APPENDIX IV

REPORT ON INTERPRETATION OF VTEM AND AEROMAGNETIC SURVEYS

REPORT ON PROCESSING AND INTERPRETATION

OF

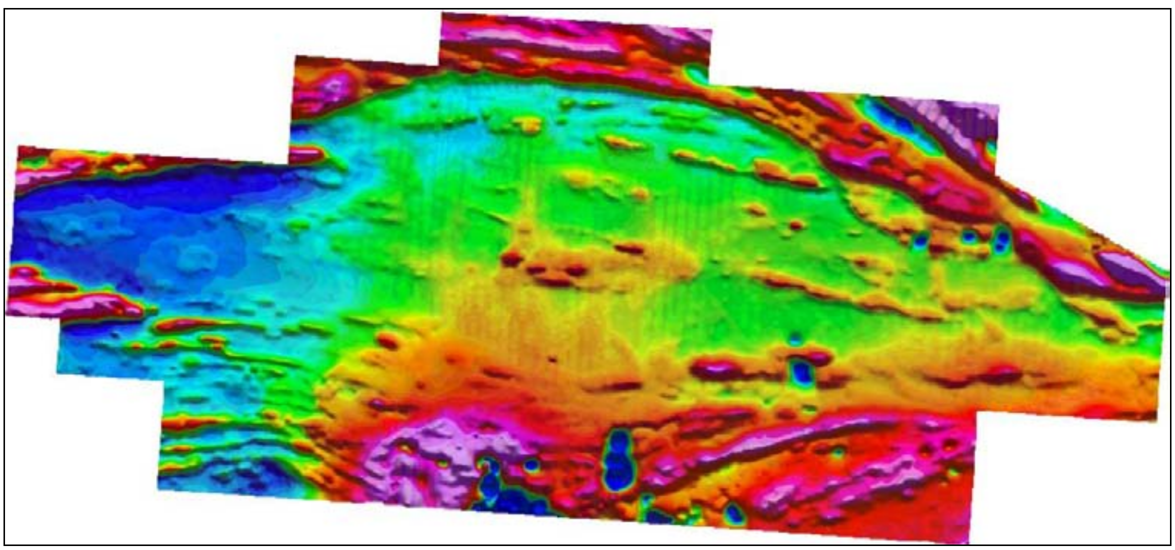
VTEM EM & MAGNETIC SURVEYS

KUTCHO PROPERTY

BRITISH COLUMBIA, CANADA

KUTCHO COPPER CORP.

JULY 2011



Condor Consulting, Inc.
Lakewood Colorado
USA

CONTENTS

1. SUMMARY

This report describes the processing and analysis of a VTEM airborne electromagnetic and magnetic survey carried out for Kutcho Copper Corp. (KCC) by Geotech Airborne Ltd. (Geotech) in April 2011 over the Kutcho Property in northern British Columbia, Canada (Figure 1). KCC is a wholly owned subsidiary of Capstone Mining Corp. (Capstone).

Kutcho is a high grade copper-zinc-gold-silver deposit in the advanced development stage. The object of the surveys was to explore for additional volcanic massive sulphide (VMS) mineralization in the area of favourable geology surrounding the deposit. Further details about Kutcho are available on the Capstone website http://capstonemining.com/s/Kutcho.asp

Condor Consulting Inc. (Condor) was commissioned to carry out comprehensive processing, analysis and interpretation of the EM and magnetic data from the VTEM survey.

This assessment has identified a large number of conductors, many of which appear to have been partially tested by previous drilling. However, some good conductors are untested, or inadequately tested and represent attractive targets for follow up and drill testing.

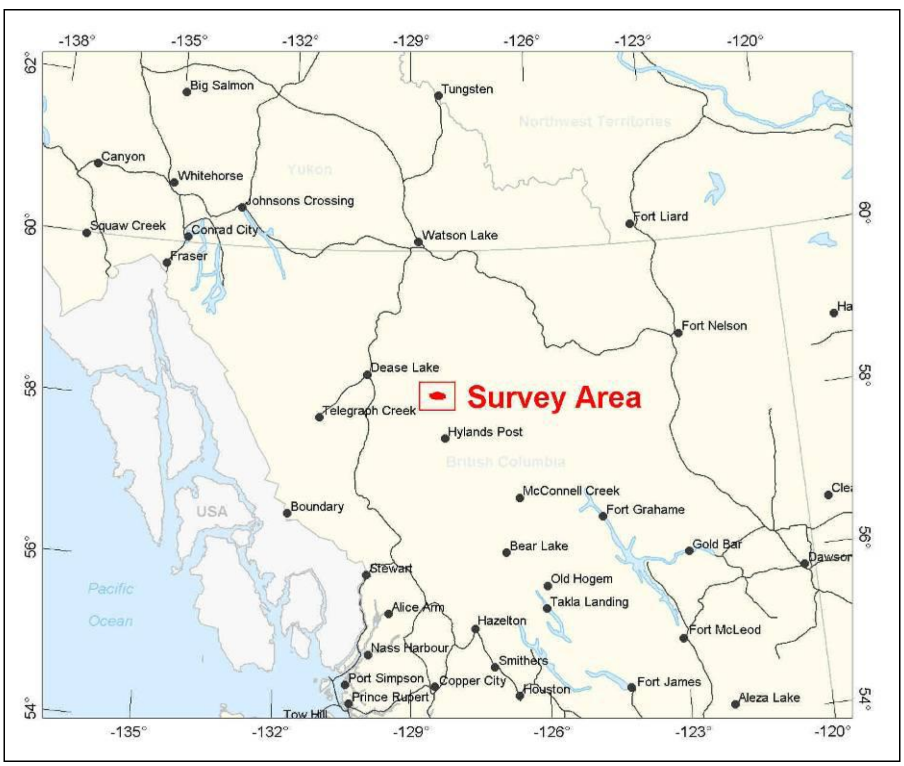


Figure 1: Location of Kutcho project area.

2. INTRODUCTION

In April 2011 Geotech carried out a VTEM airborne geophysical survey for KCC over the Kutcho property in northern British Columbia, Canada.

The flight path for the survey is shown in Figure 2, overlain on the DEM image, with lakes and streams. The claim boundaries are also shown. The Kutcho deposits are located in the north-central portion of the VTEM survey.

Basic specifications for the survey are listed below:

Line Spacing – 100 m, with 50 m infill around Kutcho deposits.
Line direction – N4^{0}E.
EM bird height – Average 54 m (low 21 m, high 279 m).
Total line km – 1 677 km.

The Geotech Logistics Report (Fiset et al, 2011) provides specific details of the VTEM instrumentation and survey specifications (included on the DVD, Appendix B).

Much of the area flown has been previously surveyed with airborne and ground geophysical methods, over the period 1973-1990. These surveys have been compiled and discussed by Irvine (2011). However, these surveys used now-outdated technology and the positioning was inaccurate. The present VTEM survey was flown to provide systematic and uniform geophysical coverage over the whole area, using state-of-the-art technology and GPS positioning so that locations are accurate to within a few meters. The accuracy is sufficient to enable drill hole design directly from the VTEM survey, without additional ground follow up.

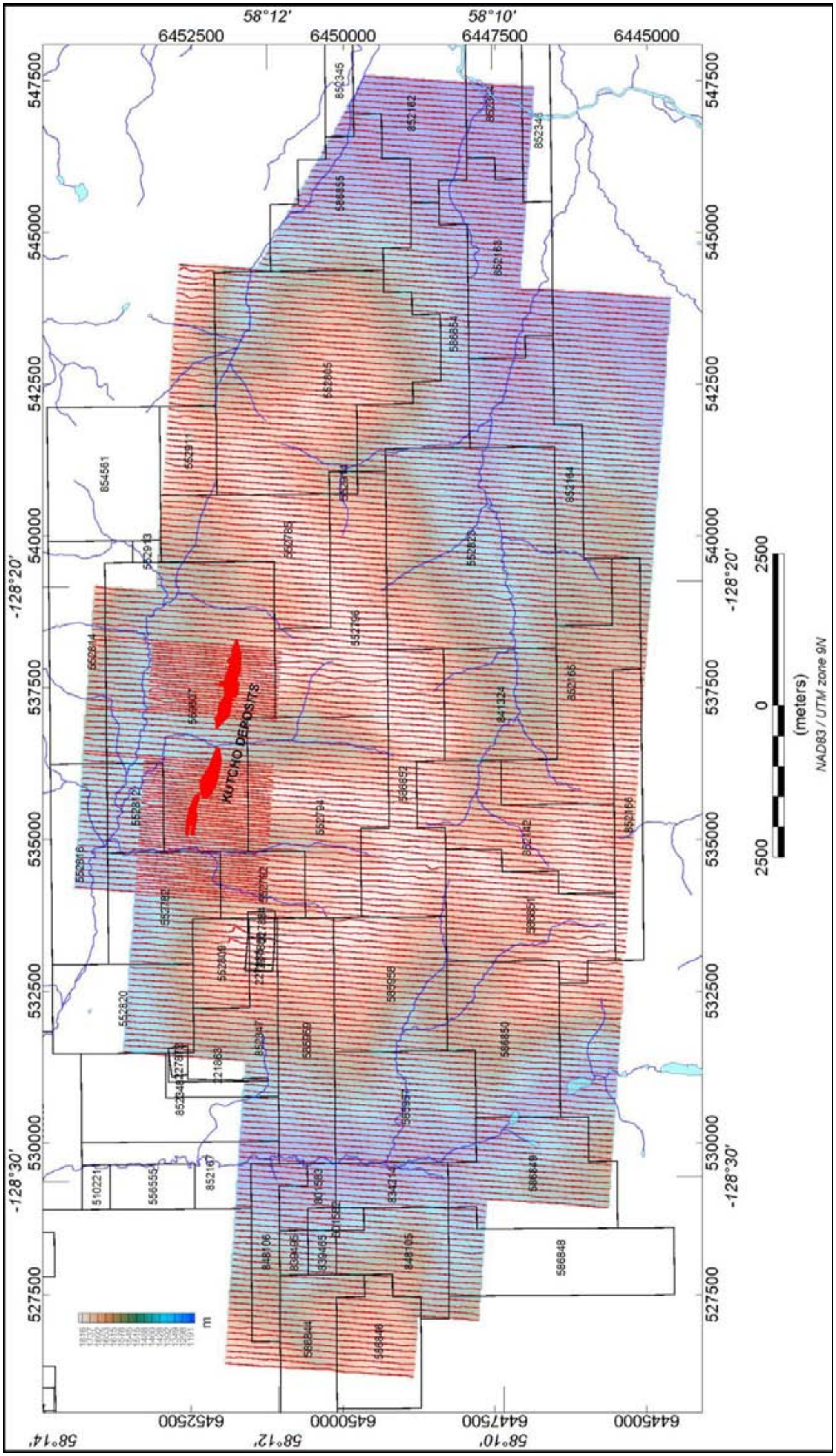


Figure 2: Flight path superimposed on DEM image, showing claim boundaries.

3. PROCESSING and ANALYSIS TECHNIQUES

DATA QUALITY

Both dBdT and calculated BField EM data were acquired, in addition to magnetic data. Both Z and X components was measured. The data quality is deemed acceptable.

PROCESSING

Time Constant: AdTau

The AdTau program calculates the time constant (tau) from time domain decay data. The program is termed ***AdTau*** since rather than using a fixed suite of channels as commonly done, the user sets a noise level and depending on the local characteristics of the data, the program will then select the set of five channels above this noise level. In resistive areas, the earlier channels will tend to be used, whereas in conductive terrains the latest channels available can generally be used. A typical decay fit, in this case the last five channels, is shown to the right in Figure 3. AdTau was calculated for both the dBdT and BField data.

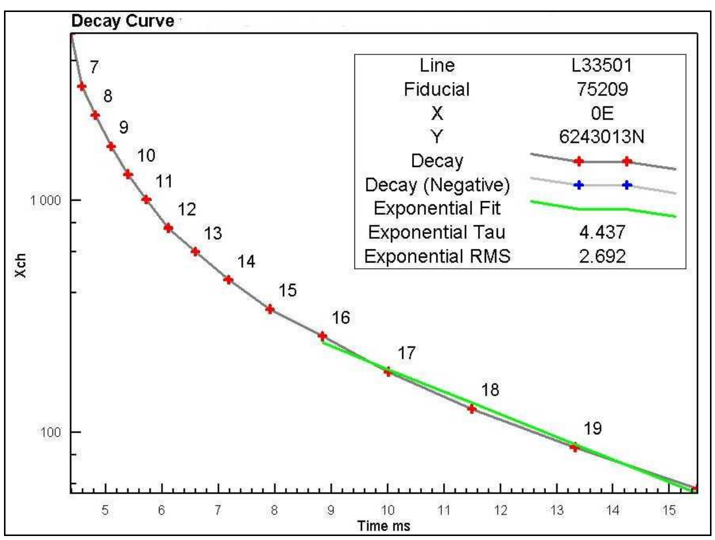


Figure 3: Typical Decay Curve.

Layered-Earth Inversion

The layered-earth inversion (LEI) algorithm models the EM data with a 28-layer earth model (Farquharson and Oldenburg, 1993, Ellis 1998), increasing in thickness from the surface to depth in an approximately logarithmic fashion. The first layer was 5 m thick while the deepest was 232 m thick.

A starting model of 1 000 ohm-m (0.001 S/m) was used, with a reference model of 5 000 ohm-m (0.0002 S/m). The reference model is used in the smallness and smoothness portion of the objective function which determines the complexity of the model. Effectively, it is what the program defaults to (at depth) when there is no longer enough information to further refine the inversion outcome.

The results of the inversion are presented in the form of resistivity depth sections (RDS) or conductivity depth sections (CDS) for each line.

Additional information on EM processing is provided in Appendix A.

Magnetics

In addition to the normal filters available in the Geosoft application, additional processing was done using the Encom PA[1] software and algorithms described by Shi and Butt (2004) – this paper is included in Appendix C (DVD). A variety of enhancements were produced, but one is deemed to be particularly useful in the present study, termed Tilt Angle (Verduzco et al, 2004). The Block filter is also useful. Both these grids are provided as TargetMaps (see Table 9-1 Survey Products).

UBC MAG3D Inversion

The University of British Columbia 3D magnetic data inversion program MAG3DINV, version 4.0, was used for the inversions (Li and Oldenburg, 1996). This is a smooth-model inversion, minimizing an objective function that is a measure of the roughness and intensity of the modeled rock property. It was run with no constraints apart from the observed data and an increased length weight in the vertical direction to assist in creating a geologically accurate model.

Two inversions were run, the first with a starting and reference susceptibility of 0.0 g/cc. The model from the first inversion was sharpened, then used as the reference for the second inversion.

The UBC 3D inversion produces a density block model, consisting of rectilinear voxels that can be queried by commercially available programs, including Geosoft and encom pa. Small features in

[1] encom pa is a product of Pitney Bowes Business Insight.

the model below the depth of 1 km are not considered to be meaningful. Only wide features in the original data will produce deep model features.

In general, shallow depth slices mimic the high frequency content of the magnetic data. At deeper depths the susceptibility features appear increasingly larger, typical of smooth objective-function based unconstrained inversions due to the decrease in resolution with depth. As the inversion is a smooth-model inversion, highs and lows are subdued, being spread out over a larger diffuse volume than what may actually be the volume of rock responsible for the anomaly. This suggests that the peak susceptibility values seen in the voxels is an underestimate of the true susceptibility of the rock in those locations.

ANALYSIS TECHNIQUES AND ISSUES

Anomaly Shapes

For discrete plate-like targets, the VTEM system produces two main types of responses: those termed inductively thin or double-peaked responses (DPR) and those termed inductively thick or single-peak responses (SPR). These basic shapes are shown in profile form in Figure 4. No economic significance is attached to whether a specific anomaly responds as either one style or another. However, with DPRs, it is possible to better estimate the dip of the conductor. Horizontal conductor responses (HCR, Figure 4) are produced by thin, flat-lying conductors.

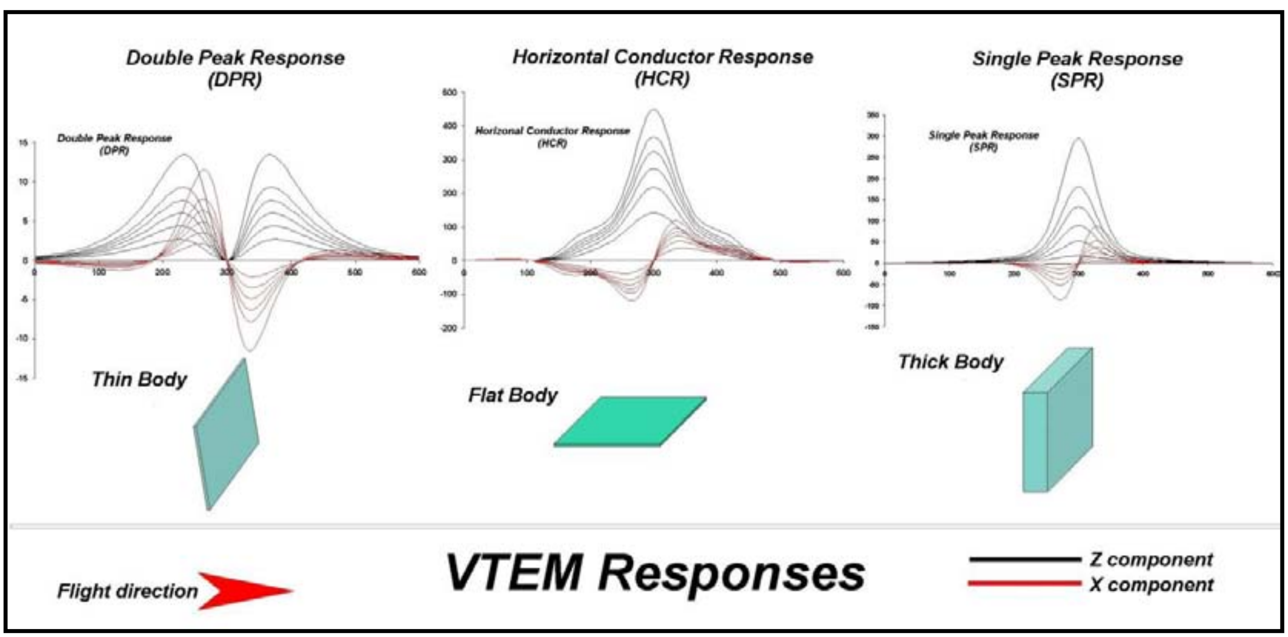


Figure 4: Modeled VTEM Responses.

In this survey, SPR and DPR responses due to discrete bedrock conductors were commonly observed. Broader responses (HCR) due to wider conductive zones were also observed, and have been attributed to surficial conductors.

Picking

The MultiPlot™ media was the primary means to examine, identify and then rank the anomalies. This overall process is termed anomaly picking and was on a line-by-line basis, with several passes being required to finalize the process.

Target Zones

Groupings of conductors are termed Target Zones or TZ. A TZ is deemed to be a logical grouping of conductors within a data set and is based on an assessment of the distribution of individual conductor picks, plus the magnetic association and any other available geoscience data. The TZ have been prioritized according to their assessed potential to be associated with economic mineralization (Priority 1 highest, Priority 3 lowest).

Maxwell Modeling

Maxwell is an EM modeling program developed by EMIT (Electro Magnetic Imaging Technology) of Perth Australia. Maxwell is designed for the analysis of ground, borehole and airborne survey. A brief description of Maxwell is provided in Appendix A. Modelling in Maxwell uses either “thin” or “thick” plates. Thin plates are defined as inductively thin and are modelled using a “sheet” consisting of many current filaments aligned within the plane of the sheet. Thick plates are modelled as six thin plates, corresponding to the two sides, the two ends and the top and bottom of the thick plate. Normally the top and bottom sheets are kept horizontal, even when the dip is changed. This simple representation of thick plates speeds up calculations significantly and makes inversions feasible.

The thin and thick plate models are used for DPR and SPR responses respectively (Figure 4). The thick plate model is also useful in situations where the low between the two peaks of a DPR response is not fully developed, implying that the conductor is not inductively thin and some response is arising from the top edge. In this situation the thick plate model is used, but with a comparatively small thickness.

4. GEOLOGY

Two different geological maps covering the VTEM survey area were supplied by the client. The first, produced by KCC, is shown in Figure 5. The second, produced by the BC Geological Survey, is shown in Figure 6. There is considerable overlap, but some areas show geology on only one or the other map.

The following notes on the mineralization are extracted from the Capstone website, http://capstonemining.com/s/Kutcho.asp which has additional information.

Kutcho property contains three known Kuroko-type volcanogenic massive sulphide ("VMS") deposits. They are aligned in a westerly plunging linear trend and from east to west they are called the Main, Sumac, and Esso deposits. The largest of the three, the "Main" deposit, comes to surface near the eastern end of this trend, whereas the "Esso" deposit occurs at depths about 400-600m below surface at the western or down plunge end of the trend as it is currently known. The Sumac deposit lies between the Main and Esso deposits both laterally and vertically, but has seen only cursory drilling. The mineralized trend is open down plunge but is poorly explored.

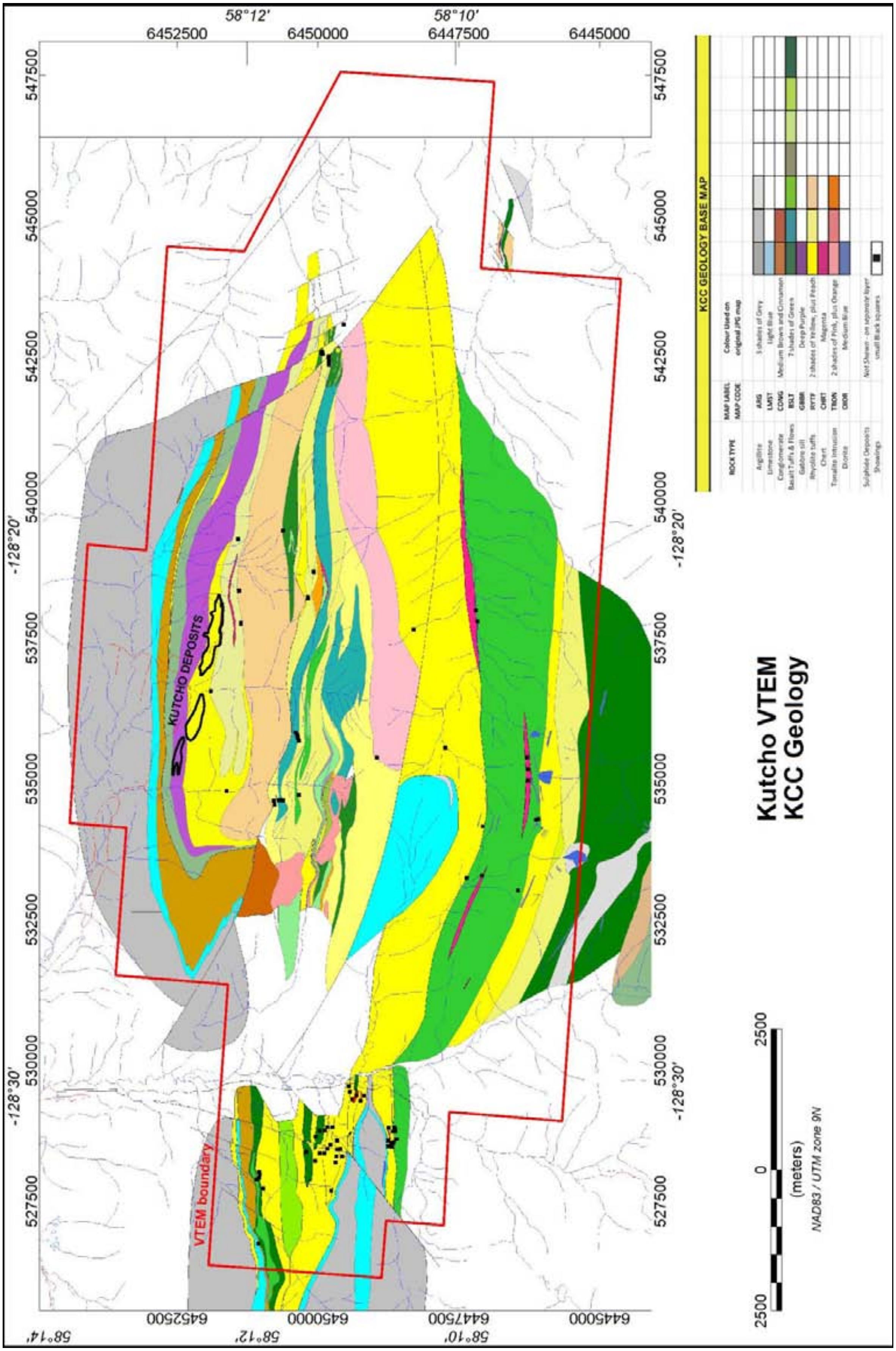


Figure 5: KCC geological map.

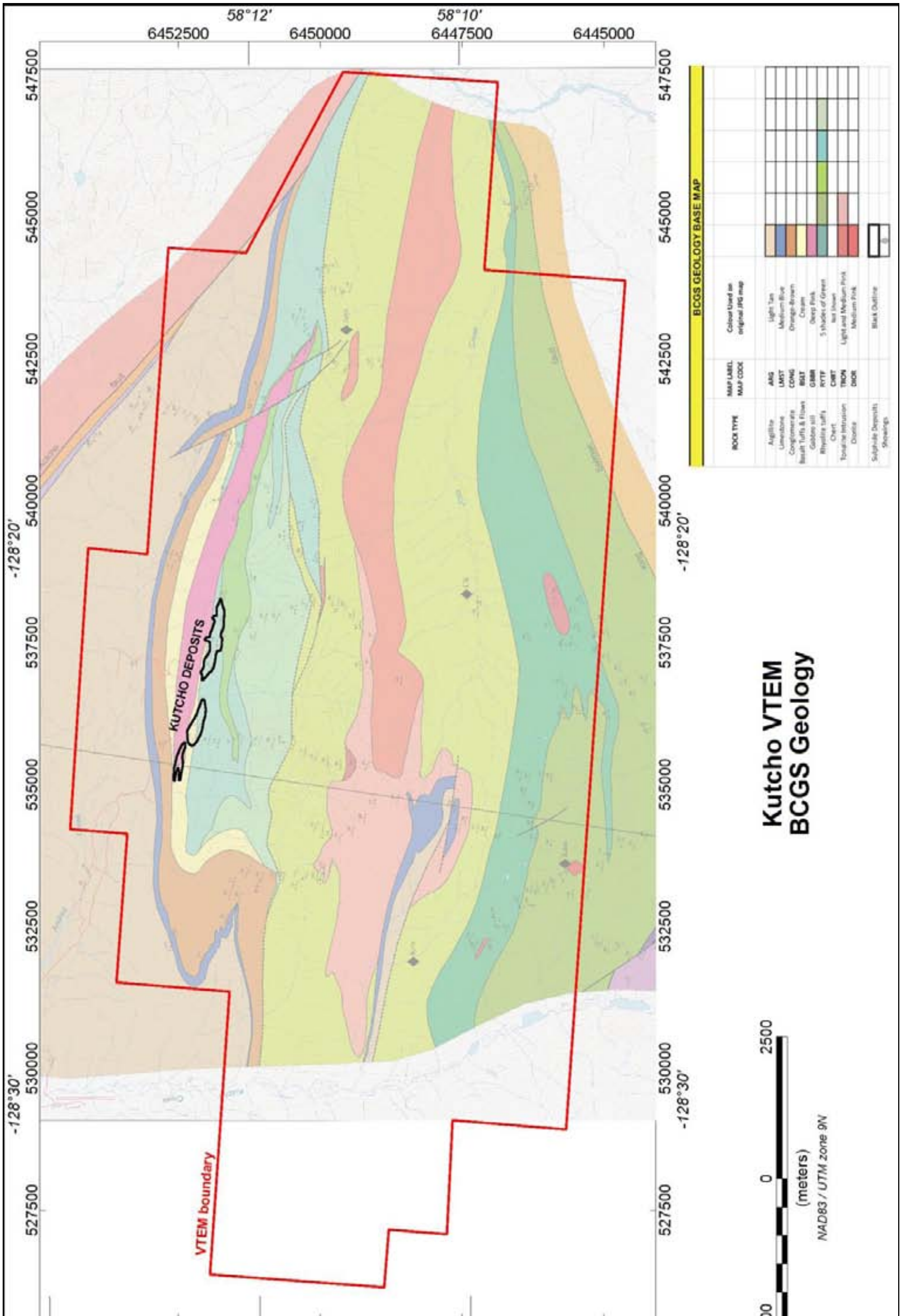


Figure 6: BCGS geological map.

5. VTEM MAGNETIC INTERPRETATION

The Total Magnetic Intensity (TMI) image is shown in Figure 7 and the Reduced to Pole (RTP) magnetic image in Figure 8. At this location the magnetic inclination is approximately 76 degrees, so the RTP is not greatly different from the TMI, but the RTP is preferred because it places the magnetic anomalies directly above the sources, for steep-dipping bodies. The ZS “Block” and “Tilt Angle” filter enhancements are shown in Figures 9 and 10. The Block enhancement groups the shallower magnetic sources into pseudo-lithological units, which are shown in different colors and textures. The Tilt Angle enhancement traces the peaks of shallow magnetic highs and thus maps near-surface magnetic sources.

A simple interpretation of the magnetics is shown overlain on the RTP, Block and Tilt Angle images in Figures 11, 12 and 13 respectively. The same interpretation is overlain on the KCC geology in Figure 14. Domain boundaries have been traced largely on the basis of the Block filter. Faults have been indentified mostly using the RTP and Tilt Angle images. Axes of the magnetic highs have been traced from the Tilt Angle image. The boundaries of relatively small, remanently magnetized bodies (presumably intrusives) have been determined from the RTP image. The approximate outline of a buried intrusive has been interpreted from the RTP image. The majority of the magnetic trends are generally oriented east-west, but several weak magnetic anomalies located in the central, less magnetic, part of the survey area trend more north-south. The significance of these anomalies is unknown, but they have been delineated and possibly deserve further investigation.

Fold axes have been interpreted, oriented both east-west and north-south.

Four magnetic domains have been recognized, a central domain of less magnetic rocks, elongated east-west, sandwiched between two other domains of more magnetic lithologies, which may be the opposite sides of a folded sequence. The fourth domain comprises an ellipsoid-shaped area of significantly more magnetic rocks in the middle of the central domain, elongated east-west, with strike length of almost 4 km.

The Kutcho lenses (Main, Sumac and Esso) lie within the central domain, approximately 1 km south of the boundary with the northern domain. An intermittent, relatively thin magnetic horizon trends just north of the Main lens and a localized magnetic high along this trend is located between the Sumac and Esso lenses, but the mineralization itself does not appear to be magnetic. However, this horizon may be useful as a stratigraphic marker in locating new deposits.

The northern and southern domains consist primarily of curvi-linear magnetic units, generally sub-parallel, but frequently dissected by local structures.

