Titan Resistivity/Induced Polarization Data

Data Analyses and Interpretation

for Geologica Resources Corp
September 31, 2024

This report focuses on the analyses and interpretation of the resistivity/IP data collected in 2003 and 2004 by Aurora Geosciences.

A report containing data explanation, critique, synopses, QC/QA and reprocessing procedures is contained in the document
2003_2004_Titan_IP_QC_Reprocessing.pdf
dated September 19, 2024.

The reprocessed data was delivered in **Titan_IP_Reprocessed_2024.zip.**

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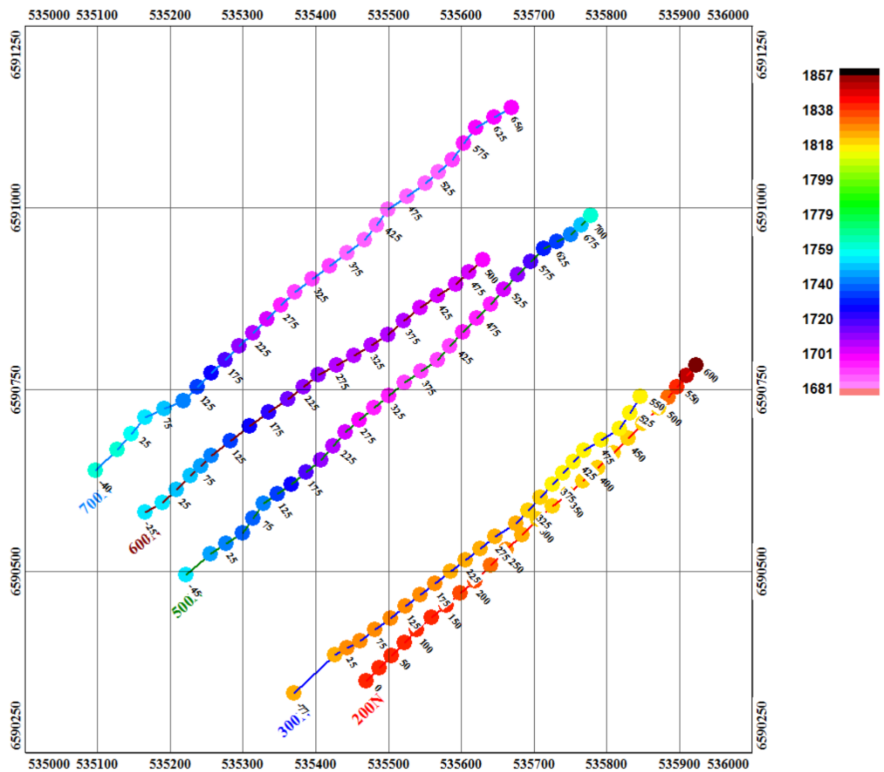
Eikon Technologies LTD

TITAN ELREC RESISTIVITY DATA

Survey locations as described by crew



ELEVATIONS

We will initially focus on the resistivity data as much of this data could be recovered and processed. However, most of Line 300N was missing. Also given the lack of data on this line and the proximity to L200N, this line has not been included in this study. In regard to L700N, of the 14 stations indicated as having been collected by the survey crew only the 50m separation had 8 stations. Separations 2,3 and 4 had only 4 stations, separation 5 only 1 station and separation 6 had 3 stations. Of the data that was available, a significant portion were without reliable repeat measurements. Thus, this line has also not been considered in this study

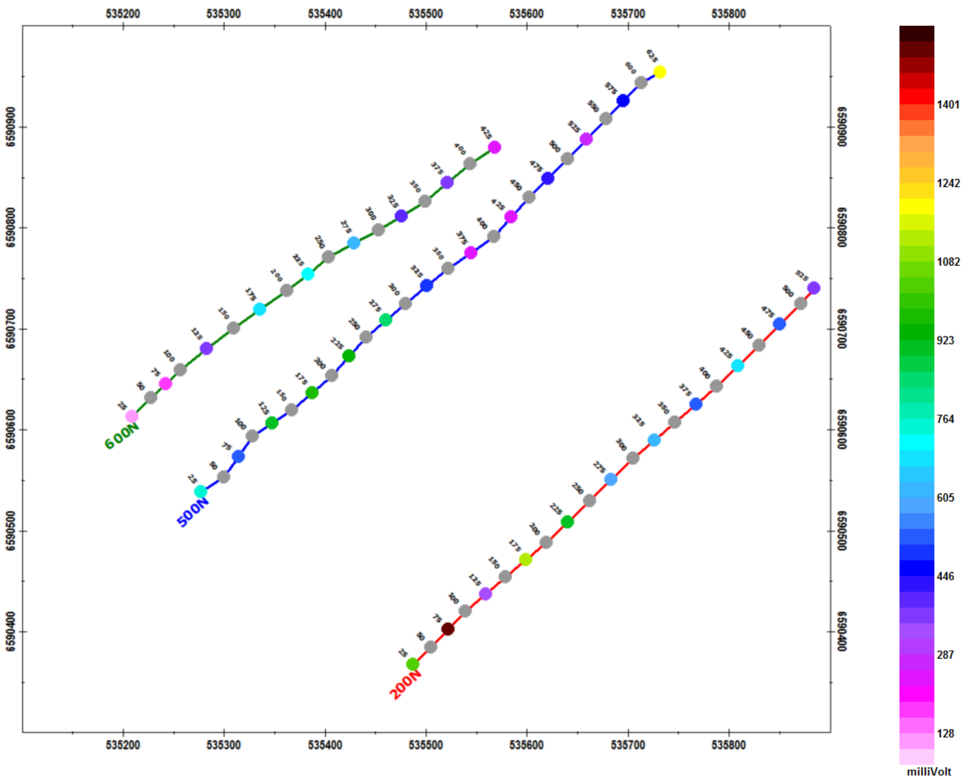
The survey crew did not perform a pole-dipole survey as was set out in the survey parameters. Rather the remote pole was set close to the beginning of each survey line. For lines 300N, 500N, 600N and 700N, the location of this "remote" electrode was provided. These positions are included on the map to the west and labeled with negative station labels indicating their distance from Station 0E on each line. The location of the remote electrode was not provided for L200N. For this interpretation, it has been placed at 50m to the west of Station 0E of L200N. 50m being the approximate average distance used on the other 4 lines.

For those not familiar with the detail of the physics involved in such a survey, the location of the remote pole is critical. With a remote pole but close to the beginning of the survey, the injection currents geometry various dramatically when measuring voltage near the remote pole as opposed to stations further removed.

Curvature in the Survey Lines: The fact that the lines are not straight is also a concern. When an array is set out, the 7 electrodes for the six receivers and the current injection electrode should be in a very straight line. Otherwise, the measurements will be biased by the curvature. To obtain this straightness in the survey lines, normally pickets are laid out using some type of compass and a measuring chain. If the lines are not parallel, this is less of a concern. In this case, it is unlikely that the stations are actually where the survey crew described but rather the lines would have to have been much straighter. Later, we will process the station coordinates in order to provide a more reasonable interpretation.

TITAN ELREC RESISTIVITY DATA

Data centre point locations utilized



Voltages (mV) 50m separation

normalized to constant current (78 mAmps)

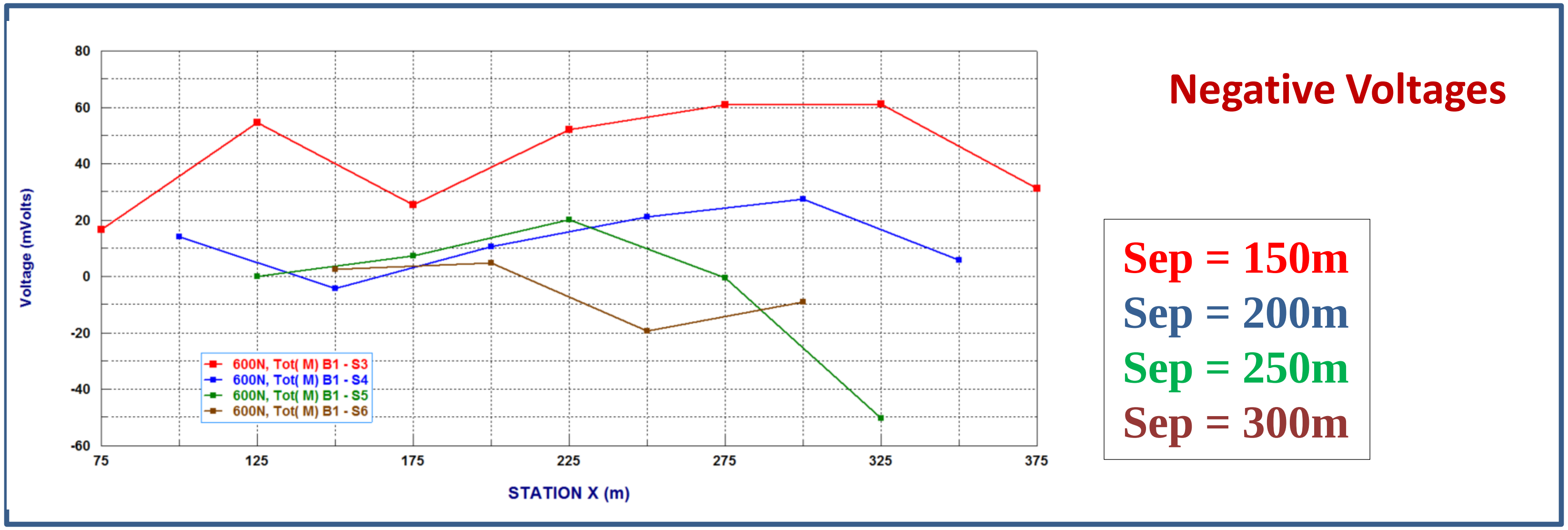
In all, 33 stations of resistivity data could be recovered and utilized. The positions of the stations have been compiled from the various files provided. The locations of the stations as provided agree with the map that was provided except in one case. Station 375E on L600N is 20m in distance from the survey crew's mapped station. The source of the difference was not found. However, the position of the station as we have utilized seems more likely than that on the map and also the difference in positioning will not affect the interpretation significantly except that the line is straighter in this portion of the line.

The map to the left shows the location of the center of each measurement array. Normally, the data reference point is the centre point of the measurement array which is half way between the closest Tx electrode and Rx electrode. We will not always use this reference location as referencing the data to the injection electrode can sometimes be more useful and easier to understand the data.

The voltage data has been normalized to a common current which is the average over the entire set of data points utilized. In this case, the current average is 78 mAmps. As noted in the processing report, this is an extremely low current and this has probably led to the difficulties with the data.

