BC Geological Survey
Assessment Report
39146

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT:
Geophysical Interpretation Report on the Bluff Copper-Gold Property

TOTAL COST: $22,952.50

AUTHOR(S): J.W. (Bill) Morton P. Geo (and Trent Pezzot P. Geo)
SIGNATURE(S): Bill Morton

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): **5801667**

YEAR OF WORK: 2019

PROPERTY NAME: Bluff

CLAIM NAME(S) (on which work was done): 848734, 541943, 547801, 984009, 1019282, 1019280, 1013712, 1012228, 983993, 1019192, 1034569, 1017460, 1034920, 1012223, 1030586, 1069906, 1034921, 848082

COMMODITIES SOUGHT: Copper, molybdenum, gold and silver

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN:

MINING DIVISION: Clinton
NTS / BCGS: 92N/10E and 92N/15E
LATITUDE: _____51_____° _____45___' _________"
LONGITUDE: ____124____° ____40__' _______ " (at center of work)
UTM Zone: 83 EASTING: 384950 NORTHING: 5734547

OWNER(S):
Sue Rolston

MAILING ADDRESS: Box 32, Tatla Lake, BC, VOL 1VO

OPERATOR(S) [who paid for the work]: Sue Rolston

MAILING ADDRESS: Box 32, Tatla Lake, BC, VOL 1VO

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Geo phy sica Interp	All	$22,952.50	
GEOCHEMICAL (number of samples analysed for …)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres, number of holes, size, storage location)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling / Assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)			
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
Legal Surveys (scale, area)			
Road, local access (km)/trail			
Trench (number/metres)			
Underground development (metres)			
Other			
		TOTAL COST	$22,952.50

GEOPHYSICAL INTERPRETATION REPORT
including
Airborne Magnetic, VLF-EM and EM
Induced Polarization and ground Magnetic Surveys
on the Bluff Property
51°45'N, 124°40'W
Clinton Mining Division, N.T.S. 92N/10E, 92N/15E
British Columbia, Canada

for
Tchaikazan Resources Inc.
Box 32, Tatla Lake, B.C., V0L 1V0

Surveys by
Aerodat Ltd, Lloyd Geophysics, Scott Geophysics,
Noranda Exploration,
Dates: 1989 - 2006

Interpretive report by
S.J.V. CONSULTANTS LTD.
E. Trent Pezzot, BSc. PGeo.

J.W. (Bill) Morton, P.Geo.

June 23, 2020

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Introduction and Terms of Reference:

In 2019 SLV Consultants was retained to complete a geophysical interpretive report on the Bluff copper-gold prospect located south of the Community of Tatla Lake in southcentral BC. The geological supervision of this work was under the management of Roger MacDonald, P. Geo. Tragically Roger MacDonald suffered a fatal heart attack on April 19, 2020. J.W.(Bill) Morton P. Geo, being very familiar with the Bluff property and a longtime friend and associate of Roger, has since taken over responsibility of creating an assessment report including the SLV Consultants report that can be filed for assessment work credit. Most of the significant detail in this report is included in Subsection "A" Geophysical Interpretation Report authored by SLV Consultants.

Property Description and Location, Accessibility, Climate and Local Resources:

The Bluff property is located on BCGS map sheet 092 N 077 and centered on Lat 51° 45' 54" N Long 124° 39' 36" W. The Bluff property is situated is situated about 22 km south of the village of Tatla Lake BC which is on British Columbia Highway 20 about 240 km west of Williams Lake BC in the Clinton Mining Division and approximately 250 km west of Williams Lake BC. There is good all weather paved road access from Williams Lake west on Highway 20 to Tatla Lake. About one kilometre before reaching the Village of Tatla Lake, is the Bluff Lake turnoff. Travel south on good all weather gravel road about four kilometres to the Bluff Lake road (exit west) and follow for 19.6 km to the Rolston Ranch access road. Beyond the Ranch, access is difficult and gained only by ATV, foot or helicopter. Local helicopter service is provided by White Saddle Air Services at the south end of Bluff Lake.

In the vicinity of the property, approaching Bluff Lake, the mountains of the coast range rise dramatically from the generally rolling terrain of the western Chilcotin Plateau. The small relatively shallow ponds and lakes or long sinuous lakes occupying old river beds and valleys of the plateau give way to larger, deeper lakes within ice scoured valleys within a relatively short distance south, from Bluff Lake the highest peaks (in excess of 4000 m) in the coast range are found, with attendant ice fields, numerous valley Glaciers, and related terrain.

The property receives on average, less than one metre of snow annually and is generally snow free from mid-April to mid to late November. With exceptions of the more precipitous and extreme elevations, the property can be worked in all seasons.

The property is extensively covered with glacial overburden consisting of basal and ablation tills and glacio-fluvial deposits, except where slopes are steeper, this includes almost all of the more easily accessible portions of the property. The overburden varies in thickness and reaches more than 100m thick. Outcropping bedrock is nonexistent on the lower and gentler slopes.

Vegetation in the area consists of mainly coniferous forest with local patches of deciduous poplar or aspen. Locally, but not in the work area, there has been clear cut logging and corresponding new roads since the 1980's with earlier re-grown cut blocks evident. In recent decades there has been an endemic infestation of the mountain pine beetle that has affected a vast area of central BC including the Bluff Property.

The settlement of Tatla Lake is on highway 20 near the height of land between Tatla Lake of the Fraser-Chilcotin drainage basin and the coastal drainage of the Mosley Creek-Homathko River and Klinaklini River systems, which drains into Bute Inlet.

Tatla Lake offers basic services: fuel, lodging, meals, a general store and post office. There is also a local health nurse and first aid station. Most supplies must come from Williams Lake, about 220 Km to the east. Freight and transportation services along Highway 20 are very good with generally next day delivery of goods from Williams Lake possible.

Claim Tenure Summary

Claim Name	*Claim #*	*Area (hectares)*	*Expiry Date*
BLUFF	541943	740.4	April 24, 2024
HORNE	547801	200.0	March 20, 2024
BLUFF 11	848082	160.1	Dec 20, 2020
BLUFF 112	848734	60.0	Dec 20, 2020
BORNITE	983993	240.1	Dec 20, 2020
EXT	984009	100.0	Dec 20, 2020
BUTT 2	1012223	180.1	Dec 20, 2020
BUTT 1	1012228	260/2	Dec 20, 2020
SOUTH BUTLER	1013712	340.3	Dec 20, 2020
BLAKE	1017460	120.1	Dec 20, 2020
BUTTS 2	1019192	240.2	Dec 20, 2020
COW 2	1019280	180.1	Dec 20, 2020
COW 1	1019282	260.1	Dec 20, 2020
BLAKE 2	1030586	100.1	Dec 20, 2020
NEWMAC	1034569	40/0	Dec 20, 2020
BLAKE S	1034920	120.1	Dec 20, 2020
MATHEX	1034921	80.1	Dec 20, 2020
BLAKE EXT	1069906	40.1	Dec 20, 2020
Total		**3,161.9 hectares (7,813 acres).**	

Claims are located in Clinton Mining Division, BC
Claims are owned by Sue Rolston (Tchaikazan Resources Inc.)

TCHAIKAZAN RESOURCES INC.

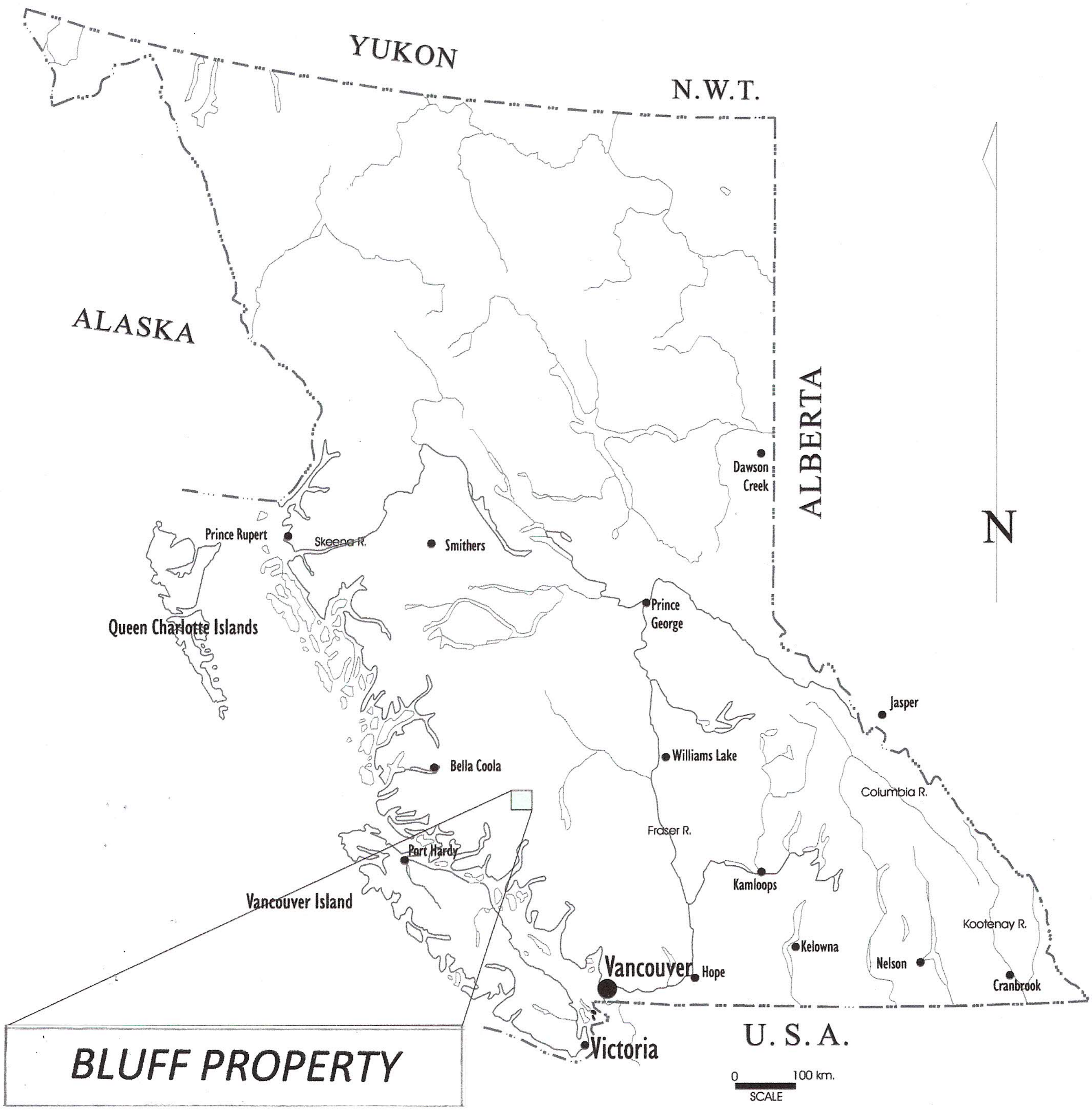
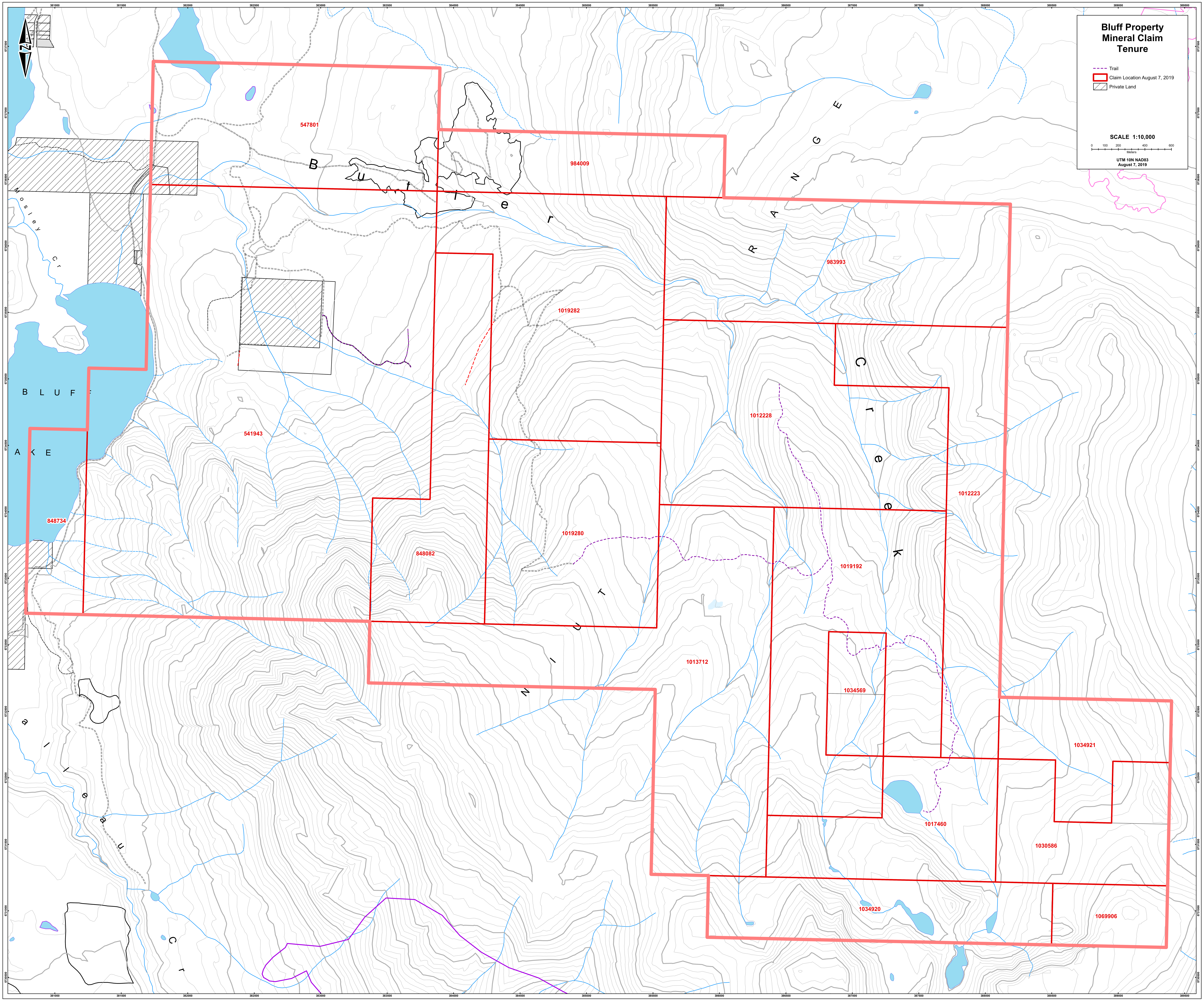


FIGURE 1

LOCATION MAP OF BRITISH COLUMBIA



Bluff Property
Mineral Claim
Tenure
Trail
Claim Location August 7, 2019
Private Land
SCALE 1:10,000
0 100 200 400 600
Meters
UTM 10N NAD83
August 7, 2019
547801
984009
983993
1019282
1012228
1012223
541943
848734
848082
1019280
1019192
1013712
1034569
1034921
1017460
1030586
1034920
1069906
Butler Range
Creek
BLUFF LAKE
Mosley Cr

History:

The Bluff claim block has an exploration history dating back to the 1940's when precious metal veins were discovered on Butler Mountain. The ground was worked for its copper/moly/gold potential by several operators from the 1960's through to the present.

The Bluff Property was staked as a result of prospecting activity by the local landowner (Rolston Ranch) during the course of an earlier exploration program by Newmac Resources Inc. on the adjacent property. Sue and Les Rolston own a local ranch and had provided room, board and logistical assistance to Newmac Resources during the course of previous exploration programs. Mrs. Rolston developed a keen interest in prospecting and had located a single specimen exhibiting malachite and tourmaline mineralization. With encouragement from a Mincord Exploration Consultant she continued her exploration and delineated a broad tourmaline/chalcopyrite zone with occasional spectacular copper carbonate coated cliff faces. When the extent and limits of the mineralization became clearer, claims were staked and a property agreement was struck between Susan Rolston and Newmac.

Late in 2006, a geophysical survey (mag. and IP), was completed by Alan Scott Geophysics on the newly staked Bluff claims. Based on the results of this survey, a diamond drilling program was executed, in two phases, between February 14, 2007 and May 23, 2007. The results of that drilling program were inconclusive. However un-split core still racked on site displays varying degrees of copper mineralization.

Subsequent to the 2007 drill program, surrounding Newmac claims were inadvertently allowed to lapse. As claims became available, Sue Rolston acquired them to reconstitute the land holdings package. Work comprised prospecting and geochemical rock sampling over the core Bluff claims and the newly acquired claims.

In 2012, Susan Rolston formed Tchaikazan Resources Ltd. to manage the expanding land holdings. Work since that time, has been undertaken on behalf of the company. The 2012 geochemical program consisted of rock sampling on three areas of the Bluff claim block. Notable samples were taken below the Bluff Lake road in the area of Painted Bluff showing. Samples Blu1, Blu2 and Blu3 returned copper values including 3,190ppm, 2,330ppm and 6,250ppm respectively. Sample Blu1 also returned 2.02g/t Au, 2,260ppm As and 889ppm Zn. Eight of twelve samples located in the area of the Bornite showing were anomalous in copper.

The 2013 work program comprised geochemical sampling of 22 rocks , 86 drill core intervals and six soils from various locations on the Bluff claims and the newly acquired land package. Assays returned from drill hole BL 08-07indicate two broad zones of anomalous copper values: 21.95m @ 221.0ppm Cu from 136.2m to 158.1m and 40.2m

@ 146.5ppm Cu from 170.2m to 210.4m. Sample Cow2-107, float located directly beneath a gossanous outcrop on the western bank of the creek returned assays of 2.01gpt Au, 1,070gpt Ag, 5.02% Pb and 5.25% Zn, may indicate the westerly extension of the Cow Vein system. In addition, 7.0 kilometres of trail was GPS surveyed for the purpose of determining the condition of the trails and extent of access they would provide to the north and eastern claims.

The 2014 work program comprised geochemical sampling of 27 rocks and five C-horizon soils from the Butler Lake area, Bornite Zone and Noranda Pits. In addition, 7.0 kilometres of trail was cleared to accommodate ATV access to the north and eastern portions of the claims. In early spring, a compilation of all available historic data was performed. Continued prospecting and geochemical rock sampling is recommended west of Butler Lake and the east fork of Butler Creek upstream of the confluence of East and West Butler Creeks. One diamond drill hole is recommended to test the coincident copper and I.P. anomalies in the area of the Noranda Pits.

The August 2015 work program included prospecting in the West Butler Creek area just upstream from the confluence of East and West Butler Creeks. In addition, a review of mineralized structures in the “Pretty Pile” area, the Painted Bluffs and the Slide area was undertaken to more accurately locate and orient the local copper/gold and molybdenum mineralization. The Pie Grid was established with the cutting of 8.3 kilometres of gridline and trail in preparation for I.P. and Mag surveys that later defined a moderate chargeability/resistivity anomaly. The newly acquired Math claim was prospected and two rock samples were sent for assay. Two rock sample locations in the vicinity of West Butler Creek were resurveyed using GPS for the purpose of incorporating into the Tchaikazan assessment report titled “Assessment Report on the Rock Geochemistry and Geological Program” (MacDonald, R.C., 2015).

The 2016 geochemical program produced a coincident Cu/As/Sb geochemical anomaly over the geophysical anomaly defined in the 2015 program. Mapping along the Hayfield bluff indicate a possible mineralized system in the vicinity of the Painted Bluff copper showing and diamond drill hole BL07-08.

Due to wide spread forest fires in Cariboo- Chilcotin area during the 2017 field season, only two days of geochemical rock sampling were carried out. An extension to the 2017 assessment reporting period was granted and the bulk of the geochemical surveys were performed in July and August 2018. The program comprised 14 rock samples and 234 soil samples.The soil geochemical program identified two moderate Cu/As/Sb anomalies. One over 100 metres on Line 93+00N from 110+50E to 111+25E and a two station anomaly on the south-west end of the talus traverse TT18002 and TT18003. A weaker Cu/As/Sb anomaly is located at the west end of line 95+00N between 94+25E and 95+25E. No further exploration is recommended in the south-eastern portion of the claims. The source of the granodiorite boulders should be determined specifically upslope to the east to the east of the boulders and south of the copper anomaly defined on line 93N. Continued geochemical sampling and mapping is recommended to the south-east of Butler Lake in the vicinity of the Cu/As/Sb anomaly at the west end of line 95N.

In 2019 rock geochemical and geological mapping was completed on the BLUFF, SOUTH BUTLER, BUTTS2, BLAKE S and BLAKEEXT claims. A total of 25 rocks were sampled of which 21 were sent for assay. Geologic mapping was carried out on 18 locations as the samples were collected. The program was successful in extending a copper rich tourmaline breccia from its discovery outcrop to 500 metres to the north-west along a 330° to 340° trend along the Hayfield Bluffs. Sampling in the area of the Painted Bluff extended that mineralized zone some 150 to the south-east along a 135° trend. Also, 550 metres to the east of the painted Bluff, the Slide zone sampling returned a 1,360ppm Cu/22.9ppm Pb/1.15ppb Ag assay from outcrop that previously returned anomalous molybdenum tenors.

On the BLAKEEXT claim, staked in 2019, rock sample # 36 returned an assay of 1,860ppm Cu and 2.44ppm Ag indicating similar mineralization to the math showing located 1,300 metres to the north north-east. Sampling along a gossanous ridge in the St. Teresa area, located approximately 550 metres west of Butler Lake returned two samples anomalous in copper; RM19005 @ 461ppm Cu and RM19007 @ 433ppm Cu.

The Bluff Property holds potential for mineralization similar to the Fish Lake (Prosperity) Cu/Au deposit located some 70km to the East; The Skinner Mountain lode Ag/Au veins, 18km east and the Blackhorn Mountain lode Au/Ag veins 20km to the south.

Geological Setting:

Regional Setting

The Bluff claims are located along the southwestern margin of the "Tyaughton Trough", a late Jurassic depositional basin that, in this area, is predominantly filled with Lower Cretaceous volcanic and sedimentary rocks. The Tyaughton Trough in the vicinity of the Bluff Claims is a structural block bounded by two significant breaks:

The Yalakom Fault is a right lateral transcurrent fault striking west northwest with 130 to 190 km of offset and forms the north bounding structure of the basin.

The Tchaikazan Fault is also a right lateral, west-northwest trending transcurrent fault, with an estimated offset of 32 km and forms the southern bounding structure.

The Tyaughton Basin collectively represents a defining feature of the Cordillera, which separates the Coast Mountains and Coast Plutonic Complex to the southwest from the

Chilcotin Plateau in the Intermontane Belt to the northeast. A third and essentially parallel fault, The Niut Fault, runs through Butler Mountain.

Local Geology

Rock outcropping around the Bluff Property is restricted to the bluffs overlooking Bluff Lake, the slopes of Butter Mountain and to the north, beyond Butler Creek, the upland sides of the valley. The ridge on the western side of the claims overlooking Bluff Lake and backing onto the Rolston Ranch is composed of medium to dark green chloritic andesite , moderately hard, with traces of pyrite, and minor epidote alteration.

As the ridge ascends towards Butler Mountain a hard, medium grey-green andesite with pale, diffuse white feldspar phenocrysts becomes common. This rock has been described elsewhere as "Hornfels". North of Butter Creek, on the valley flanks dark green chloritic andesite is common. It may have quartz and carbonate veining with minor epidote. Higher on the slopes north of Butler Creek and east of Horne Lake, outcropping of the Miocene Chilcotin Basalt is evident. The prominent hay meadow gently sloping from the ranch to the beaver ponds appears to be underlain by sequences of tills and gravels in excess of 100 m thick.

The section underlying claims to the east and north of the Bluff claims includes siltstones, greywackes, conglomerates and volcanic breccias and tuffs. Within this area, Upper Cretaceous to Tertiary diorite, quartz diorite, monzonite and quartz feldspar porphyry stocks and dykes have intruded the volcanic and sedimentary package. A thin layer of vesicular basalt, possibly representative of the Miocene aged Chilcotin plateau basalt, outcrops on the cliff top above Butler Lake and is likely the youngest unit within the project area. In and around Butler Lake and the upper reaches of Butler Creek, the volcanic and sedimentary rocks have been extensively hornfelsed.

The most common intrusive type in the Butler Lake area is quartz feldspar porphyry. Extensive sections of intrusive breccia (quartz-feldspar porphyry and diorite) have been intersected in drill holes on the east side of Butler Creek.

Pyrite, pyrrhotite, chalcopyrite, bornite and molybdenite (and occasionally arsenopyrite) have variably mineralized both the intrusive rocks and the hornfelsed volcanics and sediments. In the Cow Trail Vein area, gold and silver bearing quartz veins and quartz-sulphide stockworks have developed, possibly as distal features to the porphyry mineralization.

Cost Statement

Professional Fees	Roger MacDonald, P. Geo, 3 days @ $650 day	$1,950	April 9-11, 2020

Total Personnel,	$1,950.00
Data Charges (as invoiced)	$2,260.00
SJV Consultants (as invoiced)	$18,742.50
Total	**$22,952.50**

Author Qualifications:

I, J.W. Morton am a graduate of Carleton University Ottawa with a B.Sc. (1972) in Geology and a graduate of the University of British Columbia with a M. Sc. (1976) in Graduate Studies.

I, J.W Morton have been a member of the Association of Professional Engineers and Geoscientists of the Province of BC (P.Geo) since 1991.

I, J.W. Morton have practiced my profession since graduation throughout Western Canada, the Western USA and Mexico.

The geological supervision of this work was under the management of Roger MacDonald, P. Geo. Tragically Roger MacDonald suffered a fatal heart attack on April 19, 2020. I, J.W. (Bill) Morton P. Geo, being very familiar with the Bluff property and a longtime friend and associate of Roger, have assumed the responsibility of preparing this assessment report.

Signed this 23rd day of June, 2020

J.W. (Bill) Morton P.Geo

TCHAIKAZAN RESOURCES INC.

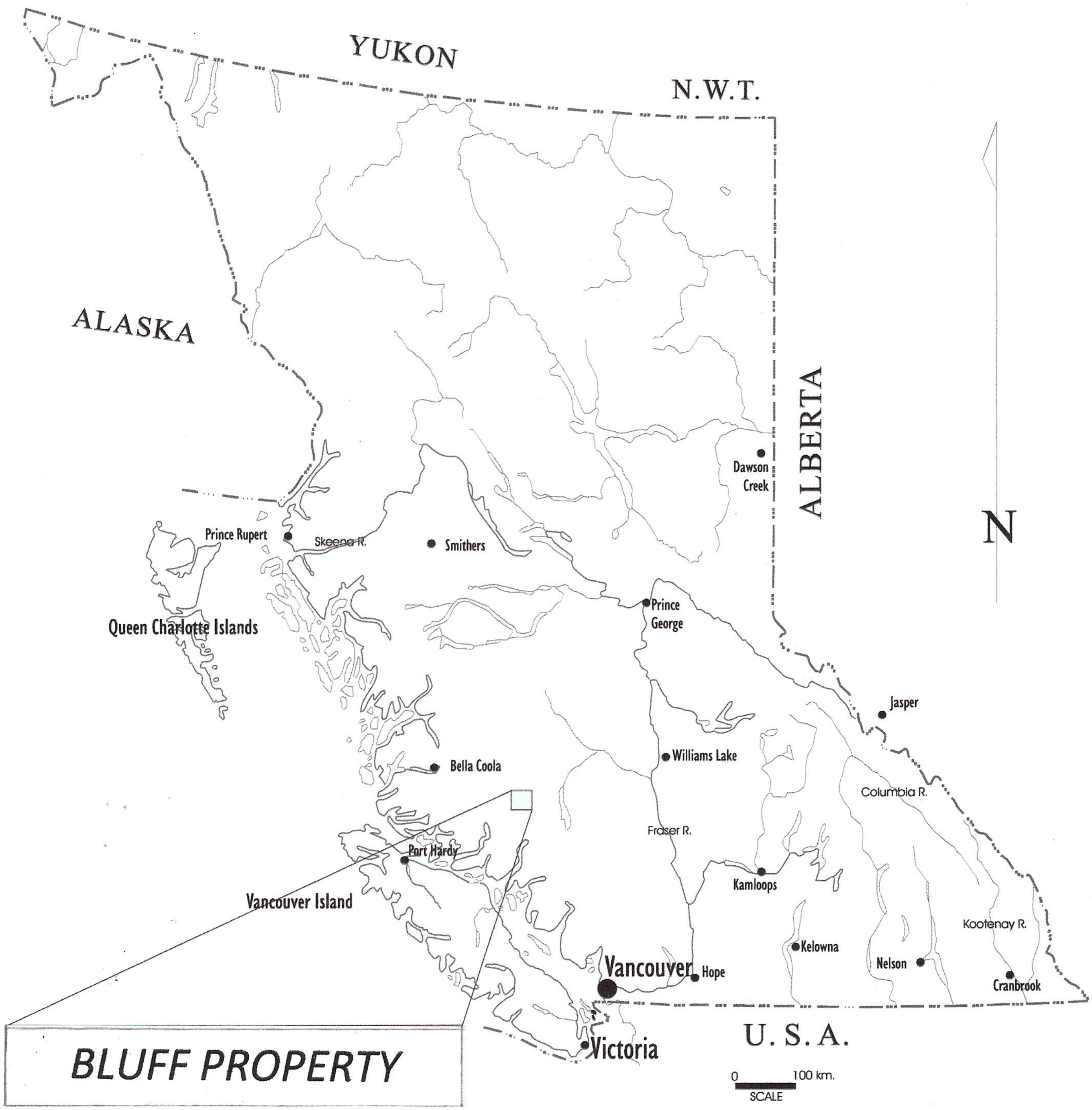


FIGURE 1

LOCATION MAP OF BRITISH COLUMBIA

Subsection A

GEOPHYSICAL INTERPRETATION REPORT

ON

Airborne Magnetic, VLF-EM and EM
Induced Polarization and ground Magnetic Surveys

Bluff Property

51°45'N, 124°40'W
Cariboo Mining Division, N.T.S. 92N/10E, 92N/15E
British Columbia, Canada

FOR

Tchaikazan Resources Inc.
Box 32, Tatla Lake, B.C., V0L 1V0

Surveys by
Aerodat Ltd, Lloyd Geophysics, Scott Geophysics, Noranda Exploration,
Dates: 1989 - 2006

Report by
S.J.V. CONSULTANTS LTD.

E. Trent Pezzot, BSc. PGeo.

Date: January 25, 2019

TABLE OF CONTENTS

List of Figures: These maps are inserted with the text of this report.

1 SUMMARY

The Bluff property includes 18 claims and covers approximately 3460 hectares. It is located approximately 180 km WSW of Williams Lake, B.C. and about 23 km south of the town of Tatla Lake. It is being explored for its potential of a copper-gold porphyry deposit.

S.J.V. Consultants Ltd. was retained to evaluate historical geophysical data, including an airborne magnetic, VLF-EM and EM survey data, acquired by Aerodat Limited in 1989 and several vintages of induced polarization data gathered by various companies and contractors from 1990 to 2006. Where possible, these historical data were to be re-processed to allow for modern inversion methodology applications. In addition, ground magnetic, soil geochemistry and drill information is available and was included in the study.

The airborne magnetic survey data was suitable for 3D inversion analysis and outlined several large, deep seated intrusive type bodies and structural trends. Airborne EM data was not studied at this time.

IP surveying, completed in 2004, 2006 and 2015 across the northwestern portion of the Bluff property was analysed with 2D inversions. The results suggest a cluster of mineral showings along the eastern shore of Bluff Lake coincide with a high resistivity layer that dips approximately 30° to the northeast, plunging below a thickening conductive sheet. To the northeast, this resistive layer is cut and uplifted by a northwesterly trending fault.

The IP surveying has detected a westerly dipping layer exhibiting elevated chargeability and moderate resistivity, lying below a sporadically conductive overburden layer along the northwesterly facing topographic slope east of Bluff Lake. The layer occurs as a northwesterly elongated ellipse, approximately 2.4 km x 1.4 km in size and contains 3 prominent, high chargeability zones within it. Vertical offsets of features within the layer suggest extensive faulting. Multiple drill holes within this zone have shown elevated Au, Cu and Zn assays both within and at the base of this layer.

3D inversion analysis of ground magnetic surveying across the IP survey grids has detected several small, near surface magnetic bodies in the area and intersecting east-west and north-northwest striking structures.

2 INTRODUCTION

This report is written as an internal document intended to describe an interpretation of historical geophysical data covering the Bluff Property. Topics included with assessment reports, such as the property description, geology and historical work, and detailed survey procedures and instrumentation descriptions associated with logistics reports, are not included or discussed briefly as required for the context of this interpretation.

The Bluff property is being explored for its gold and copper porphyry potential. The objective of this study to re-process historical geophysical data using modern inversion techniques to help determine whether the small, localized showings found to date are part of a much larger, regional system.

3 PROPERTY AND LOCATION

The Bluff property includes 18 claims and covers approximately 3462.31 hectares. It is located approximately 180 km WSW of Williams Lake, B.C. and about 23 km south of the town of Tatla Lake.

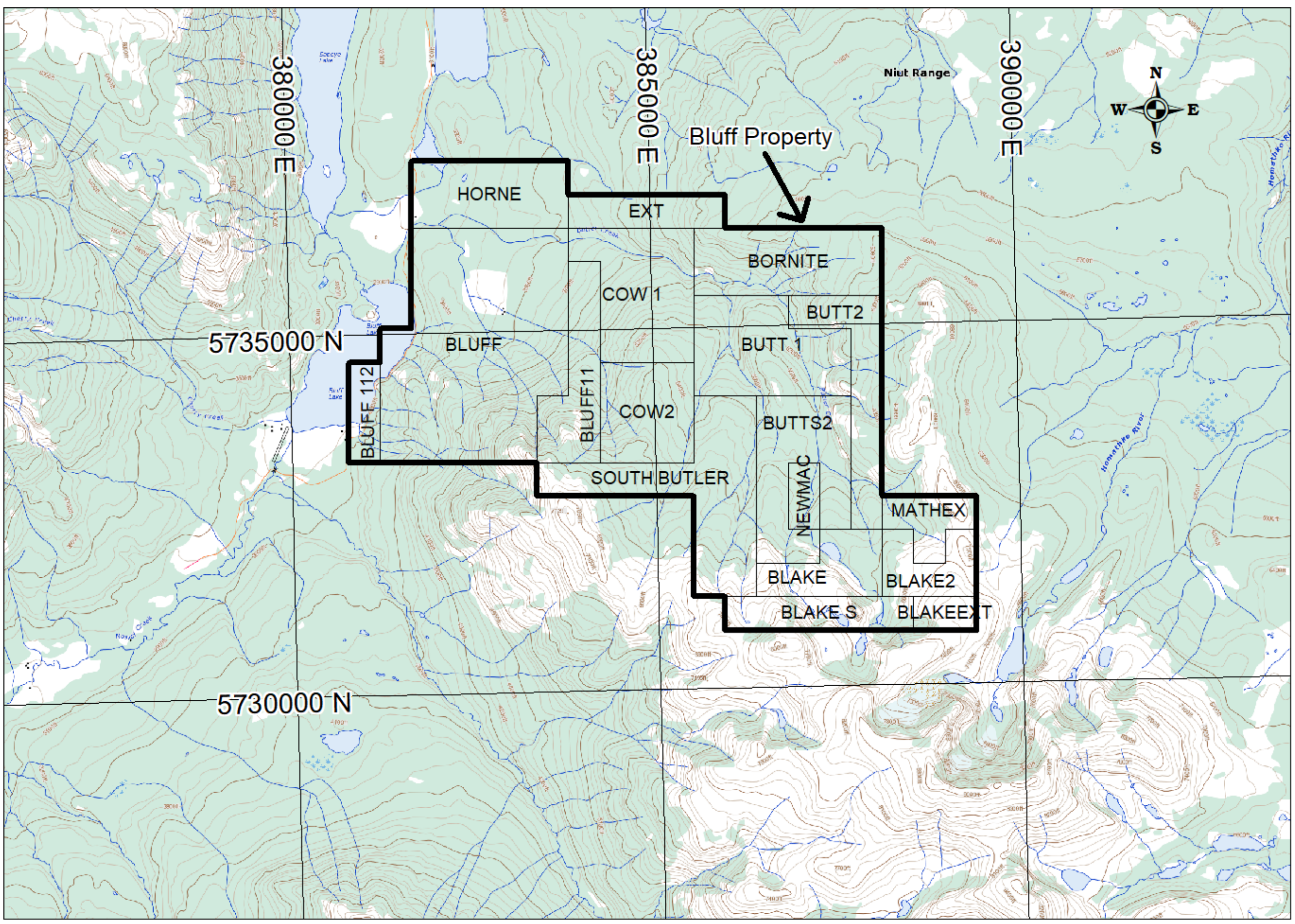


Figure 1: **Bluff Property Claim Outlines over Topographic base map.**

4 PROPERTY GEOLOGY

The BC Regional geology is presented as Figure 2.