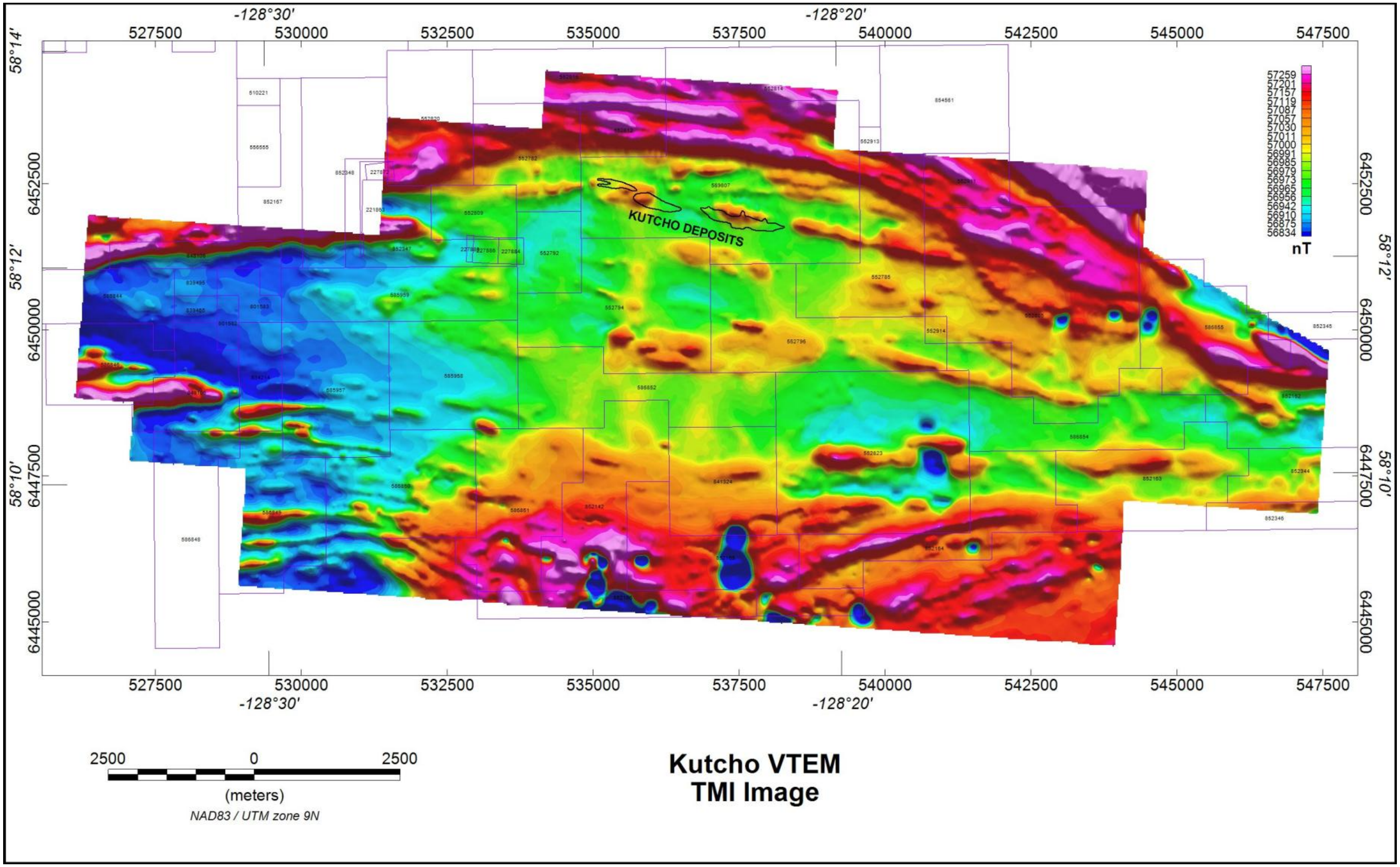


Figure 7: TMI magnetic image.

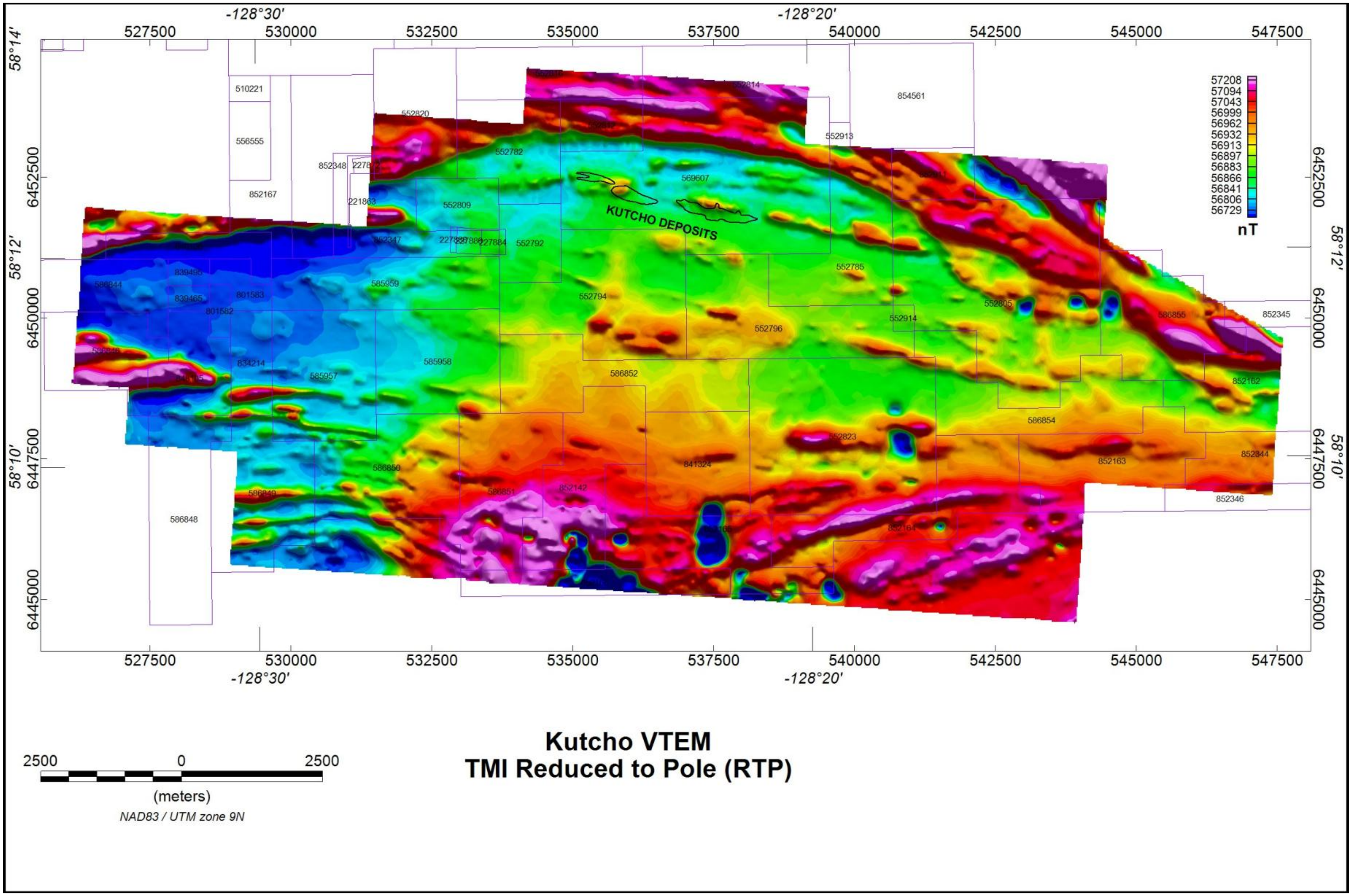


Figure 8: RTP magnetic image.

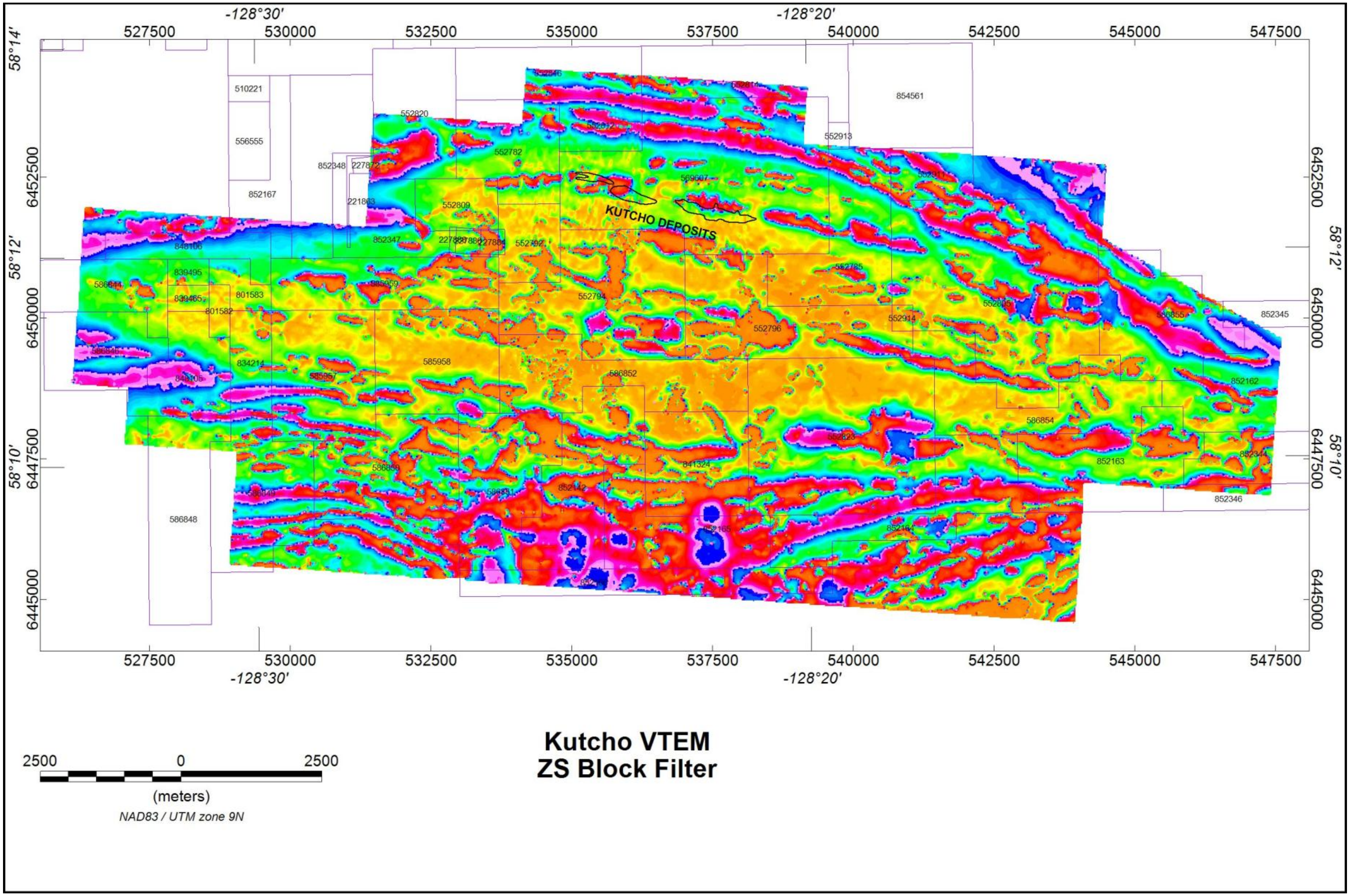


Figure 9: ZS Block filter image.

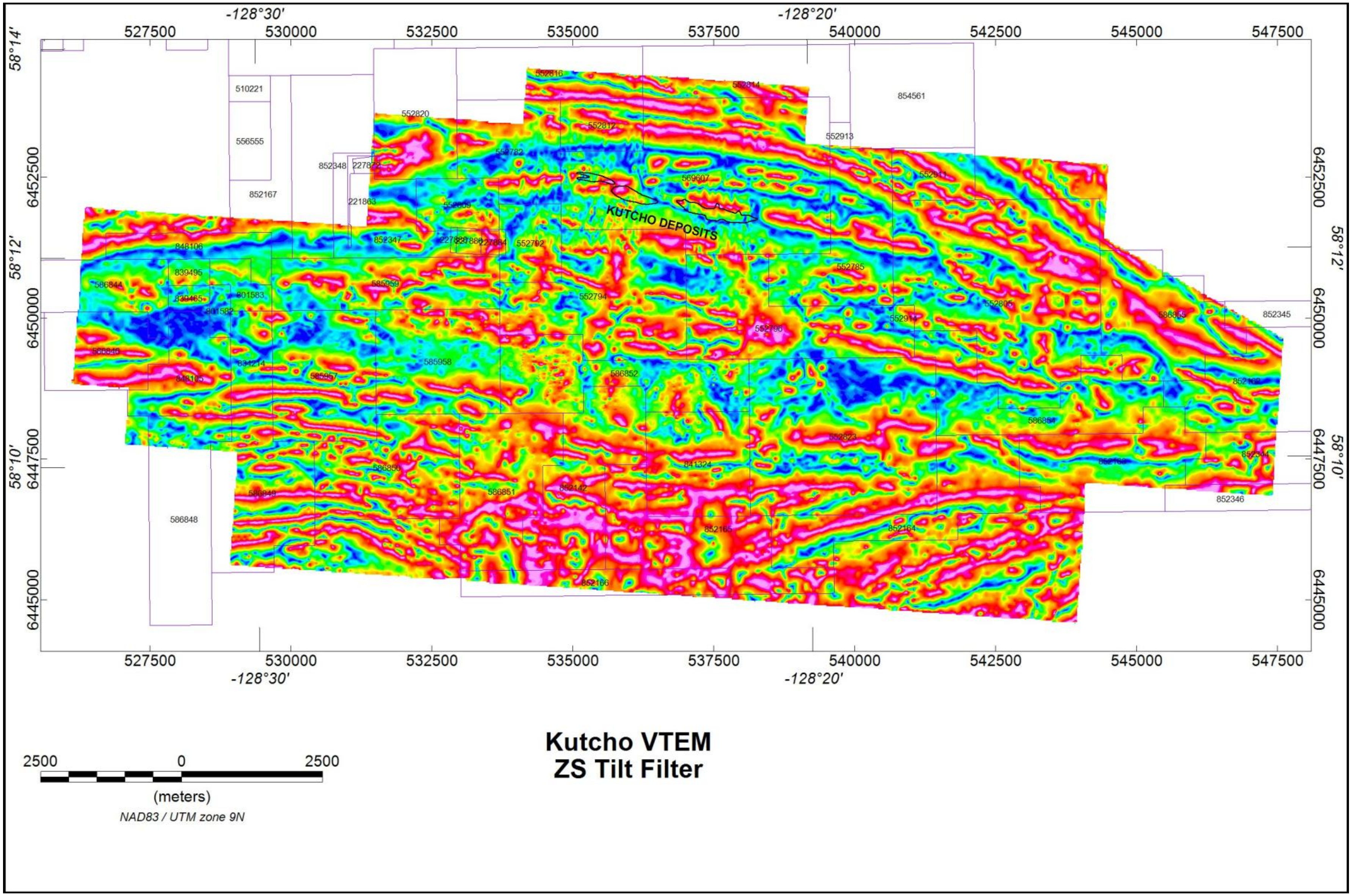


Figure 10: ZS Tilt Angle filter image.

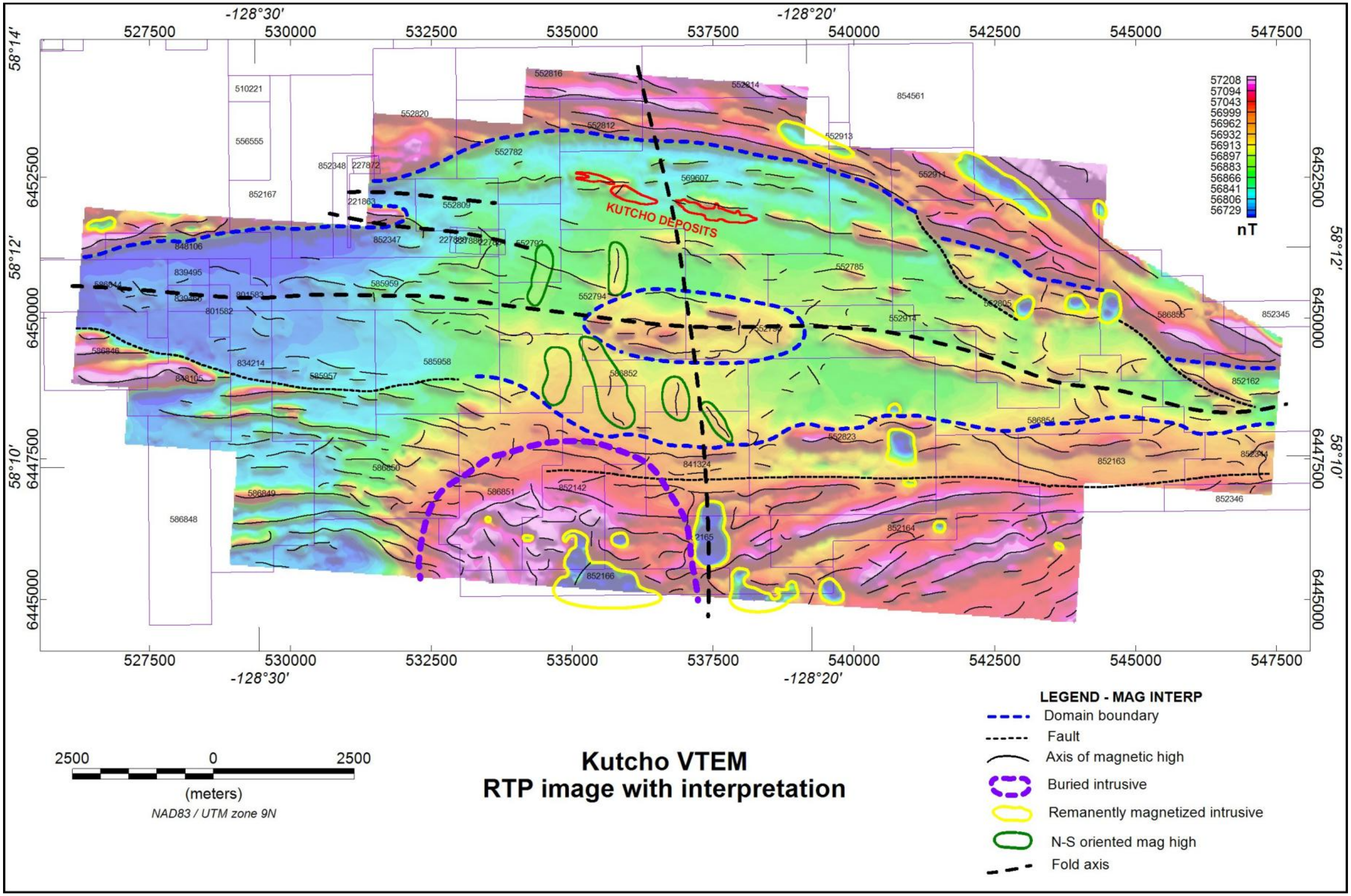


Figure 11: RTP image with magnetic interpretation.

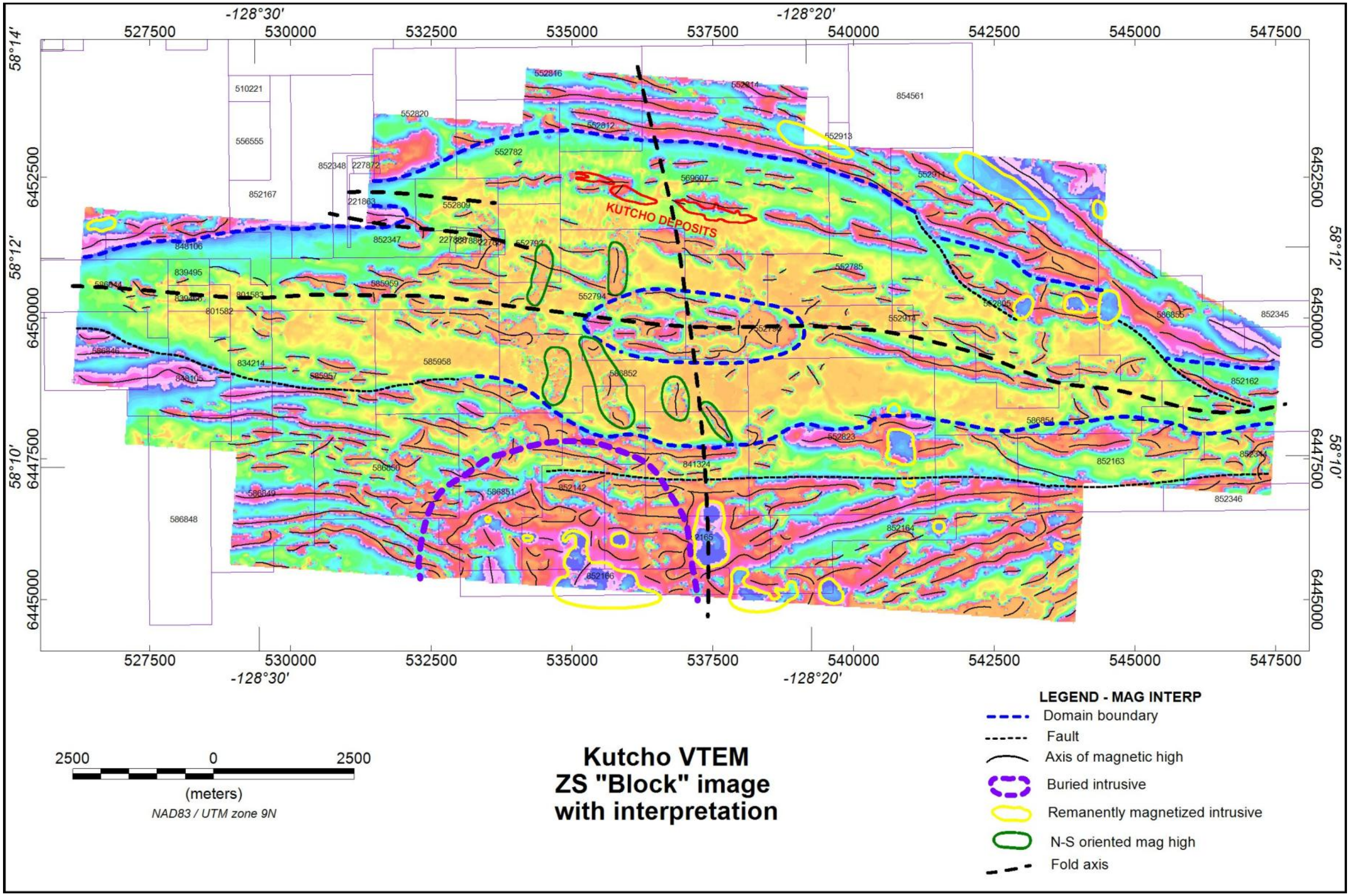


Figure 12: ZS Block image with magnetic interpretation.

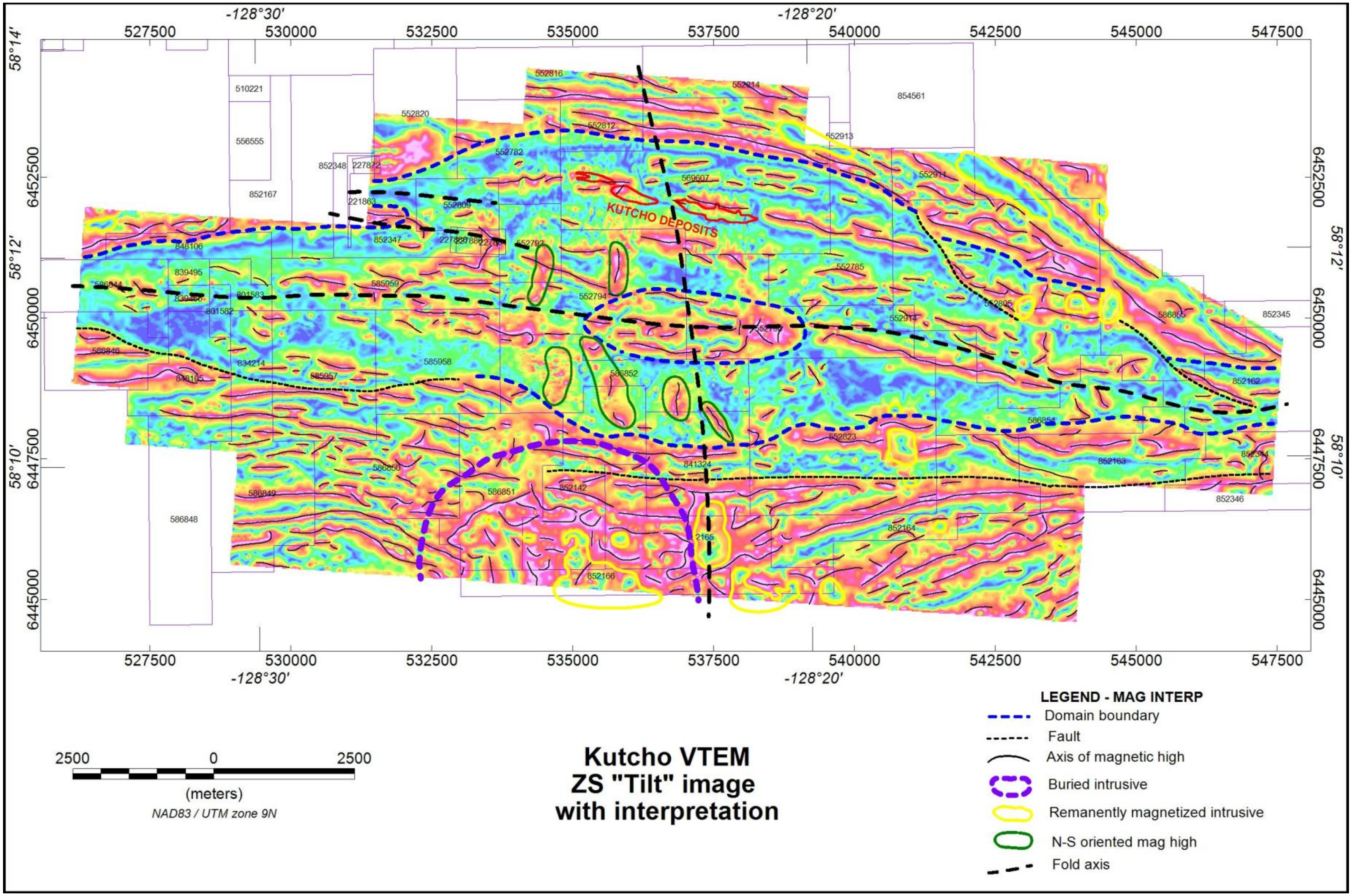


Figure 13: ZS Tilt Angle image with magnetic interpretation.

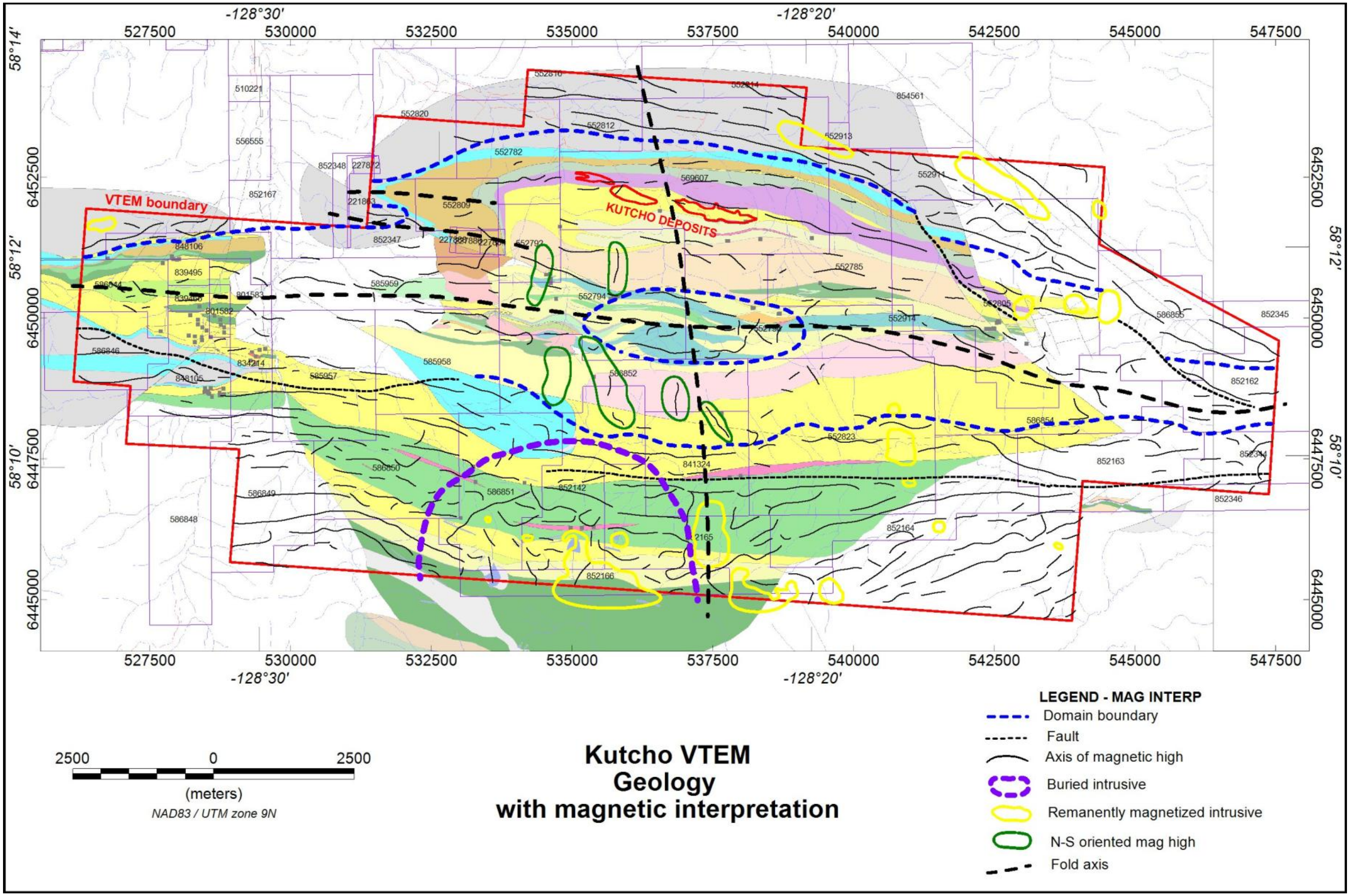


Figure 14: KCC geology with magnetic interpretation.

6. CONDUCTOR PICKING

All significant conductors on the VTEM survey have been picked by manual inspection of the dBdT and BField profile data, together with the CDI sections produced from the LEI, on a line-by-line basis. These conductors have been divided into four categories:

- Double-peaked-responses (DPR), strong, medium and weak.
- Single-peaked-responses (SPR), strong, medium and weak.
- Wide, shallow, strong conductors.
- Surficial conductors.

