BMC Minerals LTD

2016 GEOPHYSICAL AND GEOCHEMICAL REPORT ON THE WOLF PROPERTY

Located in the Watson Lake Mining District, Yukon
NTS 105G/05 and 06
61˚ 20’ N Latitude; 131˚ 30' W Longitude

Field Work Completed Between July 7th to 31st, and on September 9th, 2016

-prepared for-

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EQUITY

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SUMMARY

The Wolf Property is 100% owned by BMC Minerals LTD (“BMC”) and consists of 18 quartz claims covering 375 hectares (3.75 km^2) in the south-central Yukon, approximately 85 km southeast of the town of Ross River. The approximate center of the Property is at 61˚ 20’ N latitude and 131˚ 30' W longitude (NAD83 UTM Zone 9: 366900E 6801900N) on NTS map sheets 105G/05 and 06, within the Watson Lake Mining District. The cornerstone asset on the Property is the Wolf volcanogenic massive sulphide (VMS) deposit.

The 2016 work program on the Wolf Property comprised an airborne magnetic and versatile time domain electromagnetic (VTEM™) survey, as well as resampling and assay of historical drill core to evaluate the accuracy of historical assays. The VTEM survey was flown between 7–31 July 2016 and comprised 214 line-km plus 103 line-km of re-flights to meet QA/QC standards, for 317 line-km flown. The main aim of the 2016 survey was to acquire VTEM data over the entire Wolf Property. Notable findings include (a) lack of EM and magnetic response for the Wolf deposit, and (b) decent formational responses for the Pelly Mountain volcanic belt (PMVB) and bounding Askin Group.

Map compilation also shows that the Yukon Geological Survey (YGS) MINFILE coordinate for the Wolf deposit, which is referred to as the Hasselberg deposit by the YGS, lies 1250 m north-northwest of where it was discovered by Atna Resources Ltd.

Resampling of historical drill core included the collection of 45 samples across contiguous intervals from four drill holes, each of which tested the Wolf deposit. The samples were analyzed via two different methods, one designed to replicate historical methods and a second following the more accurate methods developed through BMC’s other work in the region (Hughes et al., 2016). Results indicate that the historical assays are likely accurate for Ag, Pb, Zn, Au, Cu, As, Fe, Hg and Sb but not for Ba and Bi.

Follow-up work should include a more formal integration of the 2016 VTEM data with property-scale geological mapping in addition to follow-up groundwork on EM conductors. Most importantly, the 2016 VTEM data should be processed by an expert geophysicist to identify the most promising anomalies.

1.0 INTRODUCTION

This report has been prepared for BMC Minerals LTD ("BMC") in order to document the procedures and results of the 2016 exploration work on the Wolf Property and to satisfy assessment reporting requirements for the Yukon Department of Energy, Mines and Resources ("EMR"). The report was prepared by Equity Exploration Consultants Ltd. ("Equity") of Vancouver, British Columbia, on the basis of personal observations, previous assessment reports filed with EMR, data and reports supplied by BMC and regional geological publications by the EMR. A complete list of references is provided in Appendix A and an expenditure report is attached as Appendix B.

2.0 RELIANCE ON OTHER EXPERTS

In Section 3.0, the authors have relied entirely upon information provided by BMC concerning their purchase agreement with Atna Resources Ltd ("Atna") and the extent of any underlying interests and royalties. Also in Section 3.0, the authors have relied entirely on the Geomatics Yukon website for downloaded shapefile tenure data. The authors have not relied upon a report, opinion or statement of another expert concerning legal, political, environmental or tax matters relevant to this assessment report.

3.0 PROPERTY DESCRIPTION AND LOCATION

The Wolf Property consists of 18 quartz claims that cover an area of 375 hectares (3.75 km^2) in the south-central Yukon, approximately 85 km southeast of the town of Ross River and 205 km ENE of Whitehorse (Figure 1). It is centred at 61˚ 20' N latitude and 131˚ 30' W longitude (NAD83 UTM Zone 9: 366900E 6801900N) on NTS map sheets 105G/05 and 06, within the Watson Lake Mining District.