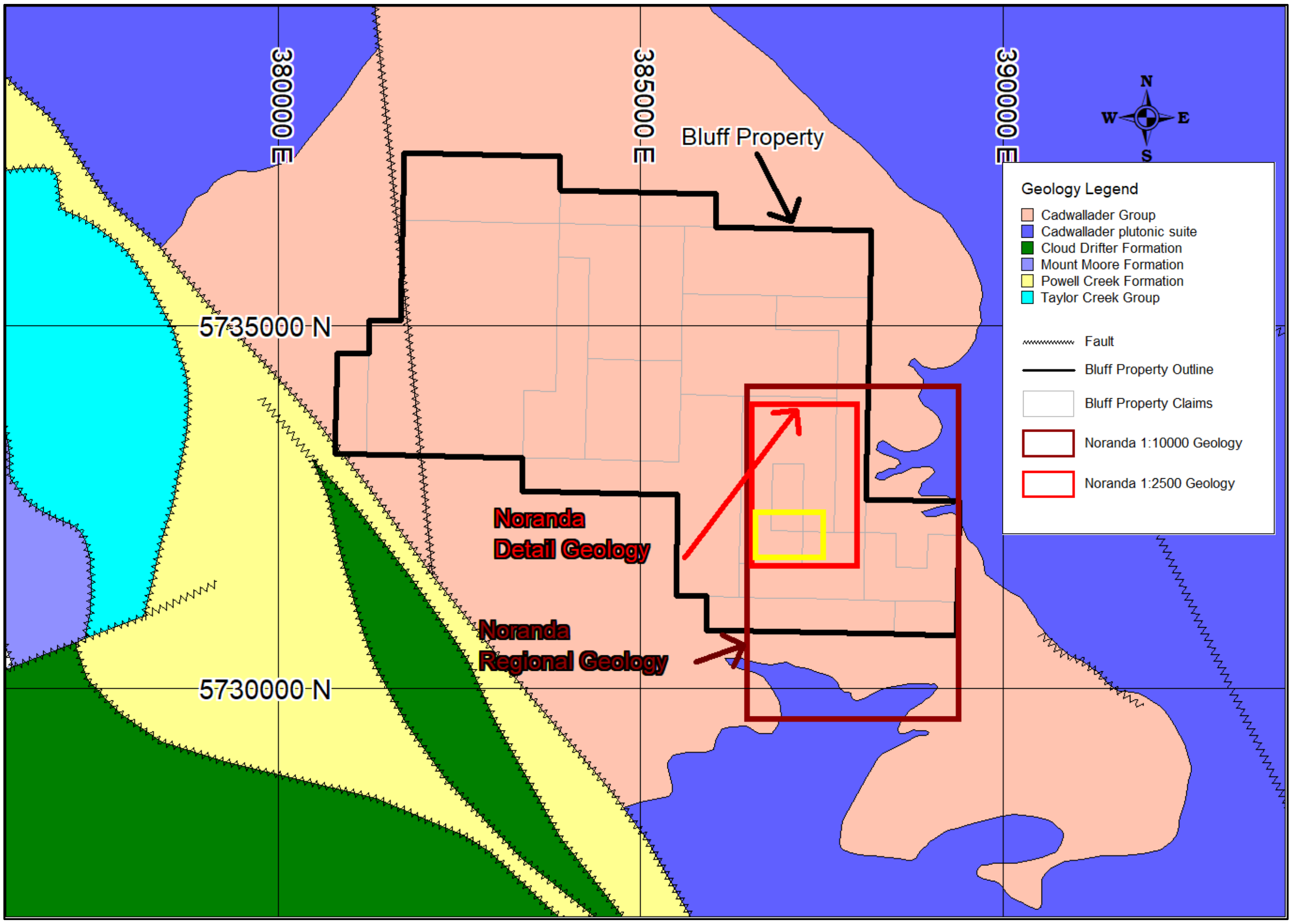


Figure 2: **BC Geology Map. Noranda Geology Outlines.**
Yellow Box shows area of Figure 3 detail geology blowup map.

The property is underlain exclusively by the middle to upper Triassic age Cadwallader Group of basaltic volcanic rocks. It is surrounded to the east and northwest by tonalite intrusions from the Cadwallader Plutonic Suite. A regional NW striking fault separates the Cadwallader Group from the Upper Cretaceous Powel Creek Formation volcanic rocks to the southwest.

A more detailed geological map, based on mapping completed by G. Gill for Noranda Exploration in 1990, was provided as a scanned pdf image of a paper map from BC Assessment Report 20860. This image covers a small (2.24 km x 1.46 km) 3.08 square km area in the southeastern portion of the Bluff Property that was mapped at a 1:2500 scale. More regional mapping, completed at a 1:10000 scale surrounding this block covered an area of approximately 12.75 square km. Noranda's mapping shows considerably more detail than the BC government mapping, suggesting this area is underlain by interlayered zones of andesite, basalt and rhyolite with isolated occurrences of dioritic intrusives. In the southern portion of the detail survey block, around Butler Lake, the geological trends strike northeasterly. In the northeastern portion of the detail block, the rocks strike more easterly to east-northeasterly.

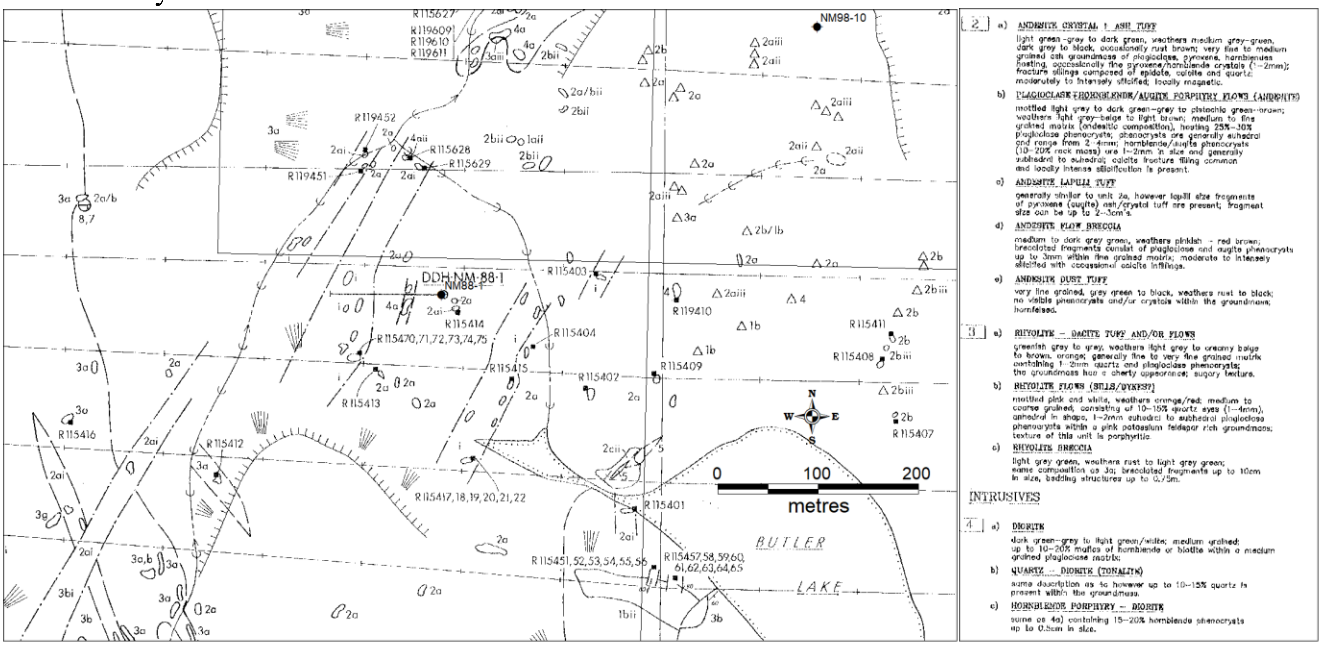


Figure 3: **Portion of Noranda 1:2500 scale geological mapping.**
Area outlined by the yellow box on Figure 2.

The property is being explored for its copper porphyry potential which has been compared to the Fish Lake deposit (70 km to east) and its gold potential which has been compared to the Blackhorn Mountain lode (20 km to south). Figure 4 identifies 11 named mineralized zones and areas of interest. Many of these targets are based on anomalous gold and copper assays. It is also noted that there is a tourmaline showing, believed to be associated with a vein type structure that runs between the Hayfield Bluffs and Painted Bluffs targets.

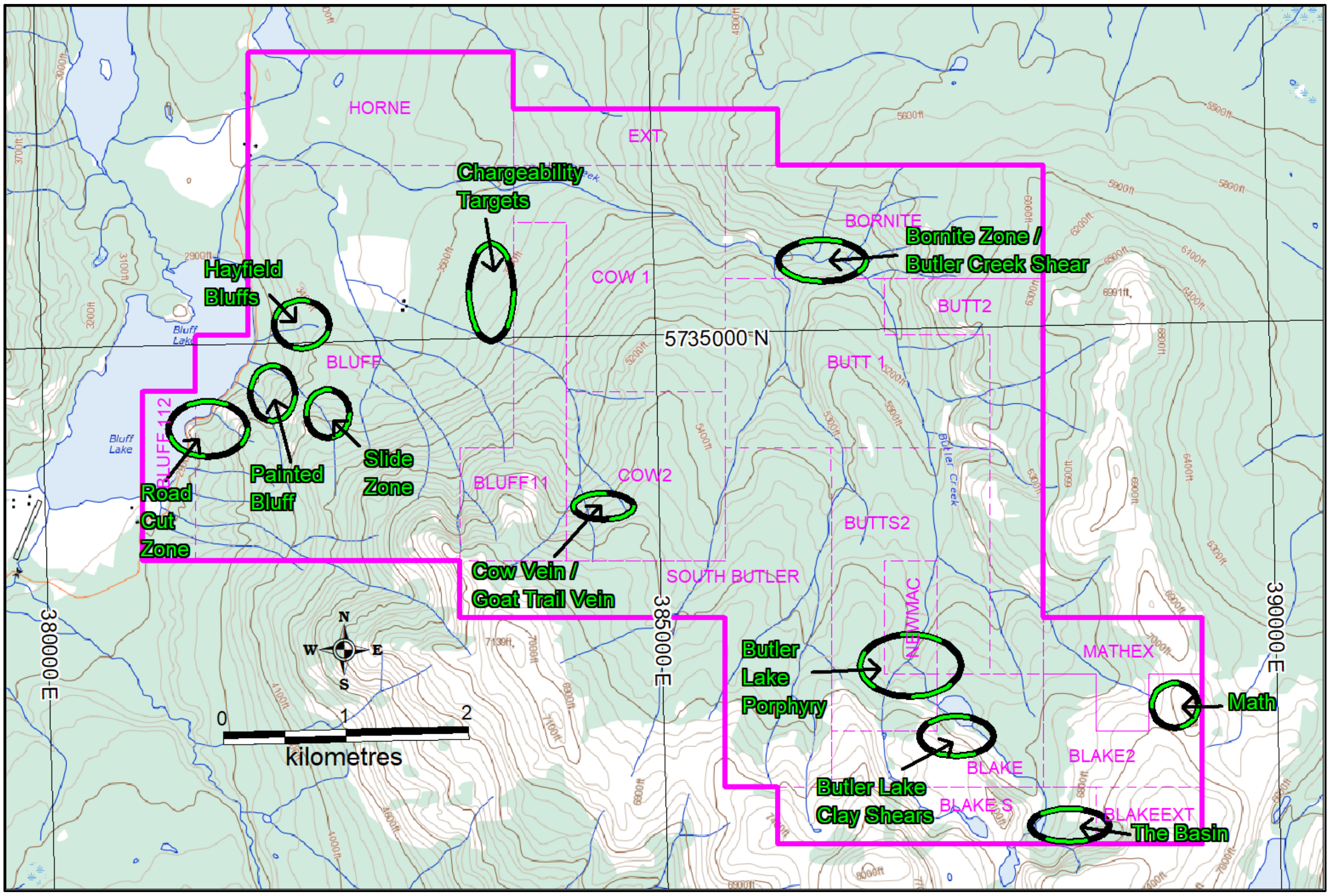


Figure 4: **Mineralized Zones and named areas of interest.**

5 SURVEY DATA

Tchaikazan Resources provided multiple data sets of historical geophysical data however not all contained the necessary data files required for re-processing.

Six (6) sets of IP survey data were provided.

1. Lloyd Geophysics (1991): BC Assessment Report 20680, states 30.3 line kilometres of IP and 37.4 line kilometres of magnetic surveying was completed on the Newmac property, across the area currently covered by the Newmac, Butts2, Blake and Butt2 claims. The IP survey included 12 lines (9700N to 11900N) spaced at 200 metre intervals. Processed data, including calculated apparent resistivity, average chargeability and metal factor, were provided as pseudosection plots. No digital data files were available. It would be possible to re-calculate the normalized potential values required for the inversion processing however some of the

required apparent resistivity values posted on the pseudosections are illegible. This task was not undertaken at this time.

2. *.car files: Six (6) digital files were provided that contained IP data in an unknown format (*.car). The files appear to contain data for 16 lines however the line numbers (11, 21, 31, … , 131, 10501, 9501, 4501) do not conform to any of the historical maps provided. It is thought that these may be associated with what is referred to as the 1986 B grid. Without knowing the file format and a map showing the locations of these lines, no further processing is warranted.
3. Newmac.dat: This digital file contains Mx, SP and calculated apparent resistivity, registered by line number, station number and separation in an ASCII tabular format. Data for 16 lines (100, 200, …, 1300, 450, 950, 1050) is provided. The header suggests the data was gathered by Mincord Exploration, who operated in 1988. No maps were provided showing the location of the data but it is expected to lie on either what was referred to as the "A grid (Cow Vein target ?)" or the "B Grid (Butler Lake Porphyry target ?)"
4. 04 survey: This folder contains digital data files for 10 lines (12700N to 14500N). These contained both calculated Mx and raw dump files from a Scintrex IPR-12 receiver. The data was apparently gathered in 2004 along east-west survey lines spaced at 200 metres across portions of what is currently staked as the Cow 1, Bornite and Butt 1 claims.
5. 06 survey: This folder contains digital data files for 18 lines (1100E to 2800E). These contained both calculated Mx data only and covered NE-SW oriented survey lines, spaced at 100 metre intervals that crossed the northern portions of what are now the Bluff and Bluff 11 claims.
6. 15 survey: This folder contained both calculated Mx and raw dump files from a GDD receiver for data gathered across western extensions to all but one of the 04 survey lines. These extensions filled the gap between the 04 and 06 grids. The folder also contained GPS data for the entire IP data set as well as a compilation of all of the magnetic survey data gathered across the 04, 06 and 15 grids.

A complete set of the contractors deliverable files were provided for the airborne magnetic, VLF-EM and electromagnetic survey flown by Aerodat Surveys in 1989. This included line data information (contained in a geosoft formatted database), geosoft formatted grids of the magnetic and calculated resistivity data, an ASCII text file of the interpreted EM anomalies and the contractors logistics report.

The data base contained both raw and processed magnetic information that, with further processing, was suitable for input to the 3D magnetic inversion algorithms.

The database contained both raw and processed inphase and quadrature data for four (4) frequencies of electromagnetic data. A separate ASCII text file was included that listed anomalies flagged by Aerodat, likely by an automated program. Of the 216 anomalies flagged, 191 were associated with magnetite and only 25 were considered possible electrical conductors. A cursory review of the EM profiles identified several anomalous responses that were not flagged by Aerodat. The strongest responses are noted in the quadrature component, suggesting relatively low conductivity to the sources. It was also noted that terrain clearance is a major problem with this survey. The radar altimeter data shows the average terrain clearance is 312 metres and never gets lower than 121 metres. It is possible that the altimeter values were recorded in feet, which would be more consistent with normal airborne surveying, however this would contradict the reported specifications. Most of the EM conductors coincide with low terrain clearances, as illustrated in the example of line 3030 shown below as Figure 5. A detailed examination of the EM data will be required to identify any anomalies that may be reliable enough to warrant inversion analysis. This procedure was not undertaken at this time.

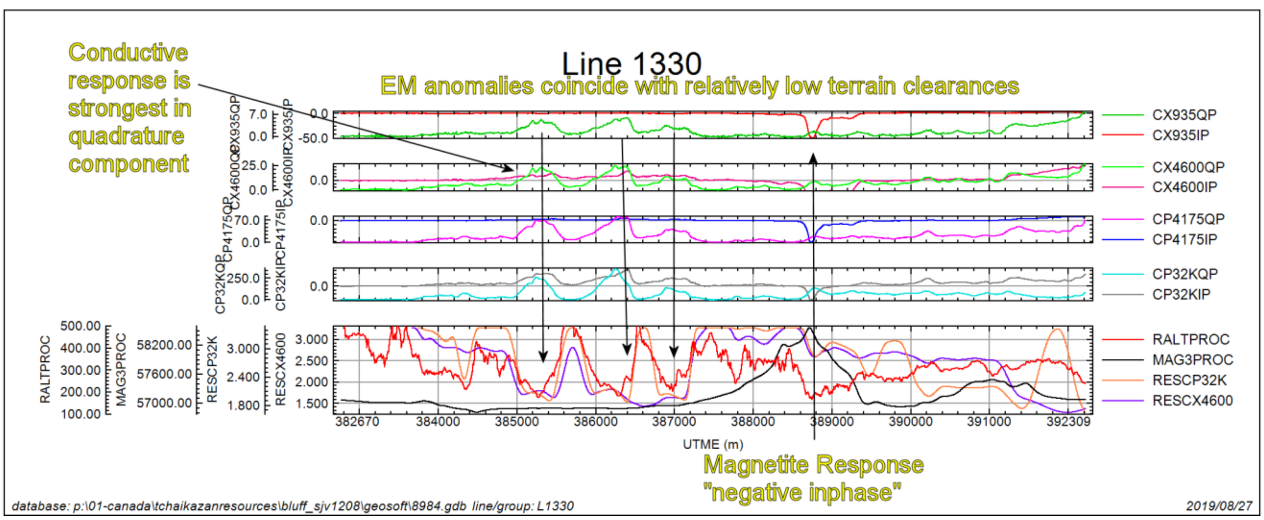


Figure 5: **Line 1330: Stacked Profile of EM, Magnetic, Radar Altimeter and calculated resistivity.** Profiles show how EM anomalies coincide with decreases in terrain clearance of sensors.

A digital elevation model (DEM) of the claims and surrounding area was downloaded from the National Resources of Canada (NRCAN) data repository.

5.1 Data Processing

The IP data contained in the Lloyd Geophysics, *.car and newmac.dat folders and files was incomplete and no further processing was undertaken at this time.

The digital IP data files provided in the 04 survey, 06 survey and 15 survey folders were imported to Microsoft Excel where NAD83, Zone 10N GPS locations for the line and station coordinate values were cross-referenced to those assigned to the ground magnetic data gathered across the same grids. The NRCAN digital elevation model was queried to assign elevations to each data point.

The overlapping IP data for the 04 and 15 grids were merged on a line by line basis.

The IP data was processed in EXCEL to produce line file formats suitable for input to the UBC 2D IP inversion program.

The inversion program (DCINV2D) used by SJV Consultants was developed by a consortium of major mining companies under the auspices of the UBC-Geophysical Inversion Facility. It solves two inverse problems. The DC potentials are first inverted to recover the spatial distribution of electrical resistivities, and, secondly, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in the rocks.

The Interpreted Depth Section maps output from the inversion routines represent the cross sectional distribution along the survey line of polarizable materials and apparent resistivities. They assist in providing a more reliable interpretation of IP/Resistivity data because they remove the geometrical effects inherent in the classic pseudosection displays and can be directly compared to geological cross-sections.

The geosoft databases and grids for the airborne survey were imported to Geosoft Oasis Montaj for further processing to produce stacked magnetic profiles and sun shaded colour contour maps.

Gridded magnetic data was reformatted and merged to the NRCAN DEM model for further processing through 3-D inversion algorithms. The UBC Inversion program MAG3D is designed to produce a 3-D voxel model of the subsurface showing possible distributions of the rock susceptibilities that could produce the magnetic responses observed at the ground surface. It is noted that because the magnetic amplitude data is input as relative intensities, the susceptibility index values (SI) of the model are also calculated as relative values, not absolute. Consequently negative SI values, which are not observed in nature, are present in the model and reflect relatively low susceptibility materials.

The entire airborne magnetic data grid was included in the inversion process, extending some 3.5 kilometres to the east and south of the Bluff property. This extension allows a more accurate analysis of the possible sources around the eastern and southern edges of the claim block. Input data was grid to 100 metre cells and the voxel model generated with 50m x 50m x 25m cells. The resulting model is expected to be able to resolve features down to depths of 3 kilometres.

The ground magnetic data gathered with the 2004, 2006 and 2015 IP surveys was merged, levelled and grid to 50 metre cells and inverted using the same MAG3D program to a voxel model generated with 25m x 25m x 12.5m cells. The size of the ground survey data grid limits the depth of investigation of the resulting model to approximately 800 metres.

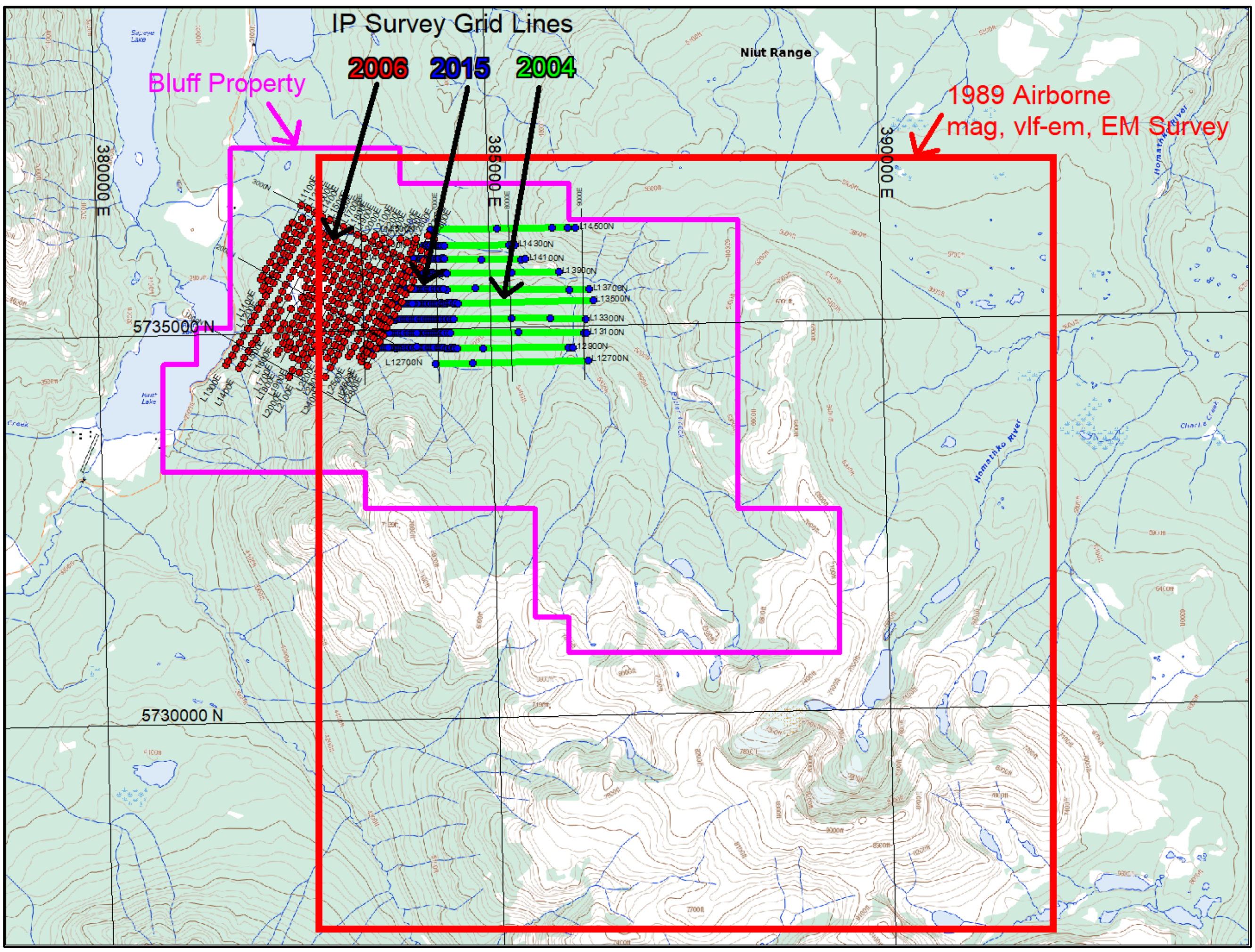


Figure 6: **Data sets used for inversion analysis.**

6 DISCUSSION OF RESULTS

The major thrust of this study was the analysis of 2D and 3D inversion modelling of the IP and magnetic data respectively. Additional data, such as the airborne EM and VLF-EM surveys and IP data that was not inverted were reviewed in the interpretation process.

Plan maps of the 2D gridded total magnetic field intensity for both the airborne and ground surveys were examined as false colour contour maps, 3-D surface draped maps and shadow enhanced contour maps. These techniques highlight amplitude and character variations which could be indicative of lithological changes, contacts or structural features. Faulting is often evident as discontinuities and offsets of trends observed in these displays.

The 3D magnetic inversion results are provided as 3-D block models. These models are best studied in a 3D visualization program that allows the user to view the model from various angles and perspectives. SJ Geophysics prefers the open source and free ParaView program which allows the simultaneous displaying of multiple 3D models, overlaying of surface topography and 2D mapping and the inclusion of drill information. The digital model and ancillary files are provided in the vtk format required for the Paraview program and readers are urged to examine the models in this fashion. The models are also provided in the native UBC GIF MAG3D formats, suitable for viewing with the simplified Meshtools 3D viewer, available from the UBCGIF website as well as commercial software packages such as Geosoft's Oasis Montaj (Target) and Leapfrog, a 3D viewer commonly favoured by geologists.

The 2D IP inversion results generated for the 04, 06 and 15 surveys are presented as "Interpreted Depth Sections" for both chargeability and resistivity properties in Appendix 1. Plots are provided with two colour scales for each property. A common colour distribution uses the same range of values for each line. This allows one to easily compare the absolute responses across survey lines. Customized colouring is based on a histogram equalization that varies with the data range on each line. These displays usually reveal more subtle features.

Pseudosection plots and the interpretation from the 1991 IP survey by Lloyd Geophysics were reviewed but no further processing was completed at this time.

6.1 Total Magnetic Field Surveys

6.1.1 2-D Contour Analysis

The 1989 airborne magnetic data is compared to the BC Geology map as Figure 7. Two large magnetic high amplitude anomalies dominate the study area, one along the eastern edge of the Bluff property and one to the south. These loosely correlate with rocks from the Cadwallader Plutonic Suite but the magnetic data suggests a more complex geology than the BC geology mapping indicates. The prominent horseshoe shaped structure along the northeastern flank of the southern magnetic high is a topographic effect. Narrow magnetic lineations flanking the northern strong magnetic high, delineate near surface, arcuate structures. A strong magnetic high, some 1.4 km in length, strikes NW across the Blake2 and Mathex claims in the southeast corner of the property. This anomaly coincides with the Math zone and forms the southern portion of a longer 3 km lineation.

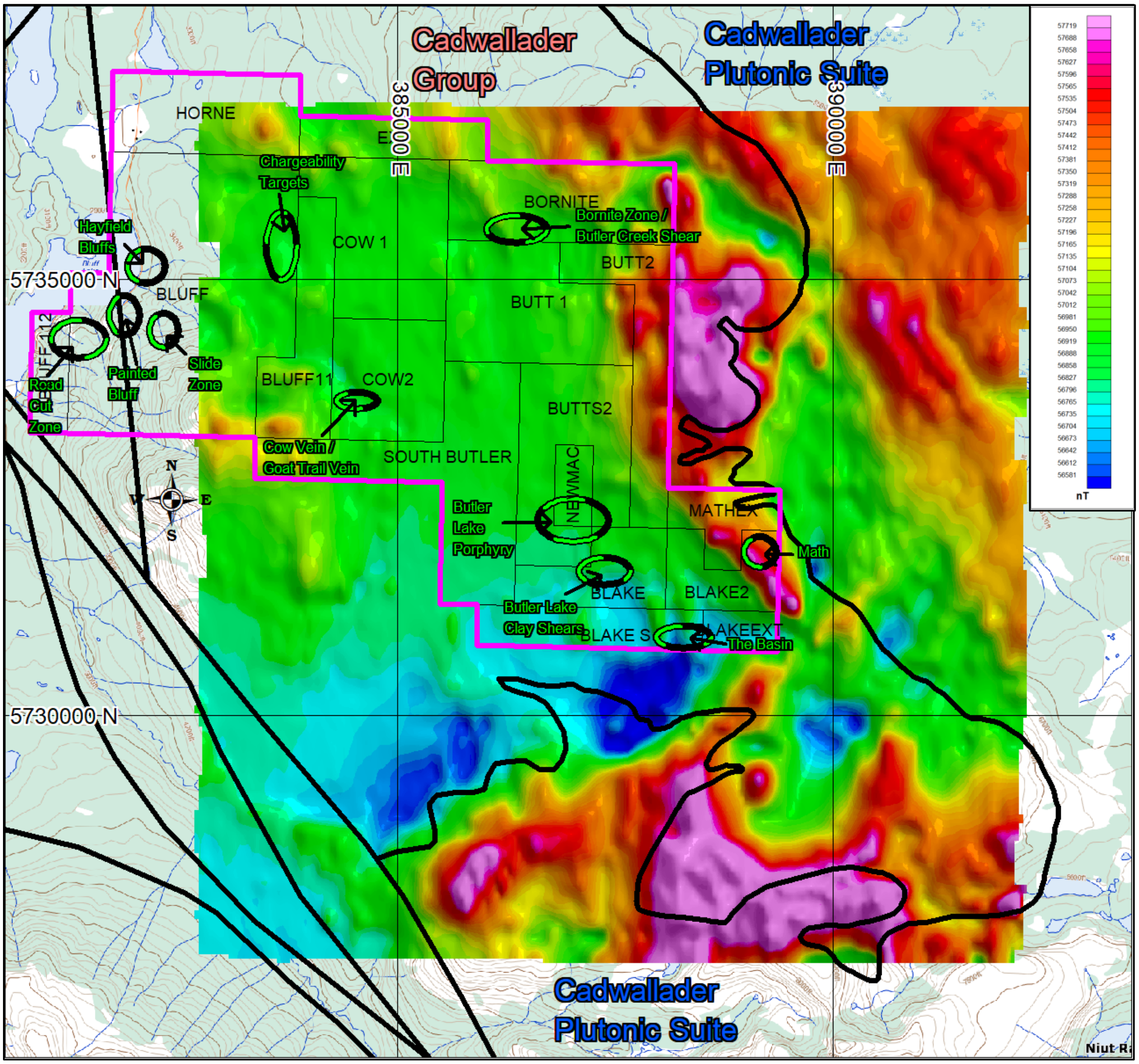


Figure 7: **Airborne TFM Colour Contour Map – Shadow illumination from NE.**
BC Geology Overlay. Named Mineralized Zones and Areas of Interest.

A large magnetic low response, centred south of the property, trends ~ N70°E. This asymmetric anomaly exhibits a sharp gradient along its southern edge which roughly follows a topographic ridge. The response is indicative of the up dip edge of a north-northwesterly dipping plate. Narrow, northwesterly trending magnetic lineations overprinting this low are suggestive of faulting.

The majority of the Bluff property is underlain by quiet magnetic responses, ranging from 56800 nT to 57100 nT. Subtle features, superimposed over a gentle regional gradient that decreases from north to south, delineate narrow, NNW trending structures. The Basin, Butler Lake Shear, Butler Lake Porphyry and the Cow Vein mineralized zones all lie along these NNW trending magnetic lineations.

The quiet magnetic background appears to be disrupted along a N80°E striking lineation that crosses the northern portion of the property. The Bornite Zone mineralized showing and a couple of chargeability anomalies lie along this lineation.

A weak magnetic high, straddles the northwestern edge of the survey block and southern borders of the Bluff and Bluff 11 claims.

Vertical magnetic gradients and derivatives accentuate shorter wavelength features and attenuate longer ones. As a result, these maps enhance the anomalies associated with small, near surface sources while suppressing the large-scale regional variations. Figure 8 displays the calculated vertical gradient data with sun illumination from the northeast. The strong magnetic high anomalies are still evident but appear as complex high gradient areas (outlining the edges of the anomaly and high frequency variations with them). This display is most useful for delineating the narrow, NNW trending magnetic lineations that underlie most of the Bluff property.

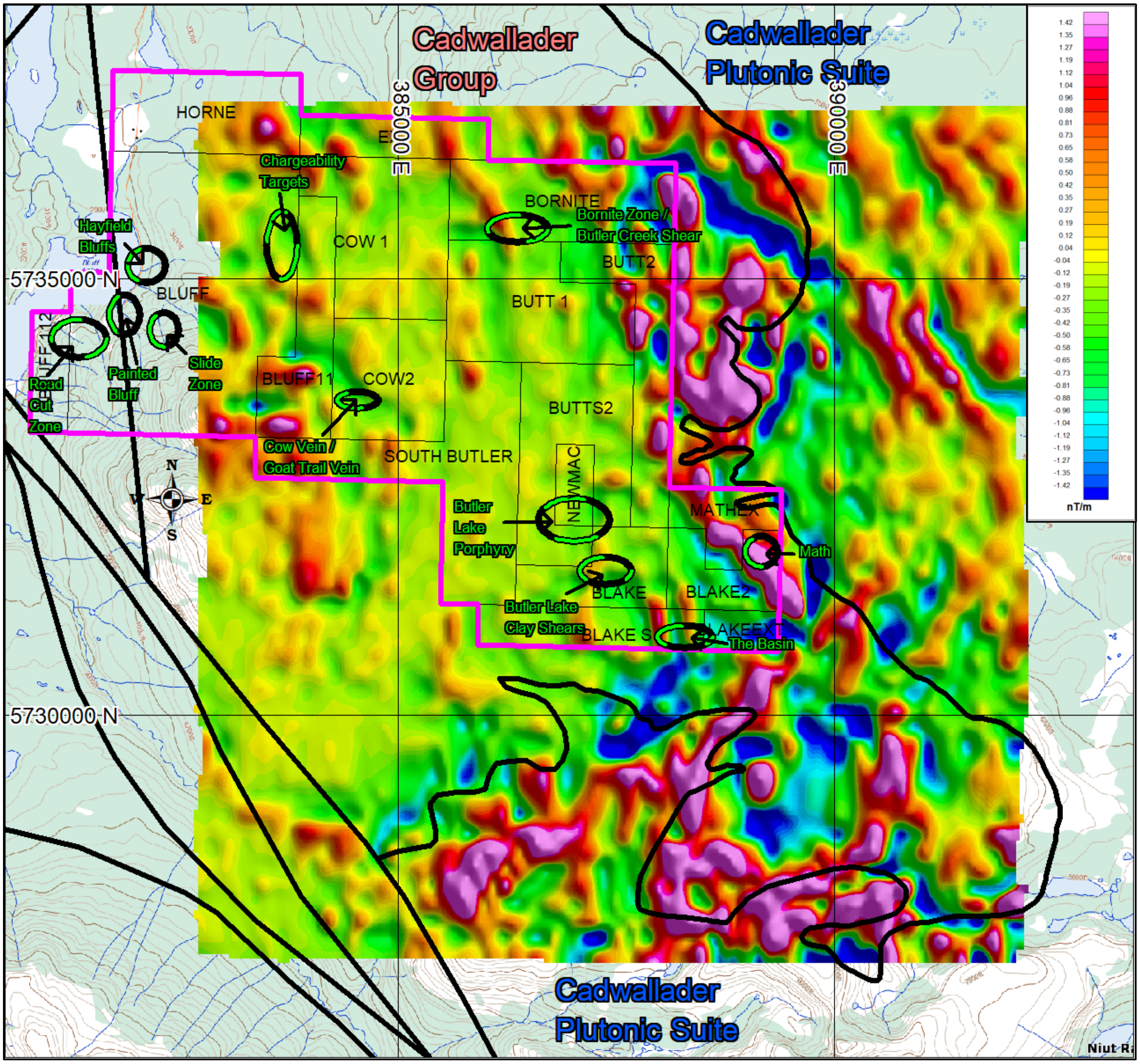


Figure 8: **Airborne CVG Colour Contour Map – Shadow illumination from NE.**
BC Geology Overlay. Named Mineralized Zones and Areas of Interest.