Model DPR and SPR responses are shown in Figure 4. DPR responses arise from relatively thin conductors and the asymmetry of the peaks provides a guide to the dip. SPR responses arise from relatively thick conductors. There is not necessarily any economic significance between the two profile shapes; both can arise from economic sulphide mineralization. The categories of strong, medium and weak relate to the amplitude of the anomalies, particularly at late channel times and to the decay rate which relates to the conductance. Strong conductors are more likely to be caused by massive sulphides, but may also be due to graphite. Weak conductors can be due to less-massive sulphides, disseminated sulphides or graphitic sediments.

The picked conductors are shown overlain on the KCC geology in Figure 15 and on the BCGS geology in Figure 16.

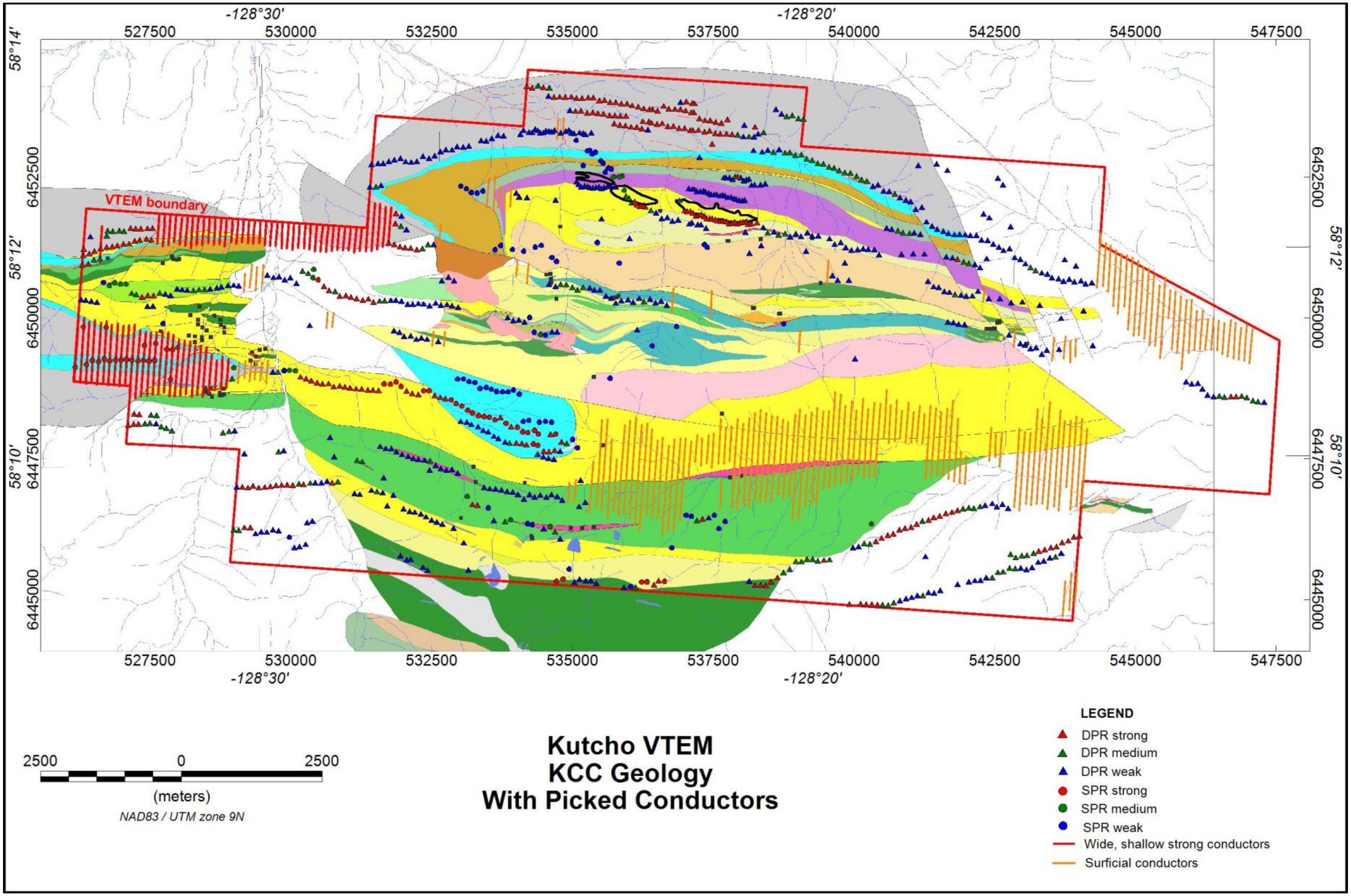


Figure 15: Picked conductors overlain on KCC geology (see Figure xx for geological legend).

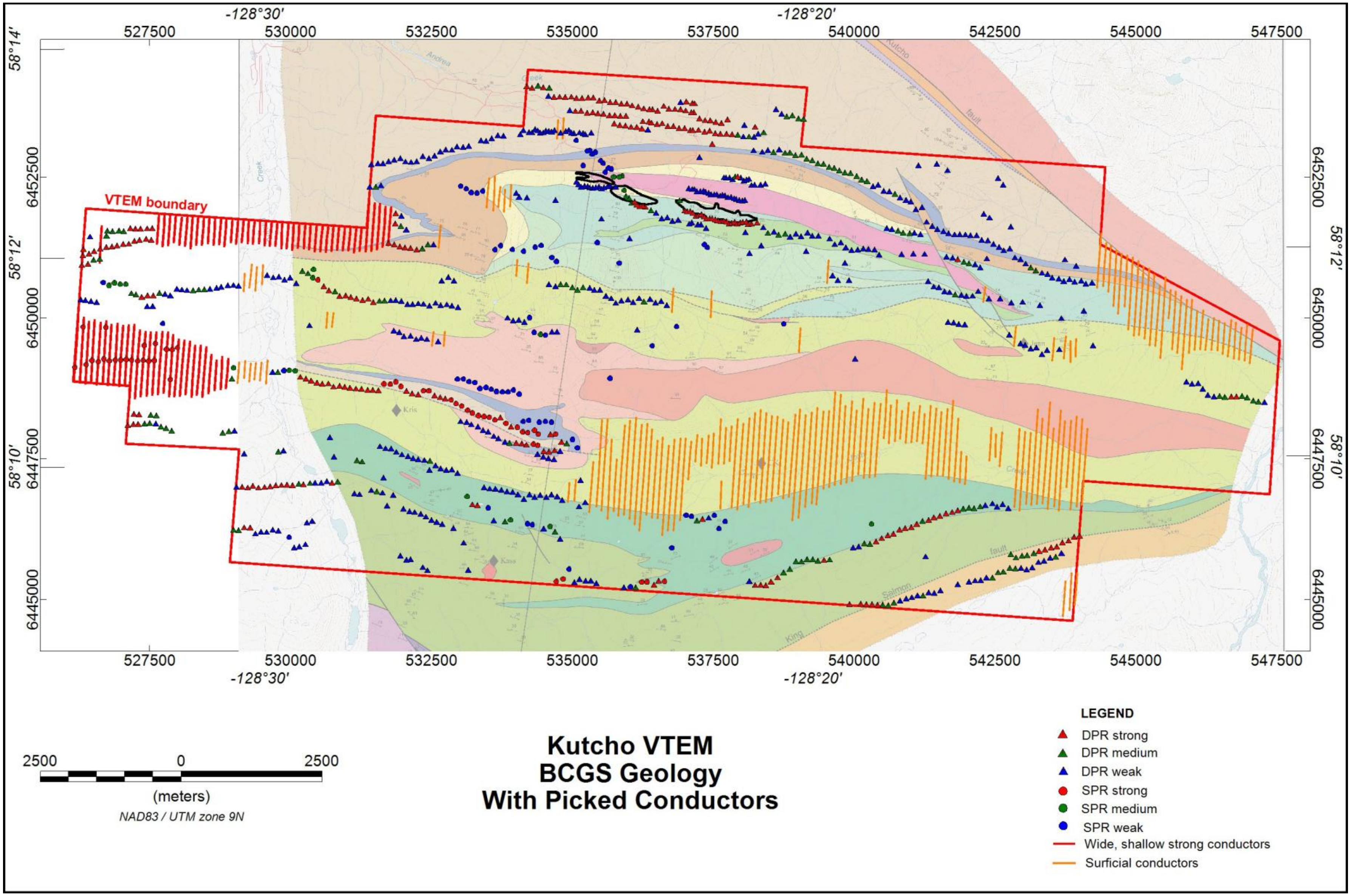


Figure 16: Picked conductors overlain on the BCGS geology (see Figure xx for geological legend).

7. GEOPHYSICAL RESPONSES OF THE KUTCHO LENSES

VTEM conductors in the vicinity of the Kutcho Main, Sumac and Esso lenses are shown superimposed on a number of different maps and images in the following figures:

- Figure 17: KCC and BCGS geological maps
- Figure 18: TMI and RTP images
- Figure 19: Tilt Angle and Block images
- Figure 20: SFz(6) and SFz(26) images
- Figure 21: Interpretation comments overlain on SFz(6) image and KCC geology.
- Figure 22: Drill holes overlain on KCC geology

The Main lens is defined by strong DPR responses along the entire 1 300 m strike length of the mineralization, which subcrops. Figure 23 shows Maxwell modeling of a VTEM flight line which passes over the east-central part of the deposit. The model conductor plate dips north at 50 degrees and the depth to top is 22 m, which agrees closely with drilling results.

There is a gap in the EM responses between the Main and Sumac lenses, which agrees with present understanding of the geology of these deposits. Strong DPR responses are also observed over 250 m strike length of the central-eastern part of the Sumac lens, where the mineralization is relatively close to surface. Only part of this area has been drilled and approximately 150 m of strike length remains untested. Medium DPR responses are observed over the central part of the lens, probably because it deepens in this area. Medium SPR responses correlate with the western part of the lens and are displayed to the north, possibly reflecting the down-dip, down-plunge part of the lens.

Weak DPR responses (from a shallow source) are observed for 700 m strike length south of the projected outline of the Esso lens. These could be due to a weak, footwall conductor but it is curious that the strike length closely matches that of the lens. Consequently, these conductors could be due to the up-dip extension of the Esso mineralized horizon. However, it does not appear that the VTEM survey has detected the economically significant portion of this lens, which lies at a depth of 400-520 m below surface. Several weak SPR responses are observed north of this lens. There is a faint possibility that these could be due to down-dip extensions of the mineralized zone, but it is much more likely that they are due to weak conductors in the hanging-wall sequence.

A number of weak DPR responses are observed just south of the economically mineralized zones, which may be due to a weak footwall mineralized horizon. These weak conductors are semi-continuous southwest and southeast of the Main lens.

A 1 000 m long continuous trend of weak DPR responses is located approximately 400 m north of the Main lens and parallel to it. This is thought to be due to weak stratigraphic sulphides or graphitic sediments in the hanging wall, but it is curious that the strike length closely matches that of the Main lens. This conductor is located in the middle of a mapped gabbro sill, which seems curious. A second 750 m long trend of mostly weak DPR responses lies approximately 700 m northeast of the Main lens in mapped phyllite, siltstone and sandstone. This trend includes one strong and one medium DPR responses which appear to have been tested by drill hole E011.

A discontinuous trend of intermittent magnetic highs lies immediately north of the Kutcho lenses and extends east and west. These are likely due to the gabbro sill. In most cases, the width of the magnetic highs is less than the mapped width of the gabbro, so the mapped width is likely overestimated. The mineralized lenses themselves do not appear to be significantly magnetic.

The southern part of the Inklin Formation sediments north of the Kutcho lenses is conductive within the area of the VTEM survey. However, a curious feature is the strongly enhanced conductivity and northern displacement within a "wedge-shaped" area almost directly north of the Kutcho lenses, the strike length of which corresponds closely to that of the combined lenses. In addition to the enhanced conductivity, several closely-spaced conductors are present, compared to the single conductor observed on either side. Ground follow up and possibly soil geochemistry is recommended to try to determine if this feature has economic significance.

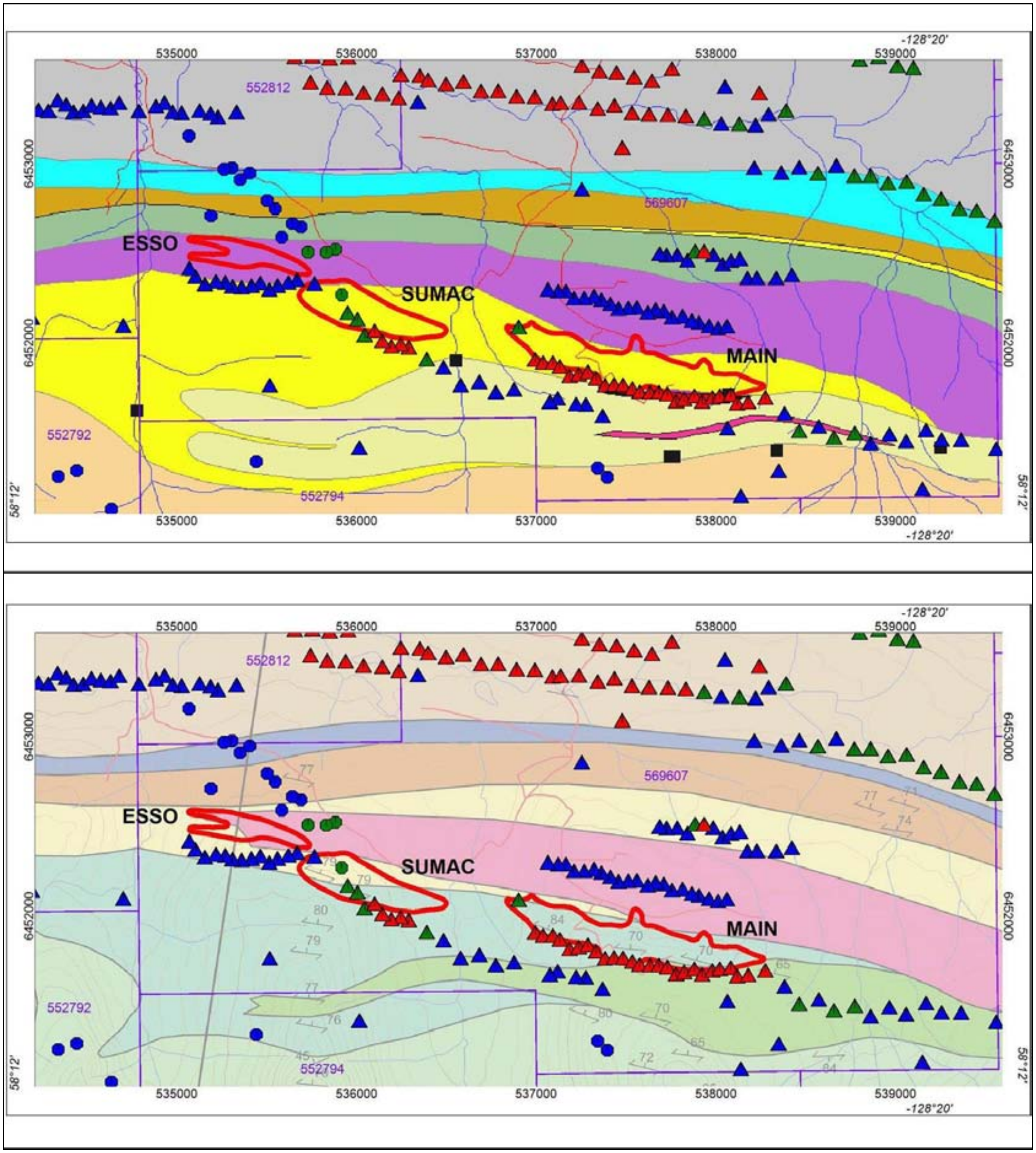


Figure 17: VTEM conductors superimposed on KCC geology (top) and BCGS geology (bottom).
The outlines of the Main, Sumac and Esso lenses are shown in red.
(See Figure 15 for conductor legend. See Figures 5 and 6 for geology legends).

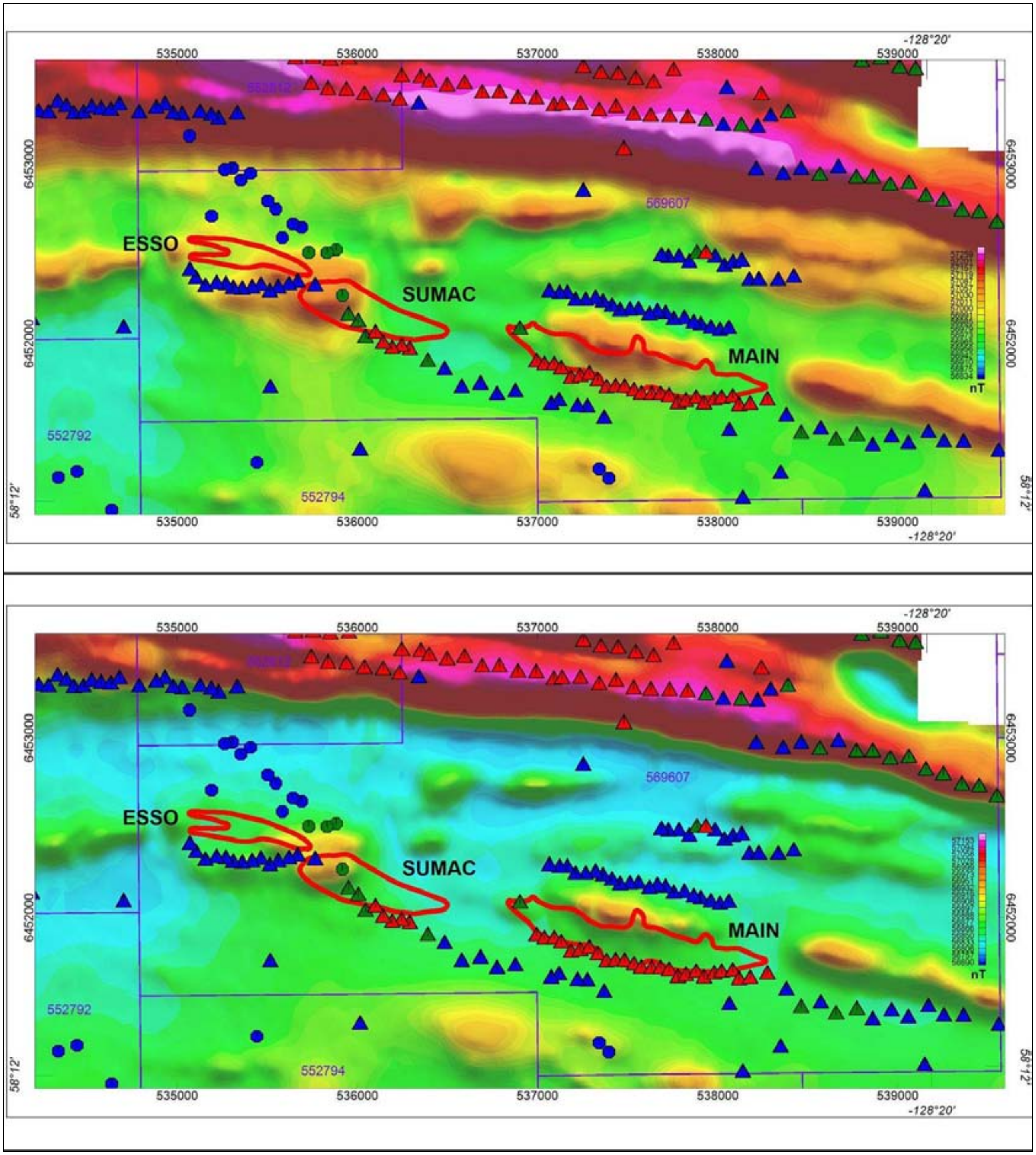


Figure 18: VTEM conductors superimposed on images of TMI (top) and RTP (bottom).

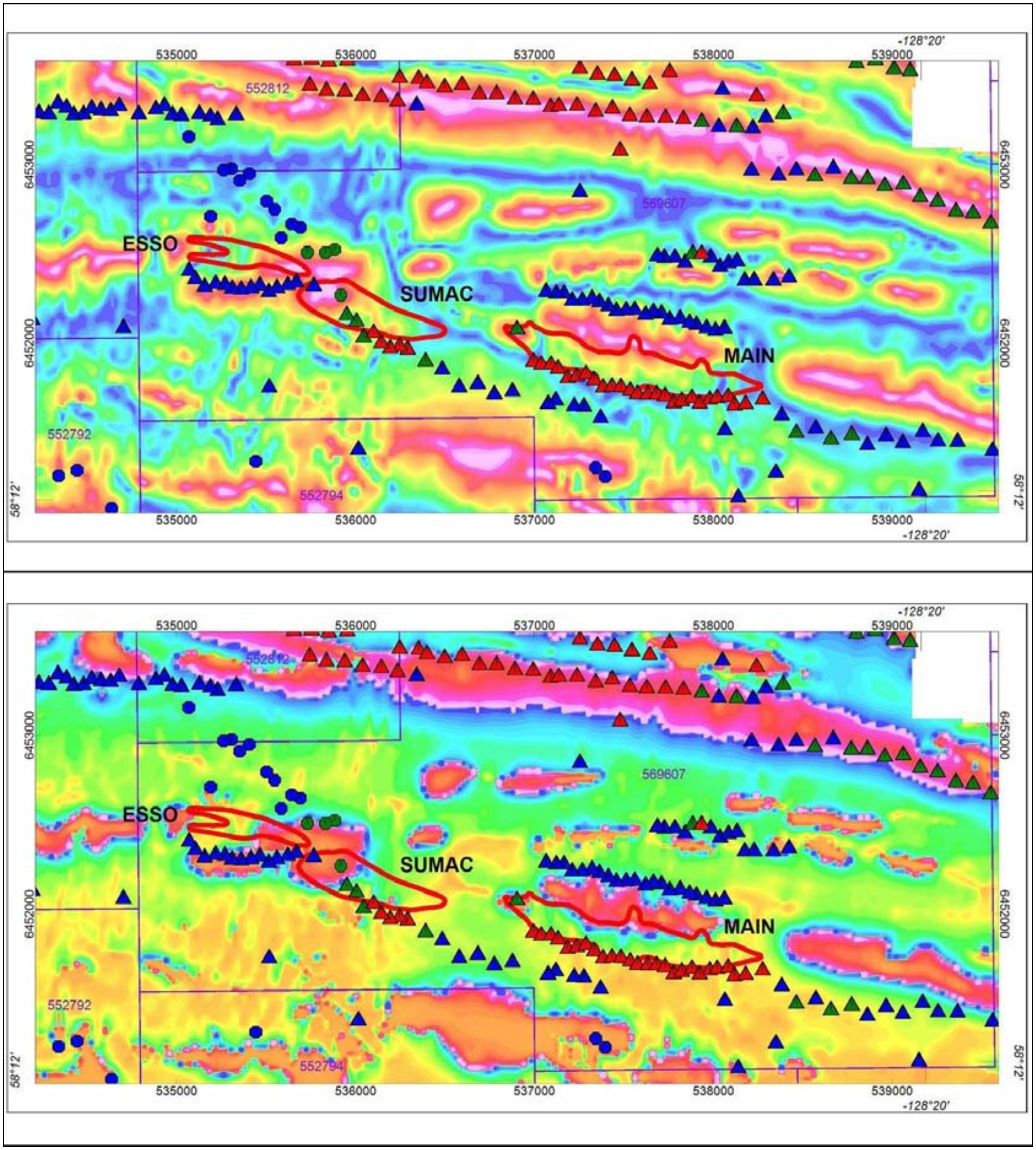


Figure 19: VTEM conductors superimposed on images of Tilt Angle (top) and Block (bottom).

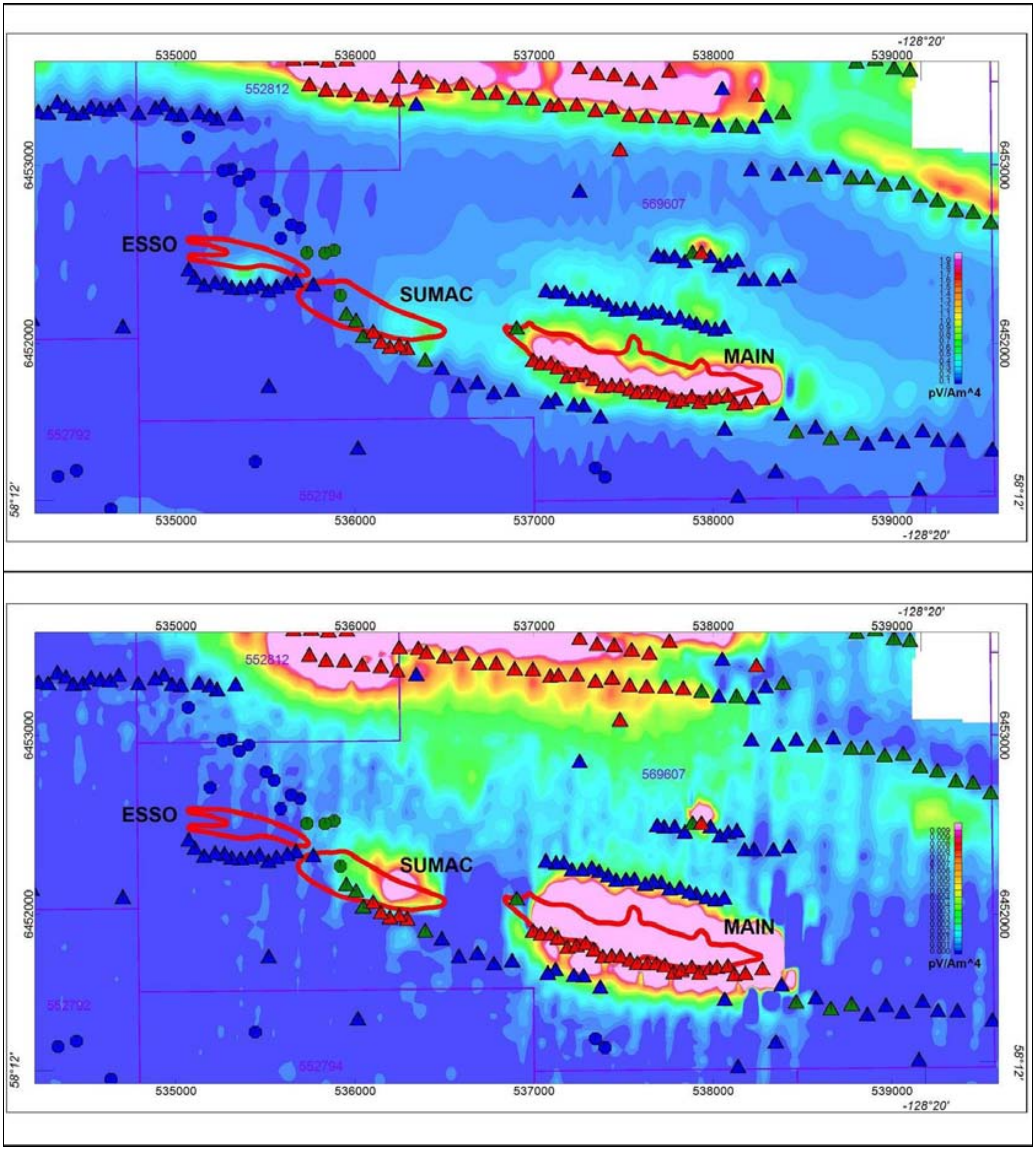


Figure 20: VTEM conductors superimposed on images of SFz(6) (top) and SFz(26) (bottom). The top image is the channel amplitude at relatively early time and the bottom at late time.

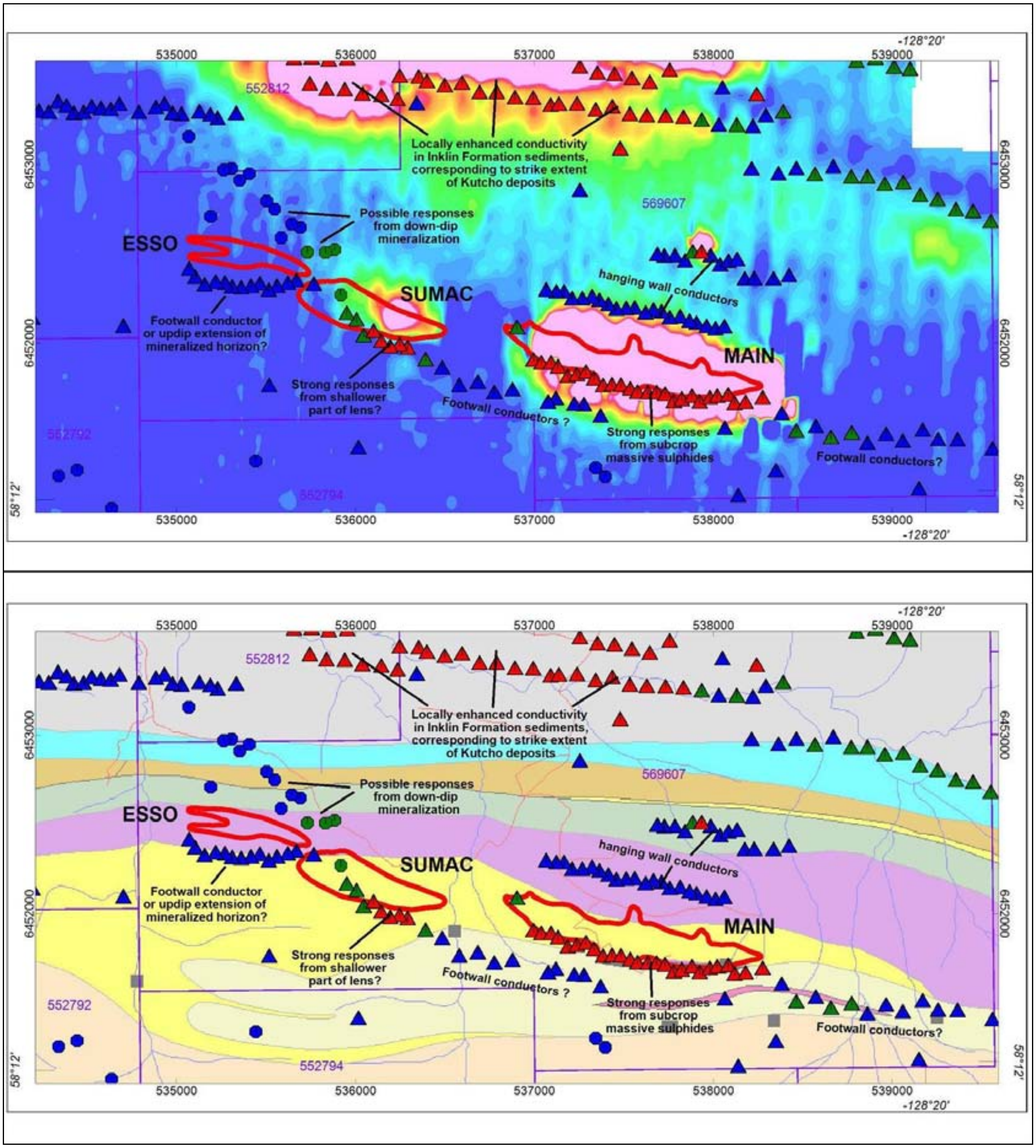


Figure 21: Interpretation comments superimposed on SFz(26) image (top) and KCC geology (bottom).

