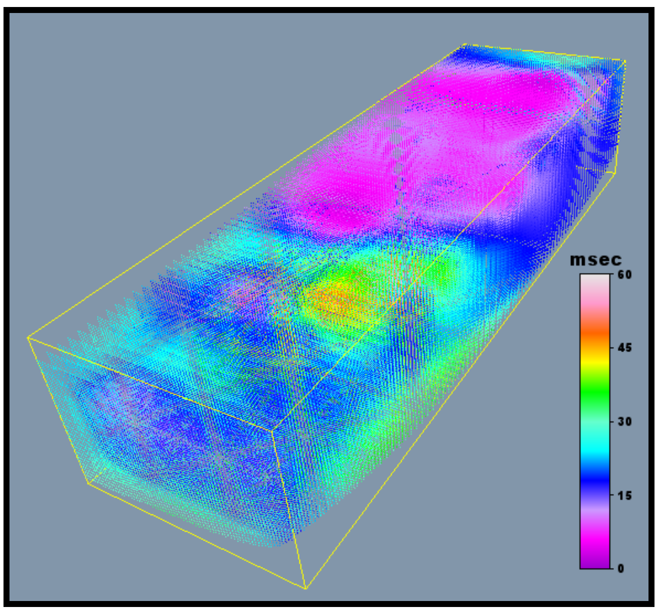
ELDORADO PROPERTY
INDUCED POLARIZATION SURVEY - 2024
GIS COMPILATION



Chargeability 3D Point Cloud Model Looking to Northwest

James L. Wright M.Sc.
August 17 / 2024

TABLE OF CONTENTS

INTRODUCTION

An induced polarization (IP) survey was completed on the Eldorado property by KLM Geoscience LLC contracted by Provenance Gold Corp. Dufresne, M. and Gibson, J. (2022) describe the mineral system in the text shown below.

> The Eldorado magmatic/hydrothermal system is interpreted as a classic porphyry gold system. Mineralization is controlled by both strong fracture development and pyrite veining coincident with gold mineralization (Gatehouse, 1997). Pyrite veining, or its oxidized equivalent, is common throughout all of the drill holes. Gold is found in veinlets, stockworks, fractures, and hydrothermal breccias. Pyrite was identified as the dominant sulphide species at Eldorado however minor chalcopyrite and lesser sphalerite, galena, pyrrhotite, and marcasite were identified in polished sections. Native gold averaging 72 microns in diameter, and gold enclosed pyrite crystals was also observed in polished sections.

The IP technique is well suited for delineation of sulfides and structural / lithologic mapping via the resistivity parameter. Such is the motivation for the survey. Survey procedures are reviewed first followed by a description of data processing and an interpretation, and finally conclusions / recommendations. Results of the survey are presented as MAPINFO / ARCGIS GIS, Google Earth KMZ files, as well as VOXLER three dimensional files. Further, the sections are prepared for import into other 3D applications such as LEAPFROG. The files are contained on a flash drive located in a folder at the rear of the report. Also contained on the drive are digital data files for the survey, as well as a copy of this report. A README file clearly defines the various folders and files. Figure 1 shows the property's location in eastern Oregon

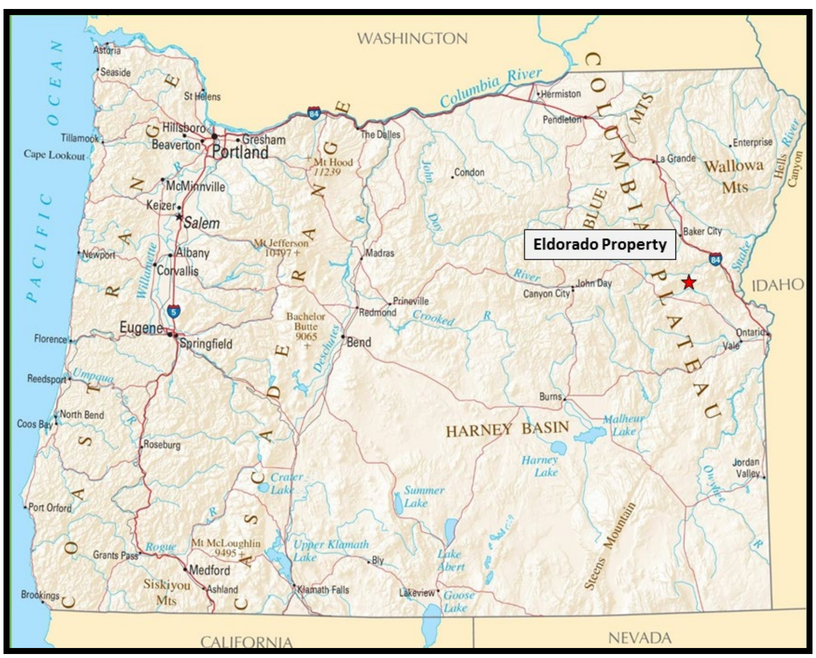


FIGURE 1: Eldorado Property, Malheur County, Oregon

SURVEY PROCEDURE

The IP survey consists of four lines as shown in Figure 2 over topography. A total of 6.2 line-km were covered on 200 m spaced north-south lines numbered from 0 to 600E. Thirteen days from July 19 – 31 / 2024 span the field work. Coordinate system used is **NAD 83 / UTM Zone 11N**.

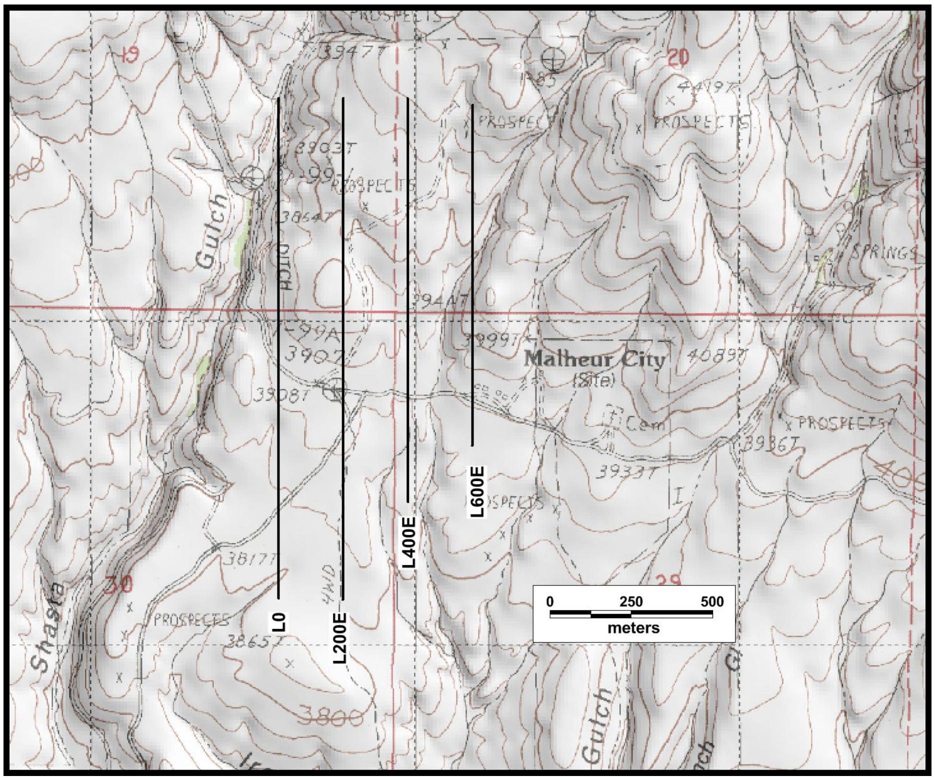


FIGURE 2: Eldorado IP Lines over Topography

KLM Geoscience LLC, Inc. based in Caliente, Nevada acquired the IP data using a dipole-dipole electrode array with a 100 m dipole length and n-levels spanning .5 to 12.5. Data were acquired in the time-domain mode with a fundamental frequency of .125 Hz. The KLM logistics report does not define the integration window, thus the chargeability measurements are uncertain as to compliance with the Newmont M331 standard.

Instrumentation used for the survey is summarized below. The KLM Geoscience LLC data acquisition report is reproduced in Appendix A.

- **Receivers:** Two GDD IP receiver model GRx8-32, serial numbers 1381 and 1404
- **Transmitter:** One GDD transmitter model Tx4, 5000Watt – 2400Volt – 20Amp
- **Generator:** Honda 6500-Watt generator
- **Porous Pots:** Tinker Rasor – Model 3-A Copper Sulfate Electrodes (CuSO4).

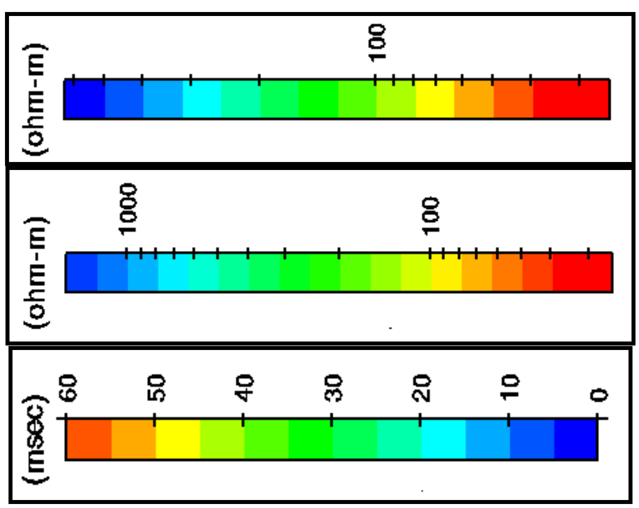
DATA PROCESSING

Numerical data for the IP survey included apparent resistivities in ohm-meters (ohm-m) and chargeability values in milliseconds (msec). These data were provided in two text files (.avg and .stn) for each line. The chargeability files contain the averaged and edited data, and the STN files contain the station survey location coordinates. The **UTM ZONE 11N / NAD 83** coordinate system is used for all processing and final products. Data quality for the entire survey is fair.

The dipole-dipole data received complete 2D inversions for both the chargeabilities and resistivities. The processing flow commenced with verifying conversion of the data to the proper format for input to the Zonge TS2DIP 4.70i smooth model Res / IP inversion program. Appendix B contains inversion / model summaries for the lines. The top image shows the final model for the resistivity or chargeability. The two bottom images the observed and model calculated data for the resistivity or chargeability. Reasonable fits are noted for both parameters on all lines. The data are contained and organized in the LINE_DATA folder on the accompanying flash drive.

The IP inversion model for a given line extends laterally from the outer electrode / pot location to a depth of approximately three to four dipole lengths (i.e. 300 m & 400 m) as determined by the .2 % sensitivity limit. Within the model are discretization blocks ranging from 50 x 25 m width and height near surface to approximately a 170 m height at depth..

The gridded chargeability and resistivity inverted data were colored and contoured with intervals of one and logarithmic respectively. Color bars for the resistivity and chargeability follow, which also apply to the other data products.



Color Bars: Resistivity Lines 0, 200E, 600E
Resistivity Line 400E
Chargeability All Lines
(Top to Bottom)

MAPINFO and ARCGIS files for the inverted sections with contours embedded were generated by rotating the sections to the east about the line trace (see Figure 3) into plan.

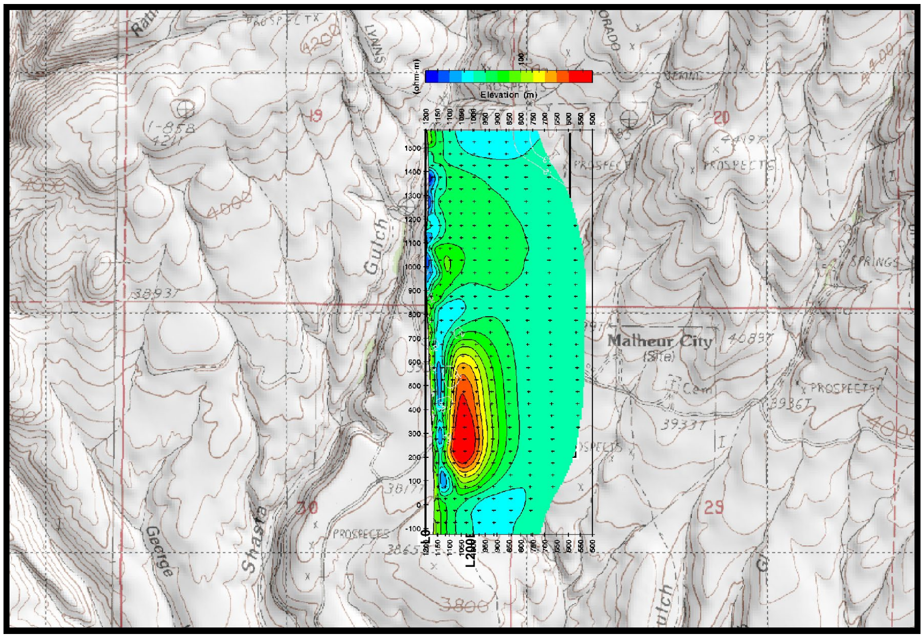


FIGURE 3: Line 0 Resistivity Section over Topography

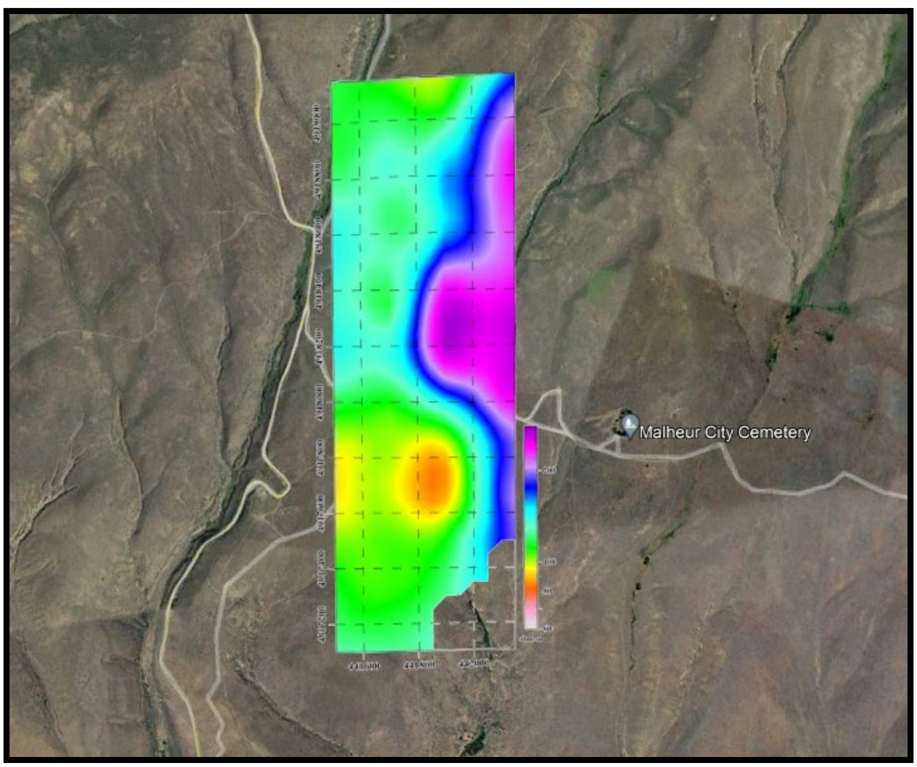


FIGURE 4: Resistivity 150 m Depth Slice over Google Earth Image

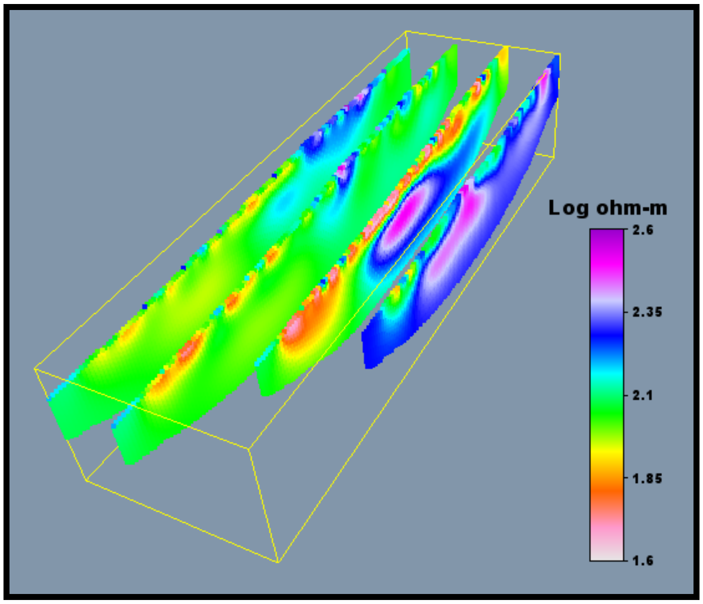


FIGURE 5: Resistivity Stacked Sections Looking Down to Northwest

The section inversions for both parameters were combined and imported into the VOXLER three dimensional visualization software. In addition, the inverted sections and elevation slices were imported into Google Earth as KMZ files. Figures 4 and 5 present examples from Google Earth and VOXLER respectively.