The ground magnetic survey covers a 4.7 km x 2 km area straddling the northwestern corner of the airborne survey, extending coverage ~1 kilometre to the west of the airborne survey. It correlates well with the airborne survey, enhancing the response to a small magnetic anomaly centred near 383,980E / 5,734,970N. It also delineates the subtle N80°E disruption seen in the airborne data as a series of small magnetic low anomalies. The ground survey also detected two significant magnetic high anomalies immediately west of the airborne survey coverage. The most clearly defined is a strong magnetic high, some 500 metres across, centred near 382,600E / 5,735,380N, immediately east of the

Hayfield Bluffs showing. This anomaly may be comprised of two or three narrow NW trending bodies. The second is detected at the southwestern ends of survey lines 1300E to 1700E (06 survey). It is only partially defined but appears to delineate a couple of narrow, WNW magnetic high features located along the northwestern edge of the Painted Bluff target. The low amplitude, narrow NNW striking trends mapped in this area by the airborne data are also evident.

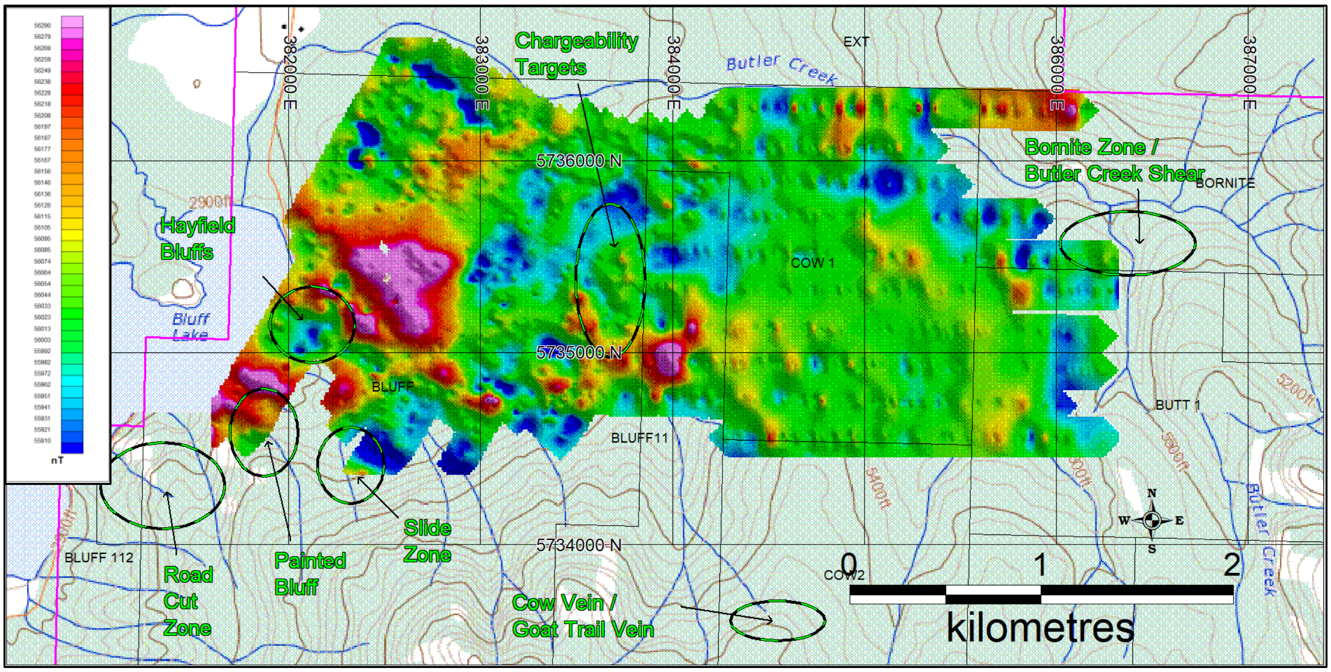


Figure 9: **Ground TFM Colour Contour Map – Shadow illumination from NE.**
Named Mineralized Zones and Areas of Interest.

6.1.2 3-D Inversion Analysis – Airborne magnetic survey

Both the airborne and ground magnetic data were combined with a digital elevation model to produce data files formatted for input to the UBCGIF MAG3D inversion program. The resulting 3-dimensional block models show possible distributions of the subsurface relative magnetic susceptibility parameter that could produce the observed data.

A top view of the magnetic inversion model reveals similar features to those evident on the plan contour maps of the total magnetic field intensity.

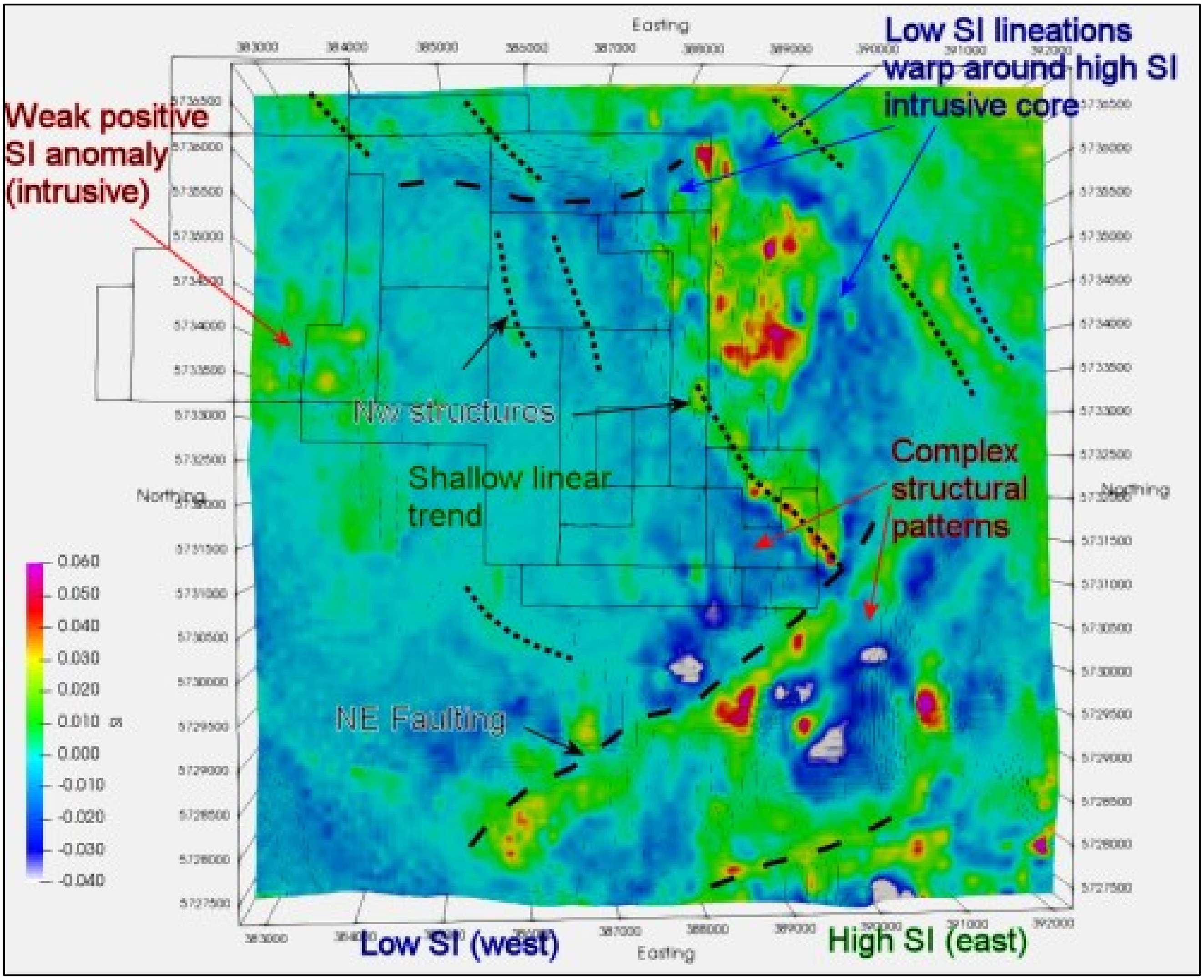


Figure 10: **MAG3D Inversion Model. Airborne Survey. Top view.**

The model reflects higher susceptibility index (SI) values on the eastern half of the block and lower susceptibility values to the west. This distinction roughly correlates with Cadwallader Plutonic Suite and Cadwallader Group mapping on the BC Geology maps.

Alternating high and low susceptibility bands delineate a prominent northwesterly orientation across the Bluff Property claim block that likely reflects the underlying geological strike. Strong northeasterly striking lineations, most prominent on the southern portion of the model but present across the Bluff property as well, suggest extensive faulting.

The large magnetic high anomalies, along the eastern and southern edges of the property appear to include smaller, localized centres of high susceptibility material.

Clipping the inversion model to selected isosurfaces and thresholds reveals the 3 dimensional structures underlying the surface. Figure 11 below, showing both a high (+0.03 SI) and a low (-0.01 SI) isosurface reveals three of four possible intrusive type bodies detected.

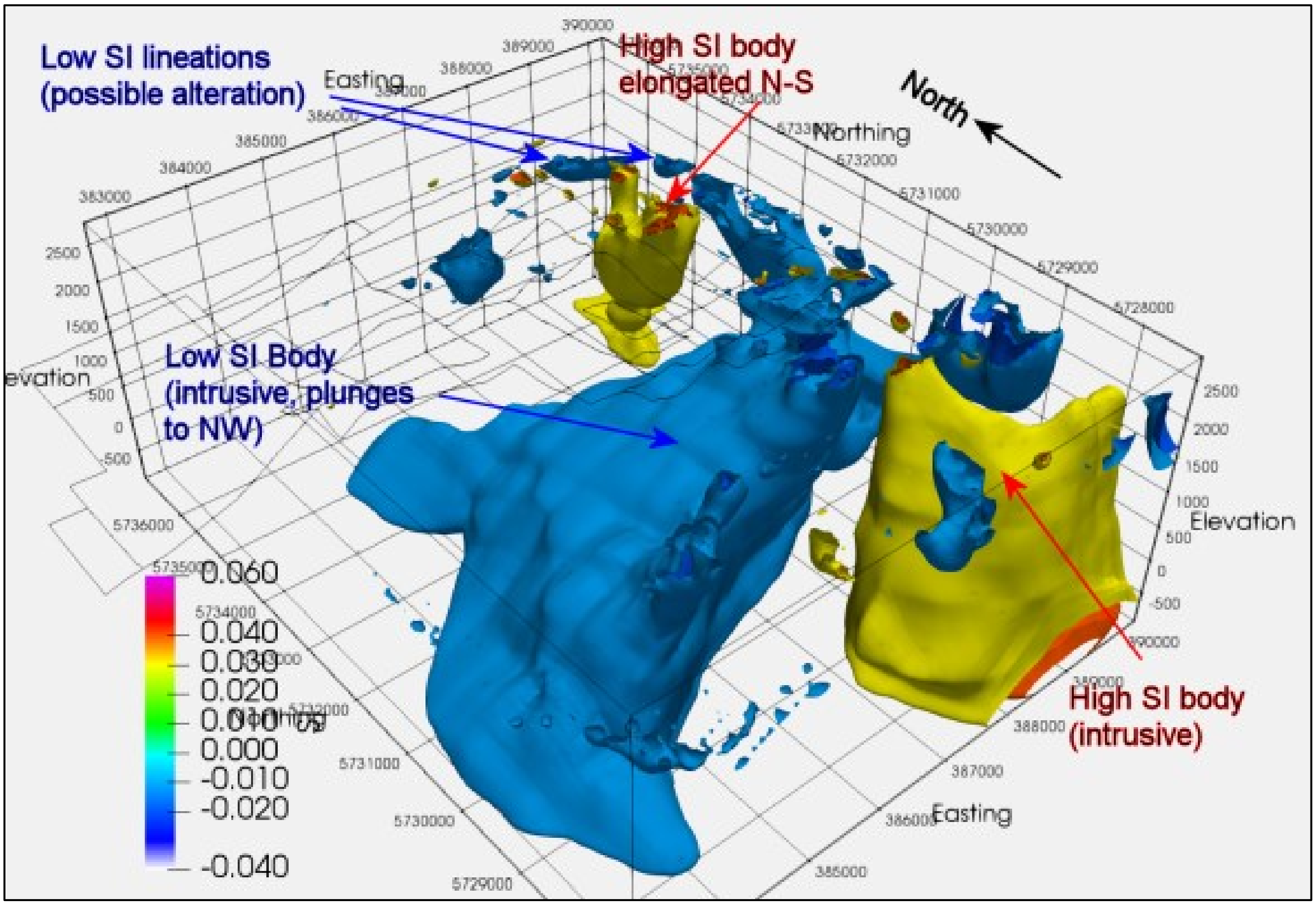


Figure 11: **MAG3D Isosurface Model. Airborne Survey. Elevated view from Southwest.**
Yellow = +0.03 SI, Blue = -0.01 SI

The strong magnetic high in the southeast quadrant of the block models as an easterly elongated, near vertical sided intrusive body. It approaches very close to the surface, likely outcropping in some places and extends to considerable depth (> 3 km). The strong magnetic low along its northeastern flank exhibits limited depth extent and may represent an alteration halo, associated with magnetite depletion.

The strong magnetic high located immediately east of the Butt 2 claim models as a narrow, northerly elongated steep sided body extending up to 2 kilometres depth. While the TFM and CVG maps suggest this may be reflecting two parallel features, the zones quickly merged at depth in the model. The narrow magnetic low lineation wrapping around the northern flank of this anomaly models as a shallow, surface feature. While this response could be reflecting an alteration zone it could also be reflecting a separate lithological unit.

The strong magnetic low striking ENE immediately south of the Bluff Property models as a large northwesterly plunging plate like body. The sharp gradient delineating its southern edge is enhanced by the local topography and the contact with the high susceptibility intrusive body described above. This low susceptibility, intrusive type body appears to plunge beneath and underlie most of the Bluff property. A 1990 assessment report suggests this area is underlain by granites.

Trimming the model to remove the responses south of the property, and lowering the threshold to +0.005 SI reveals a fourth possible intrusive body, underlying the weak magnetic high anomaly along the western edge of the survey (Figure 12). This display also illustrates that the strong magnetic high linear associated with the Math mineral showing in the southeast corner of the property originates from a narrow, northwesterly trending moderately high susceptibility body. Unlike the intrusive bodies to the north and south, this maps as a surface trend. It is possible that the source could extend to depth, possibly reflecting a dyke-like body, but is too narrow (small) to be traced by this data. This trend appears to extend northwesterly where it merges with the response from the high susceptibility intrusion. Ground surveying may help resolve this interpretation.

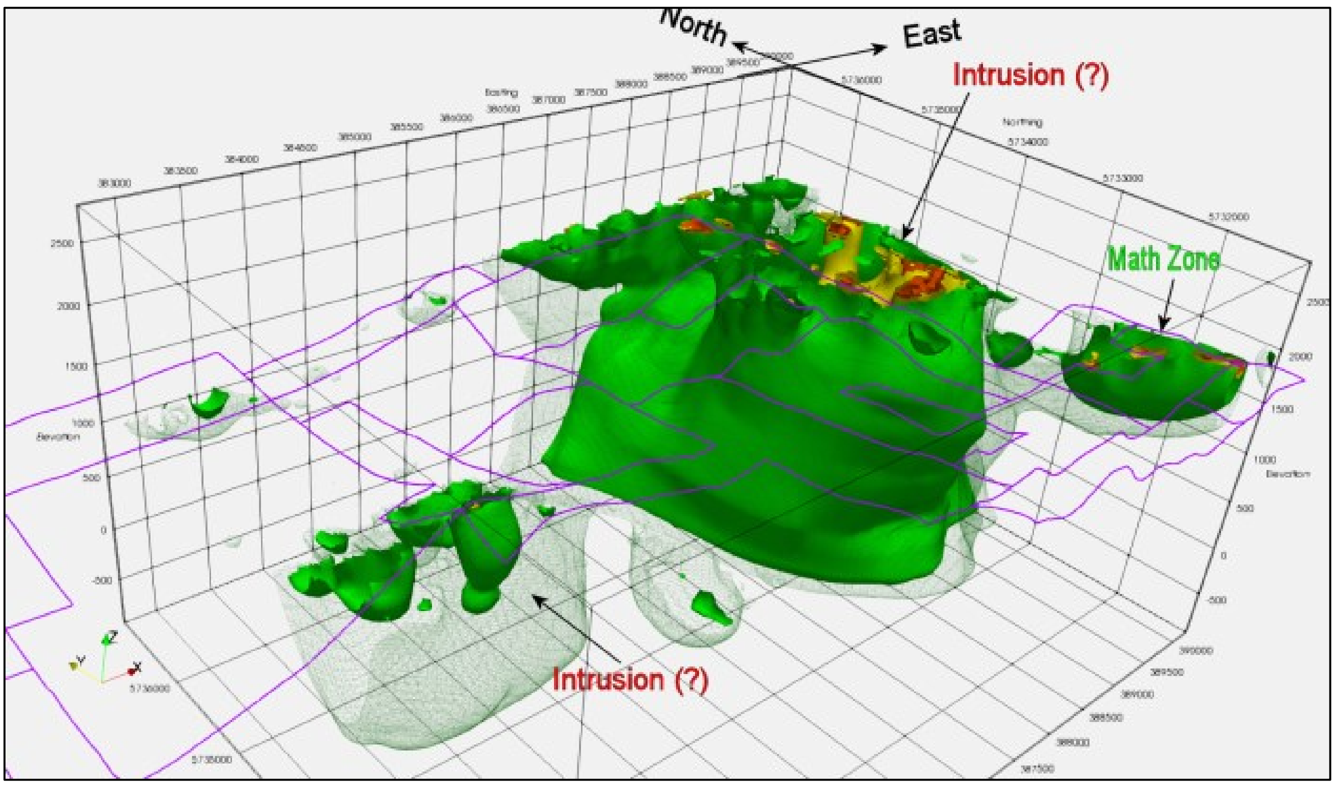


Figure 12: **MAG3D Isosurface Model. Airborne Survey. Northwest section. Elevated view from Southwest.**
Green = +0.01 SI, Green Mesh = +0.005 SI

An ENE trending cross-section through the inversion model, crossing the weak intrusive to the west, the Cow Vein/Goat Trail Vein showing and the strong intrusion to the east is shown as Figure 13. This image illustrates how the northwesterly plunging low susceptibility body underlying the property also exhibits a west-southwesterly dip. It also shows how the subtle northwesterly striking weak magnetic lineations crossing much of the Bluff property appear to coincide with topographic features.

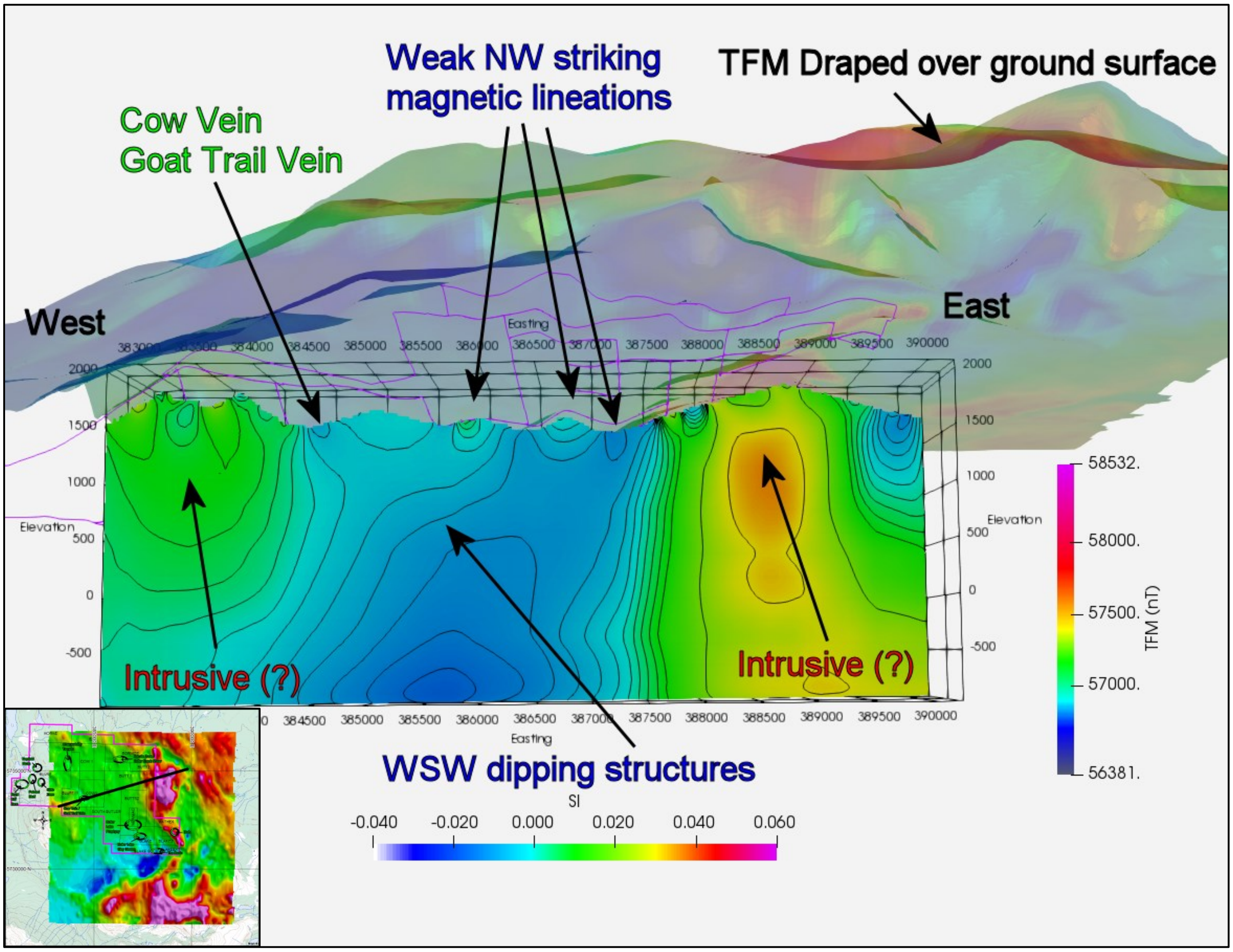


Figure 13: **Cross-section through MAG3D Inversion model. Airborne Survey**

6.1.3 3-D Inversion Analysis – Ground magnetic survey

The ground magnetic survey data was also analysed with the MAG3DInv software. Because of the short station spacing (nominally 12.5 metres) the resulting inversion model is more detailed than that based on the airborne data. However, due to the relatively small size of the survey grid(s) the maximum depth of investigation is significantly shallower, on the order of 800-1000 metres.

The inversion model shows the strong magnetic high located in the western portion of the grid, near the centre of the Bluff claim, originates from a northwesterly elongated, steep sided high susceptibility body. The geometry suggests it may be associated with a central intrusive type structure and be flanked by small, near surface pods of high susceptibility material. The Hayfield mineralized zone, immediately to the west of this unit coincides with a localized pod of low susceptibility material.

The inversion suggests the small, circular magnetic anomaly located near the base of the northwesterly dipping slope at 383,980E / 5,734,970N originates from an easterly elongated surface plug of high susceptibility material, approximately 300 metres across and extending to approximately 300 metres depth. Because there is no inherent depth information in the magnetic analysis, it is also possible that the source body could occur as a thin, near surface, flat lying disk.

The poorly delineated, easterly trending band of low amplitude magnetic responses crossing the northern portion of the survey grid is modelled as a series of small, low susceptibility bodies. The majority of these bodies appear to be surface pods although the central zone forms as a small, circular pipe that extends to depth.

The inversion also maps a second, parallel magnetic low zone offset some 600 metres to the south. However, this second response is based on data at the southern ends of the survey lines and the features are only partially defined. Additional surveying will be required to properly delineate this zone.

The high and low susceptibility bodies mapped at the eastern edge of the inversion block are also based on partially defined responses. While it is believed they are present, the geometry delineated by the inversion modelling is considered questionable at this time.

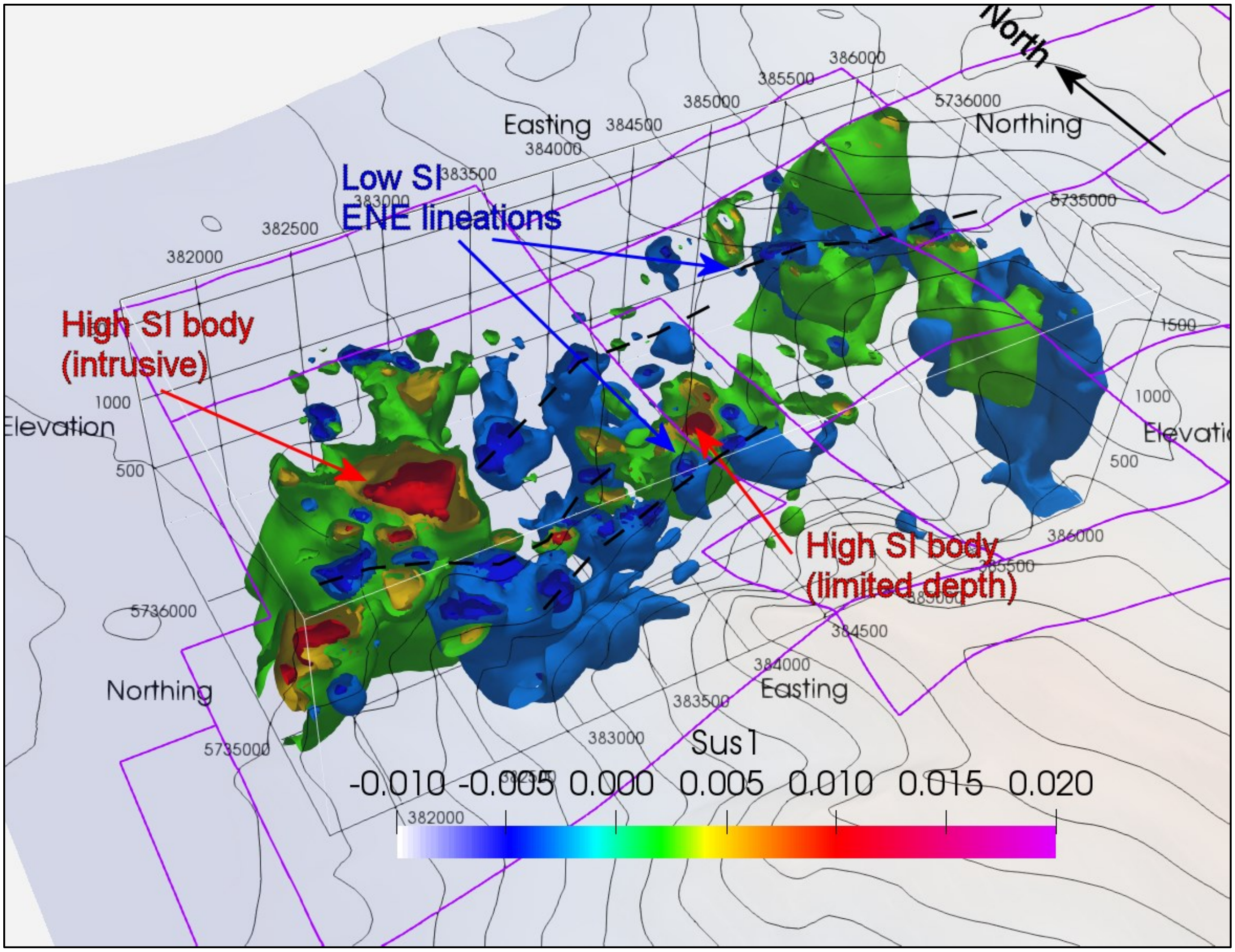


Figure 14: **MAG3D Isosurface Model – Ground Survey - Elevated view from Southwest.**
Green = +0.0025 SI, Blue = -0.003 SI

6.2 Induced Polarization Surveys

Data provided for three of the induced polarization surveys (gathered in 2004, 2006 and 2015) were suitable for 2D inversion analysis.

6.2.1 2-D Inversion Analysis

The 2D inversion results are presented as colour contoured Interpreted Depth Sections in Appendix 1 of this report. The sections have also been georeferenced and inserted into the 3D visualization generated for the 3D magnetic inversion study. This provides a method for properly positioning the sections with respect to each other and directly comparing anomalous resistivity and chargeability feature to both topographic and magnetically defined features.

Drill hole information, including collar locations, dip, azimuth and depth extents were provided and have been input to the 3D visualization. Assay information for Au, Ag, Cu, Zn, Mo, Pb, Sb and As was provided and can be used to colour code the drill traces allowing for a direct comparison of these assays to interpreted magnetic, resistivity and chargeability features.

The chargeability models outline a large, westerly dipping plate of elevated (> 20 ms) chargeability within the survey grid areas. In plan view the zone appears to be elliptically shaped, elongated NW-SE and some 2.4 km long x 1.4 km wide. A similar structure is outlined in the resistivity inversions by a +1000 ohm-m threshold. This is the same relationship that was observed in the 1991 Lloyd Geophysics IP data gathered in the Newmac claim area, north of Butler Lake. There are numerous weak chargeability responses observed along the east-west oriented survey lines from the 04 and 15 surveys that appear to correlate between lines and delineate northerly trending features. These generally coincide with subtle magnetic trends and could be reflecting the strike of the geological units.

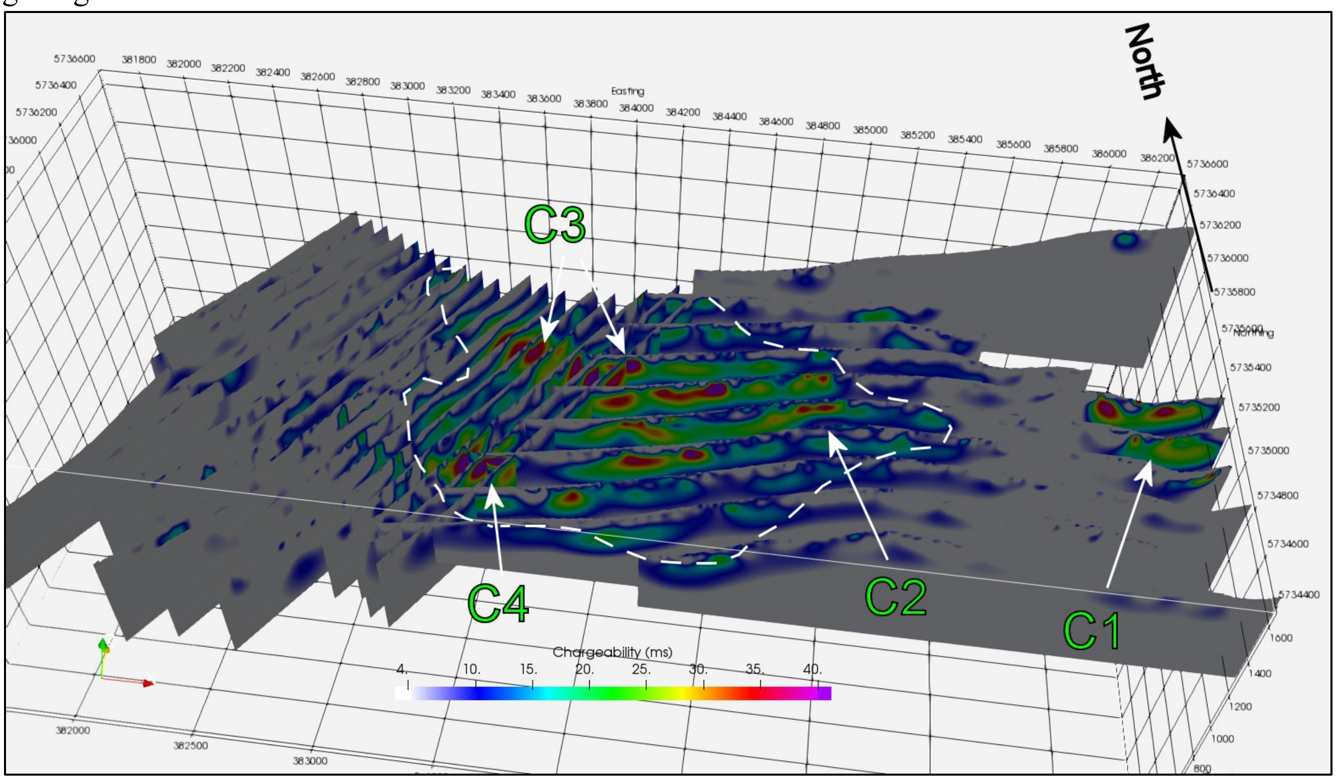


Figure 15: **3D Perspective Display of Chargeability Inversion Depth sections – 04, 06, 15 surveys. View from South.**

There are four areas (C1-C4) exhibiting high amplitude chargeability anomalies (Figures 15, 16). All four are evident on the 04-15 surveys. Two of these are extended to the northwest by the 06 survey. Three of the high amplitude trends (C2-C4) are contained within a large plate like body of elevated chargeability. The fourth (C1) is located to the east.