The French ELREC resistivity/IP system was utilized for the survey. This is typically is a very reliable instrument in the right hands.

TITAN ELREC RESISTIVITY DATA



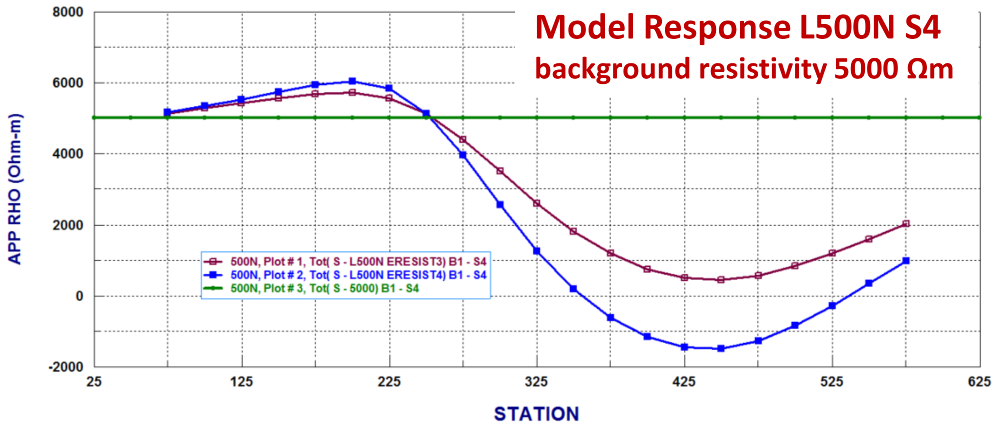
For the next few pages, it will be convenient to keep the survey in the local coordinates of station and line.

The first significant issue which arose upon attempting to interpret the data, was the presence of negative voltages in the resistivity data as shown in the figure above. This would be seen as negative apparent resistivities if the data were displayed in this common format. For this style of survey with the receivers preceding the transmitters along the survey line, positive voltages would be expected for all the Tx-Rx separations. It is not uncommon for negative voltages to appear in resistivity surveys in some geological situations but they are often ignored and simply converted to positive for interpretation. Certain types resistivity distributions can cause the currents in the ground to alter directions and thus produce negative voltages.

While there were numerous small scale anomalies in the resistivity data, the overall or long wavelength response implied some strong resistivity contrast on the east side of the survey. This survey has another significant drawback in that the survey was not carried out as is standard with two reverse profiles. Standard resistivity/IP surveys are carried out with the array moving in one direction (e.g. West to East) and then reverse (e.g. East to West). These procedures are performed for several reasons. One being the lack of fine discrimination if performed only in one direction, the second to allow determination of bad data for example by bad electrodes contacts and the third to determine if structure at the ends of the survey play an important role in the responses. In this survey, all three reasons are significant.

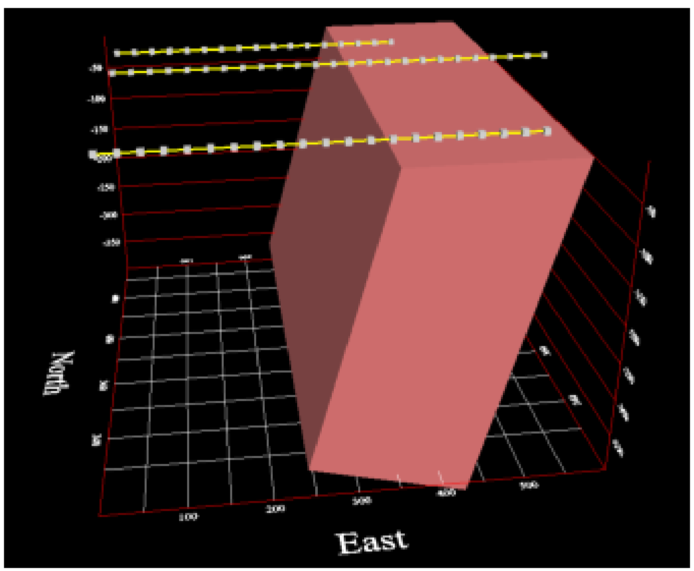
Because of the failure to carry out the reverse profile survey, the determination of the cause of the negative voltages could only be resolved by forward model simulation.

TITAN ELREC RESISTIVITY DATA



Negative Voltages

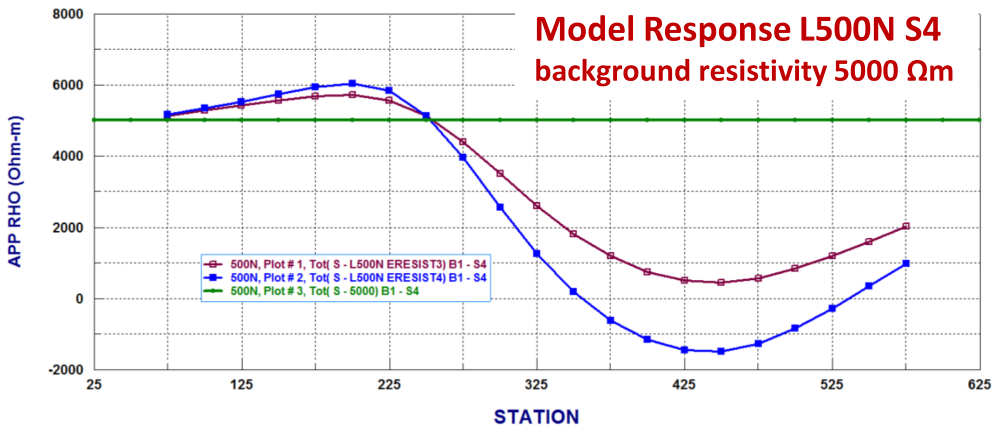
Model 1 – 100 Ωm
Model 2 – 100Ωm
Background – 5000Ωm



From an examination of the terrain, we might expect a contact response near the east end of the survey. Therefore, we simulated a variety of contact models to determine if such a response as discussed on the previous page could be produced. The figure above shows the response to two models along L500N. The background rocks are 5,000Ωm which represents quite well the overall data. The contact structures are both 100Ωm but have slightly different geometric characteristics. Model 2 is shown to the left again in local coordinates. Elevation variations will have little effect on the response of such a model.

While, the model represents well the overall long wavelength responses of the data on the three survey lines, there still is the question of the short wavelength responses or the fine detail in the data. As discussed below, the difference between the responses of fine structure and noise cannot be distinguished in this data.

TITAN ELREC RESISTIVITY DATA



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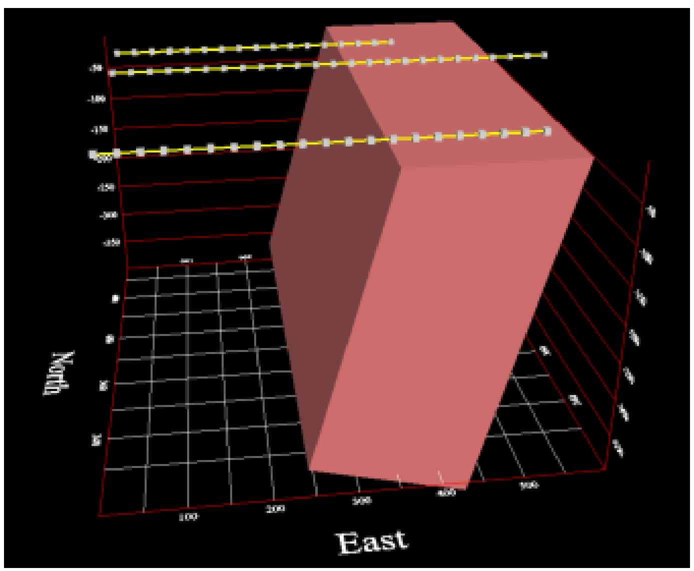

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While, the model represents well the overall long wavelength responses of the data on the three survey lines, there still is the question of the short wavelength responses or the fine detail in the data. As discussed below, the difference between the responses of fine structure and noise cannot always be distinguished in this data.

TITAN ELREC RESISTIVITY DATA :   NOISE ISSUES and PROCEDURES

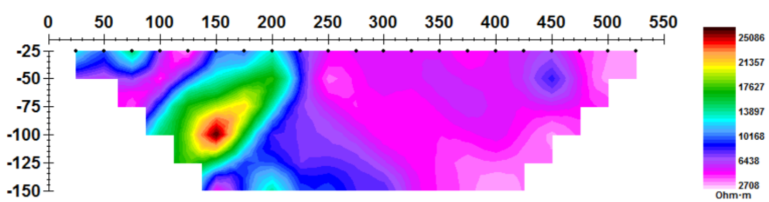
The survey is performed with an array of electrodes. Two electrodes for the injection of currents and a series of electrodes to measure voltages (receivers) at six offset distances from the injection electrodes. After a series of repeat measurements, the entire array is moved along the line and the measurement process repeated. With every array setup a certain number of repeat measurements are made (stacks) and the average automatically stored as the data. Then the operator will repeat these stacks several more times (*i.e. repeats*). Each repeat of the stacks is stored for analyzes and processing. In this case, the normal number of stacks was 15 and there were typically 3 repeats of these 15 stacks. For each stack an error estimate is stored. The data was analyzed for each reading, examining the repeat values and the error estimates. Normally, the value of each stack in the series of repeats bunch together in value with an occasional outlier which is removed. In this survey, a great deal of latitude was given before removal of data. Otherwise, very little data would remain.

As this is a measurement of electrical fields, two normal deviations (noise) are found in measurements which must be considered. The first is poor electrical contact of either the injection or the receiver electrodes. This effect can normally be discovered by the lack of repeatability of a measurement. This inability to repeat is observed either in the size of the voltage error estimate compared to the voltage measurement of each stack or in the degree of variation in the repeat measurements or both. This particular source of noise, we believe we have removed to an acceptable level. The second source of “noise” are an effect which is commonly referred to as *statics*. These are caused by small regions of anomalous resistivity surrounding an electrode or a pair of electrodes. How these noise effects are handling in the interpretation depends upon the aim of the interpretation.

In this case, the data does not allow a detailed or fine interpretation and thus we aimed for an overall broad scale interpretation. In this case, one normally filters the data to deal with statics. The first example, occurs on L200N. At first glance as observed in the standard pseudo section display at the bottom on the left, there appears to be a strong resistor. However, the cause of this anomaly in the contoured response is due to 5 data points along a diagonal when the data is plotted relative to its centre point (halfway between close Current and Receiver electrodes). These 5 datapoints all have the same receiver electrodes (top figure right). This is more easily seen when the data is referenced to the receiver electrode closest to the current electrode (bottom figure right). In this case, the response indicated in the contoured pseudo section is a static effect and thus filtering is applied.