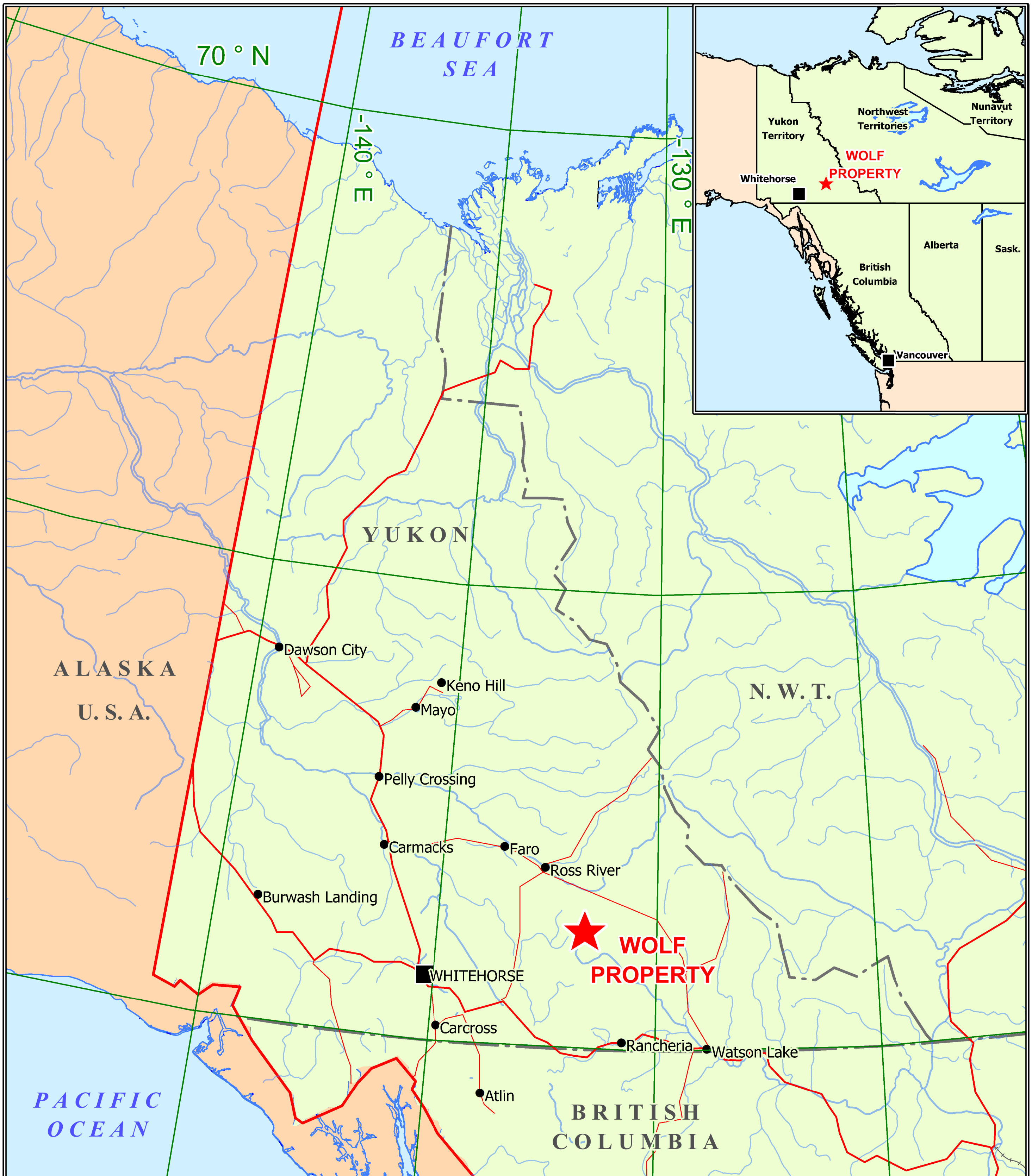
All 18 claims (Figure 2) were initially acquired through staking on the ground, with the area covered by each claim determined by the location of the two claim posts on the ground. These claims are currently 100% registered in the name of BMC Minerals (No. 1) Ltd. following the purchase of the Wolf Property from Atna Resources Ltd ("Atna"), as reported on 18 July 2016 (BMC Minerals Ltd., 2016). There are no royalties or back-in rights in this agreement, and no significant environmental liabilities on the Property. A complete list of claims is attached as Appendix C.