The inverted sections are also combined and imported into Access as separate files for the resistivity and chargeability. This permits data to be extracted in many formats using queries such as sections or depth / elevation slices. Three elevation slices were extracted 0 m, 150 m and 250 m. The slices were processed for input to the GIS and Google Earth applications. Figure 4 shows a depth slice in Google Earth.

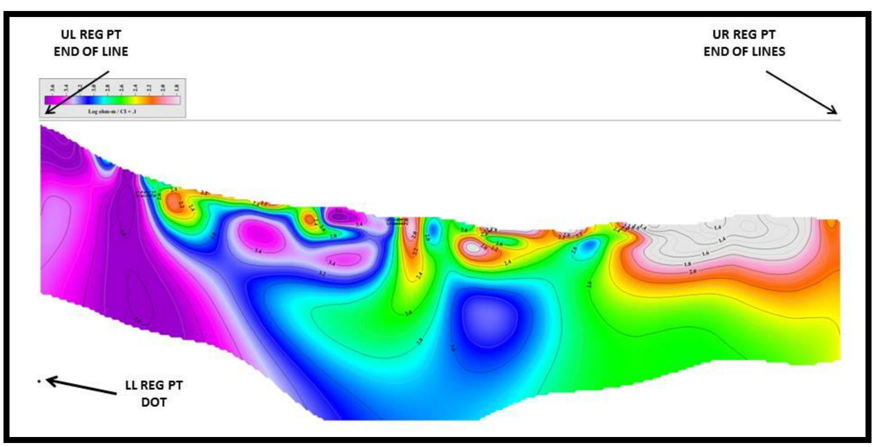


FIGURE 6: Section Registration Points

To facilitate inputting the **sectional** data into other applications, the inverted sections are provided with three registration points as shown in Figure 6. Along with the images is an Excel file listing coordinates for the registration points. Such registration points allow import of sections into other applications such as Leapfrog or Vulcan.

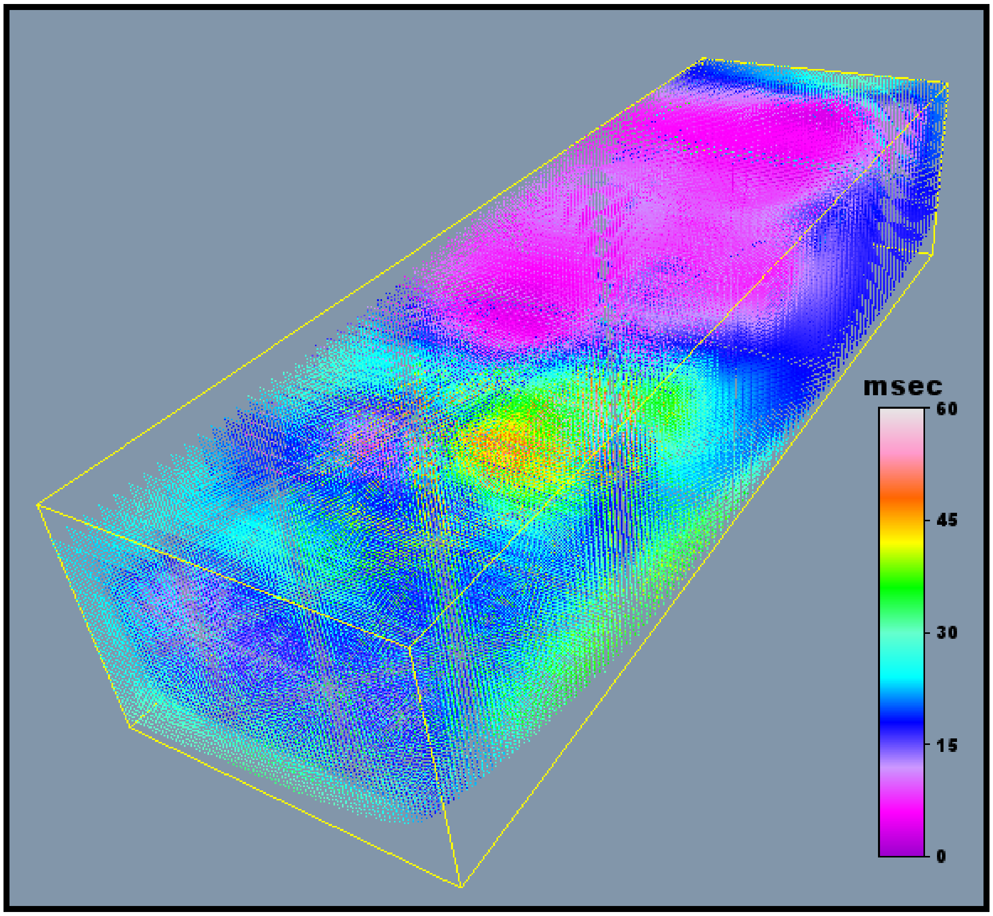


FIGURE 7: VOXLER Chargeability Point Cloud Model

Finally, the combined inverted sections were gridded into a three dimensional block model and exported into a point cloud model containing 391320 points. Two models are provided one for the resistivity and chargeability. Figure 7 shows the chargeability point cloud model in VOXLER.

INTERPRETATION

Each of the four lines is interpreted with a sectional overlay as Figure 8 demonstrates. The interpretation identifies structures with dashed black lines and contacts with dotted lines. Anomalies, from the chargeability section, are outlined with cross-hatched polygons. Appendix C contains images with interpretations for all lines with both resistivity and chargeability sections included. The inverted sections are backed with the property scale airborne magnetic color image (see Figure 8).

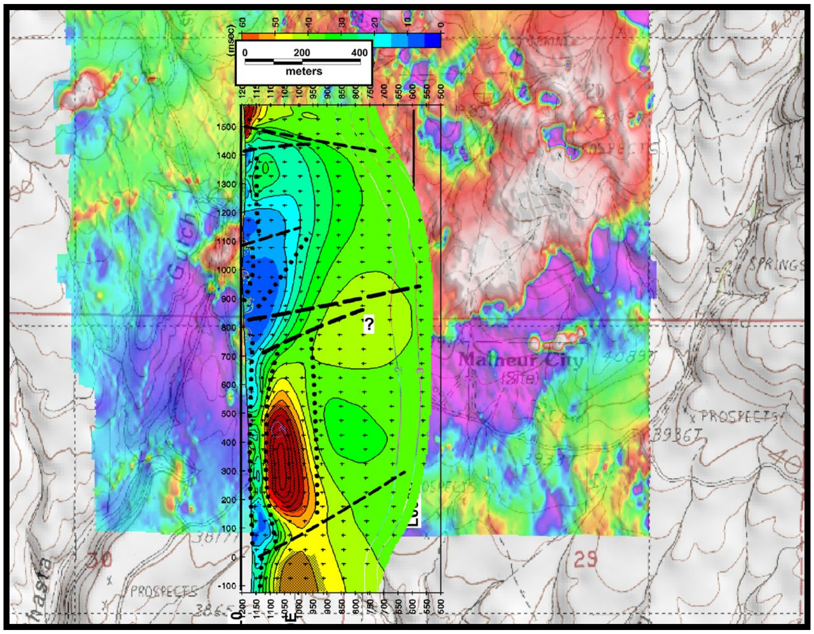


FIGURE 8: Line 0 Chargeability Section, Interpretation over Airborne Magnetics

The most prominent feature on both the resistivity and chargeability sections is flat to slightly north dipping coincident resistivity low and chargeability high. This relationship continues across all the sections. Figure 9 shows a stacked section view of the chargeability sections, which demonstrates the line-to-line continuity.

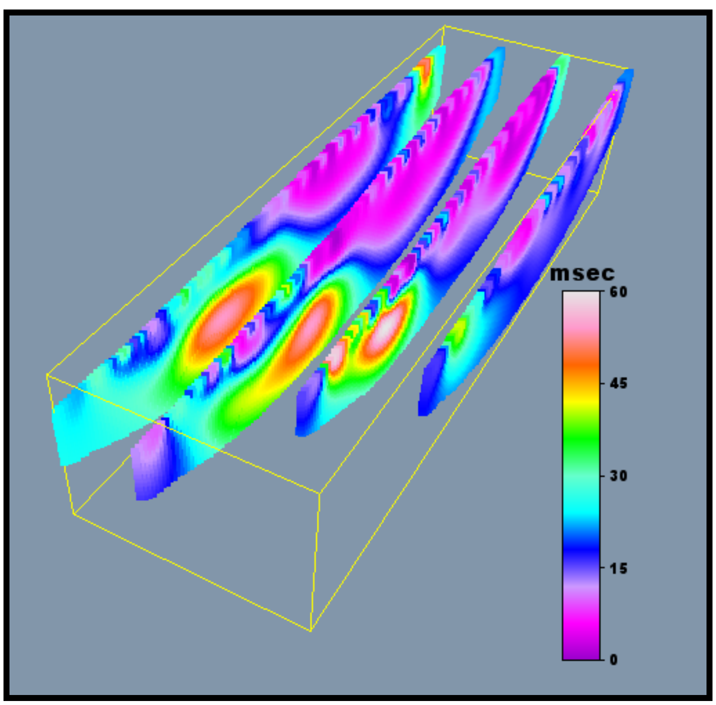


FIGURE 9: Stacked Chargeability Sections Looking to Northwest

The chargeability anomaly is 400 m in width on L0 and diminished to 200 m in width on Line 600E. In addition, the anomaly weakens on Line 600E. Depth to top of the main portion of the anomaly is approximately 50 – 60 m. On Line 400E the south end of the anomaly is faulted and shifted to near surface. On all sections, the chargeability anomaly is segmented and terminated by major structures. The termination to the north appears to be related to a major structural zone, which down drops the anomalous material to depth. The down-dropped section is evident on Lines 0, 200E and 400E as a deep shelf in the chargeability section denoted with a "**?**" symbol.

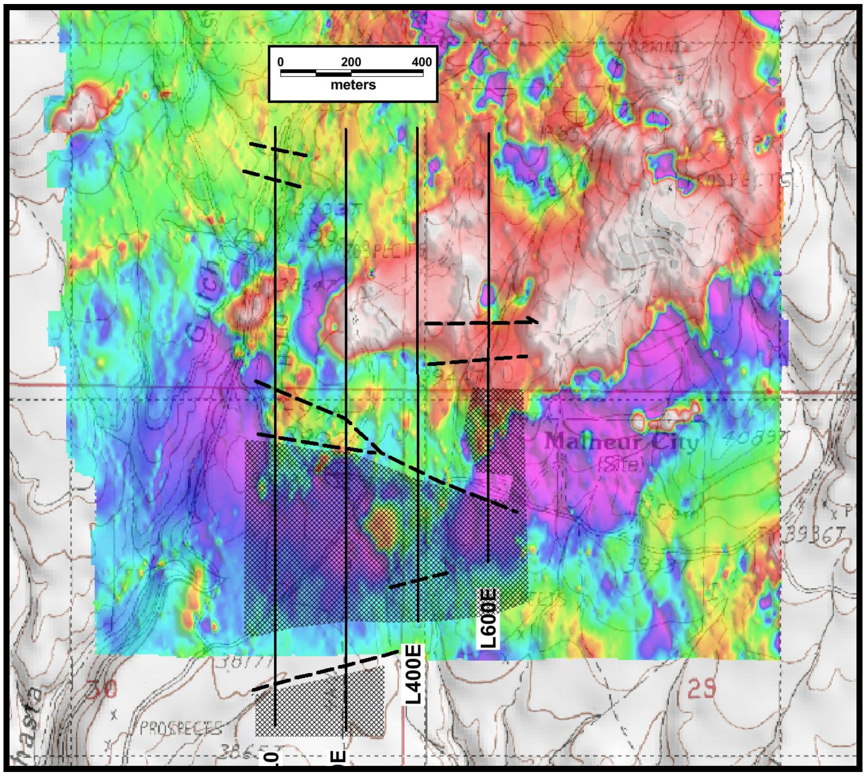


FIGURE 10: Chargeability Zone, Structures over Airborne Magnetics

The chargeability anomalies and structures are projected to plan and connected in Figure 10 over the airborne magnetics. Cross-hatched polygons show the projected chargeability anomaly, which is clearly facetted by the interpreted structures. Fault gaps are evident on Lines 0 and 200E, as well as a north-northeast structure terminating the anomaly's north side on Lines 0, 200E and 400E. On all lines, the anomaly is open to the south, but appears to be diminishing in amplitude. A correlation of the chargeability with reduced magnetic amplitude is evident, except on Line 400E. However, the resistivity section on Line 400 E reveals a 100 m thick layer of low resistivity material extends across much of the section. This is reflected in the magnetics as magnetic high bridge across the low amplitude magnetic belt. This is interpreted as magnetic material in the overburden layer. **The change in anomaly character upon crossing Line 400 E suggests some form of structural disruption may extend parallel or sub-parallel to Line 400 E.**

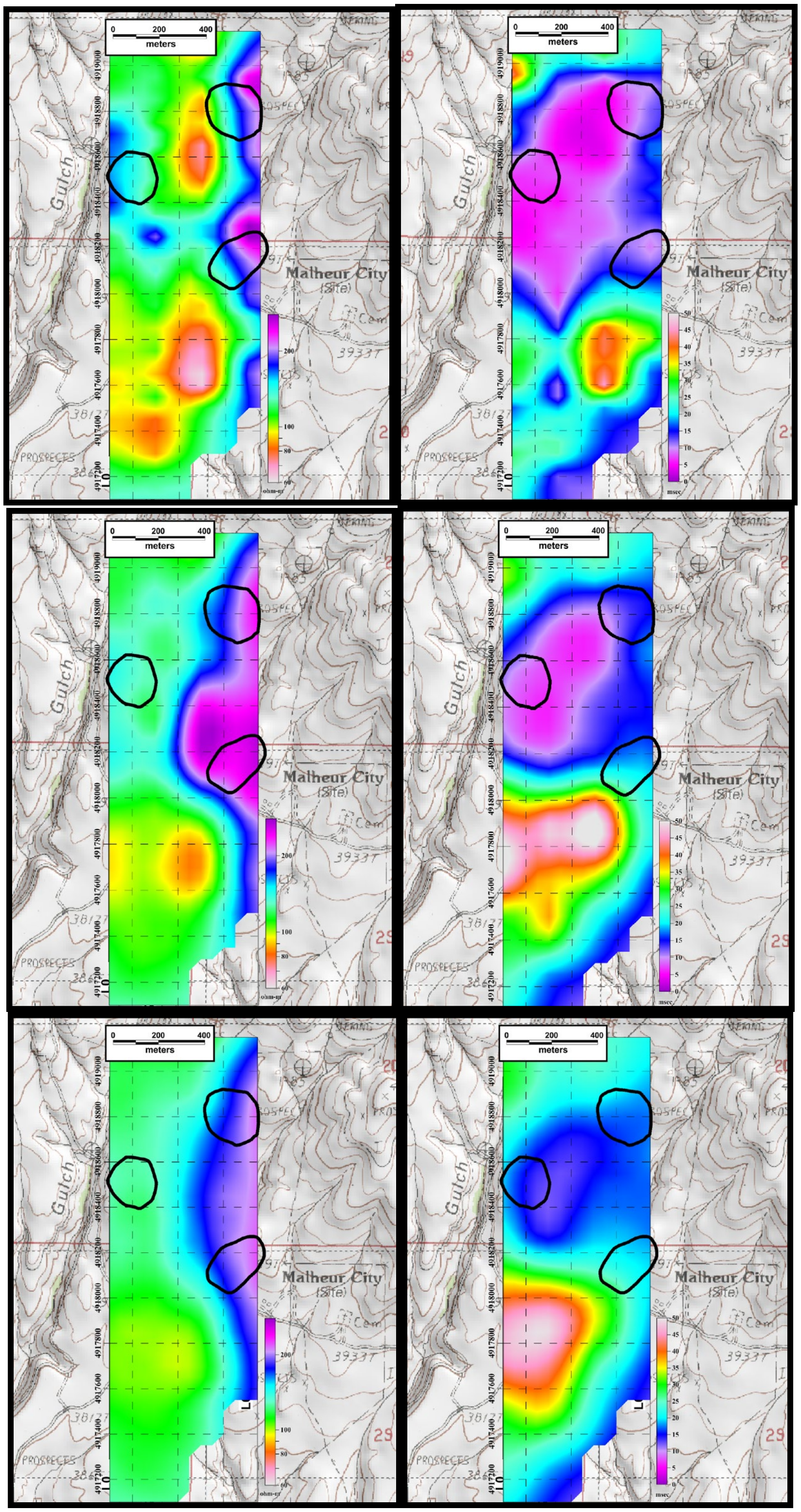


FIGURE 11: Resistivity (Left) and Chargeability Depth Slices
High Grade Area
(50 m Top / 150 m Middle / 250 m Bottom)

Three areas of high grade mineralization are shown as black circles registered over the resistivity and chargeability depth slices in the collage of Figure 11. No obvious direct correlation of mineralization with either the resistivity or chargeability is evident for the three depths.