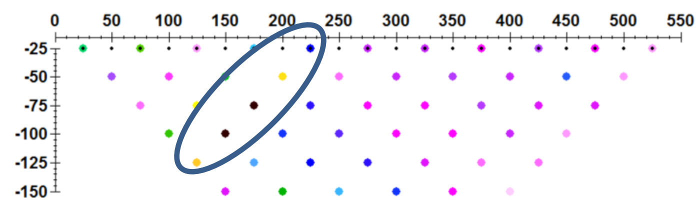
STATICS

Contoured Apparent Resistivity Section L200N

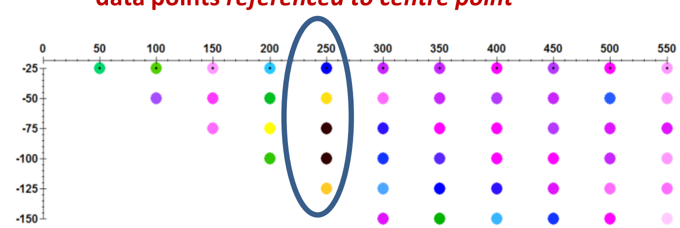


Statics Example 1

referenced to centre point



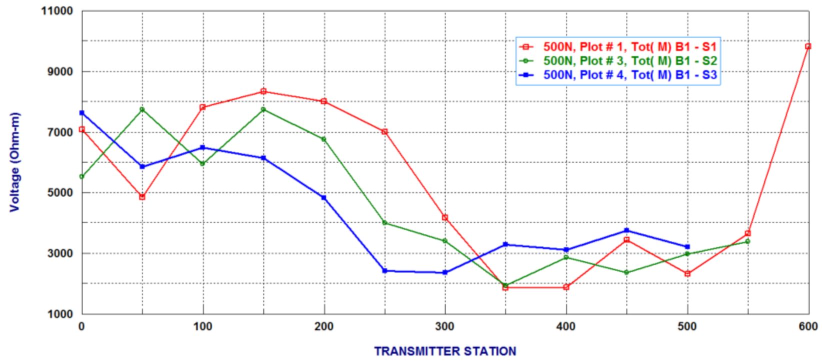
data points *referenced to centre point*



data points *referenced to receiver*

TITAN ELREC RESISTIVITY DATA : NOISE ISSUES and PROCEDURES

Another issue is the consistency of injected currents. The operator sets the current for each array and this is stored and the data normalized to a common current for interpretation. However, the transmitter cannot always accurately inject the current as specified by the operator. Slight differences in current result in an error in the voltage measurement which is not contained in any of the data error estimates. There are also temporal effects at the receiver electrodes which cause an error in the measurements. These are unlike the errors mentioned in the previous page. These temporal effects include polarization effects as well as an altering contact resistance. In the figure below, the voltage as apparent resistivity is plotted for two offsets (50 and 100m) but now referenced to the transmitter. Thus, each plot represents the current electrode progressing along the profile with a fixed distance to the receiver electrodes for each plot. Different types of "noise" are easily identified.

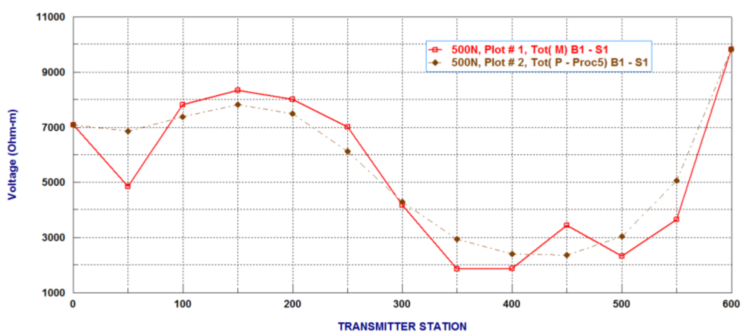


Voltage vs.. Current Injection electrode position

Current and Resistance Issues

RX offset 50m
RX offset 100m
RX offset 150m

Filtered Data

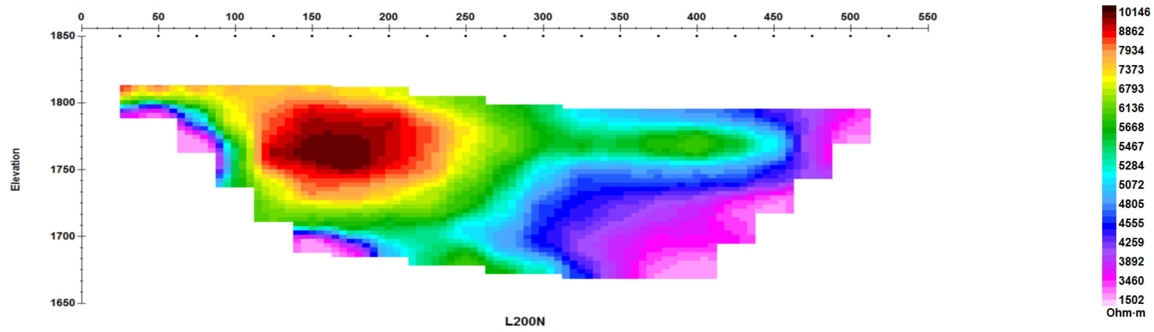


data points *referenced to transmitter*

The data is filtered using a spatial Gaussian filter in current electrode (TX) reference mode. The filtered data may then be converted back to the center reference mode for interpretation or display. Note the filtered response in the figure to the left as compared to the our model responses shown on page 5.

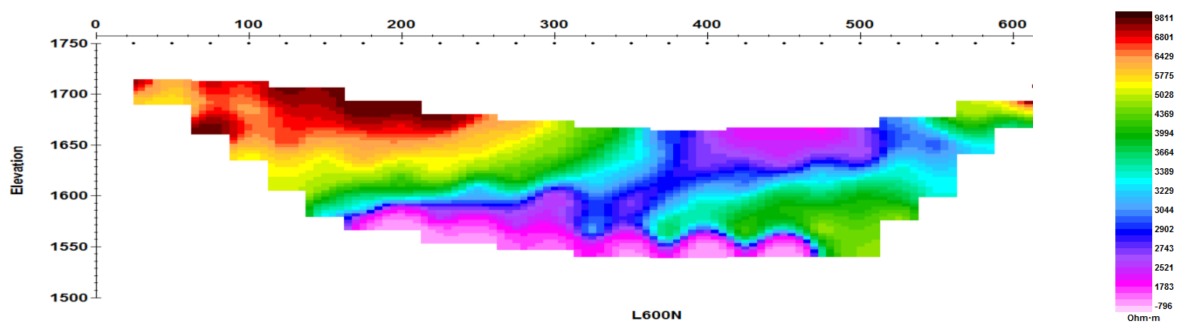
TITAN ELREC RESISTIVITY DATA : Apparent Resistivity Sections - Local Coordinates

Due to the uncertainty regarding the lay out of the arrays as discussed on page 2, we start the inversion results using the local coordinates.



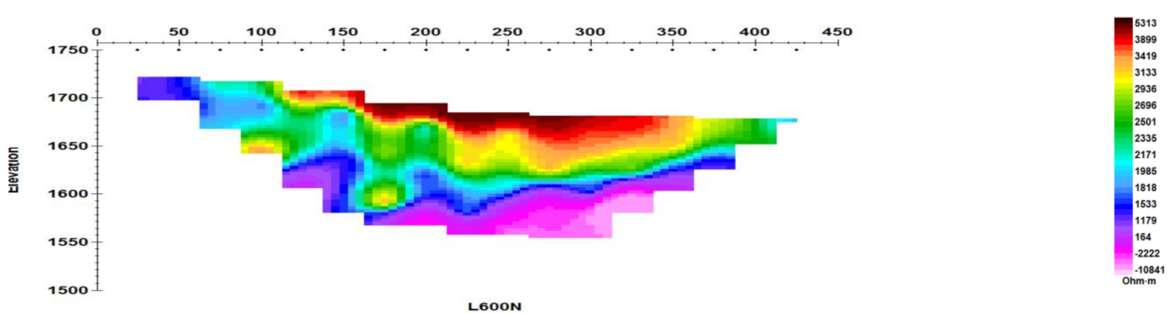
L200N Apparent Resistivity
Processed Centre Point Mode

This data is presented in centre point mode. As the survey was only carried out west to east, this method of displaying the locations of the data has a tendency to bias the data towards the west.



L500N Apparent Resistivity
Processed Centre Point Mode

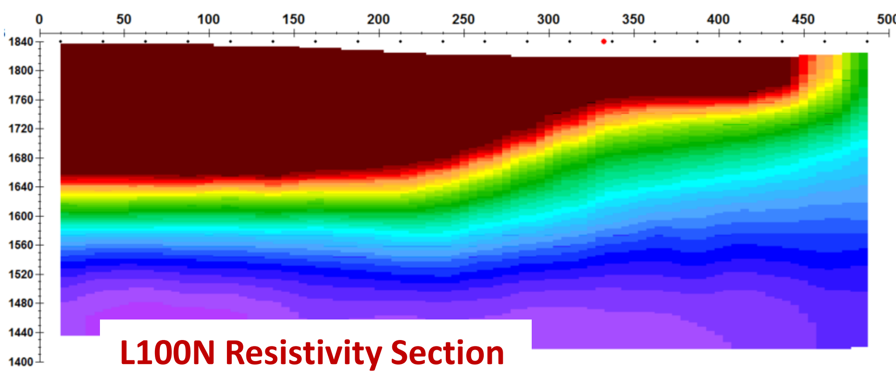
Note in L200N, we see an apparent resistivity on the east much lower than the resistivity of the rocks on the west. In L500N, we first see the occurrence of negative resistivities in in the larger separation data. In L600N, this becomes very pronounced.