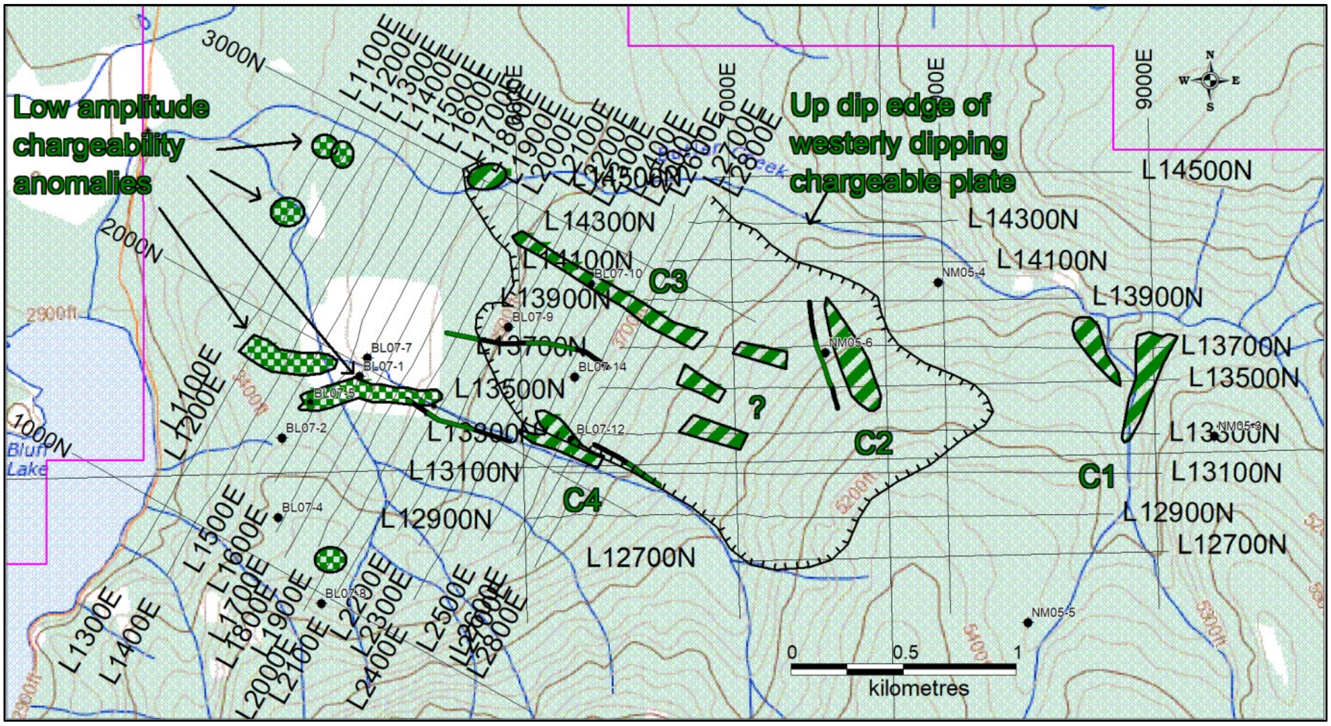


Figure 16: **Interpreted Chargeability Anomalies – 04, 06, 15 surveys.**

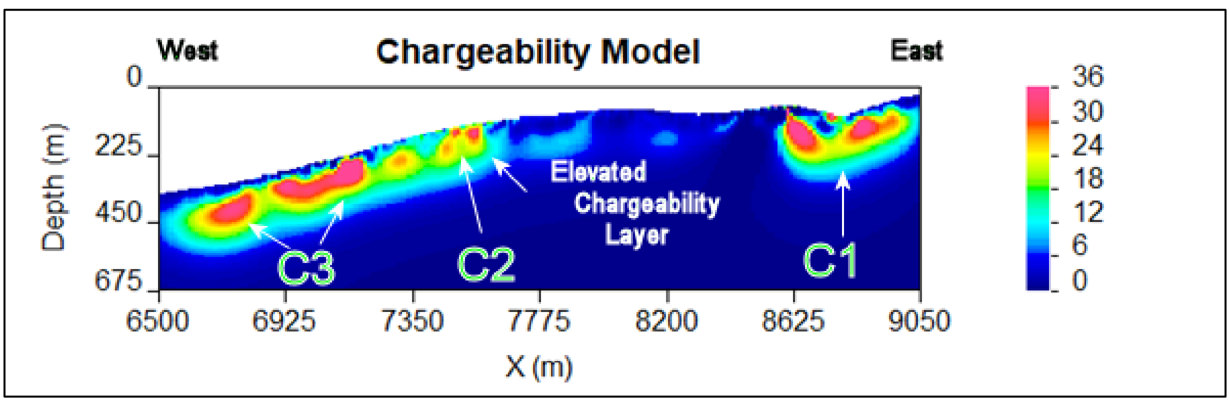


Figure 17: **Line 13500N - Inverted Chargeability Depth Section.**

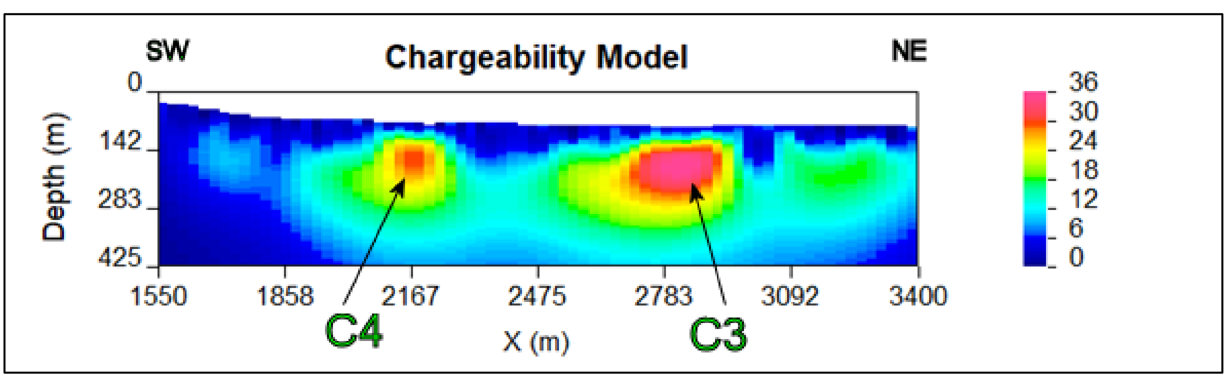


Figure 18: **Line 2800E - Inverted Chargeability Depth Section.**

C1 is mapped at the eastern ends of lines 13300N to 13700N inclusive, extending across 400 metres width from station 8600E to 9000E. It appears to be comprised of two separate pods, dissected by the northerly flowing Butler Creek. It extends south from the Bornite Zone (Butler Creek Shear). A gold showing, assaying 1 gm/tonne is reported to occur along strike from the C1 anomaly, on the north side of Butler Creek.

C2 is a strong chargeability anomaly, centred near station 7500E and mapped on lines 13700N to 13300N inclusive. It appears to be located at the updip (eastern edge) of the westerly dipping layer, delineated by elevated chargeability and elevated resistivity. Vertical offsets of both the chargeability and resistivity layering suggests the C2 anomaly may be associated with a northerly trending fault. Drill hole NM05-6 is collared along the western edge of this anomaly, between survey lines 13500N and 13700N and was drilled to the southeast. This drill hole intersected anomalous Au, Cu and Zn values near a depth of 175 metres, which coincides with the base of the high chargeability zone. The highest Au assays were mapped at 128 metres depth and the highest Cu assays at 78 metres depth, both within the high chargeability anomaly.

The C3 trend contains the highest chargeability values observed in the surveys. It trends NW-SE for approximately 1.4 kilometres strike length, extending from Line 2000E/2800N (2006 survey) to line 13700N/7300E (2004 survey). Due to the apparent strike, the zone is most clearly delineated on the NE/SW lines from the 2006 survey. Although it appears to be detected on lines 13500N and 13300N, these anomalies may be off line responses, from a source to the north of the lines. More detailed surveying, preferably utilizing 3D techniques, will be required to properly delineate the eastern end of this trend. Drill hole BL07-11 is collared on the C3 trend (Line 2400E) and reports elevated Au values consistent with the high chargeability anomaly. Elevated Cu and Zn values are also reported throughout the hole but most intensely at and below the base of the chargeability anomaly.

The C4 trend parallels the C3 trend, offset approximately 600 metres to the southwest. As with C3 this trend is most clearly delineated on the NE-SW survey lines from the 06 survey. Drill hole BL07-12 was collared on the C4 trend. Assay values are significantly lower in this hole than BL07-11 but also record localized high Au, Cu and Zn values near the base of the chargeability anomaly.

There is a pronounced change in the chargeability responses in the western portion of the 06-survey grid (west of line 2000E). Background levels drop to near zero (milliseconds). There are however a few small pods of higher chargeability, approaching 10 – 15 ms. The most prominent of these define a couple of westerly trending bands extending from line 1100E to 2000E, between stations 1800N to 2000N. These zone lie directly above the strong localized magnetic anomaly mapped due east of the Hayfield Bluffs mineral showing. In consideration of the northwesterly striking faulting interpreted from the magnetic data across this feature, these chargeability anomalies could be associated with alteration zones.

The resistivity inversions suggest a more complex geological environment than that inferred from the chargeability data.

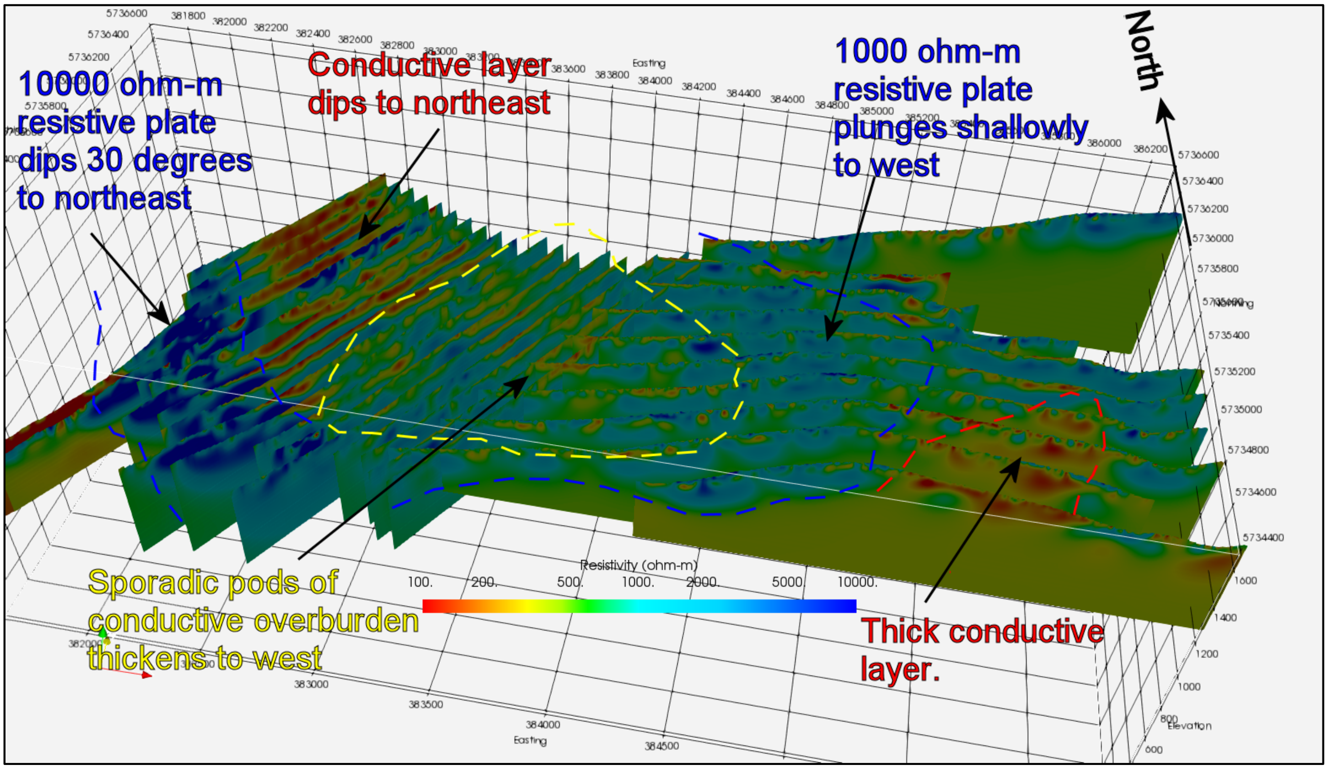


Figure 19: **3D Perspective Display of Resistivity Inversion Depth sections – 04, 06, 15 surveys. View from South.**

Across the southwestern corner of the 2006 survey grid, the inversions map a well-defined high resistivity zone (~10,000 ohm-m) that dips at approximately 30° to the northeast, plunging below a fairly uniform low resistivity (< 200 ohm-m) surface layer. The high resistivity layer appears to be approximately 200 metres thick and, on the southernmost extensions of the lines, is underlain by lower resistivity materials. This resistive zone appears to be cut by a vertically oriented, northwesterly trending fault zone, uplifting the layer to the northeast. This fault zone follows one of the main northwesterly flowing drainages in the area and also coincides with the northeastern flank of the interpreted magnetic intrusion in the area. Three of the named mineralized zones, Hayfield Bluff, Painted Bluff and the Slide Zone lie within this resistive layer.

Across the central portion of the grids, a large westerly dipping plate like body is delineated by the 1000 ohm-metre threshold value. There is a very close correlation between this feature and the elliptical shaped chargeability plate, supporting the assumption that these properties are mapping a discreet geological unit.

The resistivity inversions show a thin surface layer comprised of small pods of interconnected low resistivity (high conductivity) pods covers the westerly dipping 1000 ohm-m plate (Figure 22). This unit generally thickens to the west and likely reflects overburden cover.

The eastern (updip) edge of the 1000 ohm-m plate forms an abrupt contact with a more conductive (< 200 ohm-m) unit. This unit is mapped from very near surface to a maximum depth of investigation of approximately 250 metres depth. The unit enters the grid from the south and is tracked from line 12700N to 13300N. Chargeability anomaly C1 is located along the eastern edge of this conductive zone.

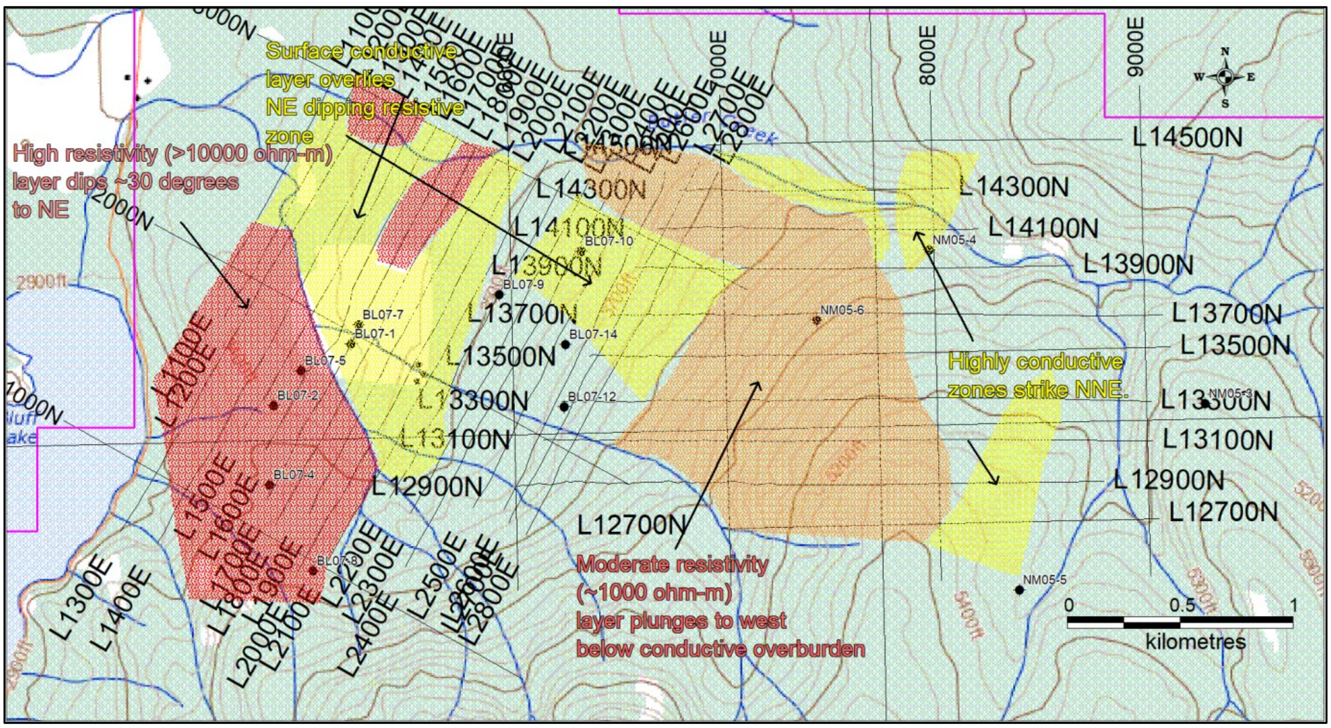


Figure 20: **Interpreted Resistivity Trends – 04, 06, 15 surveys.**

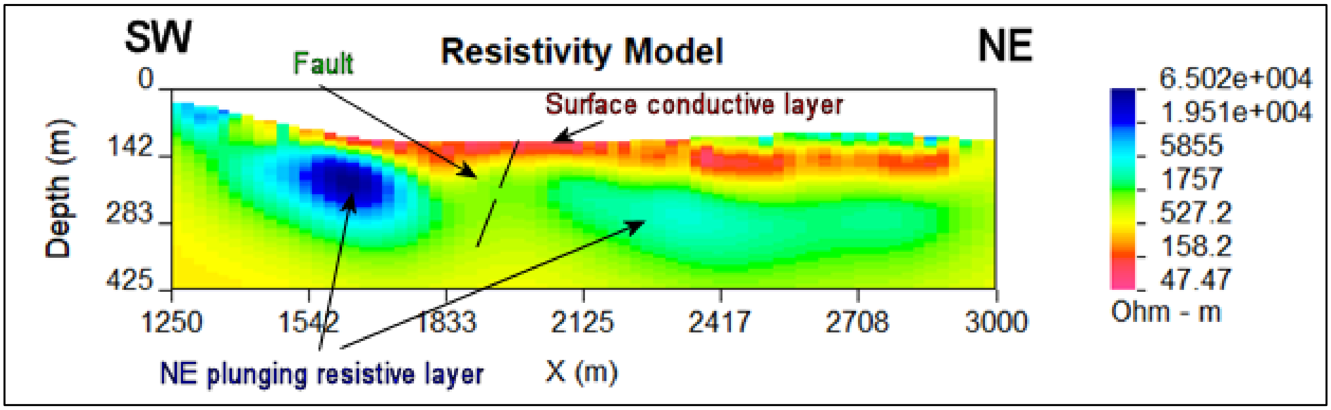


Figure 21: **Line 1800E - Inverted Resistivity Depth Section.**

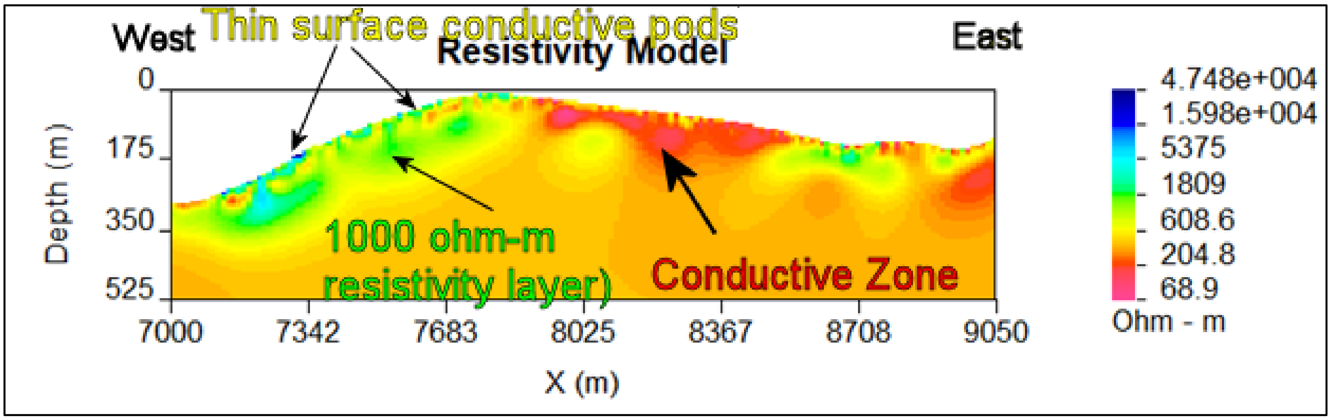


Figure 22: **Line 12700N - Inverted Resistivity Depth Section.**

7 CONCLUSIONS

The airborne magnetic survey has successfully delineated numerous regional structures and lithological units that likely control the near surface exploration targets. The high terrain clearance of the airborne sensors limits the resolution of near surface features.

The response from two large, high susceptibility intrusive type bodies are mapped, one immediately south of the property and the other lying along the northeastern border. These features are separated by a prominent east-northeasterly striking lineation interpreted as reflecting a major fault zone, lying immediately south of the Bluff property. Strong, arcuate trends surrounding these bodies delineate complex, near surface trends that likely reflect the near surface geology and possible alteration zones.

The bulk of the Bluff property is underlain by fairly uniform, low magnetic intensities that extend northwesterly from a major, ENE delineated fault zone. The 3D inversion model suggests the source is an intrusive type, low susceptibility body that plunges to the northwest. Subtle lineations evident in both the mapped TFM data and the 3D inversion model suggest this unit is relatively uniform magnetically but may contain minor facies variations that strike northwest and dip to the southwest.

Most of the known mineralized targets located across the property are associated with narrow, short strike length, weak magnetic features trending from northwest to north-northwest. One exception is the Math Zone, located in the extreme southeast corner of the property that coincides with a high amplitude, narrow magnetic lineation. The 3D inversion shows this response is associated with a narrow, plate like body, likely with limited depth extent, that continues some 1.4 kilometres to the northwest, warping around the southern rim of a large intrusive body

Induced polarization surveys crossing the northern portion of the Bluff property were analysed by 2D IP inversions.

The 2.4 x 1.4 km northwesterly elongated feature delineated by the 1000 ohm-m resistivity and high (>20 ms) chargeability responses could be representing a porphyry style or disseminated sulphide mineralization target. If so, the high amplitude chargeability targets (C2, C3 and C4) within the larger feature, may represent high sulphide facies within the system. A close examination of the drill core, if available, and lithology logs should be conducted to determine whether any evidence of porphyry or disseminated sulphide mineralization can be associated with this trend.

The cluster of mineralization anomalies located immediately east of Bluff lake coincide with a 200m thick, highly resistive layer that dips approximately 30° to the northeast. This layer is considered open to the northeast, plunging below a thick surface layer of lower resistivity. A northwesterly trending fault, tracked by the main northwesterly flowing drainage, may bring this resistive band closer to the surface to the northeast. No high amplitude chargeability anomalies are associated with these showings suggesting the mineralization may originate from veins or similar structures.

The C1 chargeability anomaly, located south of the Bornite Zone mineral showing at the eastern end of the IP survey is open to the north. An extension of the IP surveying will be required to determine whether this anomaly continues to the north and can be associated with a 1 gm Au assay anomaly reported in the area.

8 RECOMMENDATIONS

The results from this study should be examined by the project geologists who have more intimate knowledge of the geological models being considered.

Drill cores and logs should be examined to determine whether any evidence of porphyry or disseminated sulphide mineralization can be associated with the elliptical shaped chargeable plate centred below the Bluff 11 claim.

2D inversions of the Lloyd Geophysics IP surveys in the Newmac claim area should be considered. While this will require digitizing and re-calculating normalized potentials from the posted apparent resistivity pseudosections, the results are likely to improve the historical interpretation in this area.

Respectfully submitted,

Per S.J.V. Consultants Ltd.

E. Trent Pezzot, B.Sc., P.Geo,

Geophysics, Geology

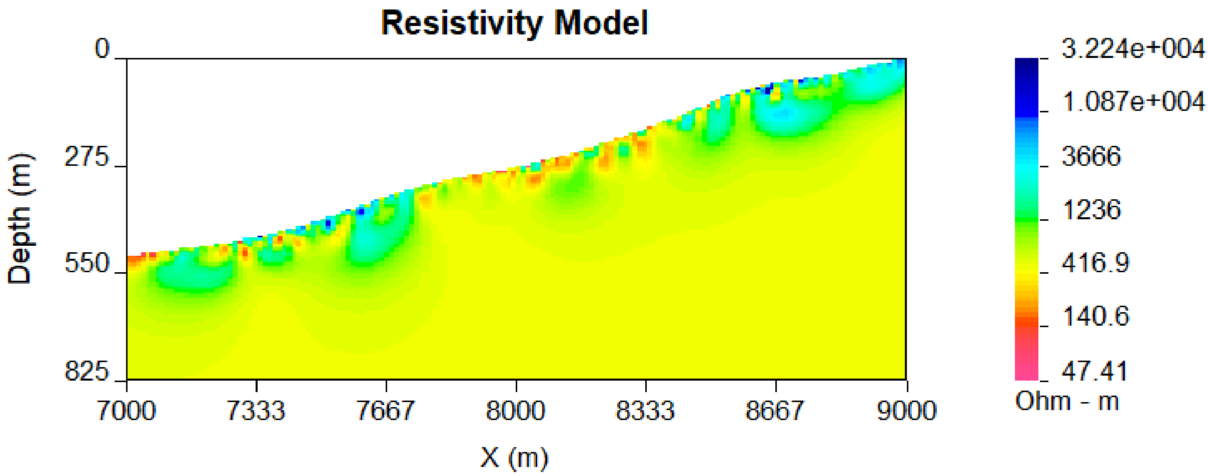
9 APPENDIX 1: 2D IP INVERTED DEPTH SECTIONS

9 APPENDIX 1: 2D IP INVERTED DEPTH SECTIONS

9.1 04-15 Merged Surveys

9.1.1 Resistivity (custom colour bar)

Line 14500N



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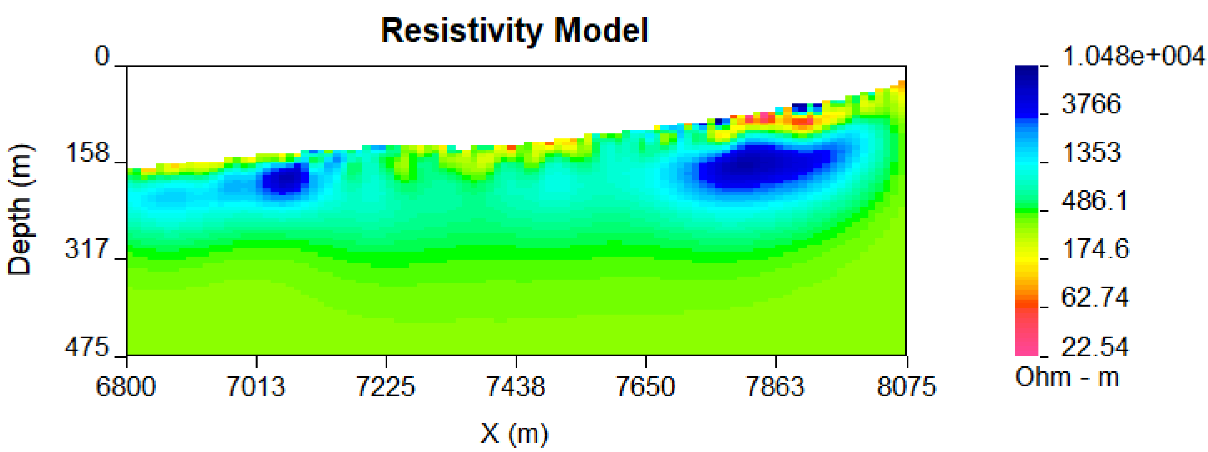

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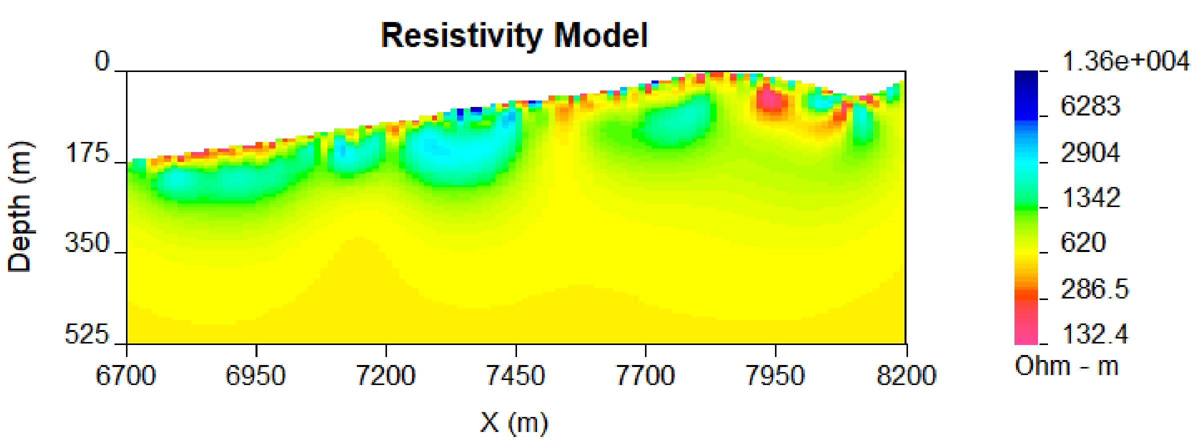

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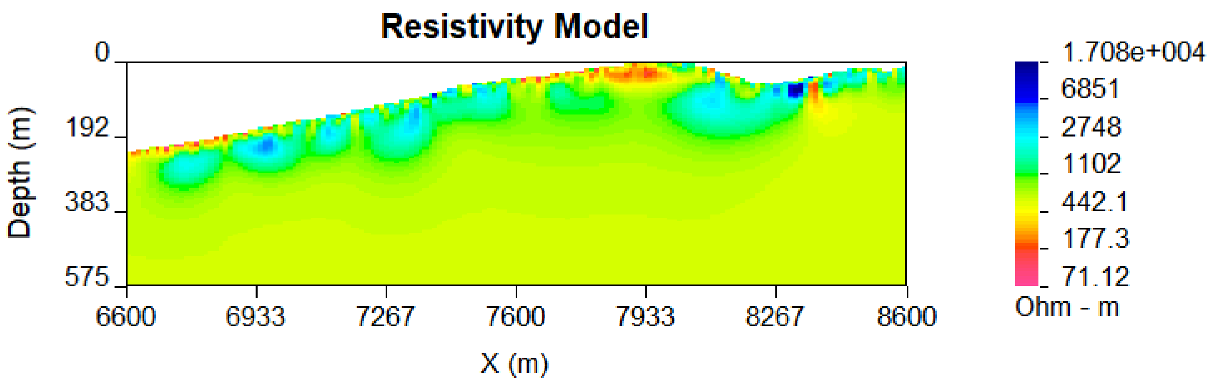

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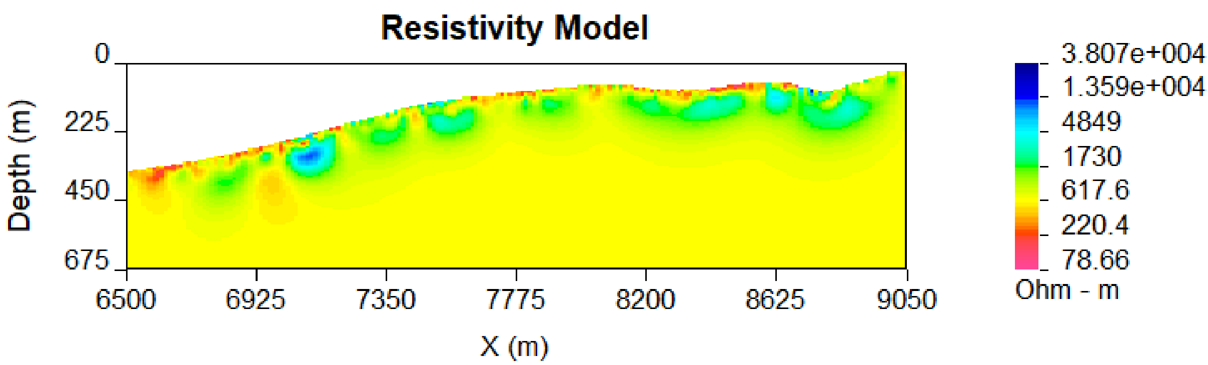

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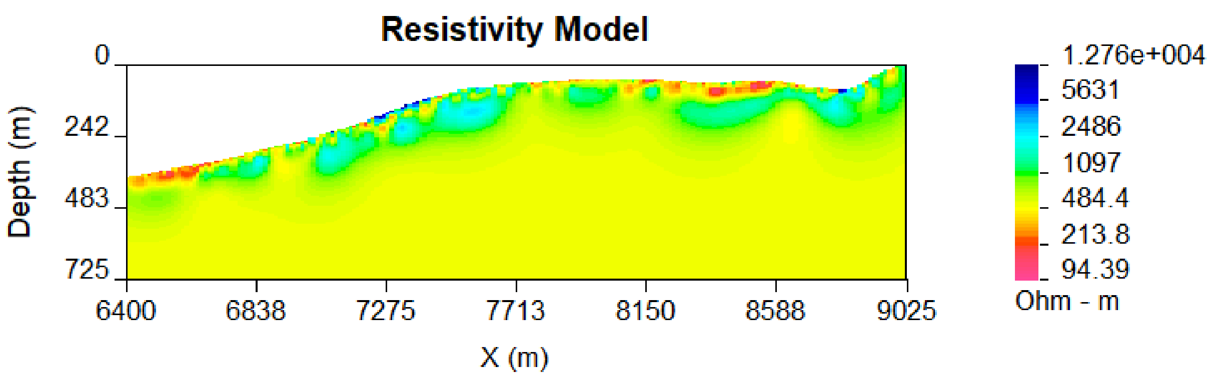

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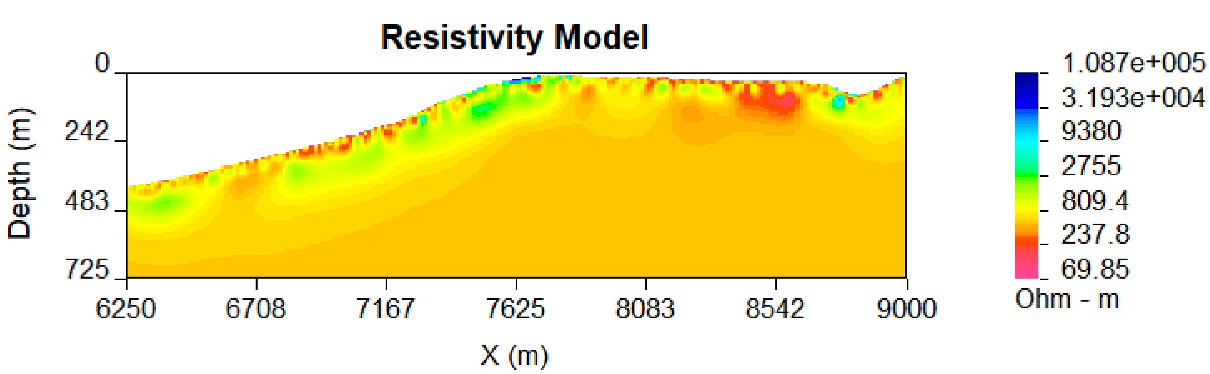

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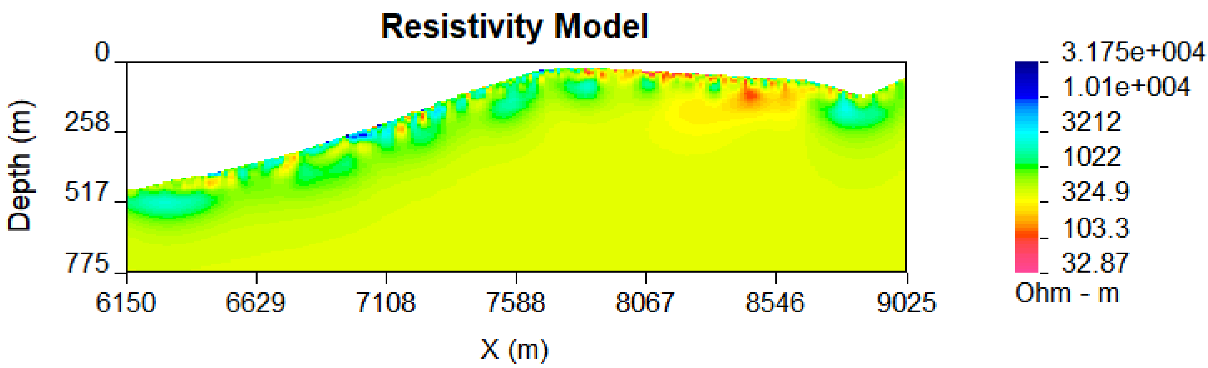

