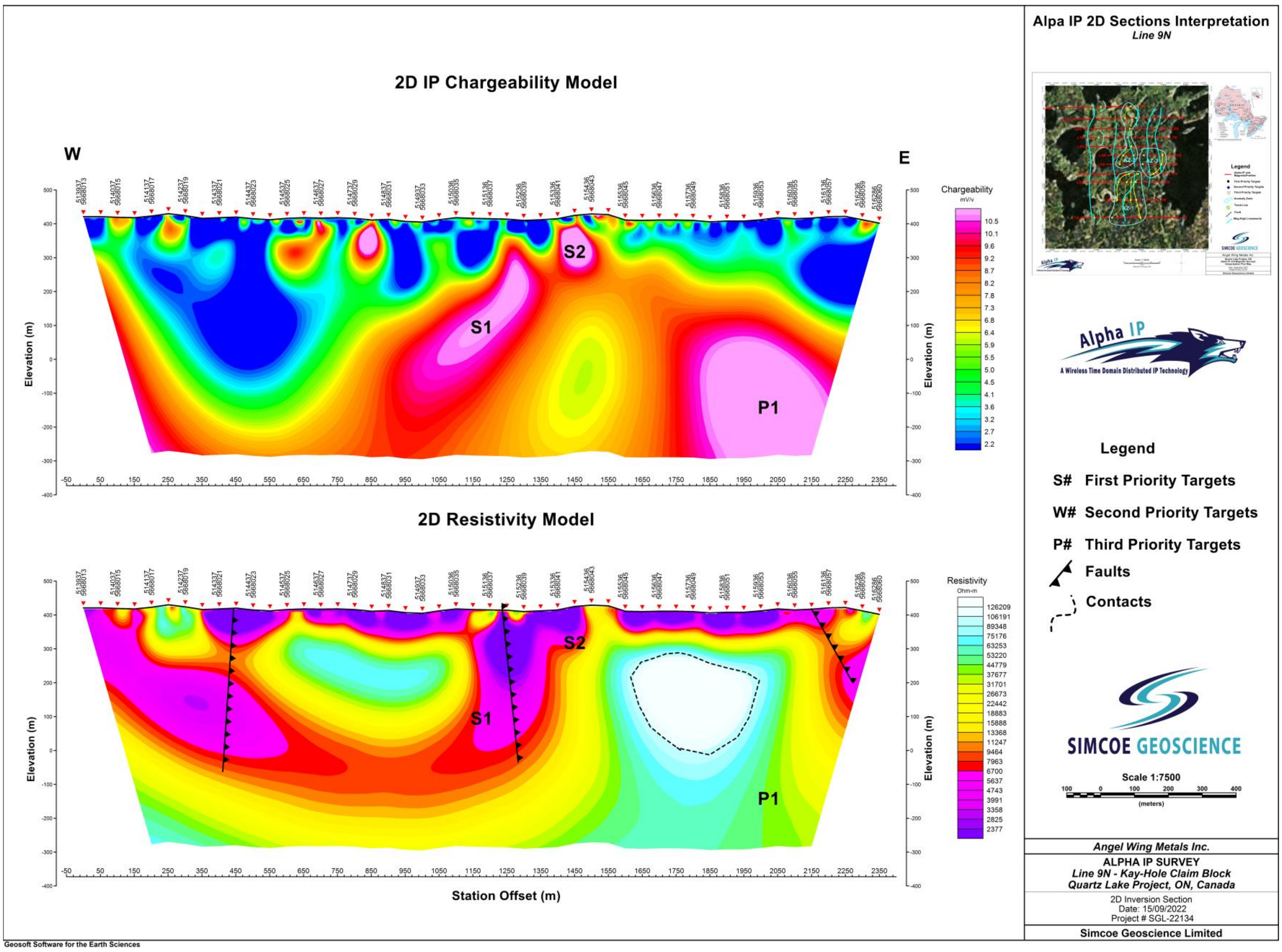


Figure 5-10: Line 9N interpreted chargeability and resistivity cross-sections.

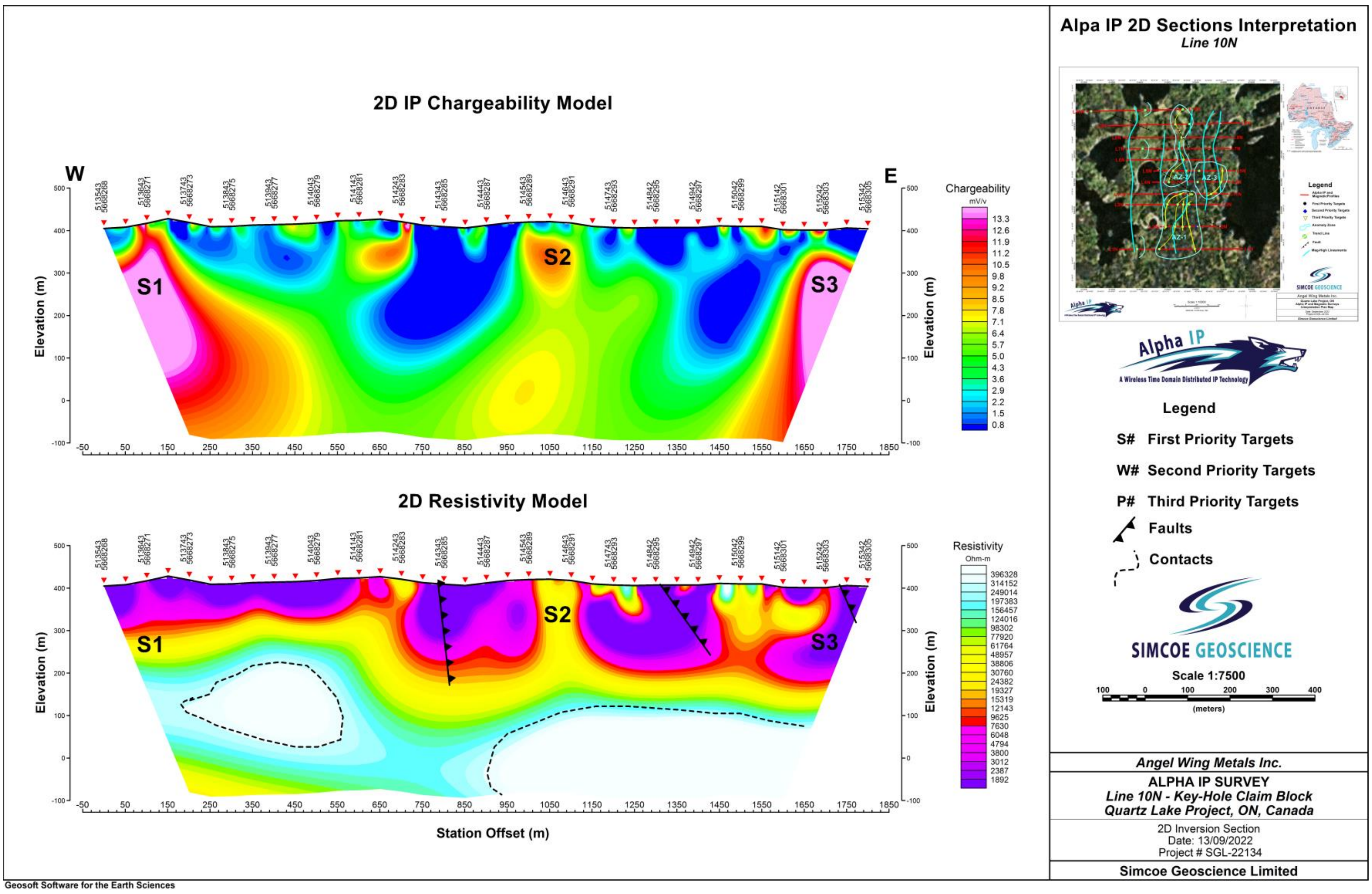


Figure 5-11: Line 10N interpreted chargeability and resistivity cross-sections.

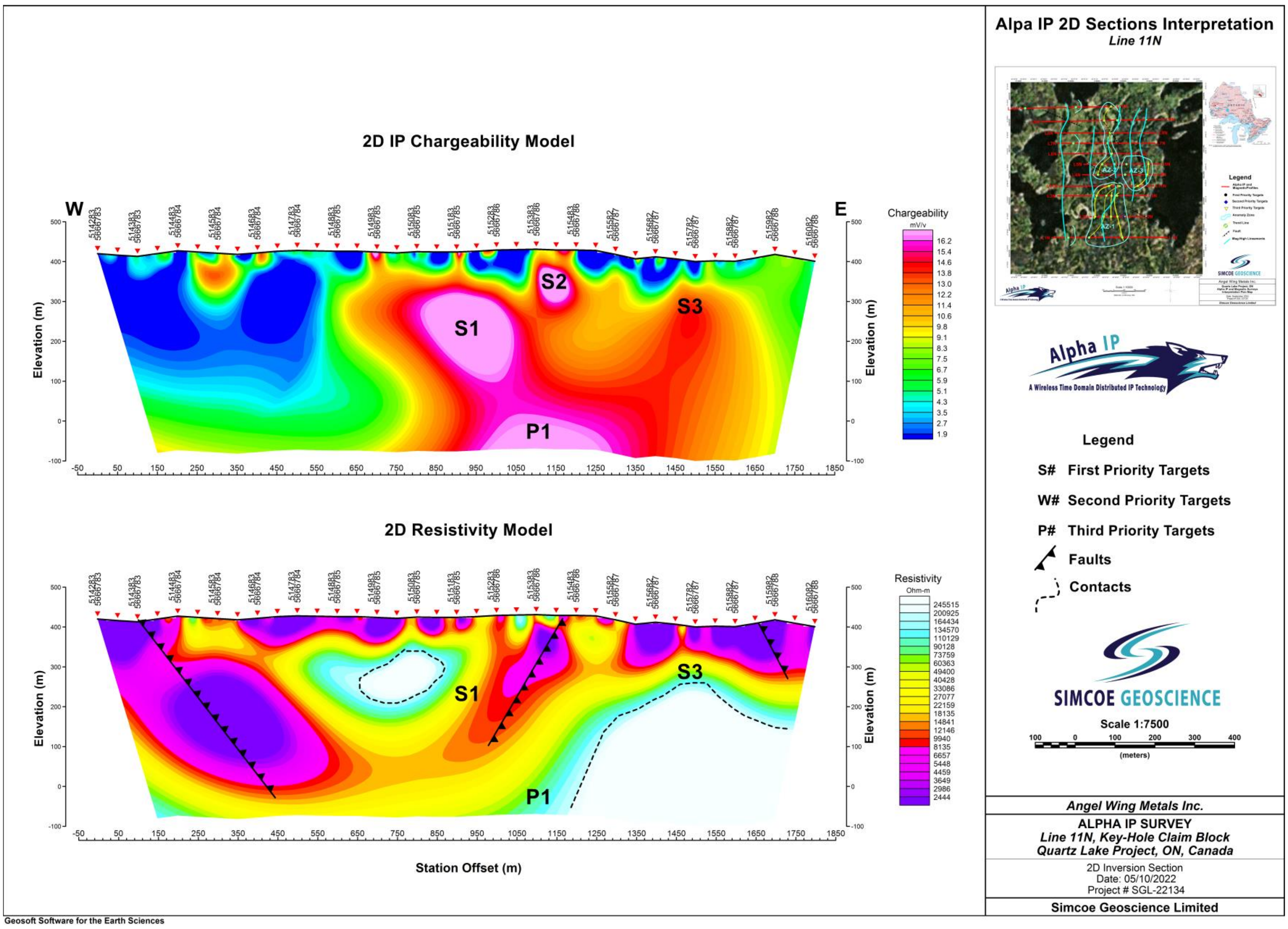


Figure 5-12: Line 11N interpreted chargeability and resistivity cross-sections.

5.2 Plan Maps Interpretation

Based on the inspection of profile-to-profile continuity of the chargeability anomalies, three (3) anomaly zones (AZ-1, AZ-2 and AZ-3) have been identified and presented in the plan maps. Figure 5-13 shows interpretation plan map with anomaly zones, priority targets and structures overlay. The interpreted chargeability anomalies overlain on the plan maps of chargeability, resistivity and magnetic depth slices at different depth levels and on selected airborne magnetic map are shown in **Error! Reference source not found.** through **Error! Reference source not found.**.

AZ-1 is the major anomalous zone covering most of the IP anomalies and located in the southern part of the survey area. This zone extends from Line, L1N to Line L5N and Line L11N, and oriented in the N-S direction. Nineteen (19) of the first priority targets are situated in this zone. Most of the anomalies are at medium depths. The near surface occurrences of these anomalies are potentially the locations of the veins. The targets are associated with moderate to high chargeability, high resistivity and moderate to high magnetic responses which are probably associated with gold mineralization in the survey area.

AZ-2 is located in the northern part of the survey area and extends from line, L4N to L10N covering nine (9) first priority targets which are situated in this anomaly zone. The zone is oriented in the North-South direction. The targets are associated with moderate to high chargeability, relatively high resistivity (less resistive than AZ-1 anomalies) and moderate to high magnetic responses which probably be associated with gold mineralization. In this zone, the resistivity becomes relatively moderate from line L6N through Line L10N.

AZ-3 is located in the east part of the survey area and extends between three lines, L11N, L4N and L5N covering five (5) first priority targets which are situated in this anomaly zone. The targets in this zone are associated with moderate to high chargeability, relatively high resistivity and high magnetic.

The ground magnetic map depicts north-south trending magnetic lineaments and faults in the survey area. In the anomaly zones, the selected targets follow moderate to high chargeability, moderate to high resistivity and moderate to high magnetic linear structures or lineaments (probably the unconformities) that trend in the North-South direction in the survey area which probably associated with gold mineralization.

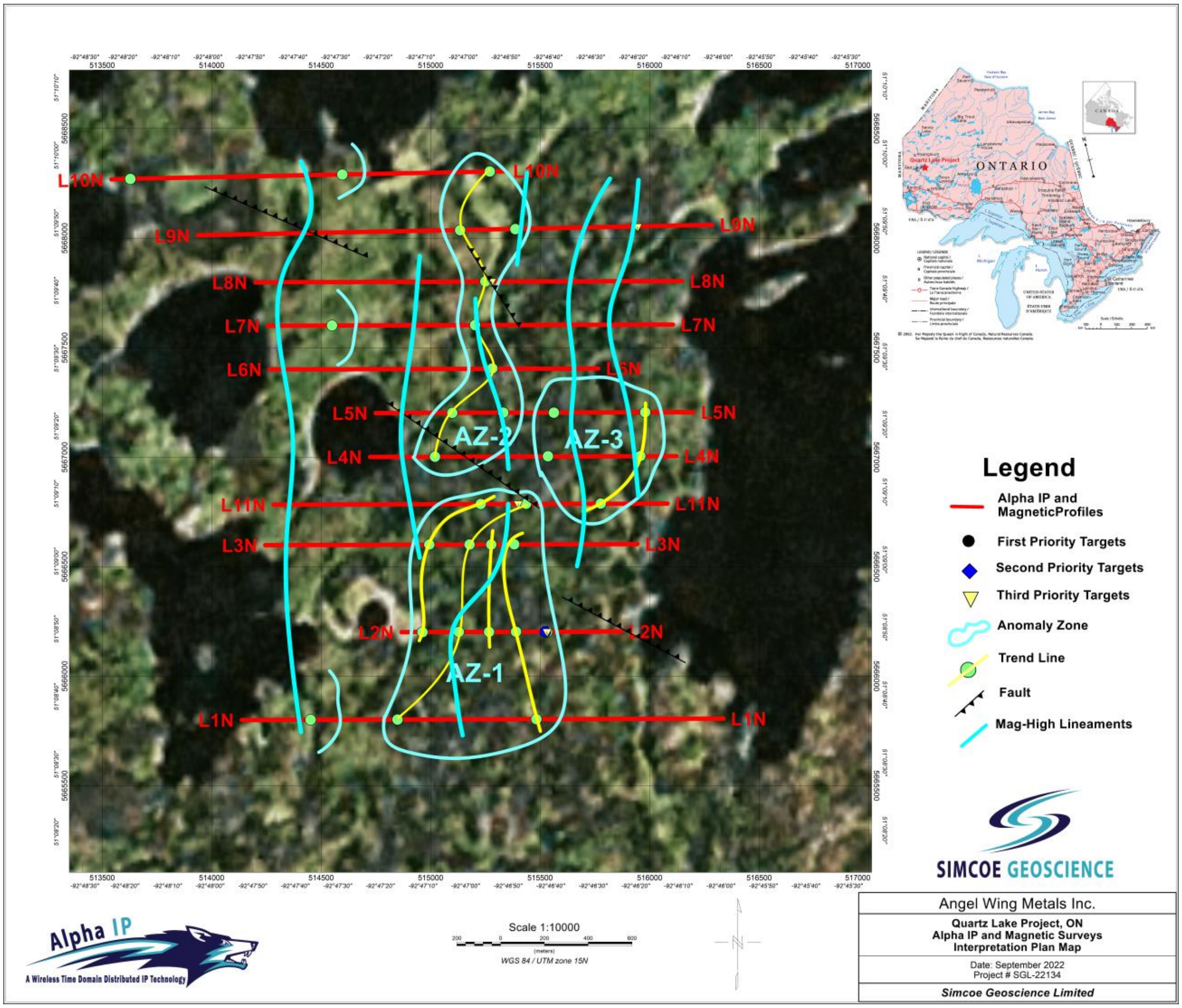


Figure 5-13: Interpretation Plan Map with Anomaly Zones, Priority Targets and Structures Overlay.

Error! Reference source not found. below shows the summary of interpreted geophysical anomalies for Quartz Lake Project.

Table 4: Quartz Lake Project Geophysical Anomaly Interpretation Summary Table

Line	Easting	Northing	Surface Elevation (m)	ID	Priority	Target Depth (m)	Target Elevation (m)	Chargeability	Resistivity	Magnetic	Structure
L1N	514452	5665801	405	S1	1st	251	154	Moderate	High	High	
L1N	514849	5665802	418	S2	1st	84	334	Moderate	High	Moderate	
L1N	515483	5665804	411	S3	1st	266	145	Moderate	High	low	
L2N	514963	5666201	407	S1	1st	232	175	Moderate	High	Moderate	
L2N	515129	5666202	419	S2	1st	45	374	Moderate	Moderate	Moderate	
L2N	515267	5666202	419	S3	1st	58	361	Moderate	High	Moderate	
L2N	515390	5666203	412	S4	1st	39	373	Moderate	High	Moderate	
L2N	515524	5666203	408	W1	2nd	70	338	Moderate	High	low	
L2N	515532	5666203	408	P1	3rd	285	123	Moderate	High	low	
L3N	514994	5666601	417	S1	1st	54	363	Moderate	High	Moderate	
L3N	515178	5666601	418	S2	1st	83	335	Moderate	High	Moderate	
L3N	515277	5666601	414	S3	1st	202	212	Moderate	High	High	
L3N	515382	5666602	415	S4	1st	70	345	Moderate	High	High	
L4N	515020	5667002	416	S1	1st	69	347	Moderate	High	low	
L4N	515536	5667004	419	S2	1st	57	362	Moderate	High	Moderate	
L4N	515958	5667005	407	S3	1st	63	344	Moderate	High	High	Fault
L5N	515099	5667202	408	S1	1st	289	119	Moderate	High	Moderate	
L5N	515332	5667203	415	S2	1st	65	350	Moderate	High	High	
L5N	515563	5667203	413	S3	1st	79	334	Moderate	High	Moderate	
L5N	515980	5667205	412	S4	1st	86	326	Moderate	High	Moderate	
L6N	515282	5667405	419	S1	1st	336	83	Strong	High	High	
L7N	514550	5667601	415	S1	1st	371	44	Moderate	Low	Moderate	
L7N	515203	5667603	408	S2	1st	207	201	Moderate	Low	High	
L8N	515250	5667802	409	S1	1st	121	288	Strong	High	low	
L8N	515279	5667802	409	P1	3rd	394	15	Strong	High	low	
L9N	515135	5668036	414	S1	1st	285	129	Moderate	Moderate	low	Fault
L9N	515387	5668041	413	S2	1st	71	342	Moderate	Moderate	High	Fault
L9N	515945	5668052	406	P1	3rd	513	-107	Moderate	High	High	
L10N	513629	5668270	412	S1	1st	181	231	Moderate	High	High	
L10N	514597	5668290	415	S2	1st	69	346	Moderate	High	High	Bounded by Fault
L10N	515270	5668304	401	S3	1st	171	230	Moderate	Low	High	Bounded by Fault
L11N	515229	5666786	417	S1	1st	169	248	Moderate	High	Moderate	Fault
L11N	515436	5666787	420	S2	1st	66	354	Moderate	Moderate	low	
L11N	515777	5666788	403	S3	1st	106	297	Moderate	High	High	
L11N	515400	5666787	420	P1	3rd	480	-60	Moderate	High	Moderate	

The selected targets and anomaly zones over chargeability at different elevations (375 m through -25 m) with 50 m decrements are shown in Figure 5-14 through Figure 5-22.

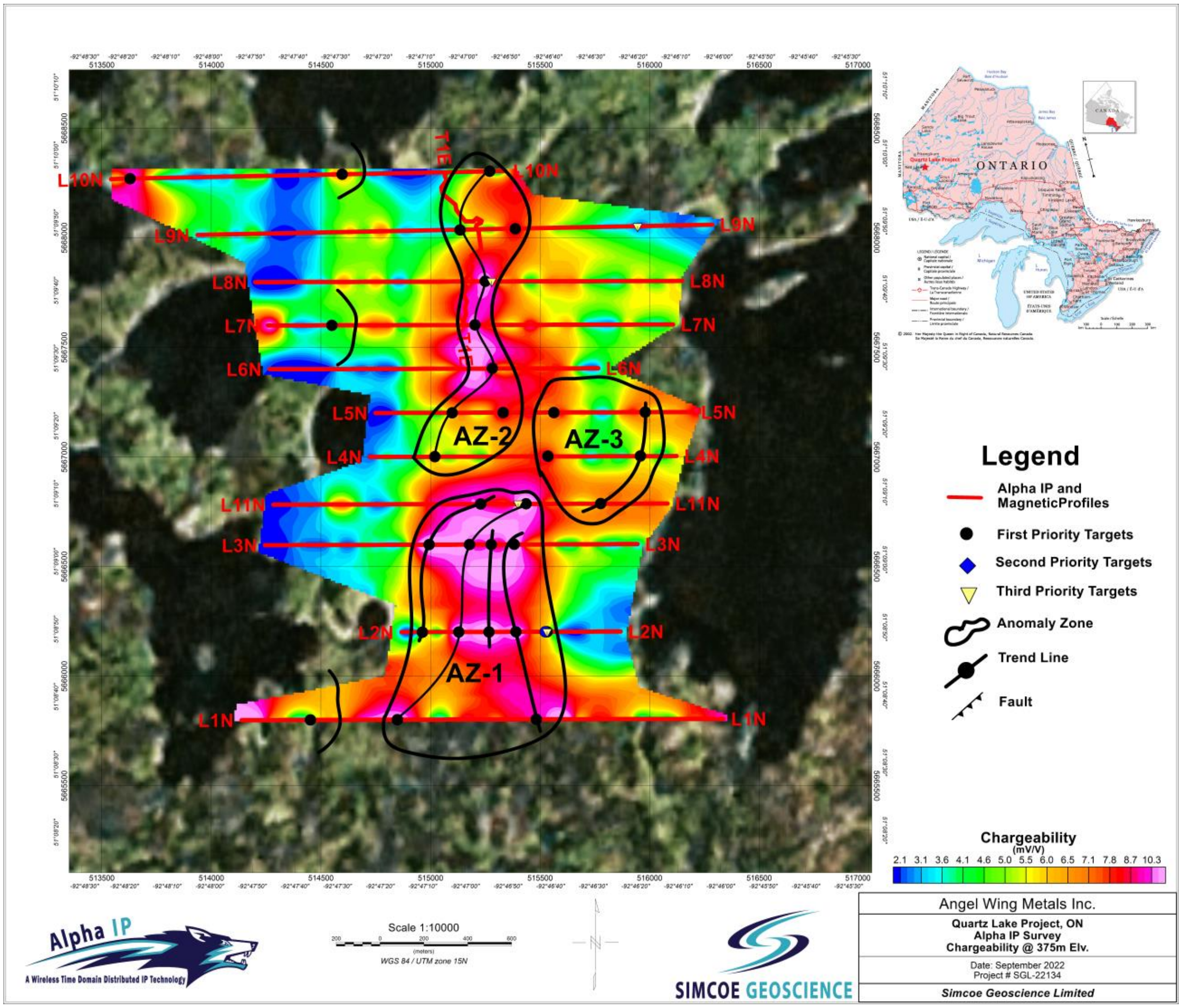


Figure 5-14: Selected Targets and Anomaly Zones over Chargeability at Elevation 375 m Depth Slice.

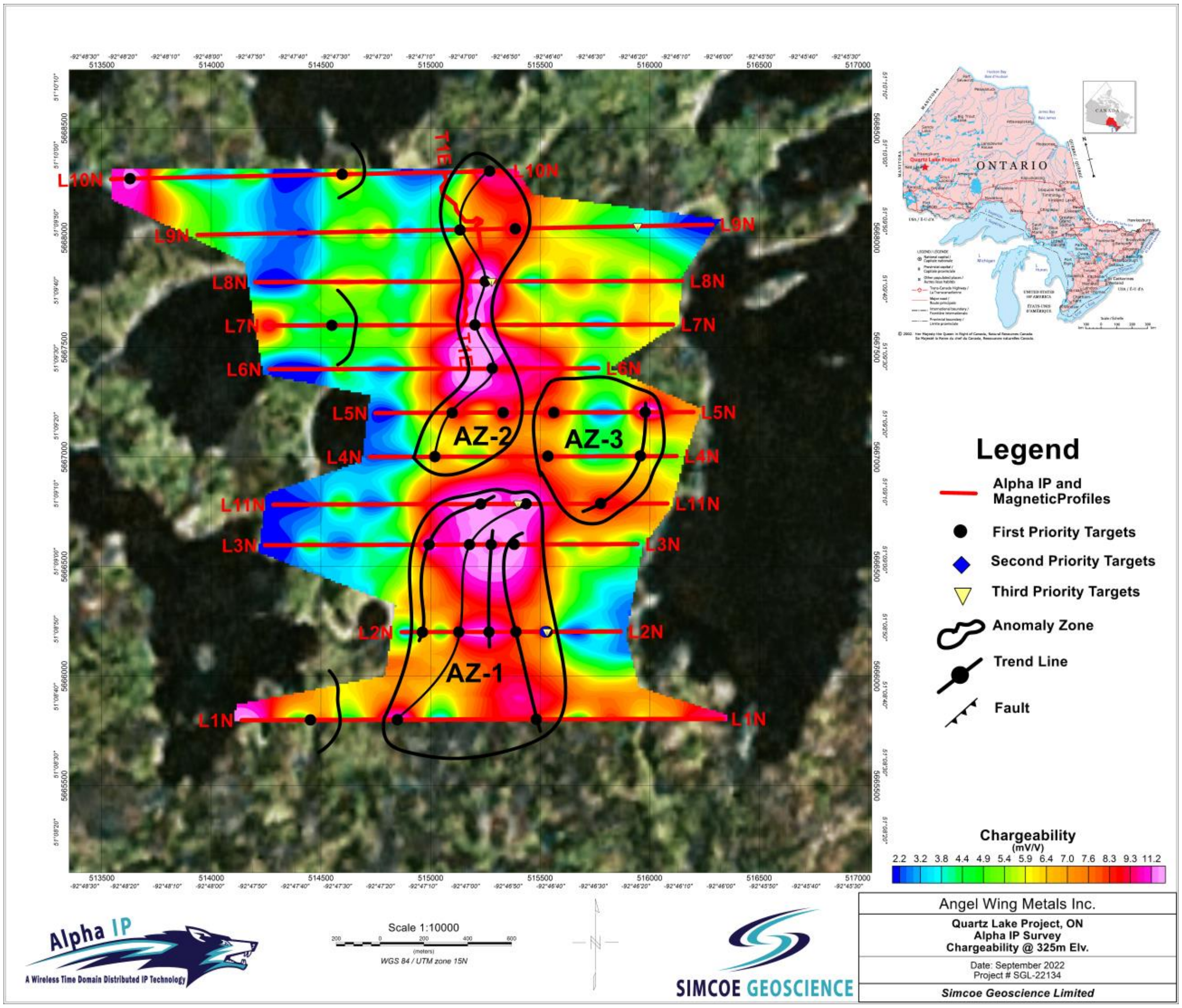


Figure 5-15: Selected Targets and Anomaly Zones over Chargeability at Elevation 325 m Depth Slice.