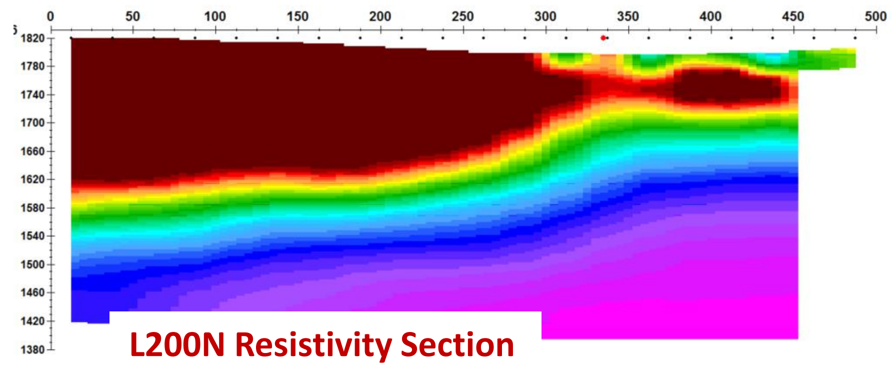


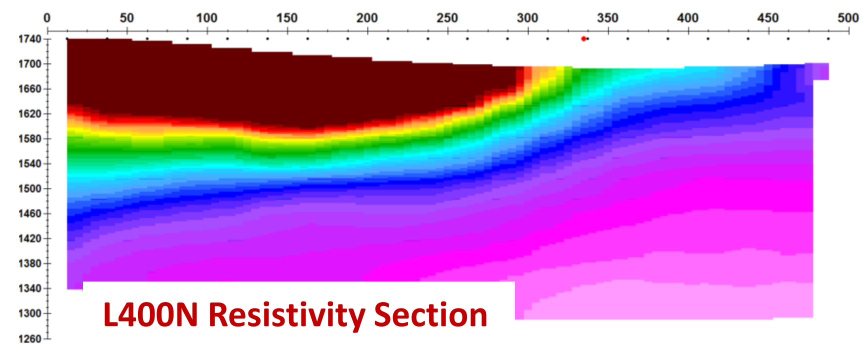
L600N Apparent Resistivity
Processed Centre Point Mode

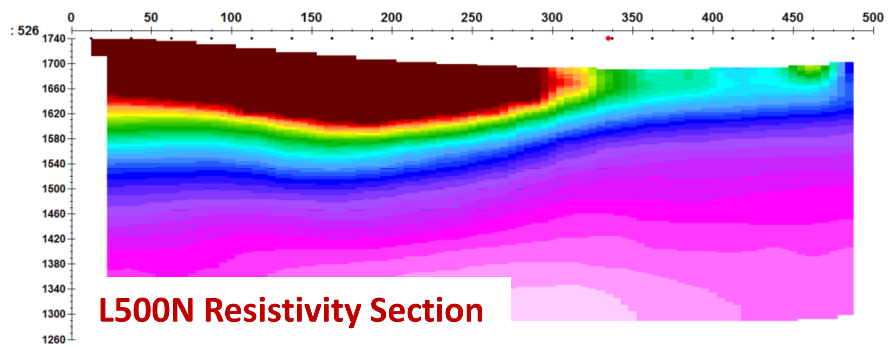
Preliminary forward modeling indicates as shown earlier than the low and apparent resistivities could be due to a dipping conducting feature on the east.

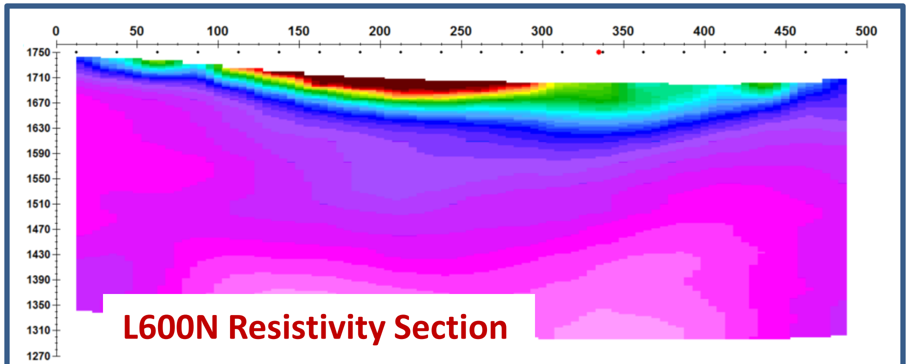
TITAN ELREC RESISTIVITY DATA : INVERSION RESULTS Local Coordinates

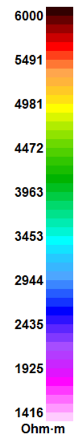






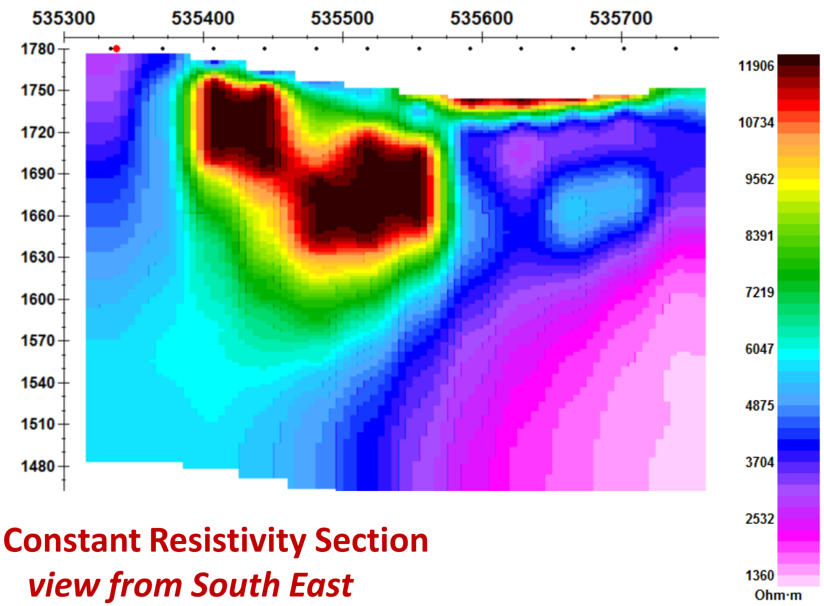






Note that as the largest TX-RX separation is 300m, material to the north and south of each line affects the response at least to a distance of 150m. We have therefore included sections slightly outside the survey area.

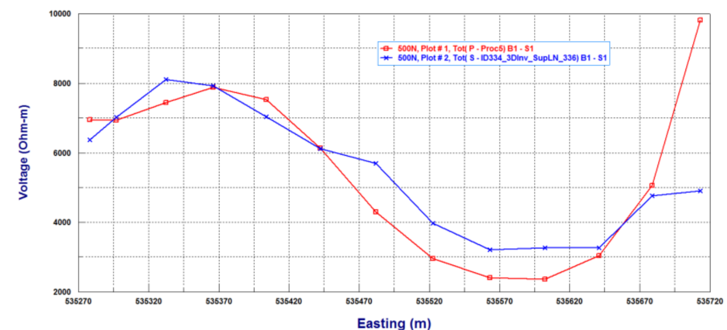
TITAN ELREC RESISTIVITY DATA :   "2D" INVERSION RESULTS



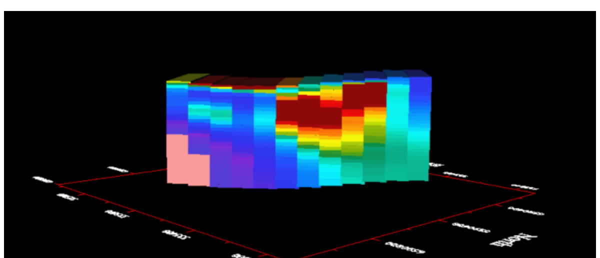
Constant Resistivity Section
view from South East
the section runs between L200N and L500N

Examination of the data, appeared to show a major large scale feature (long wavelength) roughly constant along a strike perpendicular to the survey lines. This is particularly for L500N and L200N while L600N is more questionable. We therefore inverted for a model with constant resistivity having a strike length of 500m striking perpendicular to these two lines.

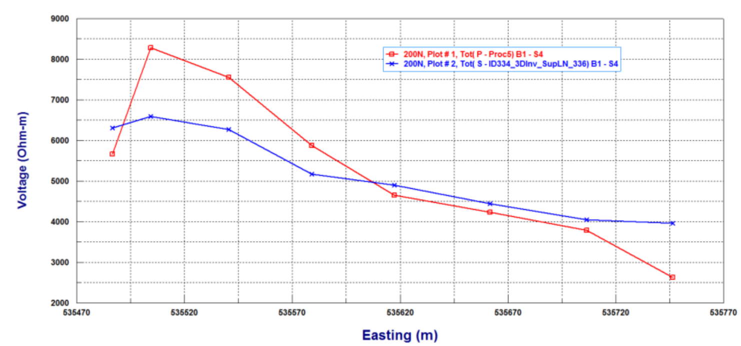
A resistivity section is shown to the left top and a 3D image at bottom left. Comparisons between data and model are shown below for two separations on two lines. This cross sectional model does explain the major responses on these two lines which have the most reliable data.



L500N 50m separation

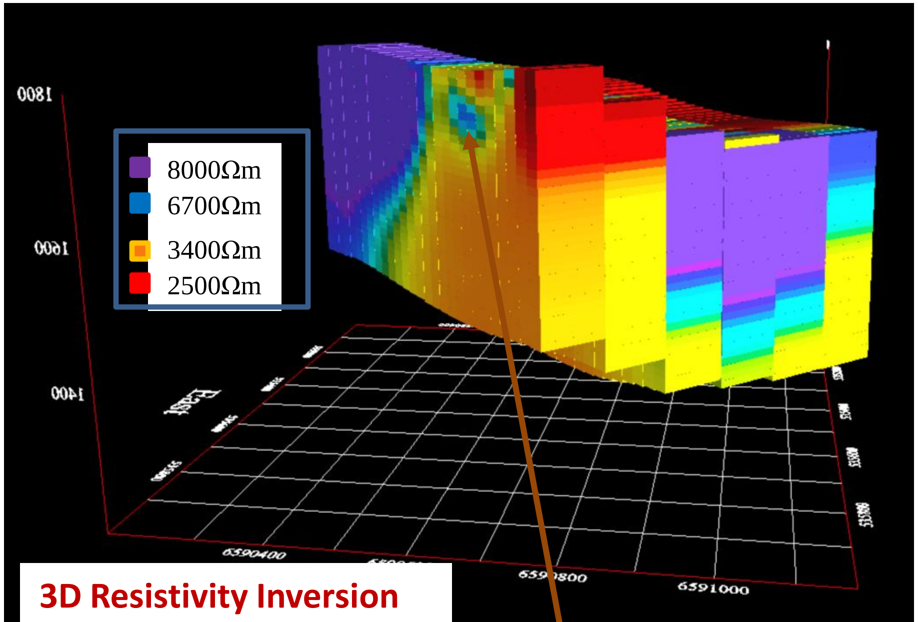


3D view from North West



L200N 200m separation

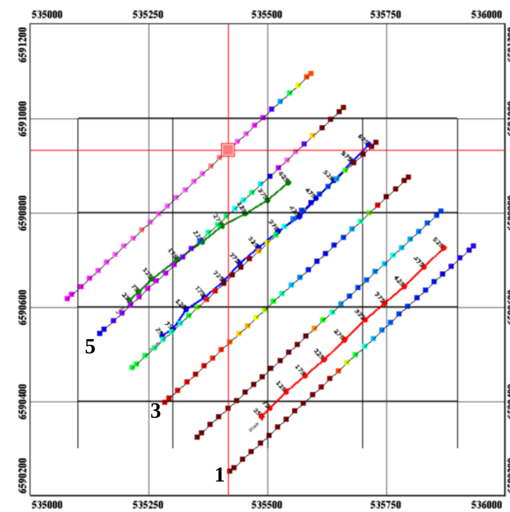
TITAN ELREC RESISTIVITY DATA : 3D Inversions