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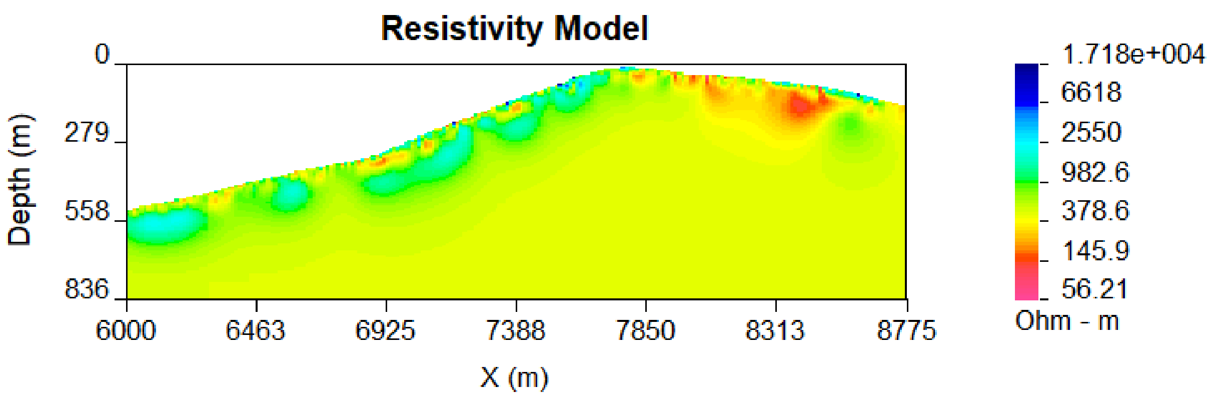

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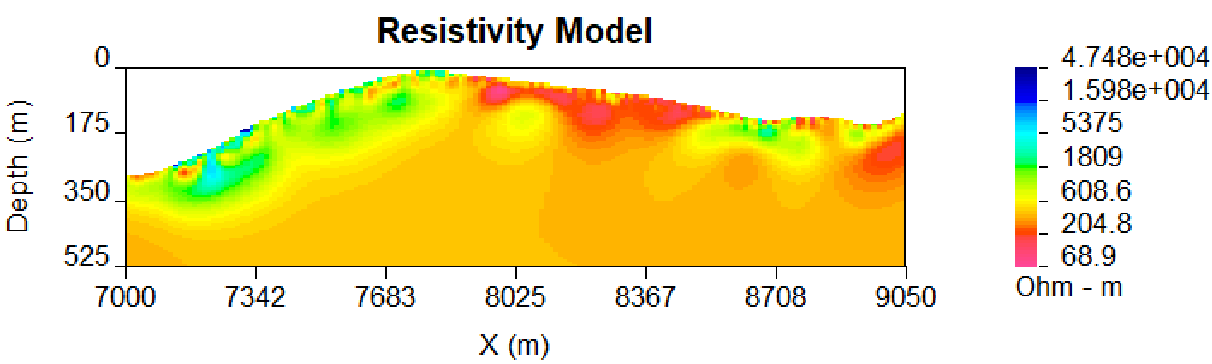

9.1.2 Resistivity (common colour bar)

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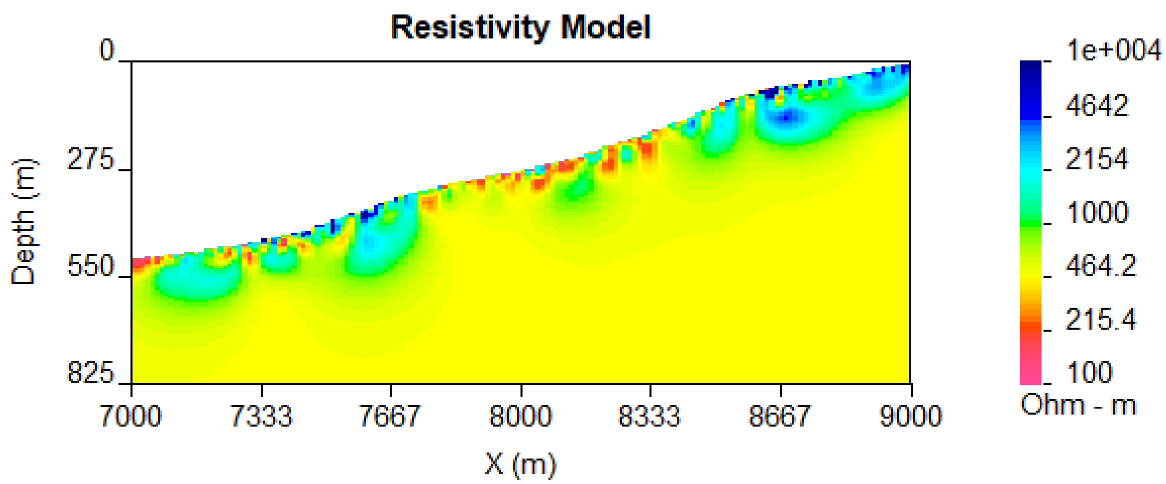

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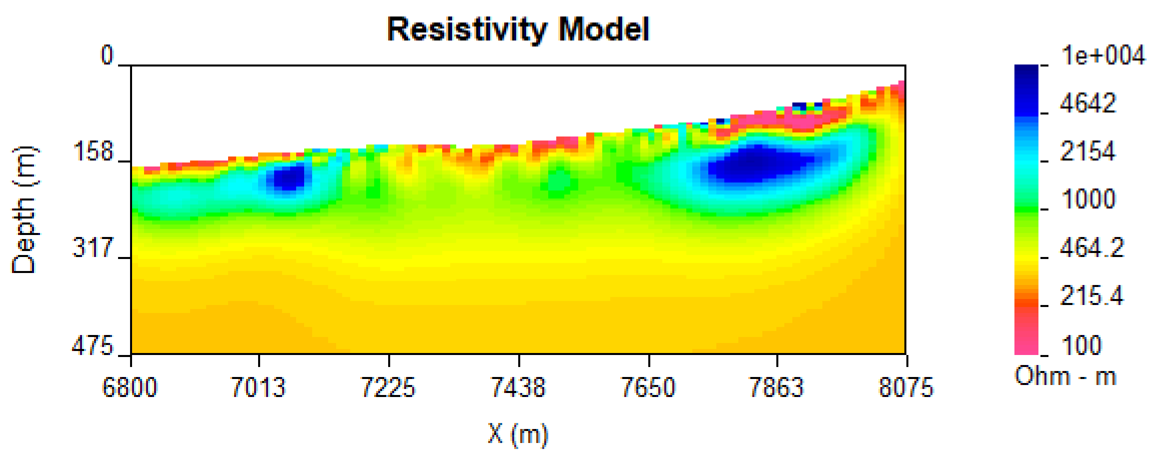

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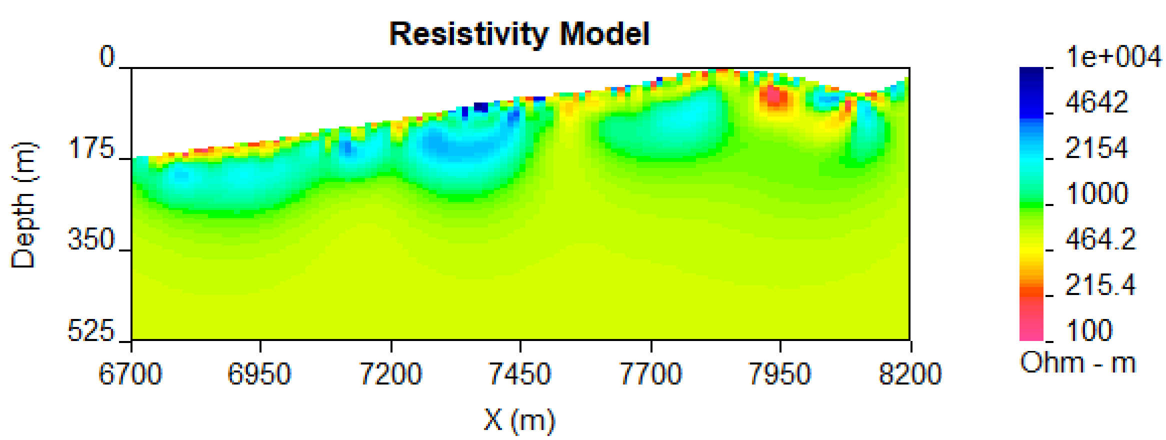

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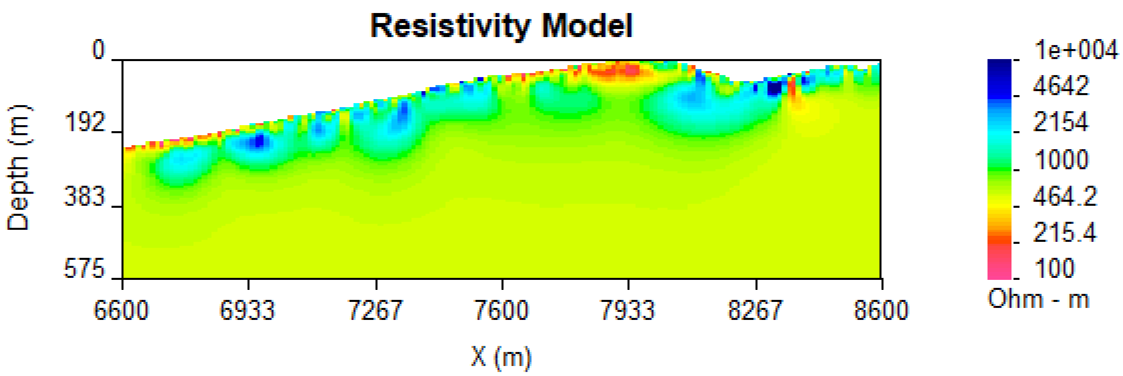

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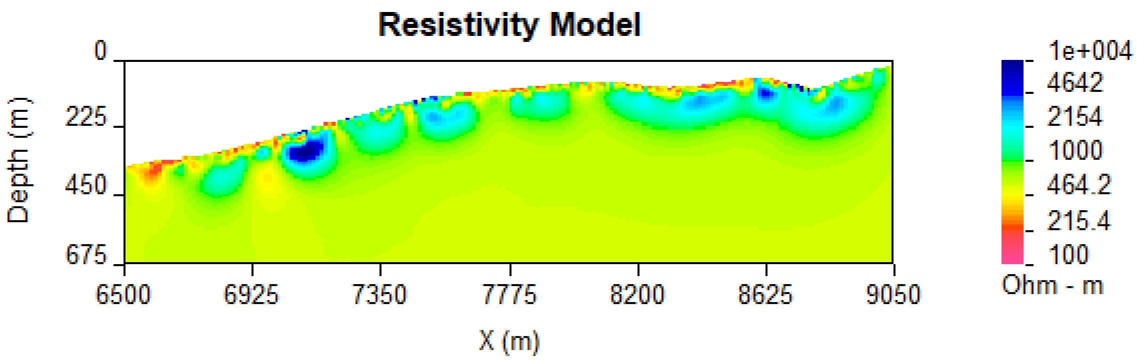

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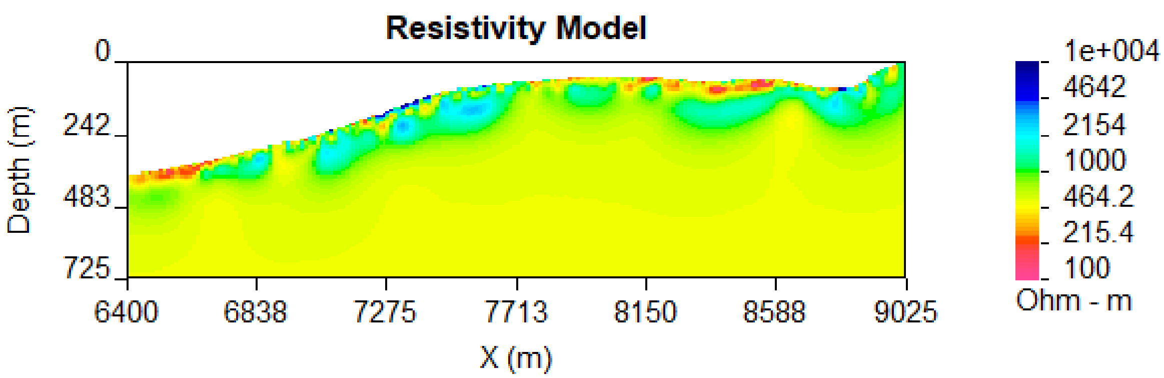

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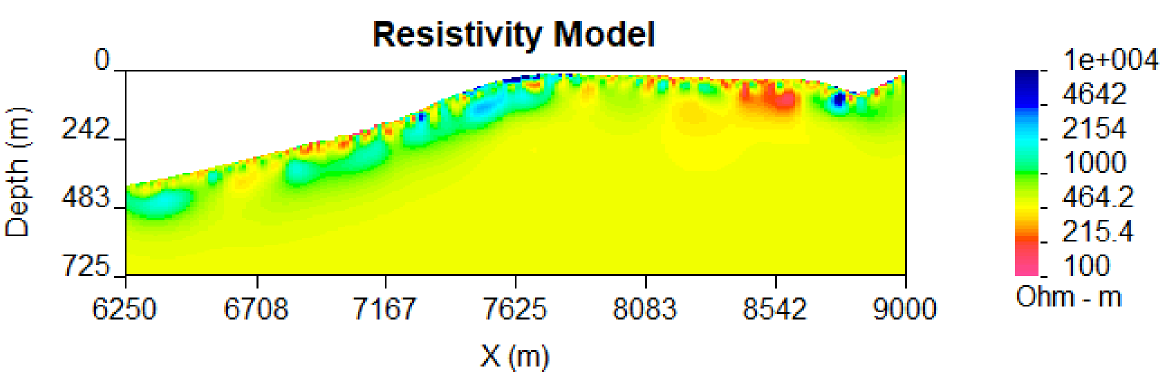

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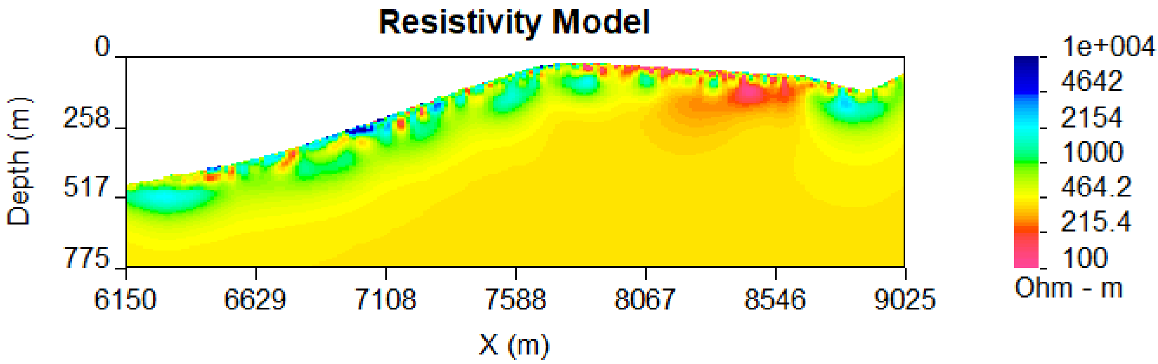

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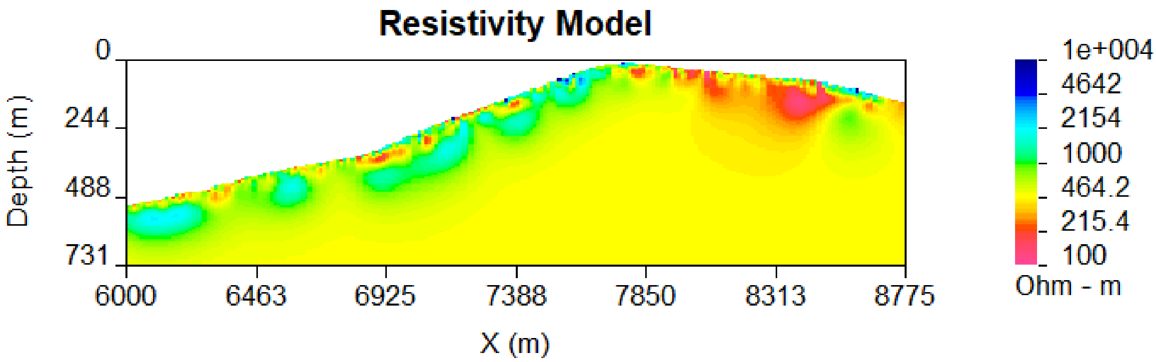

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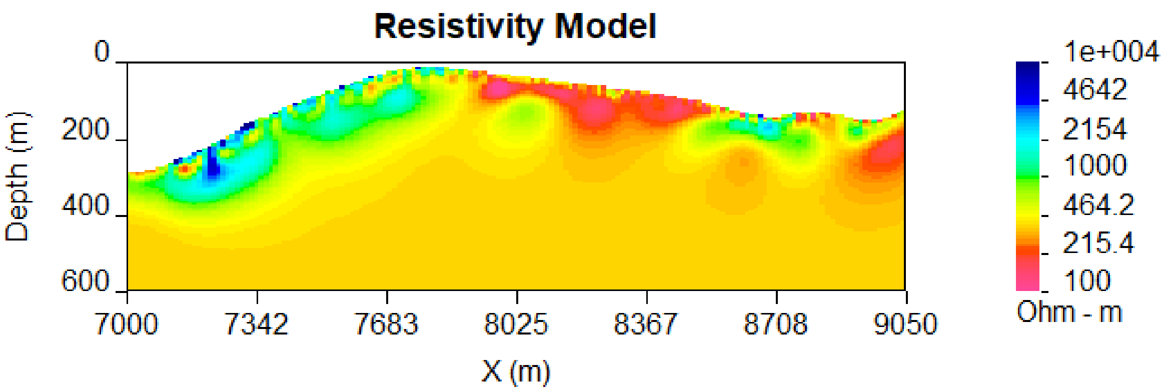

9.1.1 Chargeability (custom colour bar)

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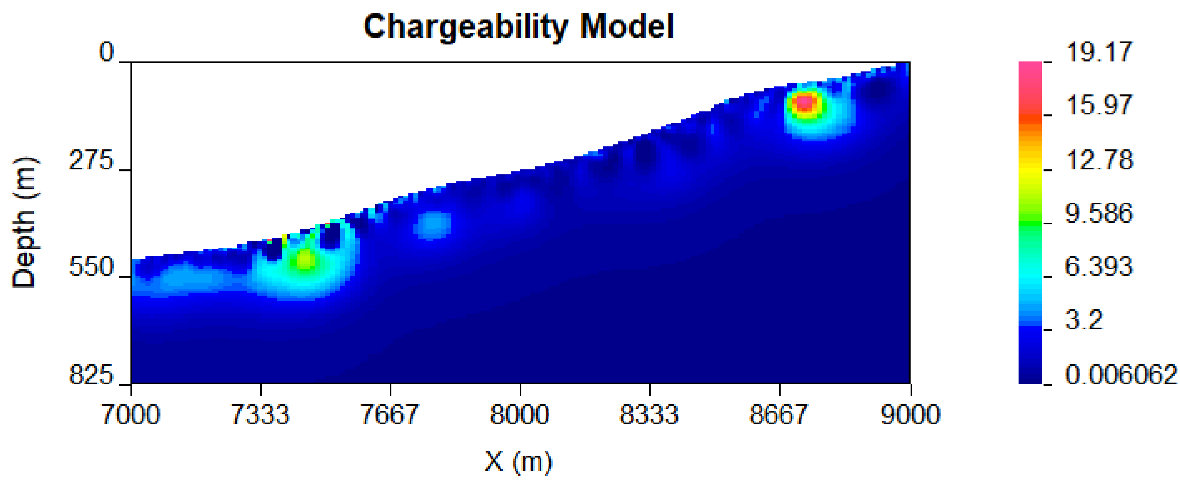

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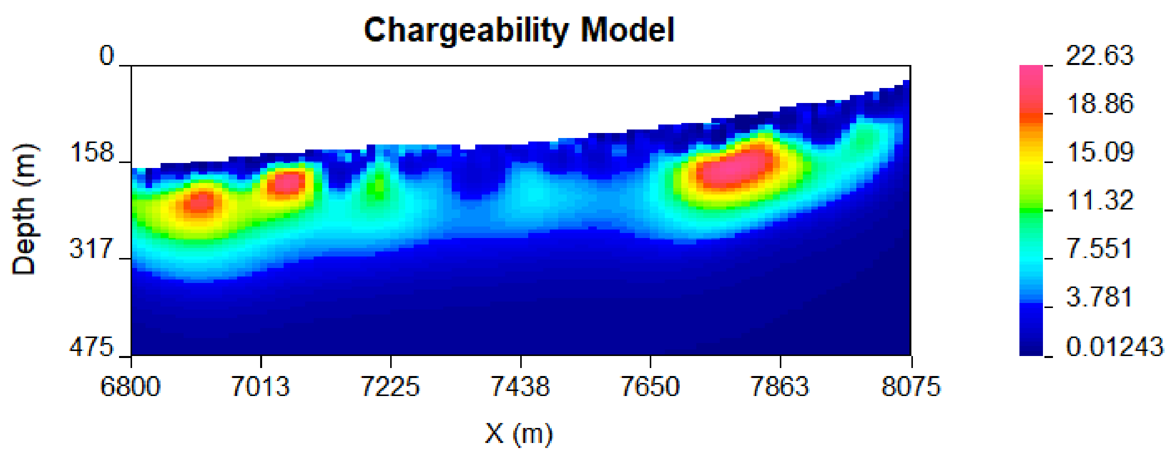

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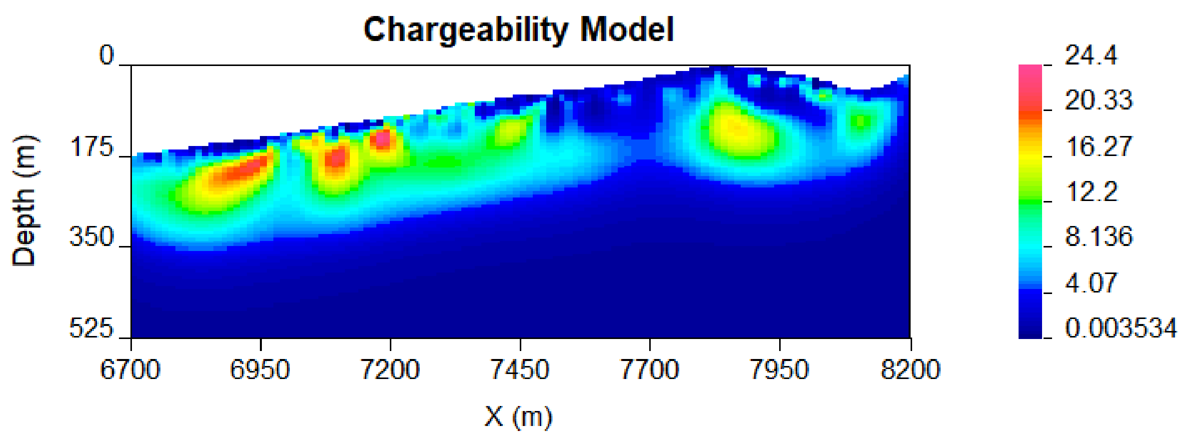

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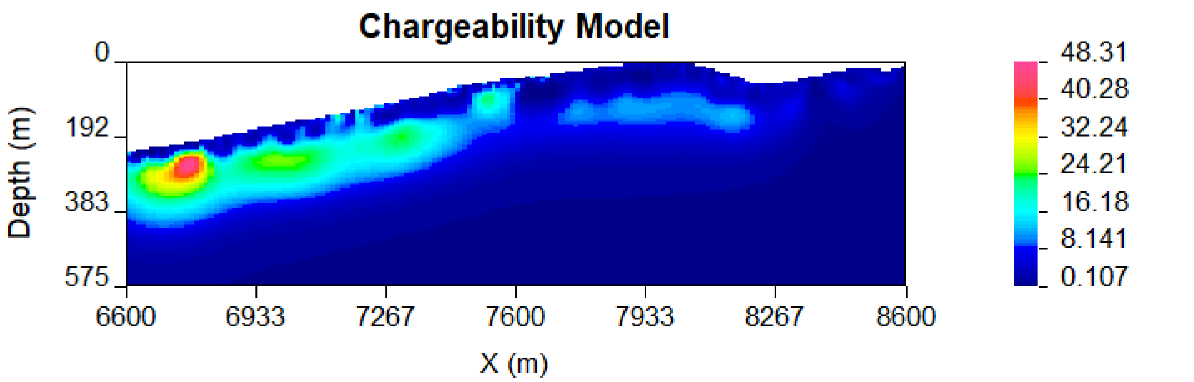

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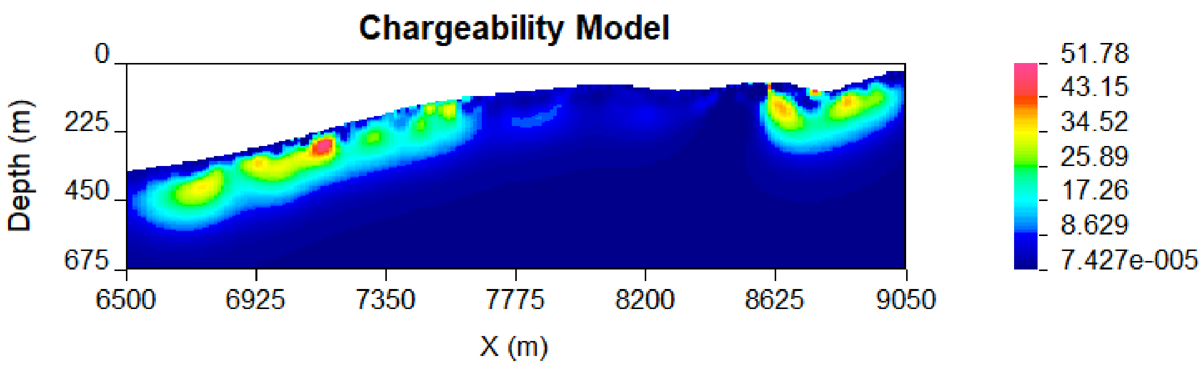

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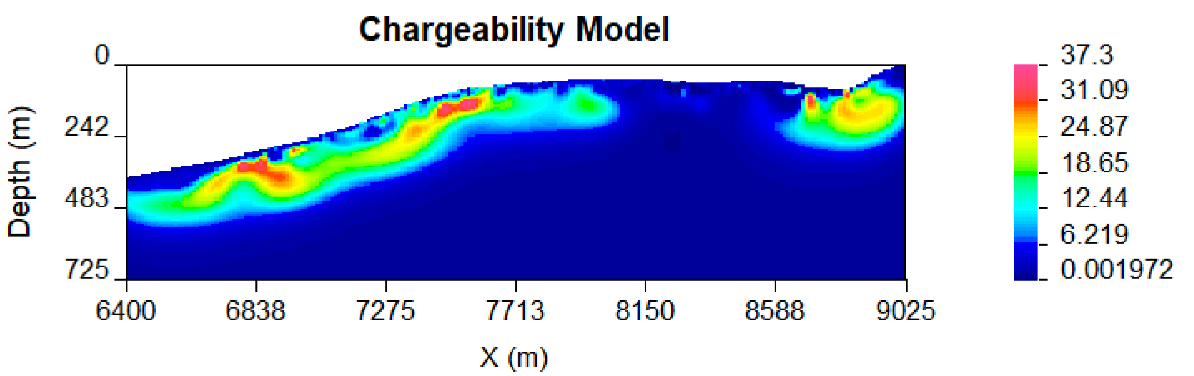

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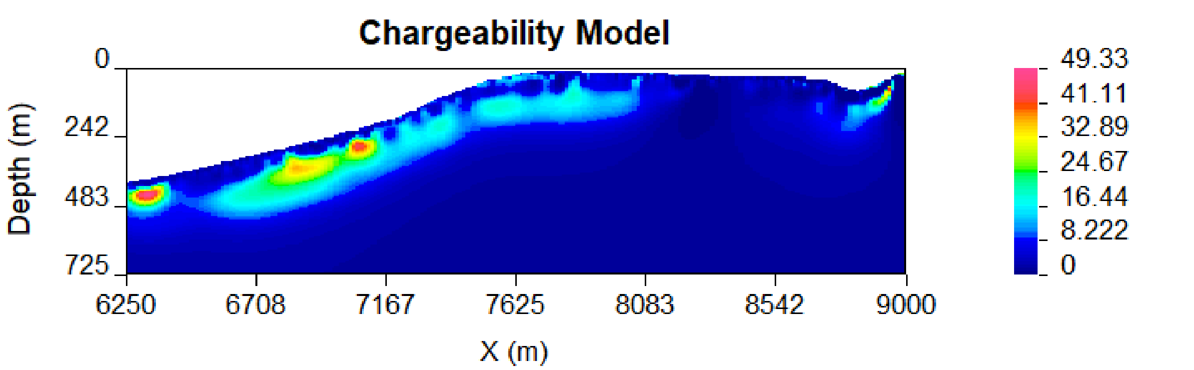

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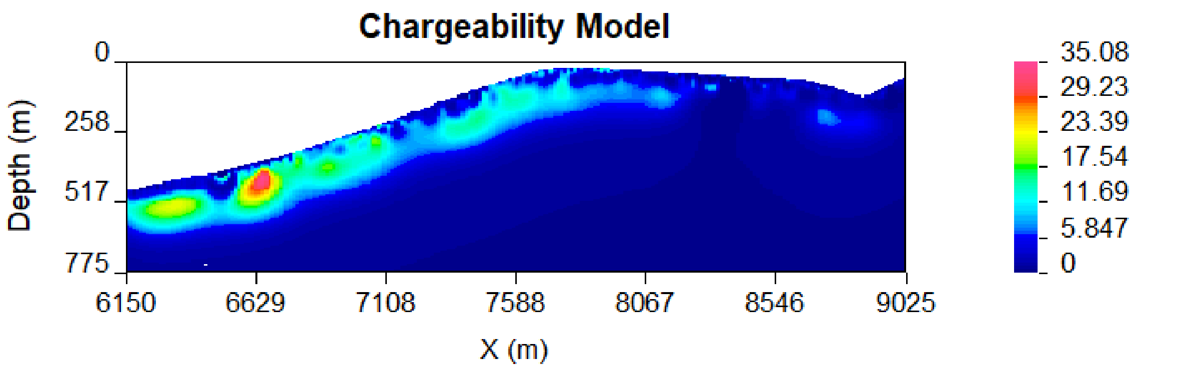

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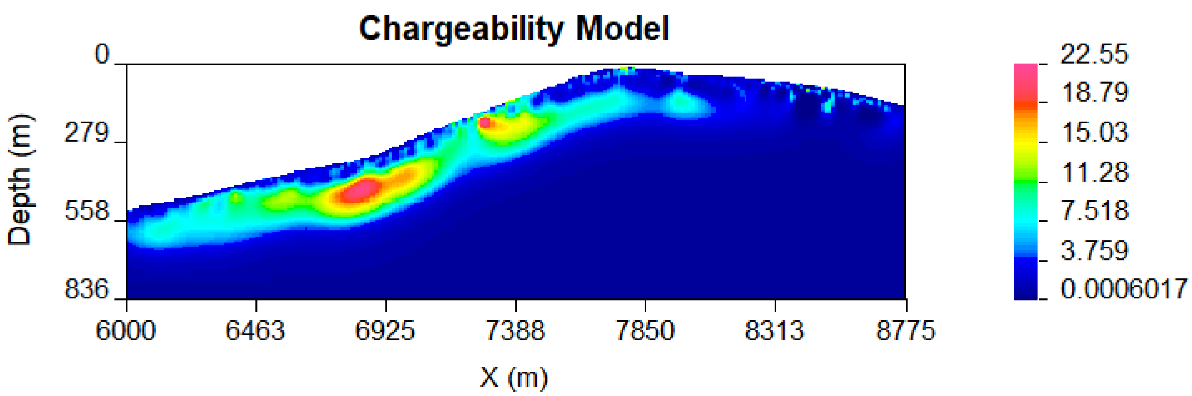

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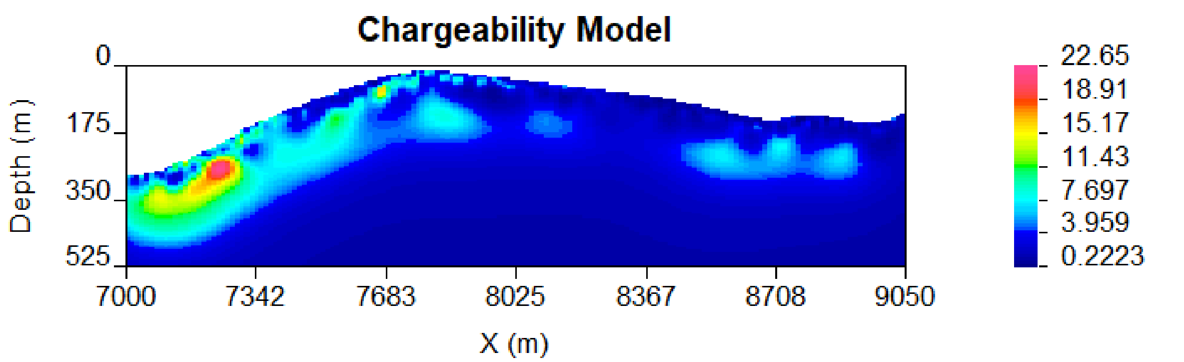

9.1.2 Chargeability (common colour bar)

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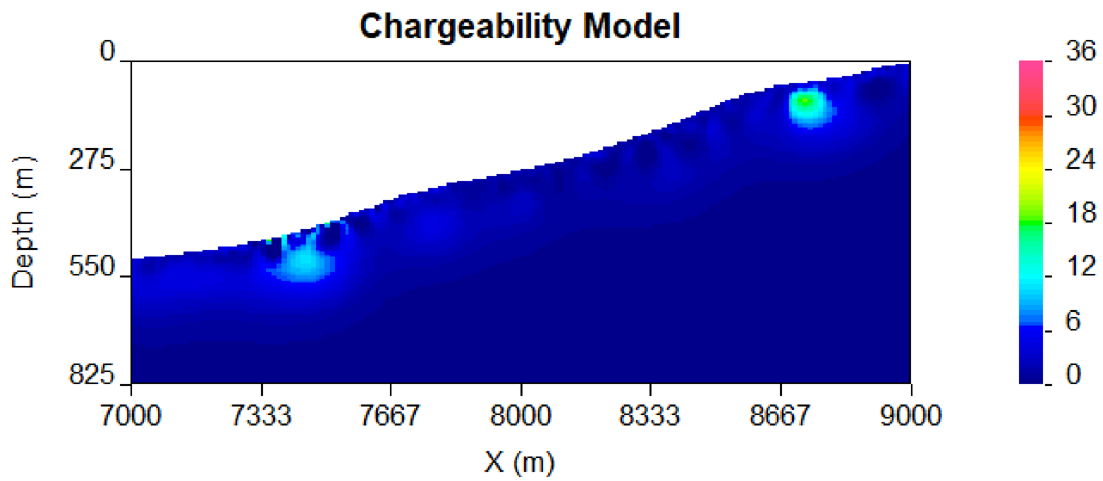

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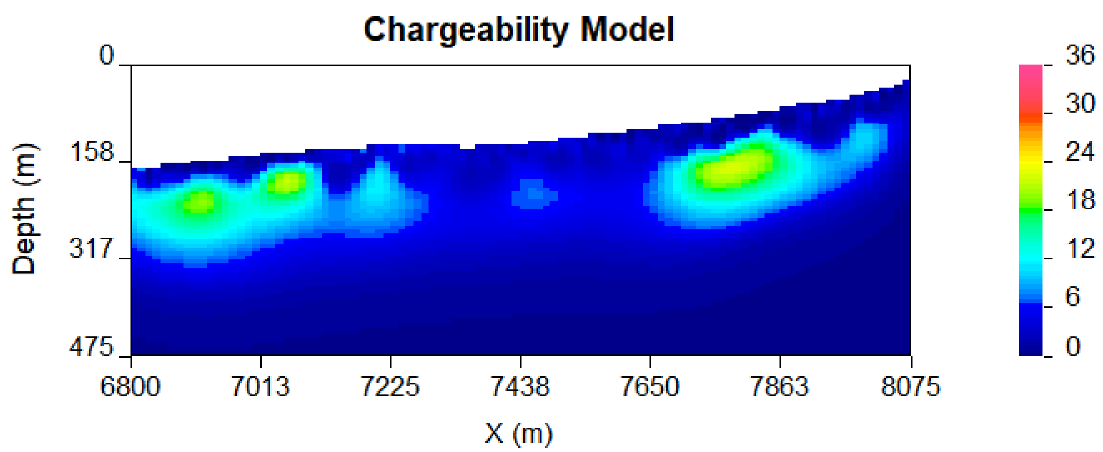