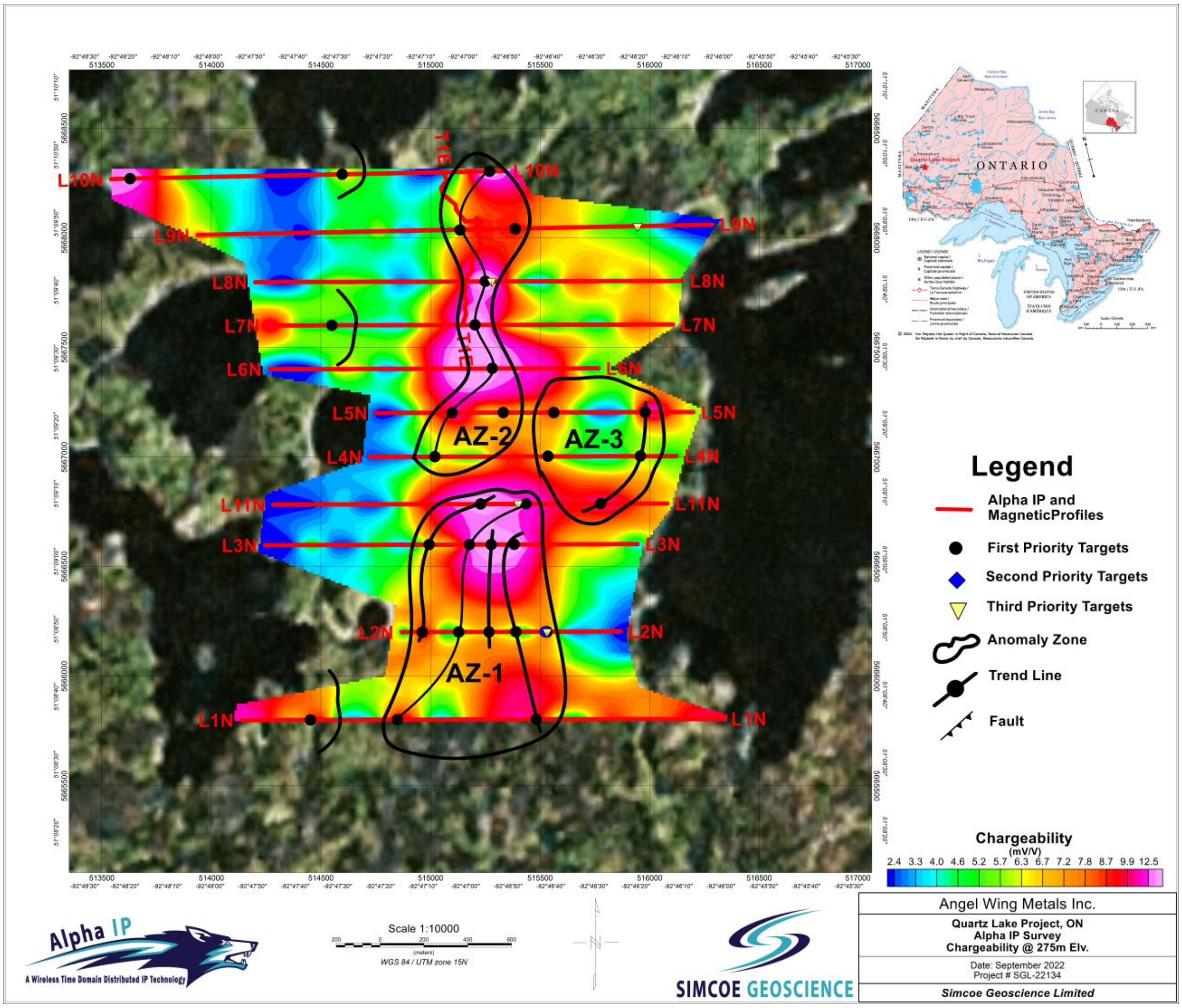


Figure 5-16: Selected Targets and Anomaly Zones over Chargeability at Elevation 275 m Depth Slice.

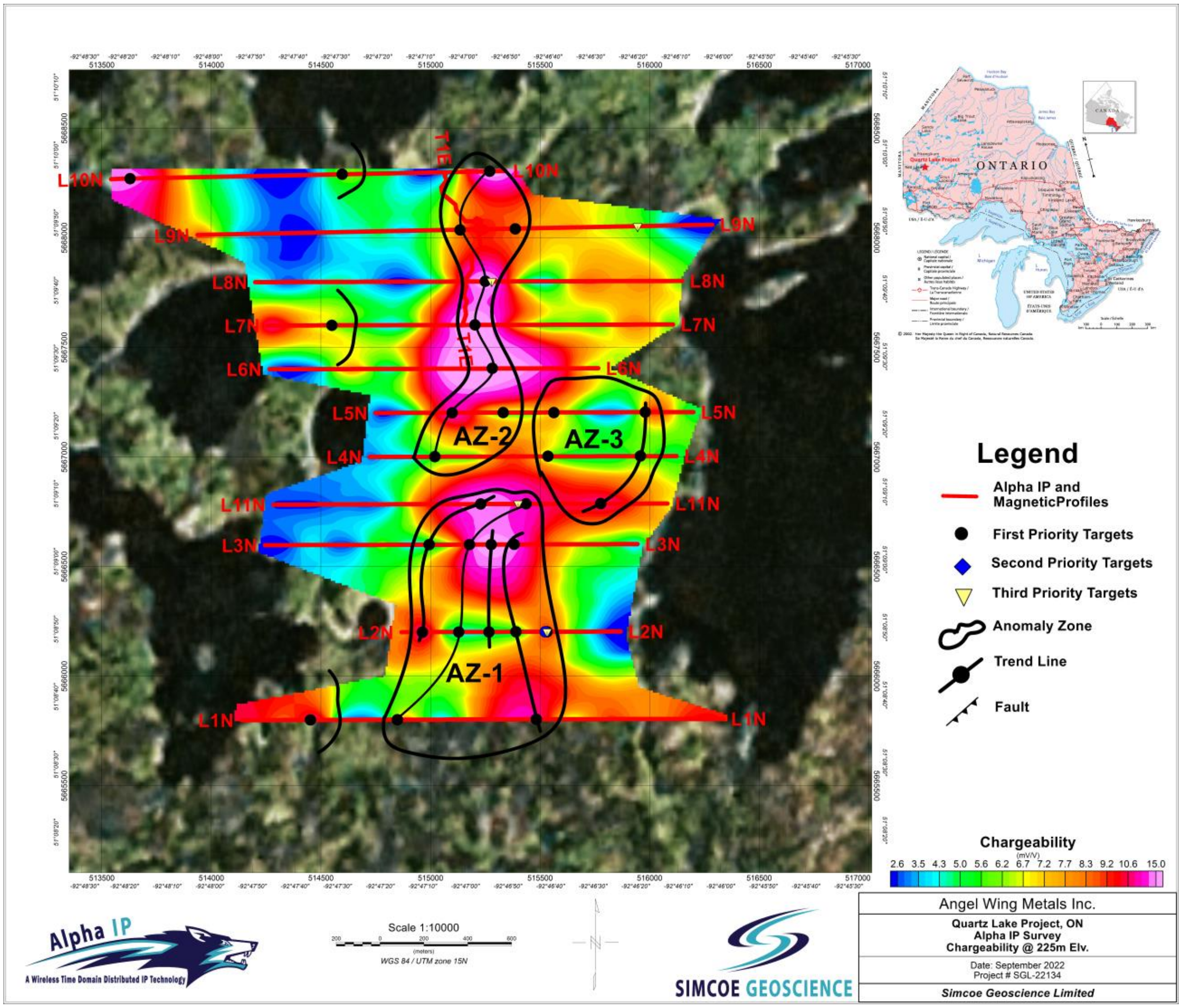


Figure 5-17: Selected Targets and Anomaly Zones over Chargeability at Elevation 225 m Depth Slice.

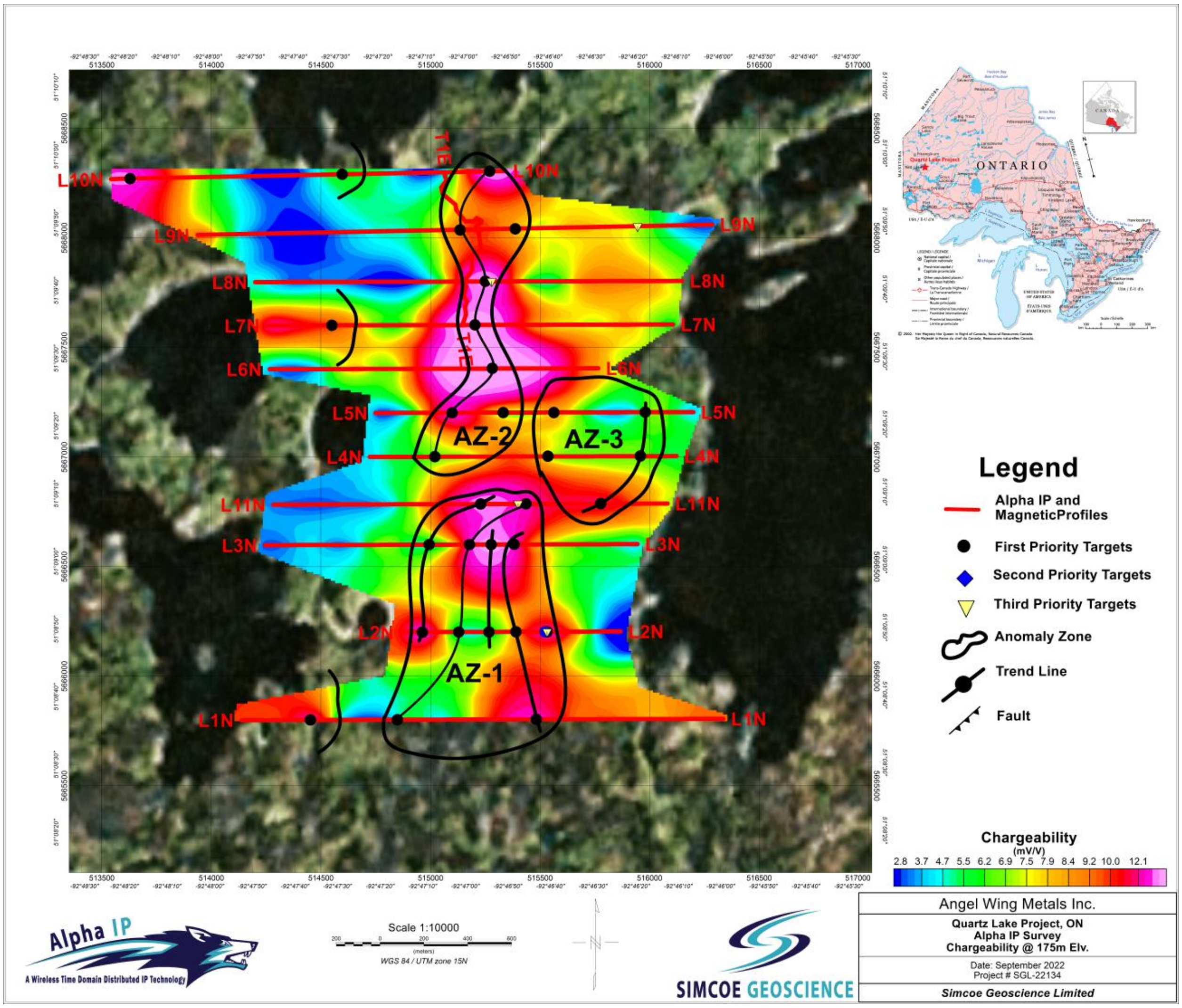


Figure 5-18: Selected Targets and Anomaly Zones over Chargeability at Elevation 175 m Depth Slice.

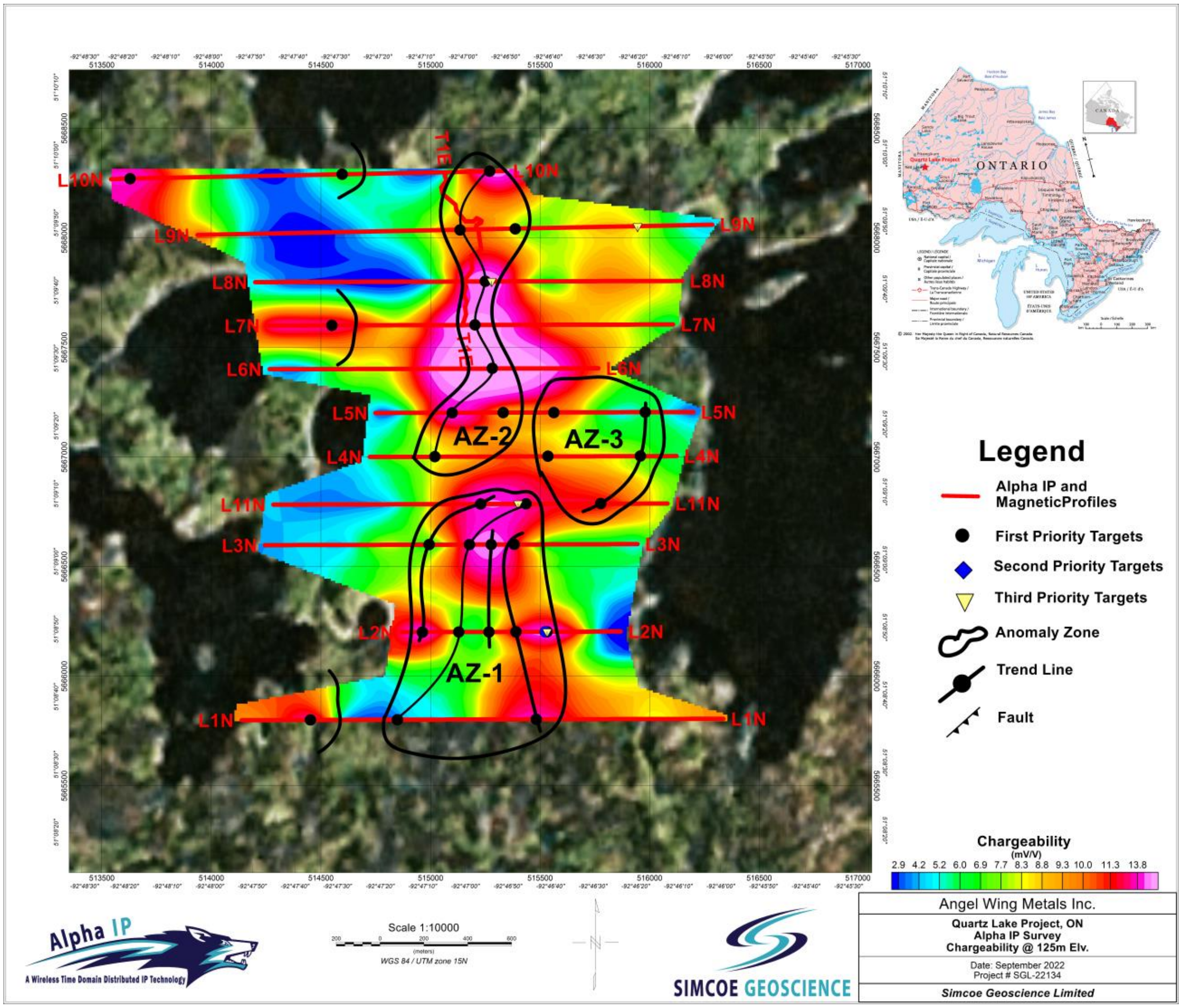


Figure 5-19: Selected Targets and Anomaly Zones over Chargeability at Elevation 125 m Depth Slice.

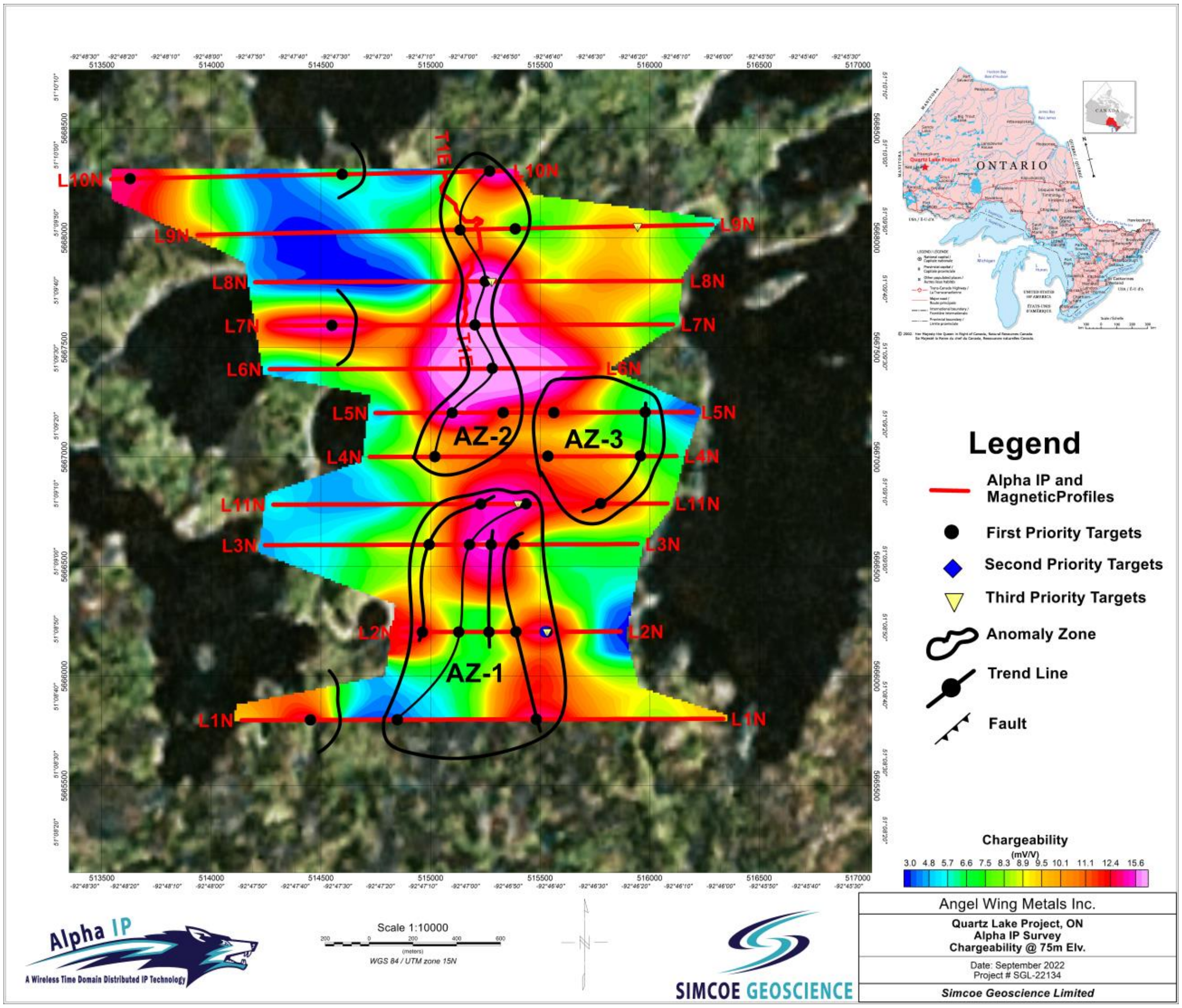


Figure 5-20: Selected Targets and Anomaly Zones over Chargeability at Elevation 75 m Depth Slice.

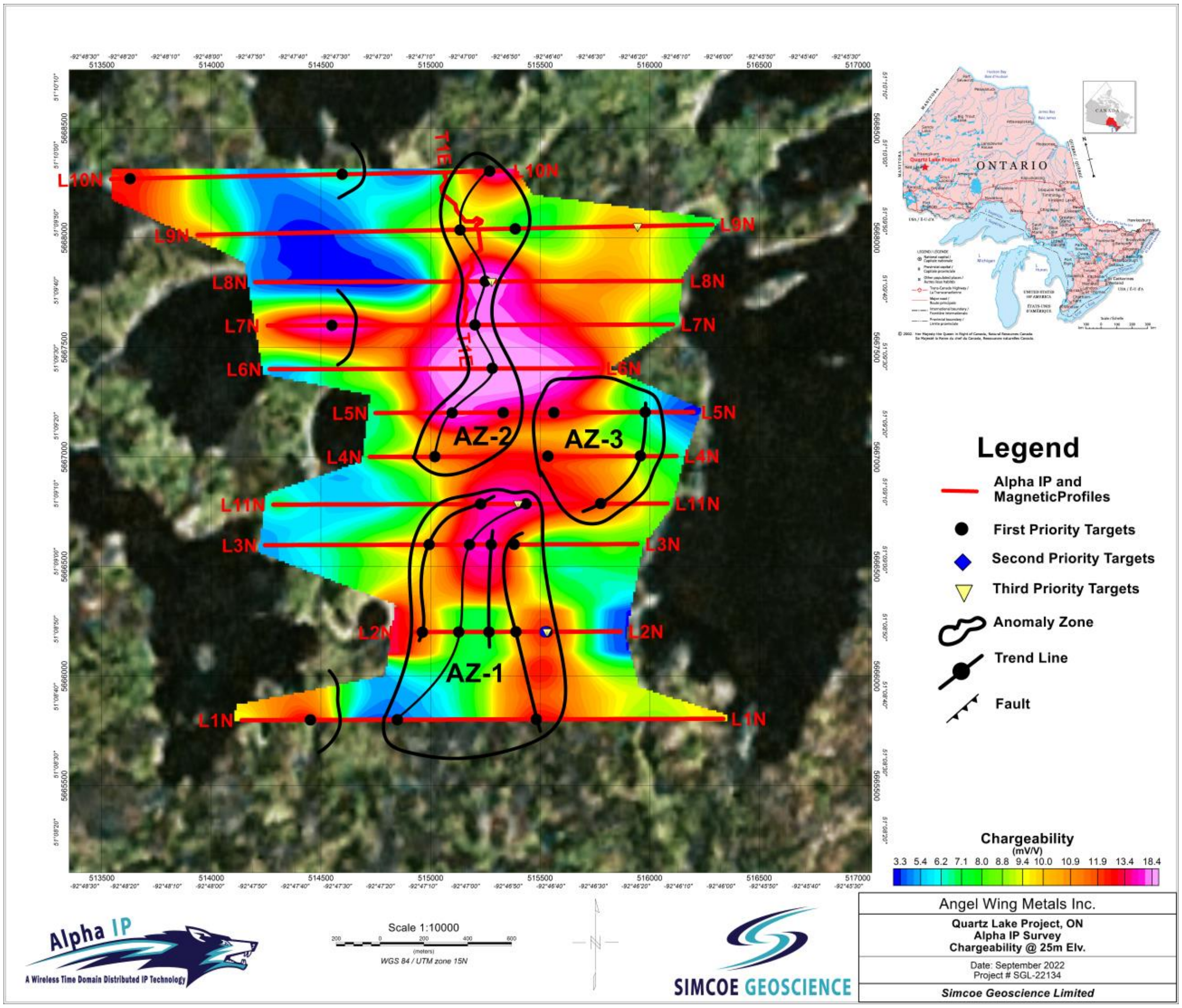


Figure 5-21: Selected Targets and Anomaly Zones over Chargeability at Elevation 25 m Depth Slice.

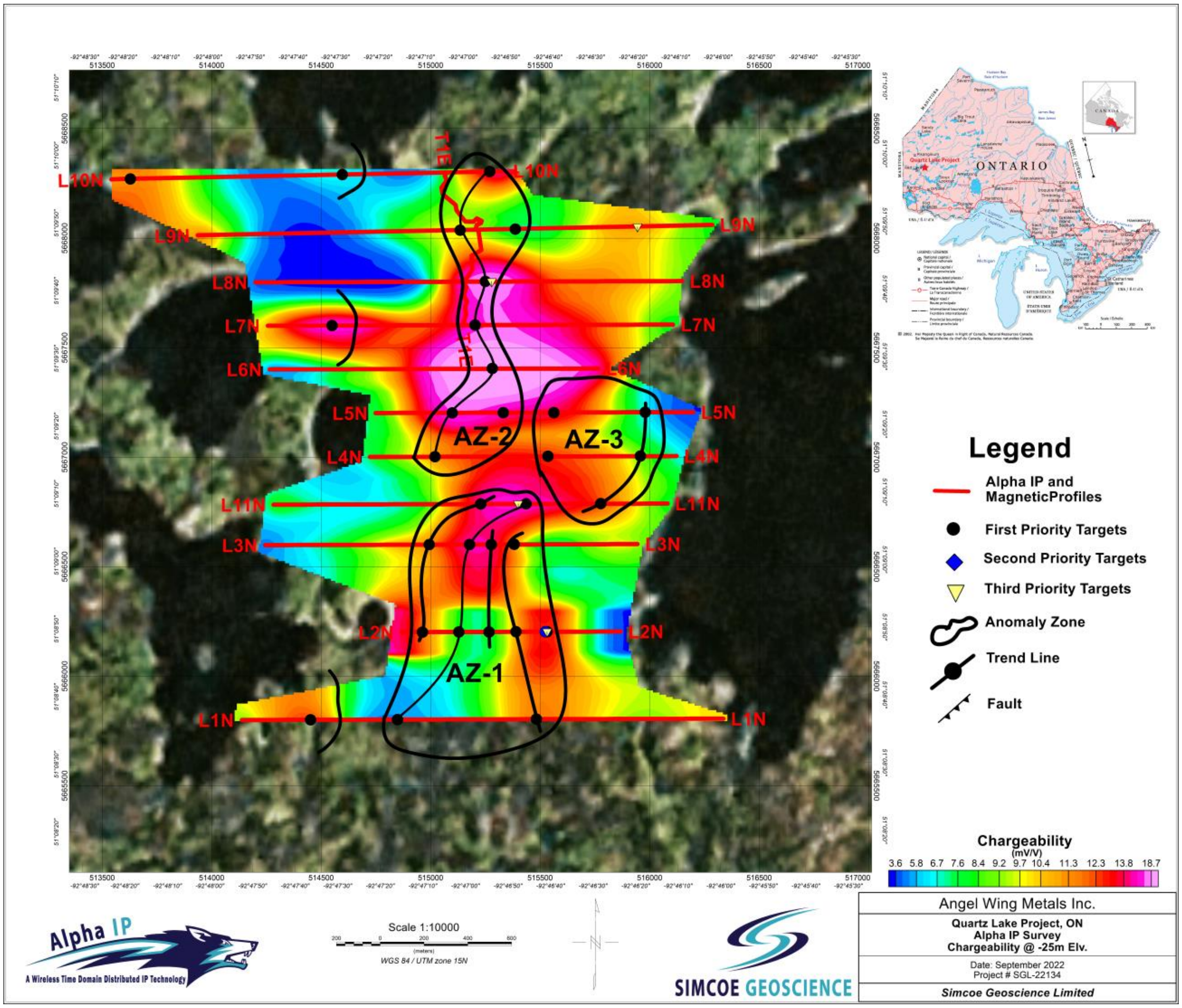


Figure 5-22: Selected Targets and Anomaly Zones over Chargeability at Elevation - 25 m Depth Slice.

The selected targets and anomaly zones over resistivity at different elevations (from 375 m through -25 m) with 50 m decrements are shown in Figure 5-23 through Figure 5-31.