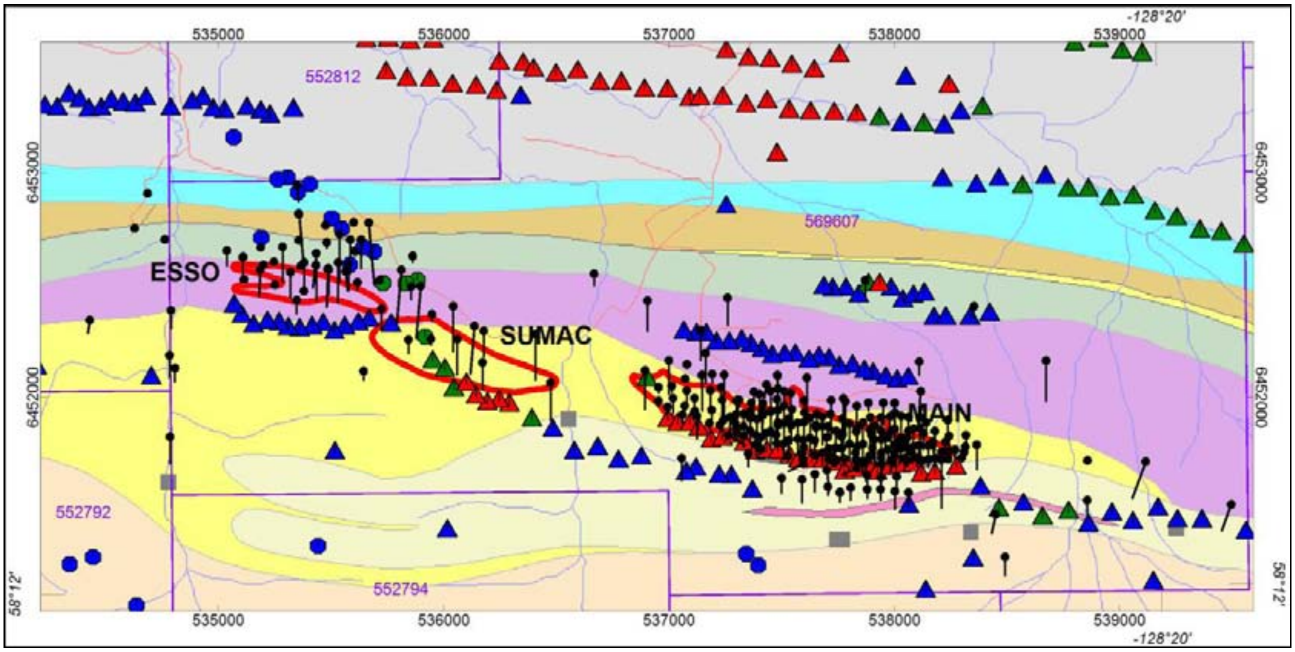


Figure 22: Drill holes superimposed on VTEM conductors and KCC geology.

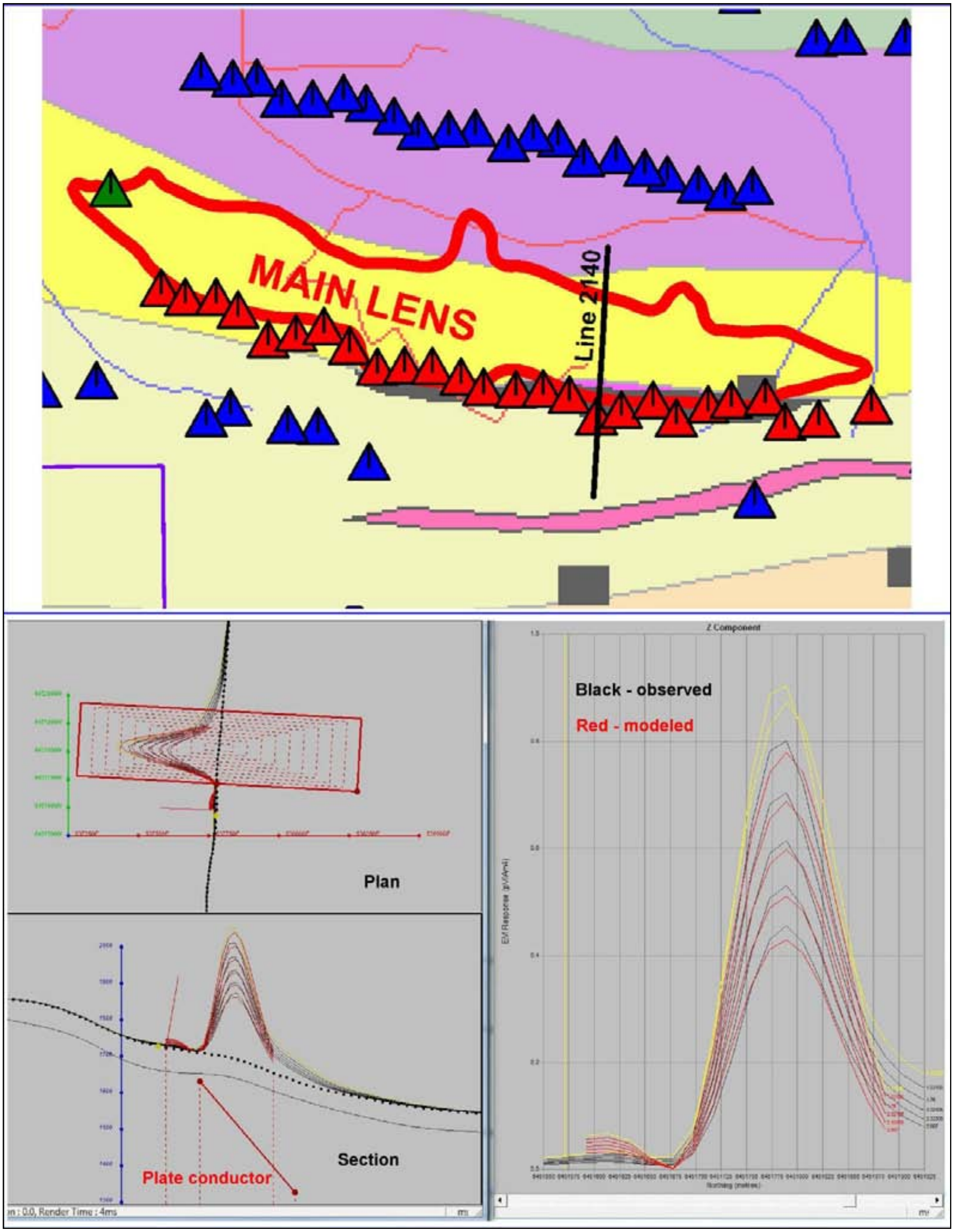


Figure 23: Maxwell model of Line 2140 which passes over central-east part of Main lens.
Top – plan view showing line location and outline of Main lens.
Bottom – Plan and section of model plate, also showing the observed and model profiles.

8. TARGET ZONES

Target Zones (TZ) have been defined based primarily on their similarity to the geophysical responses observed over the Main, Sumac and Esso mineralization and secondarily to their geological environment. These TZ have been prioritized according to their subjective potential to host an economic VMS deposit (Priority 1, 2 or 3 with 1 being the highest).

Nineteen TZ have been defined for this report, but this list is by no means exhaustive and additional TZ could be defined, albeit with lower priority.

The TZ outlines are shown superimposed on images of SFz(6), SFz(26), RTP, ZS Block and ZS Tilt Angle in figures 24 to 28 respectively. The same features are superimposed on the KCC geology map in Figure 29. Figure 30 shows locations of existing drill holes in comparison with the TZ.

The characteristics of the 19 TZ are summarized in Table 8-1 below.

At the request of the client, drill holes to test conductors were designed by Condor for ten of the 19 TZ, based on Maxwell modeling of the "best" conductor in each of these TZ. These TZ are A, B, C, D, E, M, O, P, R and S.

Composite figures of each TZ are included in Appendix B. Each figure shows the area in the vicinity of the TZ, with four mini-maps (geology, RTP, Tilt Angle and AdTau). Existing drill holes are shown in gray. Proposed drill holes are shown in black. For the ten TZ which were Maxell modeled, the Maxwell models and designed drill holes are also contained in Appendix B.

The proposed drill holes are summarized in Table 8-2.

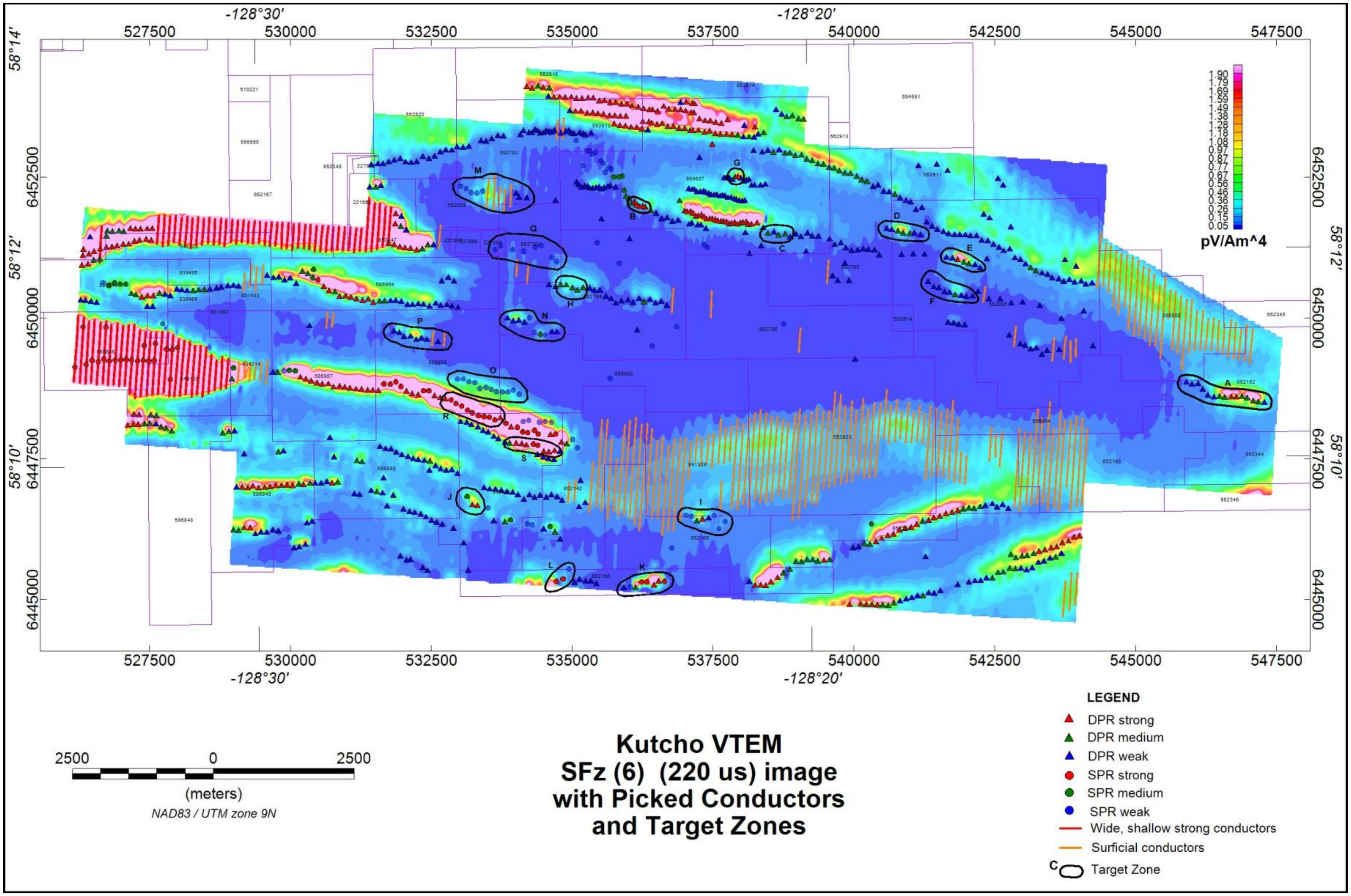


Figure 24: Picked conductors and TZ on SFz(6) (220 μs) image.

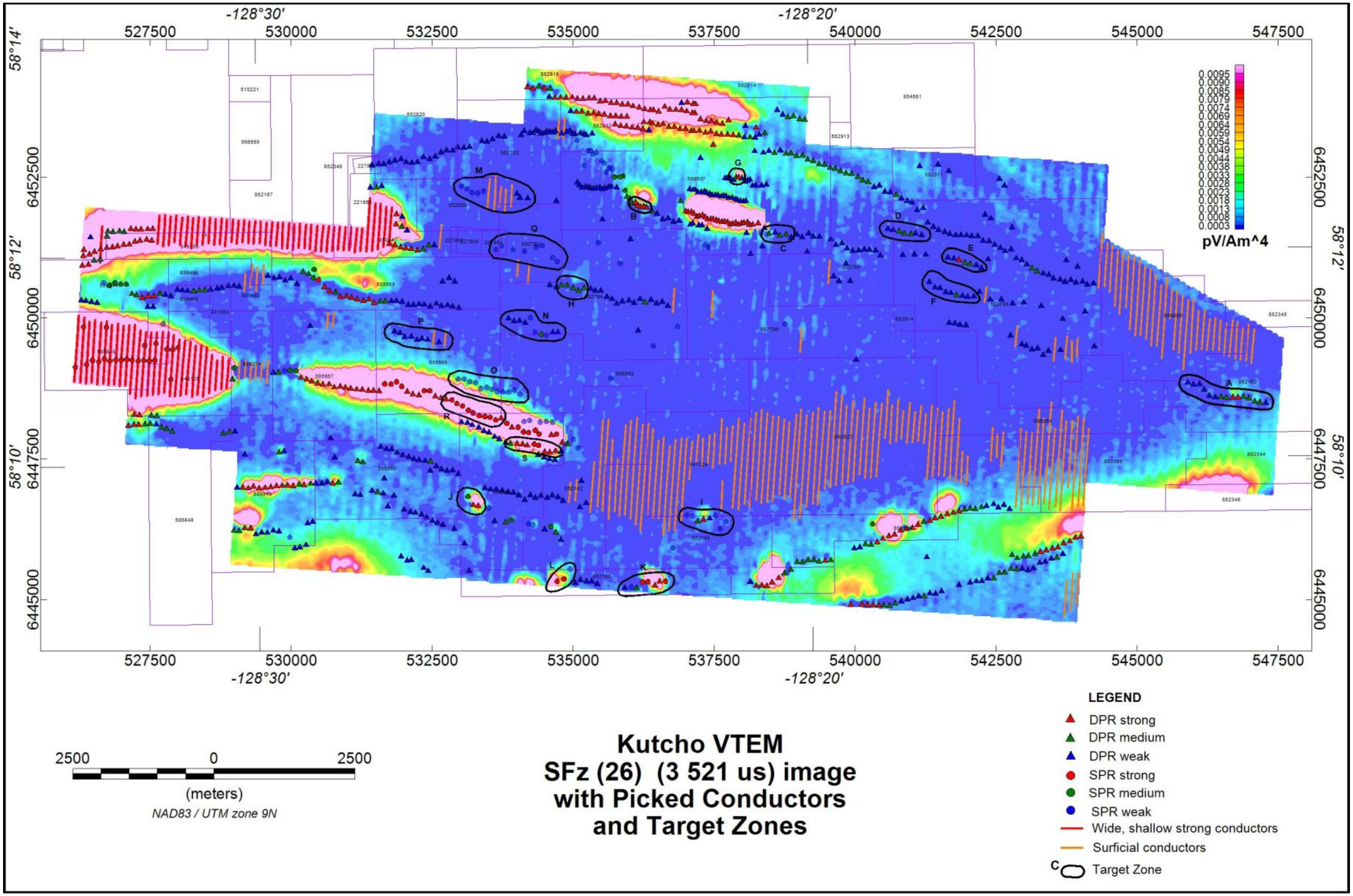


Figure 25: Picked conductors and TZ on SFz(26) (3 521 μs) image.

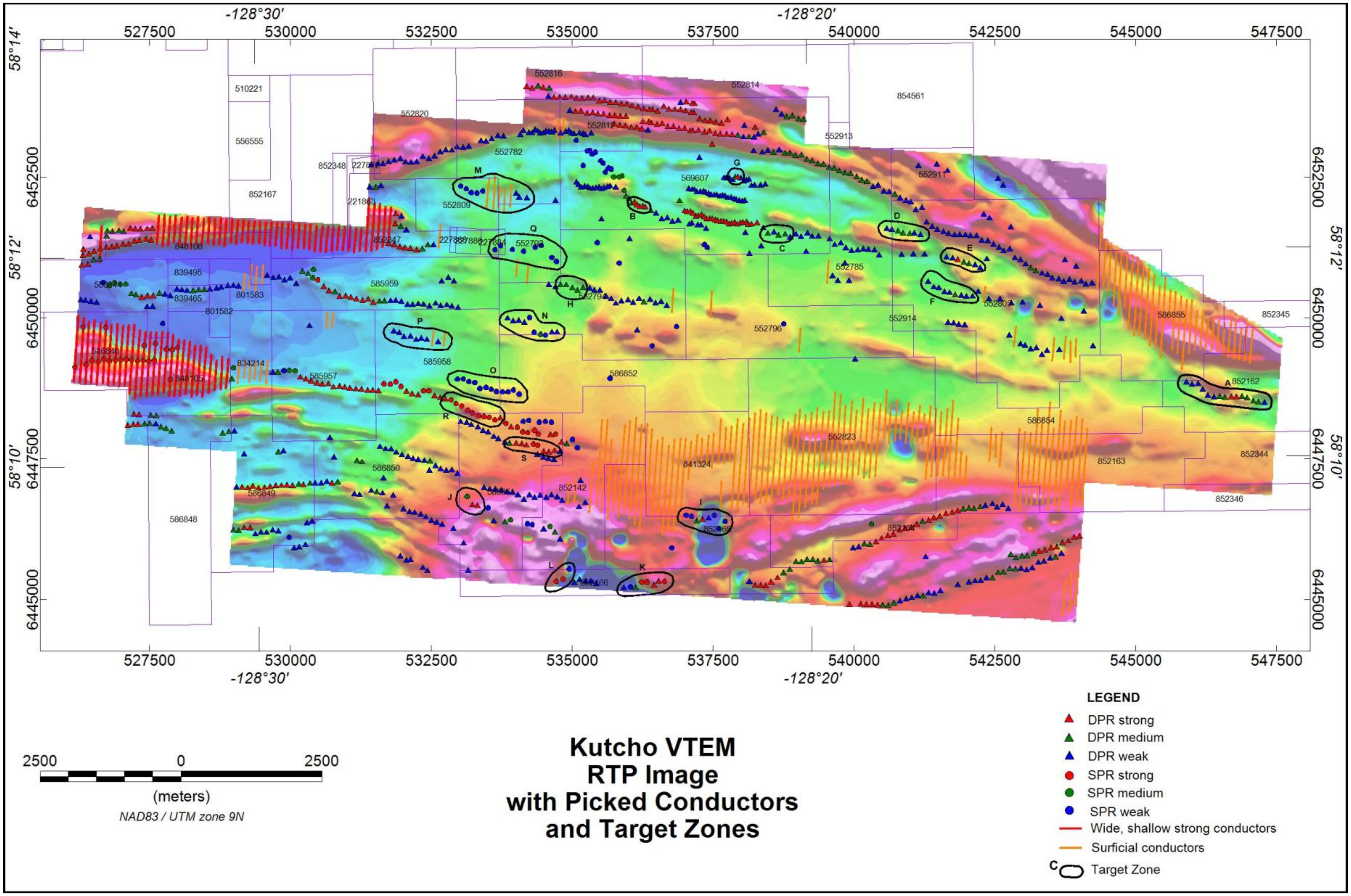


Figure 26: Picked conductors and TZ on RTP image.

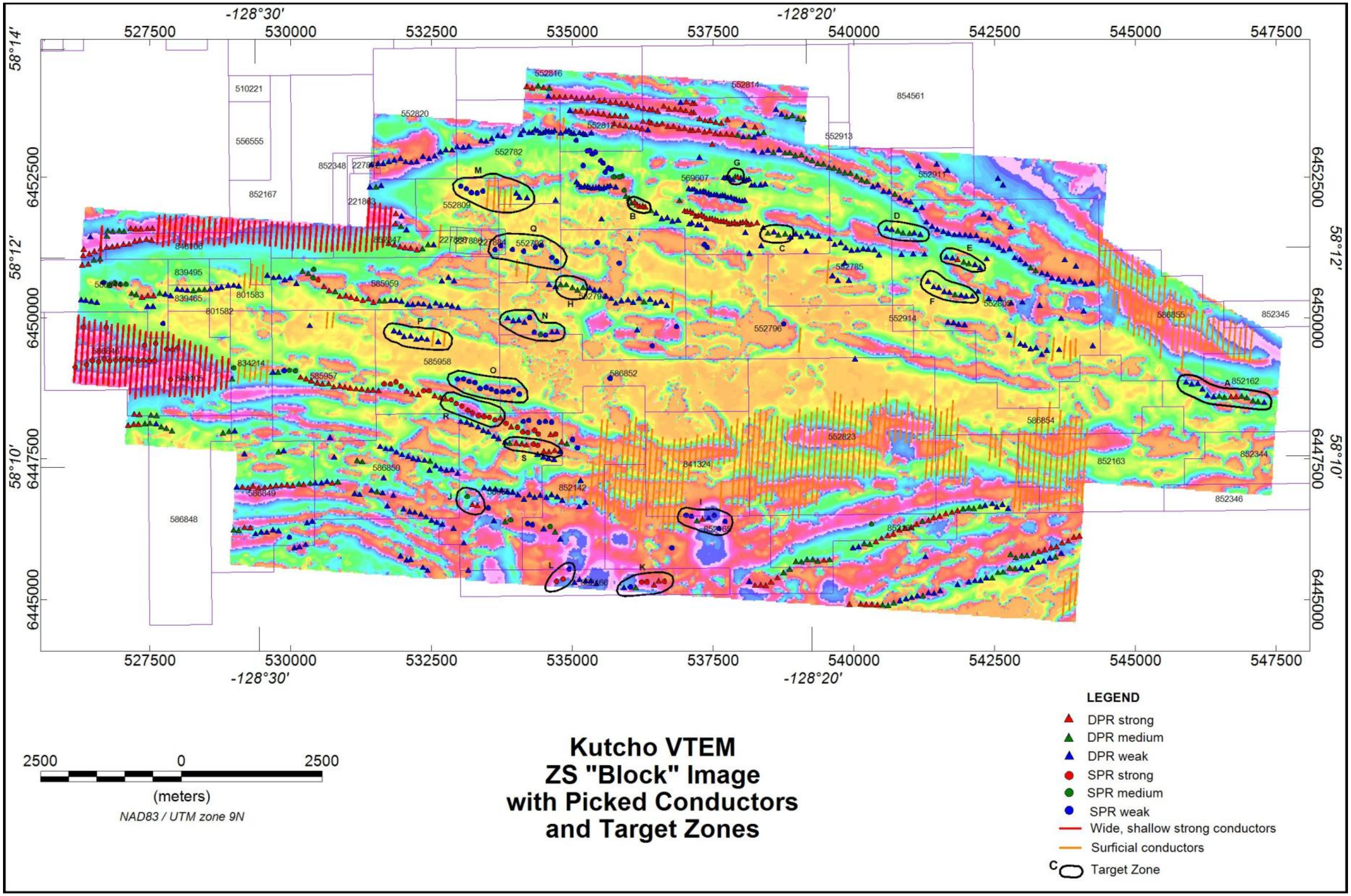


Figure 27: Picked conductors and TZ on ZS Block image.

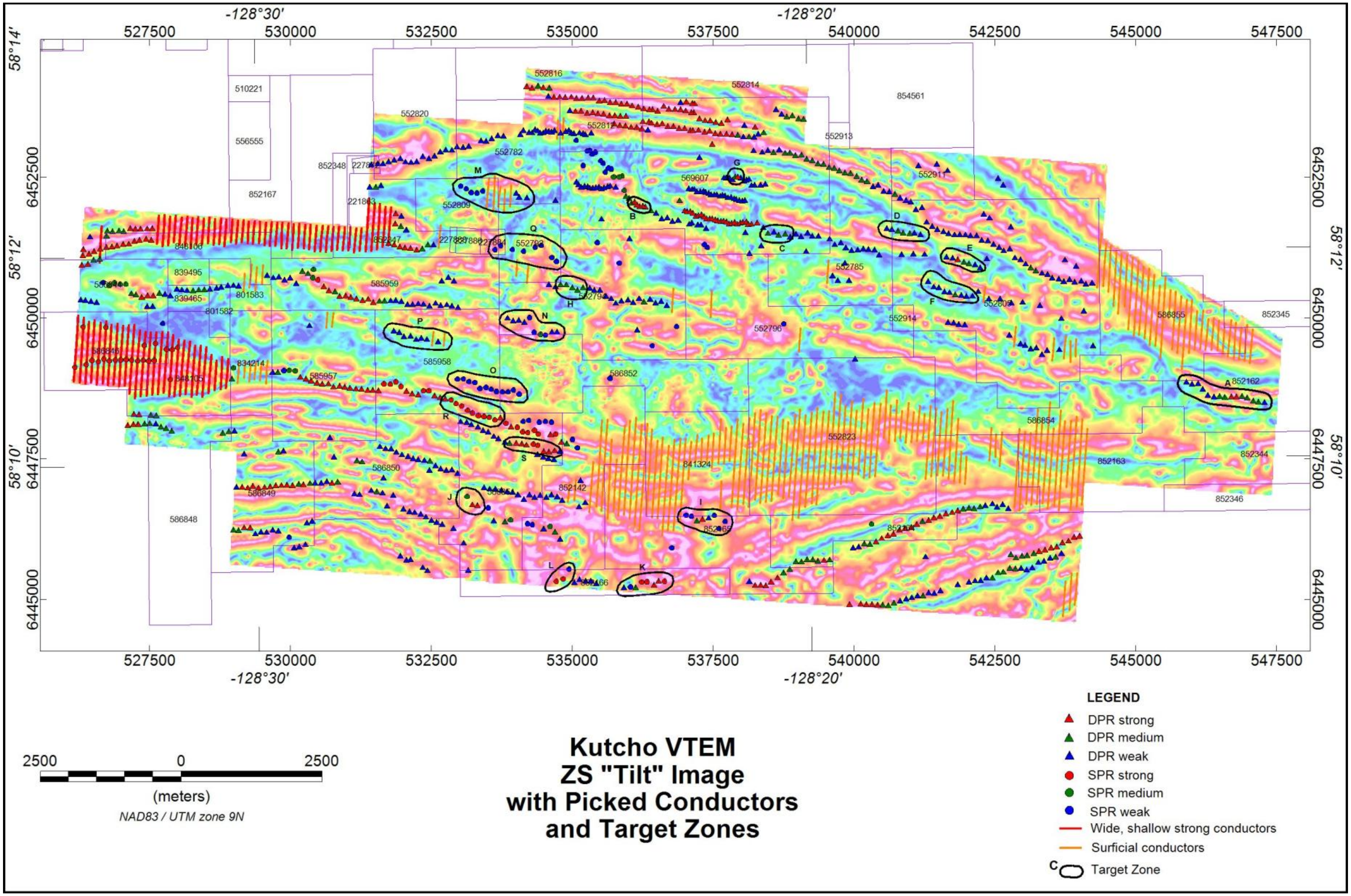


Figure 28: Picked conductors and TZ on ZS Tilt Angle image.

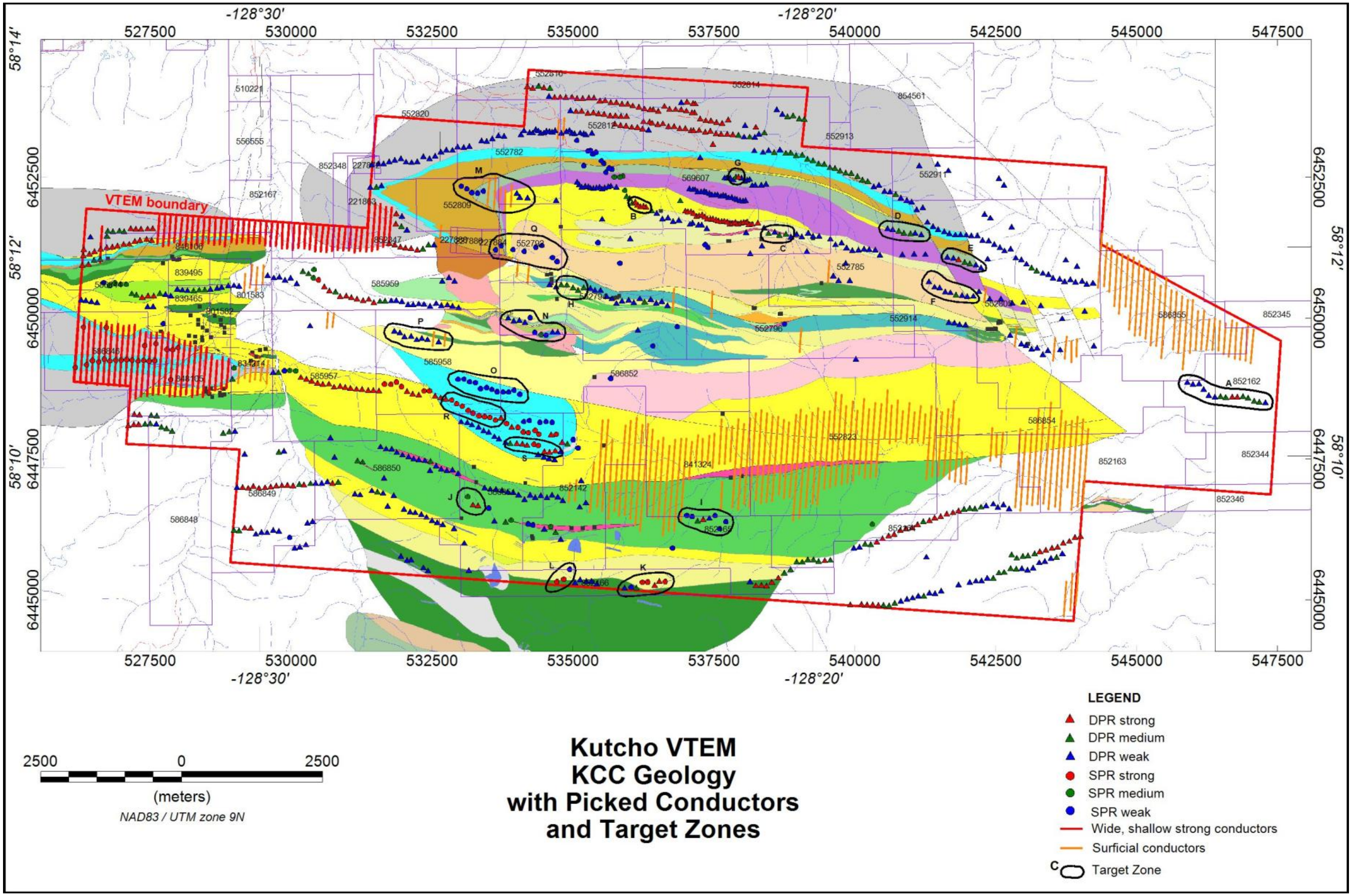


Figure 29: Picked conductors and TZ on KCC geology map.