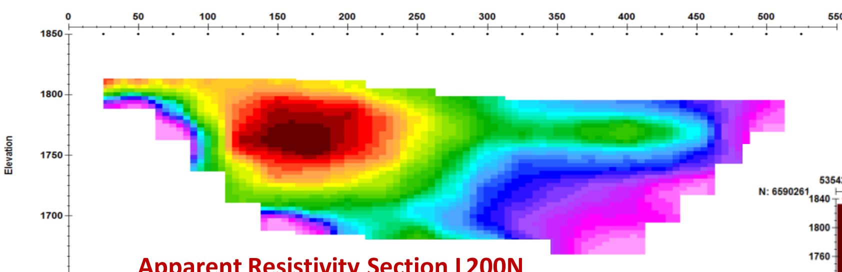


3D Resistivity Inversion
view from East

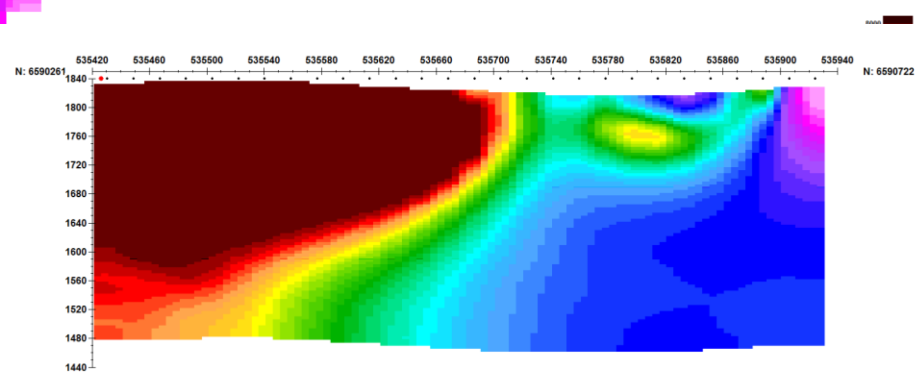
A 3D inversion is shown on the left. The resistive feature appearing on L200 as shown in the figure on the bottom left correlates with a magnetic feature as discussed on pg14.

The inversion sections are numbered 1-6 and are shown in relation to the survey lines (below).



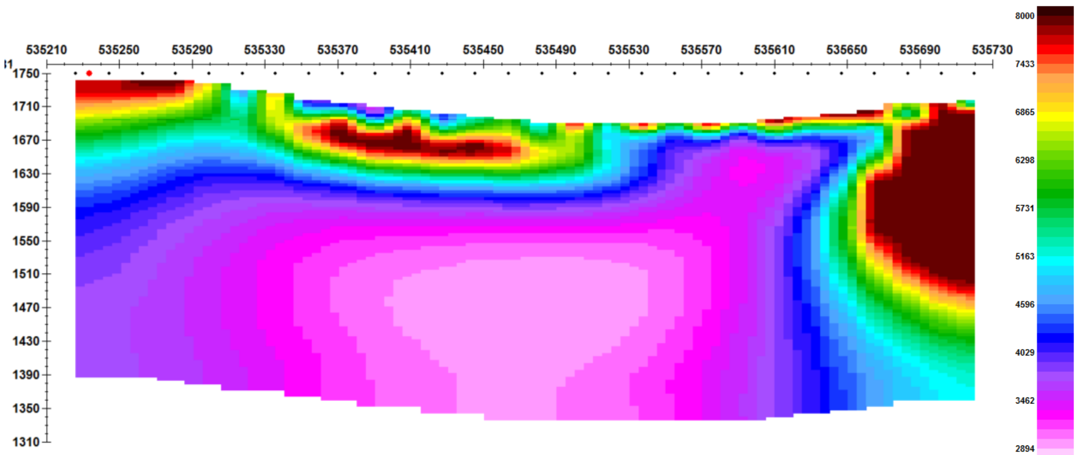


Apparent Resistivity Section L200N
as shown on pg9

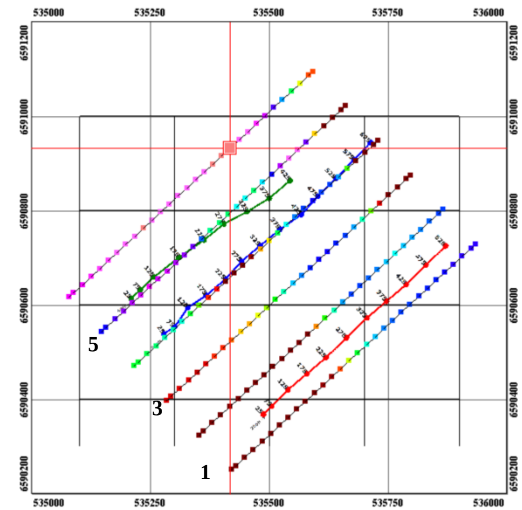


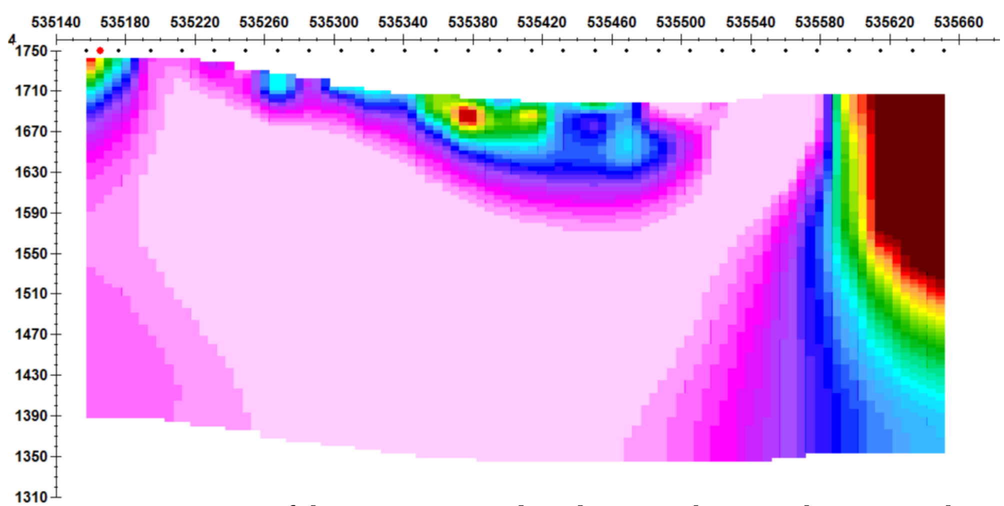
Cross section of the 3D inversion along line 1 as shown in the upper right.

TITAN ELREC RESISTIVITY DATA :   3D Inversions



Cross section of the 3D inversion along line 4 as shown in the upper right.





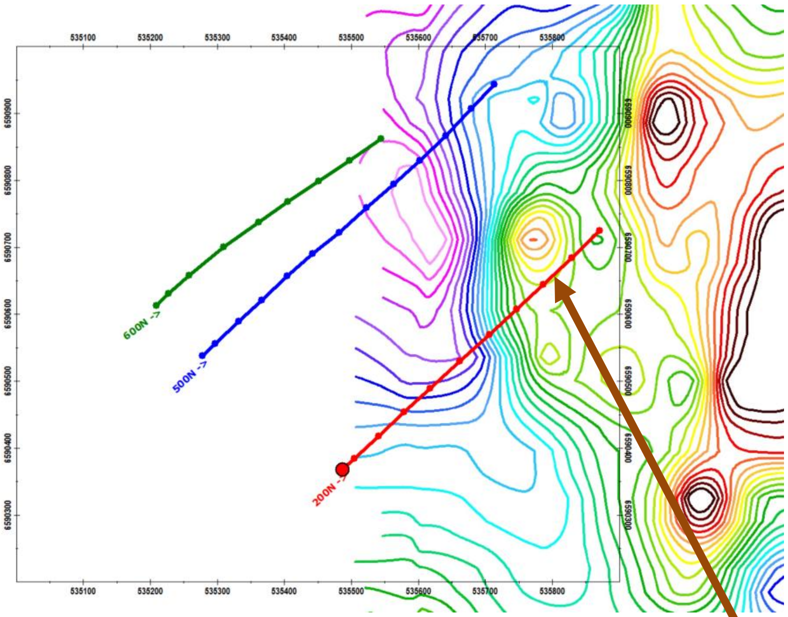
Cross section of the 3D inversion along line 5 as shown in the upper right.

The inversion sections that are provided here are such that they are close to the survey lines. Section5 being close to L600n, section4 close to L500N and section1 close to L200N.

The cross section 5 on the bottom left shows the resistivity at lower elevations to be considerably less than for L500N or L600N. The deeper resistivity at the centre is given as 2550Ωm by the inversion while for section 4, the deeper central resistivity is closer to 2950Ωm.

This seems large considering the lines are roughly 100m apart and the separations reach up to 300m. However, this could imply a sharp drop in resistivity to the north as the ground enters the drainage trough.

TITAN ELREC RESISTIVITY DATA : Relation to Aeromagnetic Data

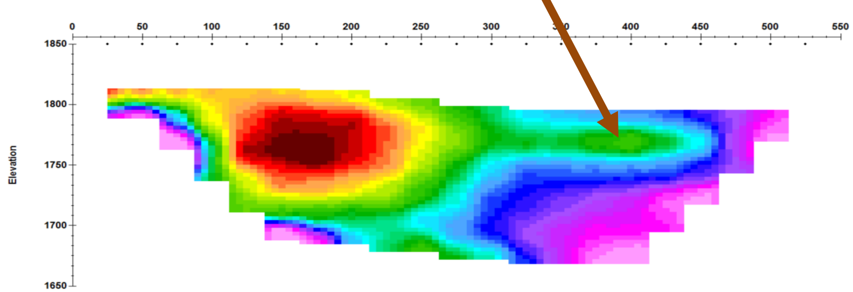


Resistivity/IP survey lines
aeromagnetic contours underlay

The east side of the IP/Resistivity survey does indeed come up to an anomalous feature as it runs over the west side of one of the strongest magnetic features observed in the aeromagnetic data.