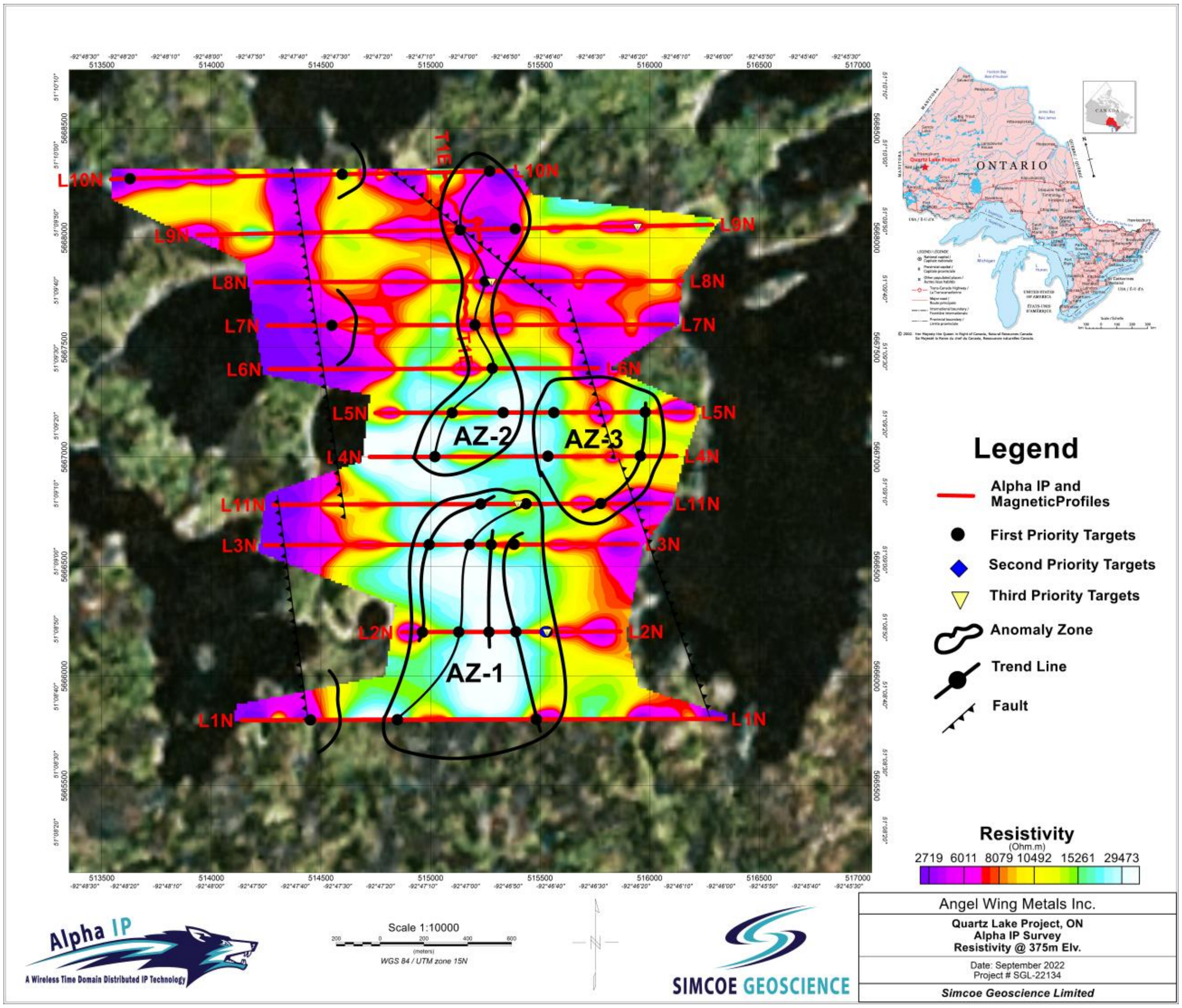


Figure 5-23: Selected Targets and Anomaly Zones over resistivity at Elevation 375 m Depth Slice.

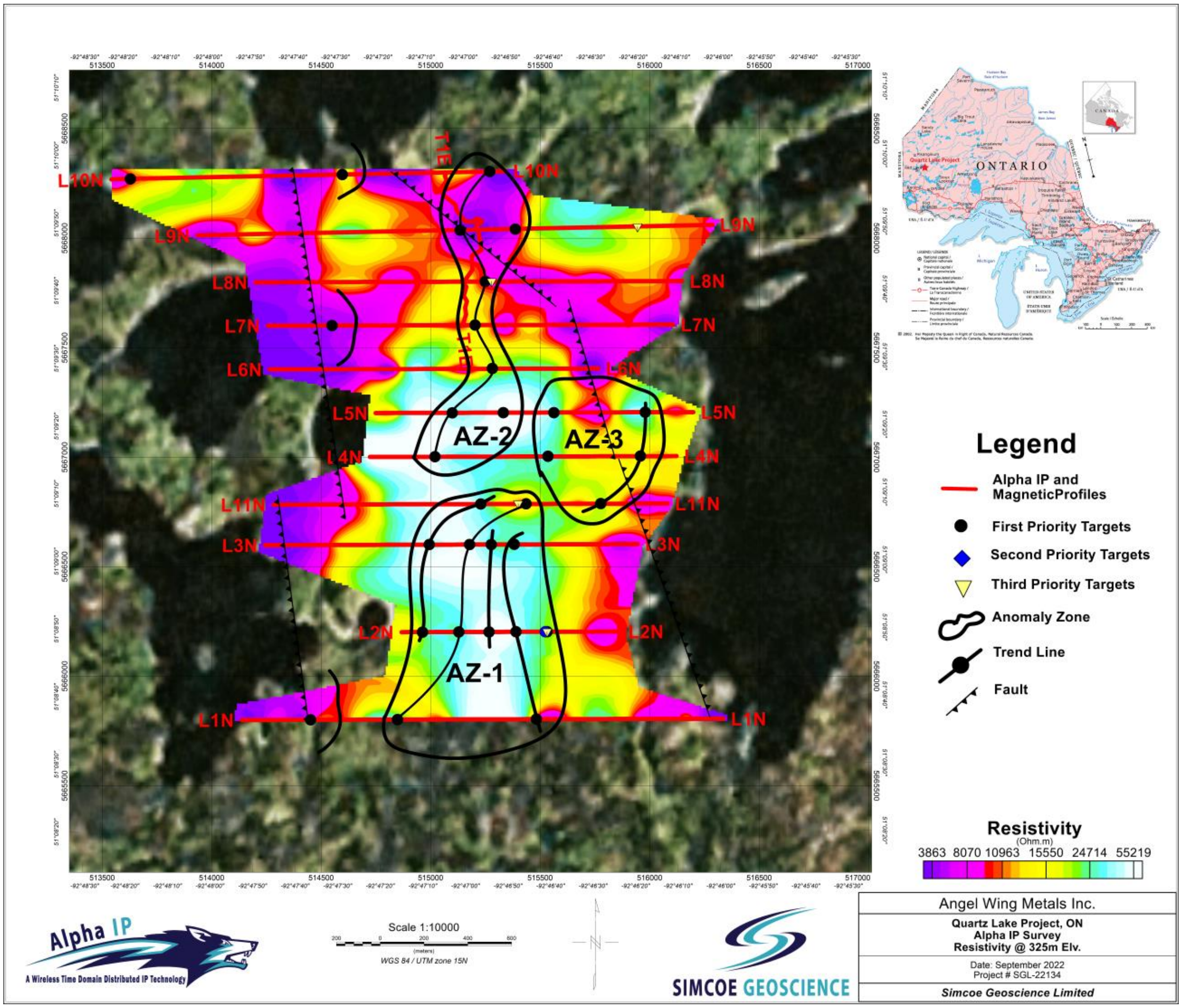


Figure 5-24: Selected Targets and Anomaly Zones over resistivity at Elevation 325 m Depth Slice.

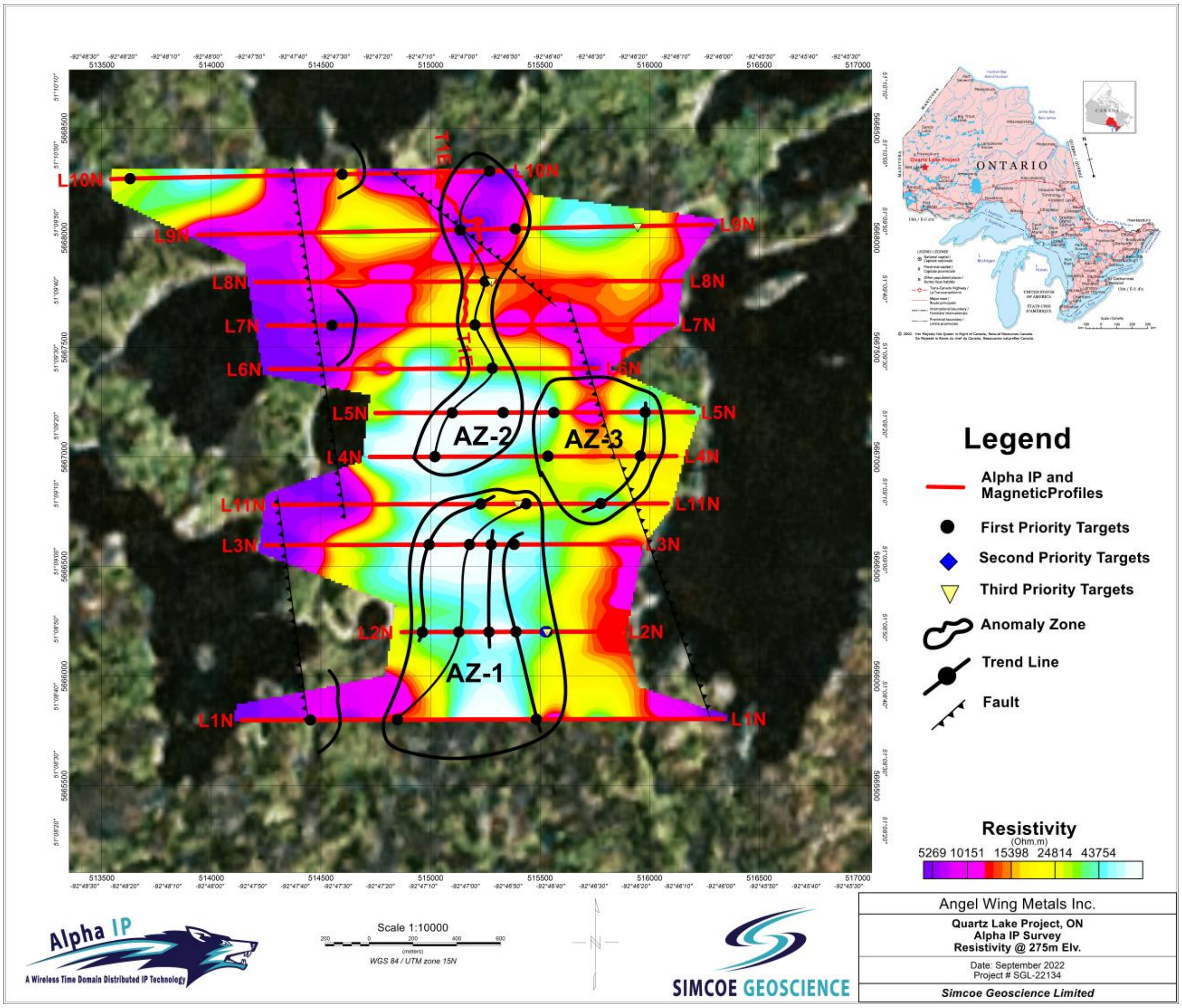


Figure 5-25: Selected Targets and Anomaly Zones over resistivity at Elevation 275 m Depth Slice.

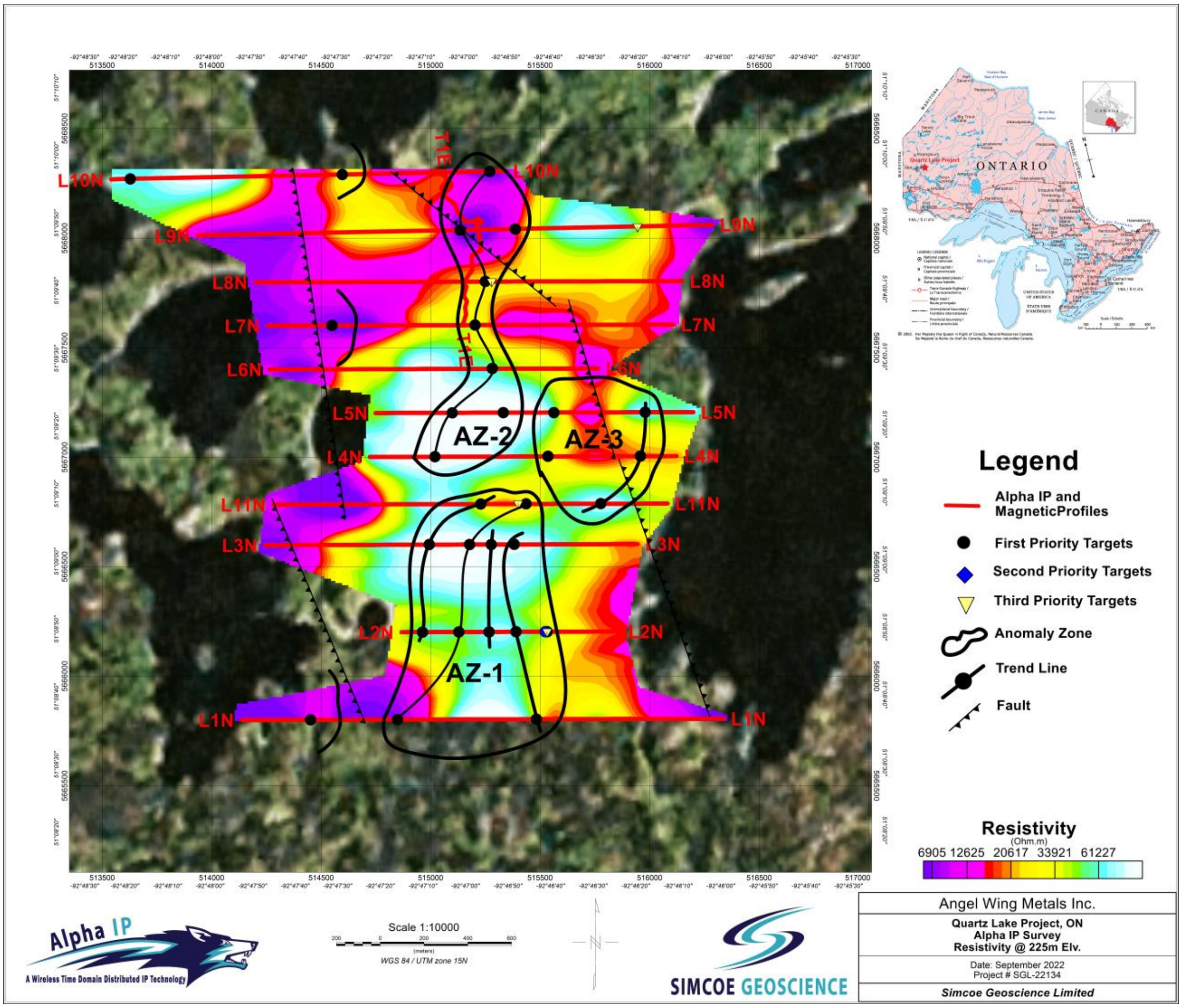


Figure 5-26: Selected Targets and Anomaly Zones over resistivity at Elevation 225 m Depth Slice.

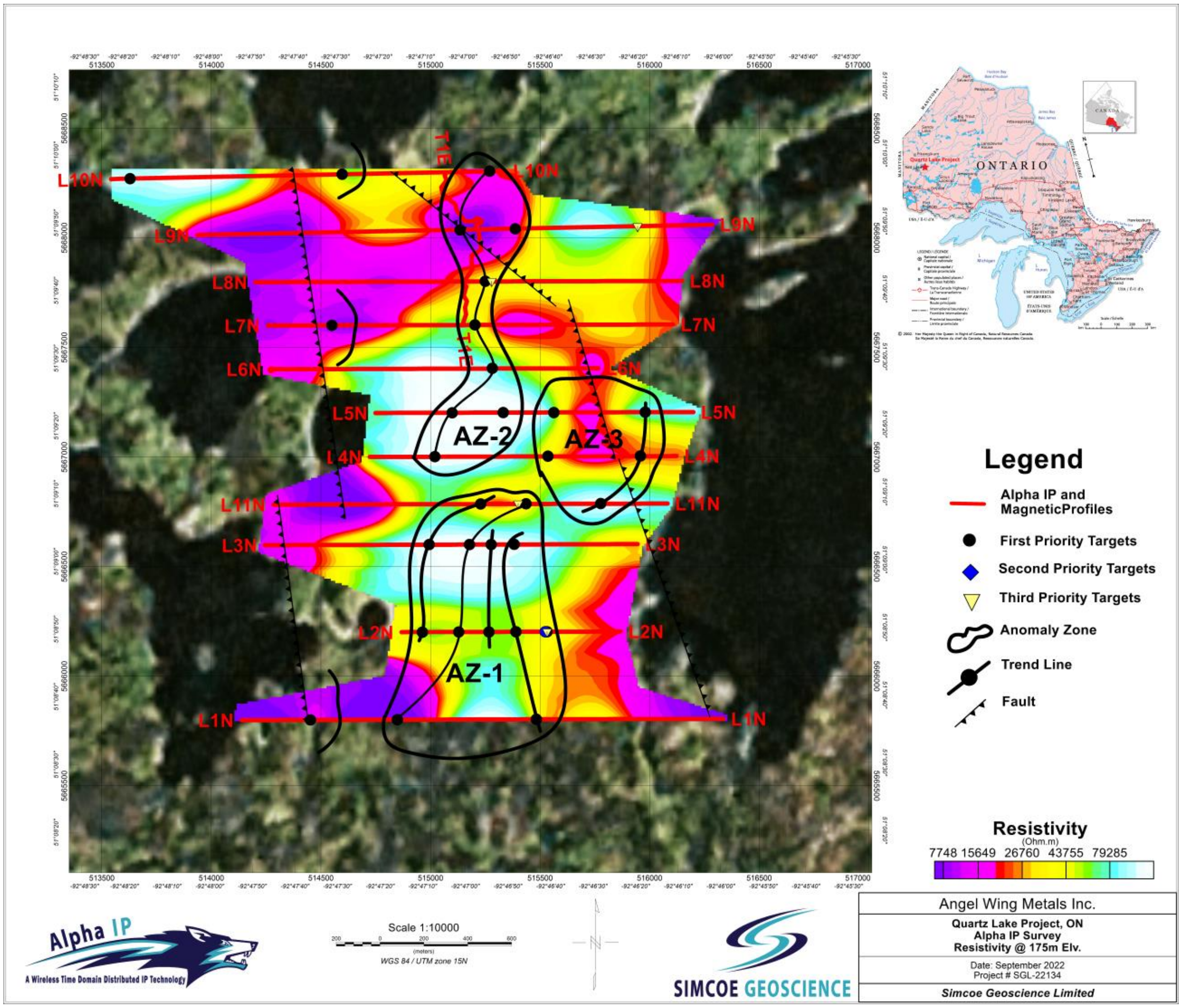


Figure 5-27: Selected Targets and Anomaly Zones over resistivity at Elevation 175 m Depth Slice.

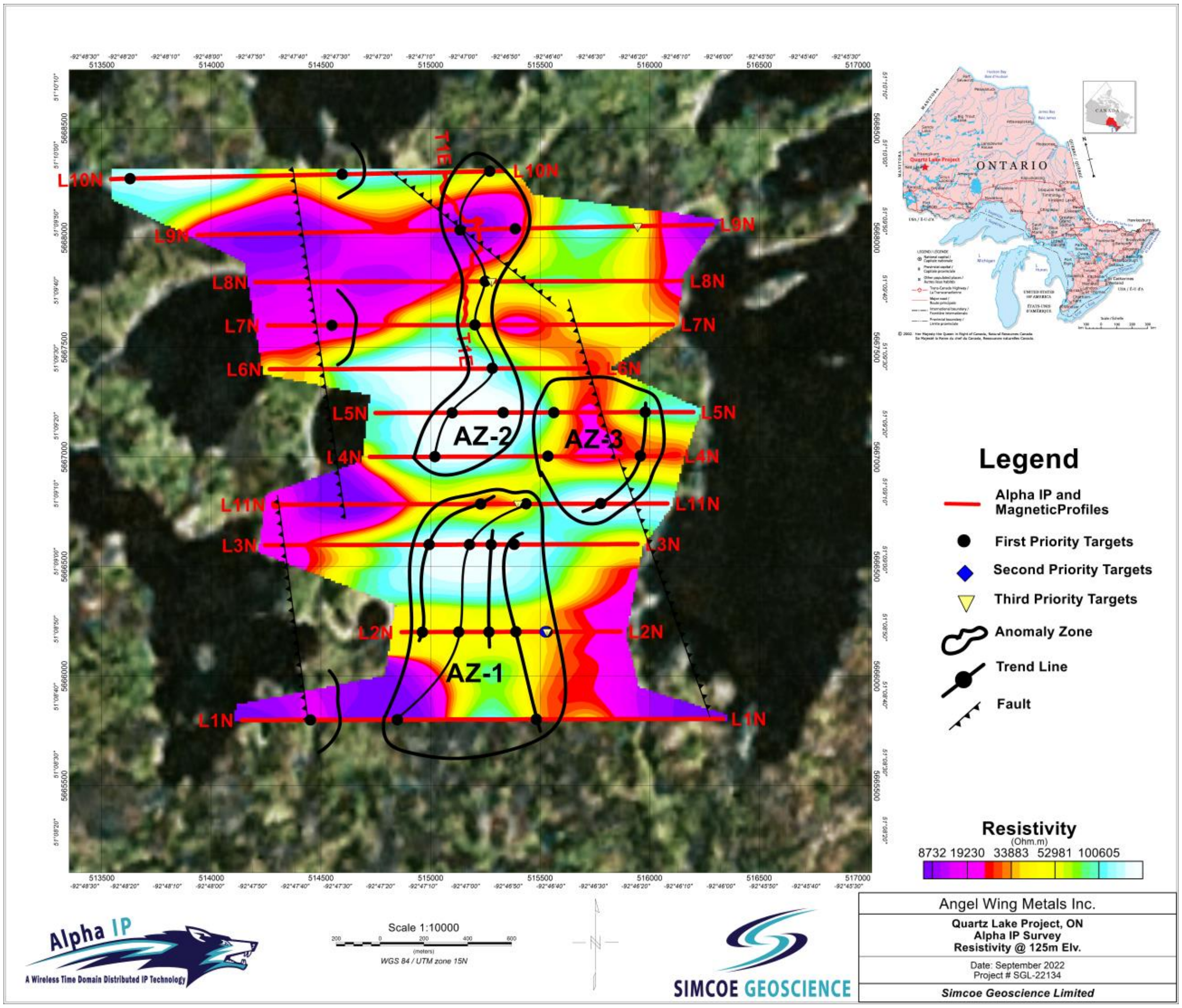


Figure 5-28: Selected Targets and Anomaly Zones over resistivity at Elevation 125 m Depth Slice.

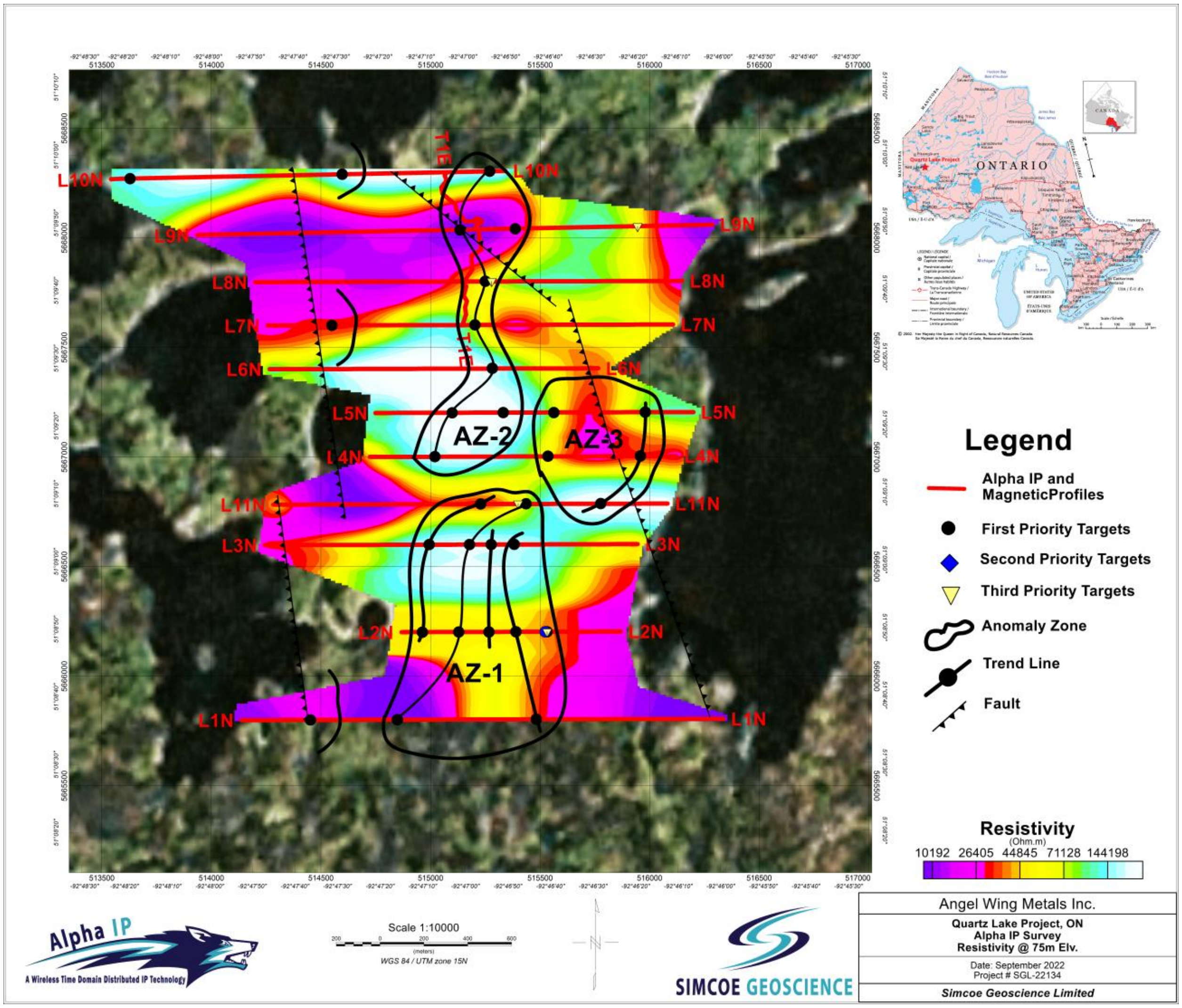


Figure 5-29: Selected Targets and Anomaly Zones over resistivity at Elevation 75 m Depth Slice.

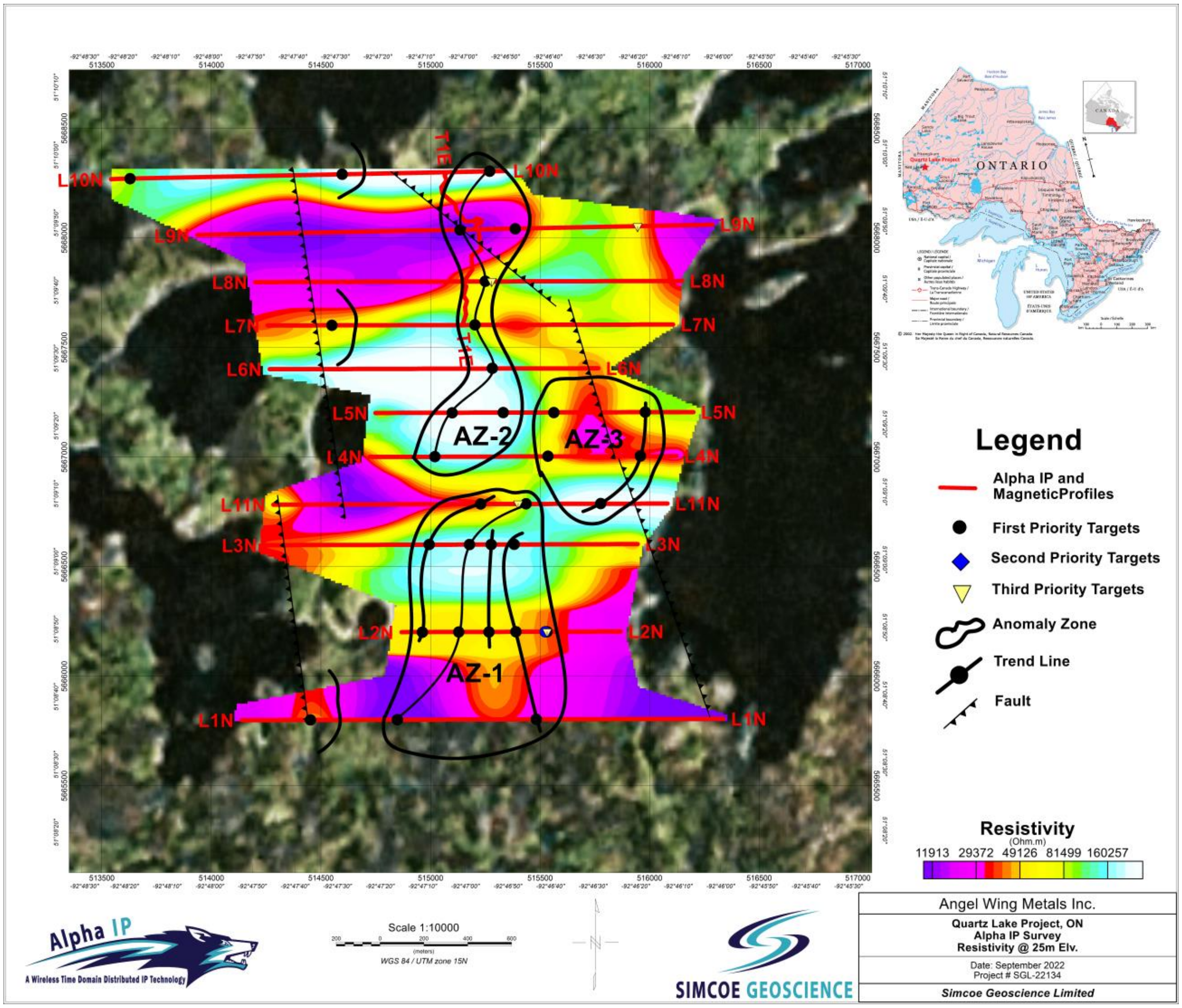


Figure 5-30: Selected Targets and Anomaly Zones over resistivity at Elevation 25 m Depth Slice.