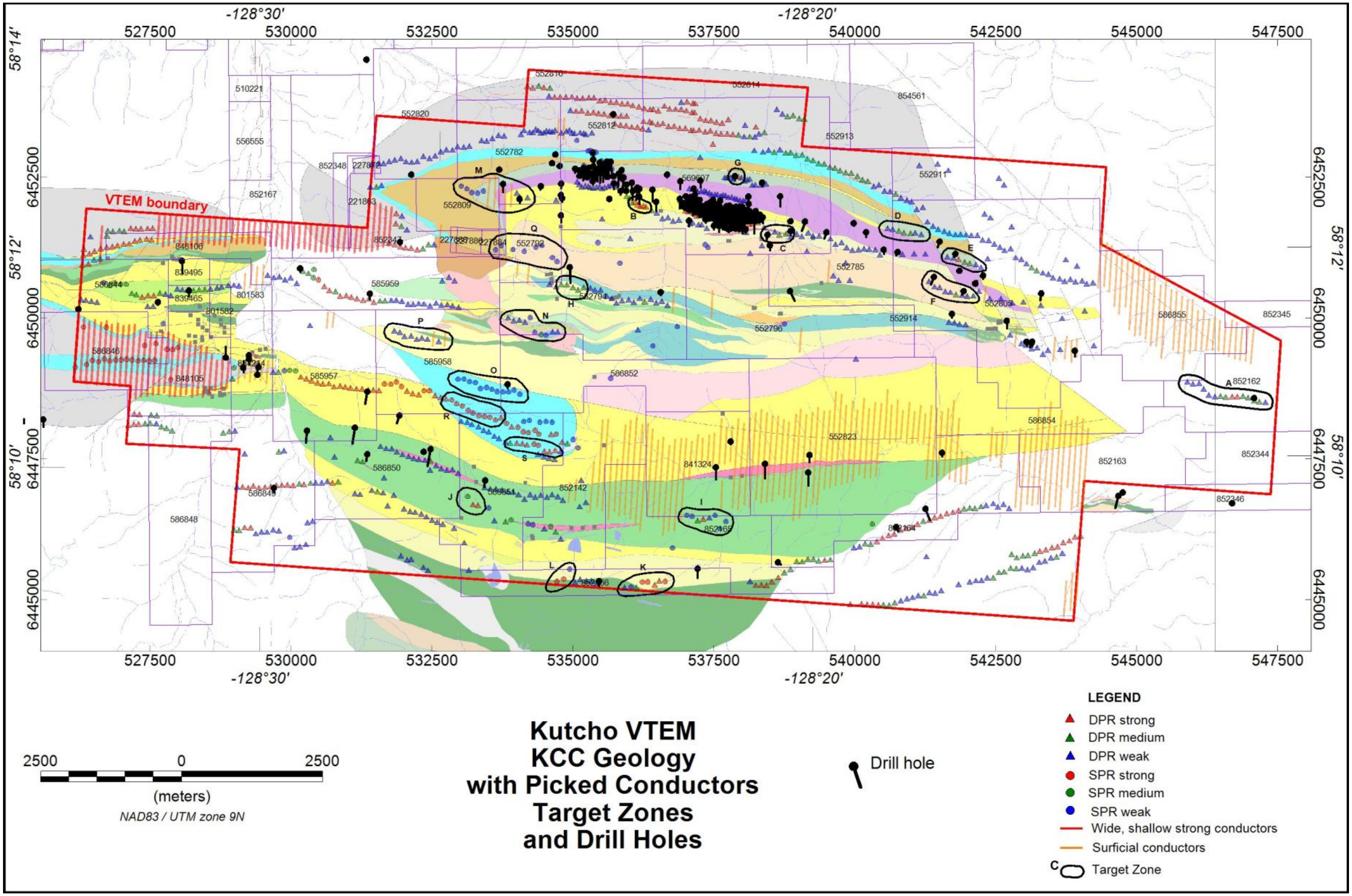


Figure 30: Drill holes overlain on KCC geology map, with picked conductors and TZ.

Table 8-1: Listing of TZ for Kutcho Area

TZ	Priority	Strike_length	Conductors	General_dip	Mag_correlation	Geology	Comments
A	1	1 500 m.	Strong-weak DPR.	45 degrees N.	Partial correlation with magnetic grain.	Rhyolite tuff	Near east end of survey. Possibly tested by drill hole E030,but conductor is stronger 350 m to W.
B	1	300 m.	Strong DPR.	45 degrees N.	Aligned with general E-W mag grain.	Rhyolite tuff.	Strong conductors on the eastern side of the Sumac deposit, which have not been drill tested. The strong conductivity suggests higher Cu grades.
C	2	500 m.	Medium-weak DPR.	45 degrees N.	Located in magnetically flat area, but parallel to magnetic grain	Rhyolite tuff.	Located adjacent to E end of Main deposit. Displaced SE, so may be footwall mineralization. Weak conductor on E end possibly tested by drill hole E013.
D	2	700 m.	Medium - weak DPR.	60 degrees N.	In area of flat magnetics, 200 m north of linear mag high.	Basalt tuffs and flows, near contact of gabbro sill.	Possibly same stratigraphic horizon as Main Zone. East end appears to be cut off by fault. Not drill tested.
E	2	700 m.	Strong - weak SPR	60 degrees N.	In local mag low, between two curvilinear mag highs.	Basalt tuffs and flows, near contact of gabbro sill.	Probably faulted equivalent of TZ D. W end (close to fault) possibly tested by drill hole E063, but conductivity improves to the east.
F	3	900 m.	Mostly weak DPR, one medium DPR.	45 degrees N.	Strongest portion of conductor correlates with small magnetic high.	Rhyolite tuff.	E end may be truncated by fault. Possibly tested by drill holes E017 (near best conductor and mag high) and by 90K22 (far W end with weak conductor).
G	3	200 m.	One strong and one medium DPR in trend of weak DPR.	45 degrees N.	Northern flank of weak magnetic high, oriented E-W.	Basalt tuffs and flows.	Locally better conductor within mostly weak hanging wall conductor. Probably tested by drill hole E011.
H	2	500 m.	Medium DPR.	Steep N.	Correlates with weak mag high.	Rhyolite tuffs.	More conductive portion of 2 200 m long conductor. Possibly tested by drill hole 90K01.
I	3	800 m.	Strong-weak DPR and weak SPR.	Steep N.	Transects remanently magnetized probable intrusive. May be shallower than intrusive.	Basalt tuffs and flows.	Unusual conductor. Not drill tested.
J	3	300 m.	Two strong DPR, one medium SPR.	Steep N.	Cuts across magnetic grain.	Basalt tuffs and flows.	Short strike-length, near edge of interpreted buried intrusive. Not drill tested.
K	3	800 m (possibly truncated to the S).	Mostly strong-medium DPR and SPR.	Steep N.	Close to the edge of a remanently magnetized probable intrusive. May be shallower than intrusive.	Contact between rhyolite tuff and basalt tuffs and flows.	On S edge of VTEM survey. Not drill tested. These strong conductors need to be explained.
L	3	450 m.	Strong-weak SPR.	Steep.	Transects the edge of a remanently magnetized probable intrusive. May be shallower than intrusive.	Contact between rhyolite tuff and basalt tuffs and flows.	Similar to TZ K. Not drill tested. A nearby weak conductor extending into the remanently magnetized intrusive may have been tested by drill hole 90K18.
M	2	1 300 m.	Weak SPR and DPR and surficial.	Probably N, but weak and poorly defined.	Mag low, aligned with mag trends.	Fold axis - conglomerate, basalts tuffs, argillite, gabbro sill, basalt tuffs and flows and rhyolite tuff.	Possible plunge to W. Eastern part appears surficial. This part possibly tested by drill hole WKC01.

TZ	Priority	Strike_length	Conductors	General_dip	Mag_correlation	Geology	Comments
N	2	900 m.	One medium SPR, nine weak DPR/SPR	Mostly steep N	Loose correlation with weak mag high.	Crosses contact between rhyolite tuff and basalt tuffs and flows, intruded by tonalite.	W part has different characteristics than E part. Strongest conductor on Line 1820. Not drill tested.
O	3	1 200 m.	Weak SPR.	Too weak to decipher.	Correlates with weak mag trend.	Limestone, near contact with rhyolite tuff.	Weak, but continuous conductor. Possibly tested at E end by drill hole E059.
P	3	1 000 m.	Weak DPR and surficial.	Flat-dip to N.	Mag low, but aligned with mag trends.	Rhyolite tuff, near contact with basalt tuffs and flows.	Weak conductor. Not drill tested.
Q	3	1 200 m.	Weak SPR	Too weak to decipher.	No obvious correla-tion.	Rhyolite tuff at east end, conglomerate at west end.	Very weak, possibly deeper conduc-tors. Not drill tested.
R	1	1 100 m.	Strong SPR and DPR.	Flat-dip to N.	Central part directly correlates with local mag high.	Limestone and argillite with pyritic rhyolite tuff nearby.	Very conductive section of long strike-length conductor. Characteristics similar to Main lens. Not drill tested.
S	1	1 000 m.	Strong DPR and SPR.	Steep N.	Loose correlation with weak mag high.	Limestone and argillite with pyritic rhyolite tuff nearby.	Possibly folded equivalent of TZ R. Characteristics similar to Main lens. Not drilled tested..

Table 8-2: Proposed Drill Holes

Coordinates are NAD83 UTM Zone 9N										
TZ	Hole Name	Flight line	X	Y	Z	Dip	Az	Length (m)	Expected down-hole depth to conductor (m)	Plate CT (S)
A	TZA_1	3060	546790	6448670	1105	50	185	100	68	24
B	TZB_1	1985	536260	6452210	1475	50	185	300	225	53
C	TZC-1	2230	538665	6451590	1585	50	185	200	147	2
D	TZD_1	2450	540875	6451600	1737	50	185	140	99	50
E	TZE_1	2560	541955	6451060	1705	50	190	110	75	46
M	TZM_1	1690	533300	6452200	1620	60	185	450	370	2
O	TZO_1	1730	533460	6448750	1625	60	185	300	208	0.7
P	TZP_1	1600	532235	6449770	1642	50	185	200	137	7
R	TZR_1	1700	533150	6448420	1555	50	200	175	88	19
S	TZS_1	1800	534098	6447820	1737	50	190	100	65	24

9. PRODUCTS

Table 9-1 lists the maps and products that are provided. Other products can be prepared from the existing dataset, if required.

Base Maps

All maps are created using the following projection and datum parameters:

Datum:	NAD83
Ellipsoid:	GRS 1980
Projection:	UTM (Zone: 9N)
Central Meridian:	129º W
False Northing:	0
False Easting:	500 000
Scale Factor:	0.9996

Table 9-1 Survey Products

The following TargetMaps have been produced at a scale of 1:20 000. Each map includes picked anomalies and TZ, historic drill holes and proposed drill holes based on Maxwell modeling of selected TZ.

- RTP (Reduced to the pole magnetics)
- Magnetics – ZS Tilt Angle
- Magnetics - ZS Block Filter
- EMZ dBdT Channel (6) (220 µs)
- EMZ dBdT Channel (26) (3 521 µs)
- DTM
- AdTau dBdT (cutoff 0.001 pV/Am^4, smoothed)
- KCC Geology
- KCC geology, with historic geophysics from Irvine (2011)

In addition, two maps with the magnetic interpretation overlain have been produced.

- RTP Magnetic image
- Magnetics - ZS Block filter

MultiPlots™ @ 1:20 000 (as PDFs)

Mini-Plates™ (located at the top of each MultiPlots™) – RTP Magnetics, Tilt Angle, EMZ dBdT Channel (26) (3 521 µs), AdTau (dBdT, threshold 0.001 pV/Am^4), DTM

On each MultiPlot™ the picked anomalies are indicated along with the following:

- VTEM dBdT Z 32 Channels (96-7 036 µs)
- VTEM BField Z 32 Channels (96-7 036 µs)
- Profiles of RTP Magnetics, Tilt Angle and 1VD
- Profiles of AdTau dBdT Z (threshold 0.001 pV/Am^4 - smoothed), AdTau BField Z (threshold 0.001 pVms/Am^4 - smoothed), power line monitor,
- LEI CDS from Z dBdT + bird height
- LEI CDS from Z BField + bird height
- UBC MAG3D susceptibility model + bird height
- TrackMap: Tilt Angle + flight path + picked features + Target Zones + historic and proposed drill holes

Processing and Analysis Report (2 hard copies)

Archive DVD contains the following files:

-Databases of primary and derived geophysical data

-Digital grid archives in Geosoft format

-TargetMaps – Geosoft maps files and PDFs

-PA session files for the MultiPlots™

-PDF files for the MultiPlots™

-ArcView shape files of picked anomalies

-ArcView tiff images of Geosoft grids

-Processing and analysis report (PDF)

-Geotech Field report

Note: The original data delivered by Geotech has 50 channels, signified by square brackets, e.g. [0] to [49]. Channels [0] to [13] and [46] to [49] are dummies. Condor used 32 channels from [14] to [45] in our inversions and these were extracted from the Geotech data and new databases constructed. In the Geosoft databases used by Condor and delivered to the client, an array field is used to store the 32 channels, with indexes from 0-31 in standard Geosoft convention. In this report and maps, channel numbers are named according to Condor's array index, indicated by open brackets, e.g. Channel (26). A spreadsheet comparison of channel numbers is included in Appendix A.

10. CONCLUSIONS AND RECOMMENDATIONS

The VTEM survey has provided uniform, state-of-the-art conductivity and magnetic mapping of the area surrounding the Kutcho deposits. This data provide an order-of-magnitude improvement over historic airborne and ground EM/magnetic surveys in this area. The accuracy of the GPS positioning employed is sufficient to enable drill hole design directly from the VTEM survey, without additional ground follow up.

As expected, the shallow Main deposit at Kutcho produces a strong EM anomaly. Maxwell modeling predicts the conductive massive sulphides to extend close to surface and dip approximately 50 degrees north, in conformance with the geological mapping and drilling. The eastern, shallower part of the Sumac lens was also detected, but the deeper portions of the Sumac and Esso lenses do not produce significant responses, probably because of the depth (approximately 400 m in the case of the Esso lens).

A basic interpretation of the aeromagnetic data acquired during the VTEM survey has been carried out. An intermittent, relatively thin magnetic horizon trends just north of the Main lens and a localized magnetic high along this trend is located between the Sumac and Esso lenses, but the mineralization itself does not appear to be magnetic. However, this horizon may be useful as a stratigraphic marker in locating new deposits.

Processing and interpretation of the VTEM data has defined numerous basement conductors, which have been grouped into Target Zones (TZ) and subjectively prioritized according to their conductivity, magnetic association, strike extent and geological association.

Nineteen TZ have been defined, of which four are rated Priority 1, six as Priority 2 and nine as Priority 3 (with Priority 1 being the highest). Many other conductors remain outside the defined TZ, but these mostly appear to be due to conductive cherts and other litho-stratigraphic units. However, additional geological mapping and geochemistry could easily upgrade some of these into TZ.

Ten of the TZ have been modeled using Maxwell software to fit conductor plates on selected flight lines. Drill holes have then been designed to optimally test these conductor plates. Additional modeling and drill hole design can be added to meet client requirements.

The aeromagnetic data produced during the VTEM survey is of good quality and should significantly aid geological mapping. A number of different image enhancements have been produced, which highlight different features in the data and aid mapping of lithology and structure.

An interesting feature of the magnetics is the presence of a number of relatively small, remanently magnetized lows, which appear due to one phase of intrusives. Several TZ lie close to the edges of these intrusives, with relatively strong conductors. It is recommended that ground follow up be carried out to find an explanation for these conductors, which may possibly be skarn mineralization.

Respectfully submitted,

RICHARD IRVINE

CONDOR CONSULTING, Inc.
July 19, 2011

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12. APPENDICES

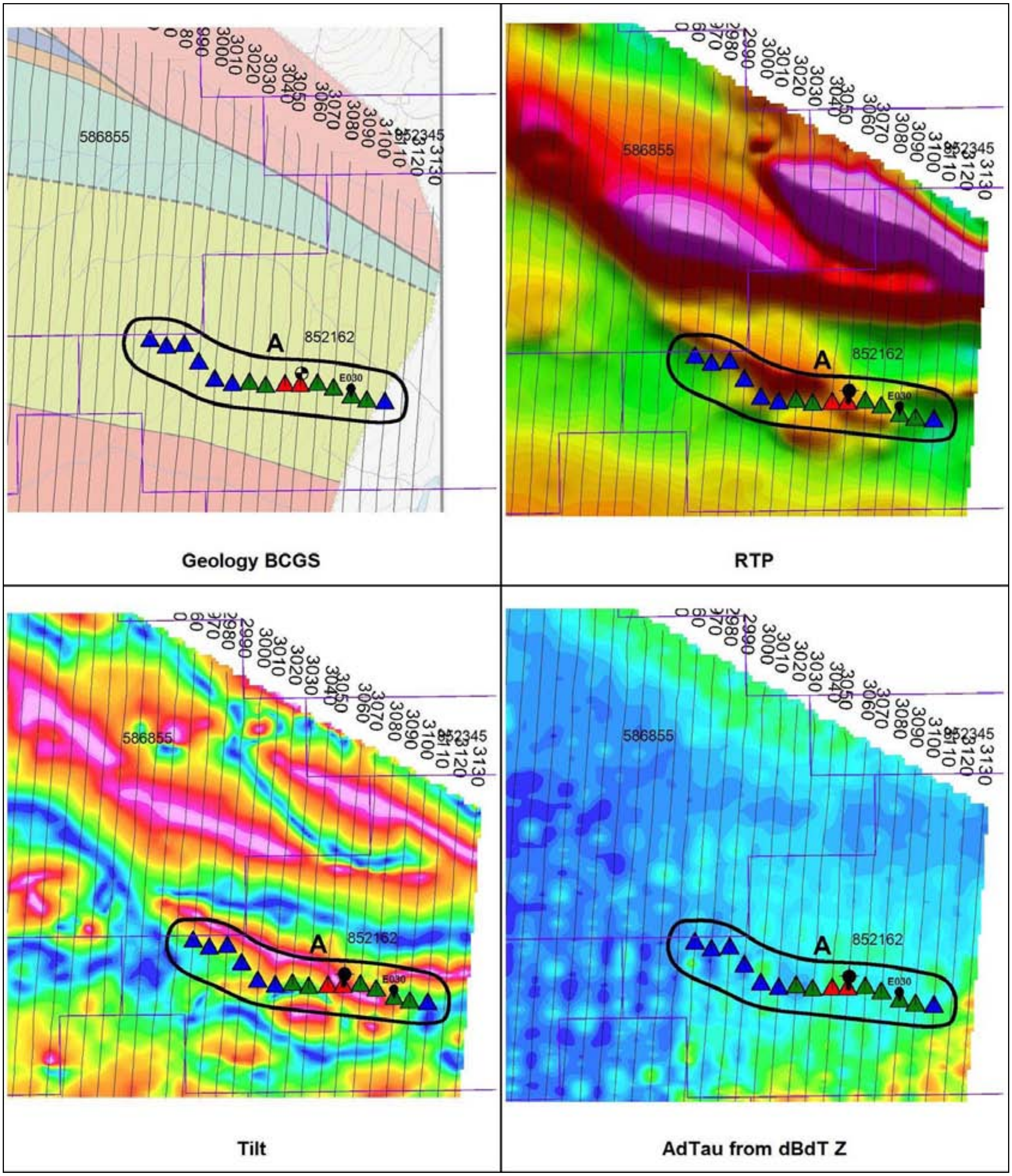
APPENDIX A: DETAILS OF EM PROCESSING

VTEM CHANNEL DEFINITIONS

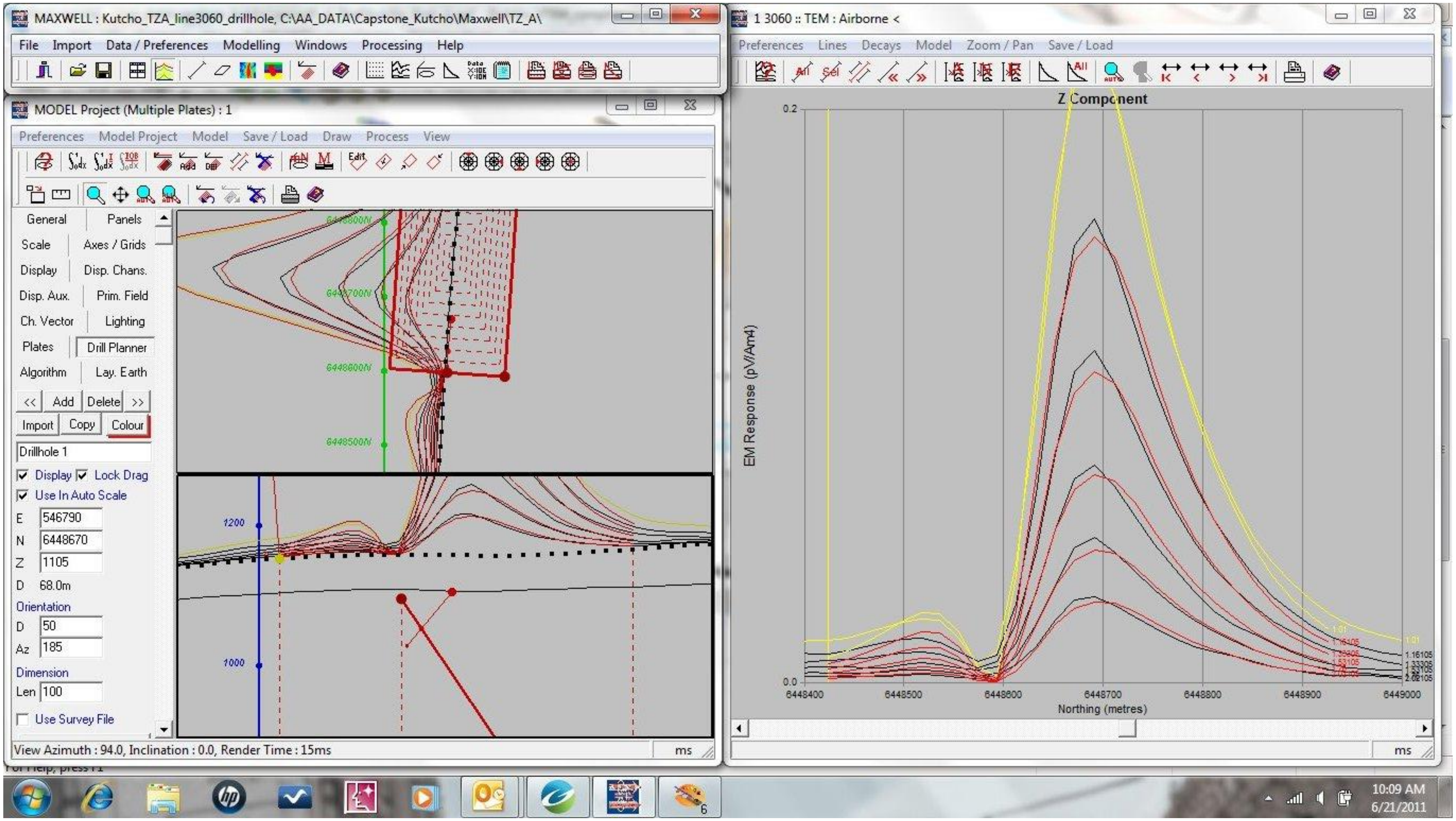
Kutcho VTEM 30 Hz 32 Channels 7.25 ms pulse

Geotech Channel	Condor Geosoft Channel	Center µs	Start µs	End µs	Width µs
[14]	(0)	96	90	103	13
[15]	(1)	110	103	118	15
[16]	(2)	126	118	136	18
[17]	(3)	145	136	156	20
[18]	(4)	167	156	179	23
[19]	(5)	192	179	206	27
[20]	(6)	220	206	236	30
[21]	(7)	253	236	271	35
[22]	(8)	290	271	312	40
[23]	(9)	333	312	358	46
[24]	(10)	383	358	411	53
[25]	(11)	440	411	472	61
[26]	(12)	505	472	543	70
[27]	(13)	580	543	623	81
[28]	(14)	667	623	716	93
[29]	(15)	766	716	823	107
[30]	(16)	880	823	945	122
[31]	(17)	1010	945	1086	141
[32]	(18)	1161	1086	1247	161
[33]	(19)	1333	1247	1432	185
[34]	(20)	1531	1432	1646	214
[35]	(21)	1760	1646	1891	245
[36]	(22)	2021	1891	2172	281
[37]	(23)	2323	2172	2495	323
[38]	(24)	2667	2495	2865	370
[39]	(25)	3063	2865	3292	427
[40]	(26)	3521	3292	3781	490
[41]	(27)	4042	3781	4341	560
[42]	(28)	4641	4341	4987	646
[43]	(29)	5333	4987	5729	742
[44]	(30)	6125	5729	6581	852
[45]	(31)	7036	6581	7560	979

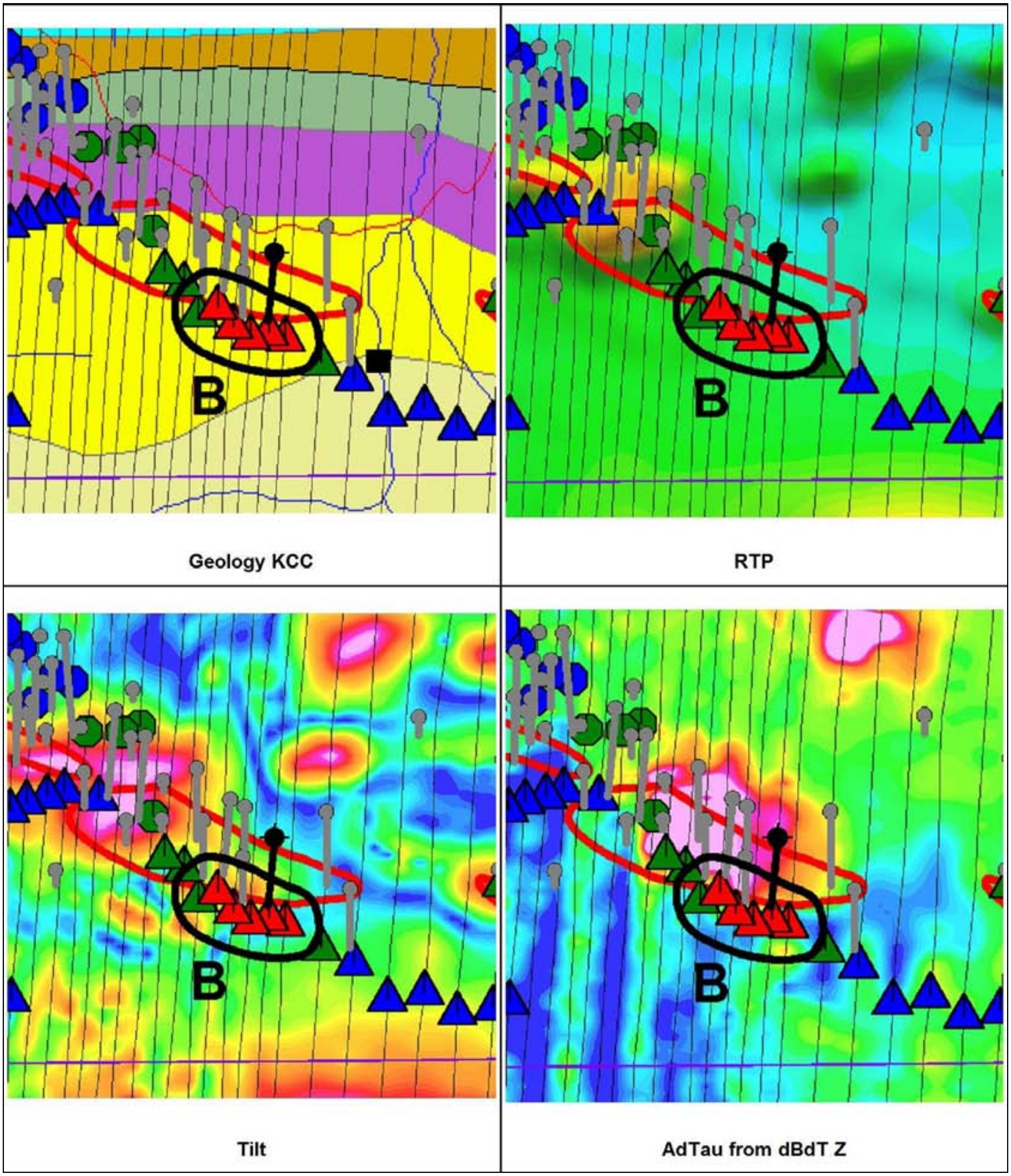
APPENDIX B: TARGET ZONE DETAILS



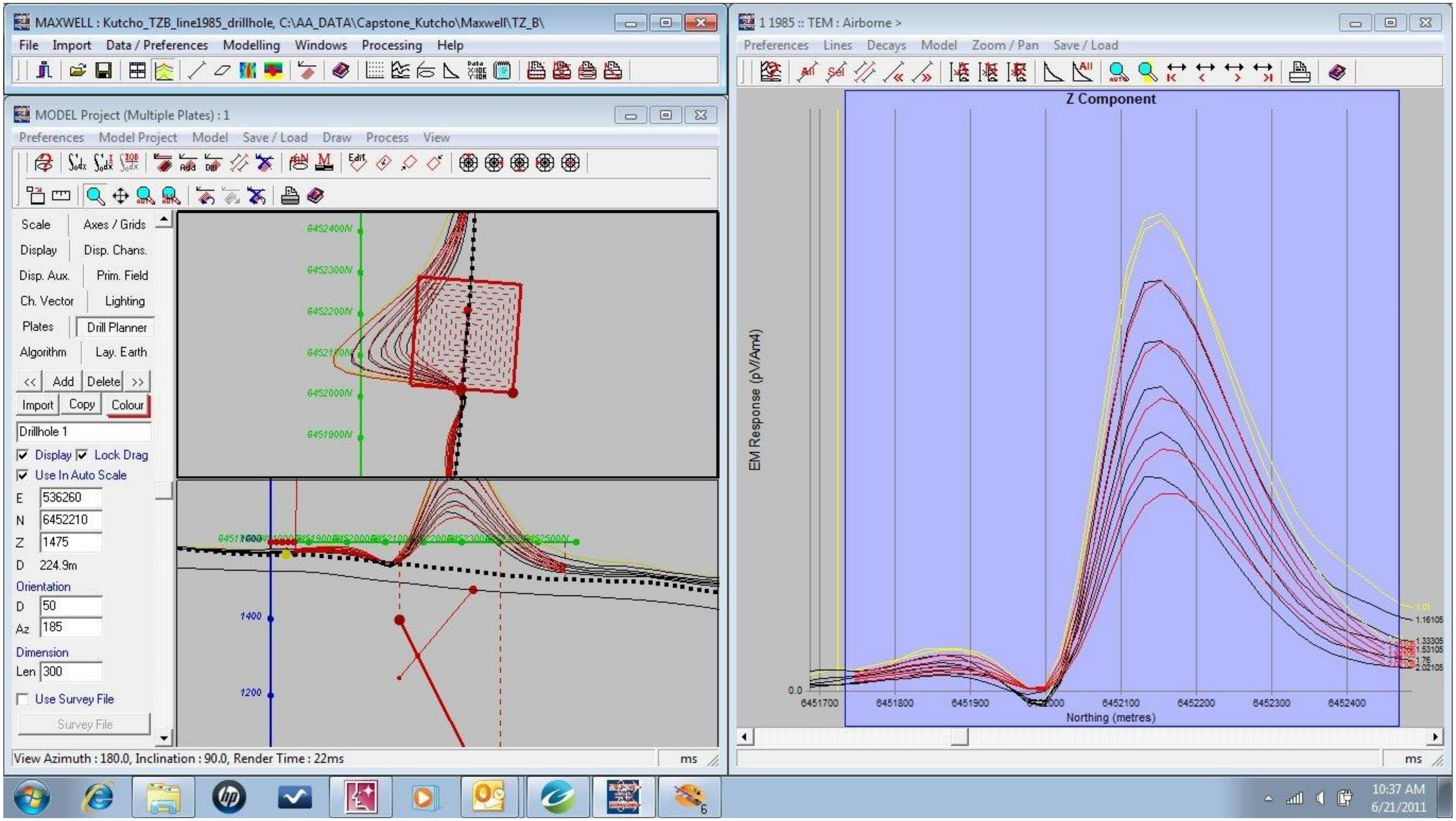
TZ A – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