The figure to the left shows the IP survey lines with contours of the total field aeromagnetic data underlain. The larger magnetic anomaly on the right is part of the NW-SE magnetic feature which has been interpreted.

The figure below is the apparent resistivity section for L200N (pg9). The reader will observed a resistivity anomaly occurring between stations 350E to 450E. This resistive feature corresponds with a magnetic anomaly which crosses L200N. Unfortunately, the IP data over this portion of L200N is particularly poor and is discussed in further pages.



Apparent Resistivity Section L200N
as shown on pg9

TITAN ELREC Induced Polarization data :

The IP data is very difficult. Details are included in the IP/Resistivity QC/QC report, *2003_2004_Titan_IP_QC_reprocessing.pdf*. Only a few interpretation issues could be confirmed:

1. **Strata**: As far as could be determined, the IP/Resistivity data is sensitive to three larger structures which can be classified as strata. From the limited reliable data, these strata are interpreted as roughly parallel to ground level.

Cover: Moderately conductive (300Ωm), thin and weakly polarizable (C=0.5, m=0.15, τ=0.3). The resistivity and thickness is difficult to resolve but it must be thin but also it must be present in order to explain the overall 50m separation IP data. The data cannot determine its resistivity and thickness accurately but it must be polarizable. The fact that the polarization characteristics can be determined implies that it must be modestly conductive in order to carry current and thus show an IP response.

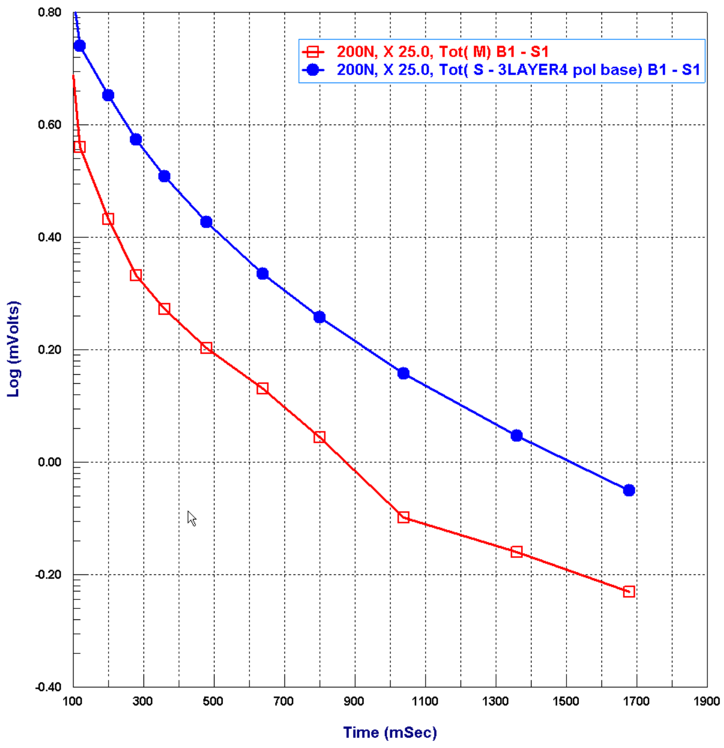
Resistor: This feature is resistive in the order of 5,000 Ωm and non-polarizable. We estimate the thickness to be in the order of 100m. Being resistive, this rock cannot hold significant current and thus cannot have a significant IP response. The larger offset data has an increased IP response when compared to the 50m data which implies there must be a polarizable strata below this resistor.

Basement: The resistivity is estimated at 1000Ωm which is less resistive than the main strata This is only the basement in regard to this data which has a maximum separation of 300m although much of the data for 250m and 300m separations is very questionable or only approximately uninterpretable given the limited resolution of the data. We estimate that this strata is polarizable (C=0.5, m=0.2, τ=3). These characteristics are relatively definite from the data as there is material below the major resistive strata which is less resistive and more polarizable than the cover. The resistivity is difficult to determine accurately but it is significantly less than the 5,000 Ωm of the strata above and it is more polarizable than the cover principally in terms of its decay rate. Again, the decay rate is not possible to resolve accurately but the decay rate is relatively slow as compared to the fast decay rate of the cover.

2. **Polarizable target**: Determining these polarization characteristics of an overriding strata model allows for the determination of a stronger polarizing structure. This structure is at the east end of the IP survey and appears on all three survey lines examined: L200N, L500N and L600N. The IP response is coincident with the interpreted magnetic structure. However, given the geometry of the survey it is not possible to determine if this structure is under the IP survey lines or immediately to the east of the survey lines.

TITAN ELREC Induced Polarization data :

<u>Background or Strata Modeling Results</u>: Note: We utilize the Cole-Cole parameters to characterize polarization. In this data, the two main parameters are "m" or chargeability and τ, the decay constant. It is important to note that the normal use of chargeability in geophysics is an incorrect use of the physical property "chargeability" which refers to the amount of charge left after the current is turned off. Most are familiar with this standard terminology from engineering when referring to car batteries.



Off time Decay Curves, Data vs. Model
50m sep, L200N, STAT 25E

Time domain IP data consists of measuring voltages due to an injected time varying current. There is a regular periodicity to this time variation which in this case is 8000msec. The current in ON for 4000msec and OFF for 4000msec in each cycle. However, each cycle consists of two polarizations, one negative and one positive.

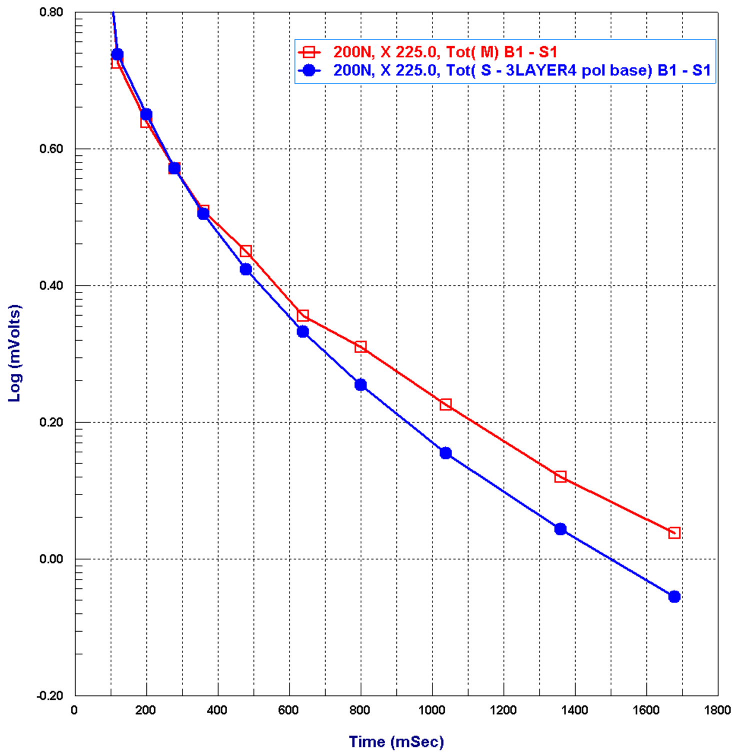
The resistivity data is collected during the time when the current is ON and the IP data when the current is OFF. In this survey, after reprocessing, there are 10 measurements or windows in the OFF-TIME varying from 80msec to 1680msec. Typically, 80msec would be considered too early due to the possible presence of EM (induction) effects in the data. But, in this case, this is not an issue.

In the figure to the left, the red curve is the data and the blue curve our modeled response at the given station. In this case, the station is STAT 25 on L200N and this is for the 50m separation being the shortest offset. Data units are mVolts. Comparison of data to model is best observed in logarithm of data vs. time in msec.

Two important issues should be noted. First, the data is a reasonable decay curve for IP data. It is a bit noisy in late time but better than many IP surveys. The shape of the curves are comparable indicating that the parameter, τ, is reasonable represented. This is the response of the cover as this the 50m separation data. The chargeability, m, is a little high for this data point but sufficiently representative of the data given the quality and limited resolution.

TITAN ELREC Induced Polarization data :

Background or Strata Modeling Results: There is a tendency to examine IP data which has been normalized to the ON time voltage and often expressed as mV/V which means that the OFF time voltage in each time channel has been divided by the ON time voltage or primary voltage (Vp) and then multiplied by 1000. However, the data is actually measured in mVolts and thus the representation as a normalized voltage (often referred to as M) is dependent upon a correct measurement of the primary voltage.



Off time Decay Curves, Data vs. Model
50m sep, L200N, STAT 225E

For these reasons, we sometimes choose to show the IP or OFF time data as actually stored in the instrument. We have, however, studied the data in both modes; voltage and normalized voltage.

In the figure to the left, we show the IP data as stored and then averaged in mV compared to our calibration model as described on pg 15 again for the first or 50m offset. Again, the decay curve is not too bad although the late time is uncertain.

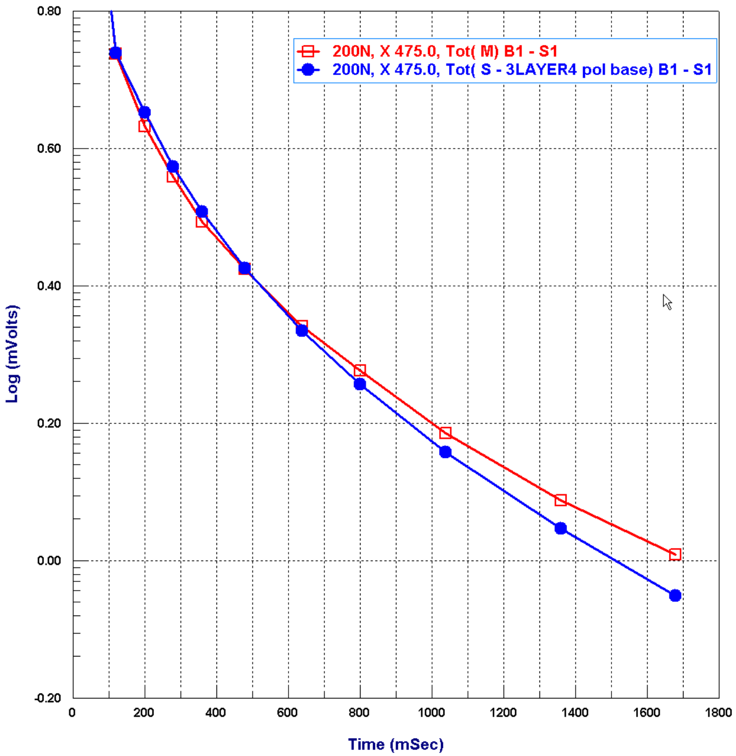
The representation by the model is good in early time. In late time, after a couple of “noisy” channels the measured data has a slightly slower decay and a apparent shift in amplitude.