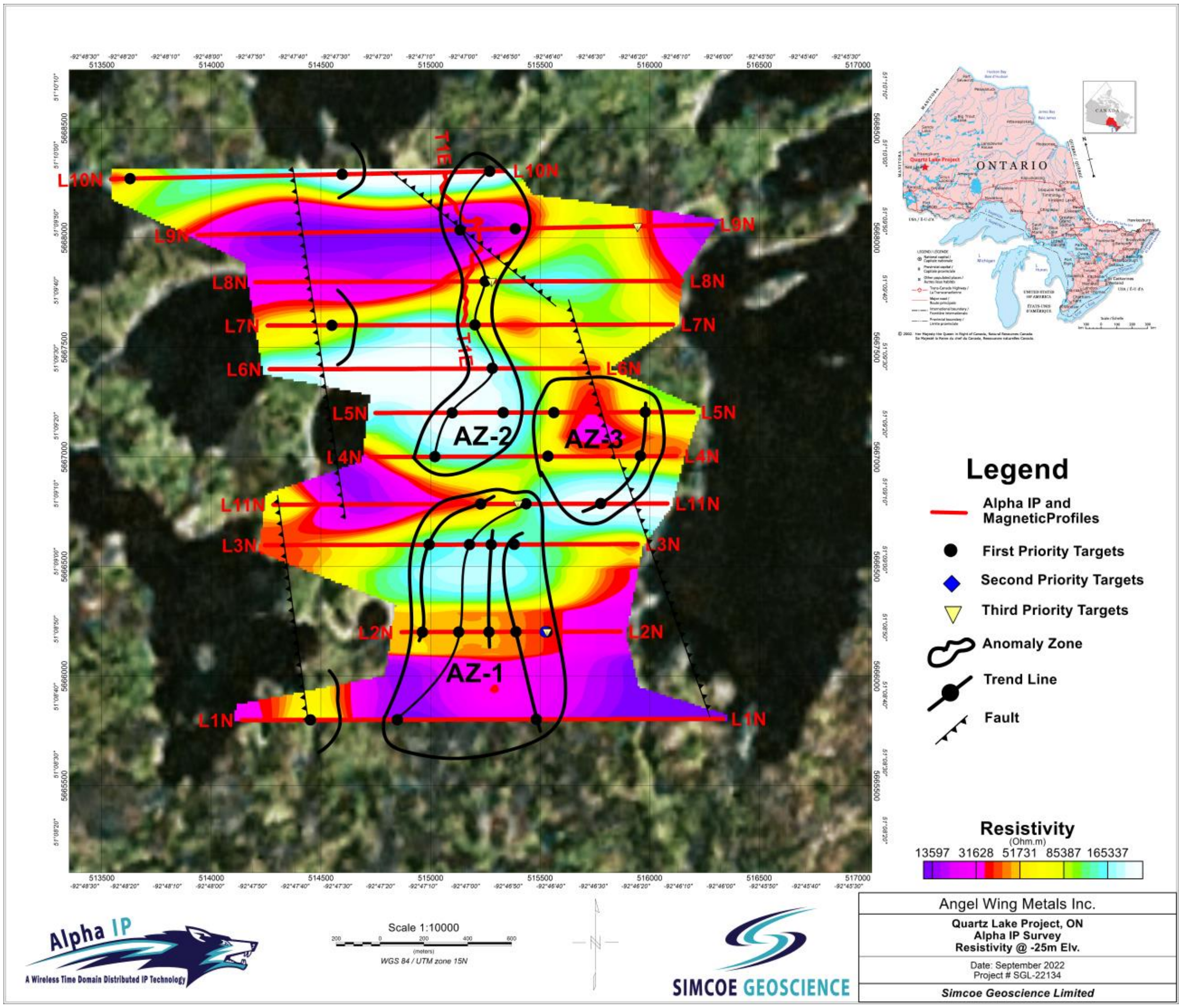


Figure 5-31: Selected Targets and Anomaly Zones over resistivity at Elevation - 25 m Depth Slice.

The selected targets, anomaly zones and structures over the magnetic susceptibility at different elevations (375 m through -25 m) with 50 m decrements are shown in Figure 5-32 through Figure 5-40.

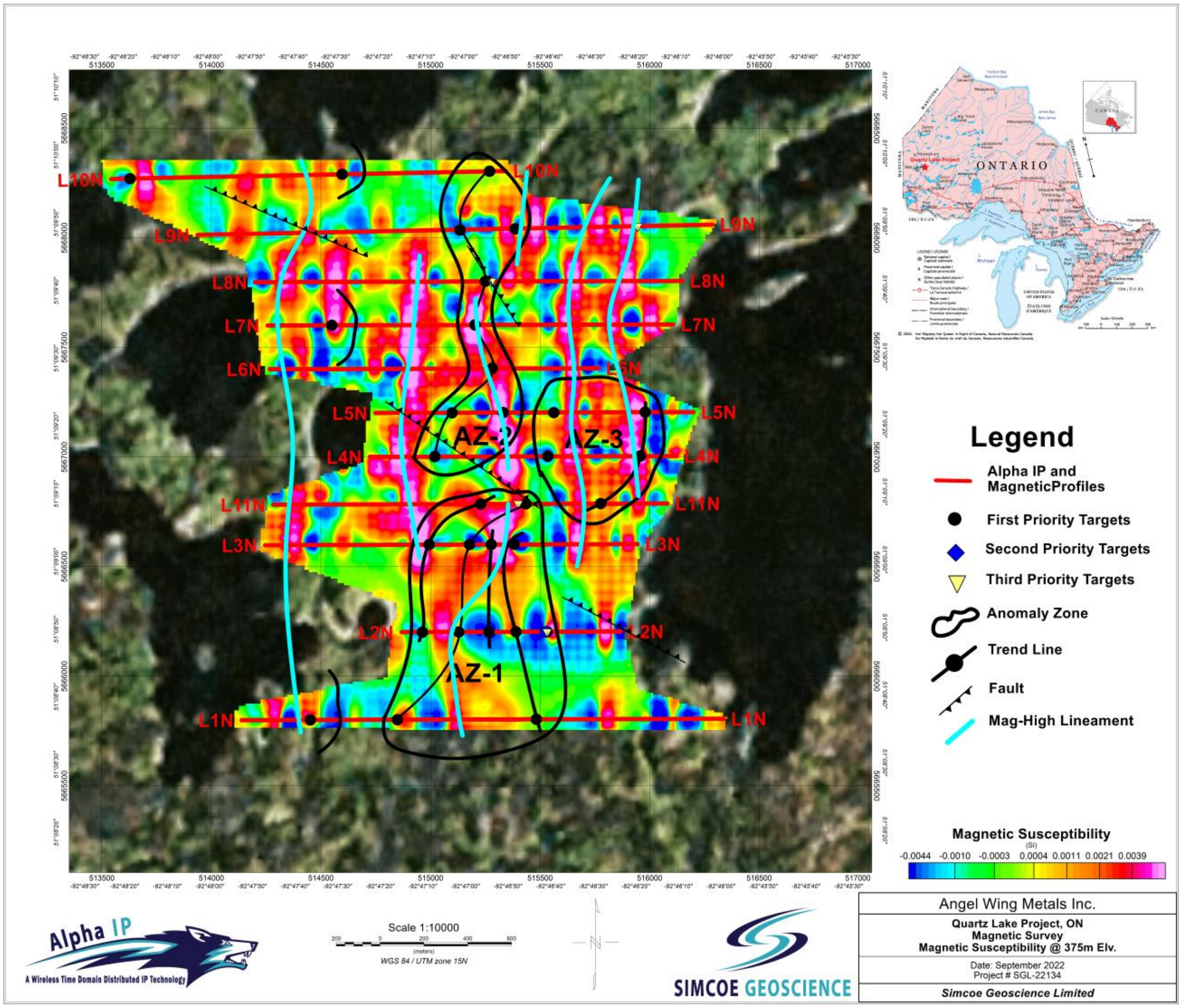


Figure 5-32: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 375 m Depth Slice.

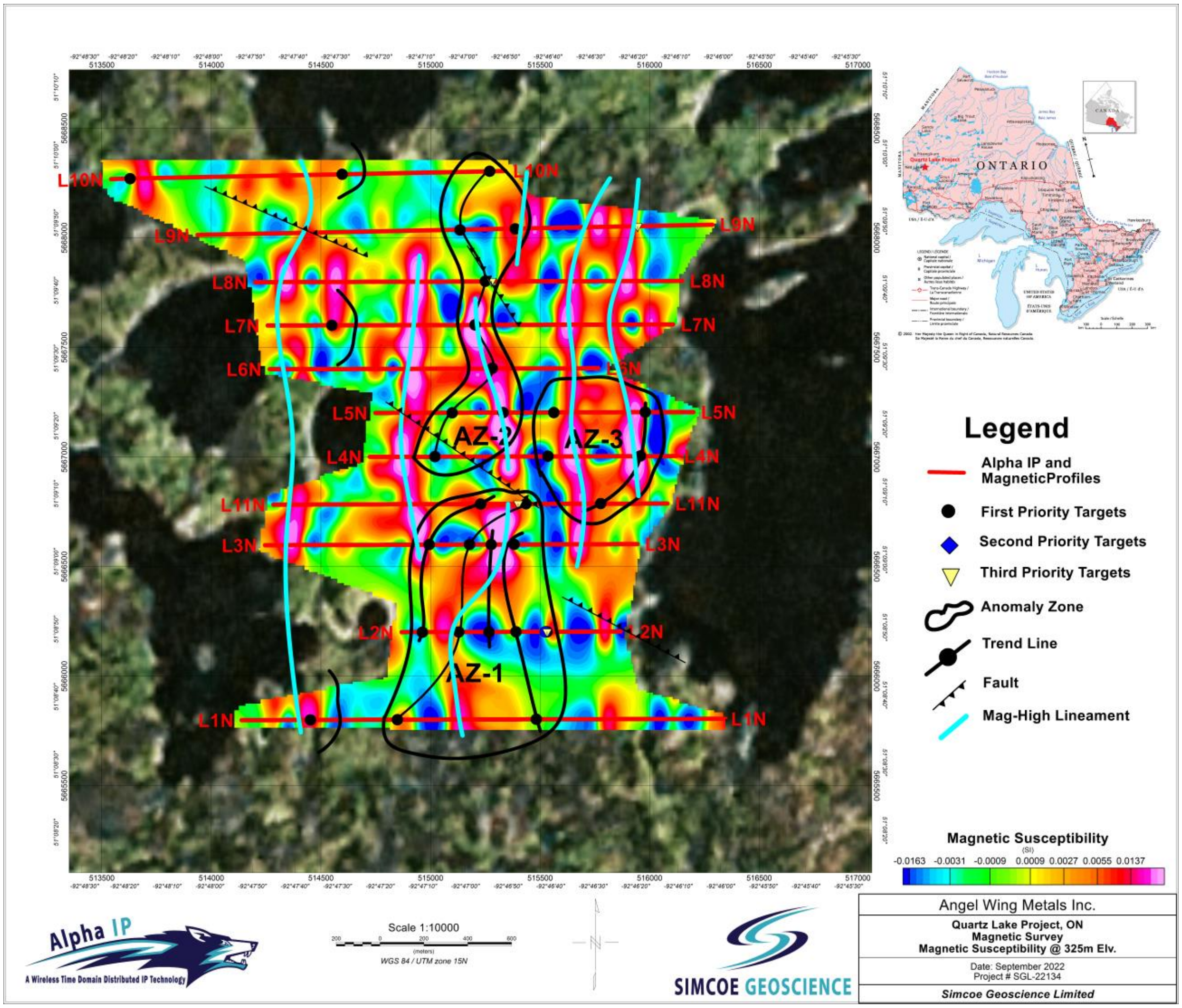


Figure 5-33: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 325 m Depth Slice.

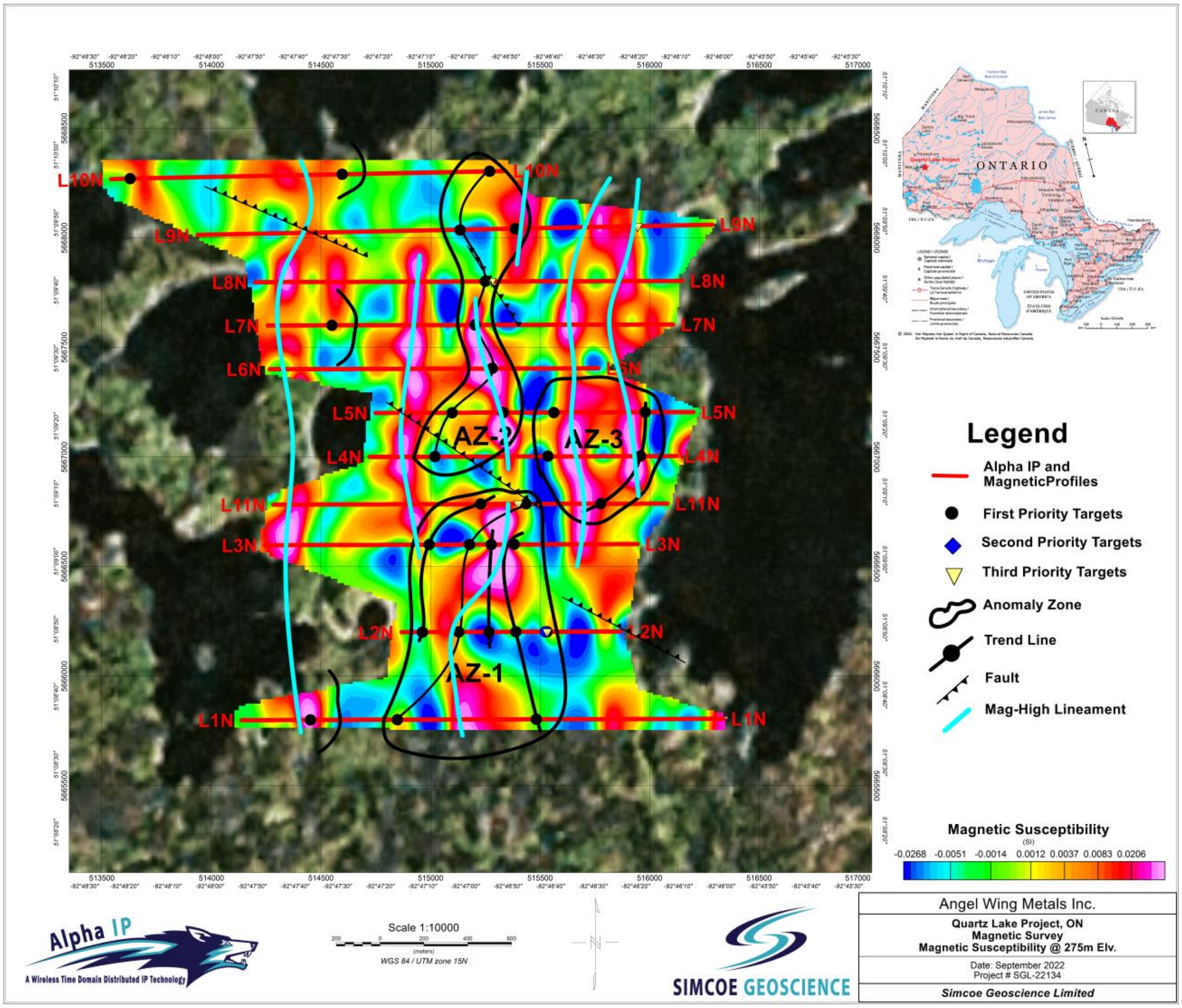


Figure 5-34: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 275 m Depth Slice.

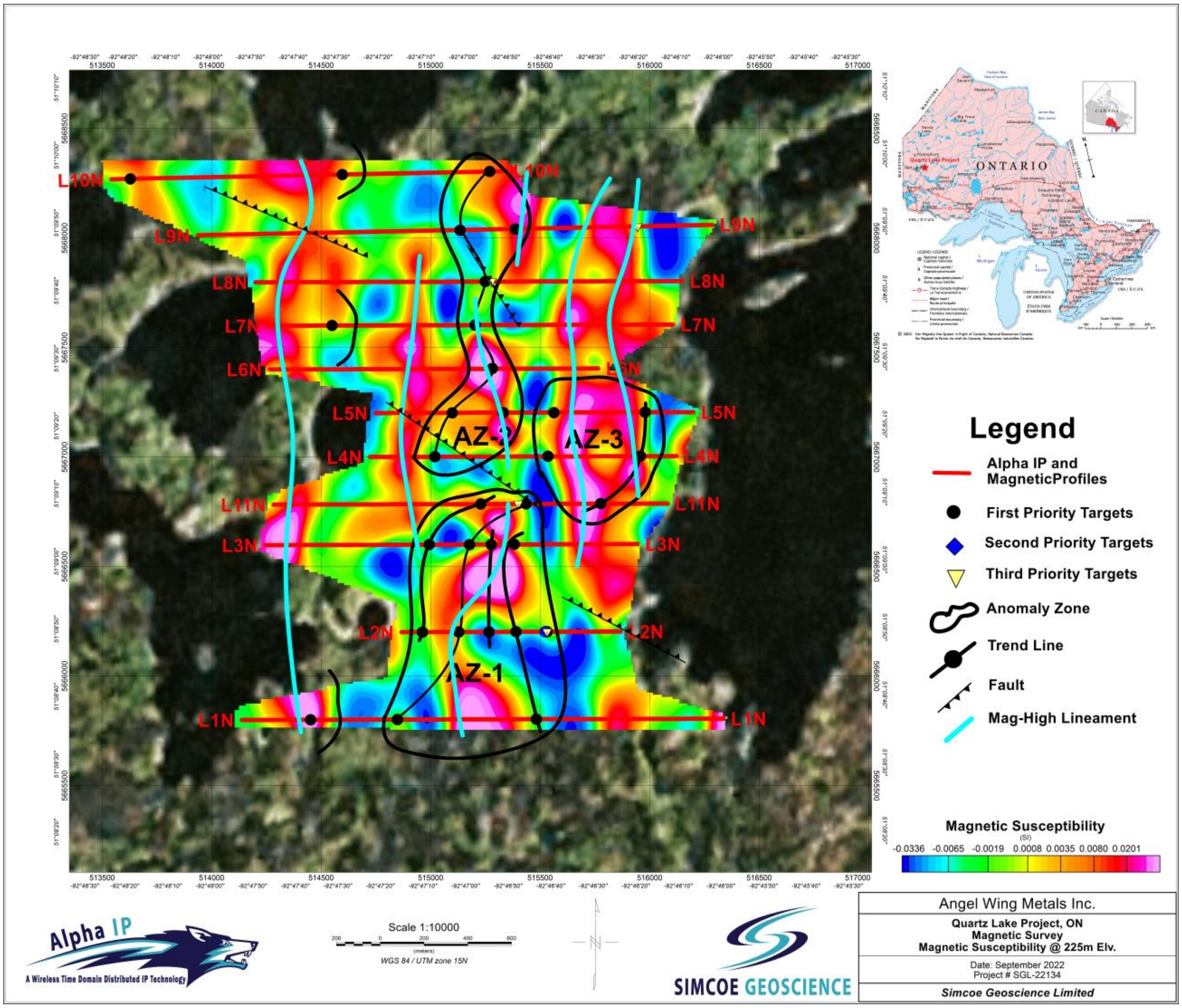


Figure 5-35: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 225 m Depth Slice.

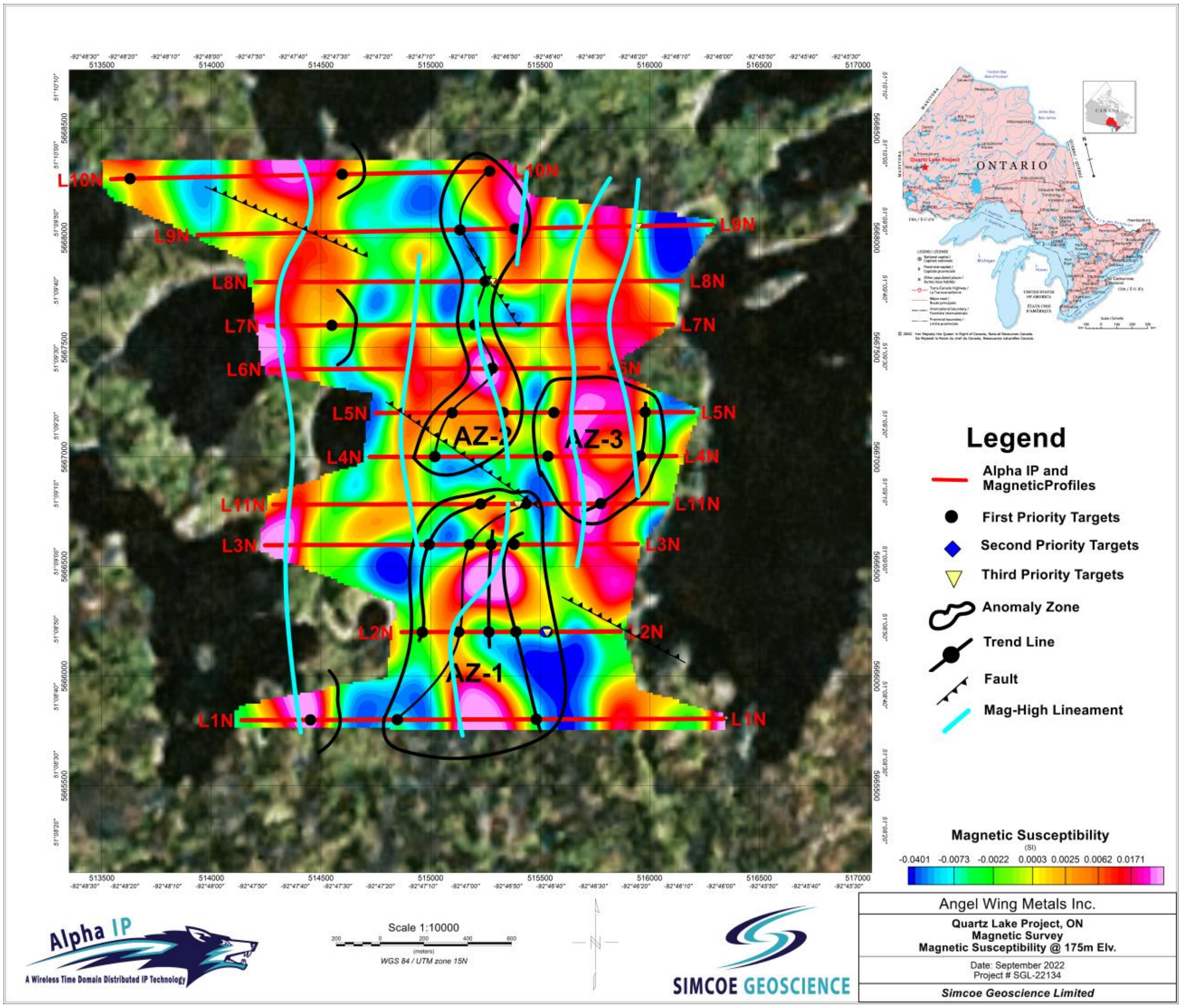


Figure 5-36: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 175 m Depth Slice.

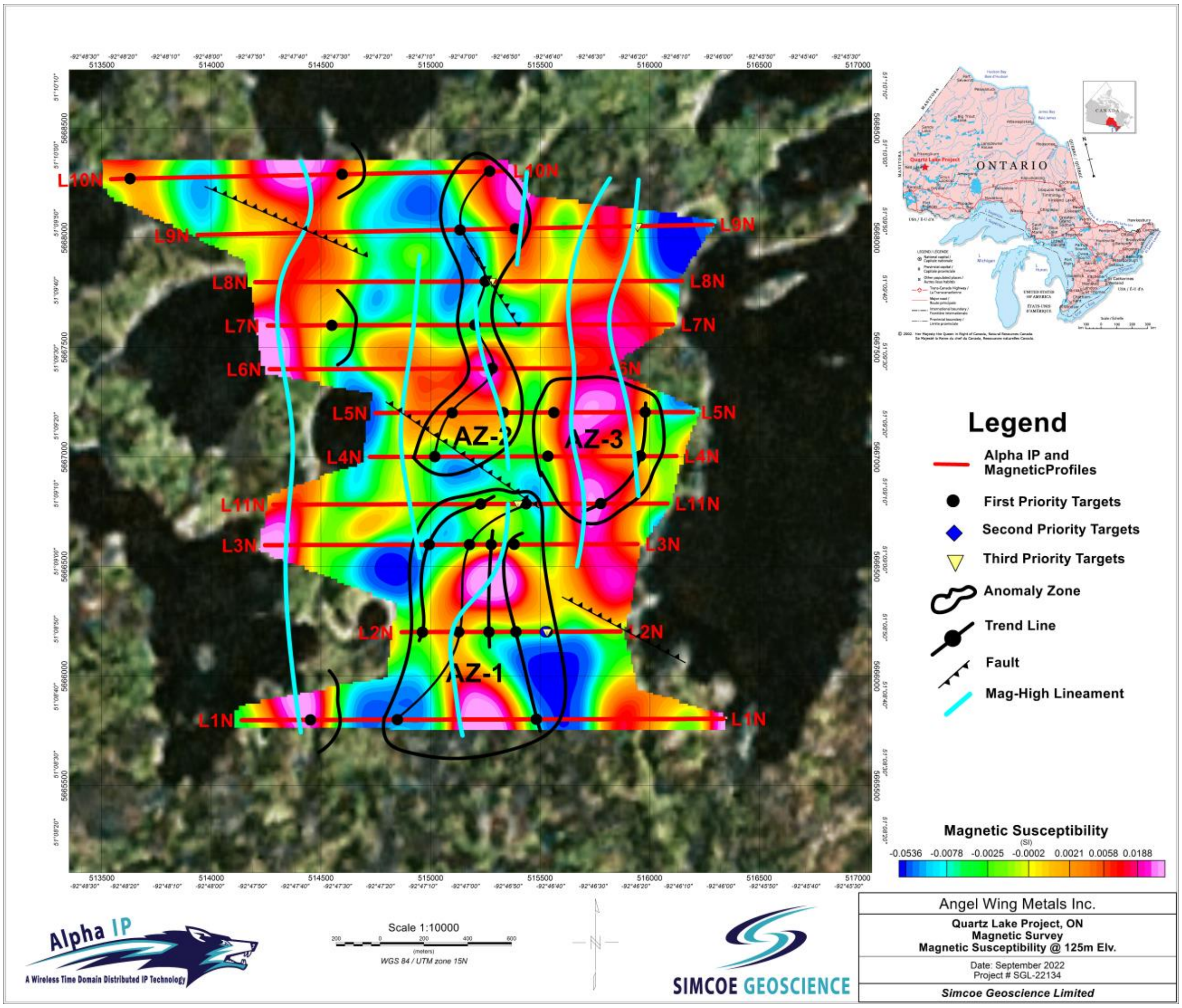


Figure 5-37: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 125 m Depth Slice.