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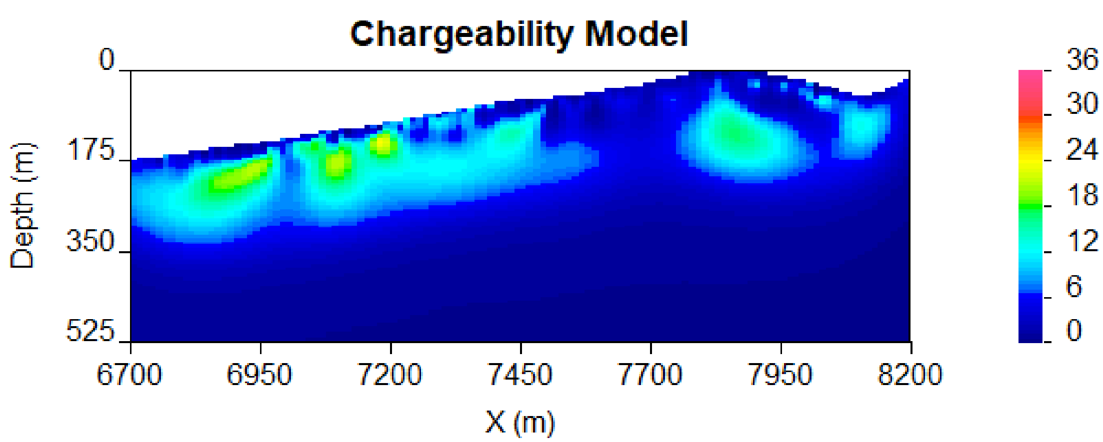

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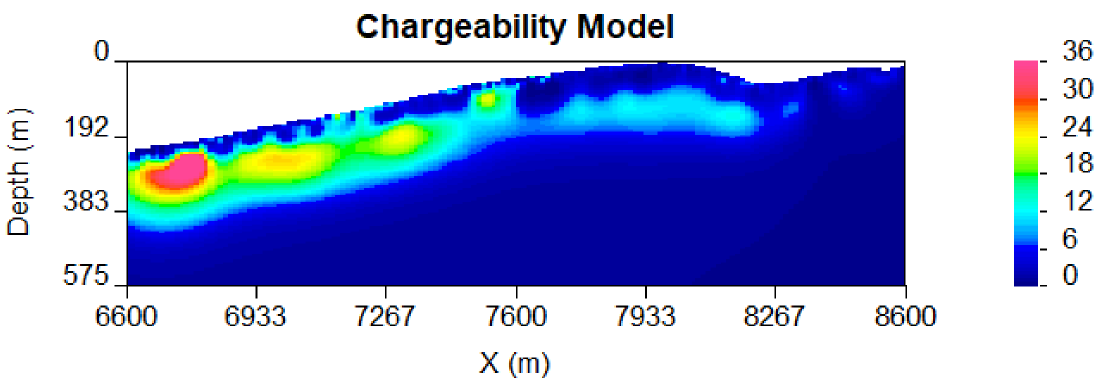

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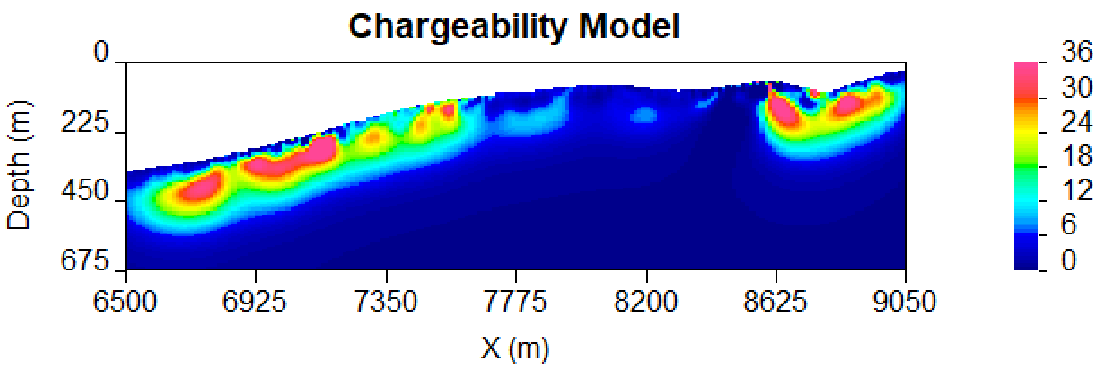

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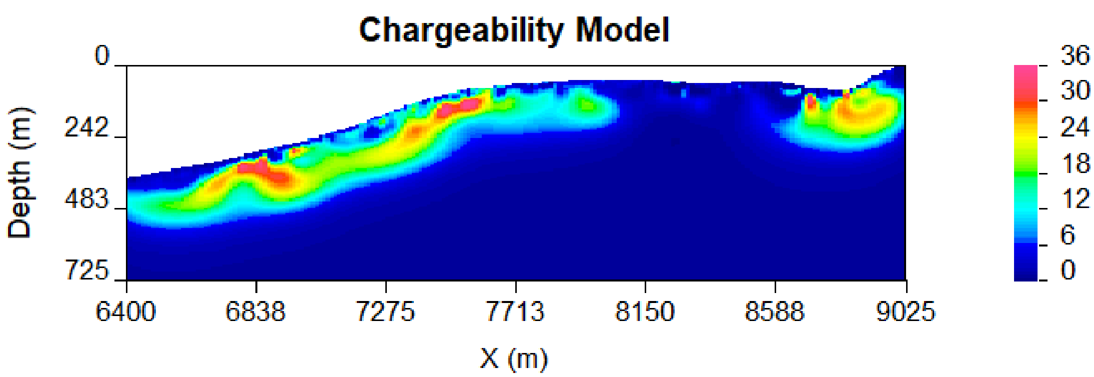

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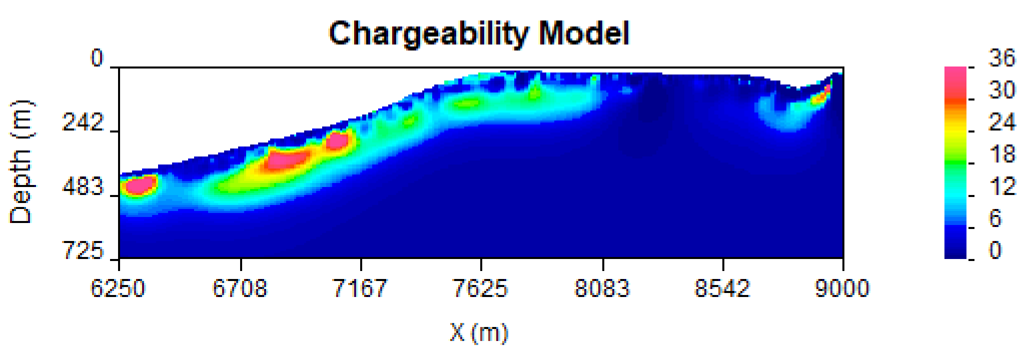

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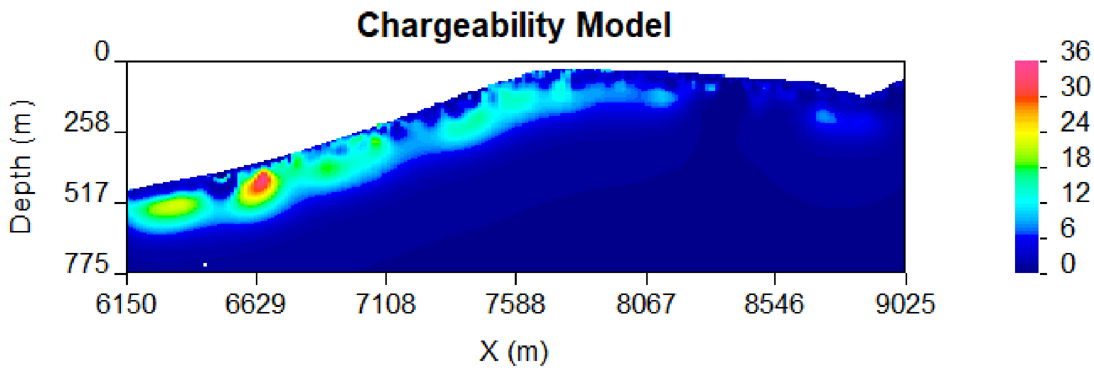

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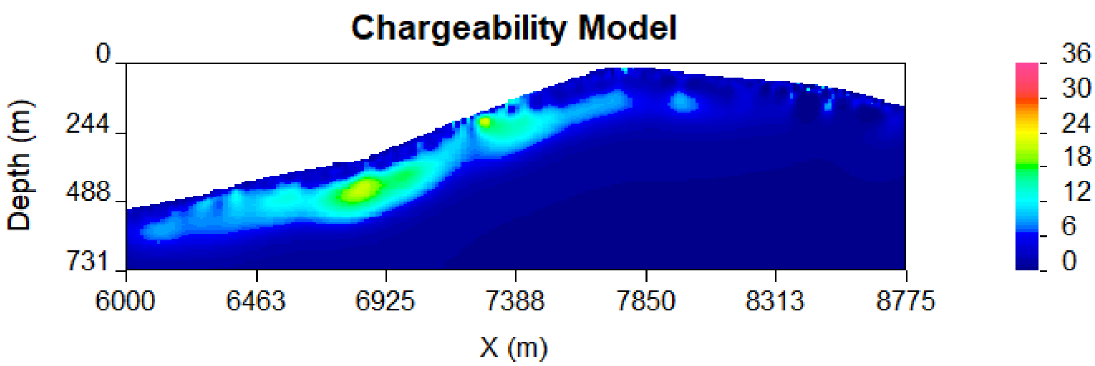

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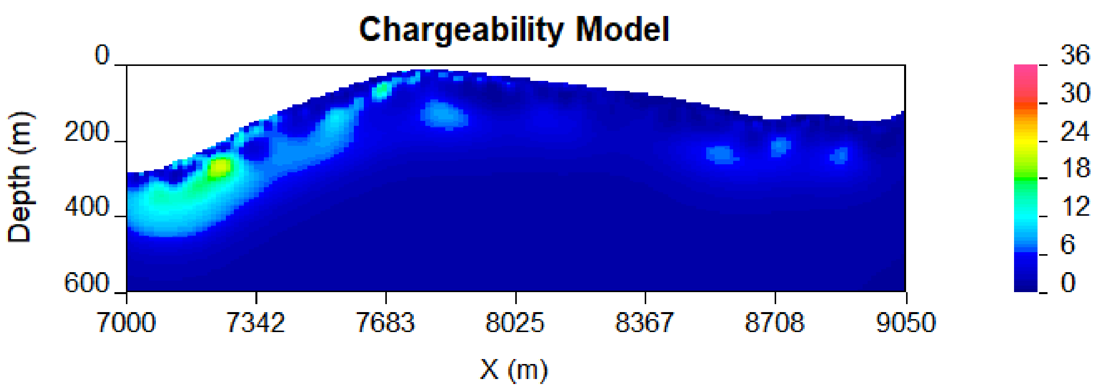

9.1 06 Survey

9.1.1 Resistivity (custom colour bar)

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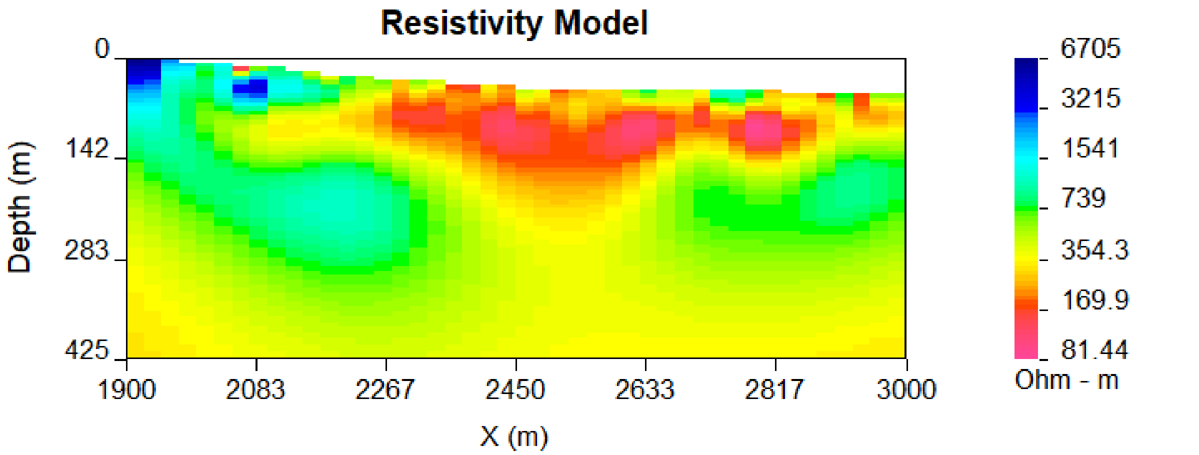

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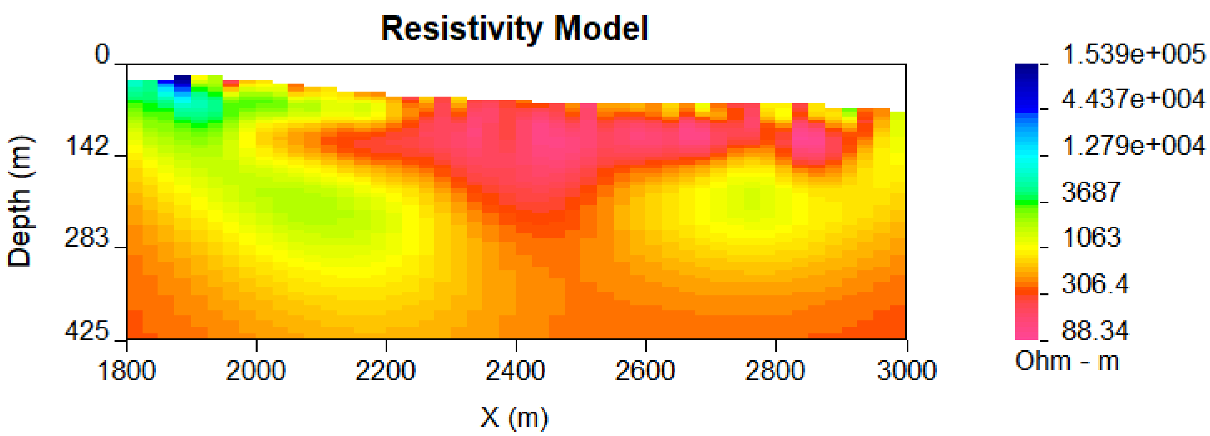

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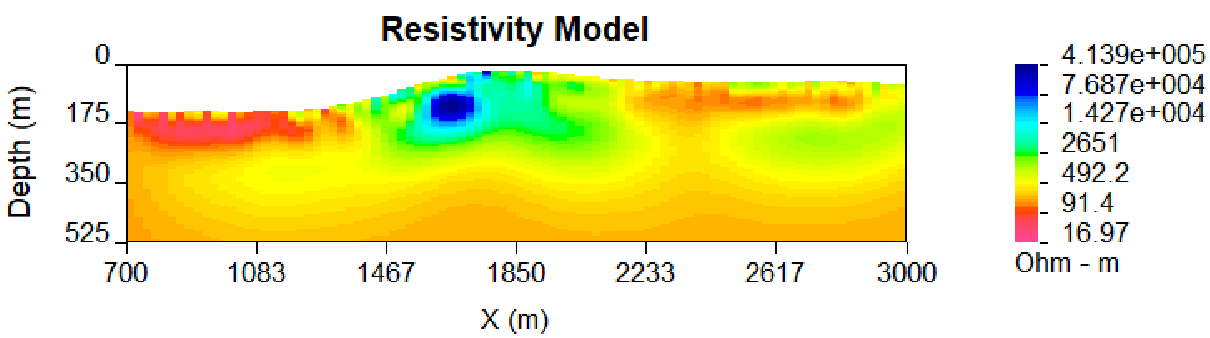

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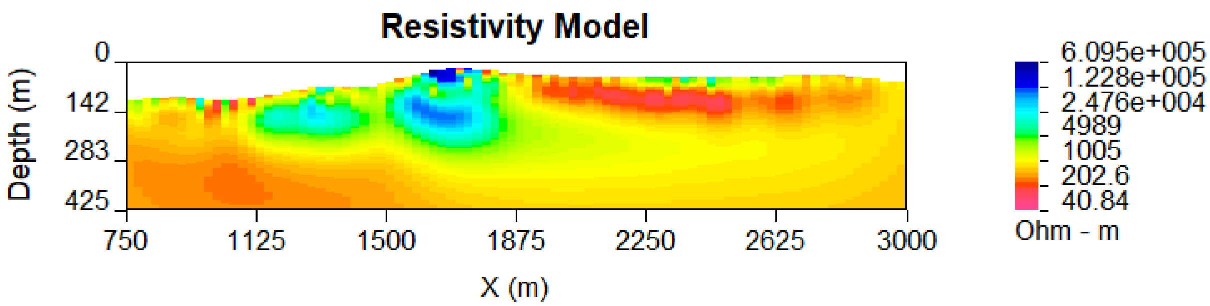

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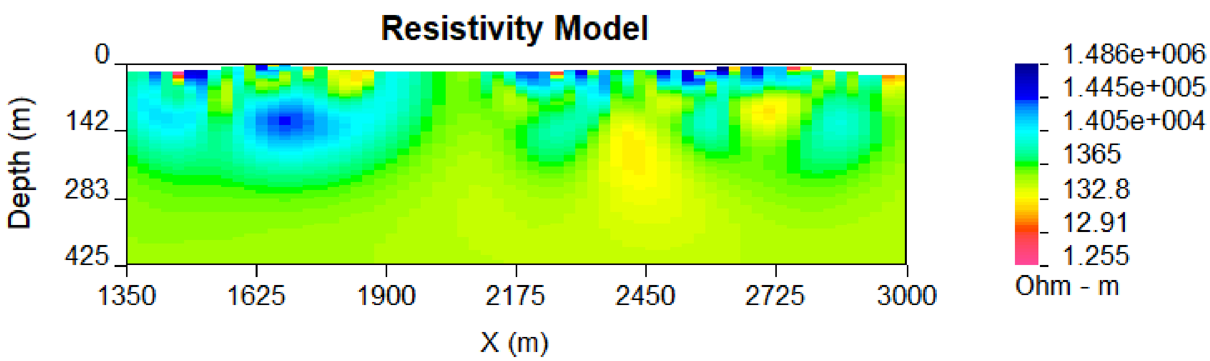

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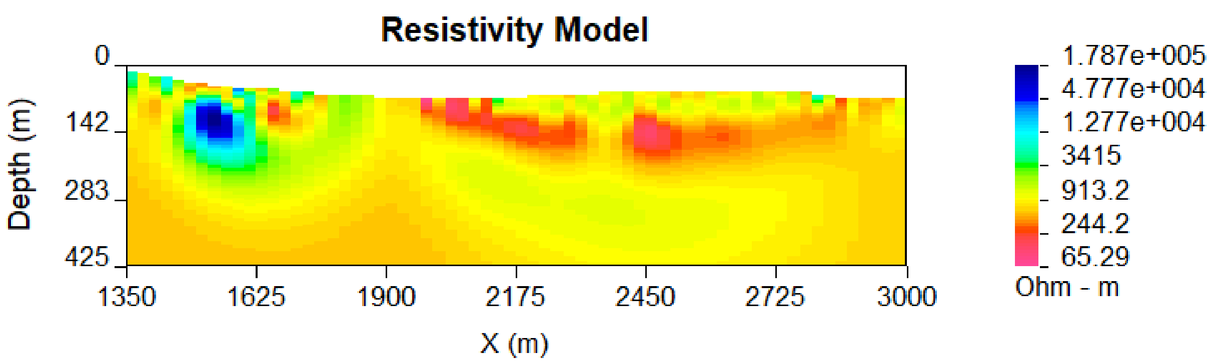

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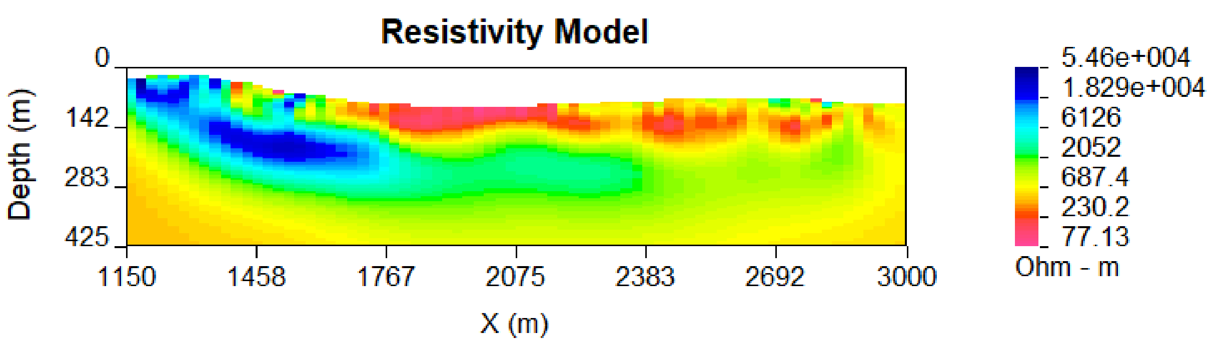

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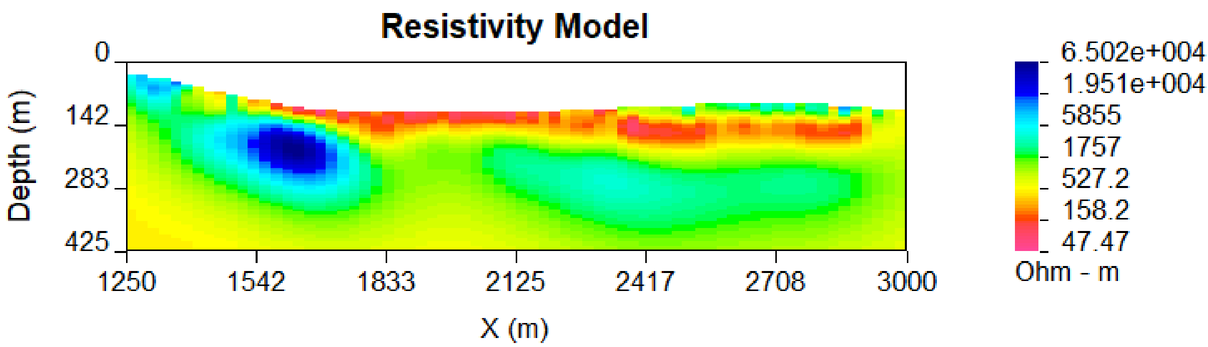

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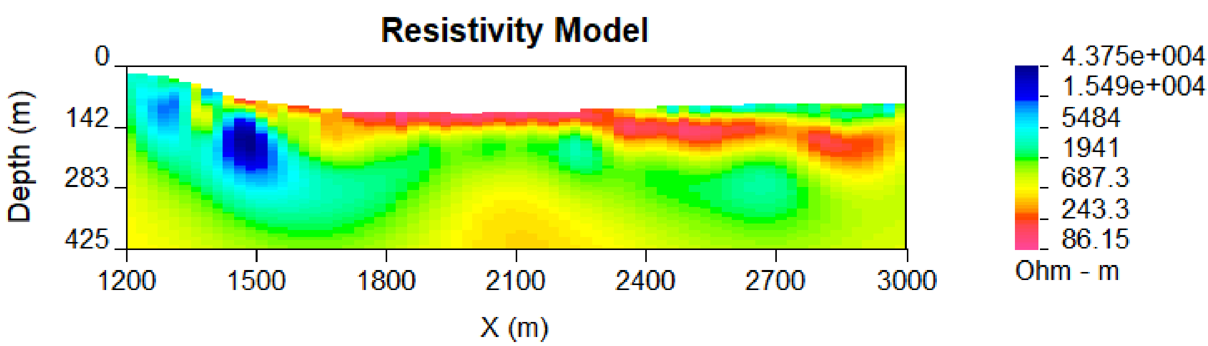

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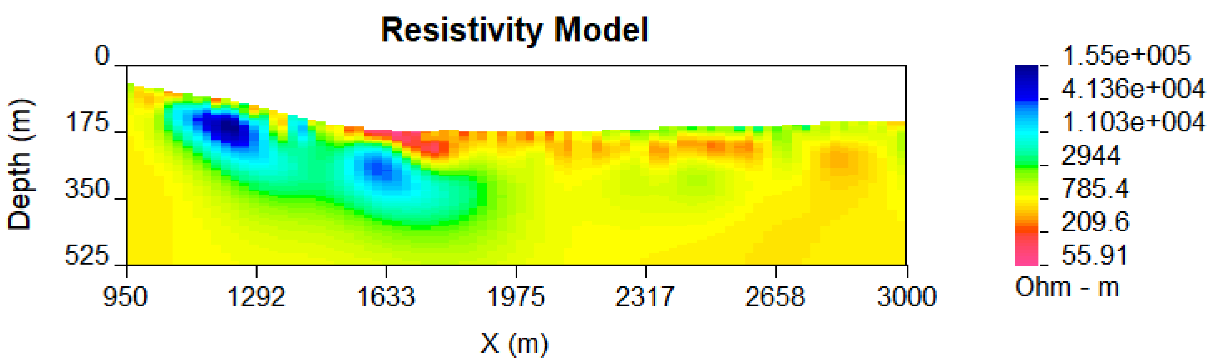

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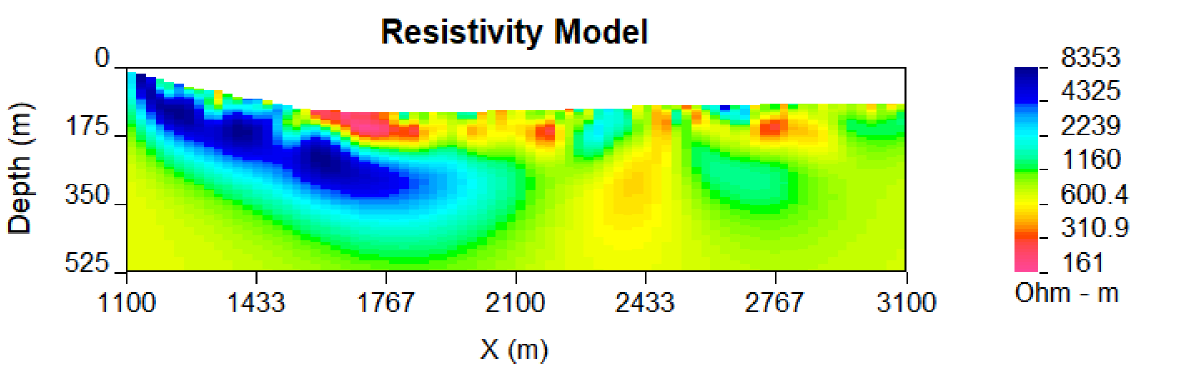

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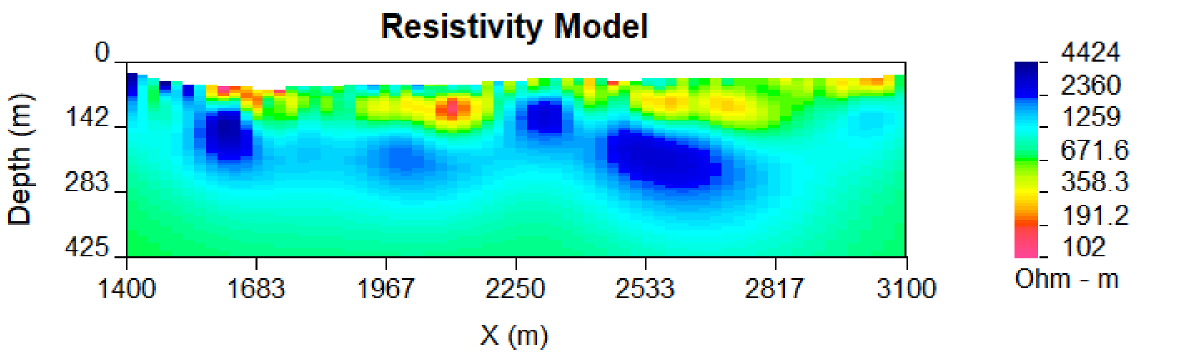

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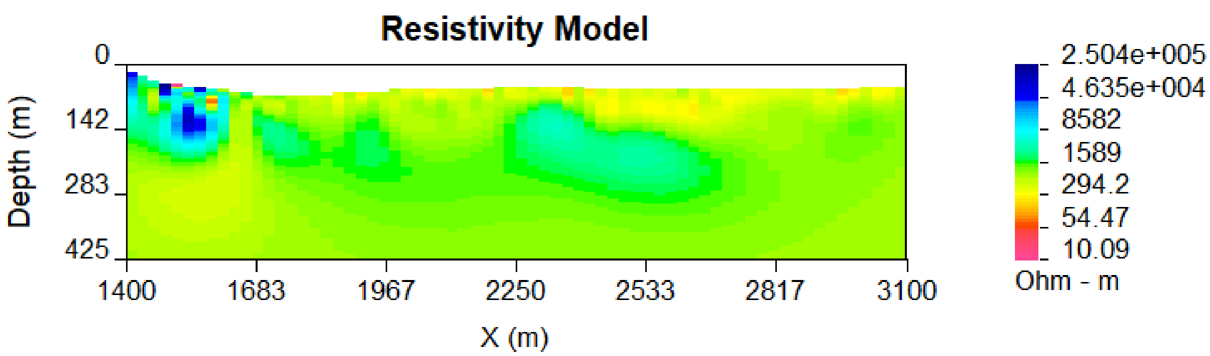

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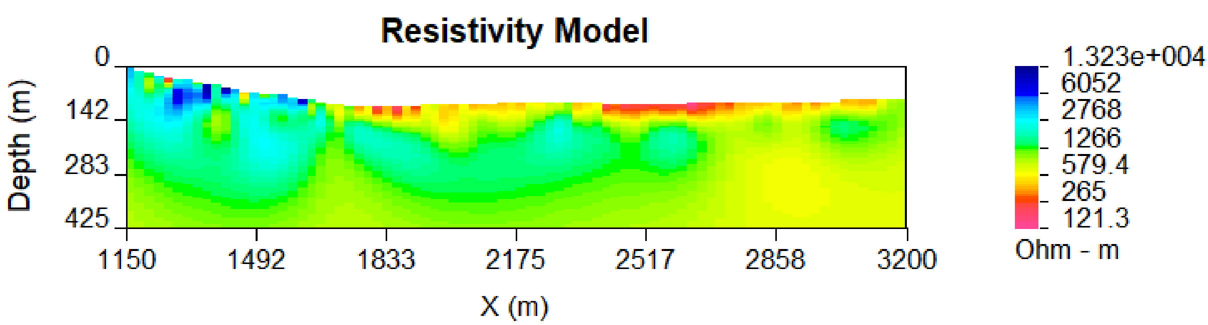

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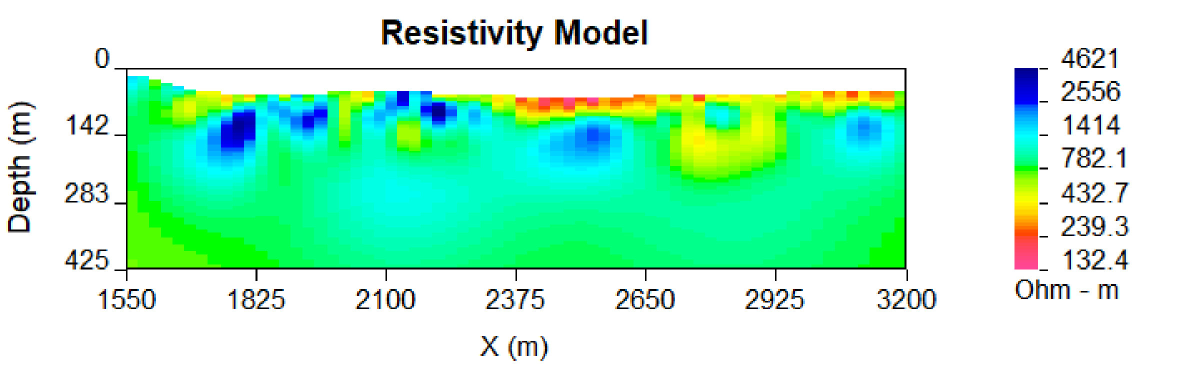

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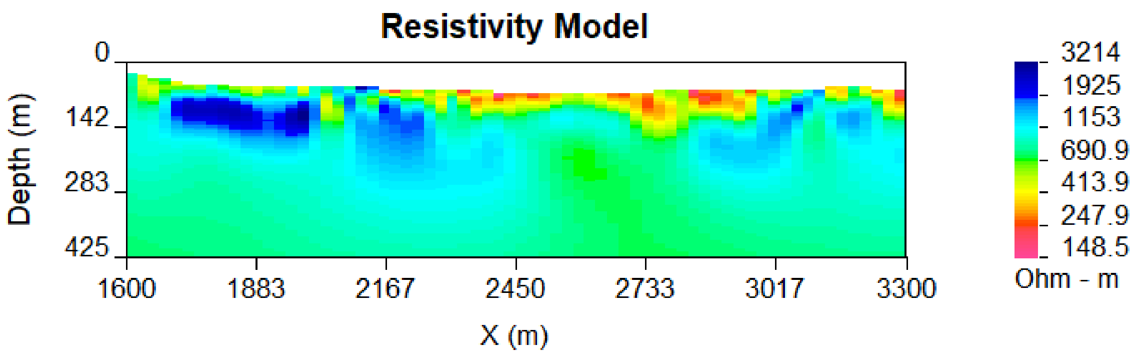

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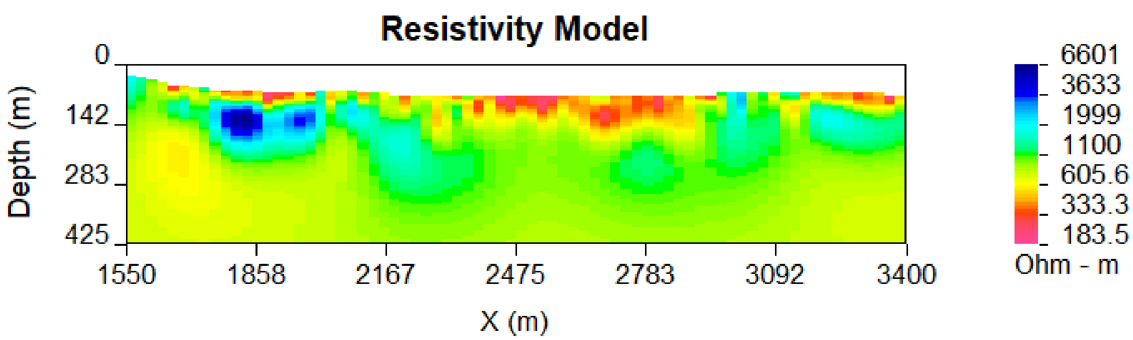