This variation in late time could be either bad data or the late time data encountering material which is more polarized than the cover in our model. Note that the station is about half way from the start of the line to where in the east it coincides with a magnetic response. As we move to the east, at larger offsets, stronger polarization (IP) responses are observed.

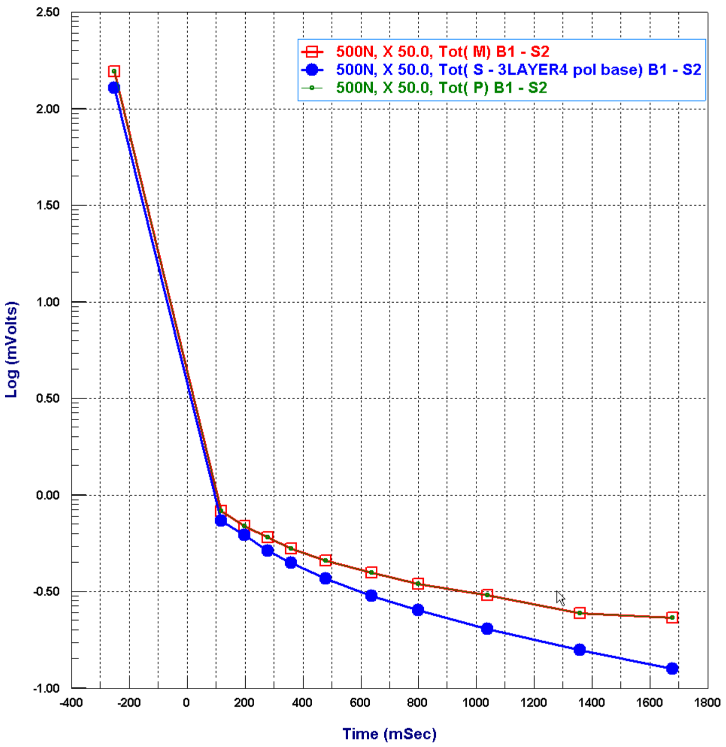
TITAN ELREC Induced Polarization data :

Background or Strata Modeling Results: As time progresses in the OFF time, the currents move out as well as downwards. In the figure at the bottom to the left, the decay of the data is extremely good. While at early time our representative model fits well, the decay rate of the model is too fast compared to the data at later times.

The figure on the bottom right is for STAT 50 on L500N and now for the 100m separation. The slower decay, we believe is representative of the stronger polarization characteristics of the lower strata.



Off time Decay Curves, Data vs. Model
50m sep, L200N, STAT 475E

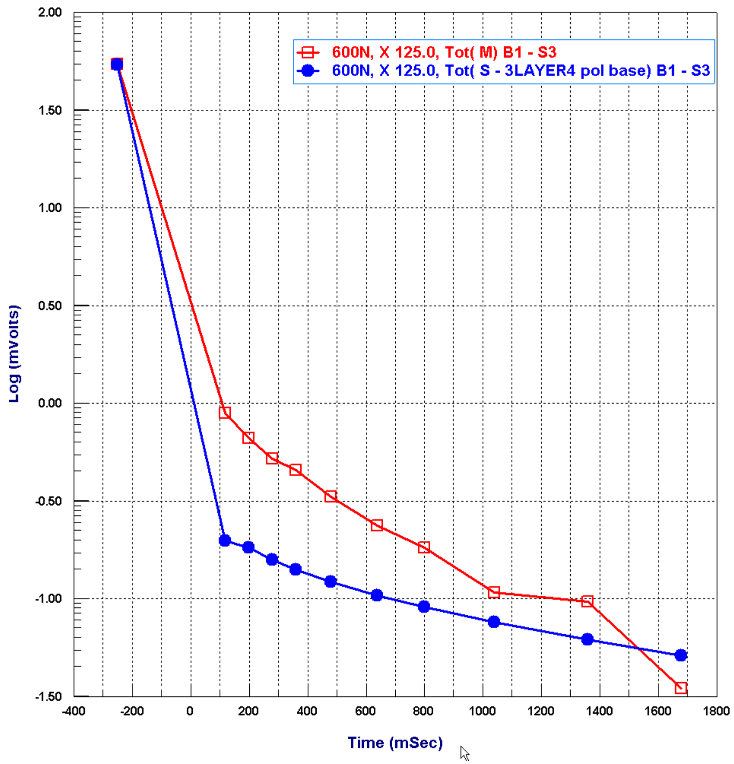


Off time Decay Curves, Data vs. Model
100m sep, L500N, STAT 50E

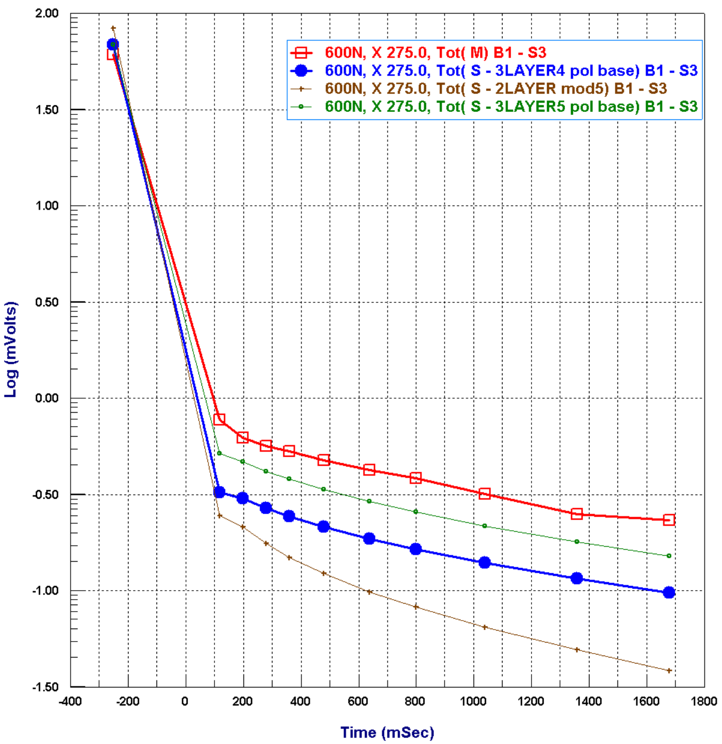
TITAN ELREC Induced Polarization data :

<u>Background or Strata Modeling Results</u>: The figures below are for two stations on L600N (125E and 275E) and at the third offset of 150m. In this case, we have shown all of the data for the station both ON (Vp) and OFF (IP). For both stations, the drop of voltage immediately after turn off (chargeability) is much less in the data than in our calibration model. The decay for the data at STAT 125E is not so good but for STAT 275E the decay is quite adequate. In the figure in the bottom right, we show the response of simply the cover over the resistor (brown) without the chargeable basement. The effect of the chargeable basement is evident in the blue curve. The green response in the bottom right figure has the basement chargeability (m) increased slightly.

There is some evidence that the thickness of the resistor becomes shallow to the north. Thus, possibly L200N is more sensitive to the basement characteristics or possibly this substrata become more polarizable to the north.



ON & OFF time Decay Curves, Data vs. Model
150m sep, L600N, STAT 125E

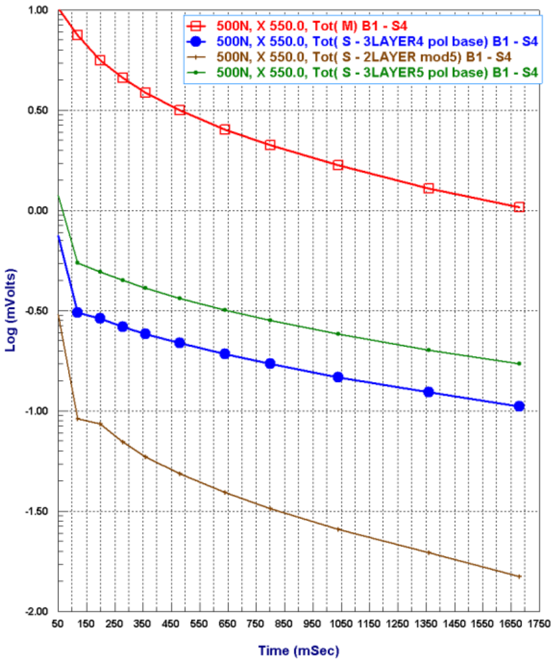


ON & OFF time Decay Curves, Data vs. Model
150m sep, L600N, STAT 275E

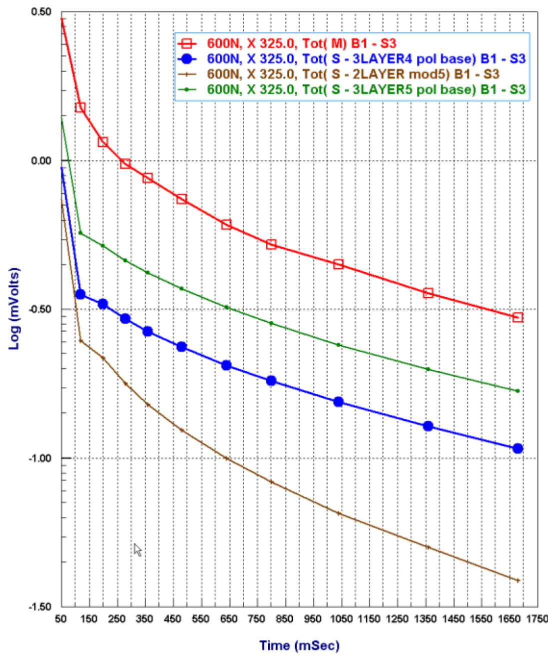
TITAN ELREC Induced Polarization data :

POSSIBLE IP TARGET:

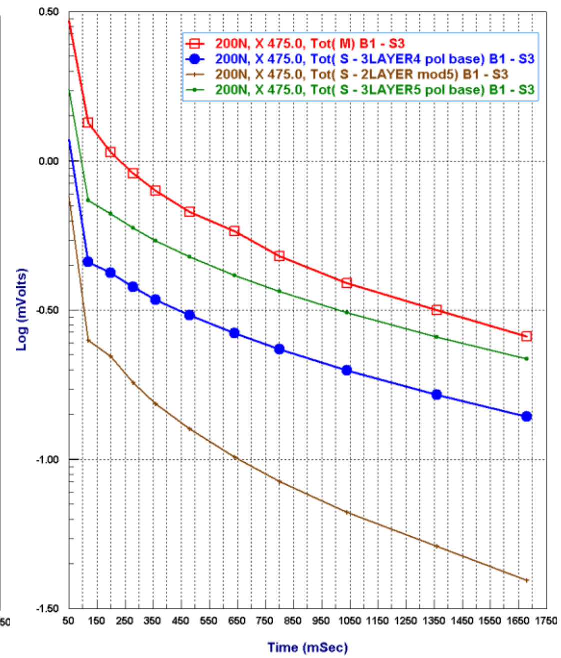
As we move along the survey to the east, it becomes evident that there is a stronger IP response on the eastern side of the survey. Although, the IP data for the larger separations are often poor, we have illustrated a few stations with a few separations below. It is quite evident that now the chargeability of the response is much higher than even the chargeability of the basement strata of our calibration model.