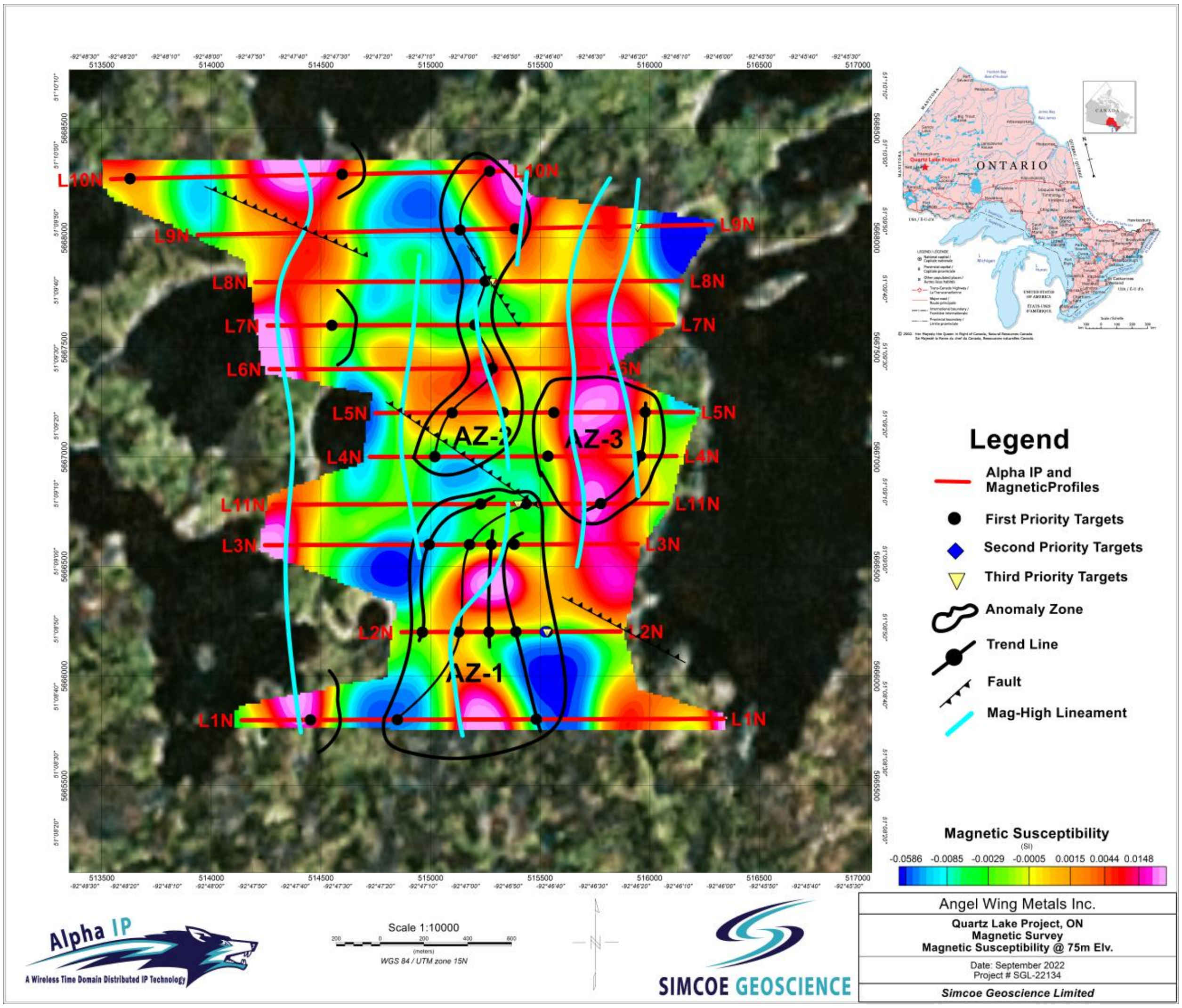


Figure 5-38: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 75 m Depth Slice.

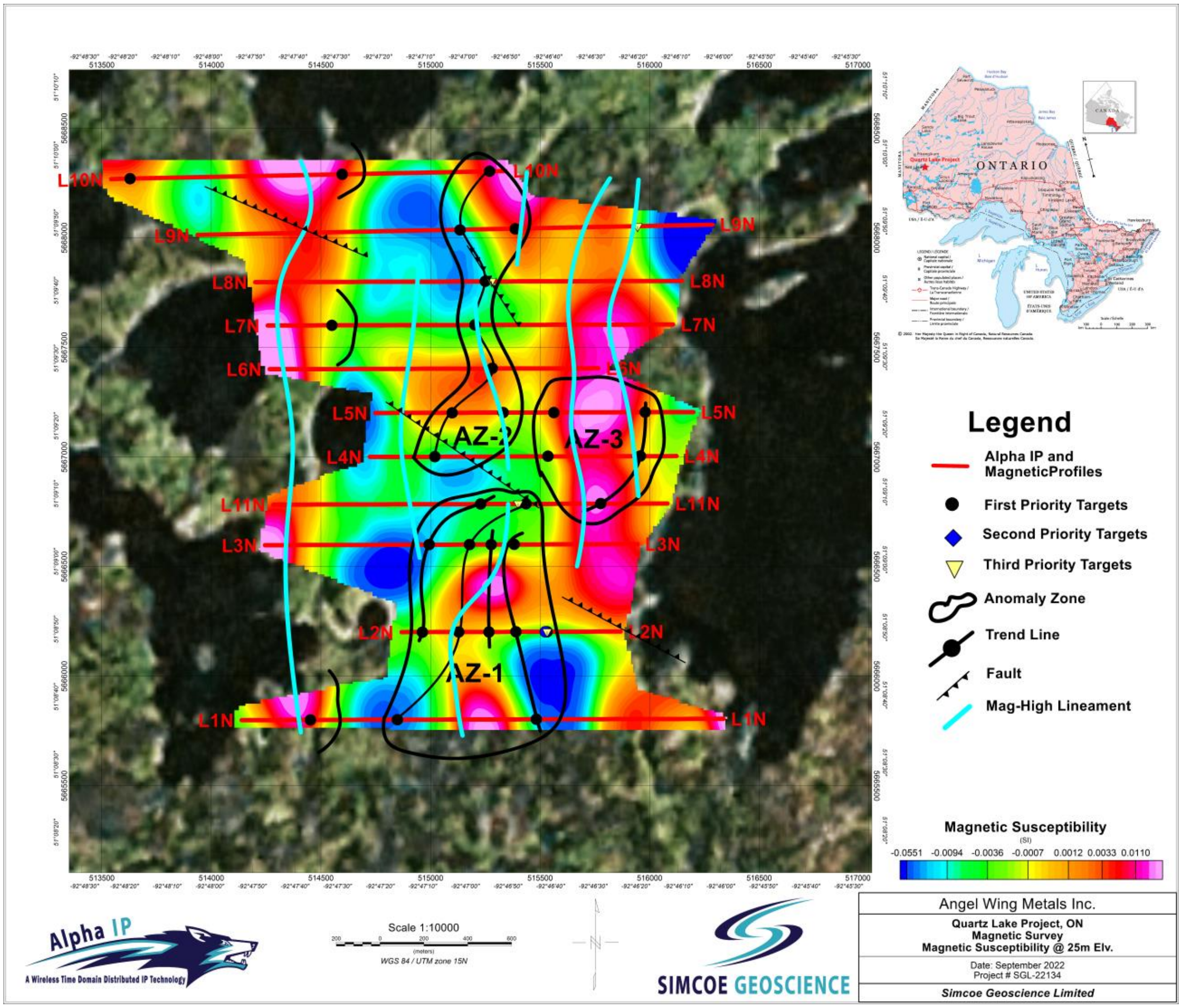


Figure 5-39: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation 25 m Depth Slice.

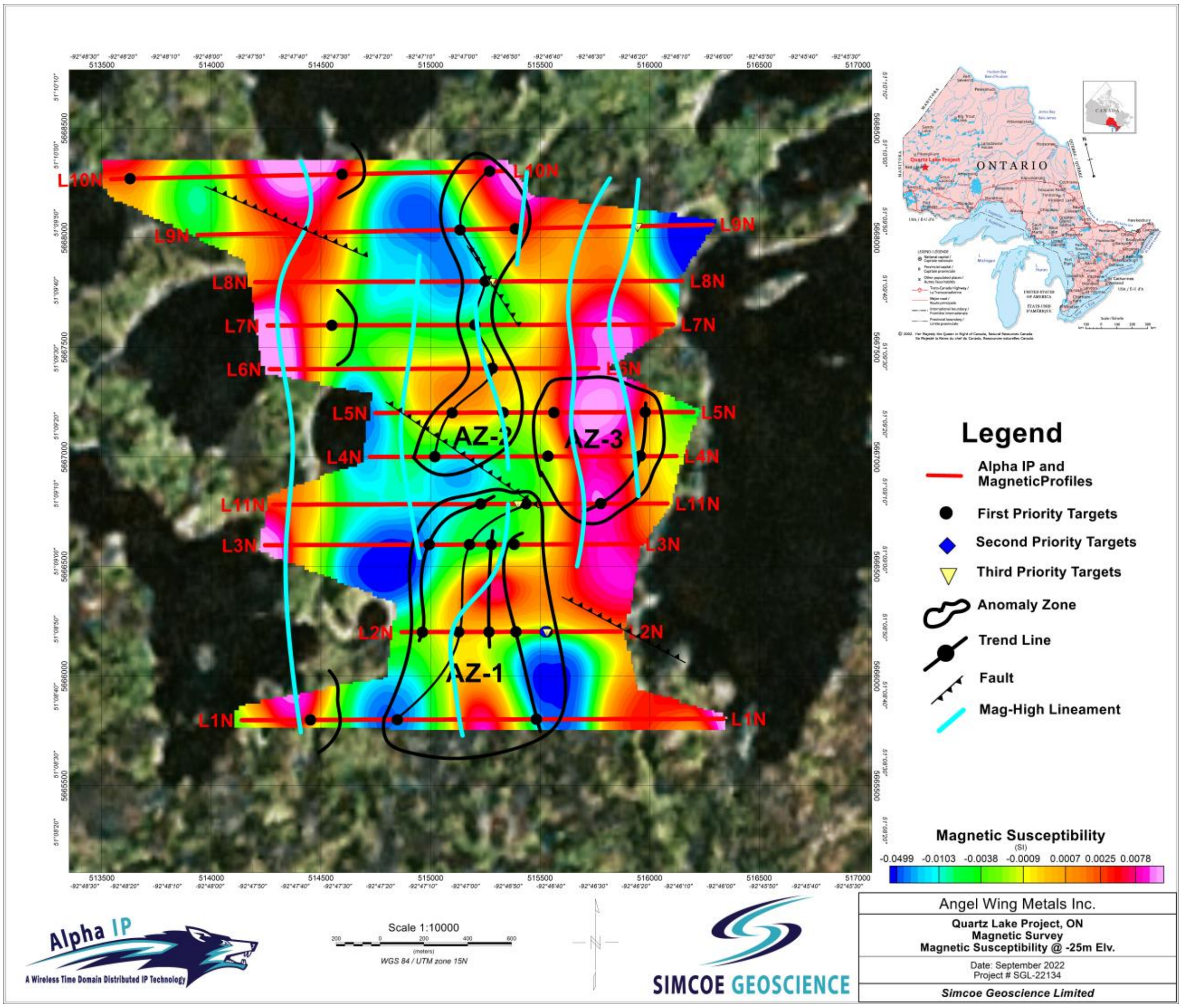


Figure 5-40: Selected Targets, Anomaly Zones and Structures over Magnetic Susceptibility at Elevation - 25 m Depth Slice.

The selected targets, anomaly zones, faults and lineaments over ground magnetic Reduced to the Pole (RTP) map is shown Figure 5-41.

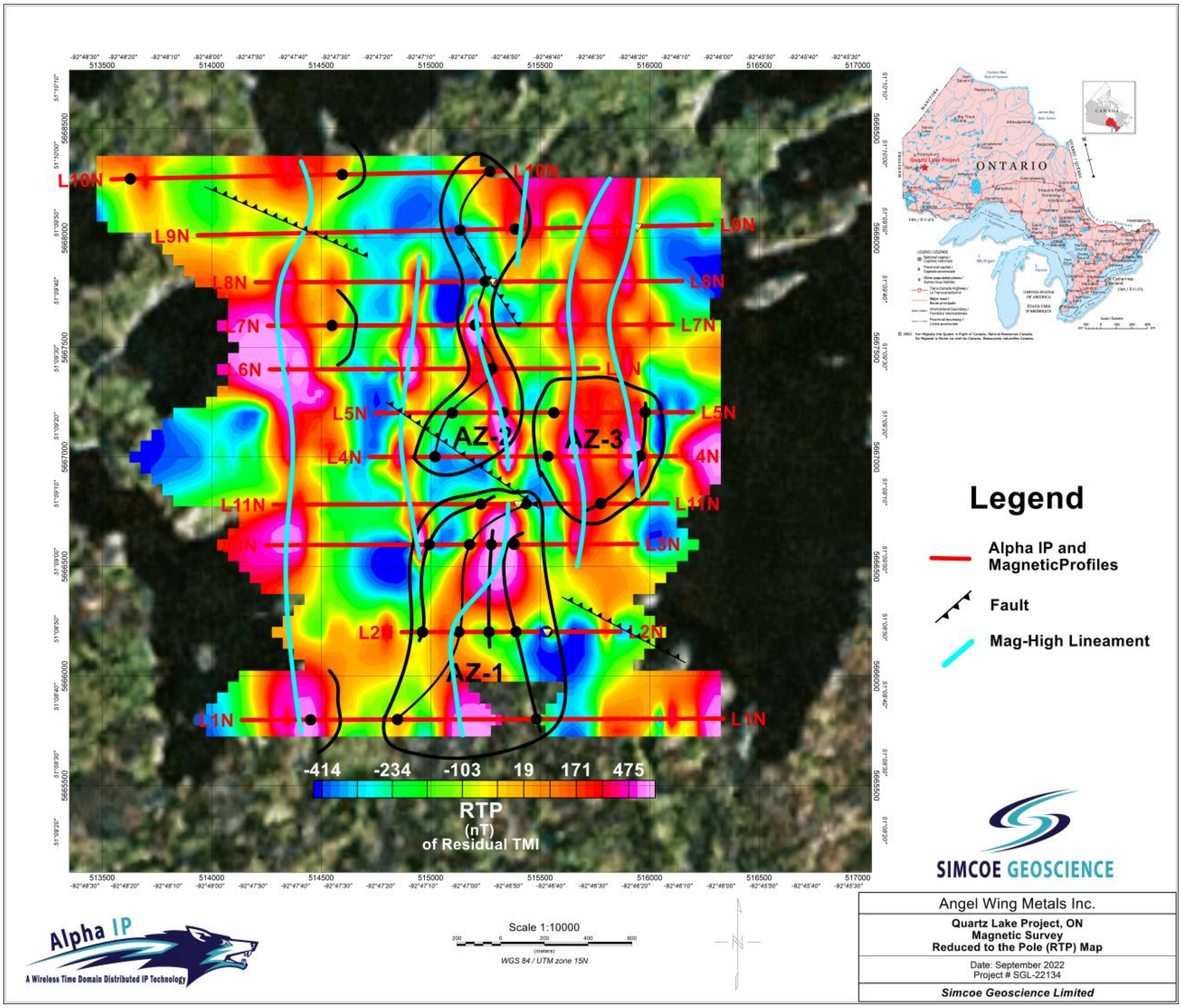


Figure 5-41: Residual TMI Reduced to the Pole (RTP) Map with Interpretation Overlay.

The selected targets, anomaly zones, faults and lineaments over residual airborne magnetic map is shown in Figure 5-42.

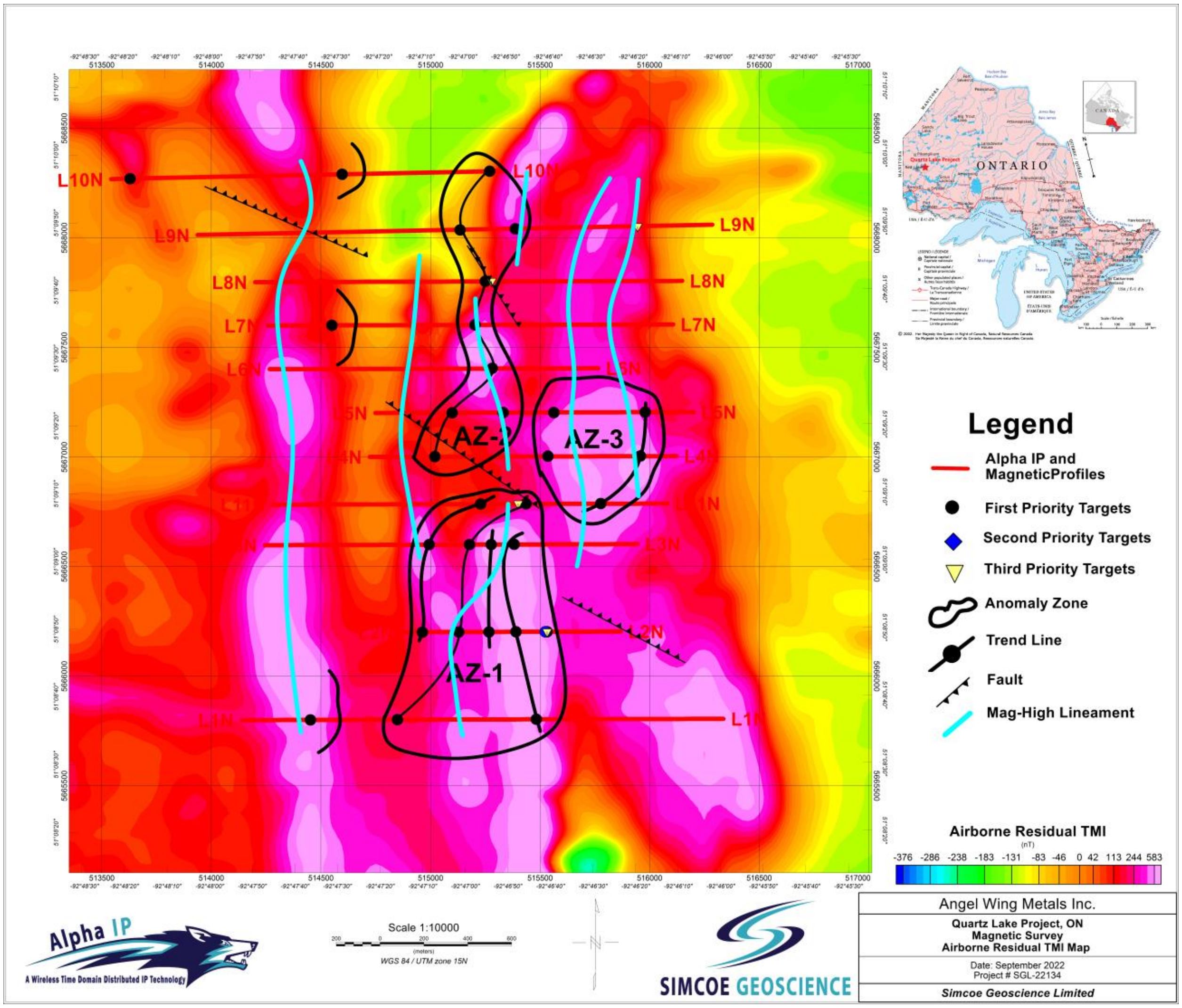


Figure 5-42: Selected Targets, Anomaly Zones and Structures over Residual Airborne TMI.

5.3 3D Volumetric and Stacked Depth Slice Models

Chargeability and Resistivity stacked sections with chargeability and susceptibility iso-surfaces are shown in Figure 5-43 through Figure 5-47. The 3D models are an effective means of illustrating major profile-to-profile features and trends that are apparent from the inverted data, which may not be obvious when viewing individual 2D sections.

The stacked chargeability and resistivity 2D models efficiently show the continuation of anomalous chargeability and resistivity distribution from profile-to-profile in lateral and vertical (dept) extents. On the other hand, the 3D iso-surface views are a good tool to view a specific cut-off value and its lateral and vertical distribution in three dimensions. It is also useful to delineate and map un-explored anomalous chargeability zones.

From a review of the stacked sections and plan maps, it is apparent that there is a close correlation between the chargeability, resistivity and magnetic susceptibility. The selected targets exhibit moderate to high chargeability, moderate to high resistivity and moderate to high magnetic responses which probably are associated with gold mineralization in the survey area.

The chargeability iso-surface with a value of ≥ 12 mV/v (red) is chosen as representative of chargeability anomalies and 0.03 SI magnetic susceptibility is chosen for representing moderate to high mag responses.

It is recommended that drill plans should always be plotted in 3D space to minimize the possibility of missing un-tested targets.

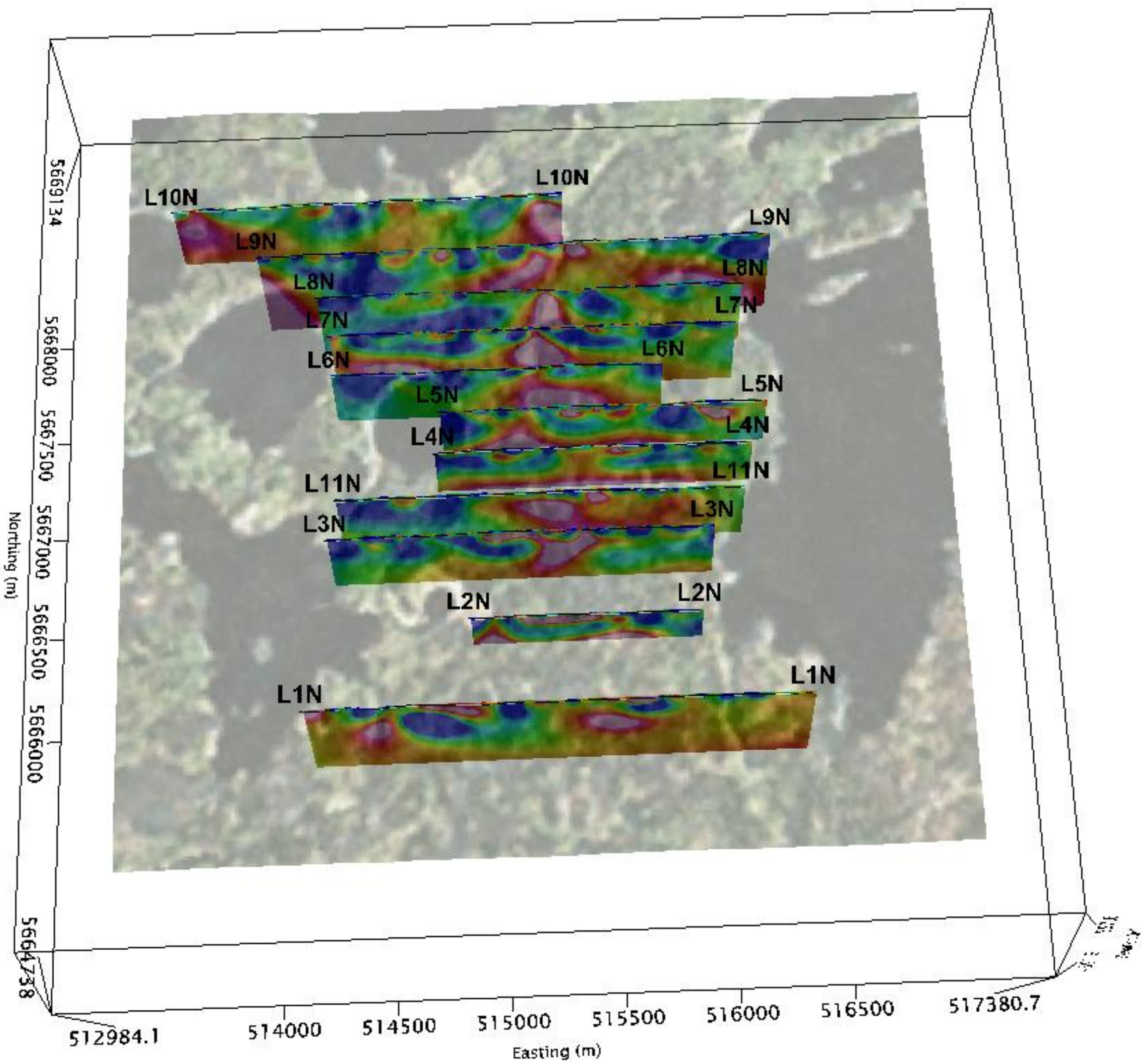


Figure 5-43: Stacked 2D Chargeability Sections.

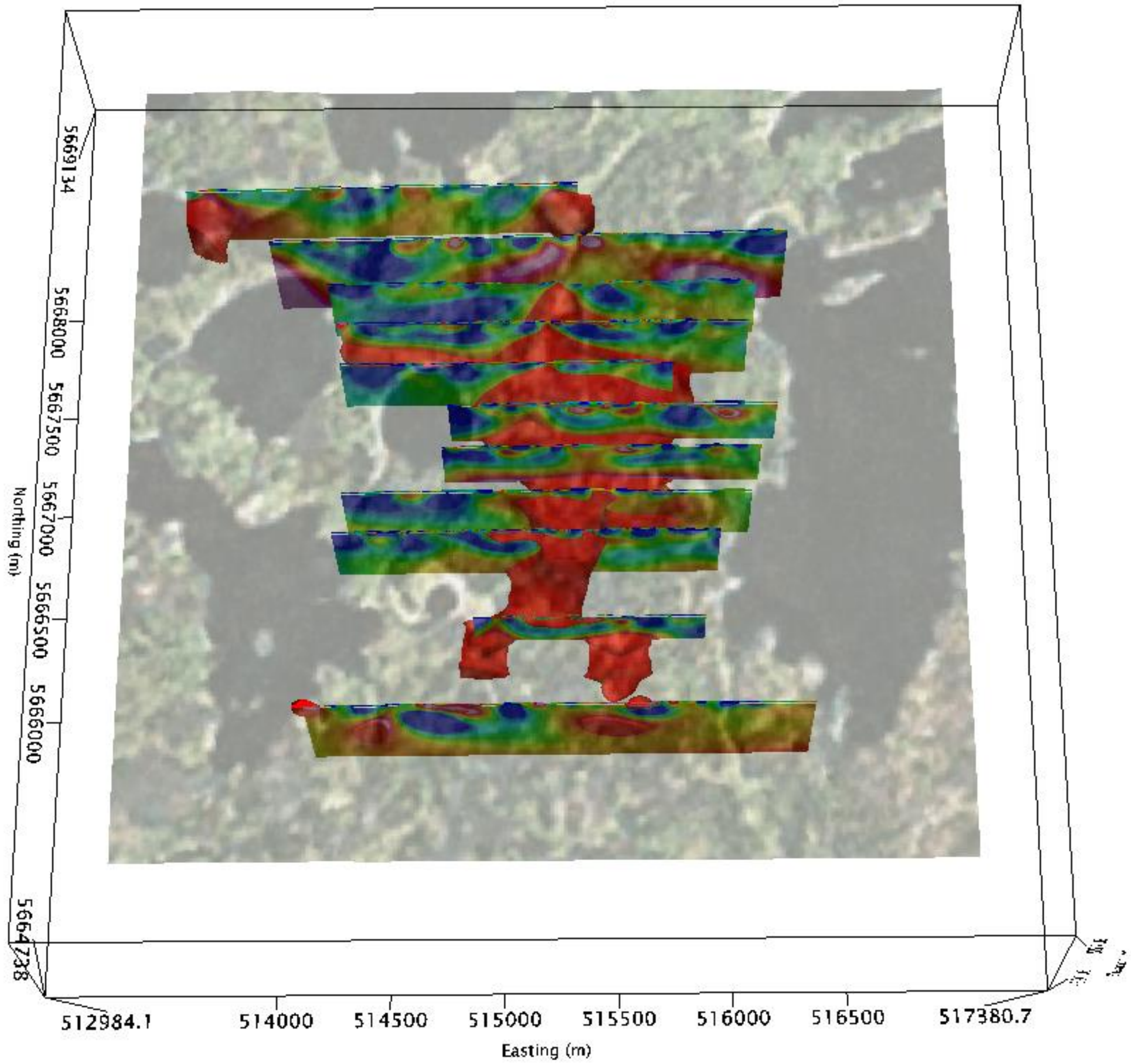


Figure 5-44: Chargeability Iso-surface (12mV/v) in Red Color over Stacked 2D Chargeability Sections.