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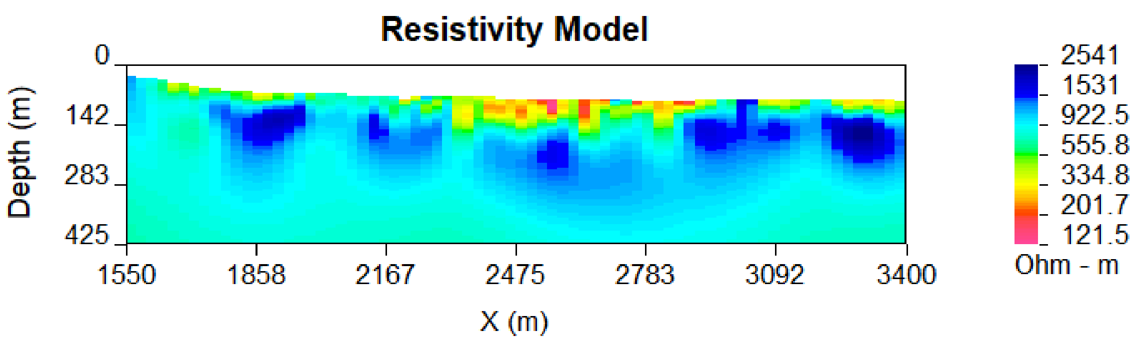

9.1.2 Resistivity (common colour bar)

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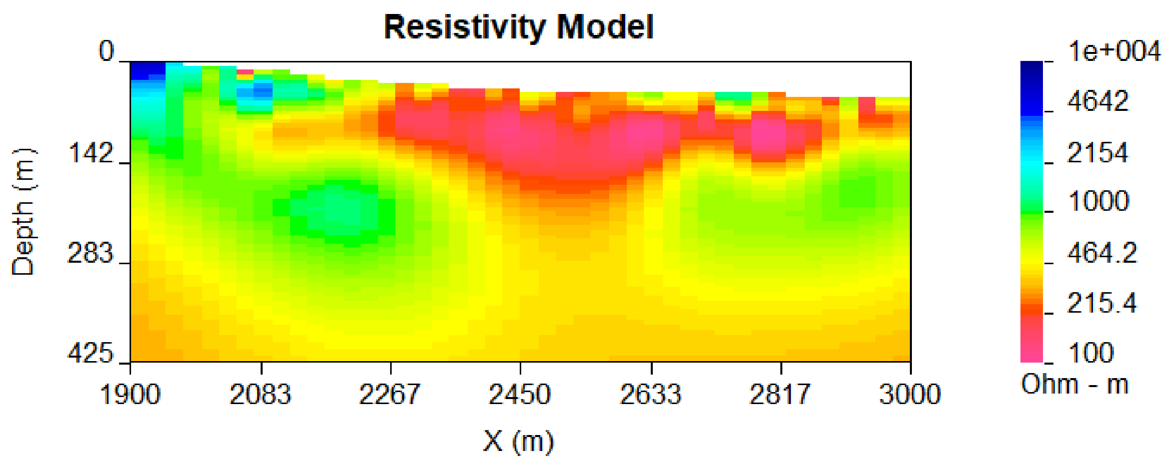

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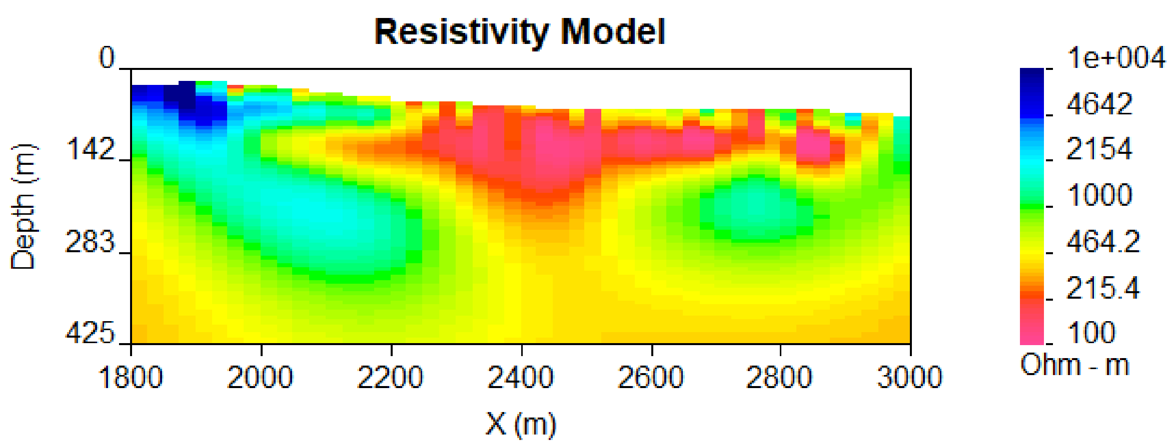

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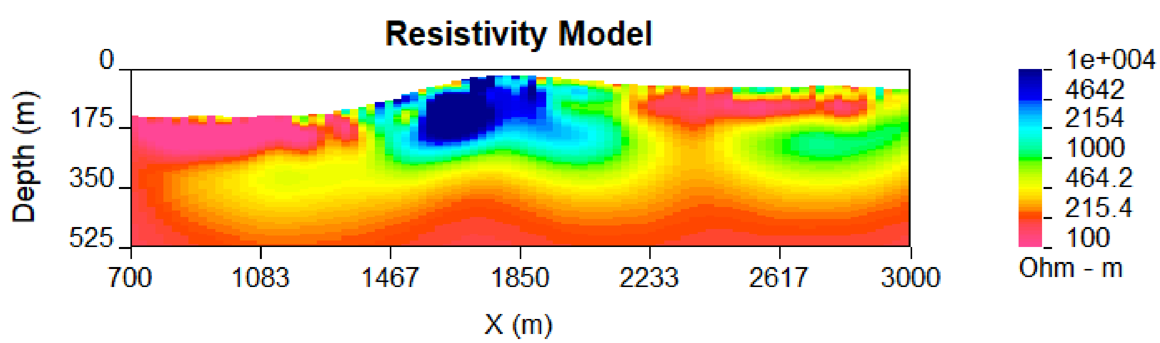

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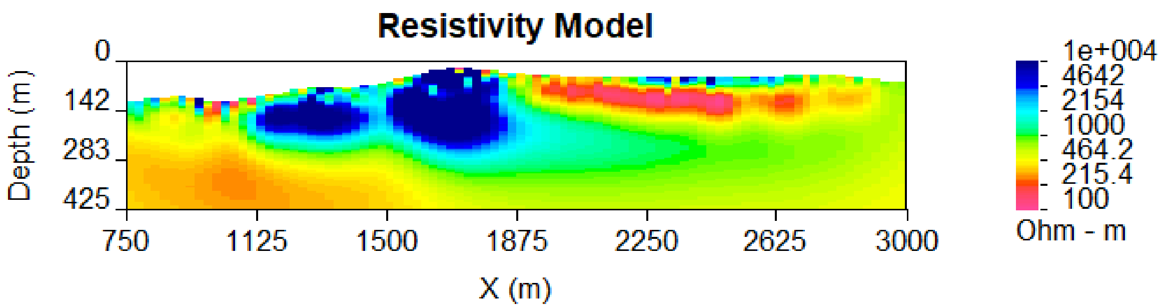

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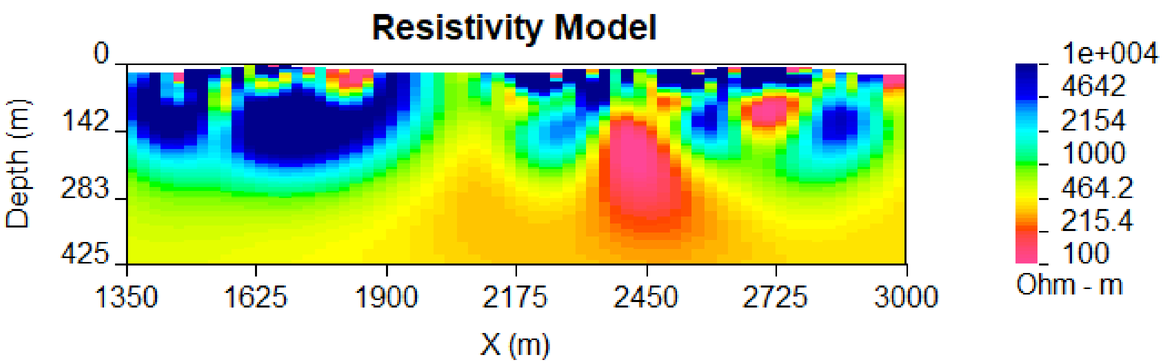

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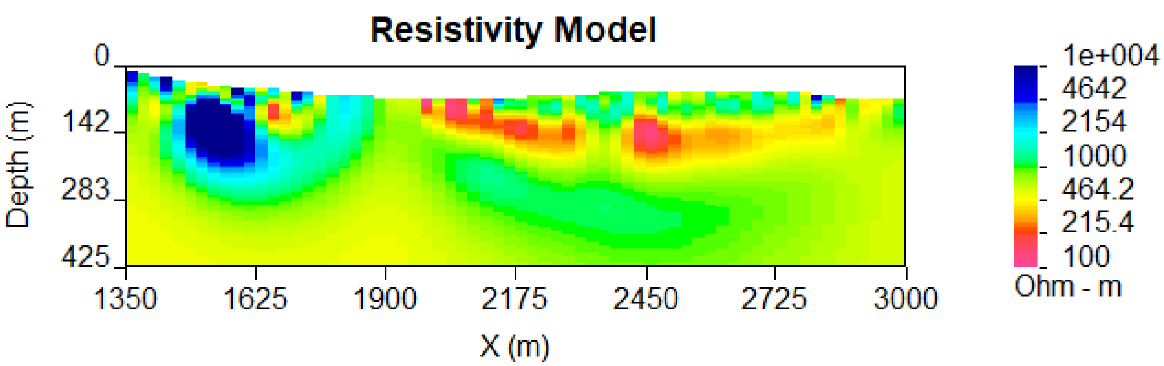

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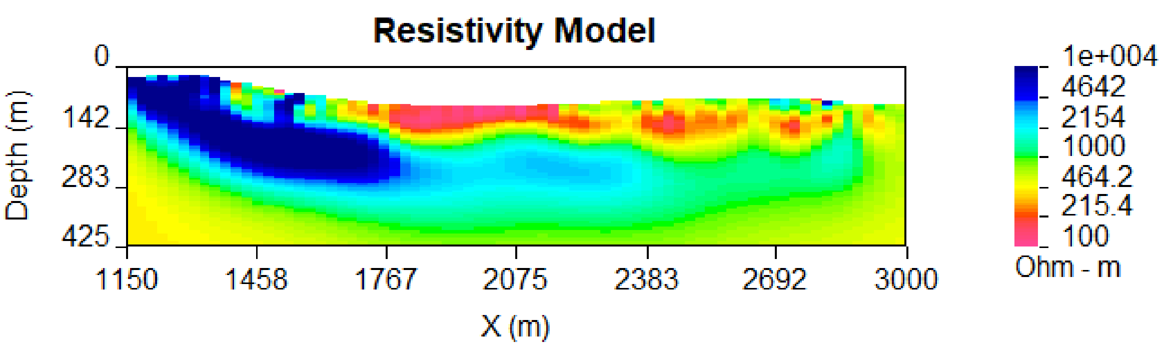
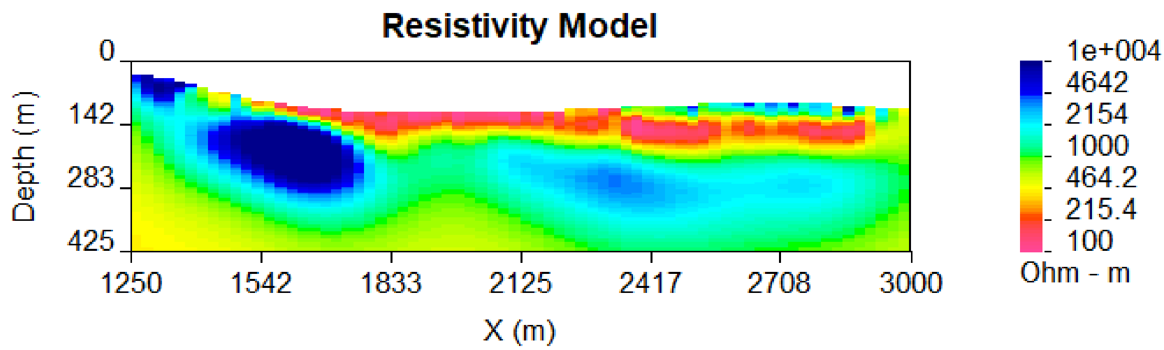


Line 1800E



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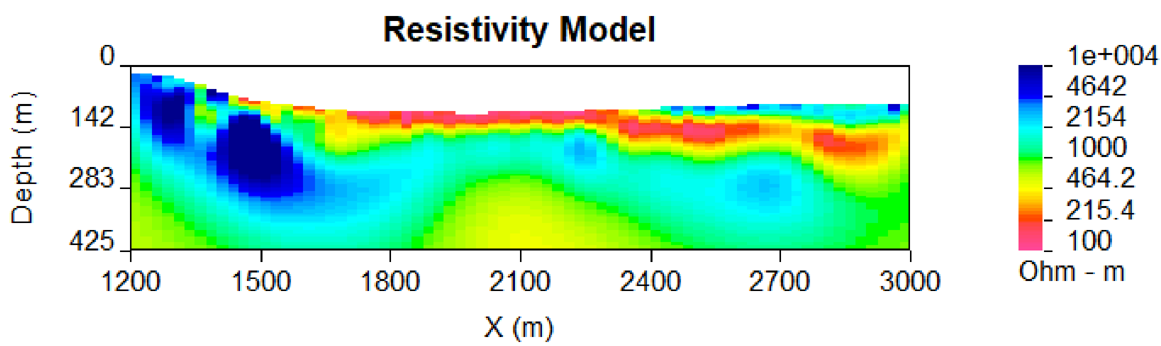

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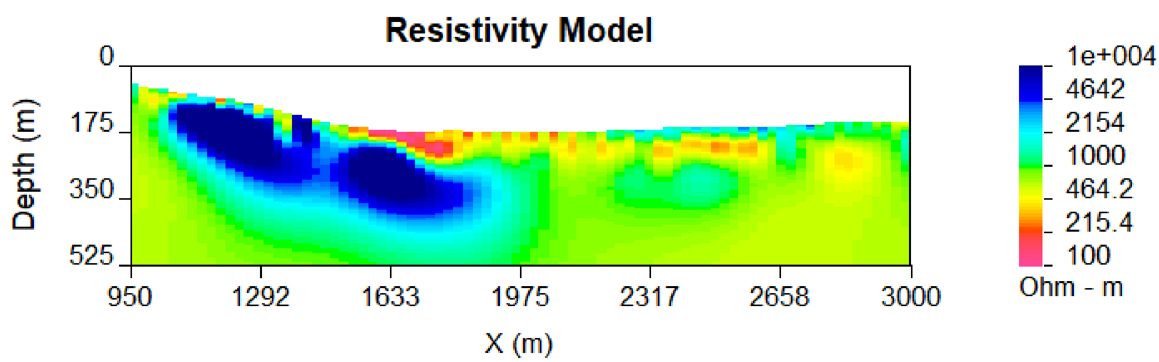

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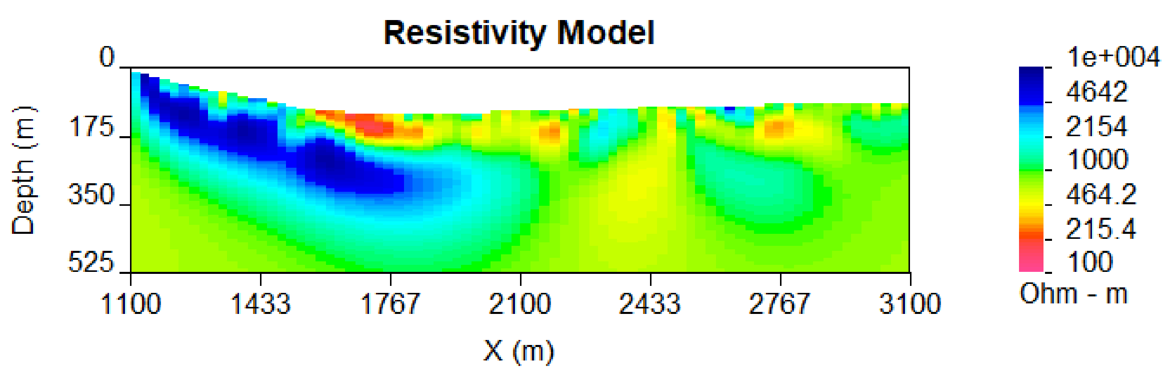

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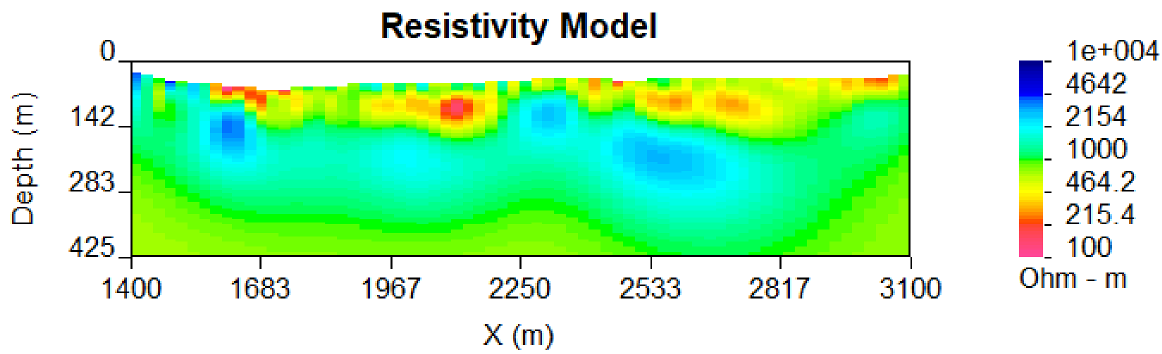

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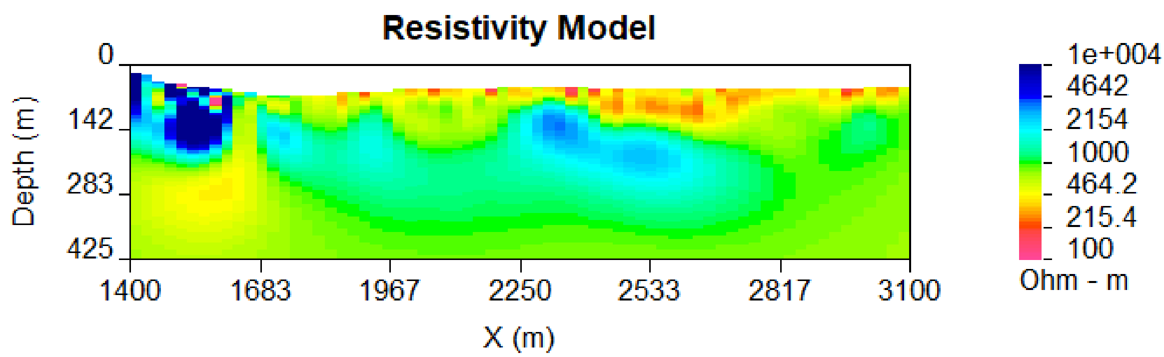

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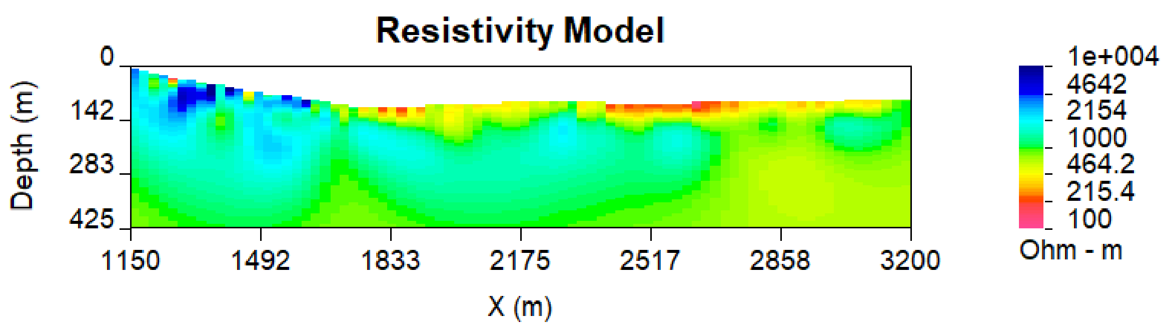

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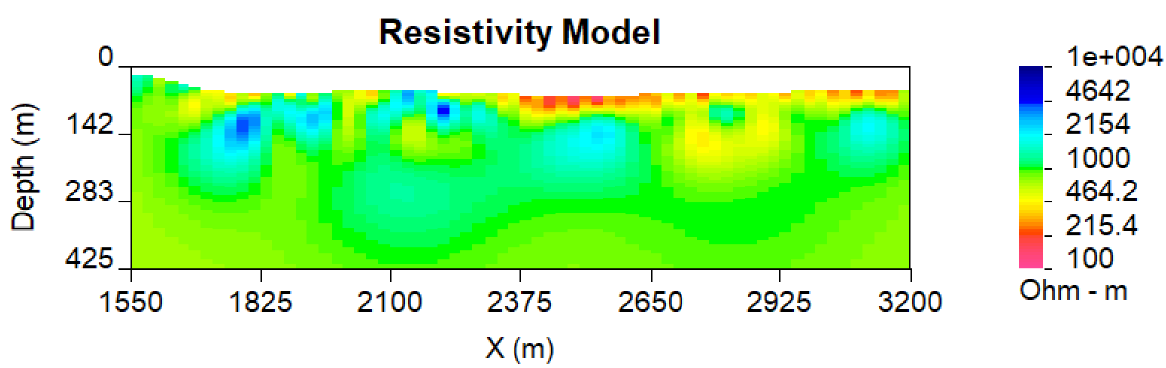

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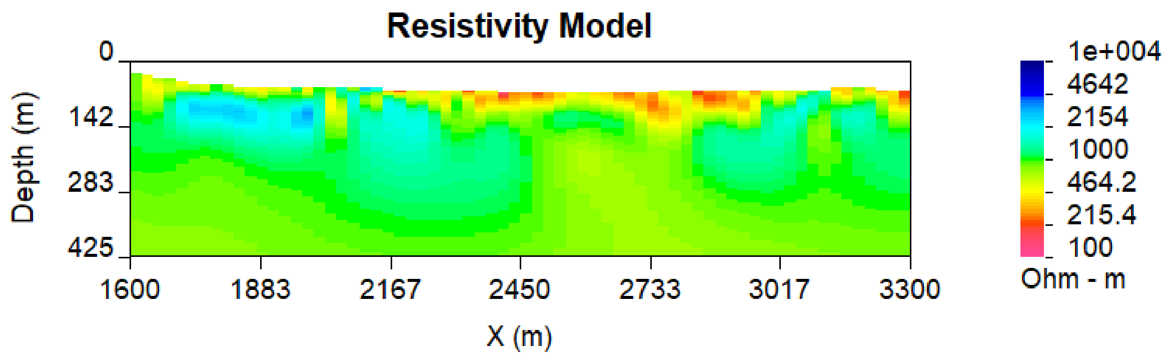

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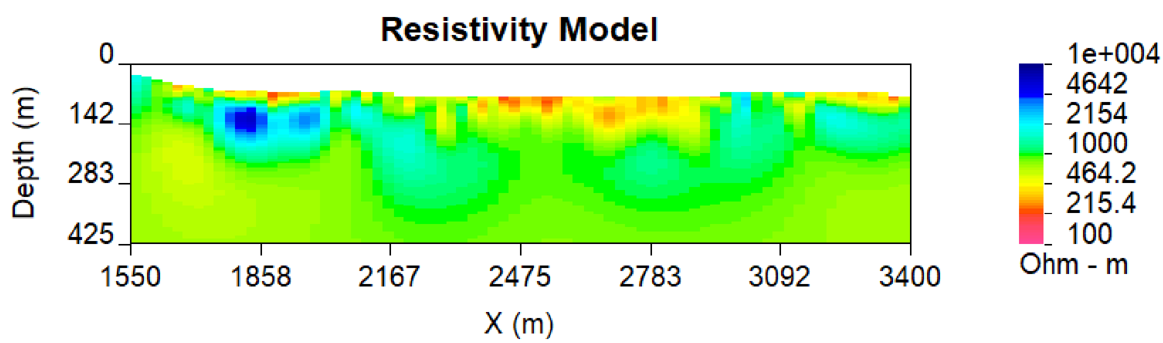
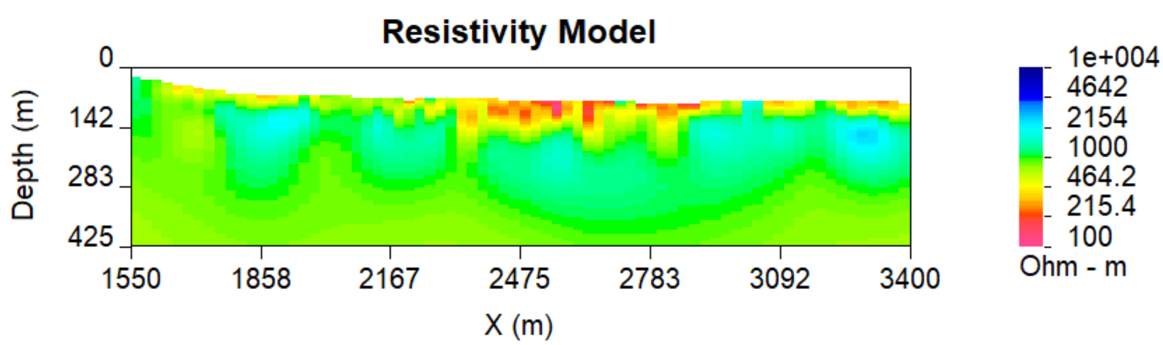
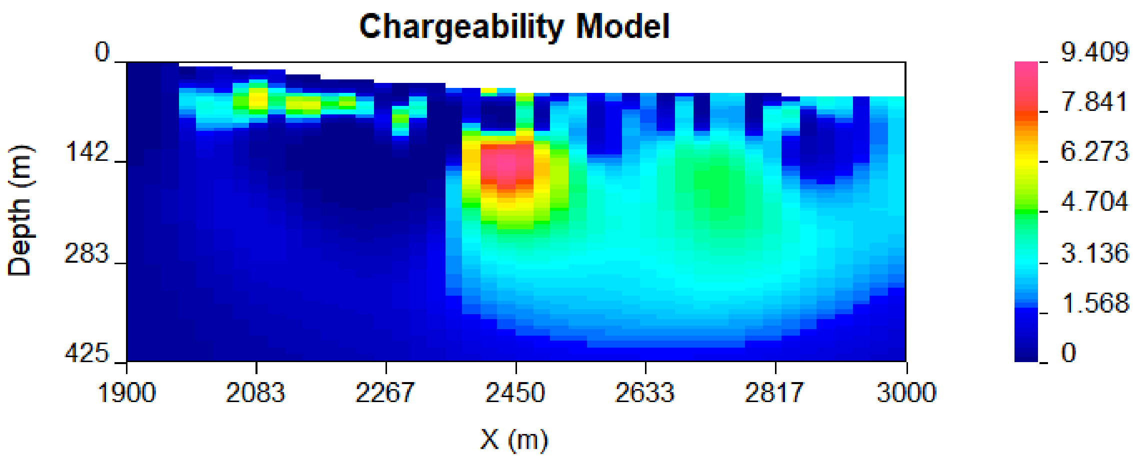


Line 2800E

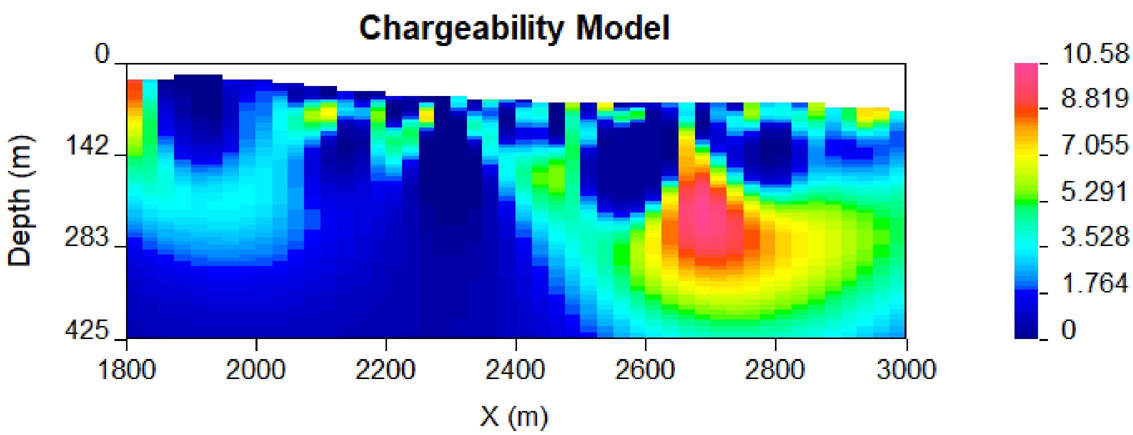


9.1.3 Chargeability (custom colour bar)

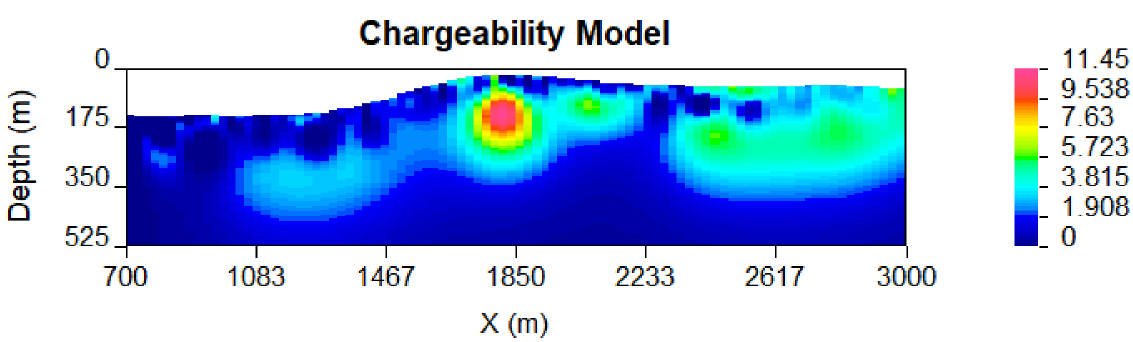
Line 1100E



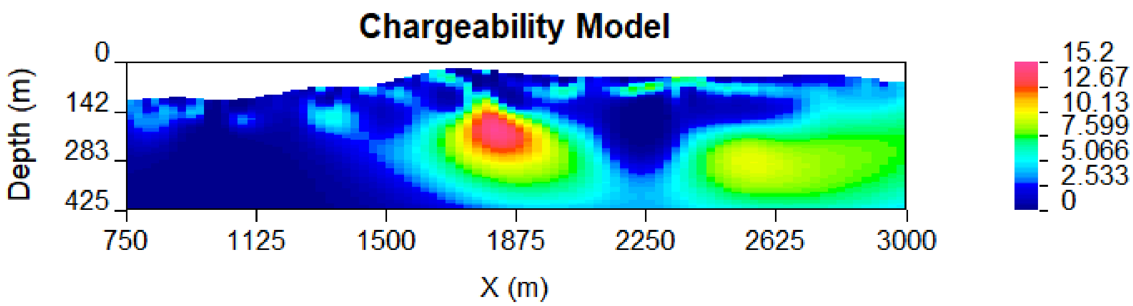
Line 1200E



Line 1300E



Line 1400E



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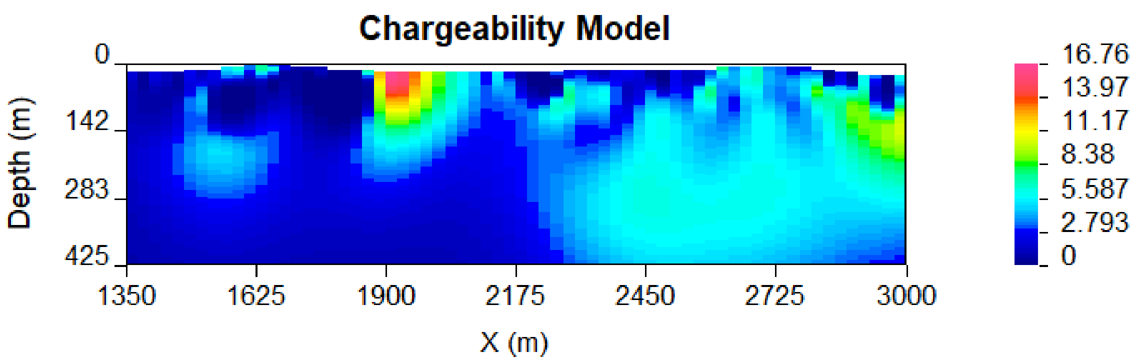
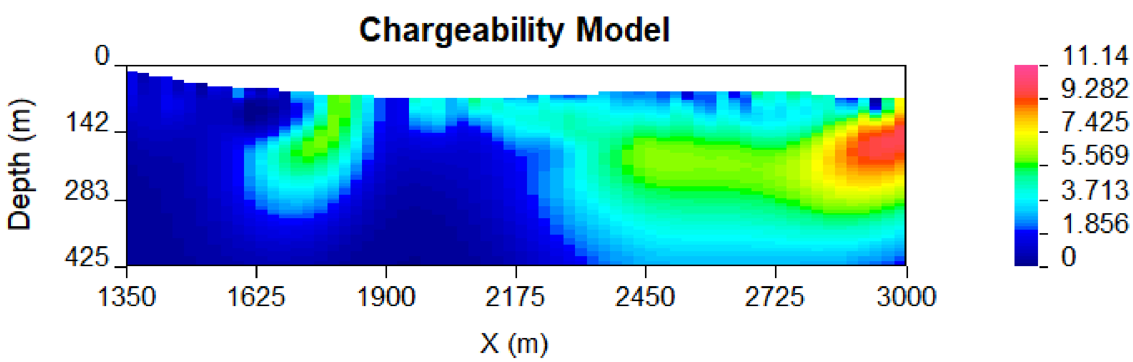


Line 1600E



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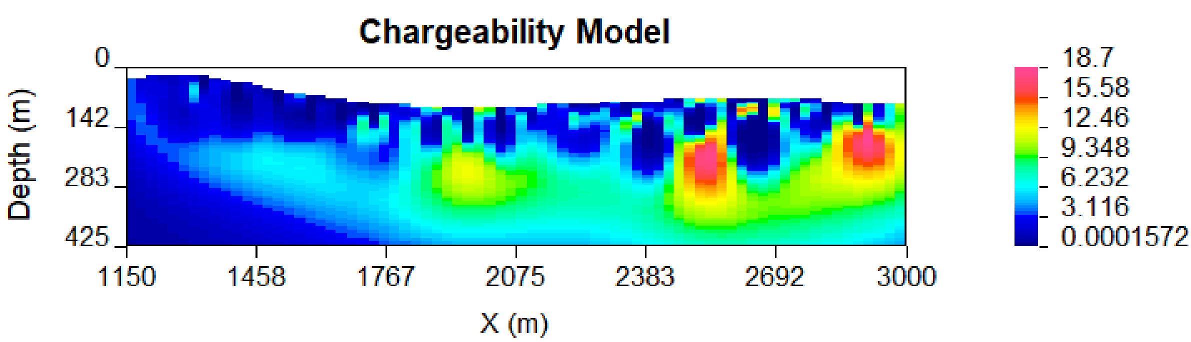
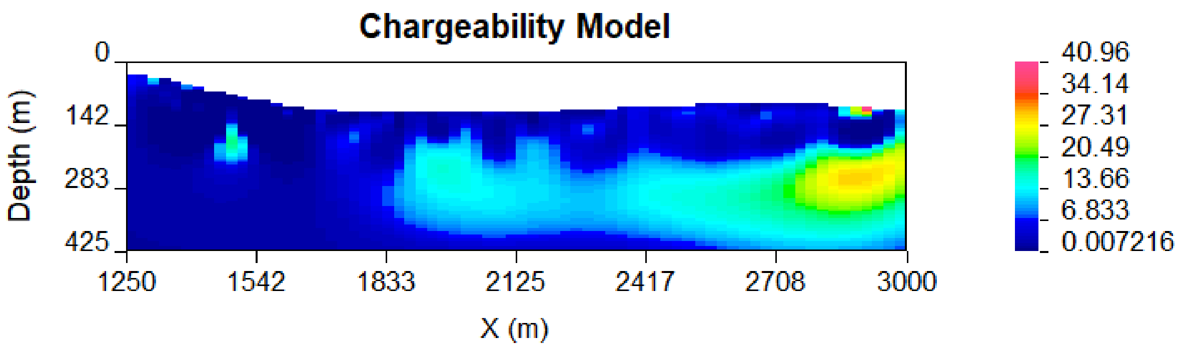