OFF time Decay Curves, Data vs. Model
200m sep, L500N, STAT 550E



OFF time Decay Curves, Data vs. Model
150m sep, L600N, STAT 325E

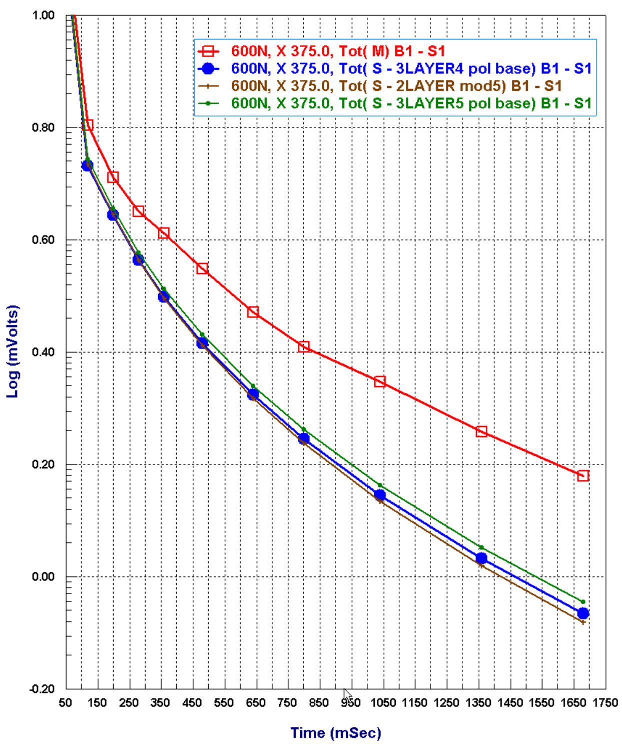


OFF time Decay Curves, Data vs. Model
150m sep, L200N, STAT 475E

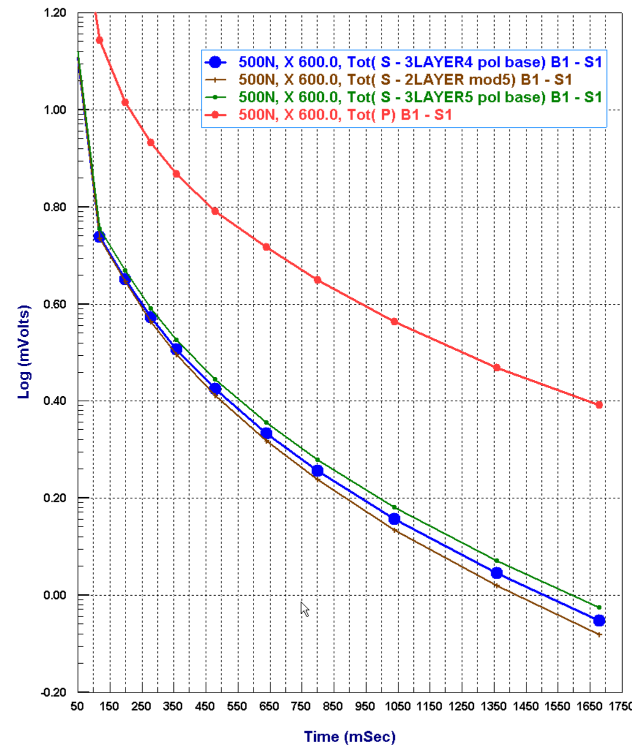
TITAN ELREC Induced Polarization data :

POSSIBLE IP TARGET:

In the curves below, the decay curves of the 50m separation data vs. the calibration models is shown for two stations towards the ends of the two northern lines. It is quite evident that the data is seeing a much more polarizable rock and at relatively shallow depths.



OFF time Decay Curves, Data vs. Model
50m sep, L600N, STAT 375E

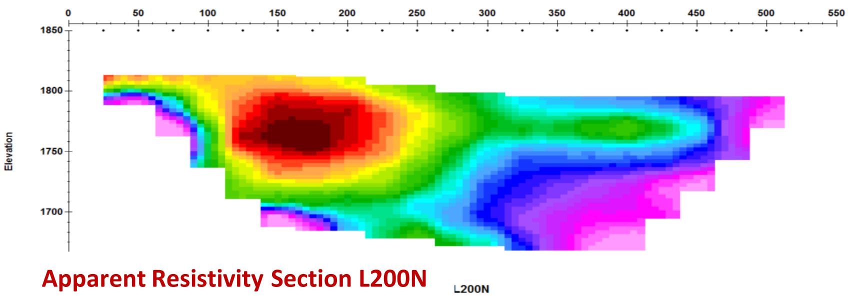


OFF time Decay Curves, Data vs. Model
50m sep, L500N, STAT 600E

TITAN ELREC Induced Polarization data :

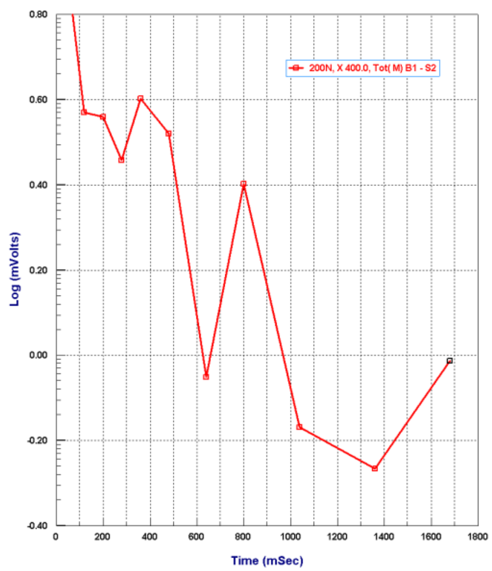
<u>Resistivity Anomaly along L200N</u>:

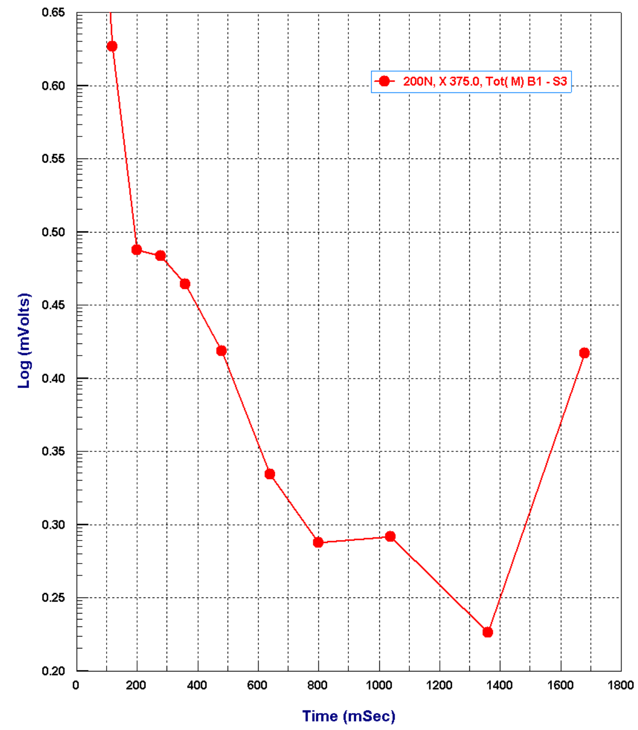
The resistivity anomaly identified on L200N and correlating with a magnetic response does not have an identifiable IP response. Unfortunately, the IP data in this vicinity is particularly bad. As an example, data for the 150m separation at STAT 375E on L200N is shown on the right below. Data for STAT 400E and 100m separation is shown on the bottom left. Further east from the resistivity anomaly, 475E for 150m separation data, there is a good IP response.



Apparent Resistivity Section L200N
as shown on pg9

OFF time Decay Curves, Data vs. Model
100m sep, L200N, STAT 400E





OFF time Decay Curves, Data vs. Model
150m sep, L200N, STAT 375E

Data Analyses and Interpretation

Summary and Recommendations:

The survey was carried out with poor procedures and design. In addition, the data quality was very poor with many obvious problems with the data. Some of these problems should have been identified by the survey crew and corrected prior to completing the survey. But, additionally, issues with the data quality were not reported by the surveying company when reports were submitted. If the time and costs allocated for the data were limited, it would have been much preferred to survey fewer lines but increase the quality and resolution of the data. Because of all the issues with survey design and data quality, it is not possible to rule out the possibility of an specific IP target over the survey.

Because of the numerous issues with the data, considerable time was taken to examine the data in detail in order to remove obvious bad data in an attempt to recover a data set which was at least reasonably reliable. From the reprocessed data, a 3D resistivity model was obtained. However, it must be understood that with the limited resolution of the data due to the large station spacing and without a reverse survey configuration, a unique model is not possible without additional information or data.

The off-time or IP data, while having numerous measurements with poor decay curves does however confirm the presence of polarizable material. The polarization of the cover material is not unexpected as weathered materials which are normally present on the top of the mountain are most often weakly polarizable. However, the likely presence of a more polarizable substrata below the resistive non-polarizable rock may indicate the presence of sulfides. However, as we are not familiar with the specific rocks and materials on the mountain, we cannot rule out polarization from rocks with clay minerals. The poor quality of the IP data for the wider separations does not allow for absolute certainty of a strongly polarizable material below the resistive rock. In addition, there are indications of more polarizable material at the very east of the survey or immediately outside the survey. The presence of an anomalous conductive and polarizable feature at the very east of the IP survey correlates with magnetic rock to the east of the survey.

I do not recommend another airborne survey but rather a modestly sized reconnaissance ground survey. The obvious survey which would be most beneficial would be a CSEM survey. However, it may be difficult to find a company to carry out such a survey in Canada. A follow up TDEM fixed loop survey would likely be the least expensive survey and provide the basic information that the airborne TDEM did not. If an IP survey is preferred, I would recommend a gradient survey carried out with a 1 to 1.5 km transmitter running approximately parallel to the IP lines but extending further east by at least 500m to cover the main aeromagnetic anomaly. Two or three survey lines parallel to the transmitter should be sufficient to at least rough out any resistivity and/or IP anomalies if present.

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