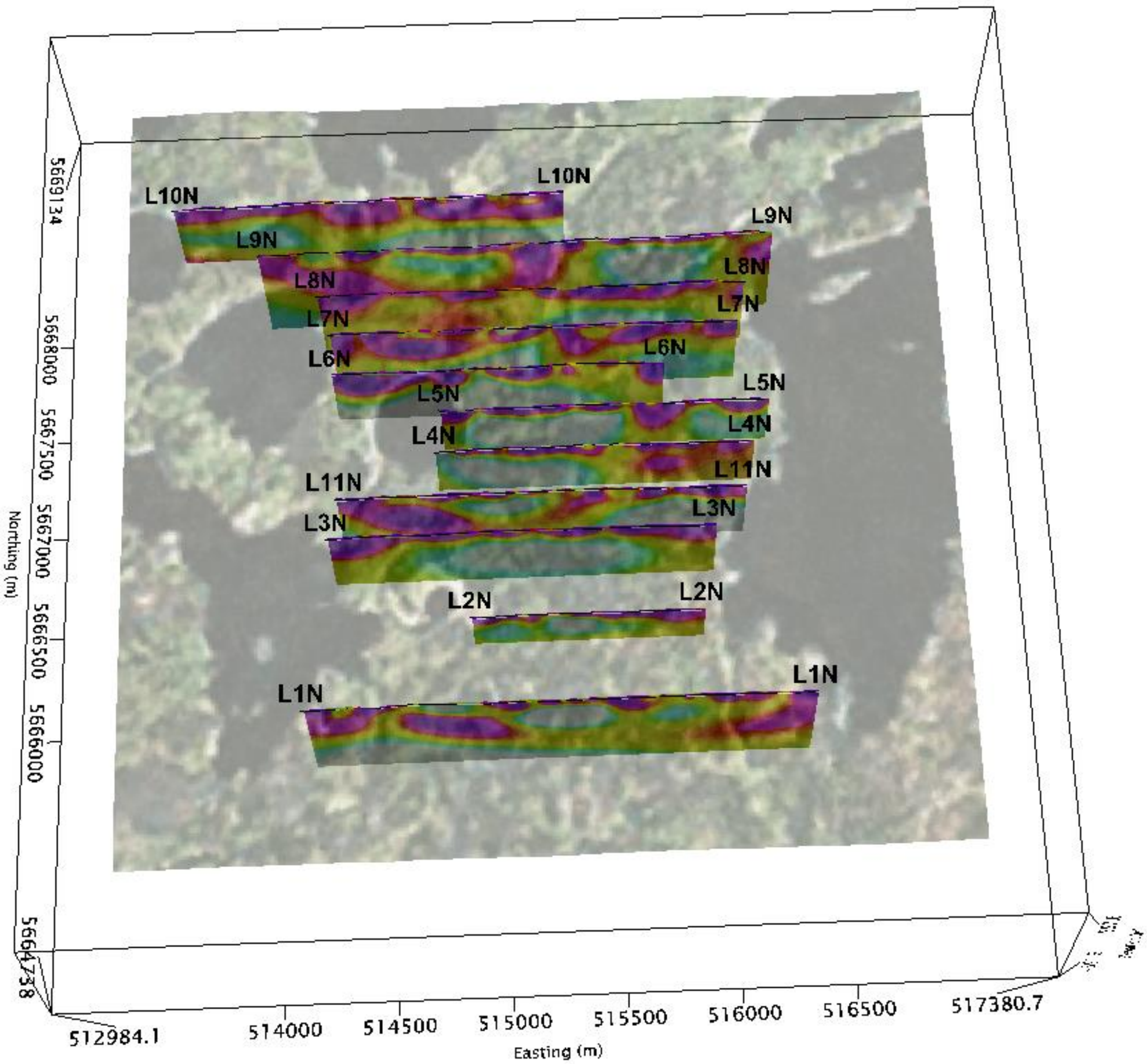


Figure 5-45: Stacked 2D Resistivity Sections.

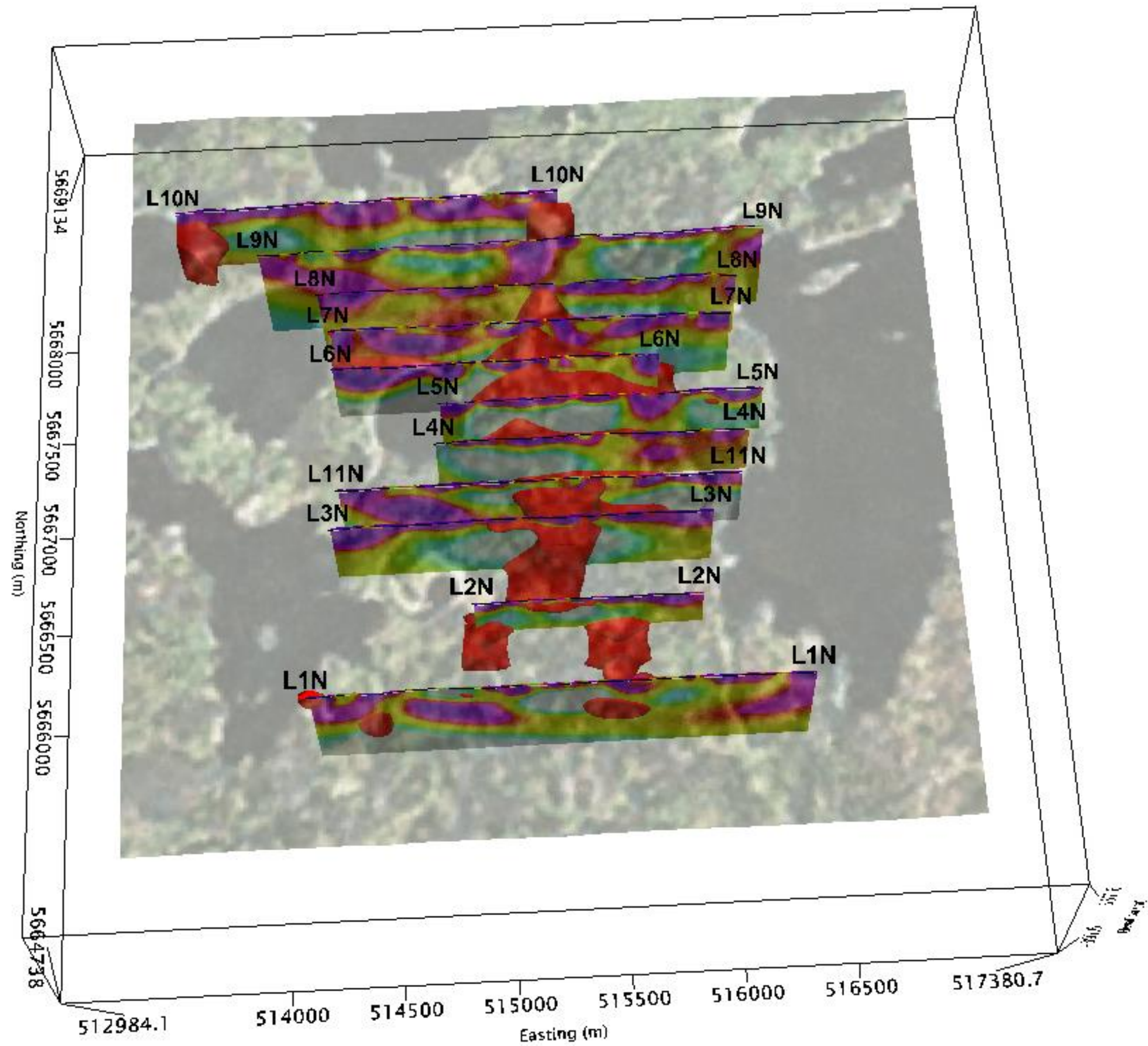


Figure 5-46: Chargeability Iso-surface (12mV/v) in Red Color Over Stacked Resistivity.

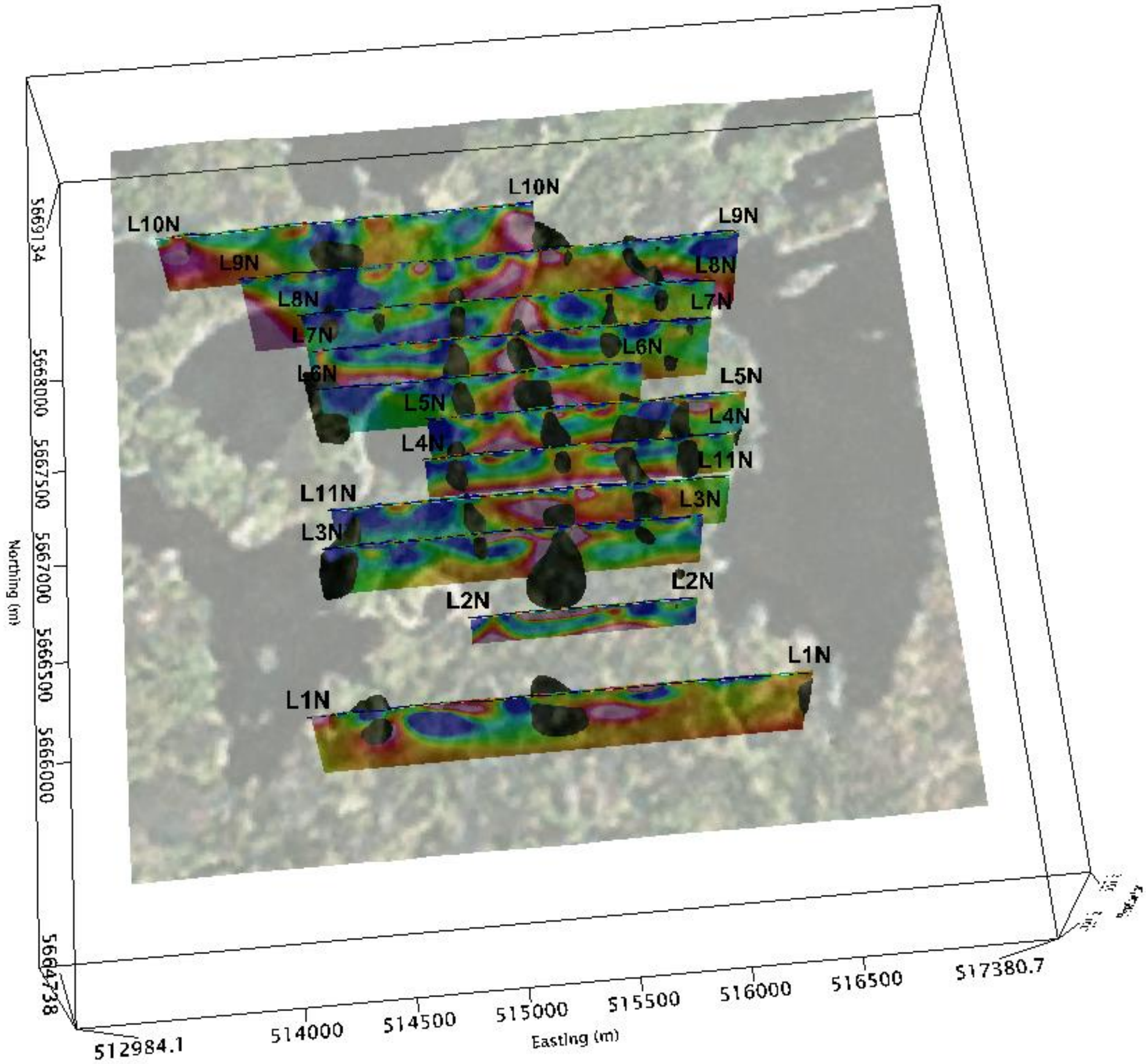


Figure 5-47 Magnetic Susceptibility Iso-surface (0.03 SI) in Black Color Over Stacked Chargeability.

6 CONCLUSION

The Alpha IP and ground magnetic surveys has helped to map at least thirty-five (35) chargeability anomalies. These anomalies were interpreted as potential exploration targets for the Quartz Lake project. Of the thirty-five (35) chargeability anomalies, thirty (30) of them are considered as first priority, one (1) as second priority and four (4) as third priority targets (Figure 6-1).

In addition to the interpreted chargeability anomalies on sections, three (3) anomaly zones (AZ-1, AZ-2 and AZ-3) have been identified based on the lateral continuity from line to line, and show the strike length of the chargeability anomalies.

The interpreted targets are mostly associated with moderate to strong chargeability, moderate to high resistivity and moderate to high magnetic responses. These responses probably associated with gold mineralization in the survey area.

In general, the chargeability anomalies follow the magnetic high linear features trending north-south. These magnetic high linear features (Mag-High Lineaments) are probably representing the unconformities in the survey area. The Mag-High Lineaments are very well resolved distinctively on the ground magnetic data unlike the airborne magnetic which shows structures at greater depth. The drill collar locations should be picked from the first priority chargeability anomalies on the 2D cross-sections.

The total magnetic field (TMI) and calculated derivatives of Residual TMI, Reduced to the Pole (RTP), Analytic Signal (AS), First Vertical Derivative (1VD) and Tilt Derivative maps have helped in the structural interpretation. The 3D magnetic Susceptibility model has further enhanced both lateral and vertical distribution of the magnetic responses.

6.1 RECOMMENDATIONS

The following are recommendations derived from the interpretation of the 2D IP survey and ground Magnetics at Quartz Lake Project:

- Review the available geological, geophysical, and geochemical data (if available) in the vicinity of the priority target areas prior to drilling and commencing further exploration of these zones.
- In cases where the deep IP/chargeability anomalies are an extension of the shallower IP/chargeability anomalies related to known mineralization, then a higher priority may be given to these anomalies.
- Similarly, if mineralization and/or alteration are encountered when drilling the first priority targets, a step-back drilling should be considered to intersect the deeper anomalies.
- To drill-test the top and central parts of the interpreted high priority anomalies, perform vertical/angled drilling depending on the geologic strike. If favourable results are obtained, then test the deeper and unexplored areas/portions of the interpreted anomalies.
- A second priority exploratory drilling for targeting near surface and small size moderate and low amplitude chargeability responses with moderate/high resistivity and magnetic, and also deep anomalous zones that may represent extension of shallower anomalies should be considered for further exploration.

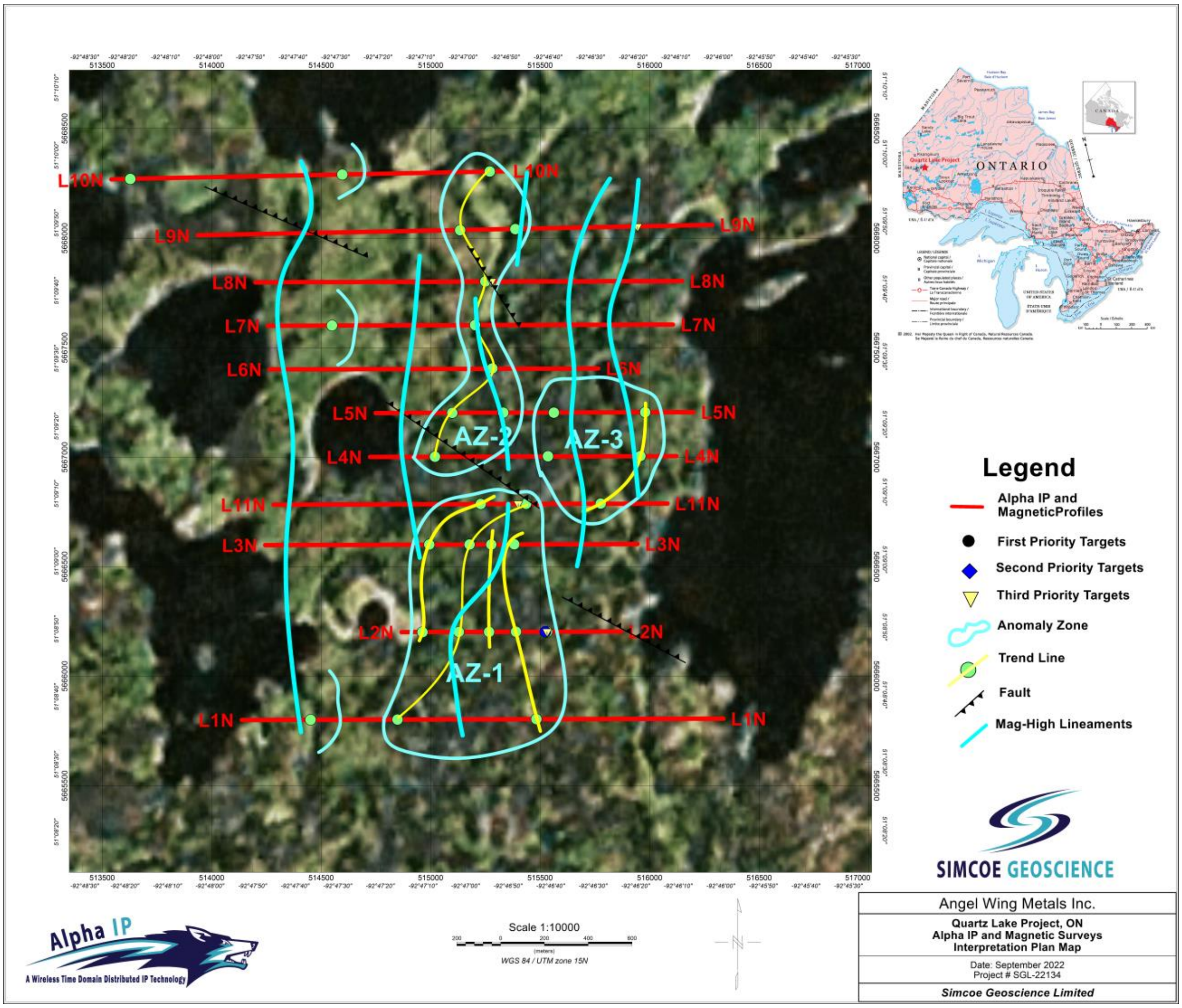


Figure 6-1: Interpretation Plan Map with Anomaly Zones, Priority Targets and Structures Overlay.

Respectfully submitted by;

Riaz Mirza

Director & Geoscientist, M.Sc., P.Geo.
Simcoe Geoscience Limited

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7 STATEMENT OF QUALIFICATIONS

I, Haileyesus Wondimu, Geophysicist, declare that

I am a Geophysicist with residence in Brampton, Ontario and presently employed in this capacity with Simcoe Geoscience Limited, Stouffville, Ontario, Canada.

I hold the following academic qualifications: Bachelor of Science Degree (B.Sc.) in Physics from Addis Ababa University (AAU), Ethiopia in 1991, a Post Graduate Diploma (PGD), in Exploration Geophysics, from University of Twente, The Netherlands in 1998 and a Ph.D. degree in Exploration Geophysics from Addis Ababa University (AAU), Ethiopia in 2018, and a Research Assistant, York University Toronto, Canada (2003-2006).

I am a in the process to obtain designation as a professional geoscientist (P. Geo) with license to practice in the Province of Ontario, (APGO).

I am a member of the Canadian Exploration Geophysics Society (KEGS).

I have practiced my profession in both industry and academic jobs continuously since 1993 in Africa, and Canada.

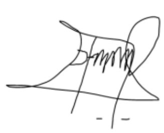
I have no interest, nor do I expect to receive any interest in the properties or securities of Angel Wing Metals Inc., its clients, its subsidiaries, or its joint-venture partners.

I have prepared this geophysical report including maps and figures contained in this report. I can attest that the information and interpretation accurately and faithfully reflect the data acquired on the site.

The statements made in this report represent my professional opinion in consideration of the information available at the time of writing this report.

Brampton, Ontario

November 9, 2022



Haileyesus Wondimu
Geophysicist, Ph.D.
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I, Riaz Mirza, P.Geo., declare that

I am Director and Geoscientist with residence in Georgina, Ontario and I am presently employed in this capacity with Simcoe Geoscience Limited, Stouffville, Ontario, Canada.

I hold the following academic qualifications: Bachelor of Science Degree (B.Sc.), Applied Geology from University of the Punjab, Pakistan in 1997, a Master of Science Degree (M.Sc.), Geophysics, Seismic Methods, from Quaid-e-Azam University, Pakistan in 2000, and an Advanced Master of Science Degree (M.Sc.), Applied Environmental Geoscience from University of Tuebingen, Germany in 2003;

I am a registered geoscientist, since 2012, with license to practice in the Province of Ontario, (APGO License # 2154).

I am a member of the Society of Exploration Geophysicists (SEG) and the Canadian Exploration Geophysics Society (KEGS);

I have practiced my profession continuously since 1997 in Southeast Asia, Europe, and North America, South America, Middle East, Africa;

I have no interest, nor do I expect to receive any interest in the properties or securities of Angel Wing Metals Inc., its clients, its subsidiaries or its joint-venture partners;

I am the Professional Geophysicist responsible for this project.

I was in charge of the data acquisition, Quality Control and Assurance of the acquired data; I have analyzed the data and reviewed the survey the report, and can attest that these accurately and faithfully reflect the data acquired on site;

The statements made in this report represent my professional opinion in consideration of the information available to me at the time of writing this report.

Stouffville, Ontario

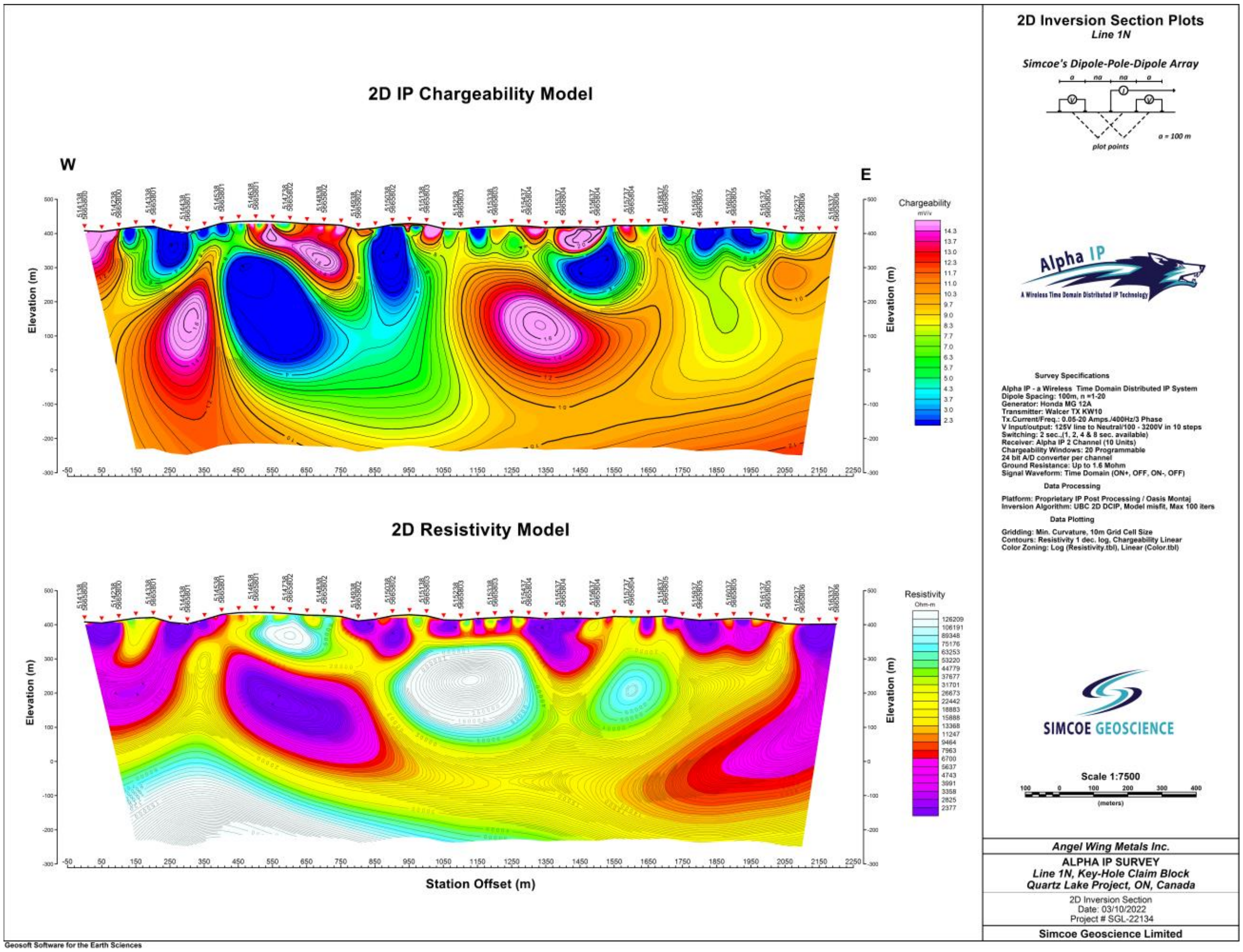
November 9, 2022

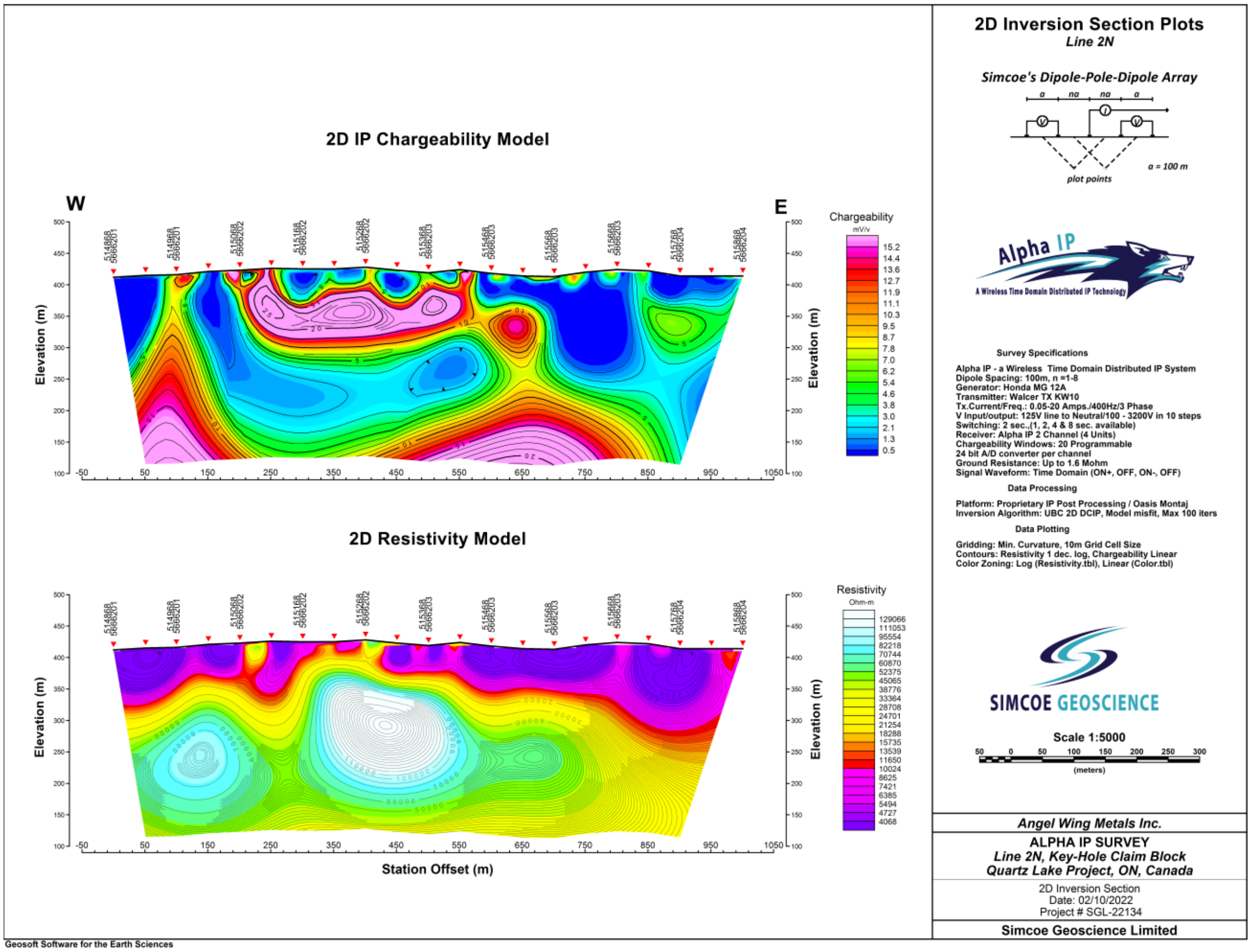
PROFESSIONAL GEOSCIENTIST
RIAZ M. MIRZA
PRACTISING MEMBER
2154
ONTARIO

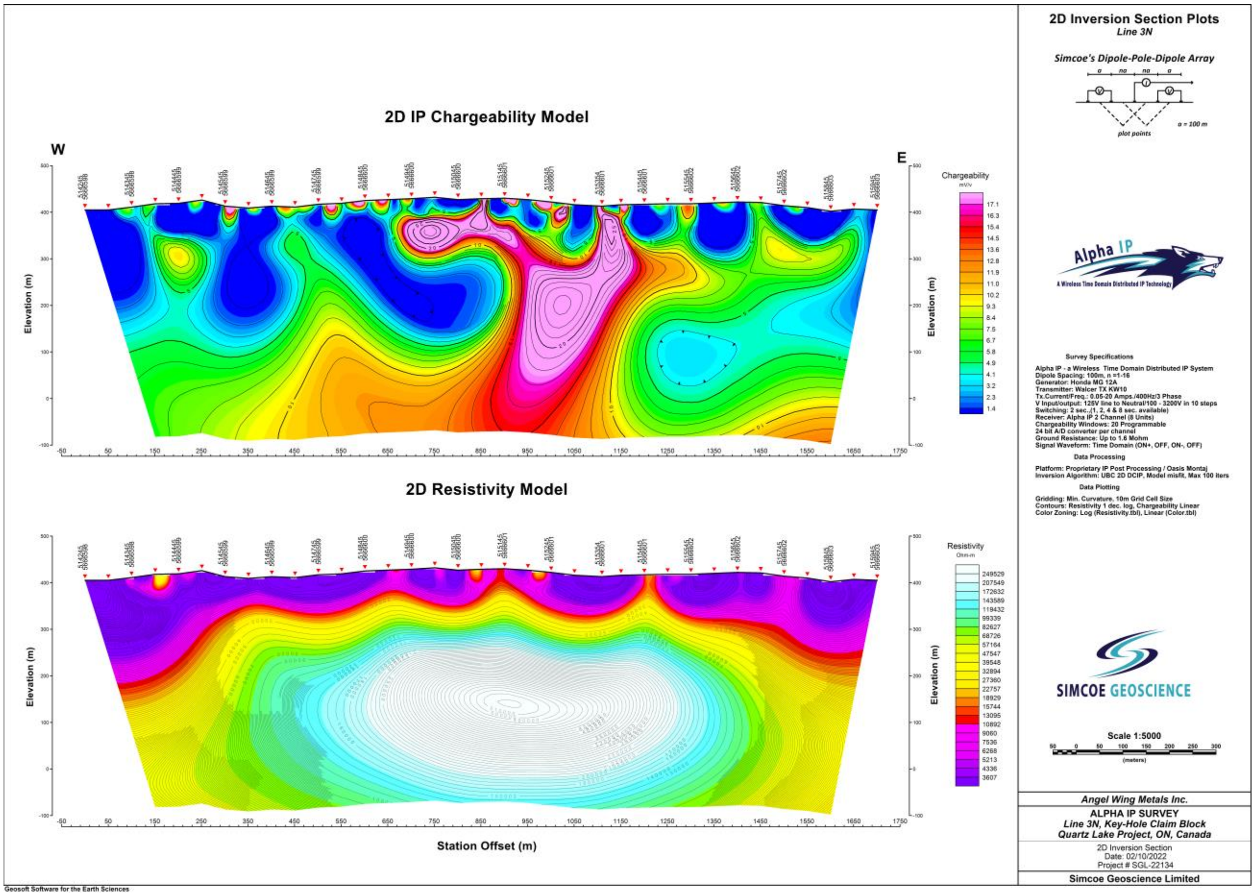
[signed and sealed]