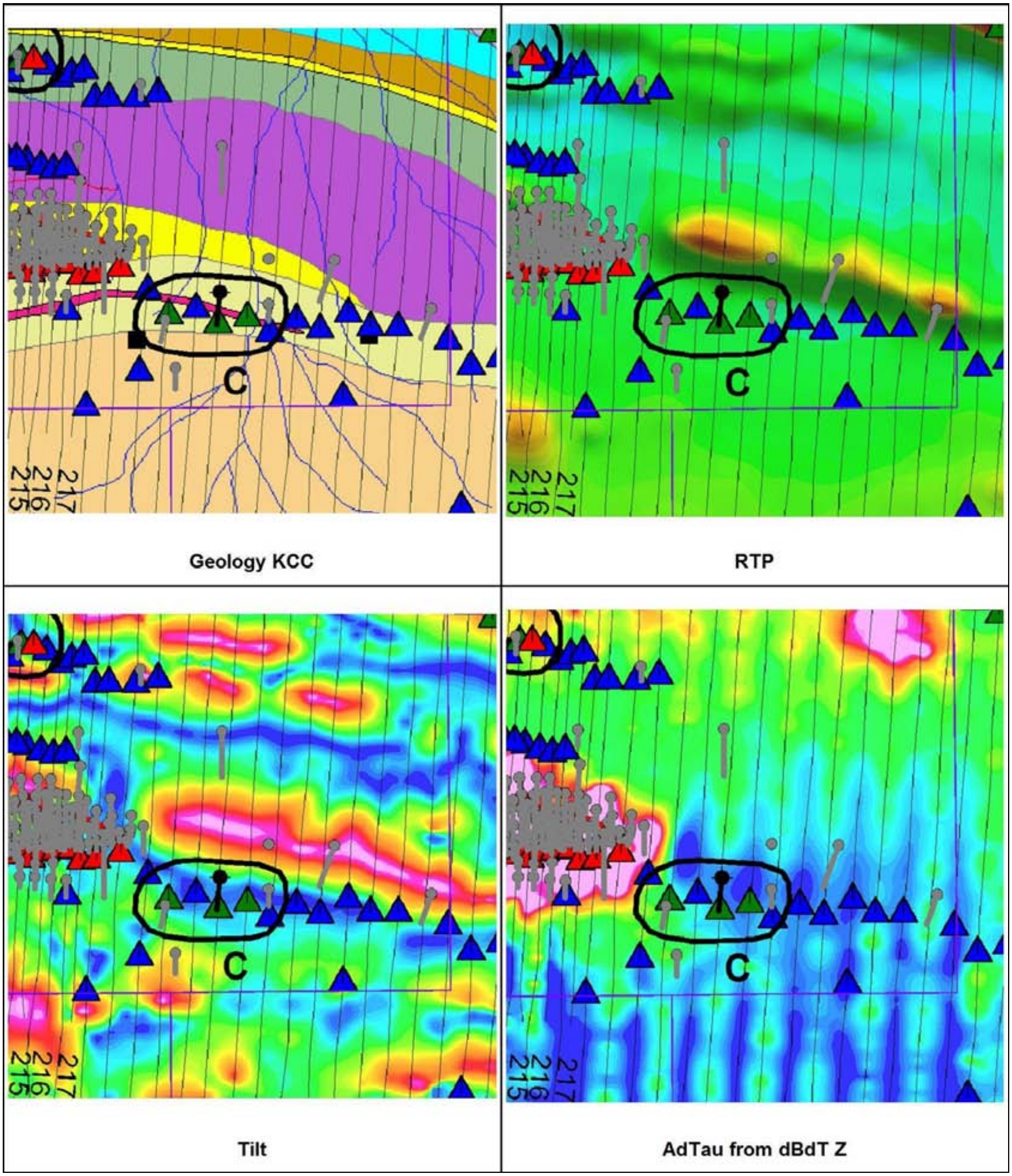
TZ A – Maxwell model and proposed drill hole location.



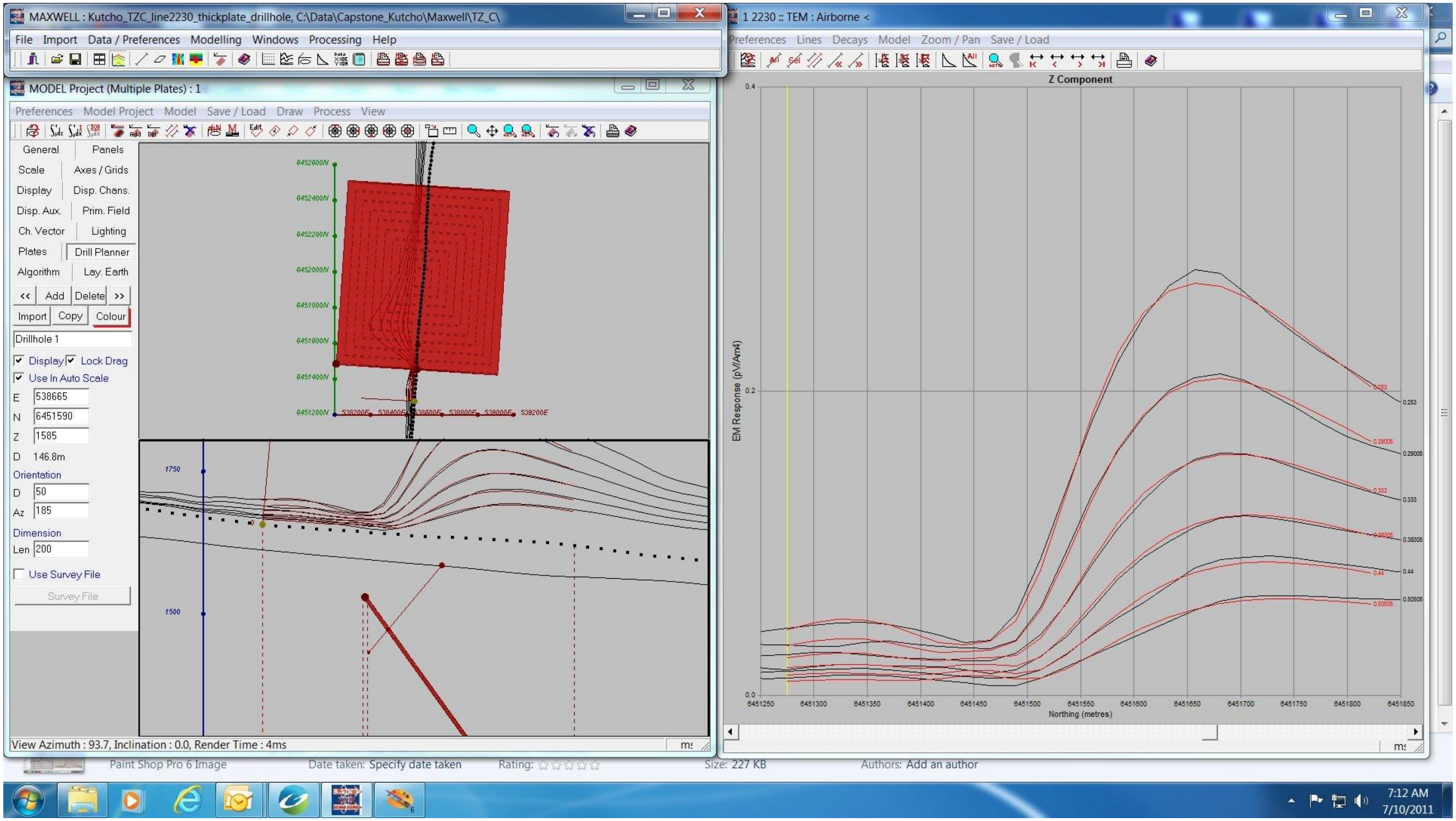
TZ B – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



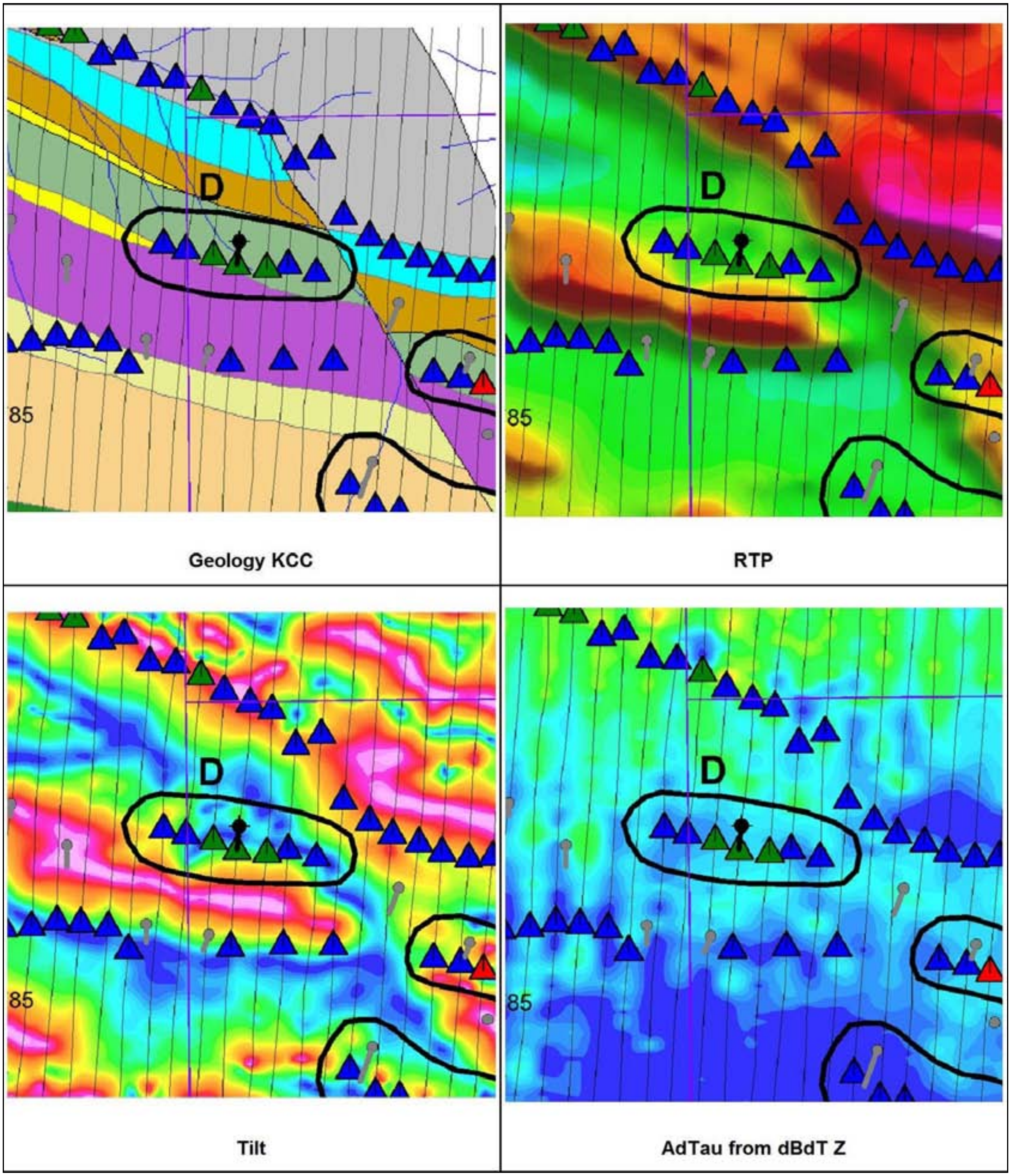
TZ B – Maxwell model and proposed drill hole location.



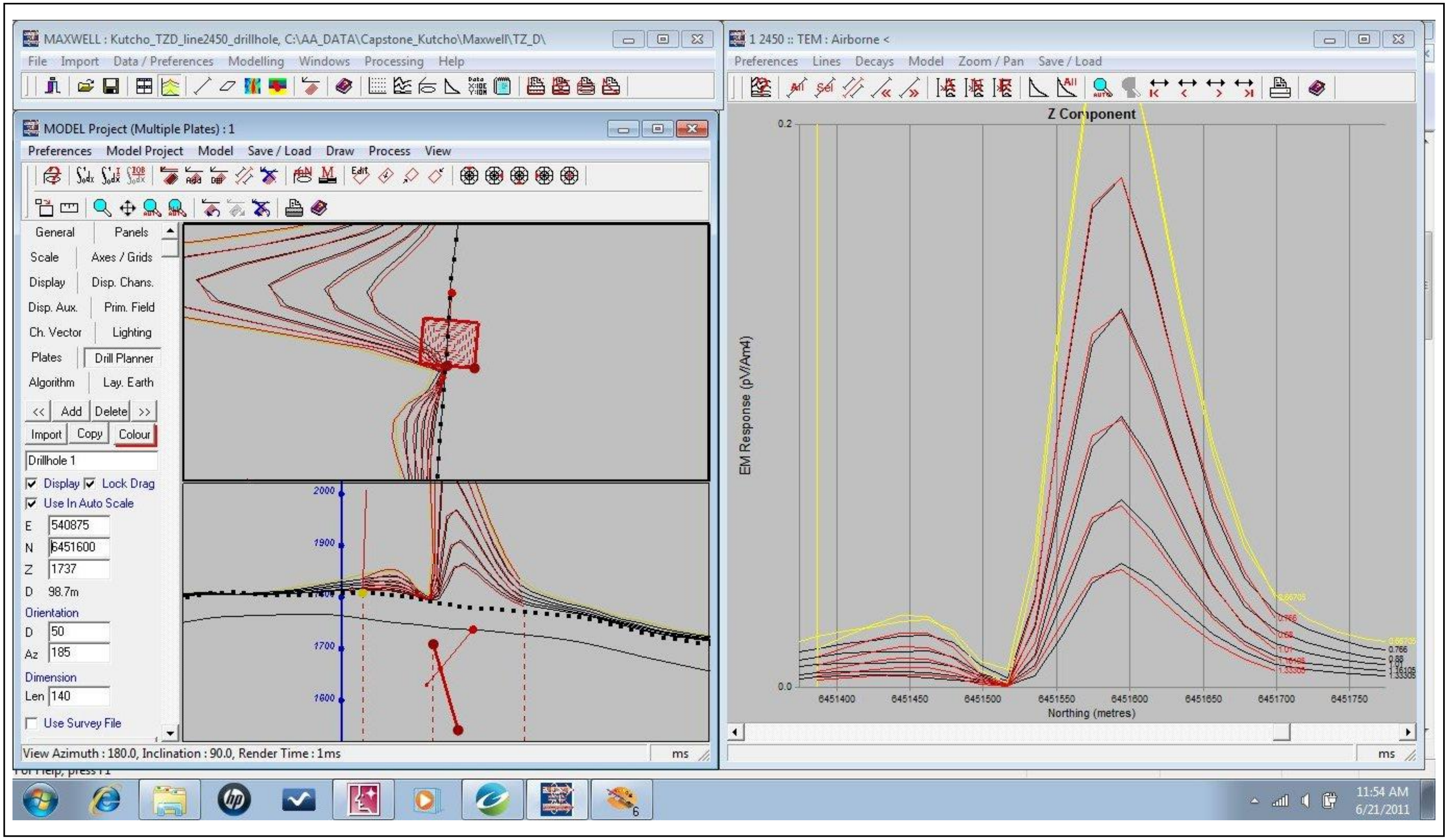
TZ C – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



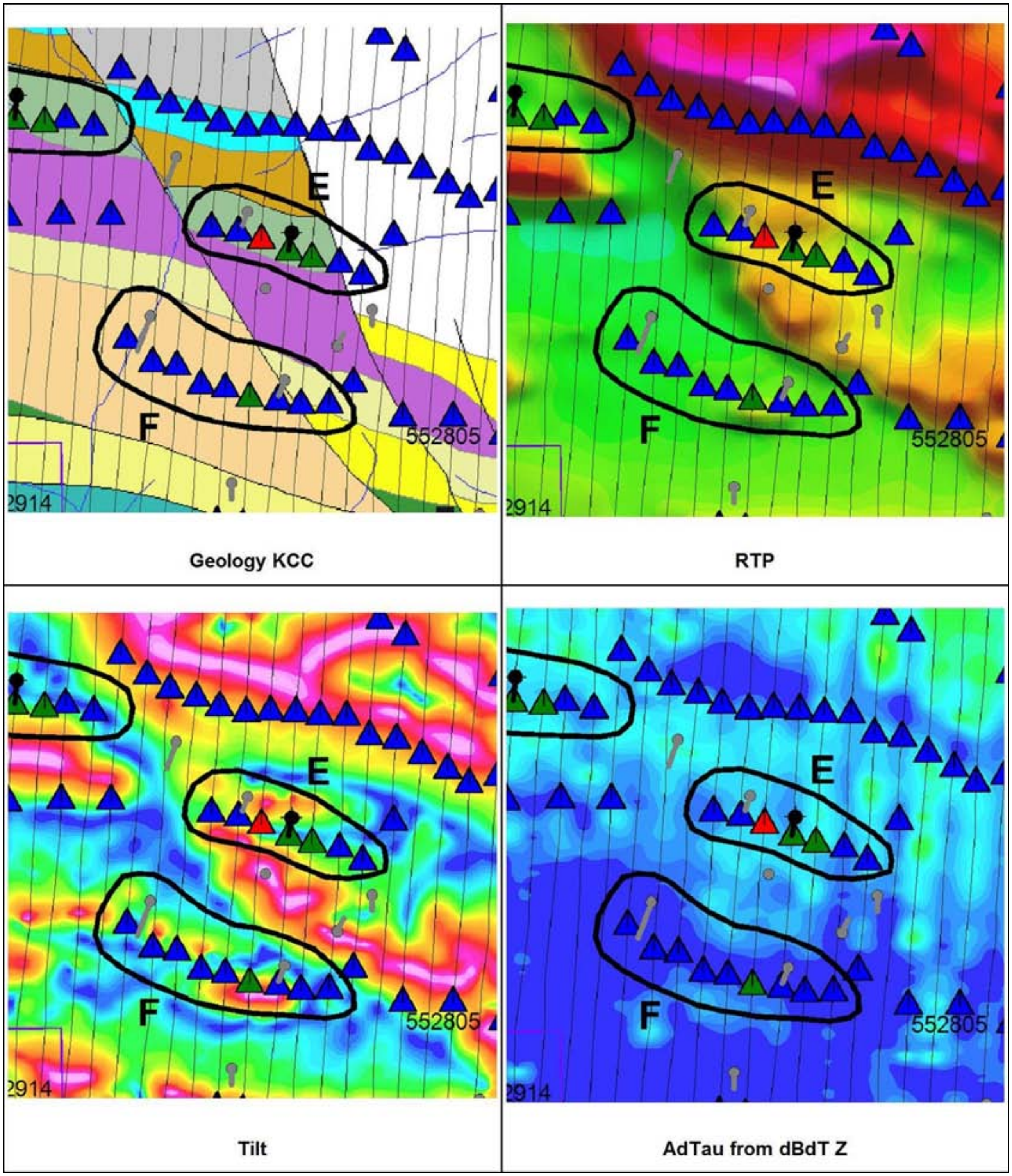
TZ C – Maxwell model and proposed drill hole location.



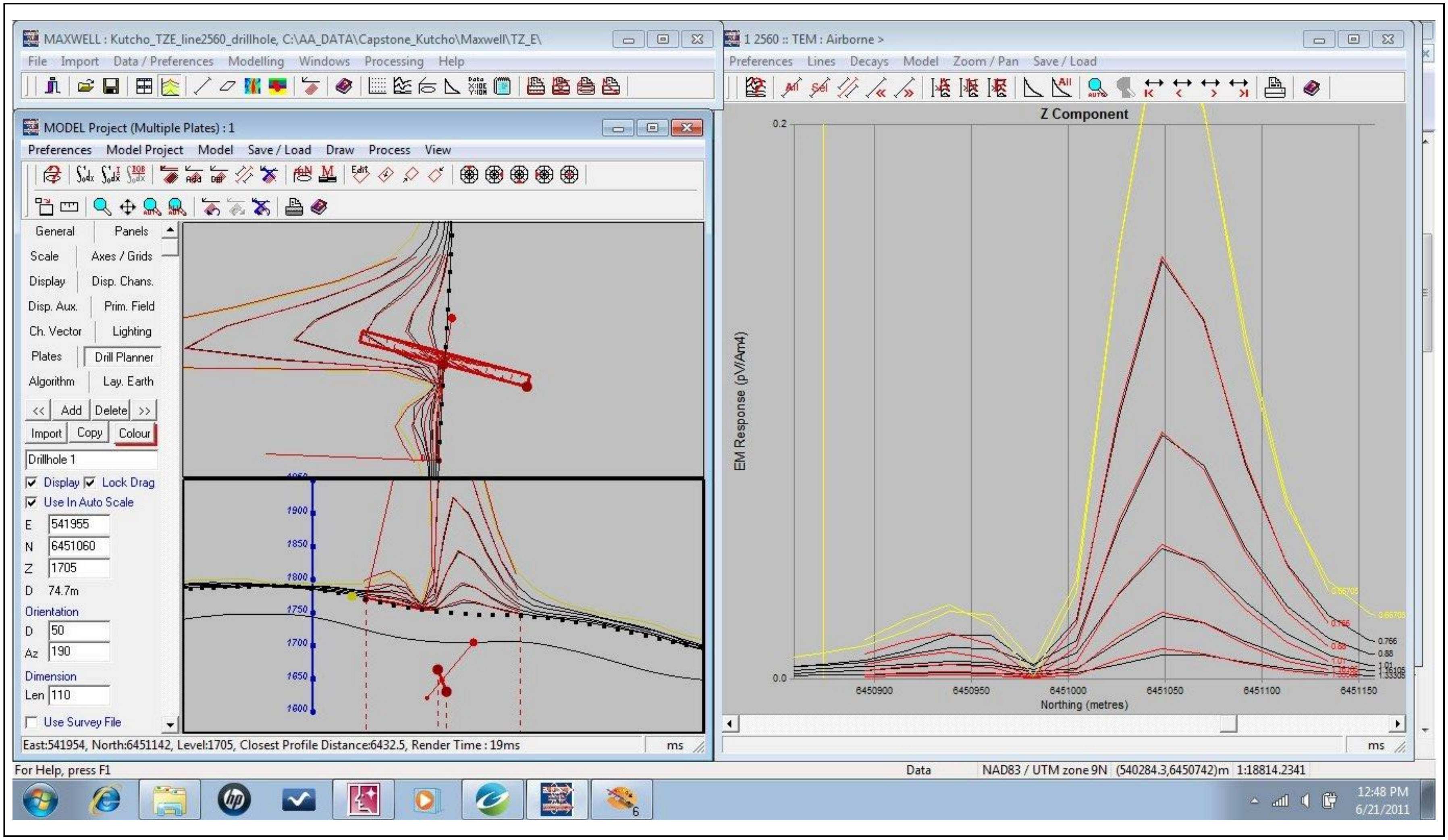
TZ D – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



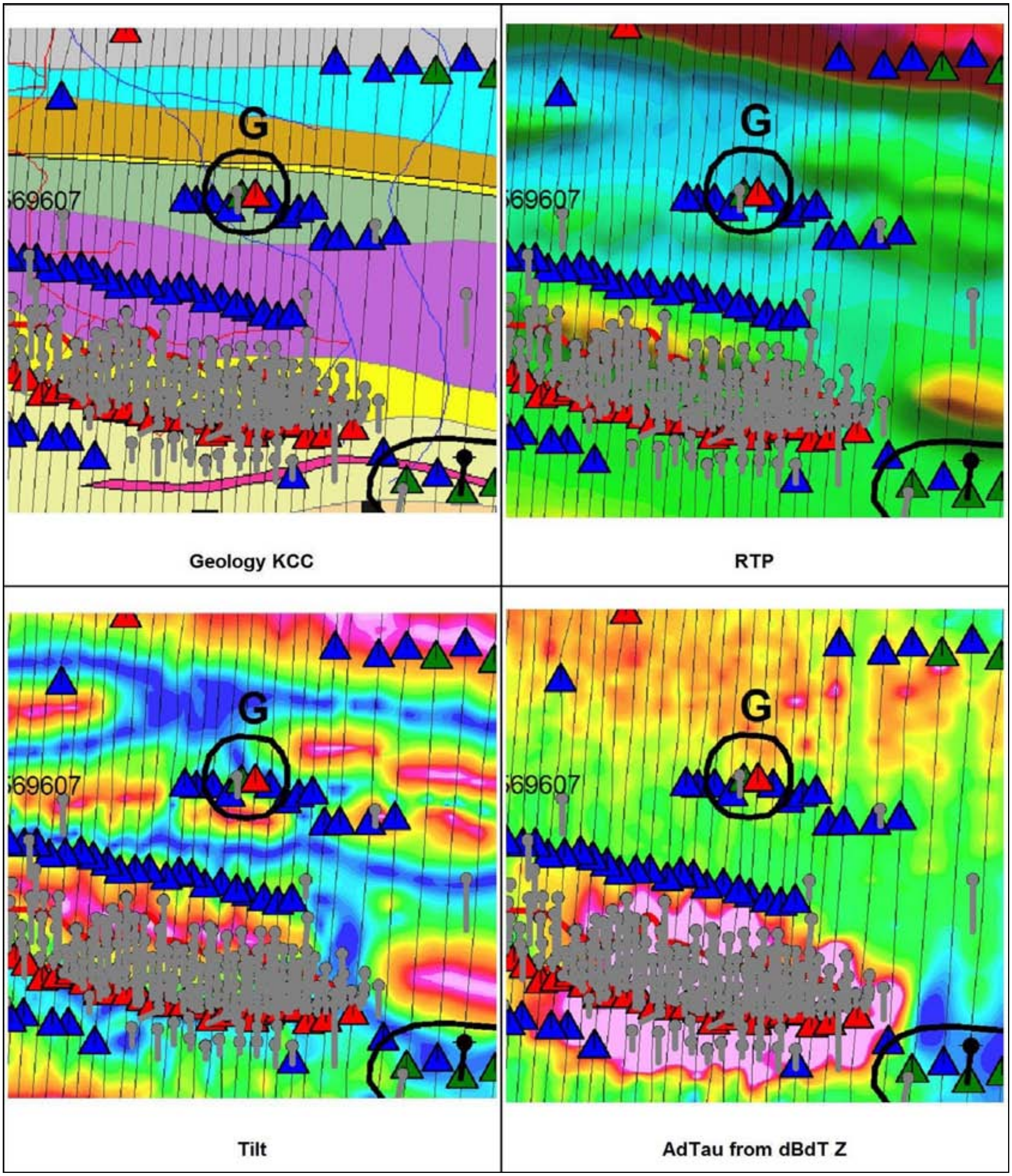
TZ D – Maxwell model and proposed drill hole location.



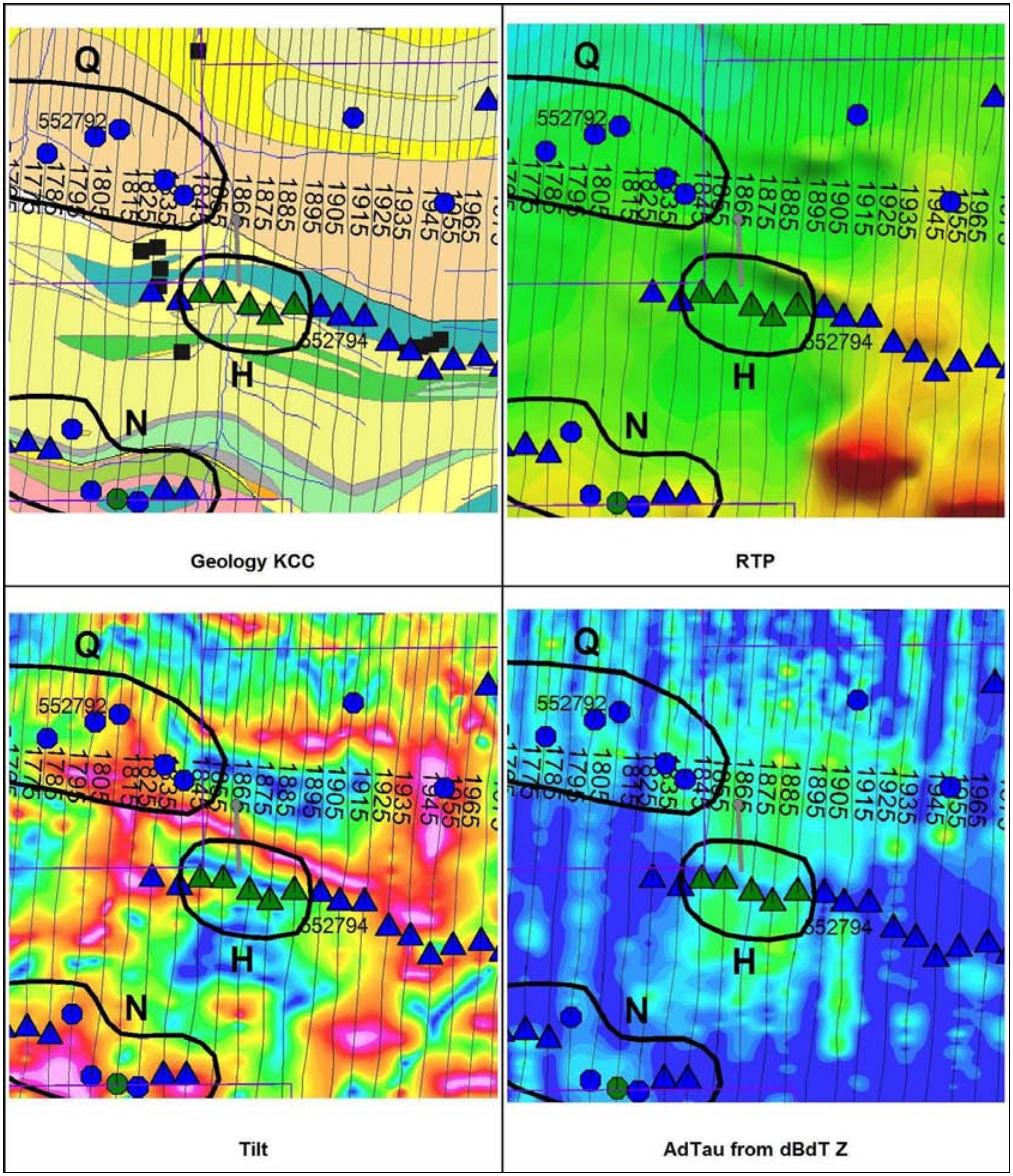
TZ E and F – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location for TZ E.