The claims confer title to hard rock mineral tenure only. Surface rights are held by the Crown, as administered by the Yukon Territory. The Wolf Property lies within the traditional territory of the Kaska Dena. Land claims have not been settled in this part of the Yukon and there is currently a staking moratorium in the area in lieu of on-going dialogue between the Yukon government and the Kaska Dena. The future impact of settled land claims on Property access, title or the right and ability to perform work is unknown.

Trapping rights over the northeastern two-thirds of the Wolf Property are held under Single Holder Trapline #233 whereas the southwestern part falls under Group Trapline #450. The Property falls entirely within Outfitter Concession #15, held by Yukon Stone Outfitters.

Yukon law requires eligible assessment expenditures of $100/claim/year on the Wolf Property to extend tenure ownership past the current expiry dates. A single claim grouping comprising all 18 claims making up the Property, referred to as "Wolf Group 1", was filed with EMR to allow the representation of work done on one or more claims to be distributed to other claims where work was not done.

Exploration programs in Yukon are divided into Class 1 (grassroots) through Class 4 (advanced), depending on threshold levels of camp person-days, fuel storage and extent of exploration activities. In the Wolf project area, Class 1 and 2 programs usually require only notifying the EMR whereas Class 3 and 4 programs involve submittal of an operation plan that, if approved by the EMR, will provide a Quartz Mining Land Use Permit that is necessary to undertake exploration activities. The 2017 Wolf work (airborne geophysics, resampling of historical drill core) is a Class 1 program that does not require notifying the EMR, since there was no ground disturbance, dedicated camp or fuel storage facility.