Riaz Mirza, M.Sc., P.Geo.
Director & Geoscientist
Simcoe Geoscience Limited

APPENDIX A: 2D INVERSION SECTIONS




2D IP Chargeability Model
W
E
Chargeability
Elevation (m)
2D Resistivity Model
Resistivity
Station Offset (m)
2D Inversion Section Plots
Line 2N
Simcoe's Dipole-Pole-Dipole Array
plot points
a = 100 m
Alpha IP
A Wireless Time Domain Distributed IP Technology
Survey Specifications
Alpha IP - a Wireless Time Domain Distributed IP System
Dipole Spacing: 100m, n =1-8
Generator: Honda MG 12A
Transmitter: Walcer TX KW10
Tx.Current/Freq.: 0.05-20 Amps./400Hz/3 Phase
V Input/output: 125V line to Neutral/100 - 3200V in 10 steps
Switching: 2 sec.,(1, 2, 4 & 8 sec. available)
Receiver: Alpha IP 2 Channel (4 Units)
Chargeability Windows: 20 Programmable
24 bit A/D converter per channel
Ground Resistance: Up to 1.6 Mohm
Signal Waveform: Time Domain (ON+, OFF, ON-, OFF)
Data Processing
Platform: Proprietary IP Post Processing / Oasis Montaj
Inversion Algorithm: UBC 2D DCIP, Model misfit, Max 100 iters
Data Plotting
Gridding: Min. Curvature, 10m Grid Cell Size
Contours: Resistivity 1 dec. log, Chargeability Linear
Color Zoning: Log (Resistivity.tbl), Linear (Color.tbl)
SIMCOE GEOSCIENCE
Scale 1:5000
(meters)
Angel Wing Metals Inc.
ALPHA IP SURVEY
Line 2N, Key-Hole Claim Block
Quartz Lake Project, ON, Canada
2D Inversion Section
Date: 02/10/2022
Project # SGL-22134
Simcoe Geoscience Limited
Geosoft Software for the Earth Sciences



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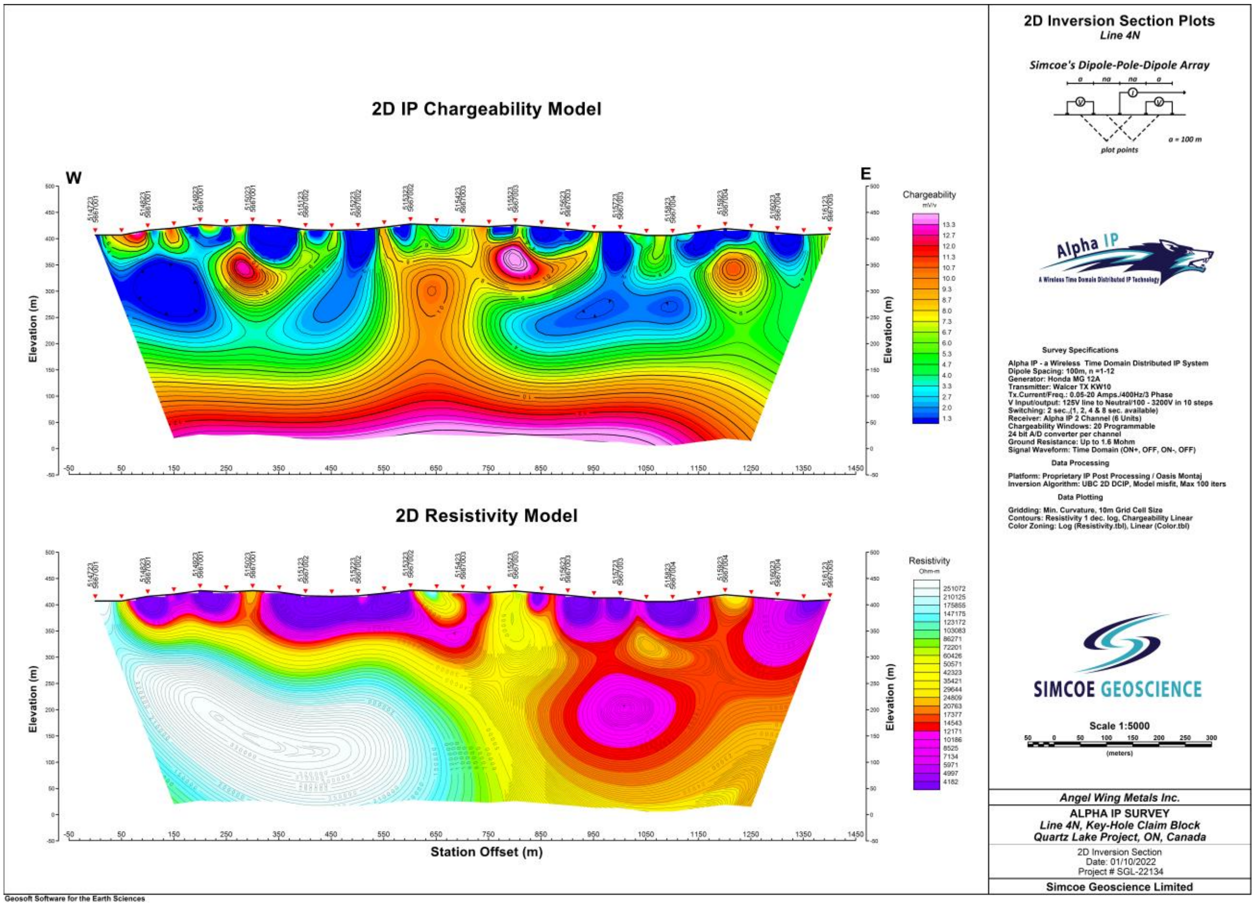

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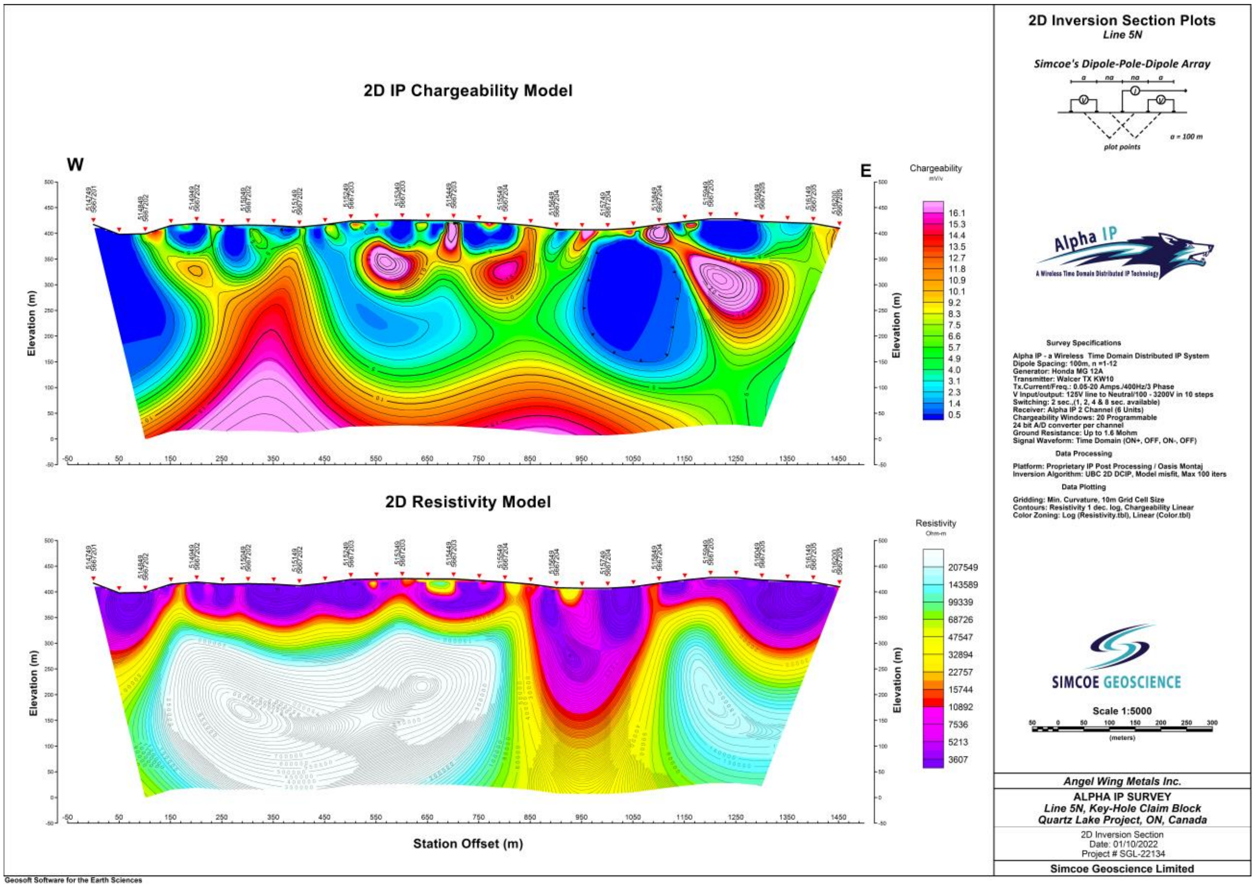
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2D Resistivity Model
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Elevation (m)
Chargeability
Resistivity
2D Inversion Section Plots
Line 5N
Simcoe's Dipole-Pole-Dipole Array
Survey Specifications
Data Processing
Data Plotting
SIMCOE GEOSCIENCE
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Angel Wing Metals Inc.
ALPHA IP SURVEY
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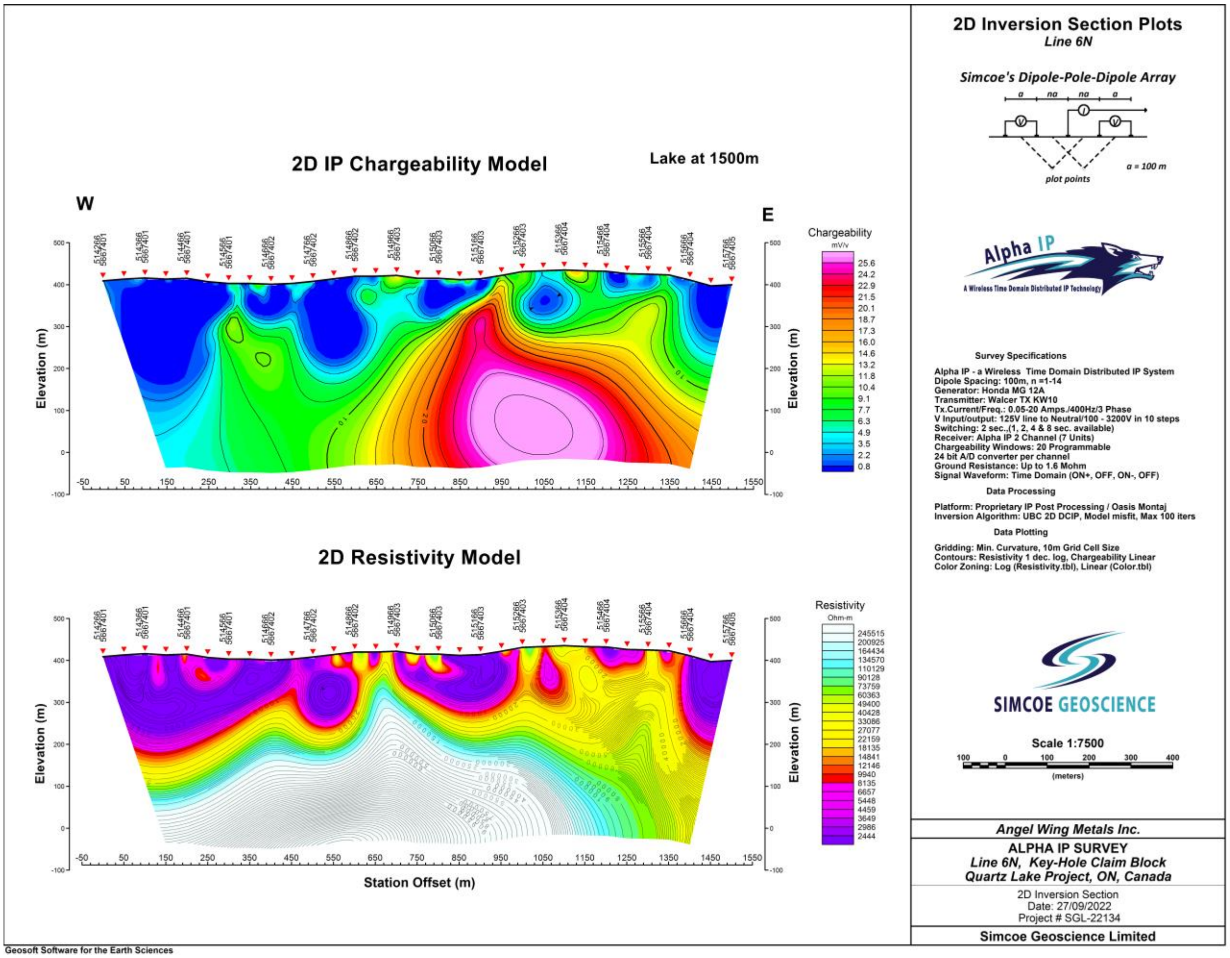
Quartz Lake Project, ON, Canada
2D Inversion Section
Date: 01/10/2022
Project # SGL-22134
Simcoe Geoscience Limited



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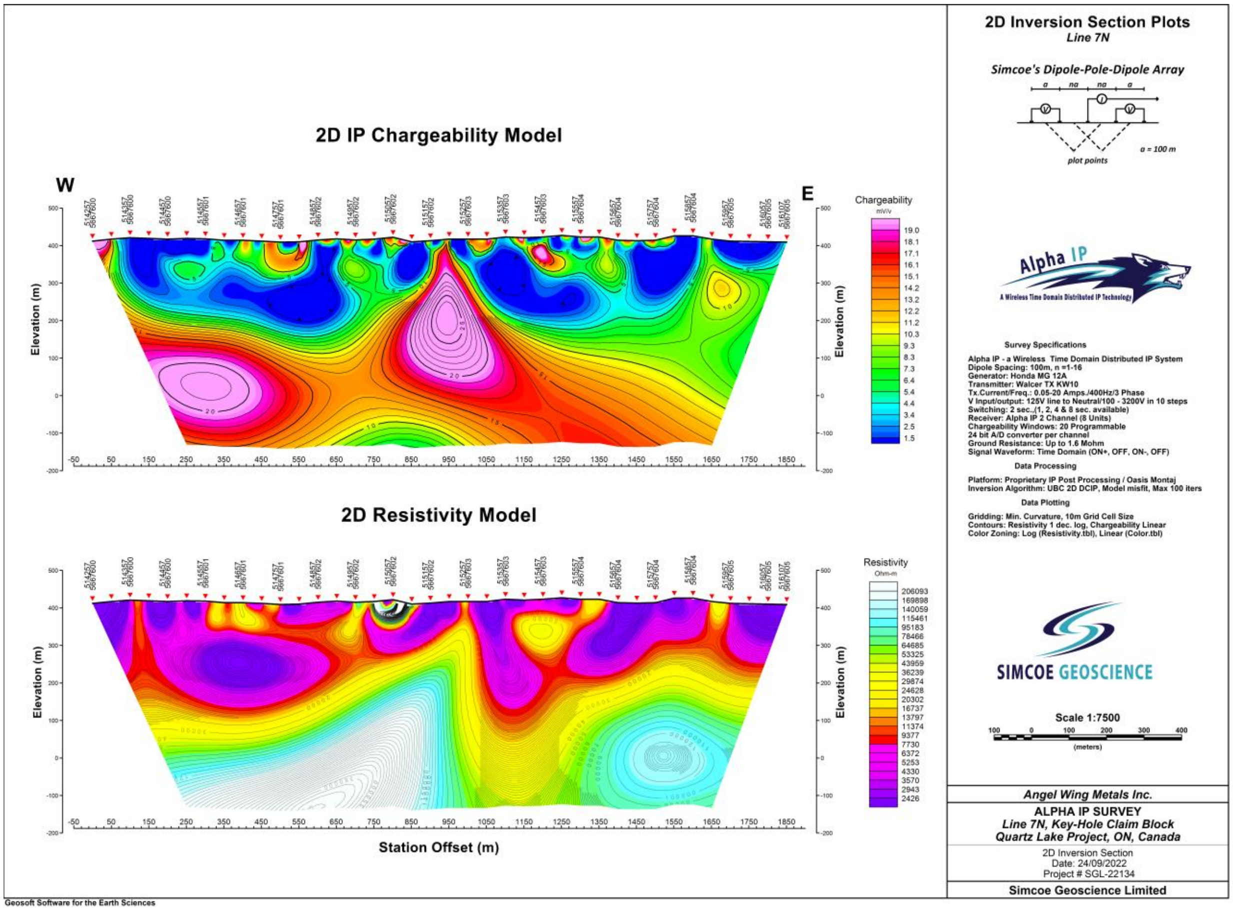

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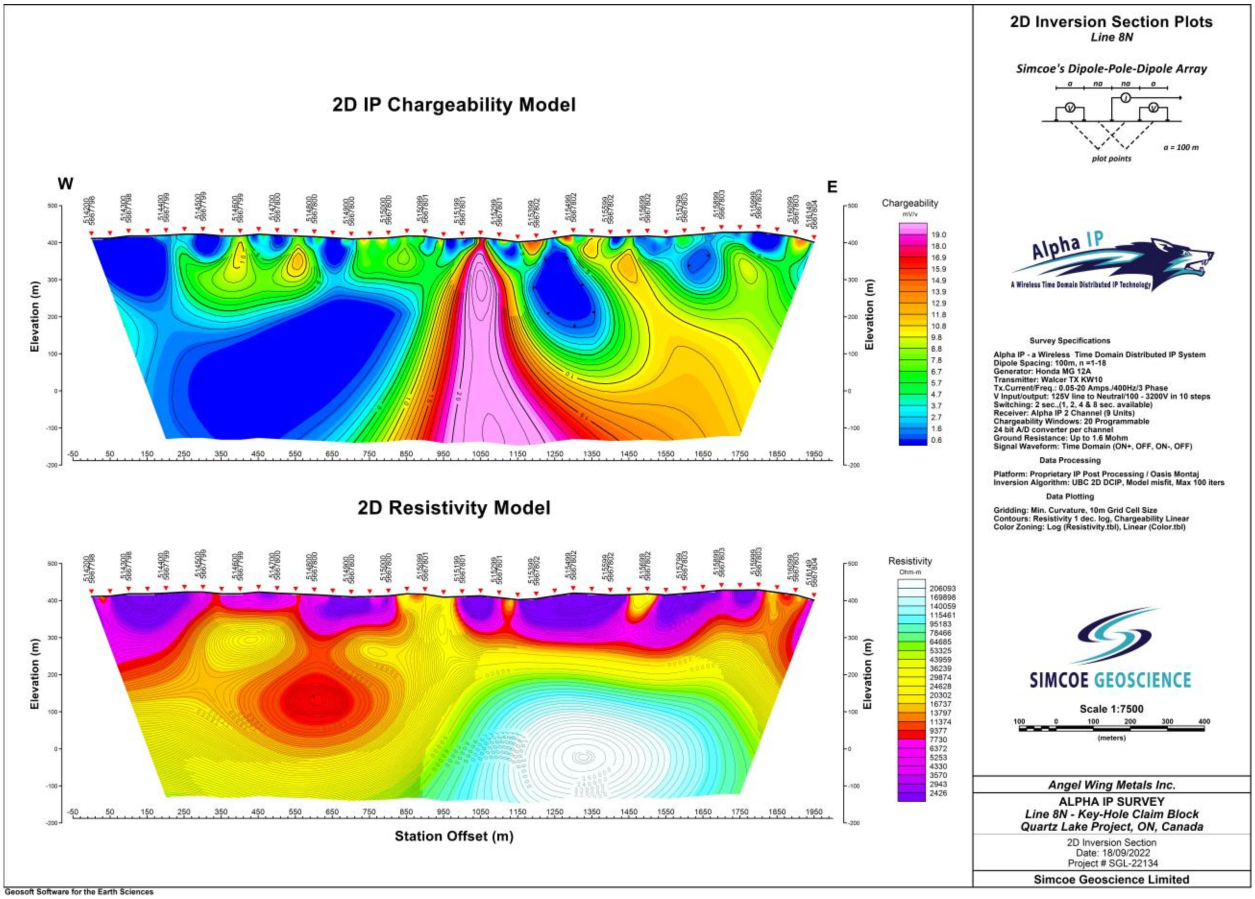

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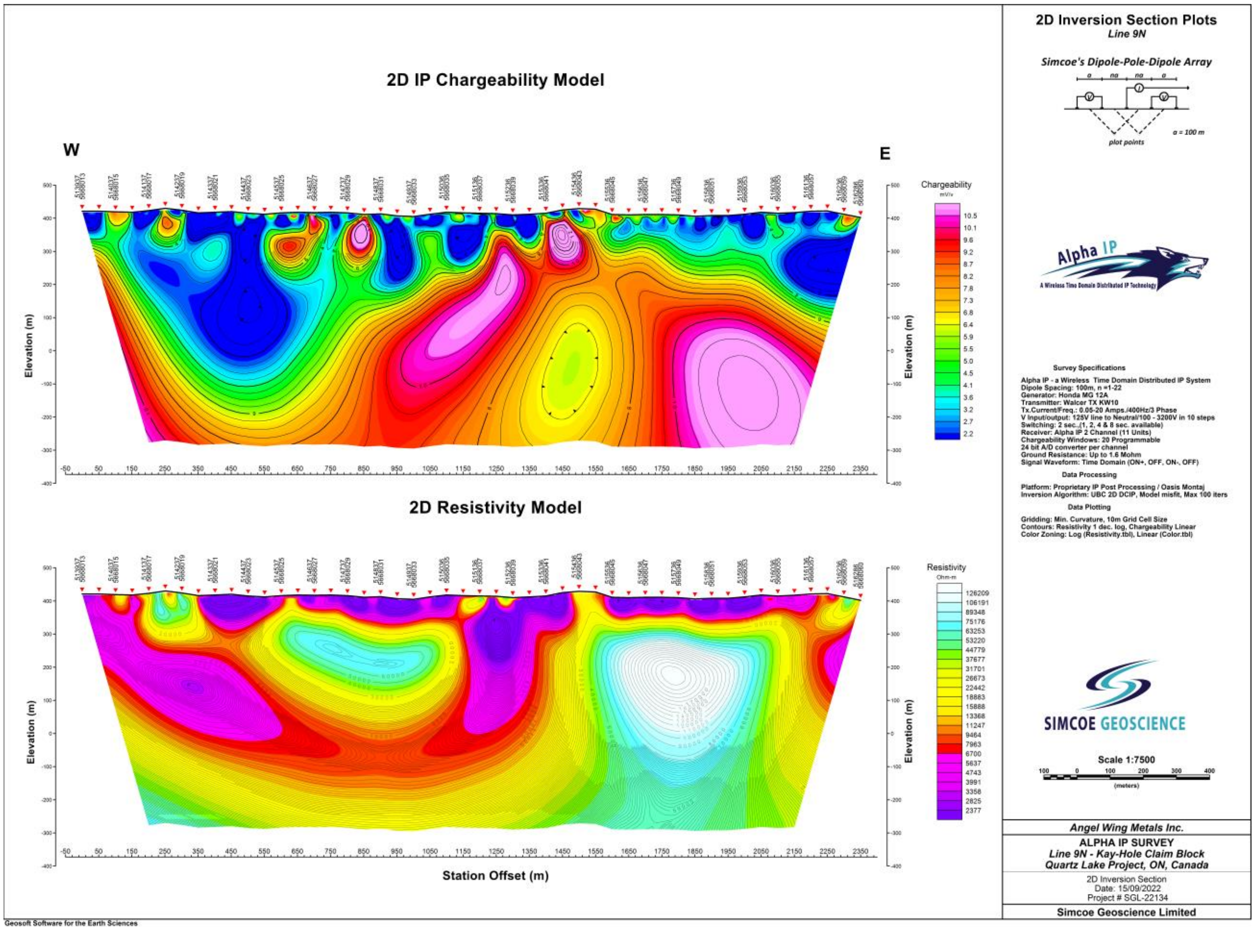
2D IP Chargeability Model
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Chargeability
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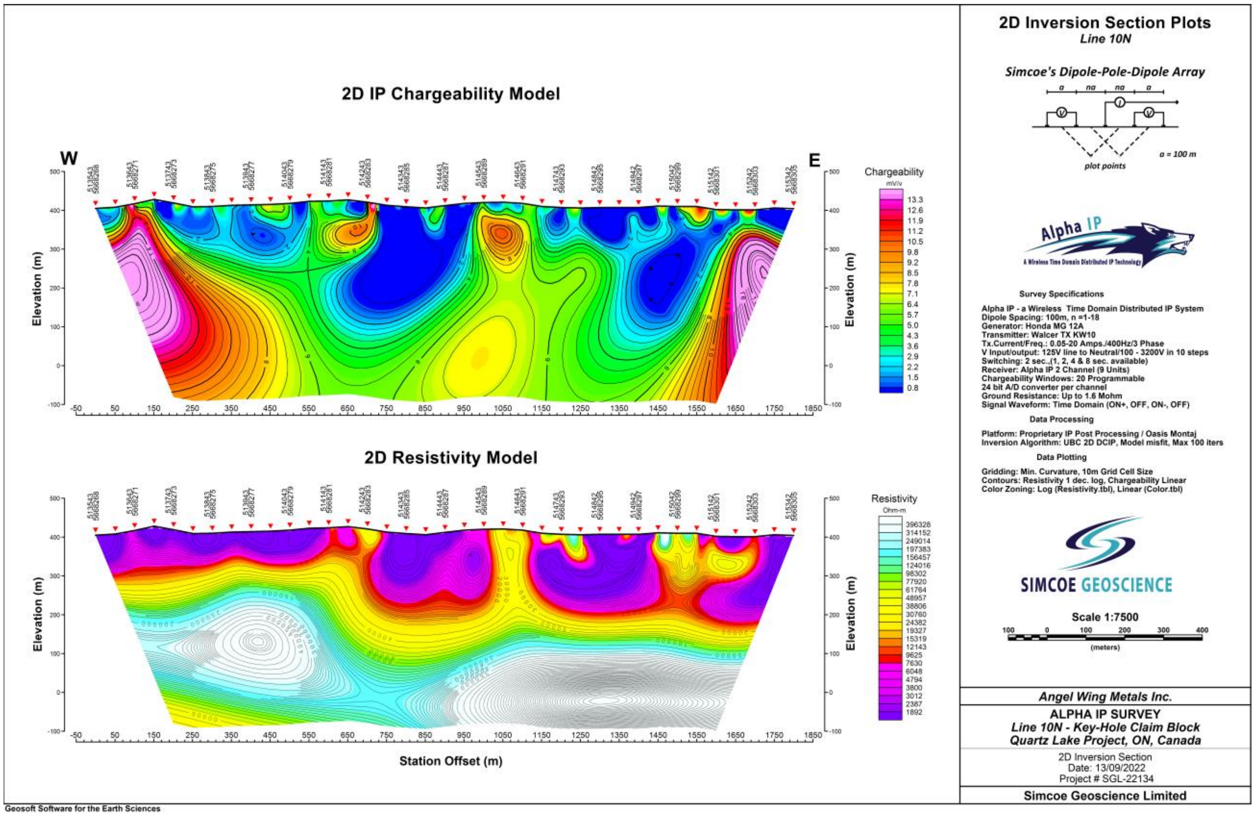
2D Resistivity Model
Resistivity
Ohm-m
Station Offset (m)
2D Inversion Section Plots
Line 9N
Simcoe's Dipole-Pole-Dipole Array
a = 100 m
plot points
Alpha IP
A Wireless Time Domain Distributed IP Technology
Survey Specifications
Alpha IP - a Wireless Time Domain Distributed IP System
Dipole Spacing: 100m, n =1-22
Generator: Honda MG 12A
Transmitter: Walcer TX KW10
Tx.Current/Freq.: 0.05-20 Amps./400Hz/3 Phase
V Input/output: 125V line to Neutral/100 - 3200V in 10 steps
Switching: 2 sec.,(1, 2, 4 & 8 sec. available)
Receiver: Alpha IP 2 Channel (11 Units)
Chargeability Windows: 20 Programmable
24 bit A/D converter per channel
Ground Resistance: Up to 1.6 Mohm
Signal Waveform: Time Domain (ON+, OFF, ON-, OFF)
Data Processing
Platform: Proprietary IP Post Processing / Oasis Montaj
Inversion Algorithm: UBC 2D DCIP, Model misfit, Max 100 iters
Data Plotting
Gridding: Min. Curvature, 10m Grid Cell Size
Contours: Resistivity 1 dec. log, Chargeability Linear
Color Zoning: Log (Resistivity.tbl), Linear (Color.tbl)
SIMCOE GEOSCIENCE
Scale 1:7500
(meters)
Angel Wing Metals Inc.
ALPHA IP SURVEY
Line 9N - Kay-Hole Claim Block
Quartz Lake Project, ON, Canada
2D Inversion Section
Date: 15/09/2022
Project # SGL-22134
Simcoe Geoscience Limited
Geosoft Software for the Earth Sciences