CONCLUSIONS AND RECOMMENDATIONS

The major chargeability high / resistivity low feature is characteristic of graphite bearing sediment such as a shale or perhaps argillite. However, major structures which bound and traverse the anomaly could well be conduits for gold bearing hydrothermal fluids. In this case, the sediments could well provide both porous and/or chemical locals suitable for gold deposition. Based upon such a scenario, the major north-northeast trending structure, which bounds the east side of the chargeability anomaly, is considered a target area.

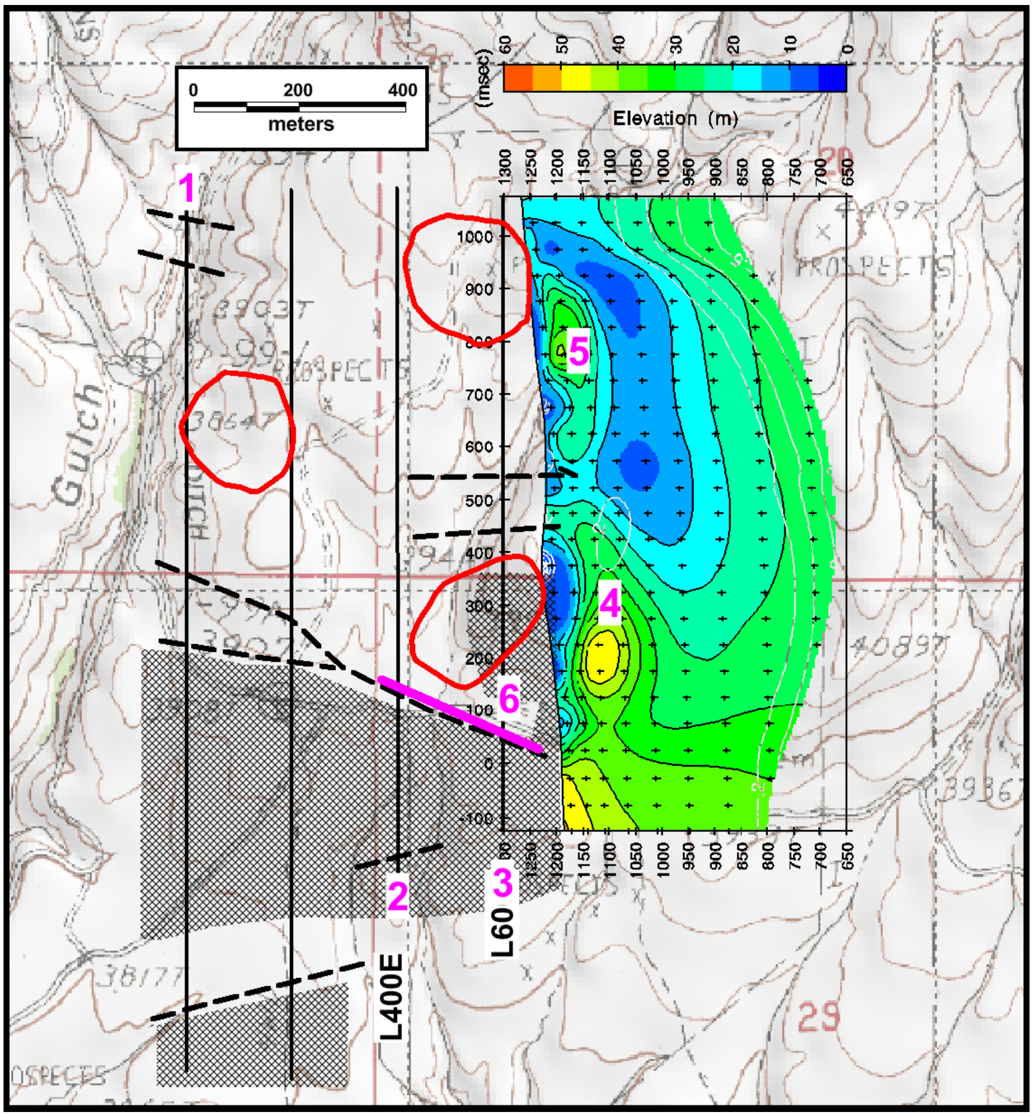


FIGURE 12: Target Summary, Line 600E Chargeability Section over Topography

Figure 12 summarizes the interpretation and identifies six (6) areas of interest, which are described below.

Area 1: The extreme north end of Line 0 (see Figures 8 and 9). This is a strong, shallow chargeability anomaly proximal to a structure and located in a drainage.

Areas 2 and 3: These are the extreme south ends of Lines 400E and 600E where the possible source rock for the chargeable zone appears to be quite shallow.

Areas 4 and 5: These are weak, layered chargeability anomalies too weak to be reflected in the depth slice, but which underlie two of the high grade gold zones.

Area 6: This is a segment of the east bounding structure proximal to a high grade gold zone and an area of structural complexity.

Areas 1, 2 and 3 should receive a ground examination to include soil geochemical sampling or possibly trenching. The Line 600E IP sections should be integrated with the available drilling for Areas 4 and 5 to determine the relationship of the weak chargeability anomalies with gold. Drill testing of Area 6 should be considered with the holes to be angle to the southwest to traverse the bounding structure and extend into the chargeability zone.

REFERENCES

Dufresne, M. and Gibson, J., 2022, Technical report on the Eldorado property, Malheur county, Oregon: Provenance Gold Corporation company report.

APPENDIX A

KLM GEOSCIENCE LLC

LOGISTICS REPORT

Eldorado IP Survey

Malheur County, Oregon

LOGISTICS AND ACQUISITION REPORT

Prepared for: Provenance Gold Corp.

08/06/2023

KLM Geoscience LLC

TABLE OF CONTENTS

LIST OF FIGURES

ELDORADO IP SURVEY

INTRODUCTION

KLM Geoscience conducted a dipole-dipole induced polarization (IP) survey for Provenance Gold from July 19th, 2023, to July 31st, 2024, for a period of 13 days. The project area is located approximately 8km due south of Bridgeport, OR (Figure 1). This survey occupied Township T13S R41E, sections S19 T13S R41E, S20 T13S R41E, S30 T13S R41E and S29 T13S R41E. A total of four IP lines were surveyed, for a total of 6.2-line kilometers.

The survey was supervised in the field by Kit Watson, KLM Geoscience Crew Chief. This report covers survey logistics, data acquisition, processing, data quality, and results.

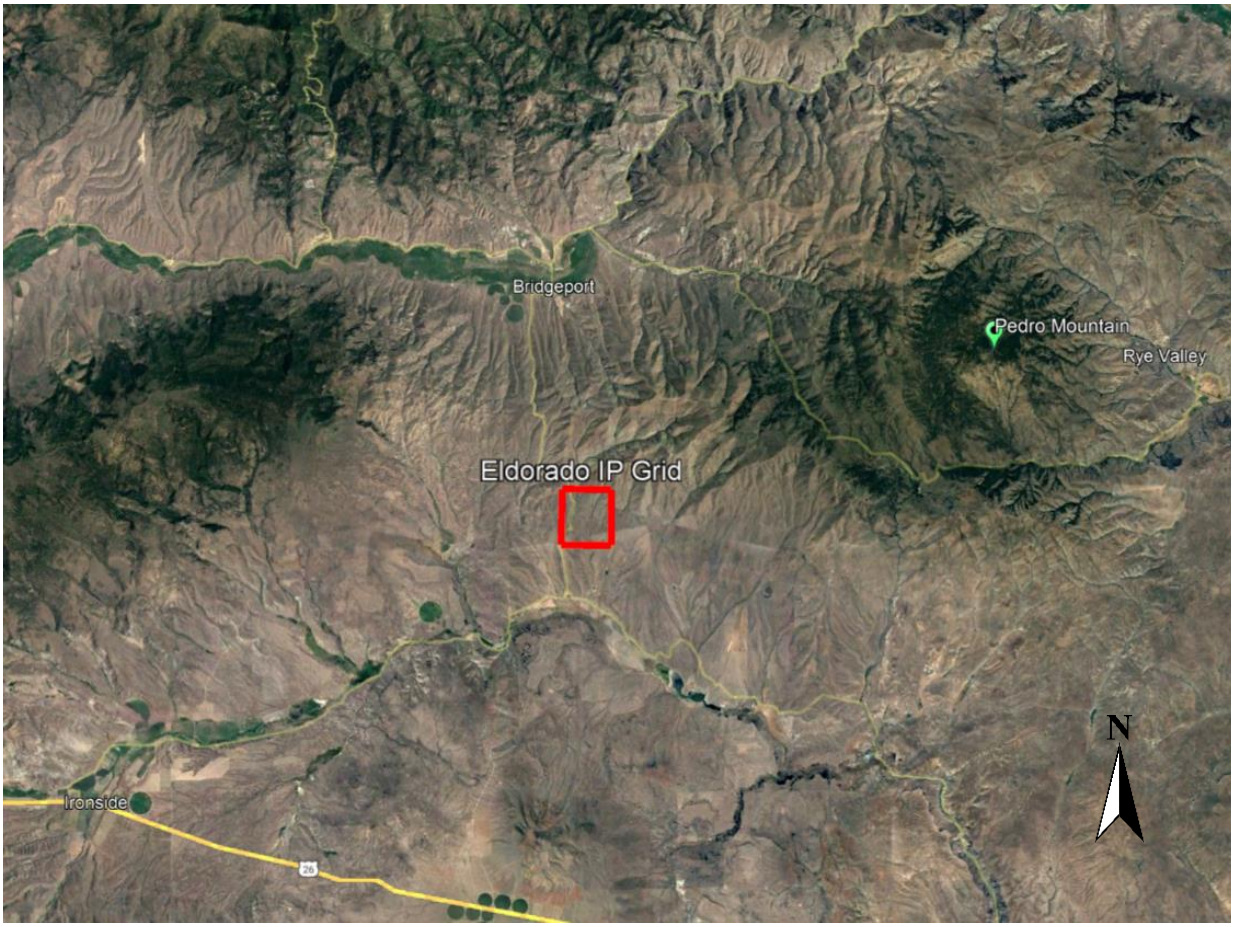


Figure 1 Project location - 441900 E 4918300N UTM Zone 11T

DATA ACQUISITION

Four lines of dipole-dipole data was acquired for the Eldorado IP Survey. The line parameters are listed in the graph below. The dipole spacing was 100m, with the first receiver (Rx) electrodes at 0m and 100m. The transmit dipoles began at stations -150 and -50. After each reading, both dipoles were advanced in 100m increments. A total of 56 injection points were collected during the survey. The two Tx lines were deployed between the Rx lines, spaced 100 meters away (Figure 2).

Eldorado IP Line Parameters					
Line #	Length (km)	North Coordinate (UTM Zone 11T)	East Coordinate (UTM Zone 11T)	Tx Points	Azimuth (deg)
0	1.75	441500, 4918999	441500, 4917249	16	0
200	1.75	441700, 4918999	441699, 4917249	16	0
400	1.45	441900, 4918999	441900, 4917550	13	0
600	1.25	442099, 4918978	442100, 4917728	11	0

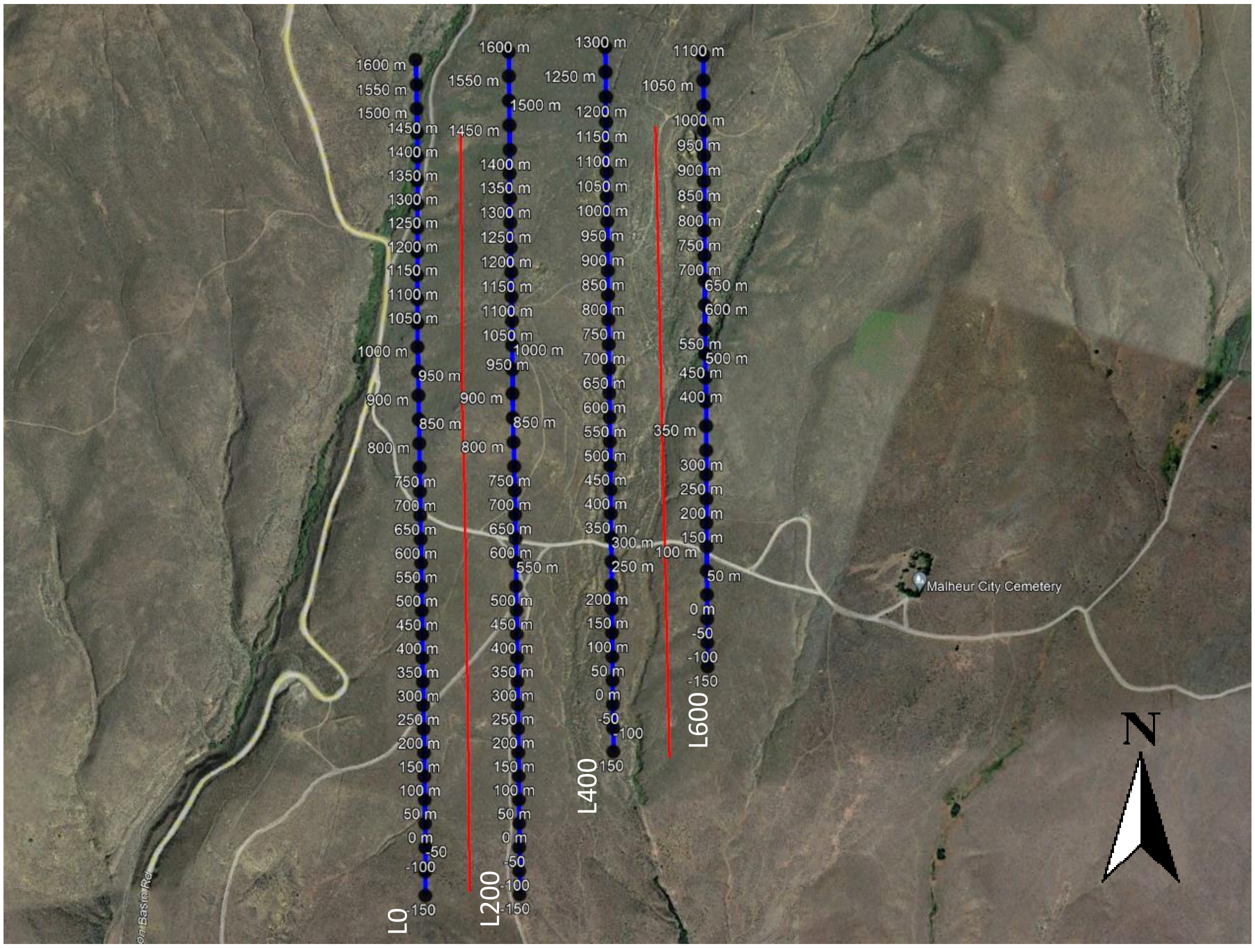


Figure 2. Station locations & Tx line locations (red). 441900 E 4918300N UTM Zone 11T

INSTRUMENTATION

Two GDD Instrumentation IP 16 channel receivers were used to collect the data. One GDD Instrumentation IP transmitter was used to apply the signal.

- **Receivers:** Two GDD IP receiver model GRx8-32, serial numbers 1381 and 1404
- **Transmitter:** One GDD transmitter model Tx4, 5000Watt – 2400Volt – 20Amp
- **Generator:** Honda 6500-Watt generator
- **Porous Pots:** Tinker Rasor – Model 3-A Copper Sulfate Electrodes ($CuSO_4$).

IP MEASUREMENTS

Dipole-dipole data was acquired along each survey line, for a total Rx coverage of 5.6km. In the dipole-dipole configuration, electrical current is injected into the ground using two electrodes (a dipole), and the potential difference is measured with another pair of electrodes located along the receiver line (Rx). The Rx and Tx Separation for the Eldorado IP survey was 100m, with the Tx dipole lagging 50m behind the Rx Electrodes.

A 0.125Hz current-controlled square wave was transmitted into the ground via the transmit electrodes. For this survey, the signal was transmitted at 50% duty-cycle, 2 seconds on/off.

After field acquisition the data sets are evaluated using IP Post-Process software by GDD Instrumentation. Chargeability decay curves and the transmitted square wave are inspected, and pseudo sections of apparent resistivity and chargeability are evaluated to identify anomalous measurements (Figures 3 & 4).