Line 1800E



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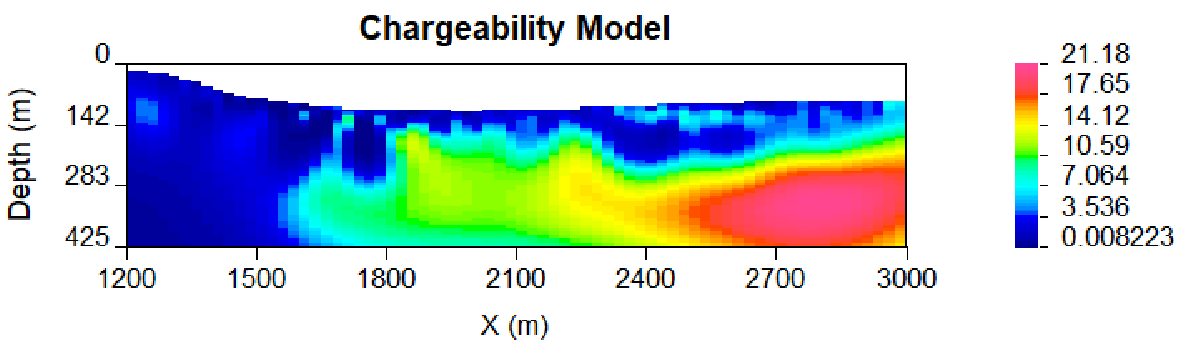

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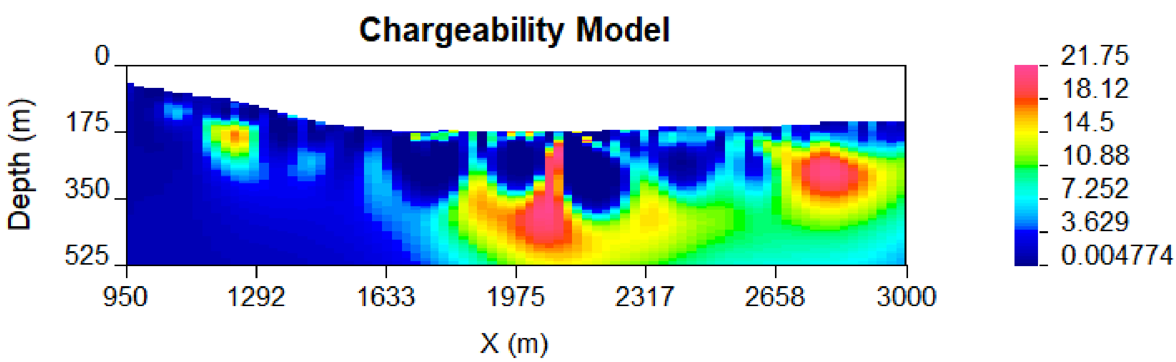
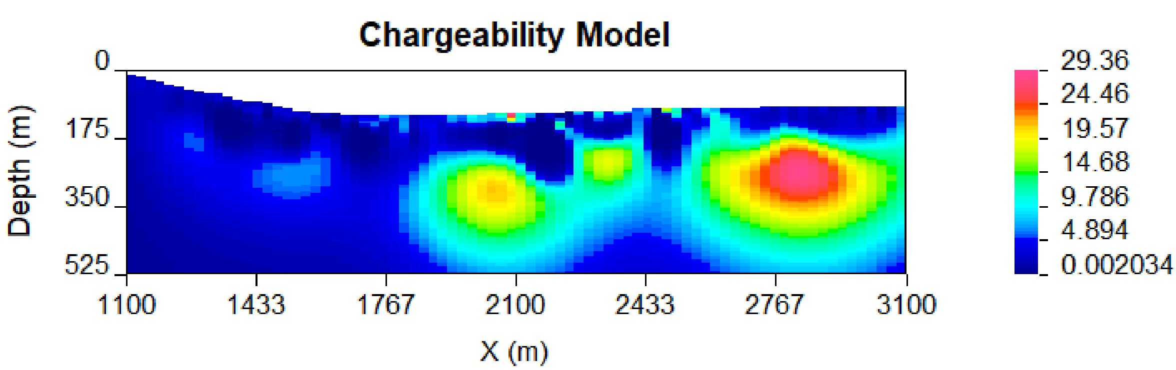


Line 2100E



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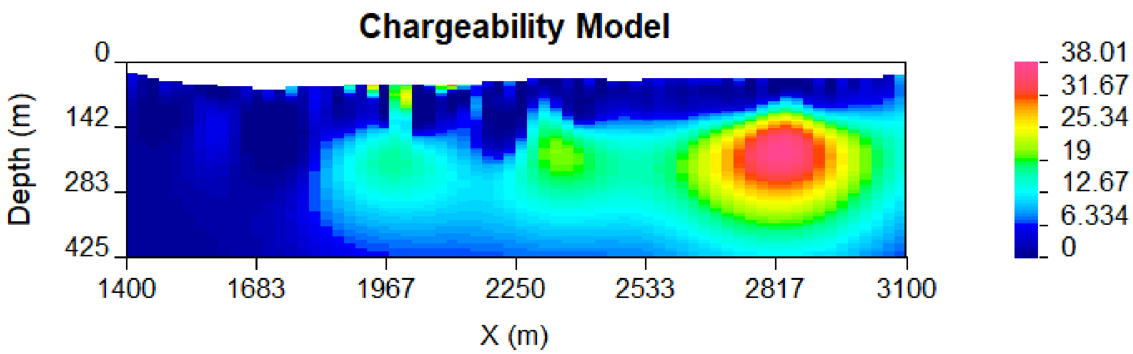

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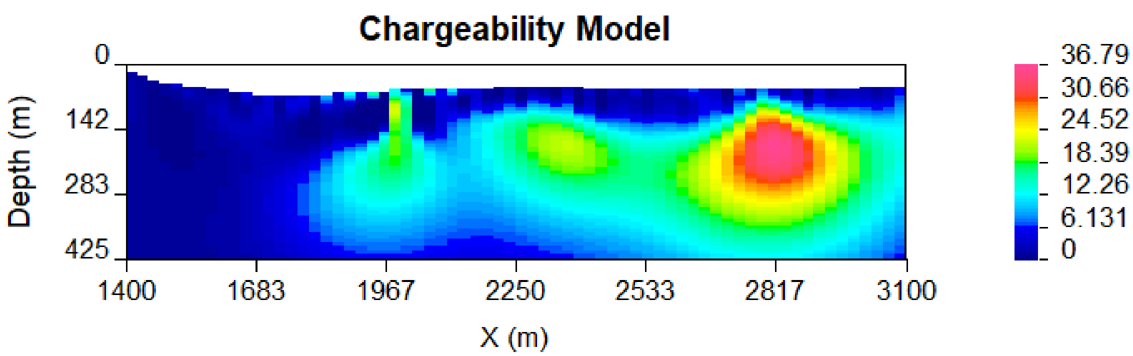

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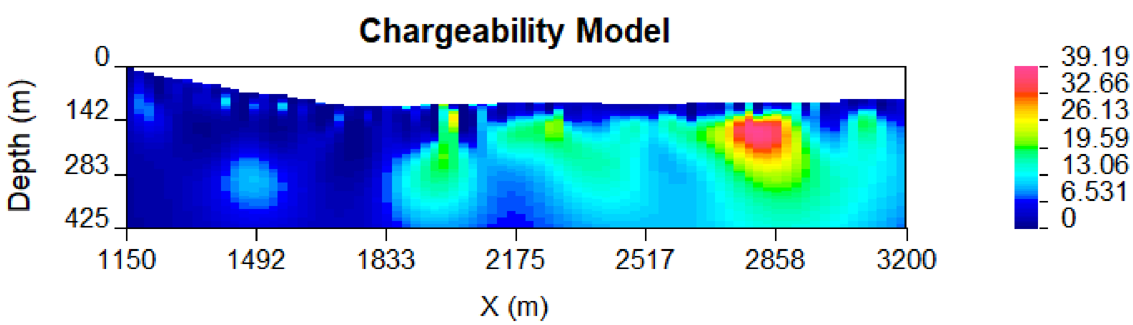

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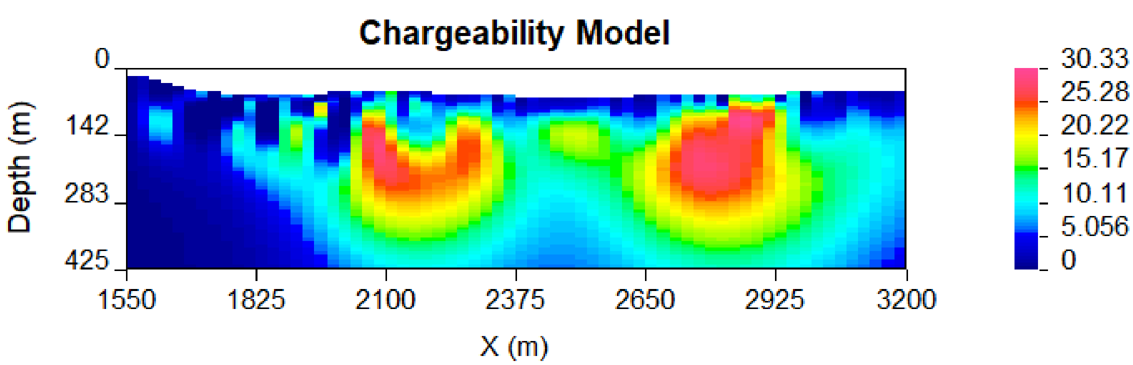

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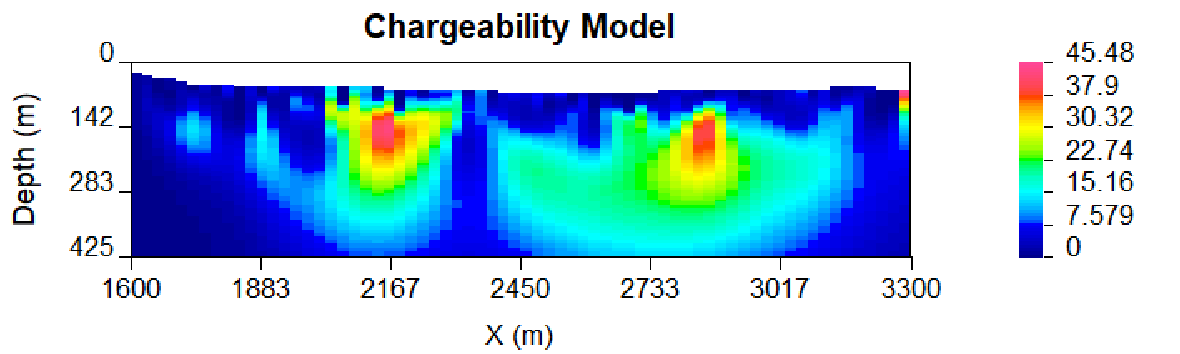
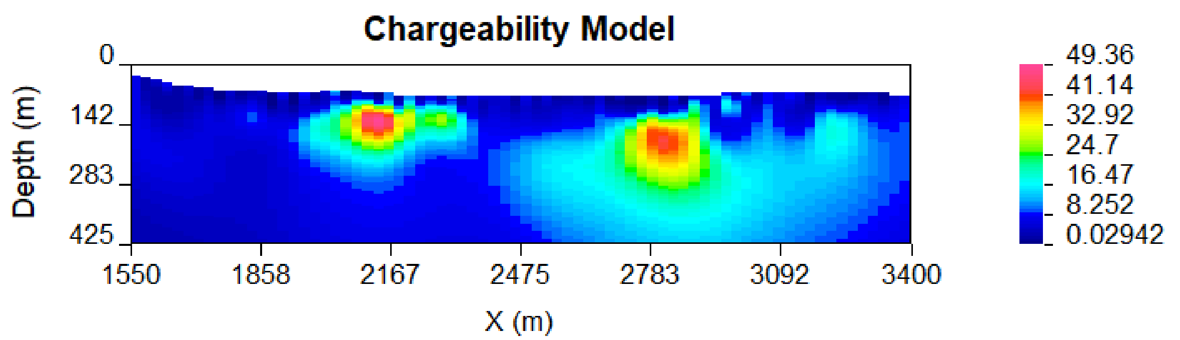
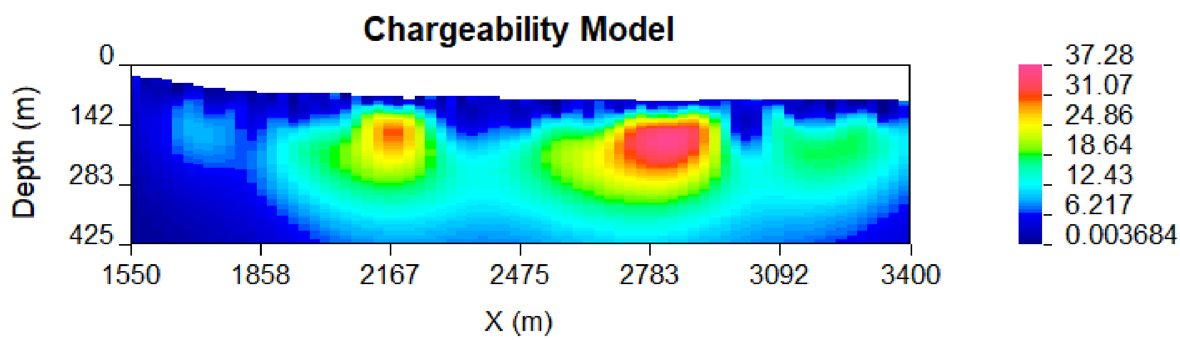


Line 2700E

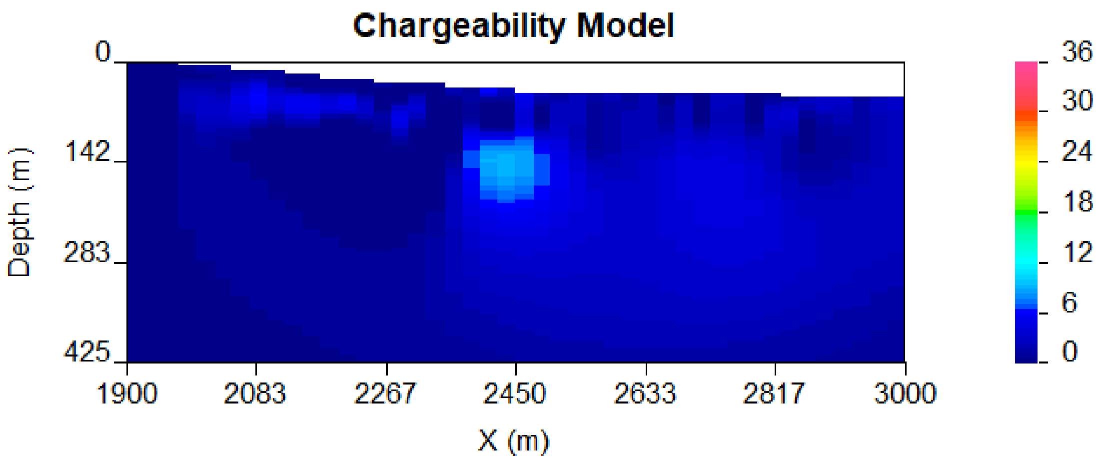


Line 2800E



9.1.4 Chargeability (common colour bar)

Line 1100E



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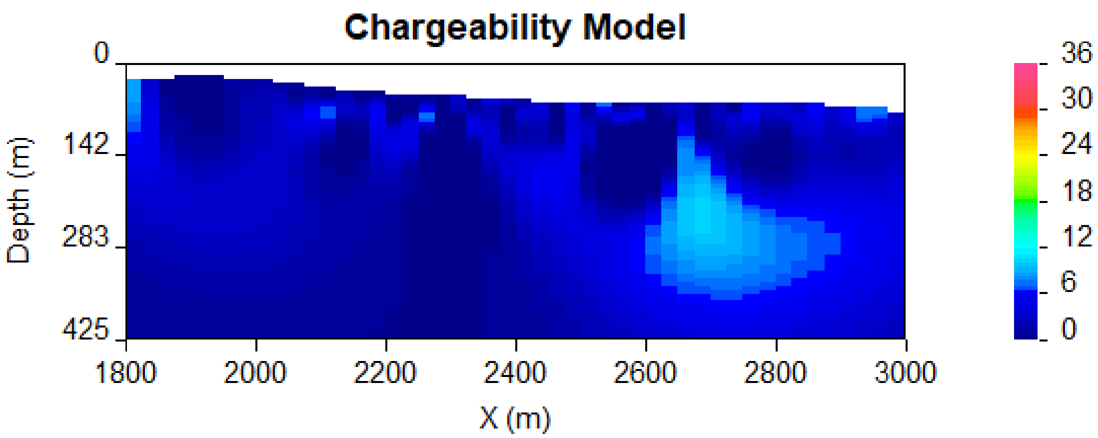
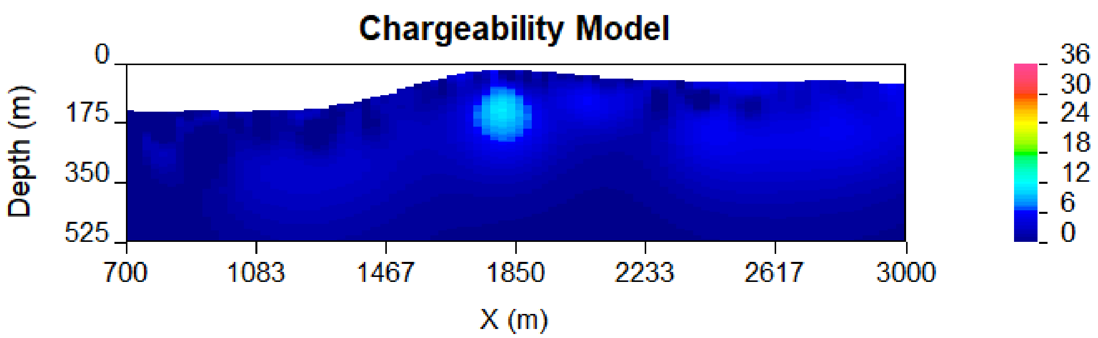


Line 1300E



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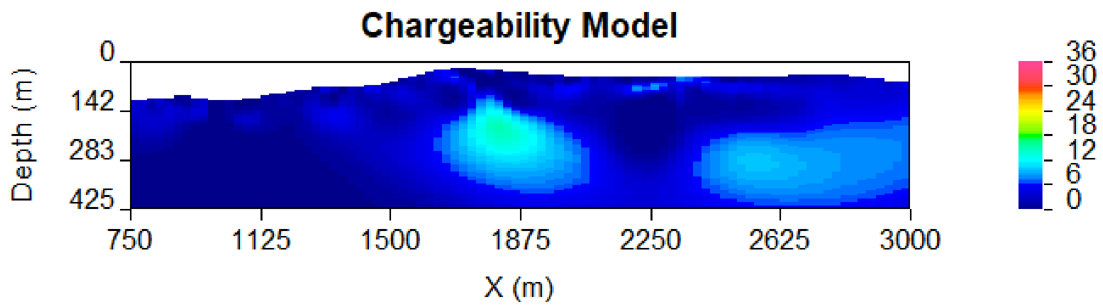

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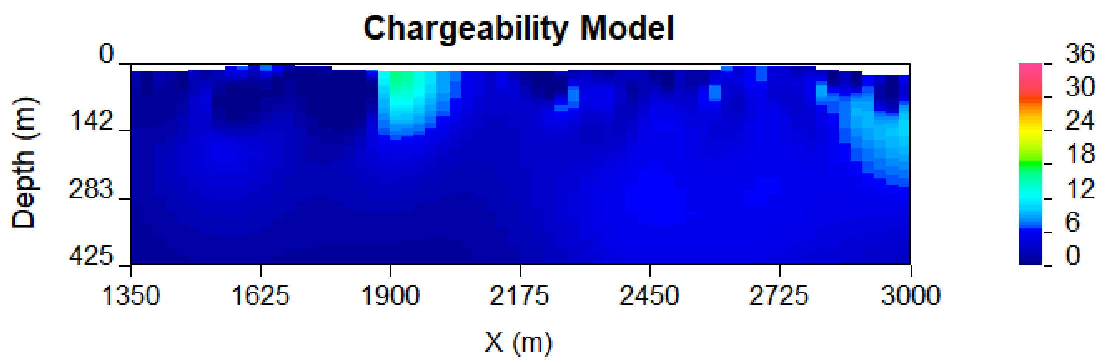

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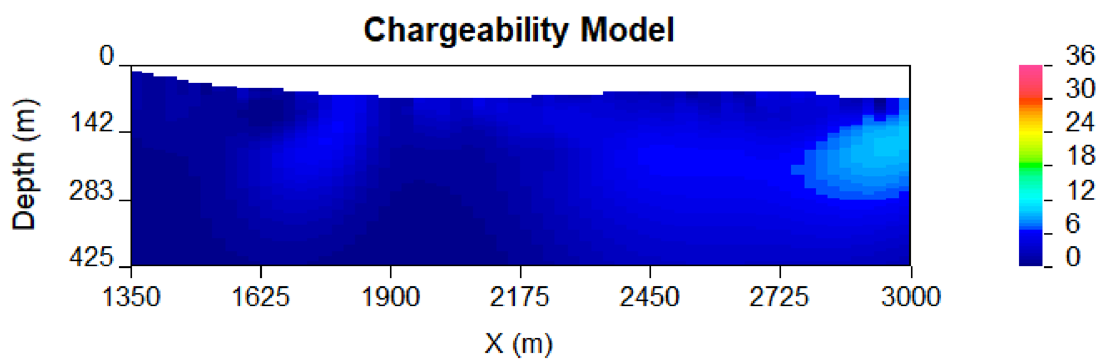

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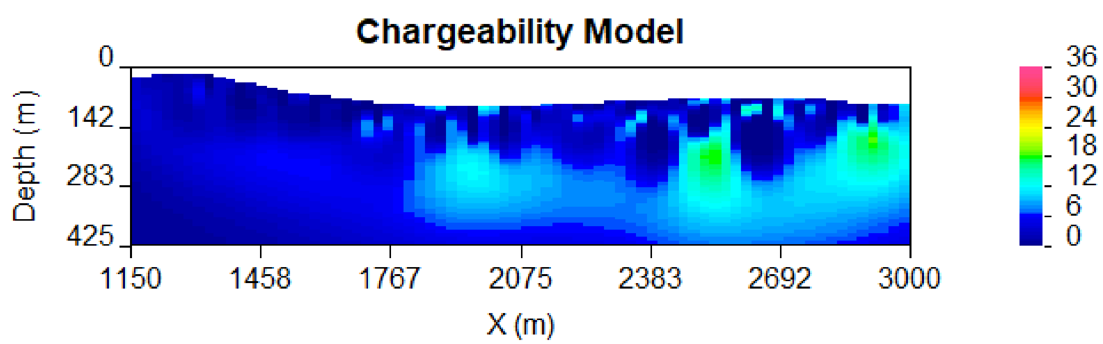

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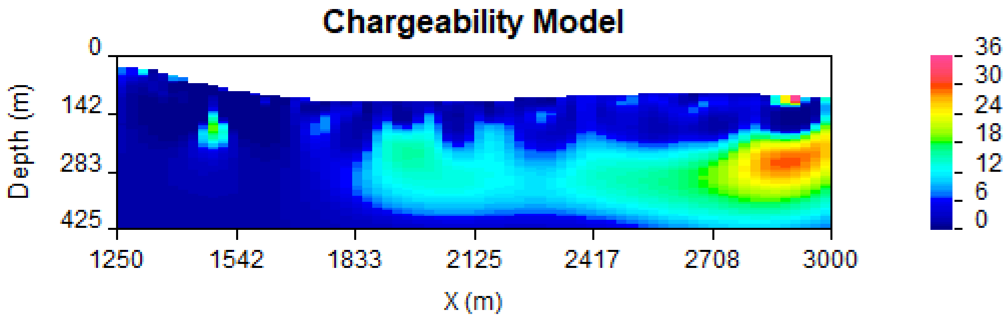

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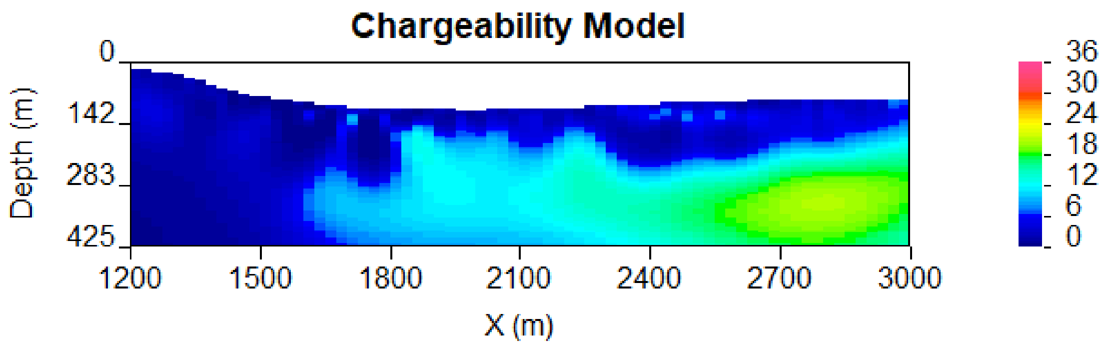

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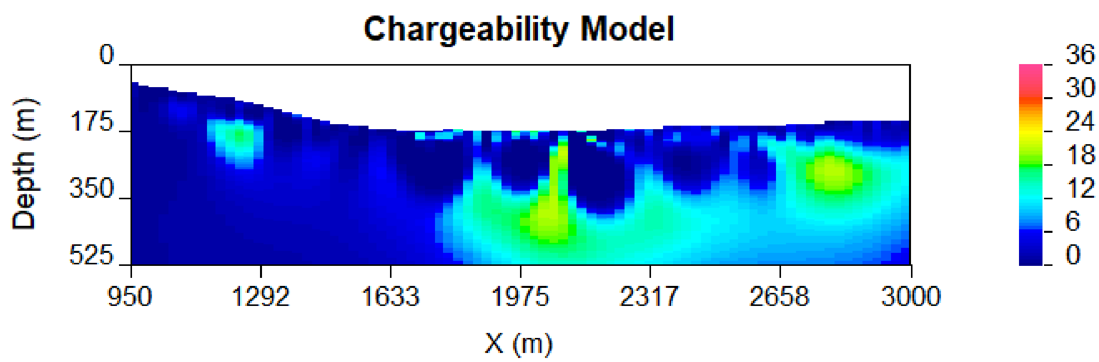
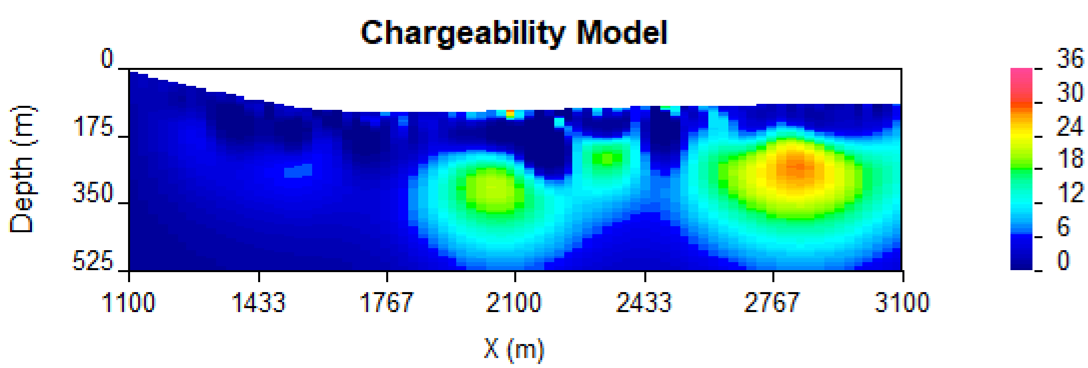
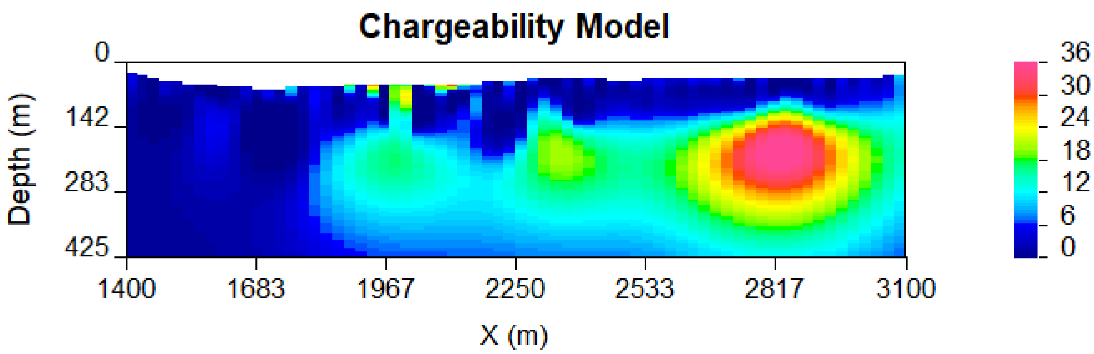


Line 2100E



Line 2200E



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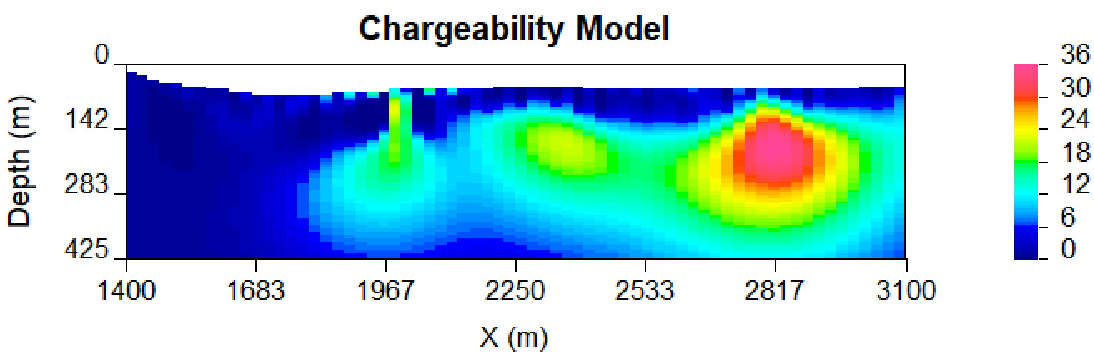

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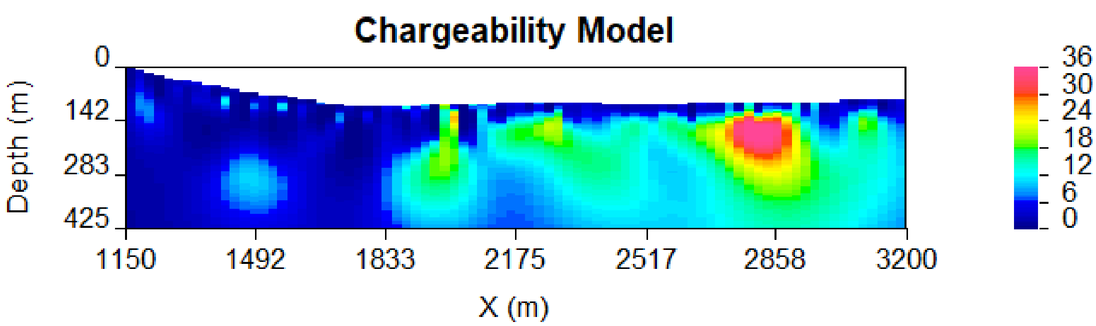

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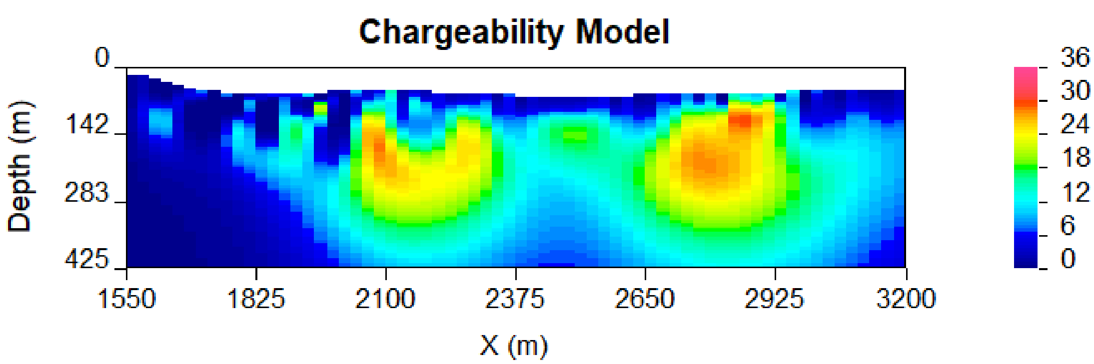

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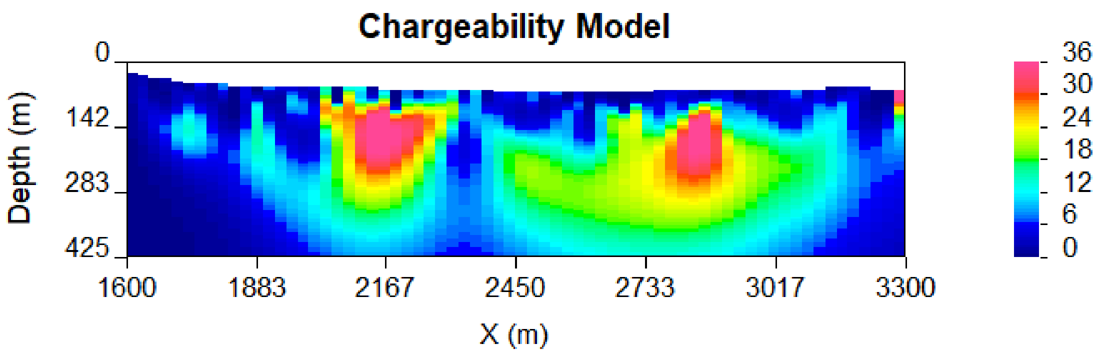

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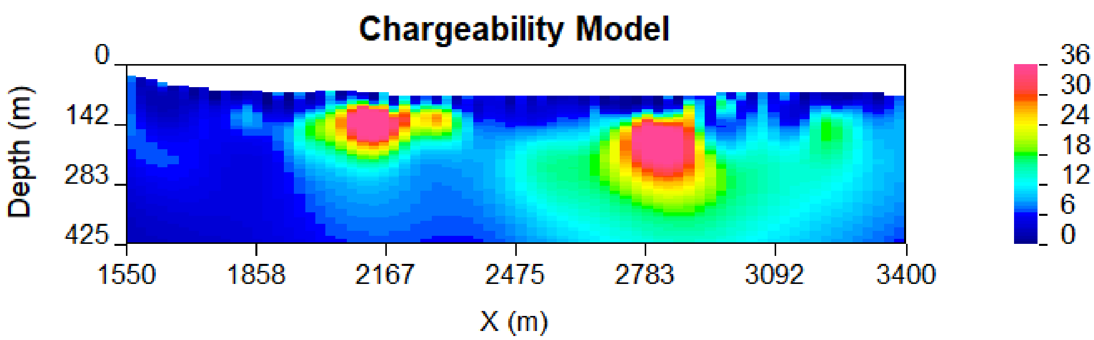

Line 2800E