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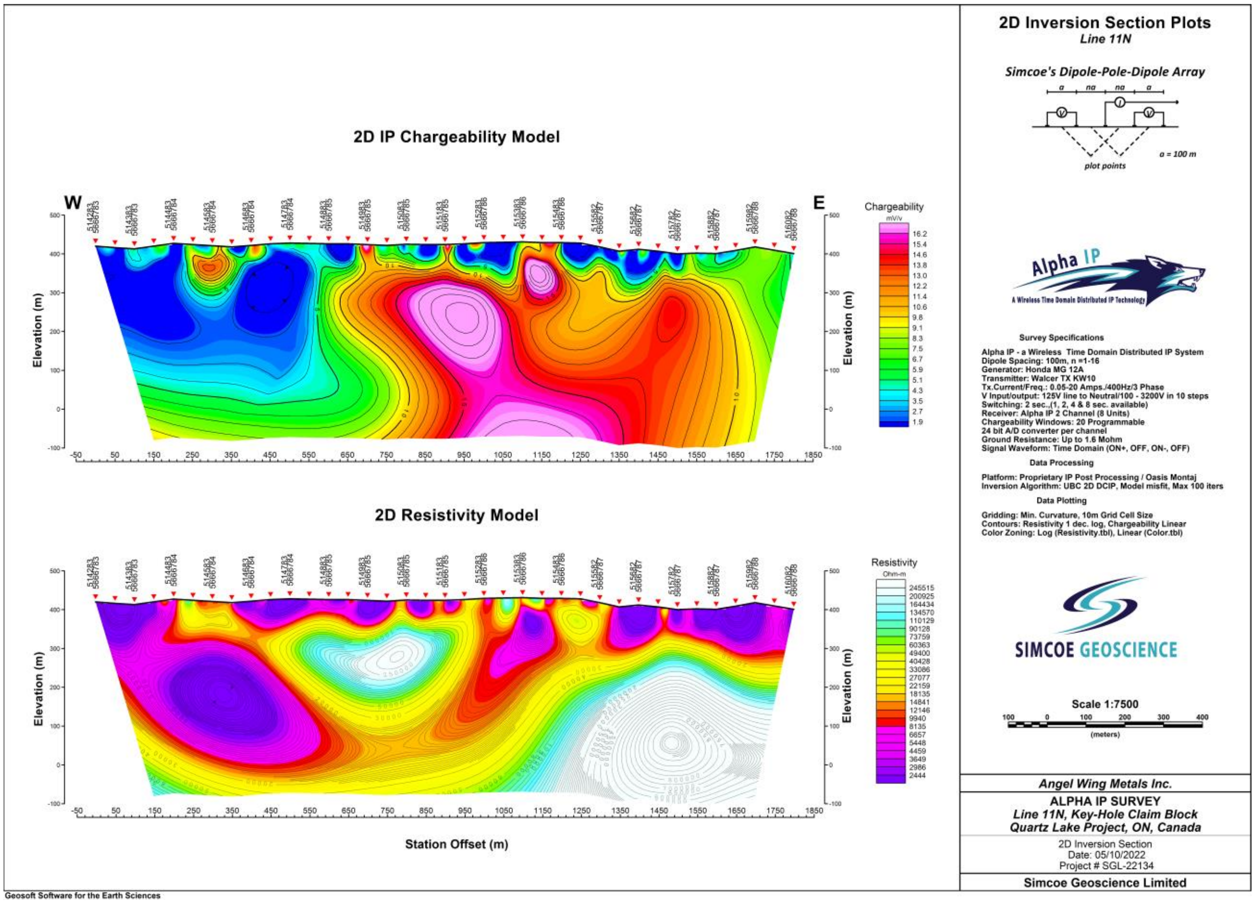

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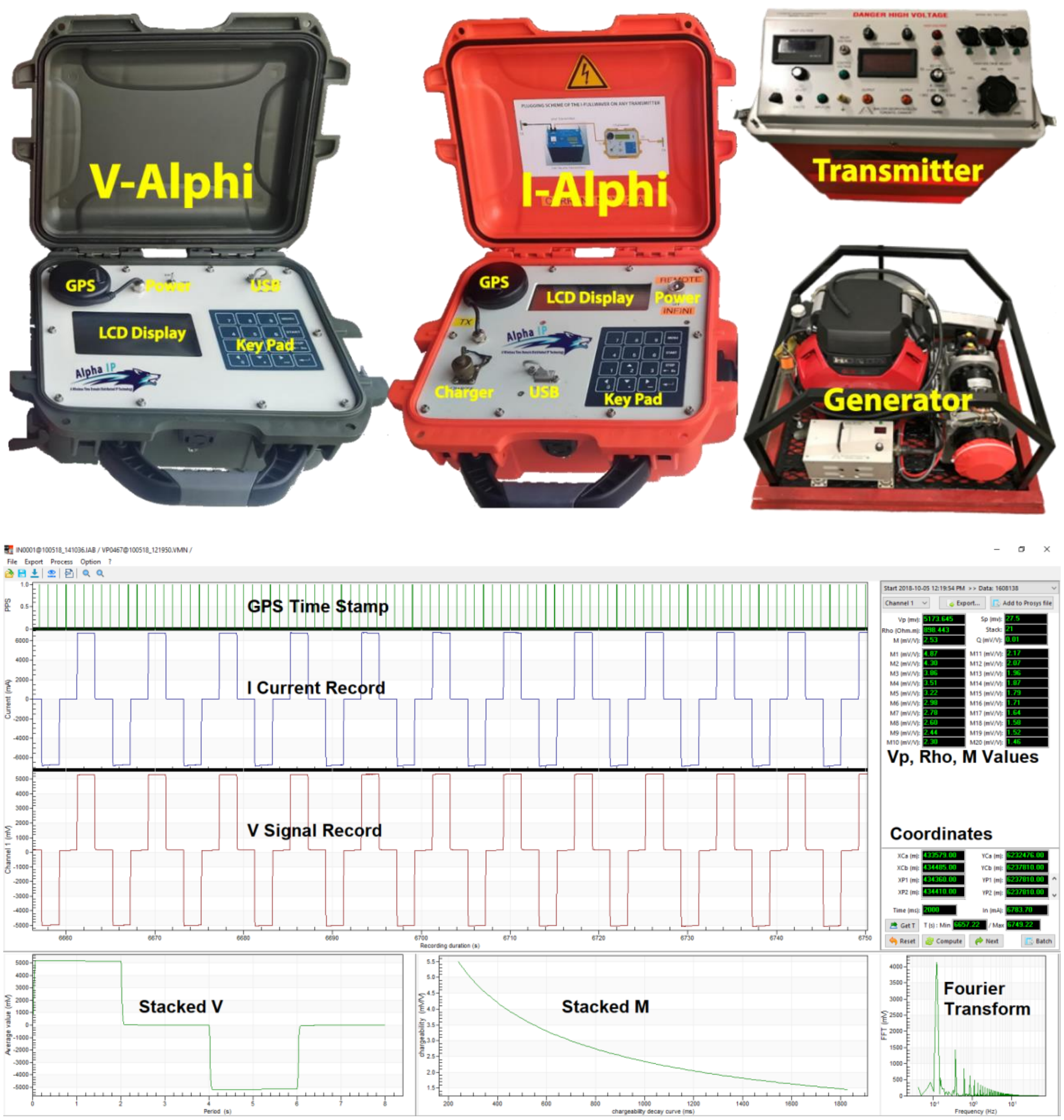
APPENDIX B: INSTRUMENT SPECIFICATIONS

Typical Alpha IP Current Recorder and Voltage Receiver (Alphi)



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IP Receiver (V-Alpha) Characteristics	
Pulse duration	1s, 2s, 4s, or 8s
Channels	2 Channels
Input Impedance	100 MOhms
Induced Polarization	(Chargeability) measured every 10 milliseconds (200 IP windows for a 2 sec pulse)
Input Voltage	15V, Automatic Gain, Input Protection 1000V
Resolution / Accuracy	1 µV / 0.2%
Readings	Full Waveform 10ms (100Hz) Sampling Rate, Resistivity, Self-Potential
Noise Rejection	Power Line Rejection, SP Linear Drift Correction.
Storage	Up to 70 days, Stored on Solid State Memory
Low Pass Filter & Upper Cut Off Frequency	10 Hz – 50Hz
Frequency Resolution	Up to 34 micro Hz
Time Resolution	250 micro seconds (Time Stamped Samples)
Contact Resistance Check	Fast resistance check to improve the contacts
GPS	Internal GPS with PPS (one pulse per second), GPS Input for Coordinates and Synchronization
Display	LCD Display, Graphic and Alpha Numeric with 16 Lines of 40 Characters
Data Flash Memory	one month recording
After Acquisition	Data retrieval on a USB Key
Battery Test	In Field Test
Power supply	Internal Li-Ion Rechargeable Battery; Optional External 12V Standard Battery
Autonomy	80 Operating Hours with the Internal Li-Ion Battery
Operating Temperature	-20 °C to +70 °C, Weather proof IP 67
Dimensions	31 x 25 x 15 cm
Weight	2.8 kg
IP Current Recorder (I-Alphi) Characteristics	
Pulse duration	1s, 2s, 4s, or 8s
Channels	1 channel
Input current	+/- 25000mA (optional 50A)
Resolution / Accuracy	0.1mA / 0.1%
Protection	up to 50 A and 3 000 V
Sensor	Magnetic Sensor
Magnetization offset (offset memory)	up to 0.05%
Readings	full waveform 10ms (100Hz) sampling rate
Calibration	Offset Calibration
Storage	up to 70 days 2 channels full waveform, stored on solid state memory
Time Resolution	250 micro seconds (time stamped samples)
Battery Test	In field test
GPS	Internal GPS with PPS (one pulse per second), GPS input for coordinates and synchronization
Display	LCD display , graphic and alpha numeric with 4 lines of 20 characters
Data Flash Memory	one month recording
After Acquisition	Data retrieval on a USB key
Power supply	internal Li-Ion rechargeable battery; optional external 12V standard car battery can be also used
Autonomy	80 operating hours with the internal Li-Ion battery

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Operating Temperature	-20 °C to +70 °C, Weather proof IP 67
Dimensions	31 x 25 x 15 cm
Weight	3.0 kg
IP Transmitter Characteristics	
Voltage Input	125V line to neutral, 400 Hz / 3 phase
Output	100 - 3200V in 10 steps, 0.05 - 20 Amps, Tested to 10.5 kVA
Switching	1 sec., 2 sec., 4 sec., 8 sec.
Metering	LED for line voltage and output current
Size	63cm. x 54cm. x 25cm.
Weight	44 kg.
IP Generator Characteristics	
Output	Self Excite / Regulated, 120 / 220V AC, 20 KVA Max, 400 Hz / 3 phase
Generator	Bendix Aircraft Type, Very durable, Forced Air Cooled
Engine	24 HP Honda, Electric Start
Gasoline Tank	External - to minimize, shipping problems with airlines
Size	79cm. x 61cm. x 48cm
Weight	89 kg.

GSM-19/GSM-19W (Overhauser) Magnetometer systems

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Fax: +1 (905) 235 7821 / info@SimcoeGeoscience.com

Performance	
Sensitivity	Standard GSM-19: 0.022nT @ 1Hz. GSM-19PRO: 0.015nT @ 1 Hz
Resolution	0.01 nT
Absolute Accuracy	0.1nT
Dynamic Range	20,000 to 120,000 nT
Gradient Tolerance	up to 10,000 nT/m
Samples at	60+, 5, 3, 2, 1, 0.5, 0.2 sec
Operating Temperature	-40°C to +50°C
Operating Modes	
Manual	Coordinates, time, date and reading stored automatically at up to 0.2 sec.
Base Station	Time, date and reading stored at 1 to 60 second intervals.
Remote Control	Optional remote control using RS-232 interface.
Input / Output	RS-232 using 6-pin weatherproof connector with USB adapter.
Memory – (# of Readings in millions)	Mobile: 1.4M, Base Station: 5.3M Gradiometer: 1.2M, Walking Mag: 2.6M
Dimensions	
Console	223mm x 69 mm x 240 mm (8.7 x 2.7 x 9.5 in.)
Sensor	175mm x 75mm diameter cylinder (6.8in long by 3in diameter)
Weights	
Console with Belt	2.1 kg
Sensor and Staff Assembly	1.0 kg
Standard Components	
GSM-19 console, GEMLink Software, battery, harness, charger, sensor with cable, RS-232 cable and USB adapter, staff, instruction manual, and shipping case.	
Options	
Gradient Magnetometer, Walking Mode, Multi Sensor	

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Appendix C: Survey Logistics

A.1 Access

Base of Operation:	Ear Falls Township, ON
Mode of Access to Grid:	By logging road
Mode of Access to Lines:	Foot

A.2 Survey Grid Area

Established by:	Angels Wing Metals Inc.
Coordinate Reference System:	UTM Coordinates
Datum & Projection:	WGS84/Zone 15N
Grid Azimuth:	E-W
Station Interval:	100 m
Method of Chaining:	Metric, points GPS surveyed

A.3 Personnel

Operations Manager:	Greg Hollyer
Responsible Geophysicist:	Haileyesus Wondimu
Data Processing (off site):	Mirza Shahbaz
Crew Chief:	Allen Boissoneau
IP operator Transmitter:	Sai Viswanath
Field Technicians/Field Helpers:	Eldhose K Baby (Geotech), Todd Fisher (Geotech), Erick Senior (Geotech), and Ambrose (Geotech).

A.4 Instrumentation

Receiver System:	Alpha IP Wireless x9 receiver: 18 channels max.
Transmitter:	Walcer TX KW10
Current Recorder:	Alpha IP Current Recorder x2
Power Supply:	MG12A, Input: 125V line to neutral 400 Hz / 3 phase Output: 100 - 3200V in 10 steps 0.05 - 20 Amps
Transmit Electrodes:	6 x 0.75-inch diameter 4 feet long stainless-steel rods
Receiver Electrodes:	Ground contacts using stainless steel rods
Magnetometer:	GSM-19/GSM-19W (Overhauser) Magnetometer system

A.5 Coverage and Production

Total Survey Period:	28 days September 8th to October 5th, 2022.
Survey Days (read time):	23 days
Mob/Demob/Break:	3 days
Safety Inductions / Site visit:	0 day
Standby Days/ weather day	2 day
Number of Lines surveyed:	11
IP+Mag Survey Coverage:	19.00 km + 19.70 km

A.6 Production Log

SIMCOE GEOSCIENCE

PRODUCTION SUMMARY

Survey Specifications

Client:	Angel Wing Metals Inc.
Project:	Quartz Lake - Key-Hole Claim Block
Project #	SGL-22134
Stay:	Trillium Hotel, Ear Falls, ON
Grid access:	Around 65 km one way drive to grid
Mob:	2
Working day:	23
Standby:	2
Demob:	1

2D Induced Polarization and Resistivity Survey

Equipment			
Alpha IP	12 x Receiver, 2 x Current Recorder, 1 x Tx, 1 x MG		
Accessories	Stainless Steel Electrodes, Dipole Wire, Power Wire		
Grid:	Quartz Lake		
L1N	complete	L6N	complete
L2N	complete	L7N	complete
L3N	complete	L8N	complete
L4N	complete	L9N	complete
L5N	complete	L10N	complete
		L11N	complete
Completed	*Line 11 of 11*		

Crew Abbreviations:

RM = Riaz Mirza, Director
AB= Allen Boissoneau (Crew Chief)
Sai Viswanath - (Operator)
Geotech
Allen Boissoneau Jr. (Geotech)
Eldhose K Baby (Geotech)
Todd Fisher (Geotech)
Erick Senior (Geotech)
Ambrose (Geotech)

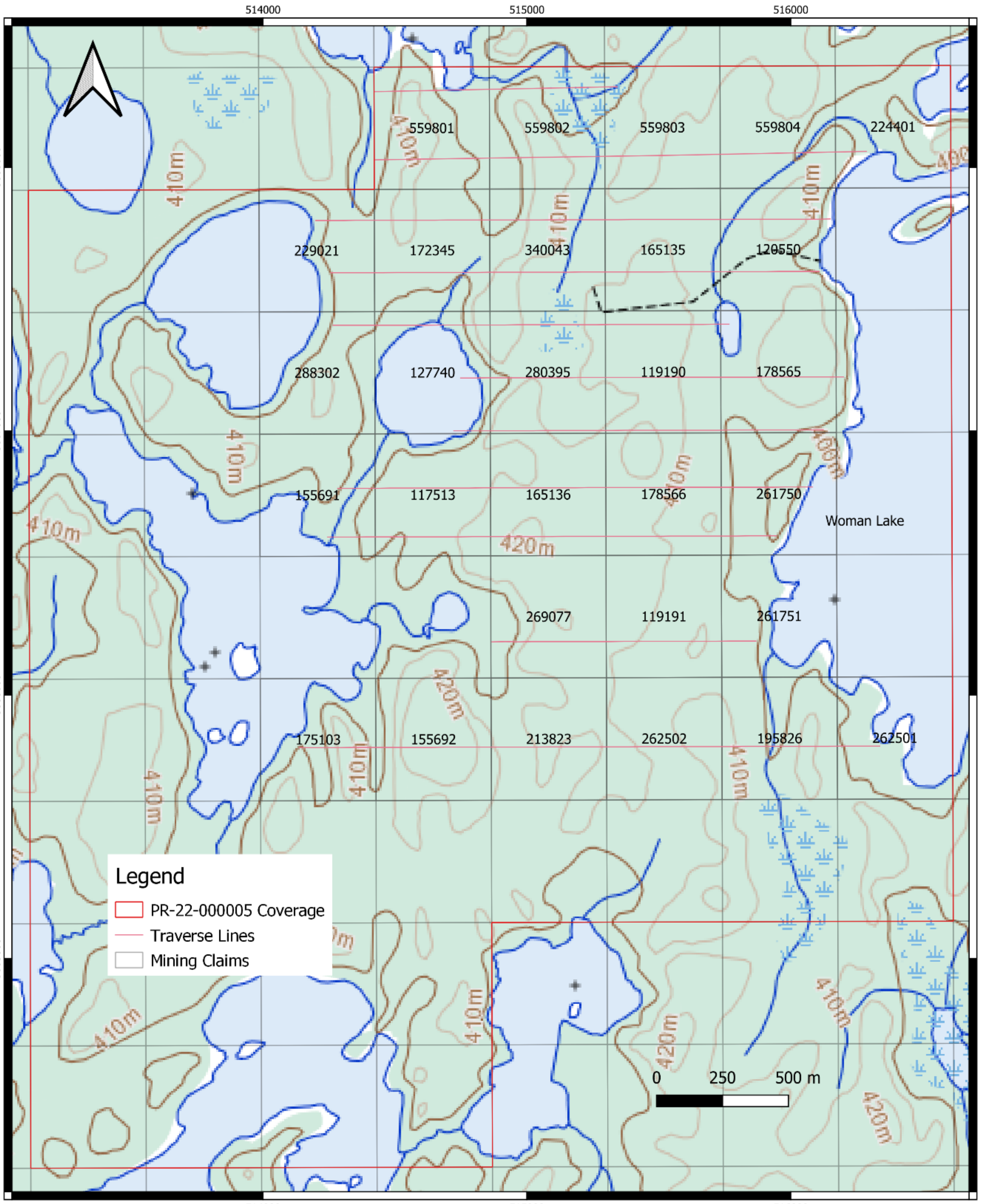
Day	Date	Description	Work Standby	Charges	Area	Dipoles	Total Injections	Injections Completed	Status	Health status of the crew	General condition of the equipment
1	08-Sep-22	**MOB**	0		On the way to Ear Falls, ON	****	****	****	****	Good	Good
2	09-Sep-22	**MOB** and arrived at Ear Falls, ON	0	$ -	Ear Falls, ON	****	****	****	****	Good	Good
1	10-Sep-22	All crew went out to the grid, set up infinite line.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
2	11-Sep-22	All crew went out to the grid, bush crush 1.65 km, threw the bush to get to the 10 and set up half the line.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
3	12-Sep-22	All crew went out to the grid, set up line 10N upto 1750, hit a swamp at 1700m.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
4	13-Sep-22	All crew went out to the grid, set up line and read line 10N	1	$ 8,200.00	Ear Falls, ON	18	19	19	Line 10N **(Complete)**	Good	Good
5	14-Sep-22	All crew went out to the grid, picked up line 10N and set up line 9N and will read tomorrow.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
6	15-Sep-22	All crew went out to the grid, set up line 9N and read line 9N.	1	$ 8,200.00	Ear Falls, ON	22	25	25	Line 9N **(Complete)**	Good	Good
7	16-Sep-22	All crew went out to the grid, picked up line 9N and set up line 8N and will read tomorrow.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
8	17-Sep-22	All crew went out to the grid, set up line 8N and read line 8N.	1	$ 8,200.00	Ear Falls, ON	18	21	21	Line 8N **(Complete)**	Good	Good
9	18-Sep-22	All crew went out to the grid, picked up line 8N and set up half of line 7N.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
10	19-Sep-22	All crew went out to the grid, set up line 7N and flagged line 6N and line 5N.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
11	20-Sep-22	All crew went out to the grid to check on everything to Alphies and wires.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
12	21-Sep-22	All crew went out to the grid and completed flagging line 5N and equipment inspection/maintenance.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
13	22-Sep-22	IP crew waited for the MAG crew, field planning and orientation, Crew will read line 7N tomorrow. **(Stand by)**	0	$ 6,800.00	Ear Falls, ON	****	****	****	****	Good	Good
14	23-Sep-22	All crew went out to the grid, set up line 7N and started reading line 7N.	1	$ 8,200.00	Ear Falls, ON	16	10	10	Line 7N **(Incomplete) day1**	Good	Good
15	24-Sep-22	All crew went out to the grid, finished reading line 7N.	1	$ 8,200.00	Ear Falls, ON	16	10	10	Line 7N **(Complete) day 2**	Good	Good
16	25-Sep-22	Replacement of new transmitter and equipment maintenance. **(Standby)**	0	$ 6,800.00	Ear Falls, ON	****	****	****	****	Good	Good
17	26-Sep-22	All crew went out to the grid, set up line 6N and started reading tomorrow.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good

Day	Date	Description	Work Standby	Charges	Area	Dipoles	Total Injections	Injections Completed	Status	Health status of the crew	General condition of the equipment
18	27-Sep-22	All crew went out to the grid, set up line 6N and read line 6N. Line was cut short due to lake at 1500m	1	$ 8,200.00	Ear Falls, ON	14	16	16	Line 6N **(Complete)**	Good	Good
19	28-Sep-22	All crew went out to the grid, picked up line 6N and set up line 5N and bit of Line 4N. Crew will try to read two lines tomorrow.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
20	29-Sep-22	All crew went out to the grid, set up, read and pick up line 5N, line 5N was cut short 500m from the the west side due to lake. Line 4N also set up, read. Line 4N was cut short on the west side due to lake.	1	$ 8,200.00	Ear Falls, ON	24	30	30	Line 5N, Line 4N **(Complete)**	Good	Good
21	30-Sep-22	All crew went out to the grid, picked up line 4N and set up line 3N and 2N and flagged line 1N. Crew will read line 3N and 2N tomorrow.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
22	01-Oct-22	All crew went out to the grid, set up, read and pick up line 3N, line 2N stops at 350m from the the west side due to swamp/lake.	1	$ 8,200.00	Ear Falls, ON	24	31	31	Line 3N, Line 2N **(Complete)**	Good	Good
23	02-Oct-22	All crew went out to the grid, set up line 1N and read line 1N.	1	$ 8,200.00	Ear Falls, ON	20	23	23	Line 1N **(Complete)**	Good	Good
24	03-Oct-22	All crew went out to the grid, reset up the infinte and crew is going to set up line and will do Mag as well. line 11N will be read tomorrow hopefully.	1	$ 8,200.00	Ear Falls, ON	****	****	****	****	Good	Good
25	04-Oct-22	All crew went out to the grid, set up line 11N and read line 11N. Project is completed sucessfully and no incident/accident reported. Crew will demobalize tomorrow from Quartz Lake project / Ear Falls Trillium Hotel, ON, to Simcoe Office Stouffivlle ON.	1	$ 8,200.00	Ear Falls, ON	16	19	19	Line 11N **(Complete)**	Good	Good
26	05-Oct-22	**DEMOB**	0	$ -	Ear Falls, ON to Simcoe office	****	****	****	****	Good	Good

Appendix D – Mining lands on which survey was performed

Claim Numbers: 175103, 155692, 213823, 262502, 195826, 262501, 269077, 119191, 261751, 155691, 117513, 165136, 178566, 261750, 127740, 280395, 119190, 178565, 261749, 288302, 229021, 172345, 340043, 165135, 120550, 559801, 559802, 559803, 559804, 224401

Permit: PR-22-000005



Appendix E – Exploration history

1928: Woman Lake Goldfields Development Ltd. Conducted stripping and trenching. 1948: Dougron Gold Mines Ltd conducted a magnetic survey and drilled two holes totalling 851 ft, no assay data. 1970: Canex Aerial Exploration Ltd. Conducted airborne and ground magnetic and electromagnetic geophysical surveys and drilled on 502 ft hole. 1981: Sherritt Gordon mines Ltd. Conducted a program of stripping, trenching. Geological mapping and magnetic and electromagnetic surveys. 1983: Sherritt drilled 4 holes totalling 445 ft. 1984: Sherritt conducted a lithogeochemical survey. 1989: Noranda Exploration Company Ltd. Conducted a program of geological mapping and rock and soil sampling. 1992: Several grab samples taken by Ontario Geological Survey Geologist assayed between 24 and 9920 ppb Au. 2001-2002: Fronteer Development Group Inc. conducted an exploration program consisting of airborne magnetic and electromagnetic surveys followed by mapping, prospecting and sampling. 2008: Magna Resources Ltd. Conducted overburden trenching program.