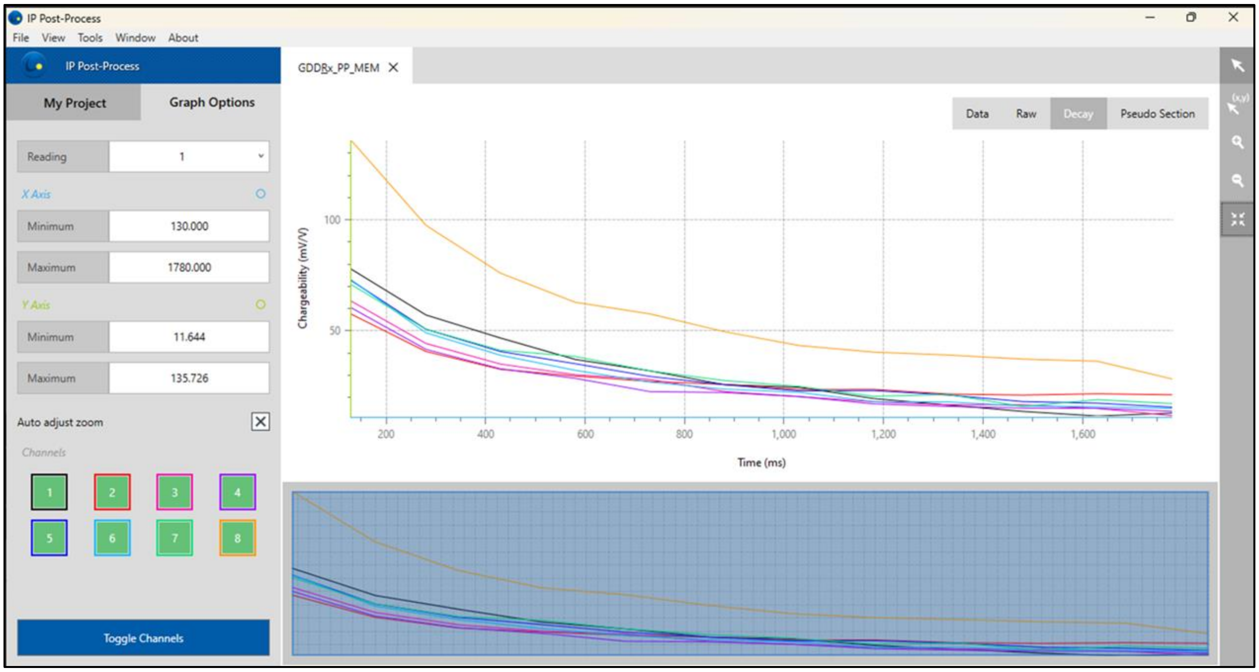


Figure 3. Decay curves of chargeability (msec)

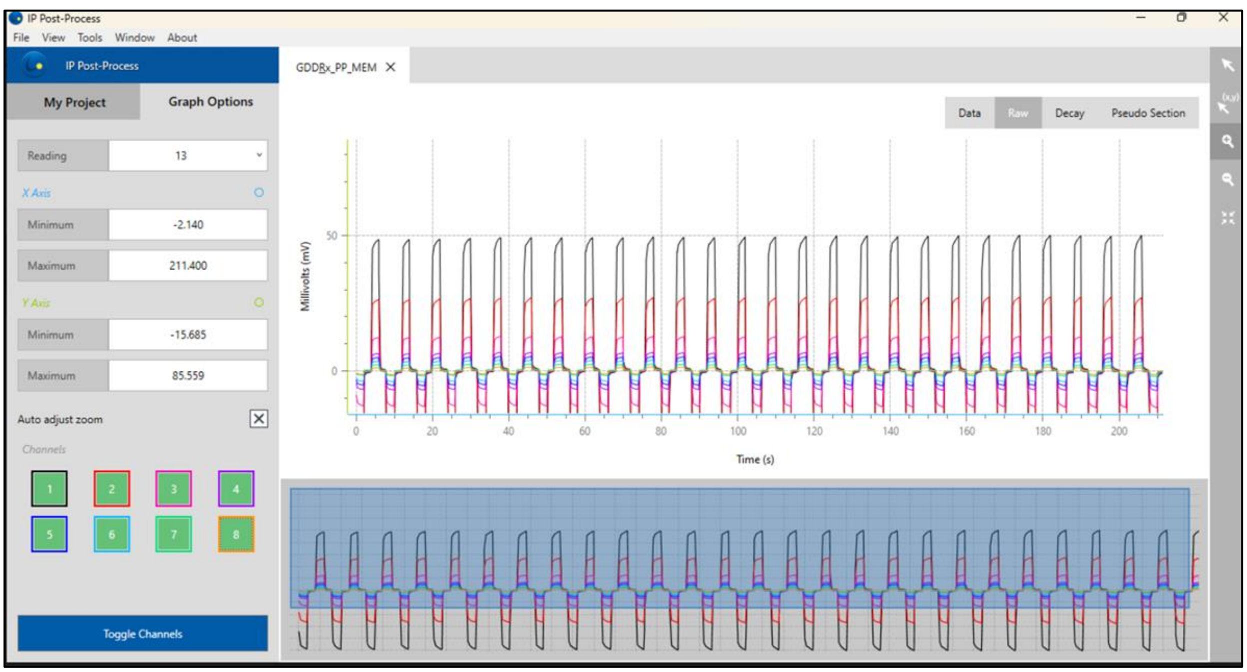
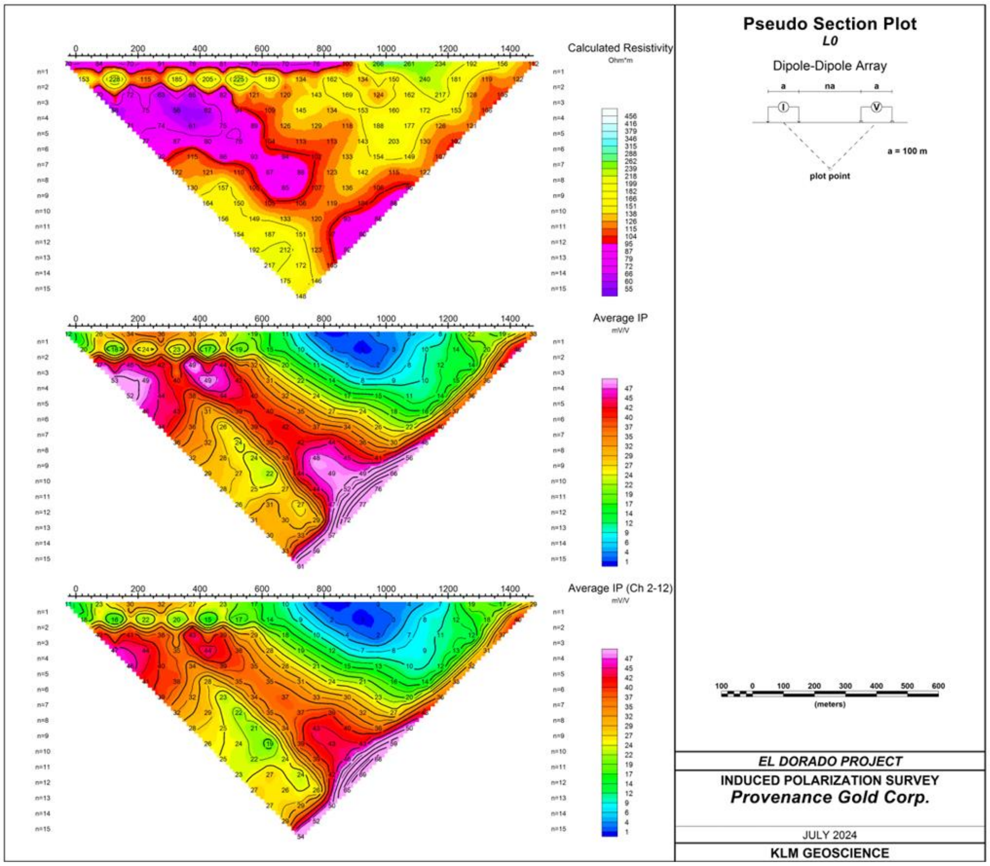
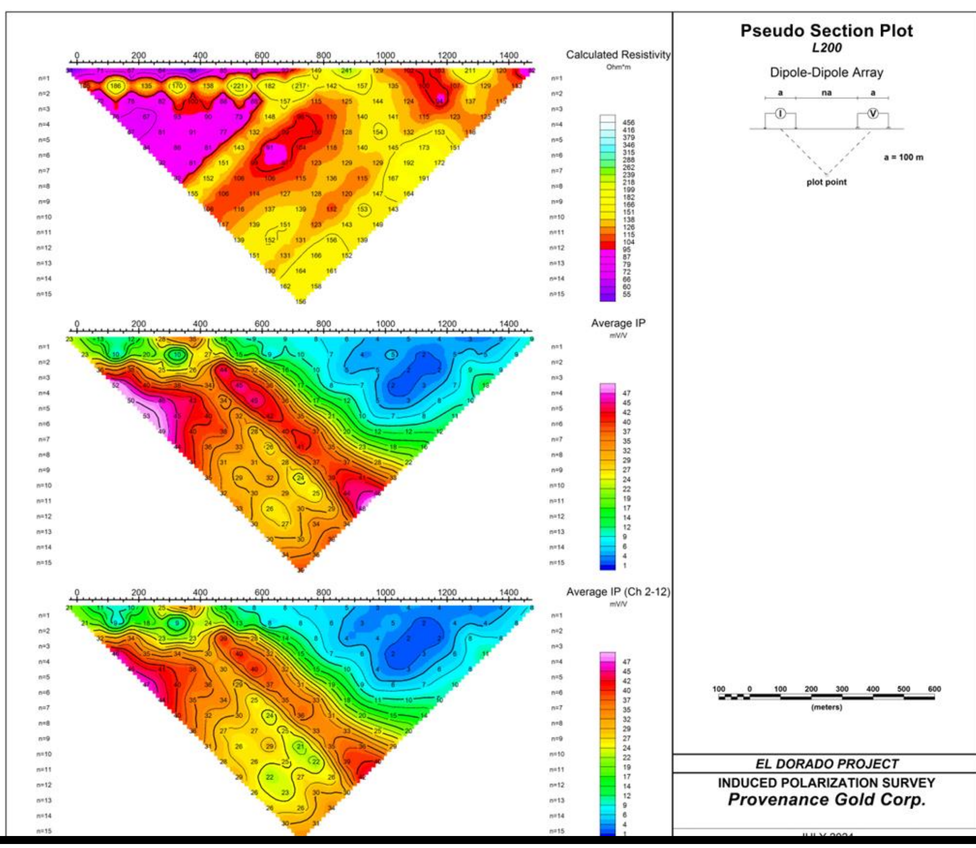
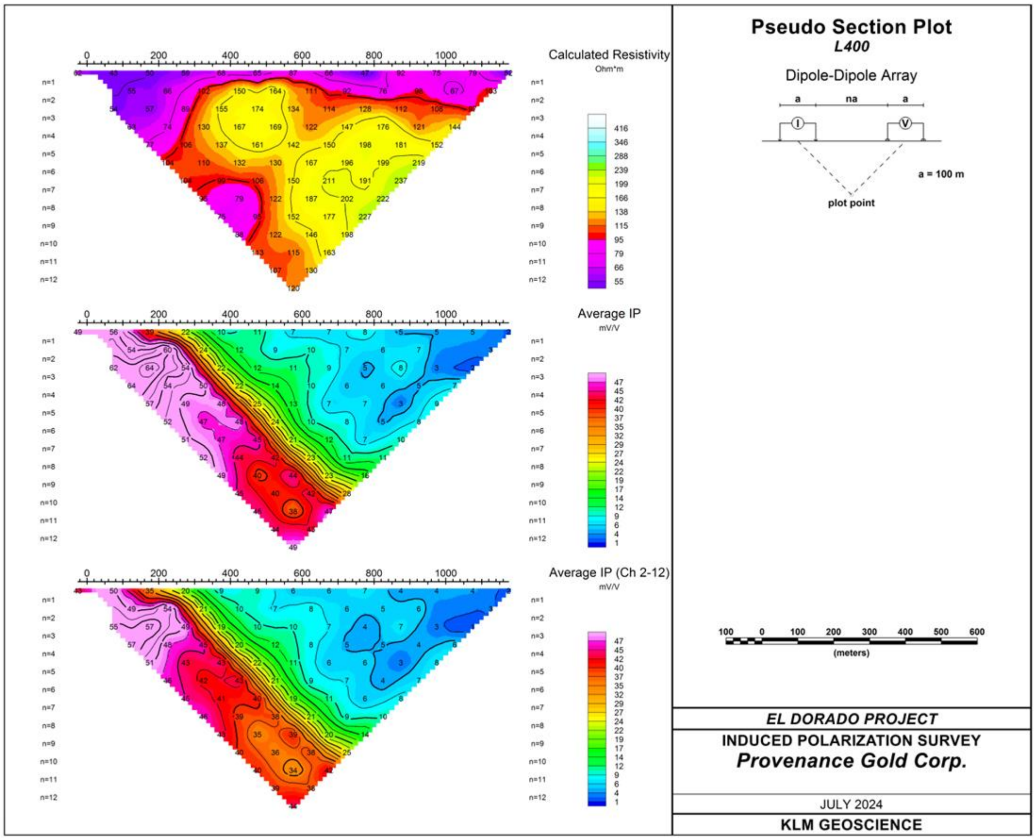


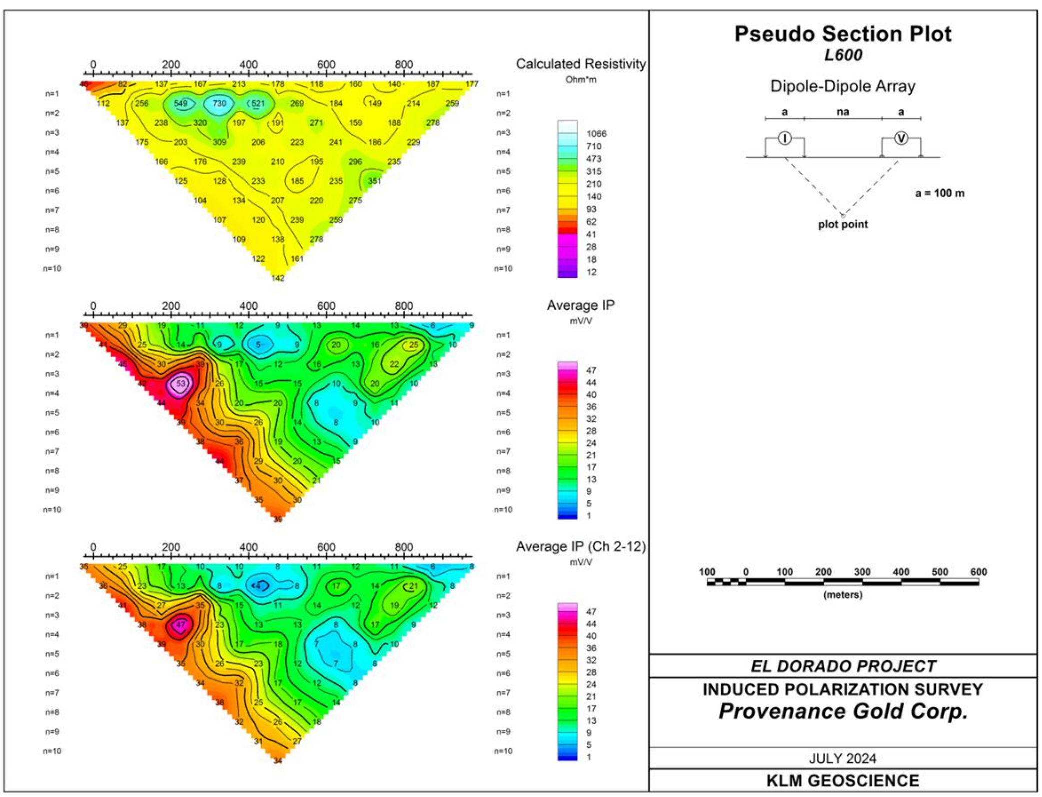
Figure 4. Applied square wave (mV)