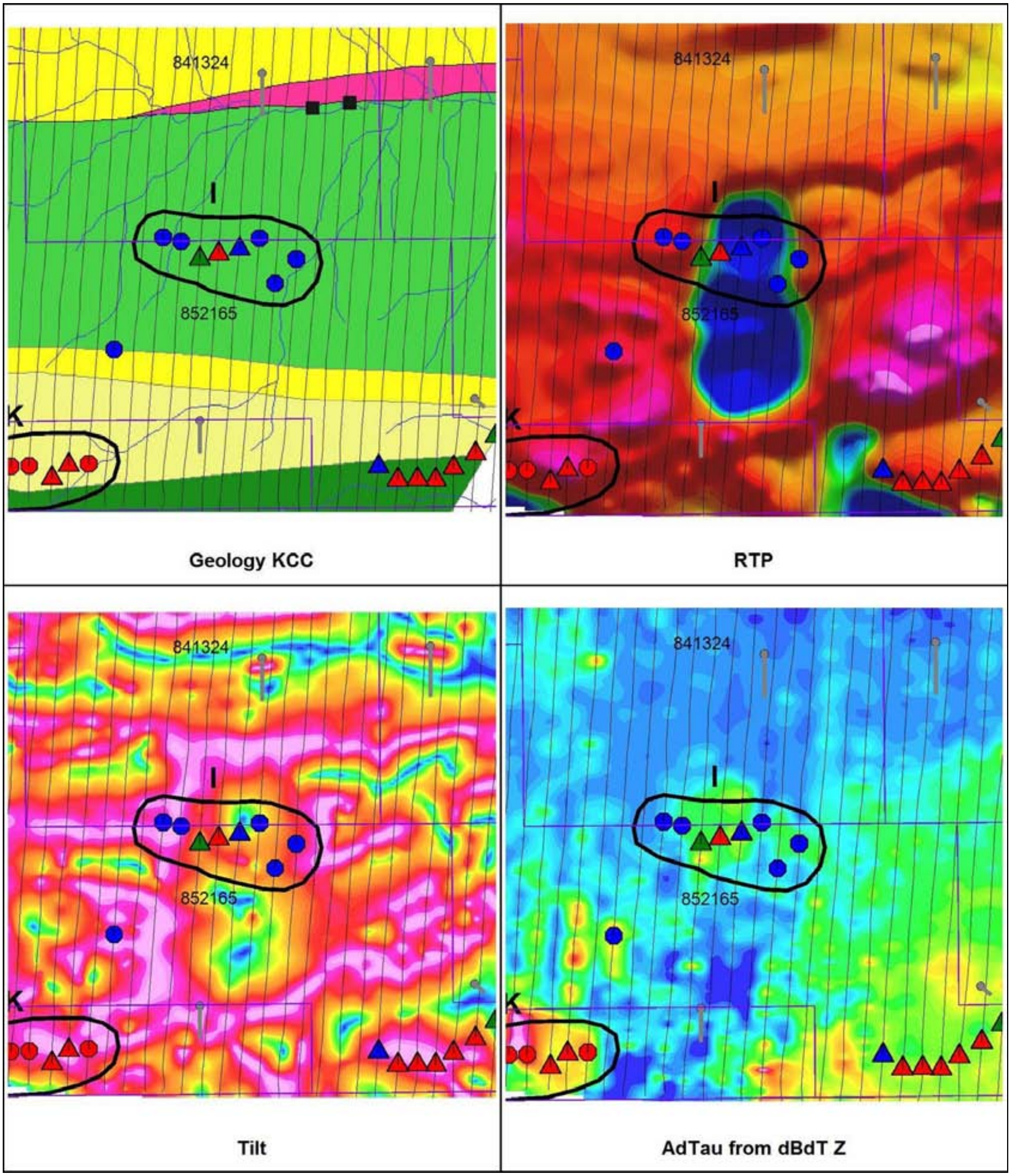
TZ E – Maxwell model and proposed drill hole location.



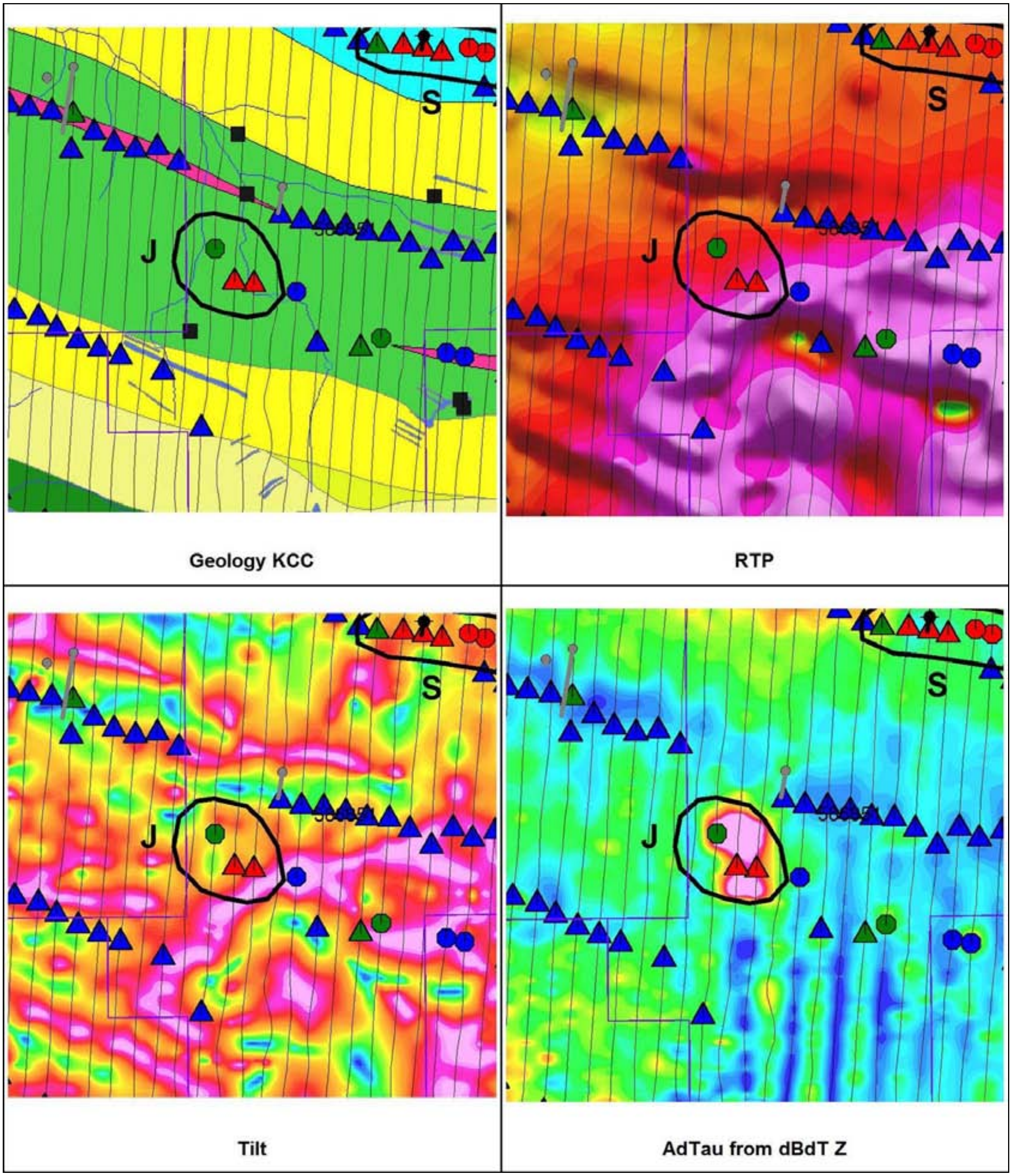
TZ G – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



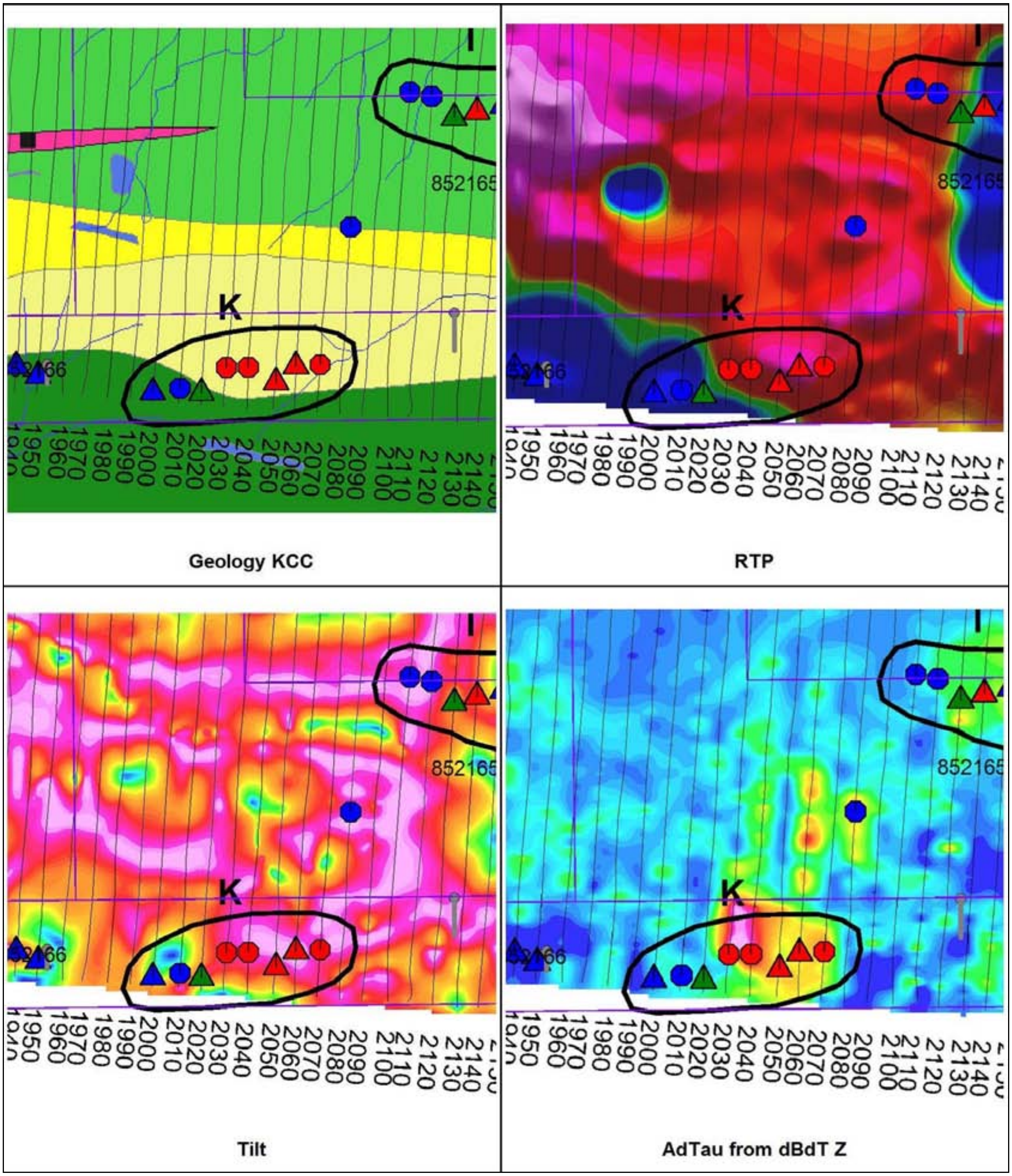
TZ H – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



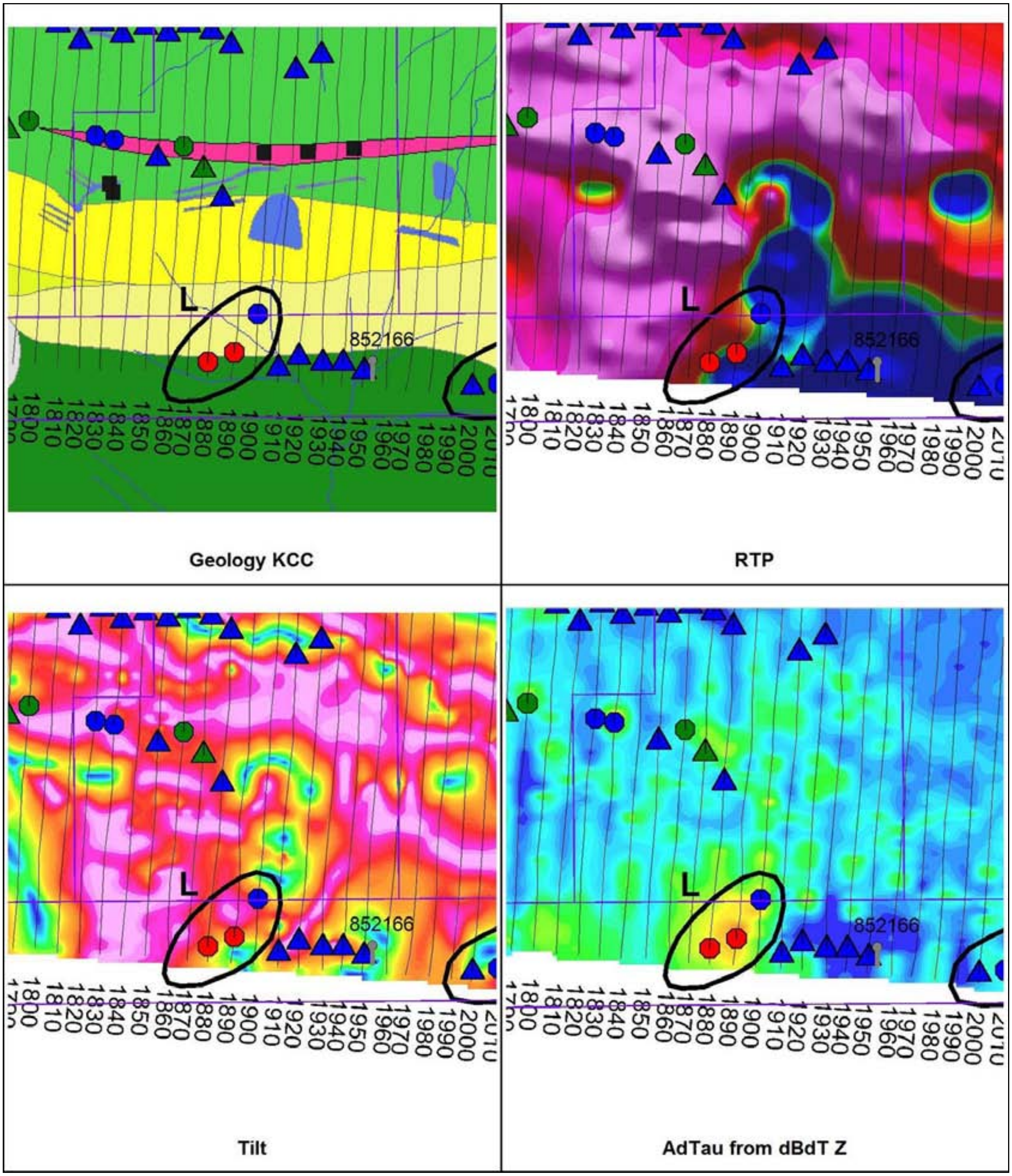
TZ I – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



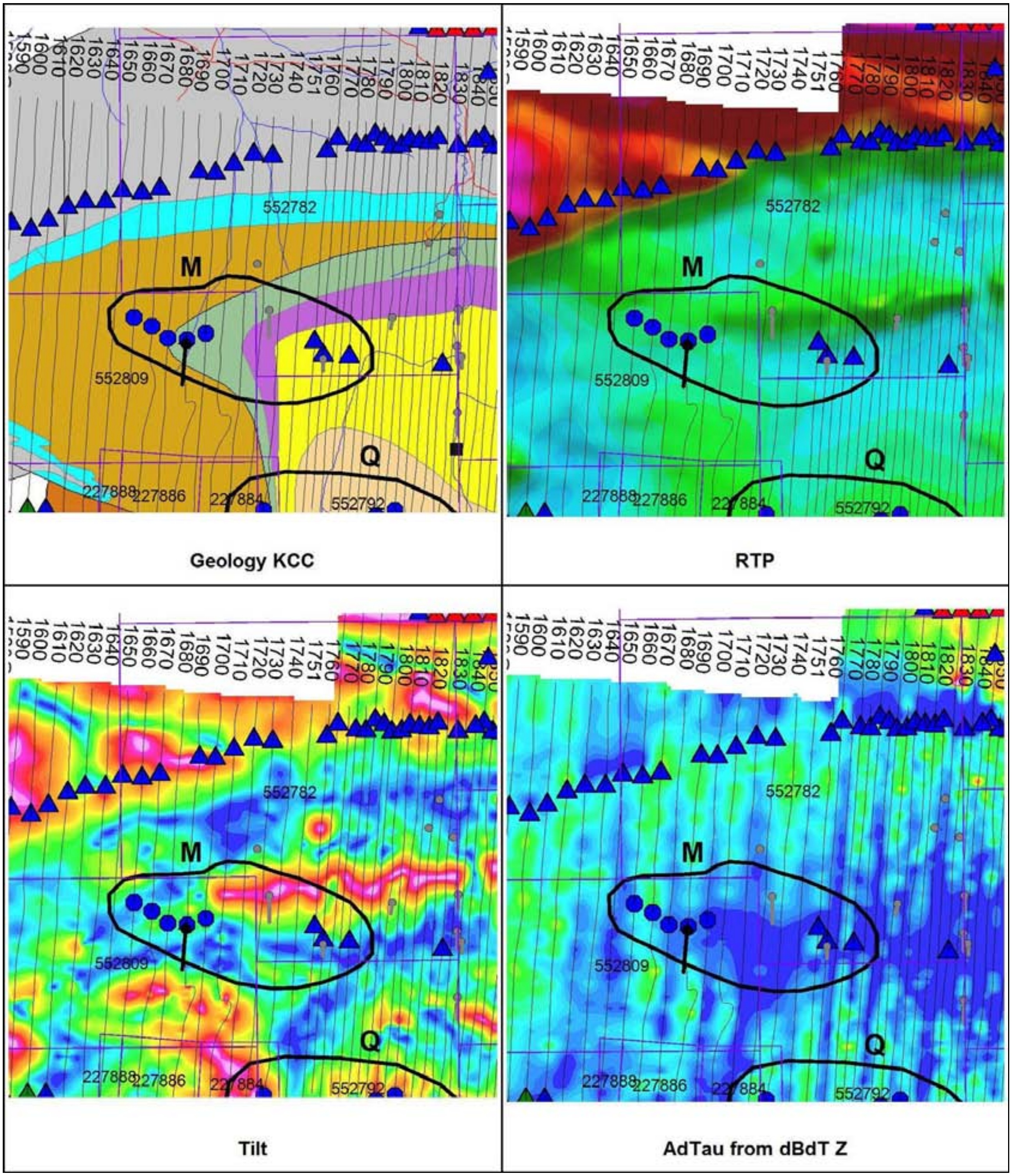
TZ J – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



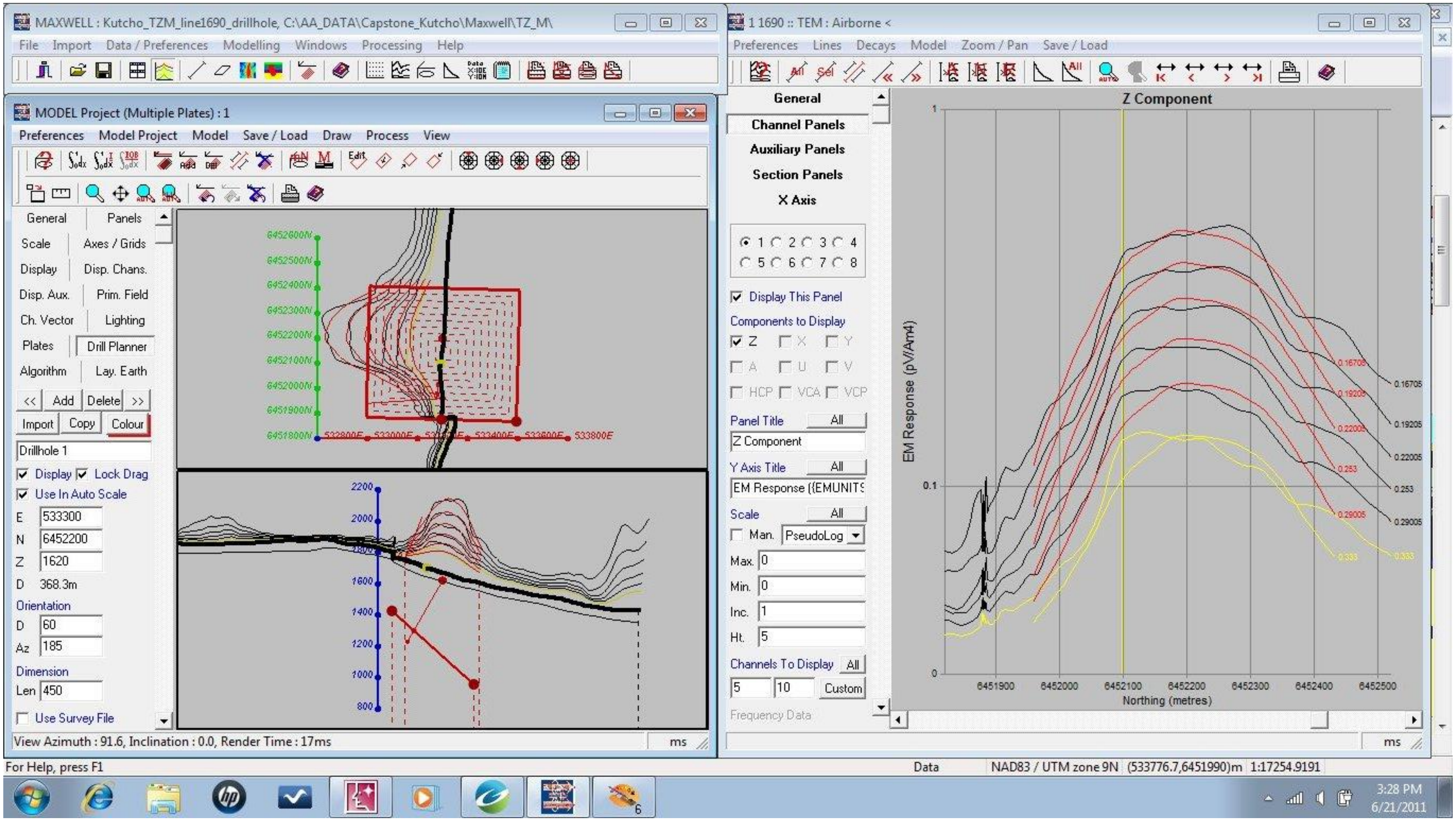
TZ K – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



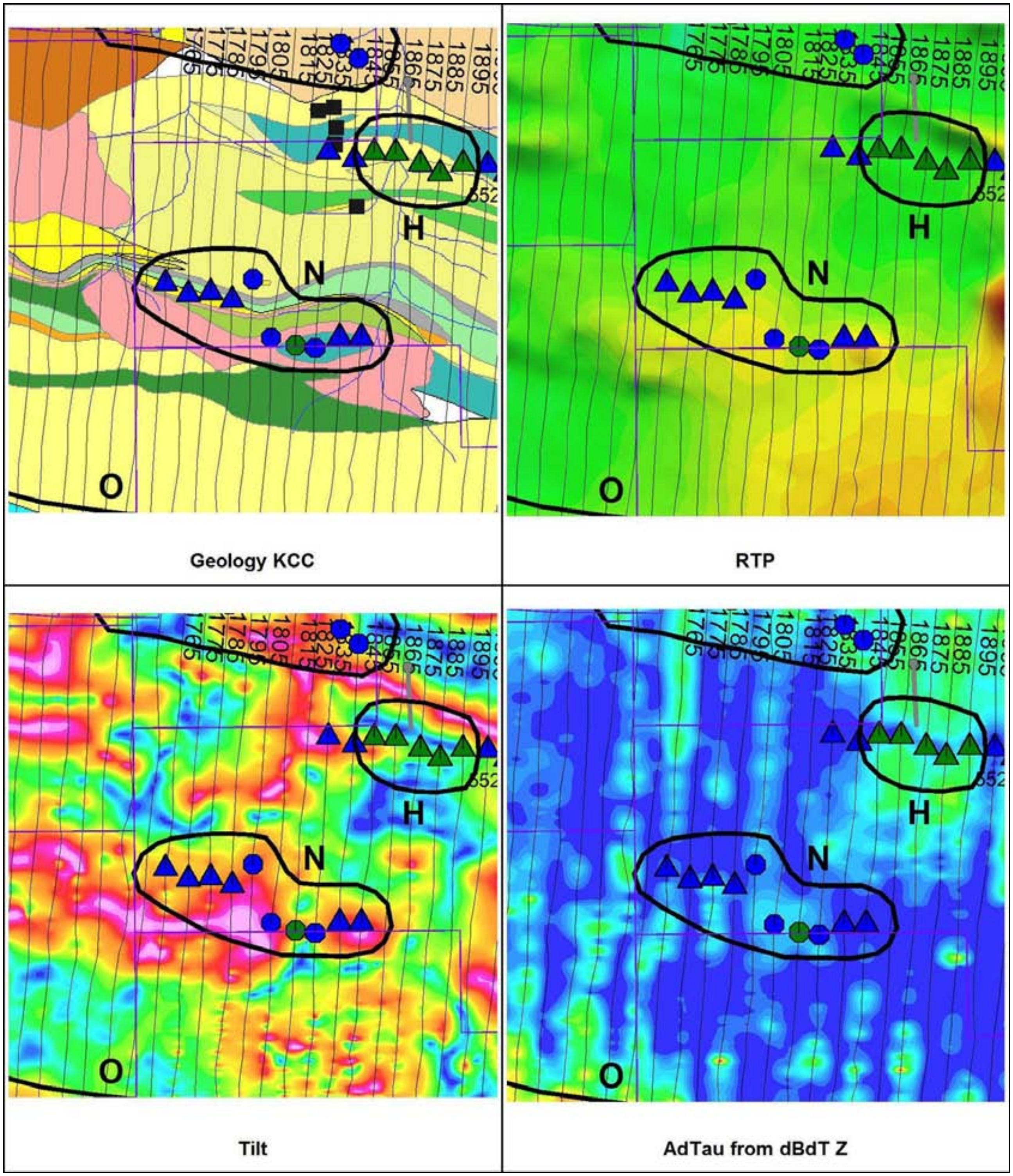
TZ L – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



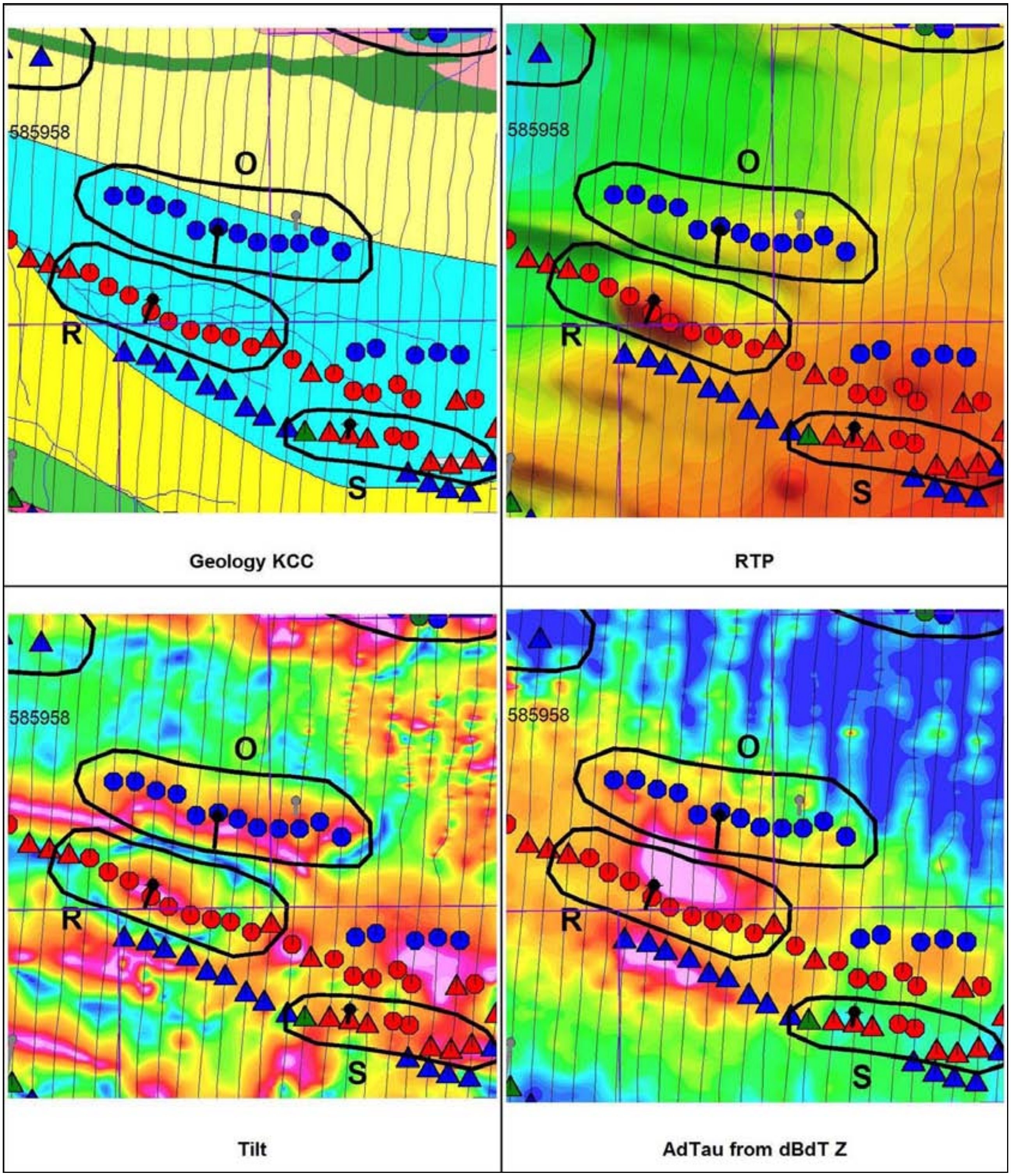
TZ M – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



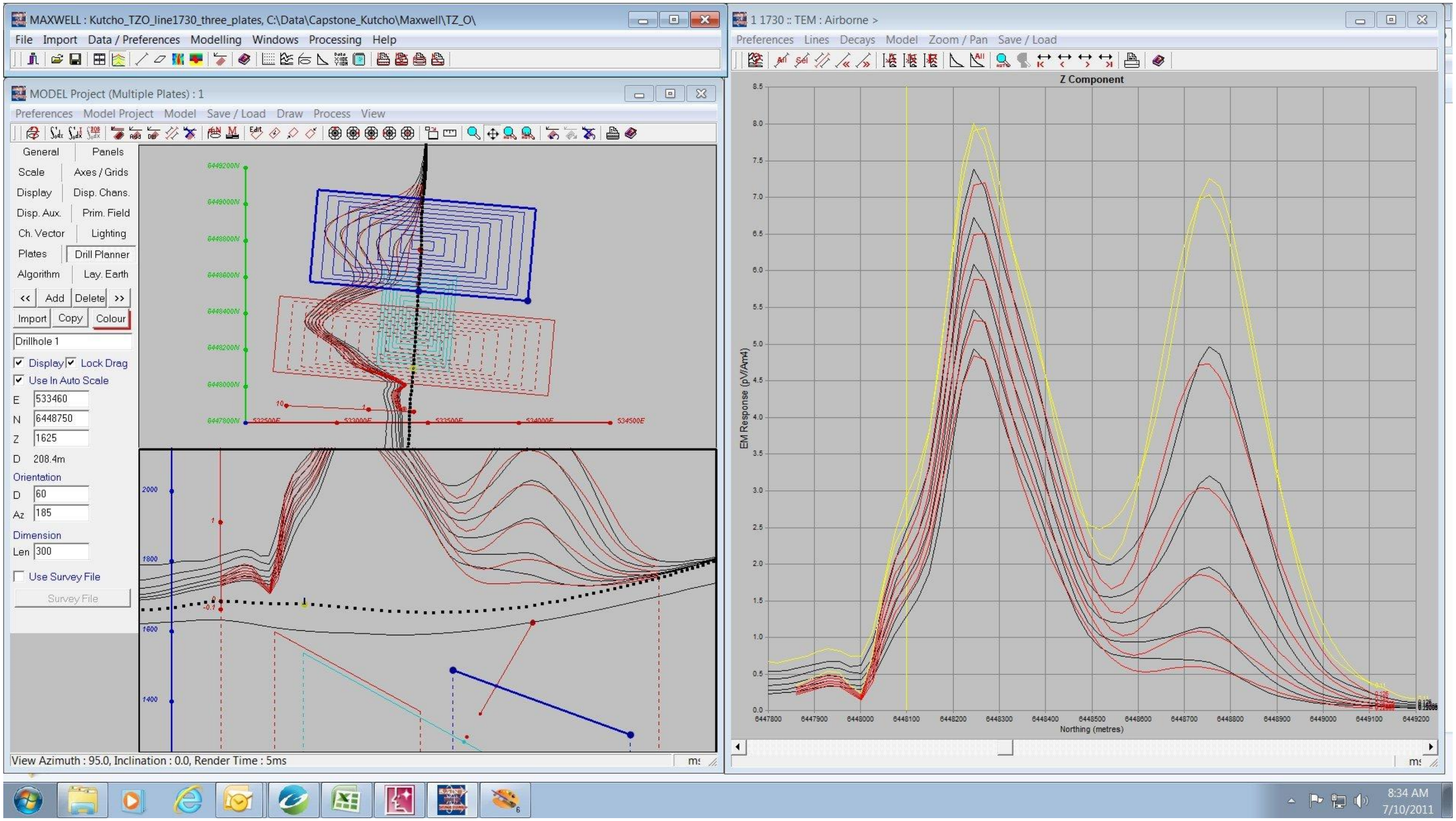
TZ M – Maxwell model and proposed drill hole location.