RAW PSEUDO SECTION PLOTS






Calculated Resistivity
Ohm*m
Average IP
mV/V
Average IP (Ch 2-12)
mV/V
Pseudo Section Plot
L400
Dipole-Dipole Array
a = 100 m
plot point
(meters)
EL DORADO PROJECT
INDUCED POLARIZATION SURVEY
Provenance Gold Corp.
JULY 2024
KLM GEOSCIENCE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INDUCED POLARIZATION SURVEY
Provenance Gold Corp.
JULY 2024
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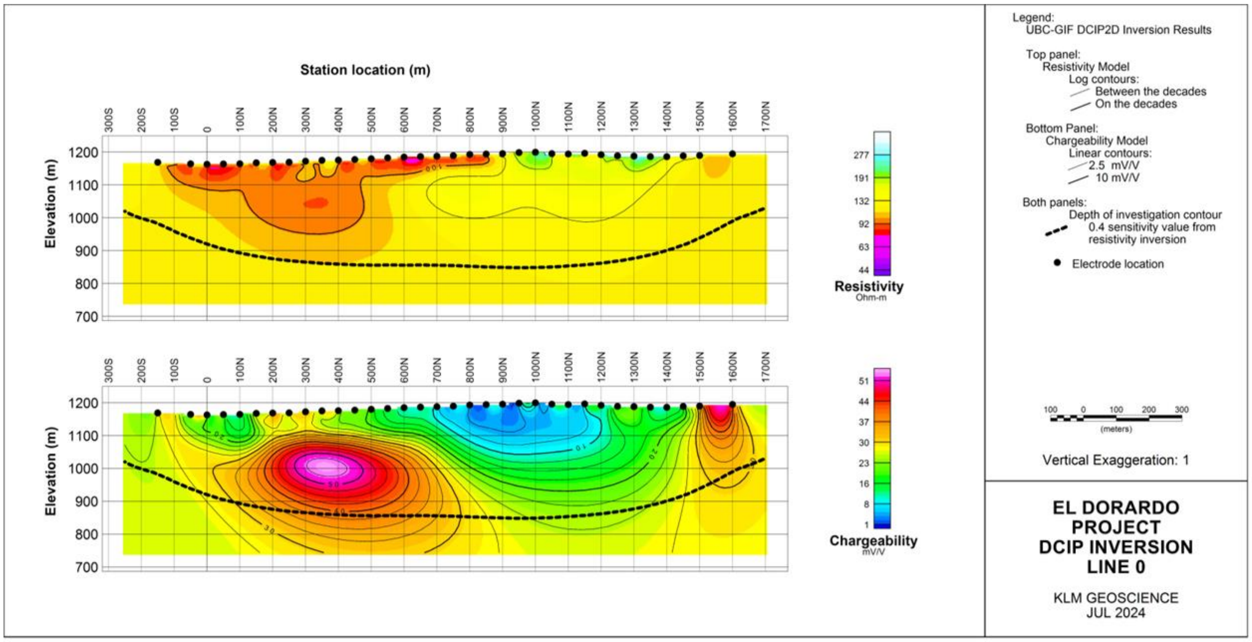
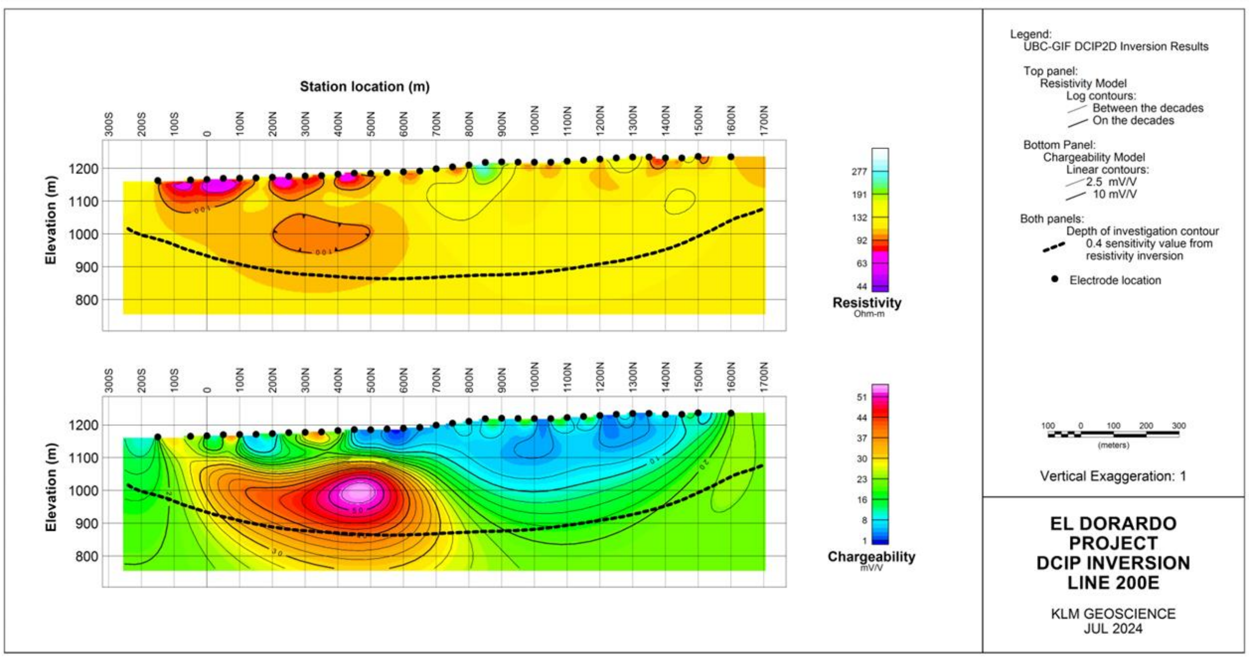
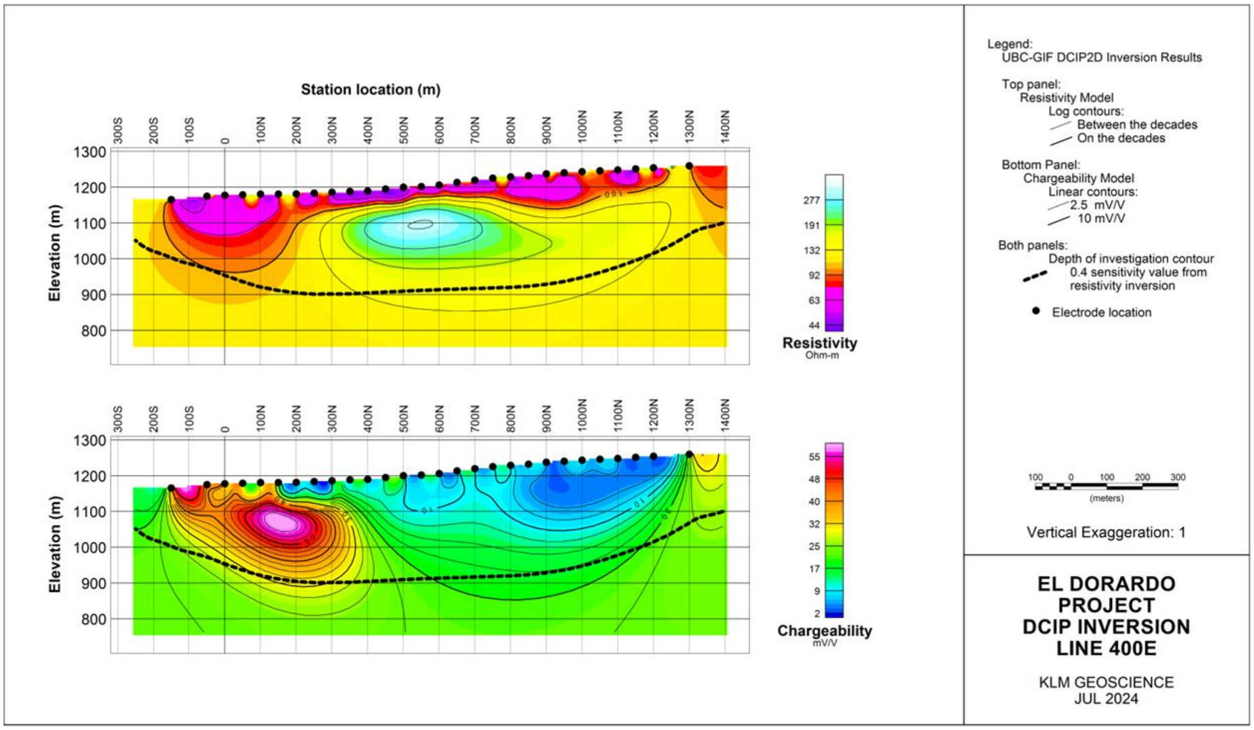
LINE INVERSIONS



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Elevation (m)
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Resistivity
Ohm-m
277 191 132 92 63 44
Chargeability
mV/V
55 48 40 32 25 17 9 2
Legend:
UBC-GIF DCIP2D Inversion Results
Top panel:
Resistivity Model
Log contours:
Between the decades
On the decades
Bottom Panel:
Chargeability Model
Linear contours:
2.5 mV/V
10 mV/V
Both panels:
Depth of investigation contour
0.4 sensitivity value from resistivity inversion
Electrode location
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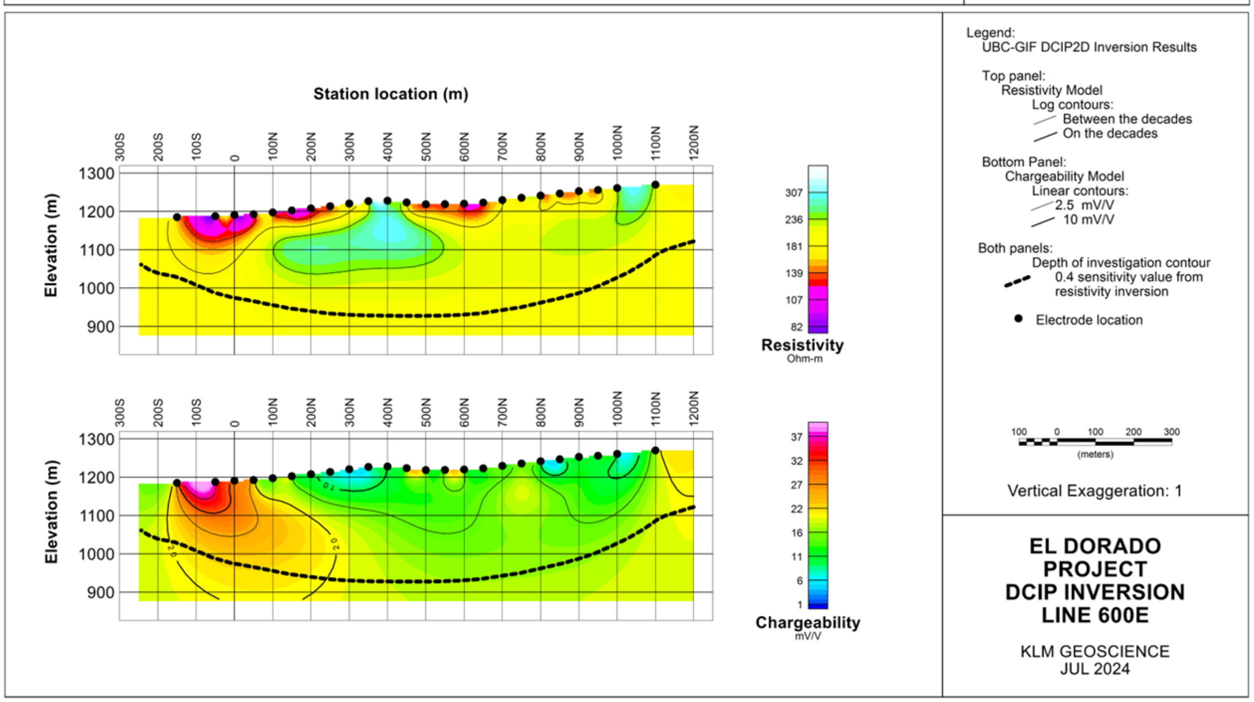
(meters)
Vertical Exaggeration: 1
EL DORADO PROJECT
DCIP INVERSION
LINE 400E
KLM GEOSCIENCE
JUL 2024


Station location (m)
300S 200S 100S 0 100N 200N 300N 400N 500N 600N 700N 800N 900N 1000N 1100N 1200N
Elevation (m)
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Resistivity
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Chargeability
mV/V
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Legend:
UBC-GIF DCIP2D Inversion Results
Top panel:
Resistivity Model
Log contours:
Between the decades
On the decades
Bottom Panel:
Chargeability Model
Linear contours:
2.5 mV/V
10 mV/V
Both panels:
Depth of investigation contour
0.4 sensitivity value from resistivity inversion
Electrode location
100 0 100 200 300
(meters)
Vertical Exaggeration: 1
EL DORADO PROJECT
DCIP INVERSION
LINE 600E
KLM GEOSCIENCE
JUL 2024

DATA QUALITY

The receiver operator oversees monitoring data quality during field survey production and acquisition. While collecting data the operator monitors the error for measurements of apparent resistivity and chargeability, takes multiple measurements of each data point, and evaluates real-time standard-error values. Two measurements, or stacks, were made for each injection point to ensure the highest data quality and repeatability of the measured apparent resistivity and chargeability. The minimum cycle amount was 50 cycles per stack to reduce errors in measurements of apparent resistivity and chargeability during read time.

In general, the quality of electrical measurements can be affected by extraneous noise, inductive electromagnetic effects, or coupling to man-made artifacts. Extraneous electrical noise can include telluric currents driven by activity in the ionosphere, broadband noise bursts from lightning dischargers, or spherics, or coherent noise from powerlines. Extraneous noise for the Eldorado IP project can be credited to high winds, but powerline noise was not an issue.

Degradation of the signal can be influenced by ground resistivity, transmitter-receiver separation, and low transmitter current. Signal strength is also dependent on the receiver array, such as the dipole length. The Eldorado MT project dipole-dipole configuration provided good signal strength for the duration of the survey.

SAFETY AND ENVIRONMENTAL ISSUES

Prior to conducting field work daily safety meetings were conducted to highlight safety and environmental risks, potential failures, and best practices. During these meetings project specific matters and field logistics were reviewed and communicated to all field members present. Daily vehicle checks were performed to verify functionality and to mitigate any potential operational failures.

No health, safety incidents or accidents occurred during this survey. No environmental damage was incurred because of the survey. All vehicle travel was kept to designated roads.

Respectfully Submitted

Prepared for: KLM Geoscience LLC

APPENDIX A: PRODUCTION LOG

Provenance Gold		Eldorado IP			
Mob Date:	19-Jul-24	Survey Type:	IP	Project Manager	Kale Mclin
Acquisition Start:	20-Jul-24	Datum:	WGS-84	Crew Chief	Kit Watson
		Coordinate System:	UTM Z12	Responsible Geo.	Sean Walker
TOTAL LINE KILOMETERS:		A-Spacing/# Channel	100m/Ch16	Processor	Sean Walker

Planned IP Tx:	56	Total	13	days		Safety Assistant	Samuel Watson
Planned IP Lines:	4	Mob	2	days	15.4%	IP Operator #1	Brayden Criddle
IP Tx Accepted:	56	Setup	0	days		IP Operator #2	Samuel Watson
IP Tx Remaining:	0	Acquisition	7	days	53.8%	TX Operator	Jeremiah Cook
IP Lines Complete:	4	Pickup	0	days			
% IP Complete:	100.0%	Safety	0	days			
IP/Acq. Day:	8.0	Weather	0	days		56	Total # IP TX
IP/Total Day:	4.3	Down	4	days	30.8%	0	Total # IP TX Repeats
Days/IP Lines:	1.8	BREAK	0	days		0.00%	Repeat Rate

Activity	Date	Day	IP TX Surveyed	IP TX Rejected	IP TX Accepted	IP Lines Complete	IP TX Stations injected (Grid)	Line #'s	Field Crew (initials)	Notes (Include details of activities, reasons for data repeats, problems, crew movements, etc.)
MOB	19-Jul-24	Fri							KW, JD, SW, AC, BC, GR	Crew arrived in Vale, Oregon.
ACQU	20-Jul-24	Sat	1		1			L600E	KW, JD, SW, AC, BC, GR	We completed setup of Line 600E and began acquisition.
DOWN	21-Jul-24	Sun							KW, JD, SW, AC, BC, GR	Wildfires within 2 miles when arrived on the Grid.
DOWN	22-Jul-24	Mon							KW, JD, SW, AC, BC, GR	Level 3 evacuation notice for Wildfires
DOWN	23-Jul-24	Tue							KW, JD, SW, AC, BC, GR	Wildfires caused poor air quality.
ACQU	24-Jul-24	Wed	3		3			L600E	KW, JD, SW, AC, BC, GR	Resetup Line 600E and built 2km of Current wire. All previous wire was burnt due to wildfire. We completed 3 Tx sites.
ACQU	25-Jul-24	Thu	7		7	1		L600E, L400E	KW, JD, SW, AC, BC, GR	We completed the acquisition and picked up L600E. We completed the setup of L400E. We picked up all burnt Receiver wire.
ACQU	26-Jul-24	Fri	13		13	1		L400E	KW, JD, SW, AC, BC, GR	We completed the acquisition of L400E and began the Pickup.
DOWN	27-Jul-24	Sat						L200E	KW, JD, SW, AC, BC, GR	The crew began pickup on 400E/Setup L200E but was overwhelmed by wildfire smoke and had to stand down due to safety concerns.
ACQU	28-Jul-24	Sun	9		9			L200E	KW, JD, SW, AC, BC, GR	We completed the pickup of L400E and built L200E. We began the acquisition of L200E.
ACQU	29-Jul-24	Mon	7		7	1		L200E, L00E	KW, JD, SW, AC, BC, GR	We completed acquisition on L200E and picked up line, then setup L00E and began acquisition.
ACQU	30-Jul-24	Tue	16		16	1		L00E	KW, JD, SW, AC, BC, GR	Read L00E, picked up all remaining gear from the grid.
MOB	31-Jul-24	Wed							KW, JD, SW, AC, BC, GR	Demob

APPENDIX B: DATA STORAGE LOCATION

Raw Data:

https://drive.google.com/drive/folders/1dD3Rk7jzd7CPrg0sM_ZJ35iJvqNxrzh5?usp=drive_link

Final Deliverables:

https://onedrive.live.com/?id=57AD99D0BCF2BD17%21148295&cid=57AD99D0BCF2BD17&authkey=%21AHWRVHm%2DY6E
ZmbU

APPENDIX B

INVERSION SUMMARIES

LINES: 0, 200E, 400E & 600E

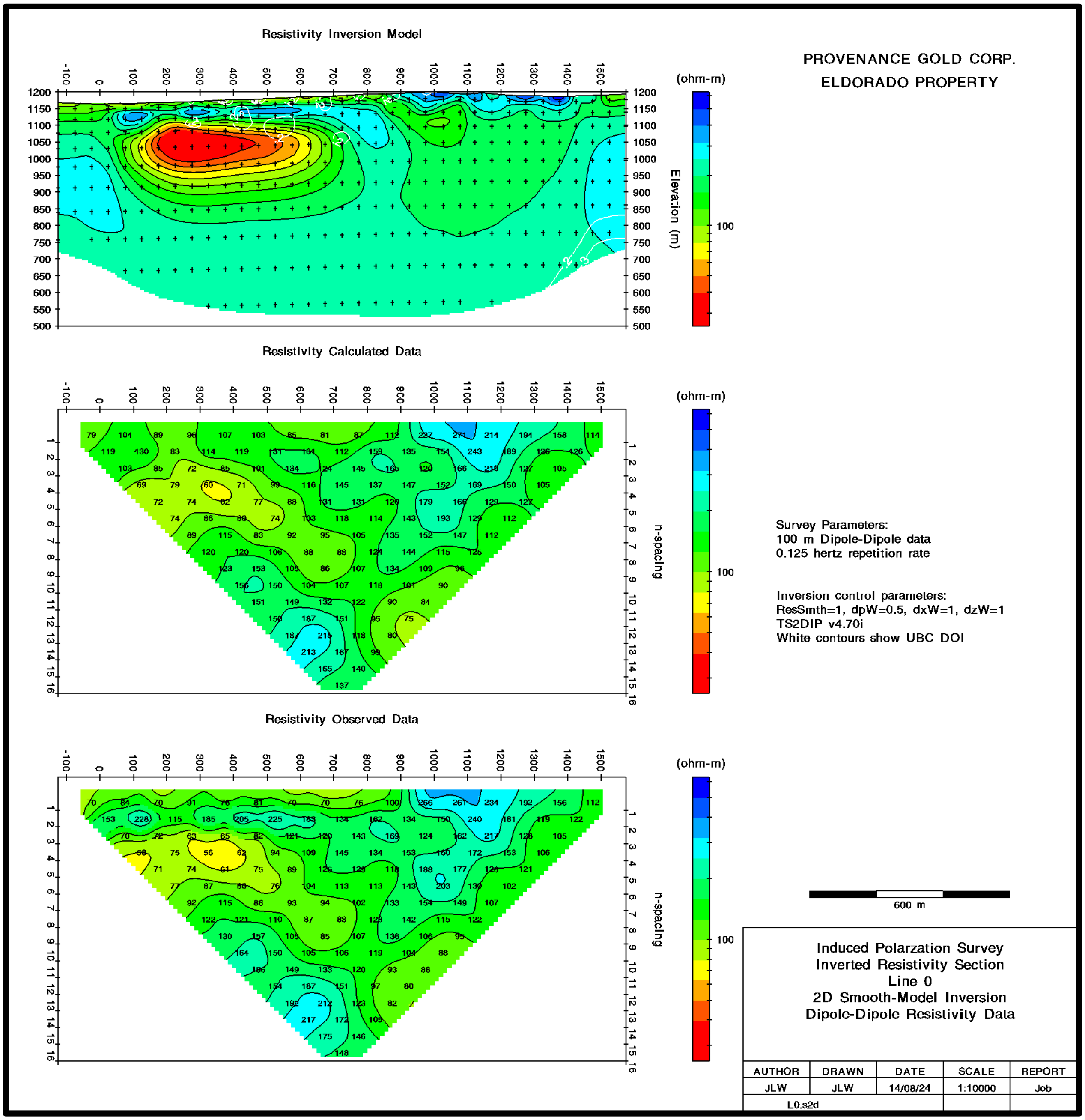


FIGURE B1: Line 0 Resistivity Inversion Summary

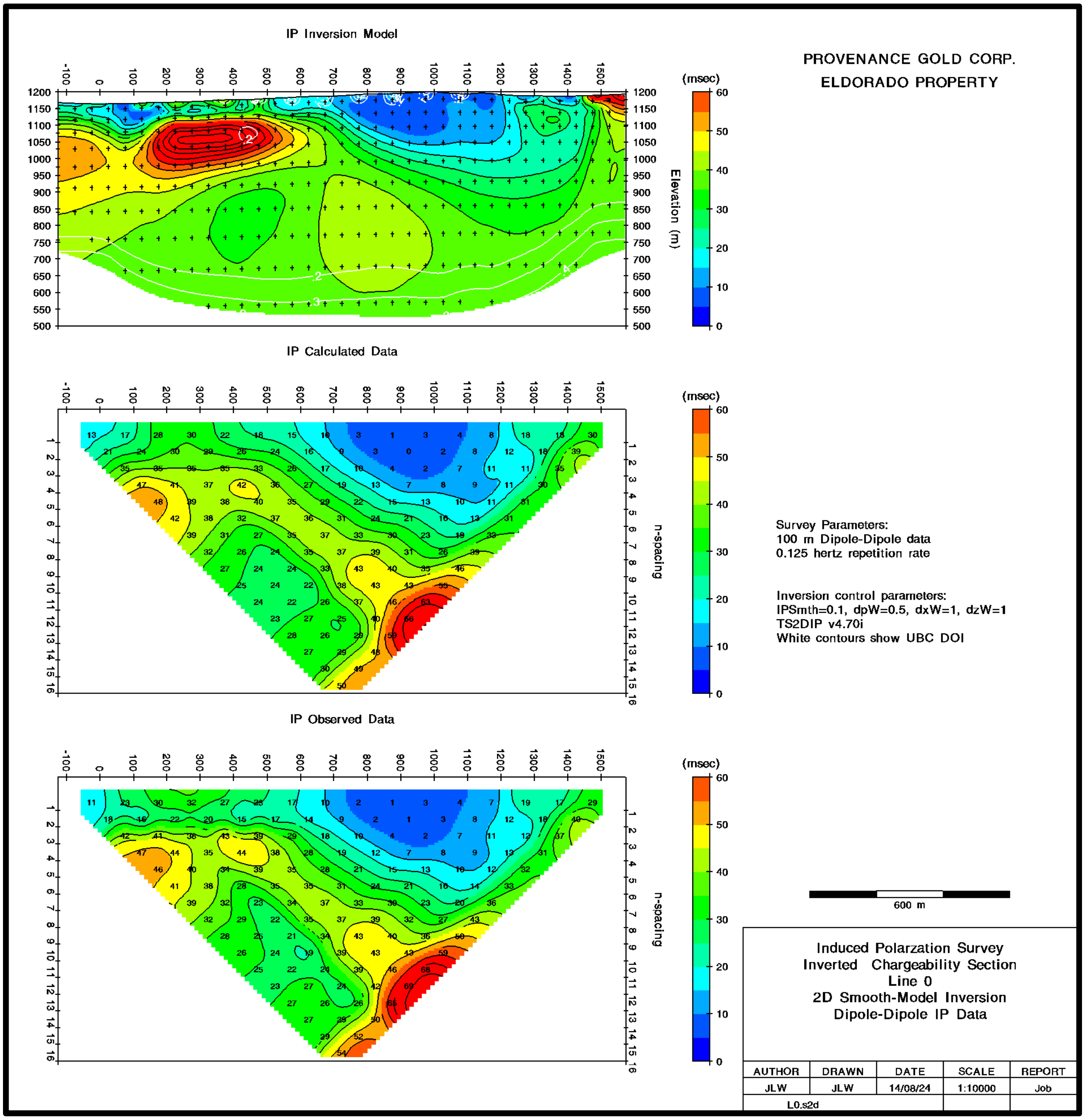


FIGURE B2: Line 0 Chargeability Inversion Summary

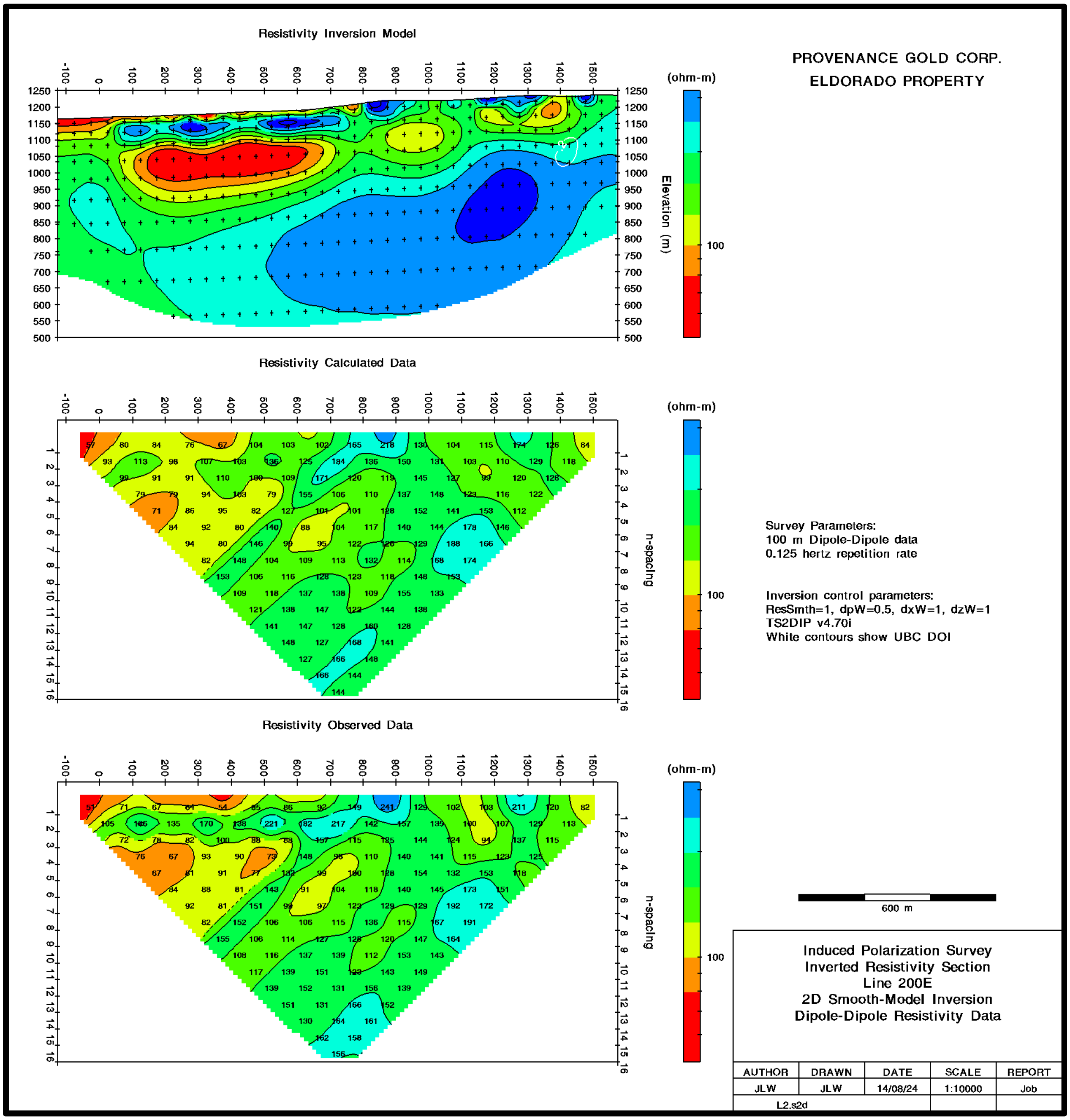


FIGURE B3: Line 200E Resistivity Inversion Summary