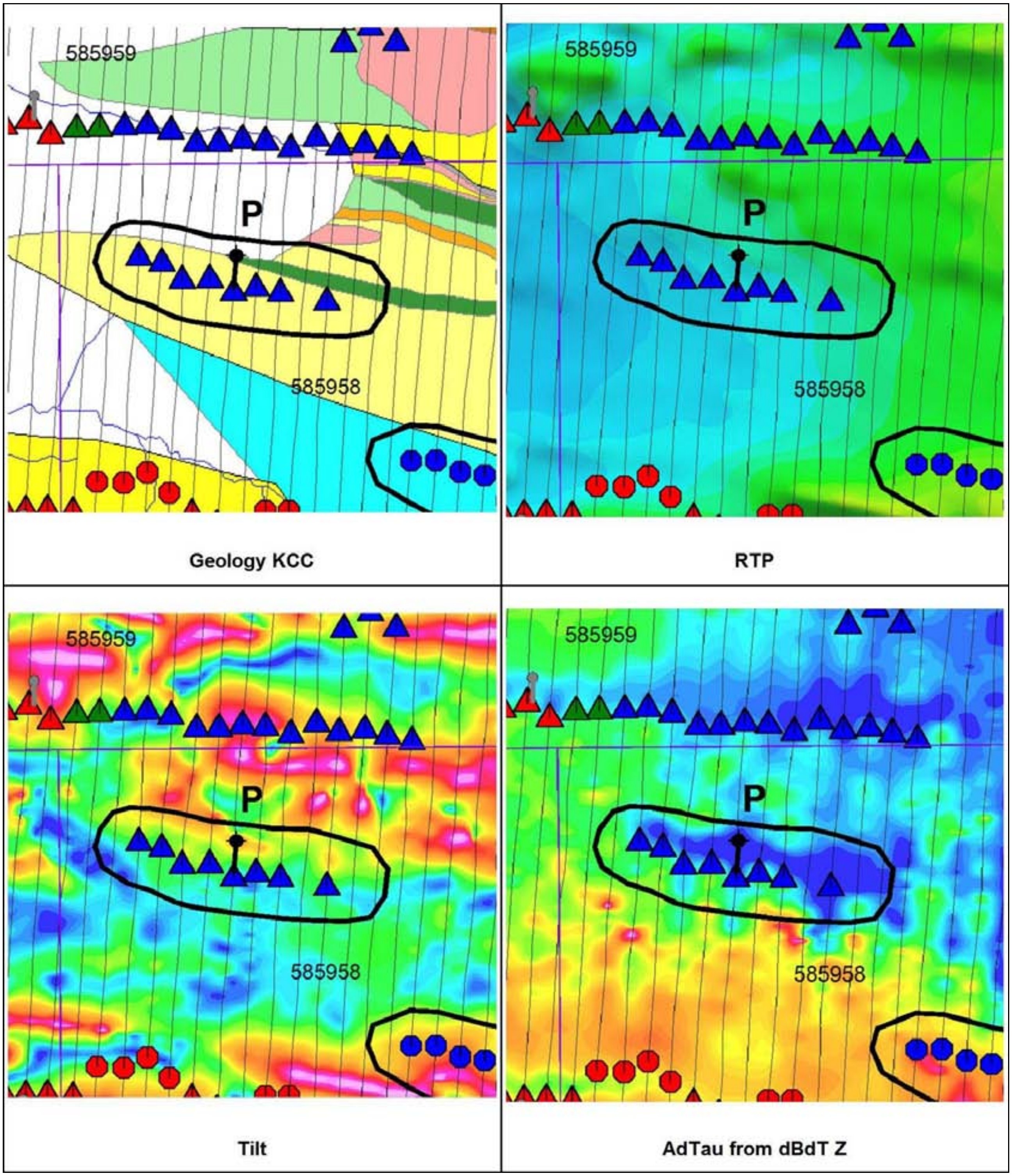
TZ N – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



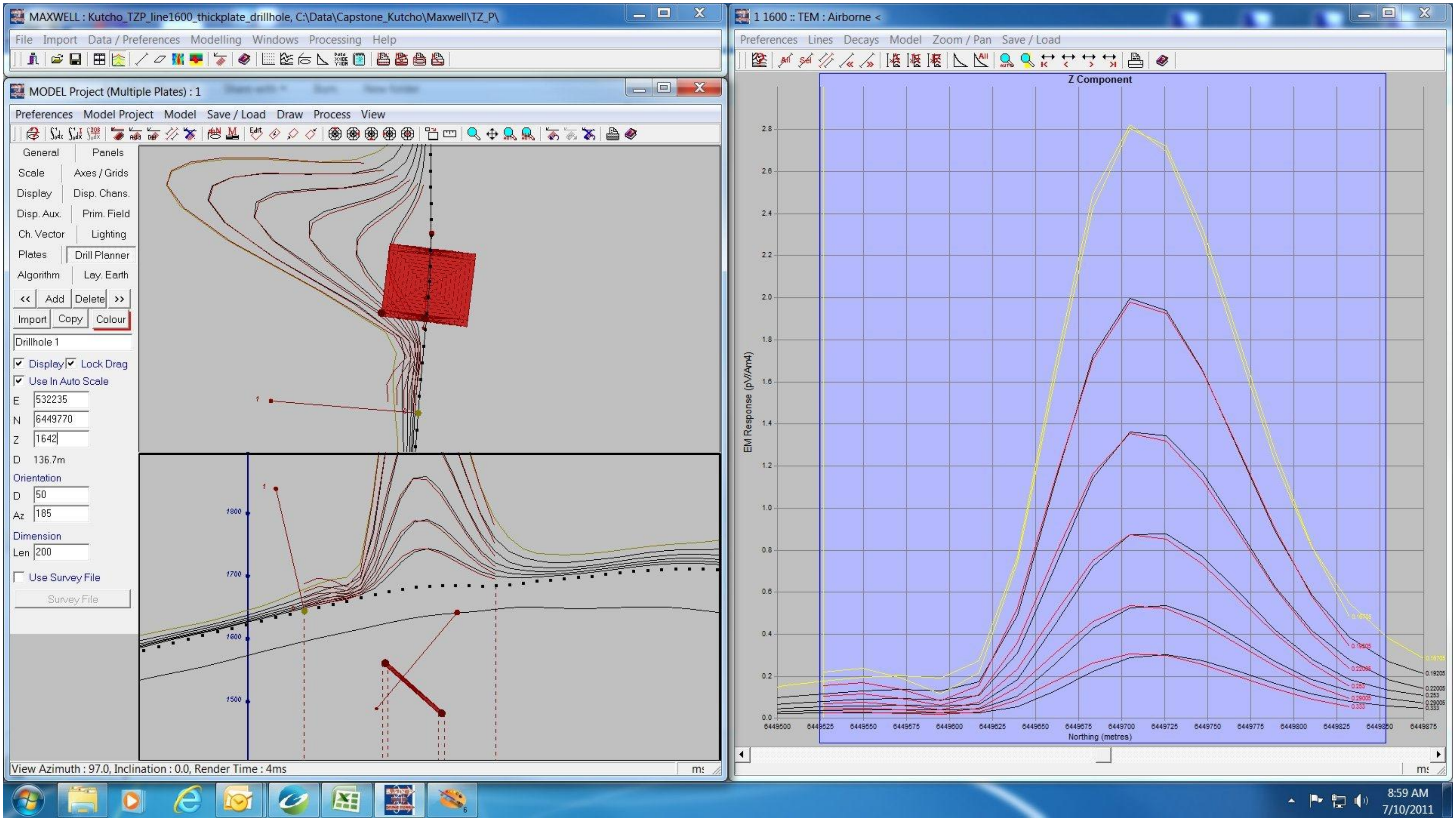
TZ O – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



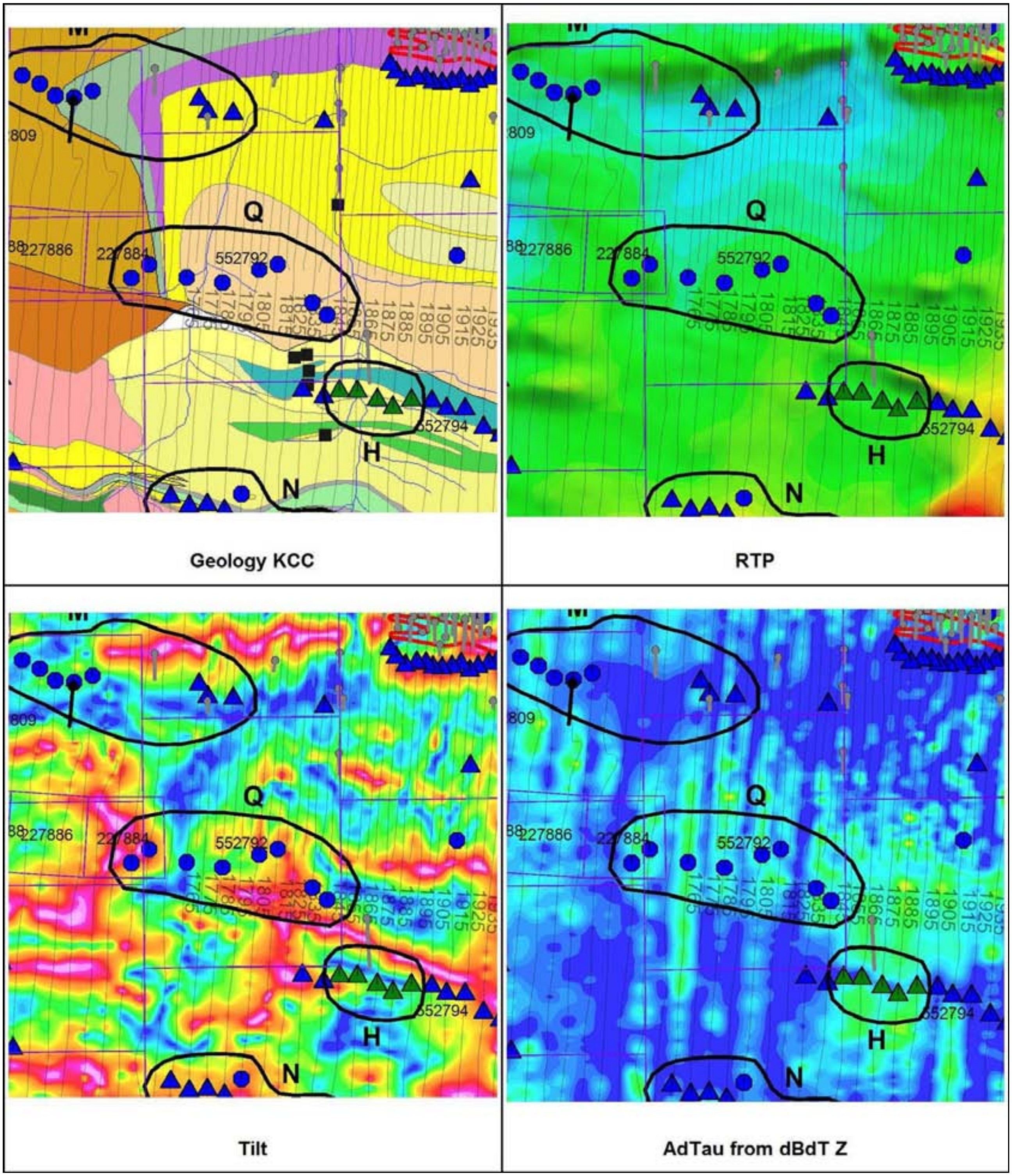
TZ O – Maxwell model and proposed drill hole location.



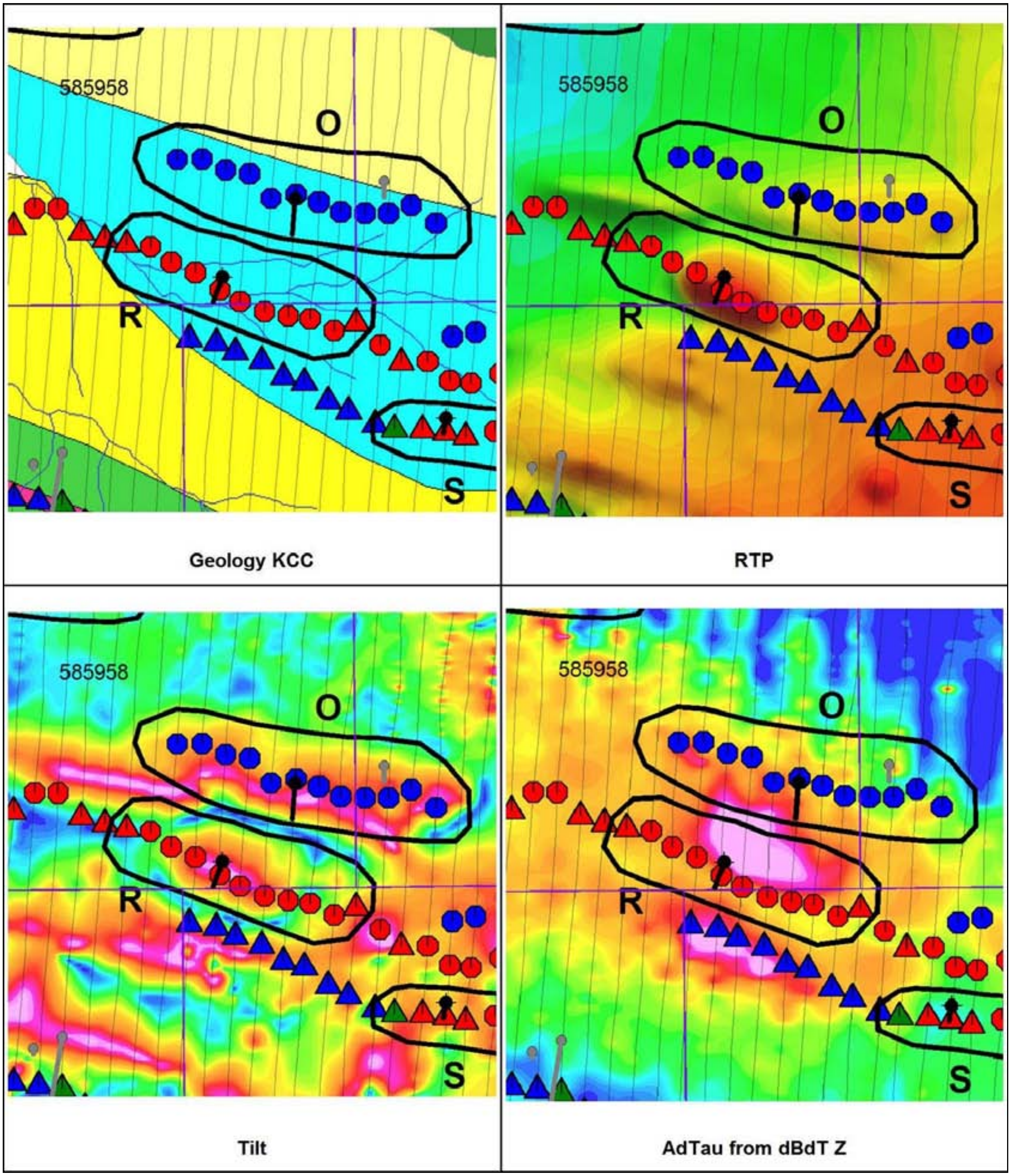
TZ P – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



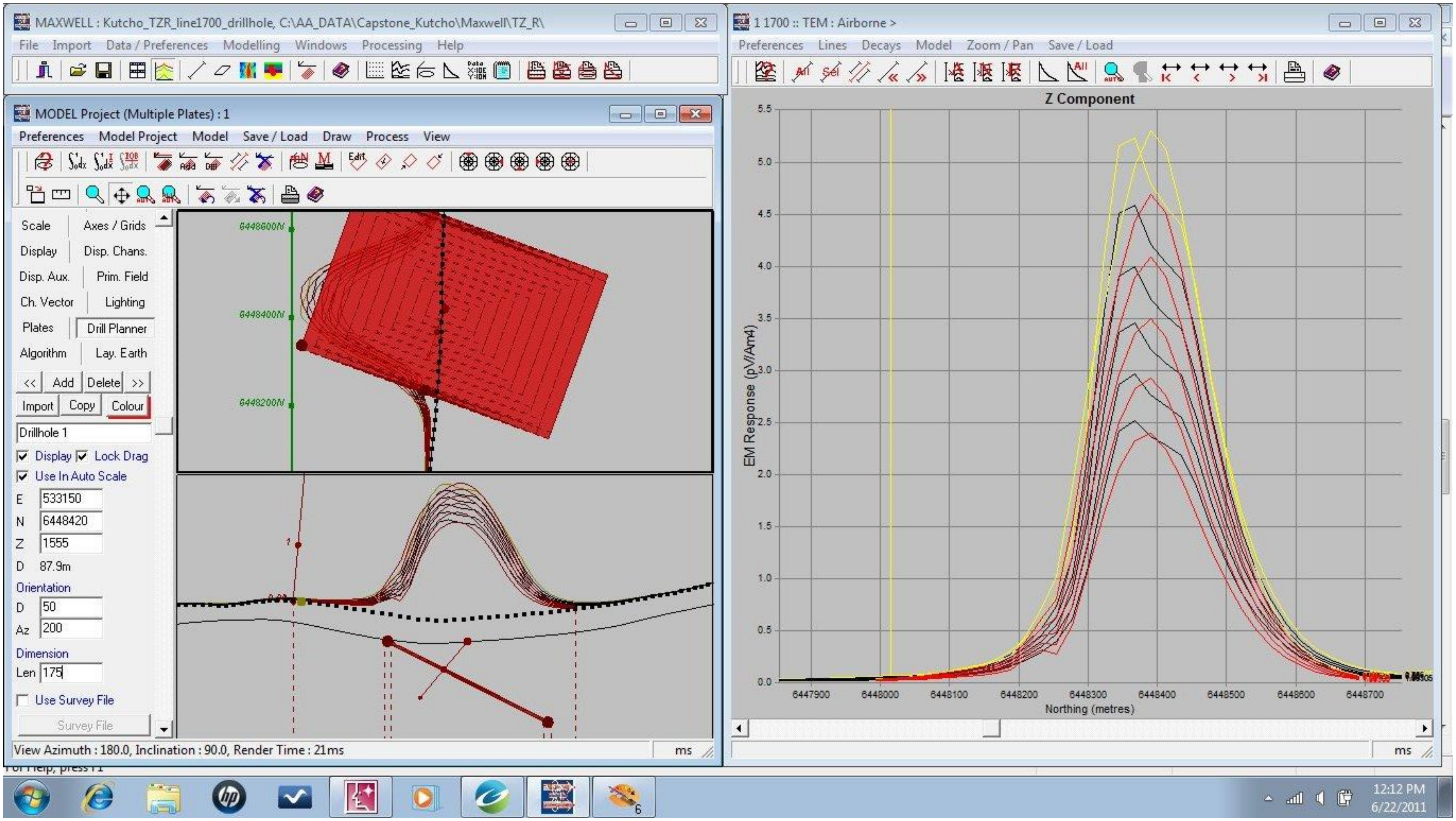
TZ P – Maxwell model and proposed drill hole location.



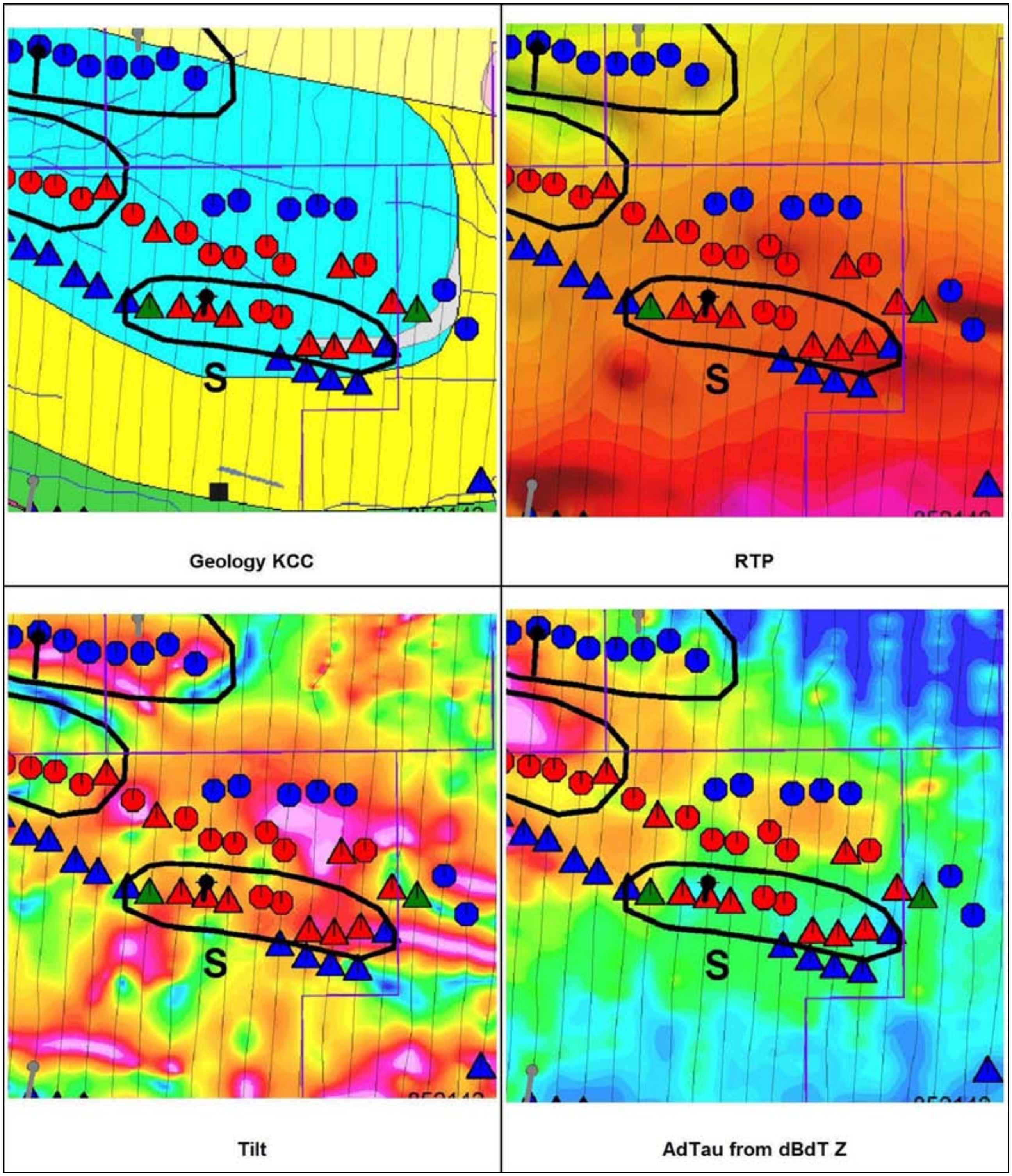
TZ Q – Geology, RTP, Tilt Angle and AdTau images, picked conductors and existing drill holes.



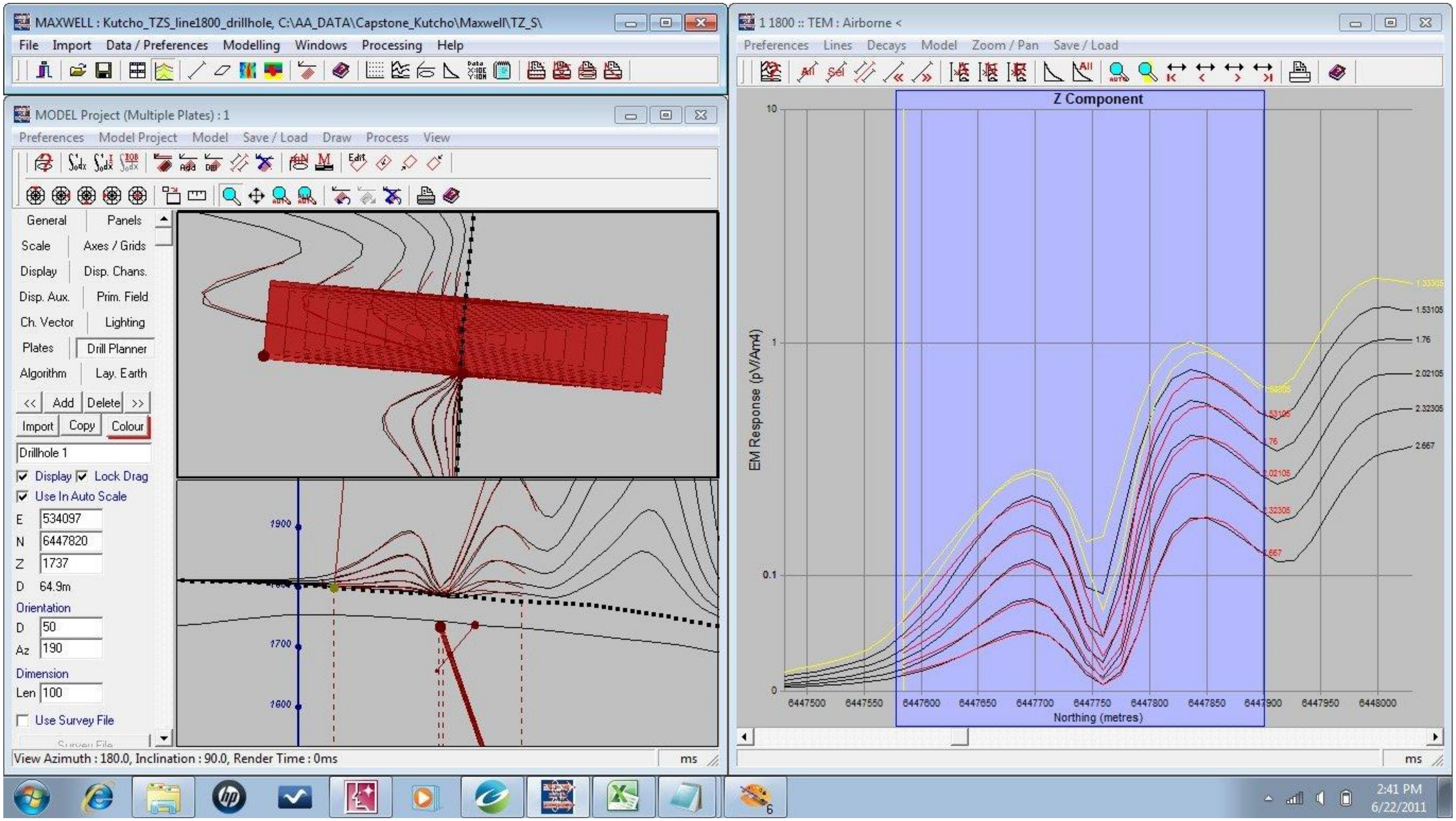
TZ R – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



TZ R – Maxwell model and proposed drill hole location.



TZ S – Geology, RTP, Tilt Angle and AdTau images, picked conductors, existing drill holes and proposed drill hole location.



TZ S – Maxwell model and proposed drill hole location.