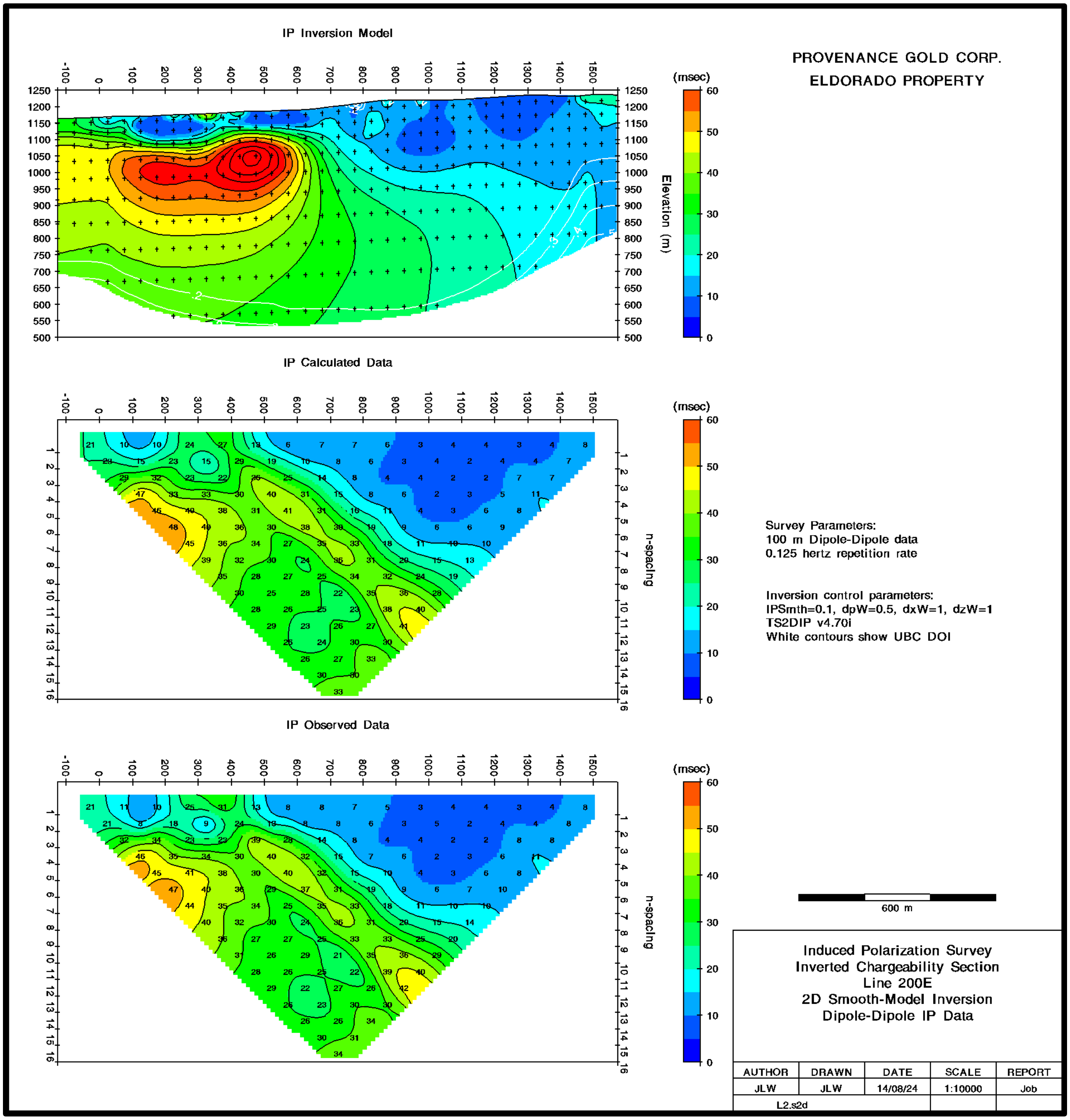


FIGURE B4: Line 200E Chargeability Inversion Summary

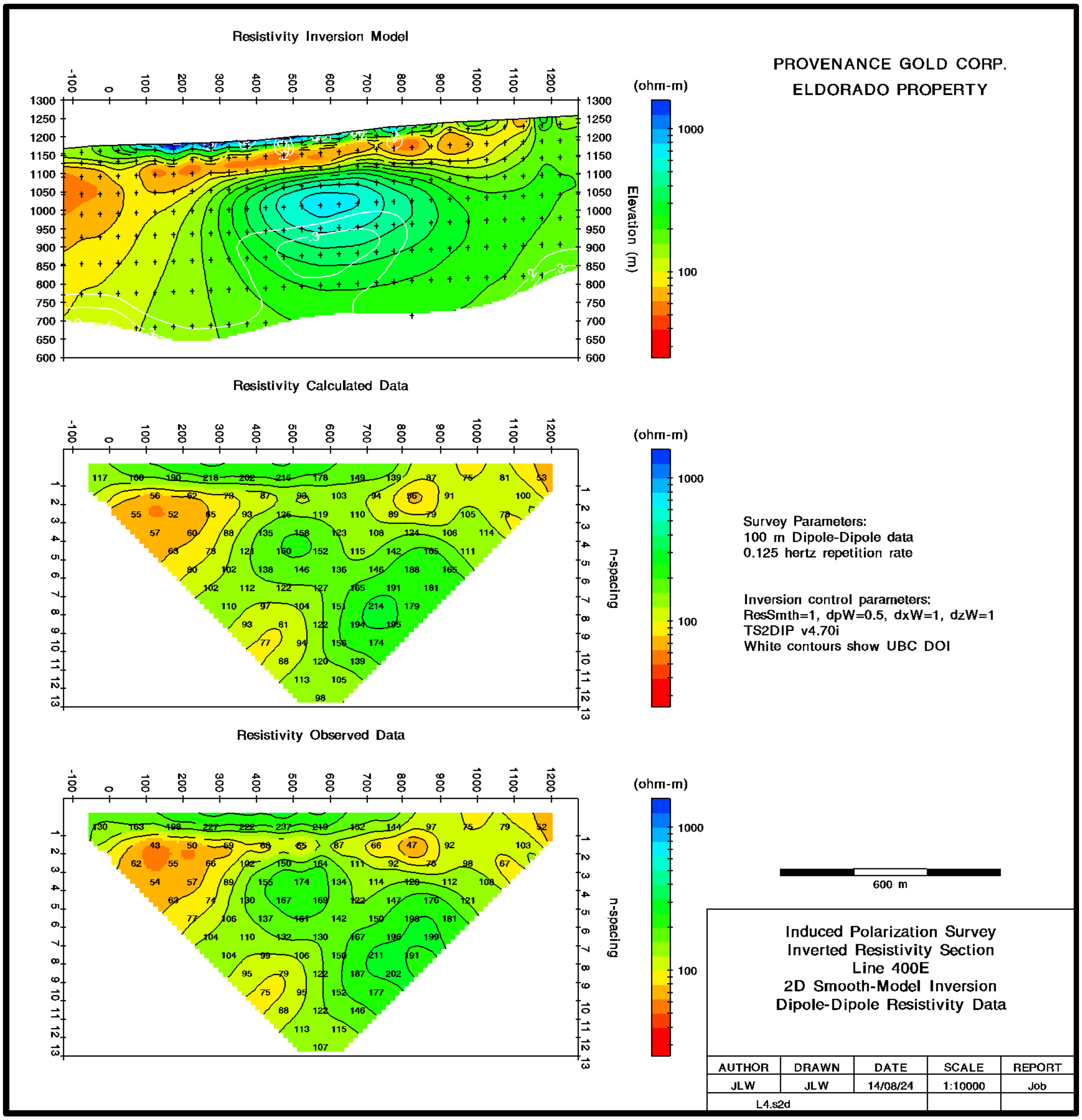


FIGURE B5: Line 400E Resistivity Inversion Summary

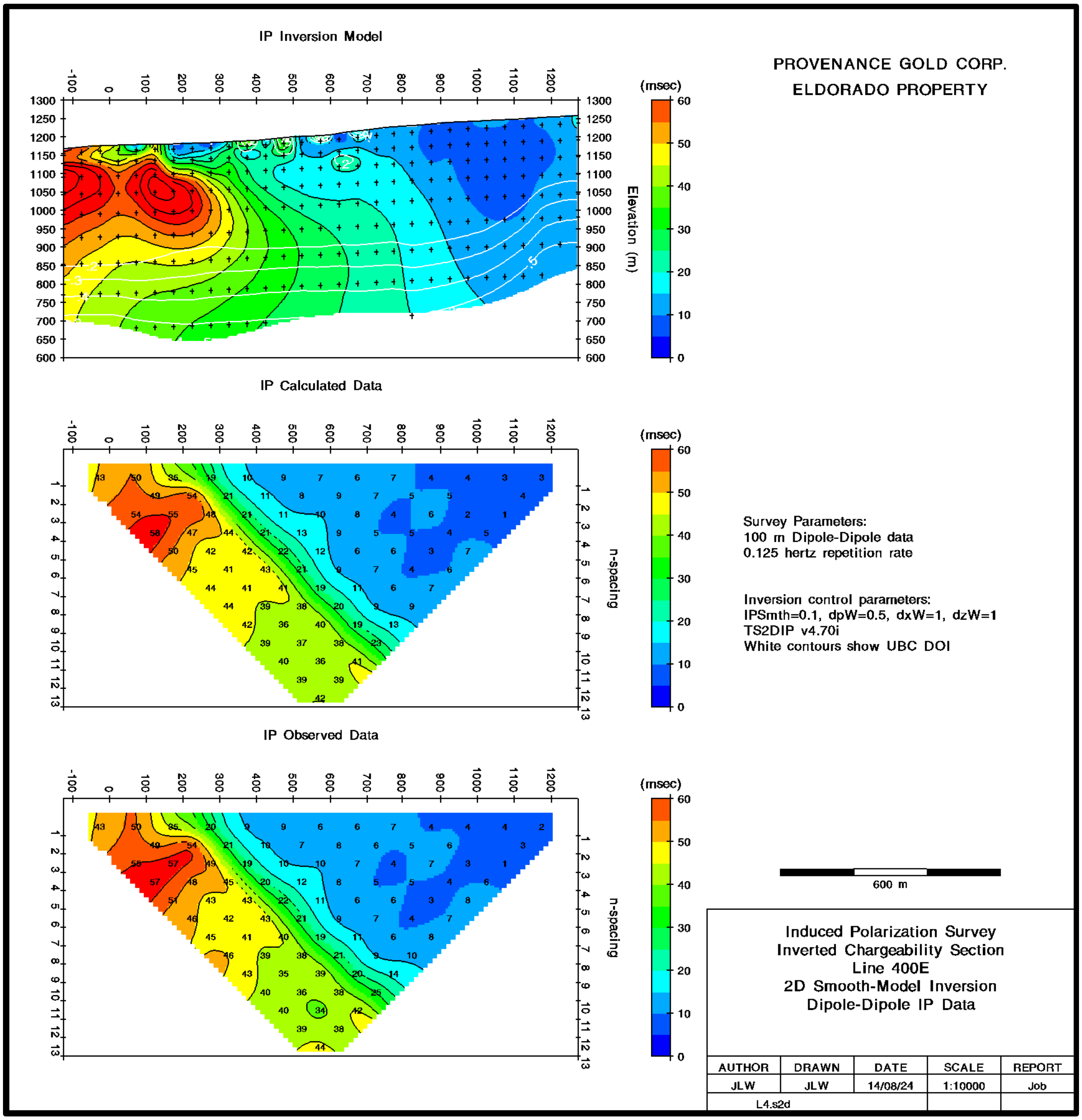


FIGURE B6: Line 400E Chargeability Inversion Summary

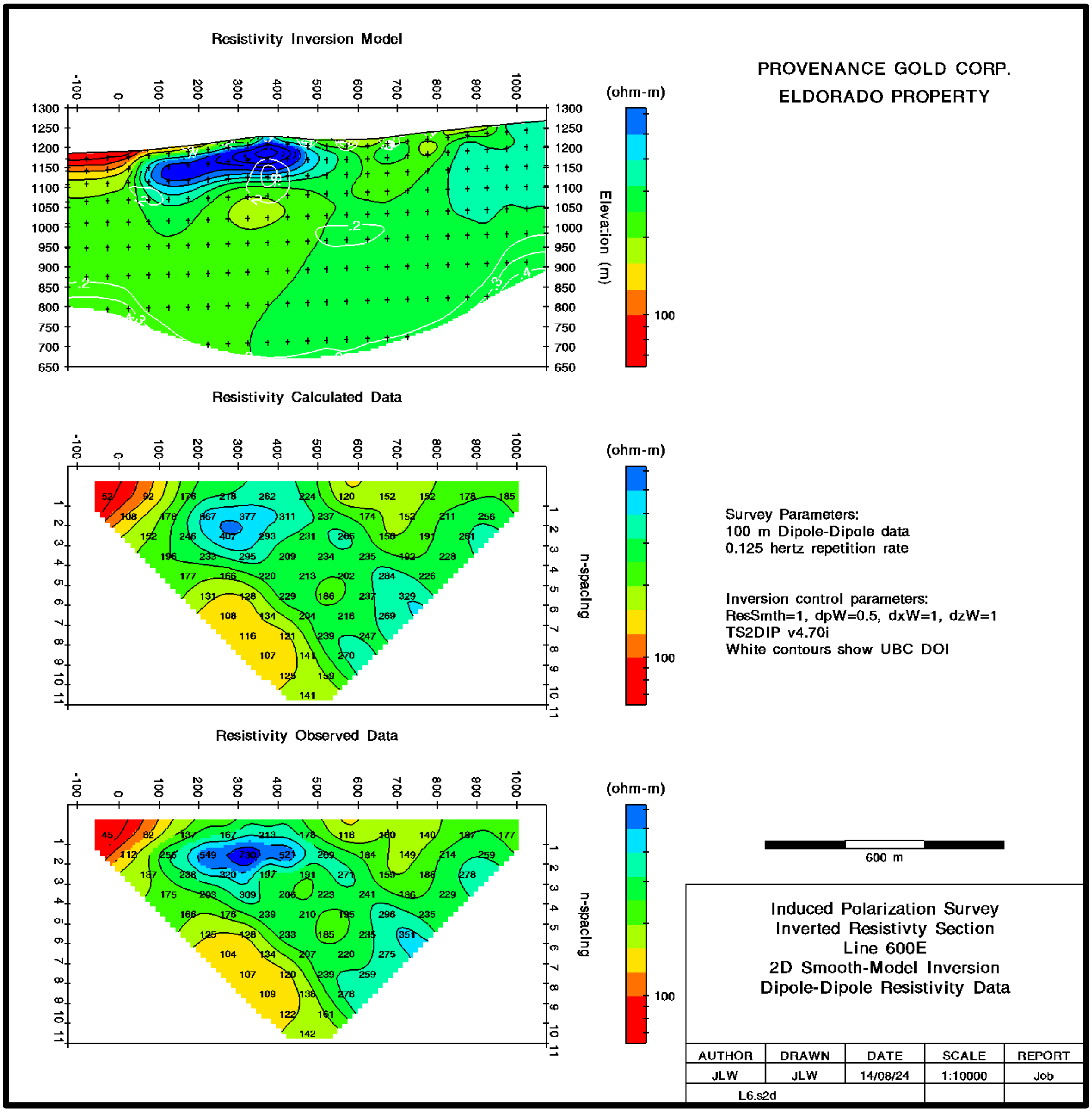


FIGURE B7: Line 600E Resistivity Inversion Summary

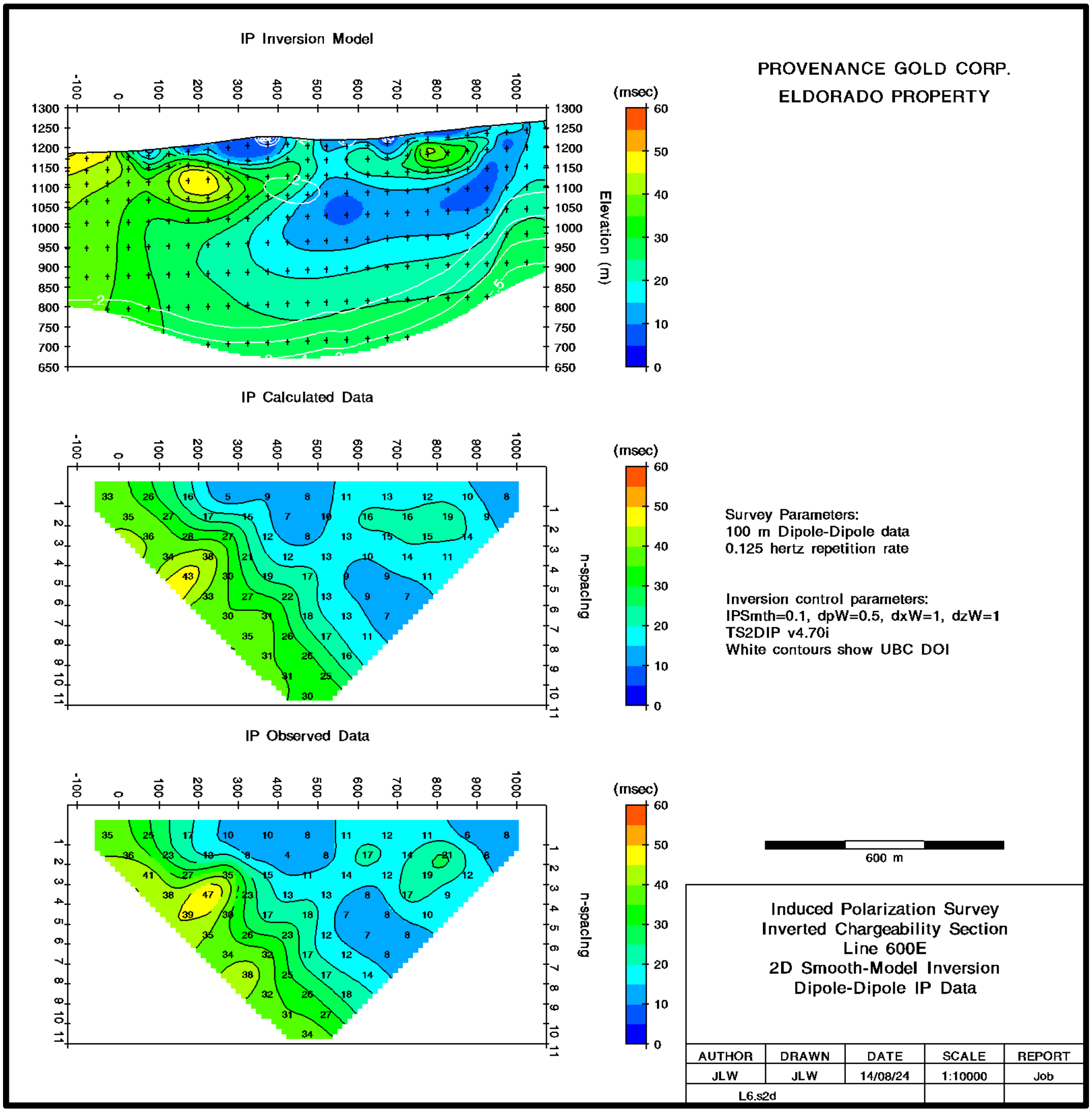


FIGURE B8: Line 600E Chargeability Inversion Summary

APPENDIX C

SECTIONAL INTERPRETATIONS OVER MAGNETICS

LINES: 0, 200E, 400E & 600E

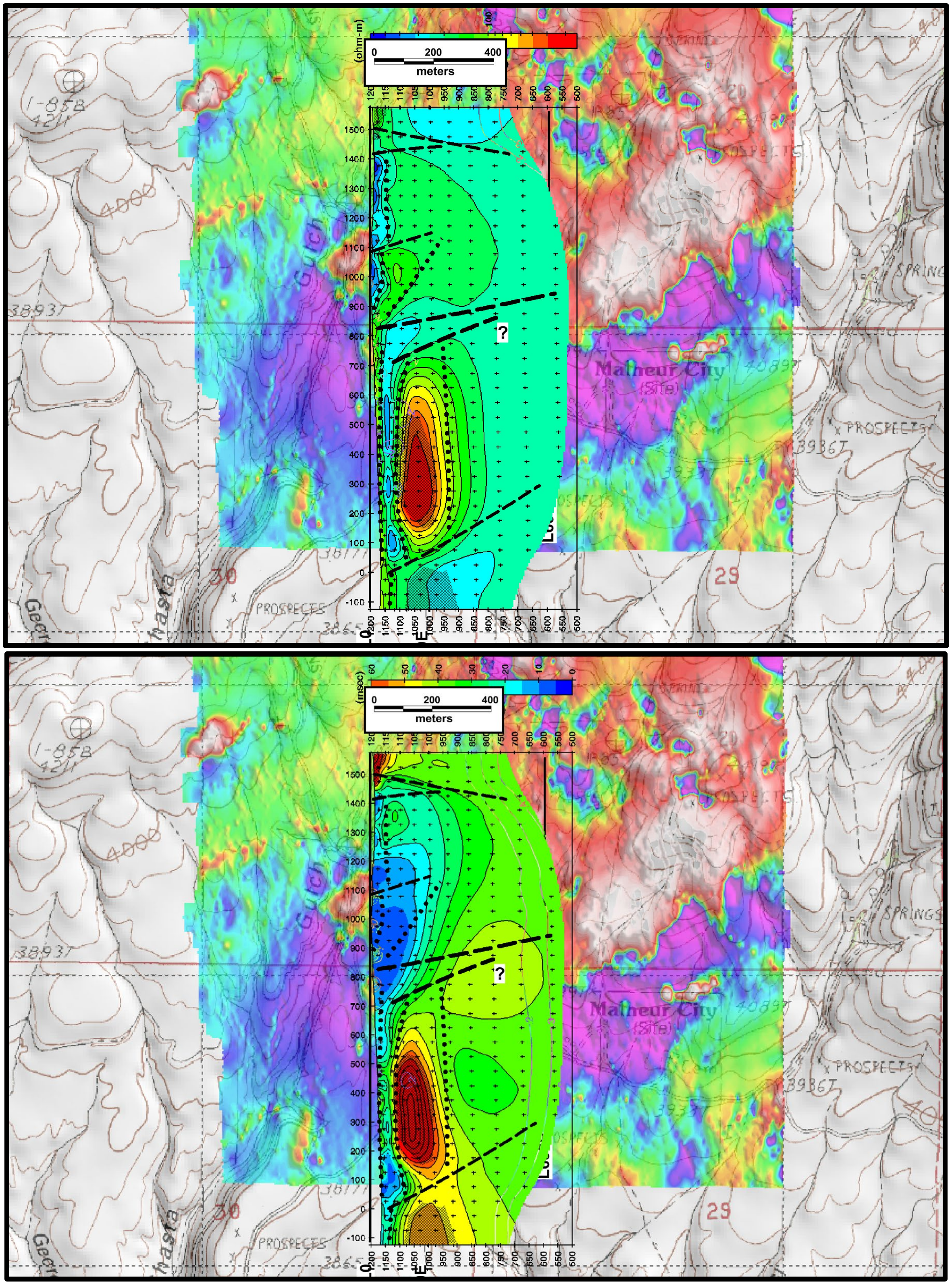


FIGURE C1: Line 0 Resistivity (Upper) and Chargeability (Lower) Sections Over Airborne Magnetics and Topography

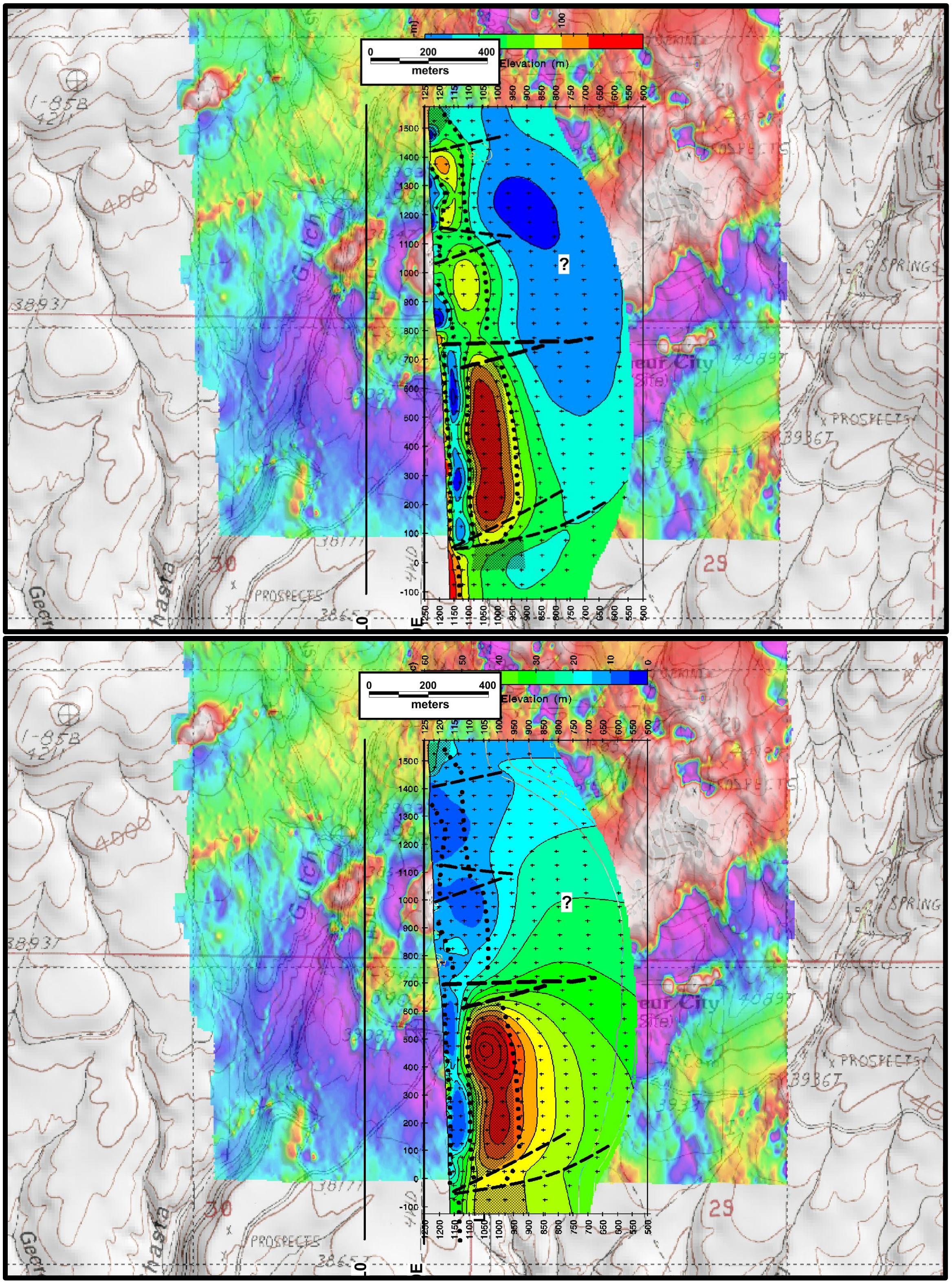


FIGURE C2: Line 200E Resistivity (Upper) and Chargeability (Lower) Sections Over Airborne Magnetics and Topography

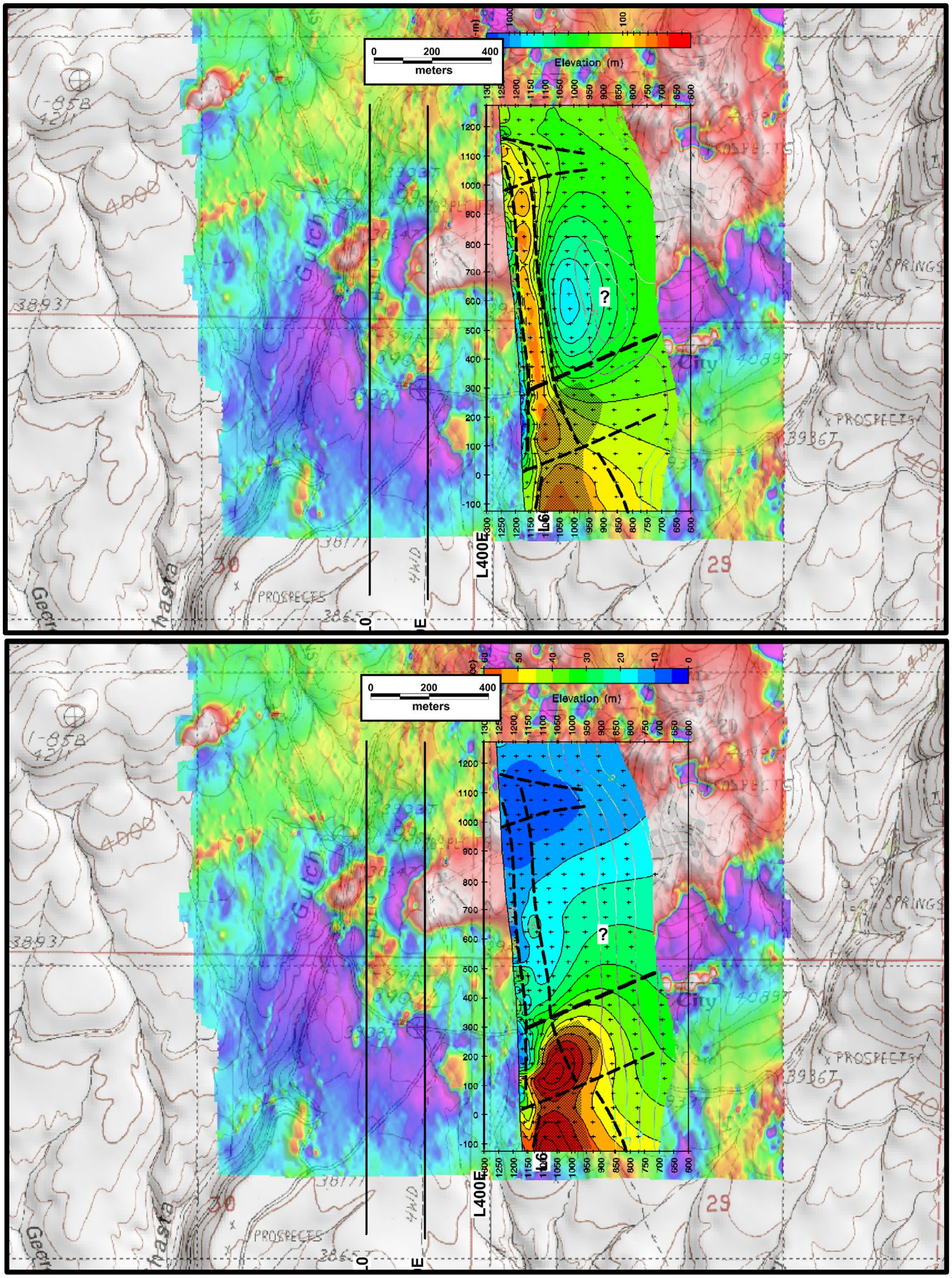
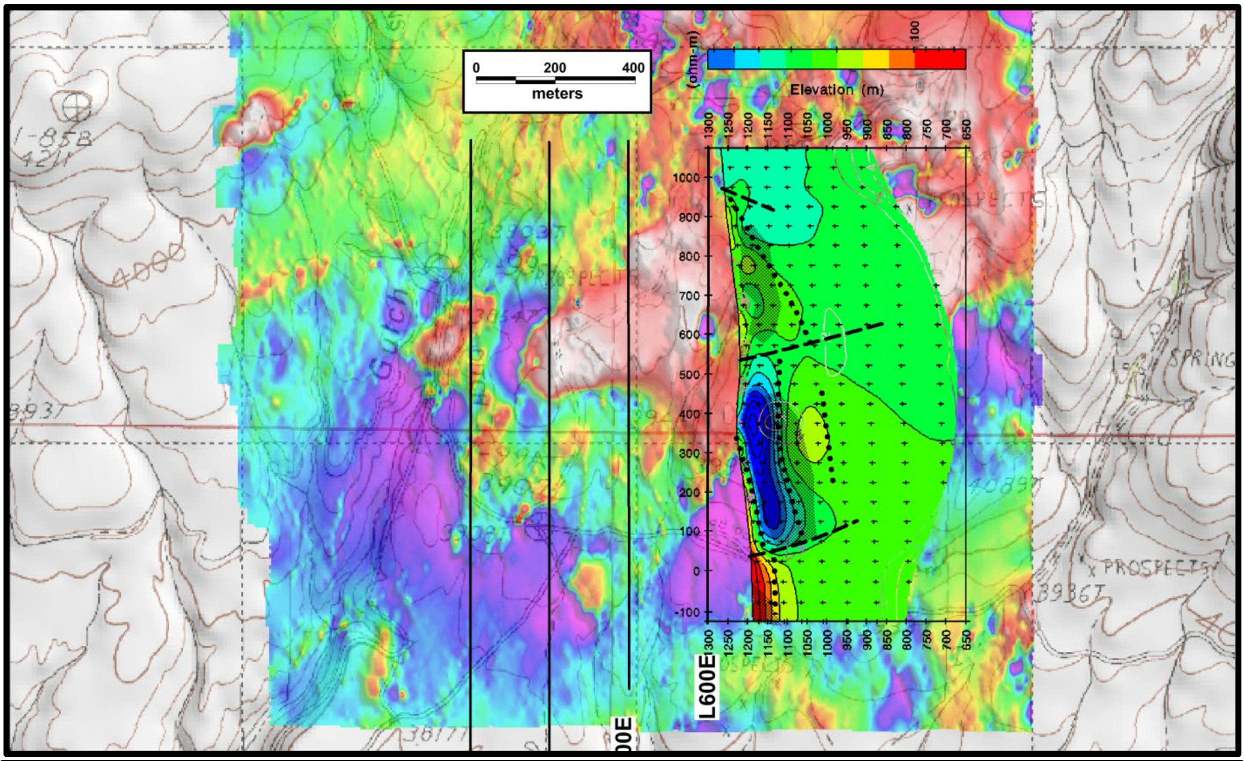


FIGURE C3: Line 400E Resistivity (Upper) and Chargeability (Lower) Sections Over Airborne Magnetics and Topography



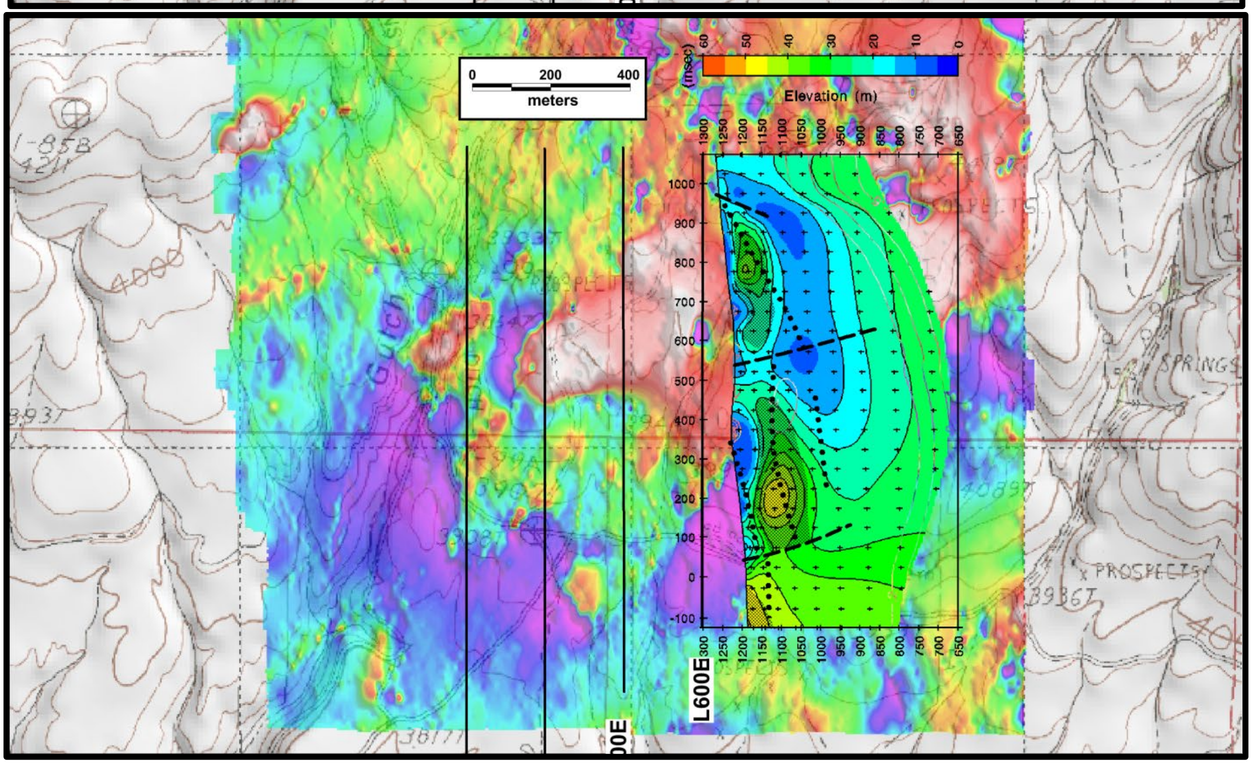


FIGURE C4: Line 600E Resistivity (Upper) and Chargeability (Lower) Sections Over Airborne Magnetics and Topography