0 200,000
metres
Scale: 1:6,500,000

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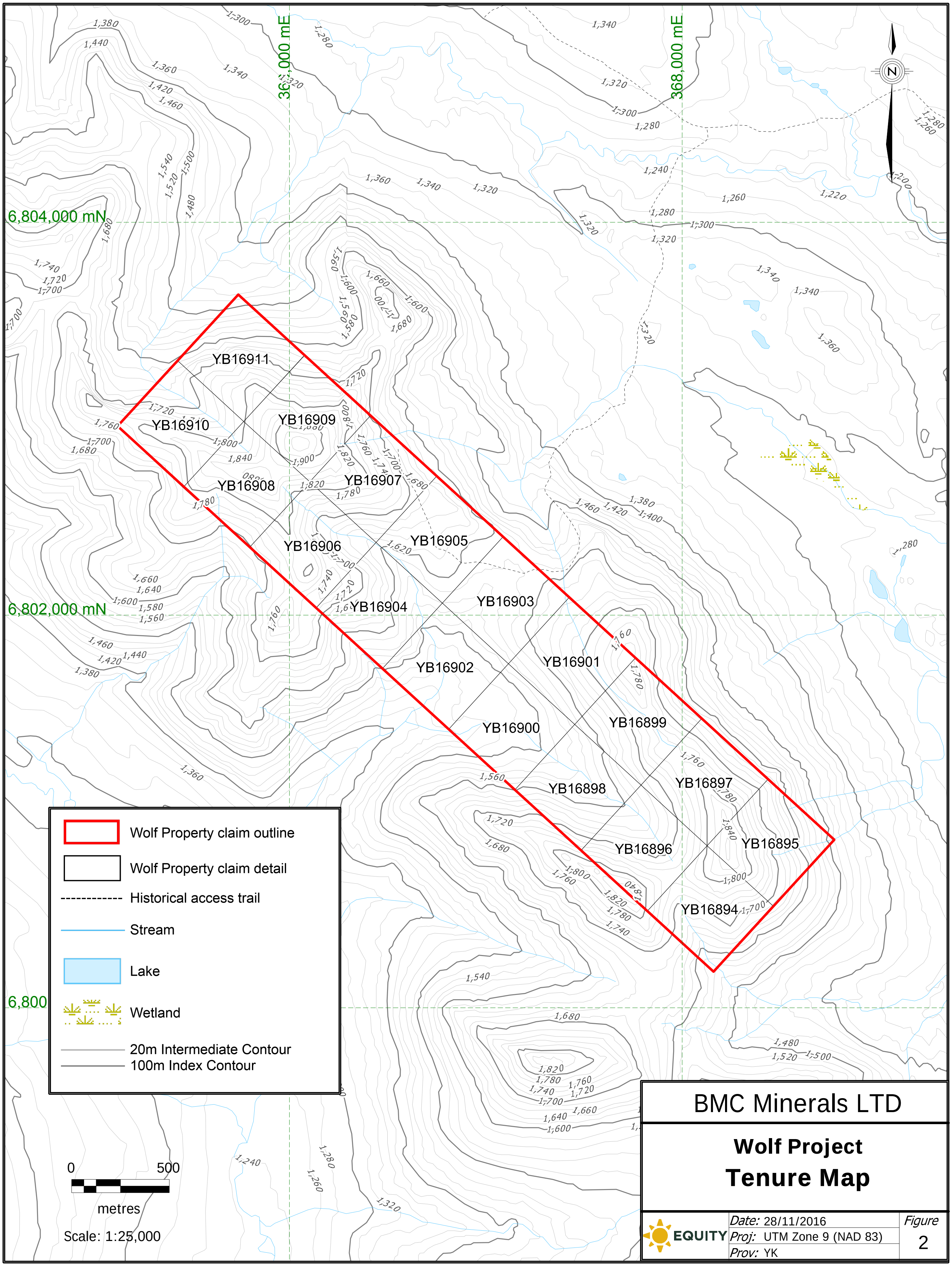
BMC Minerals LTD

Wolf Project

Location Map

EQUITY

Date: 28/11/2016		*Map*
Proj: UTM Zone 9 (NAD 83)		1
Prov: YUKON		



BMC Minerals LTD
Wolf Project
Tenure Map
EQUITY
Date: 28/11/2016
Proj: UTM Zone 9 (NAD 83)
Prov: YK
Figure
2
Wolf Property claim outline
Wolf Property claim detail
Historical access trail
Stream
Lake
Wetland
20m Intermediate Contour
100m Index Contour
0
500
metres
Scale: 1:25,000
368,000 mE
6,804,000 mN
6,802,000 mN
6,800
YB16911
YB16910
YB16909
YB16908
YB16907
YB16906
YB16905
YB16904
YB16903
YB16902
YB16901
YB16900
YB16899
YB16898
YB16897
YB16896
YB16895
YB16894

4.0 ACCESSIBILITY, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY, CLIMATE

4.1 Accessibility

Access to the Property is by helicopter only, with the nearest road-accessible point lying 42 km due north on the Robert Campbell Highway (Highway #4). The KZK exploration camp, which is located on BMC's KZK Property (Hughes et al., 2016), lies 50 km west-southwest of the Wolf Property and would be a more practical road-accessible staging point for any future work by BMC. Historical access to the Property comprised a system of exploration trails that extend from Highway #4. The state of these trails is unknown.

The mainly gravel Robert Campbell Highway connects to the paved Alaska Highway at the town of Watson Lake, as well as the paved Klondike Highway near the town of Carmacks, giving access to Whitehorse and points south (Figure 1).

Fixed wing aircraft can land on the Finlayson Airstrip, located 55 km northeast of the Property. The historical Hoole River Airstrip lies ~15 km from the Wolf Property but the state of this airstrip is currently unknown.

4.2 Local Resources and Infrastructure

The nearest settlement to the Wolf Property is the town of Ross River (population 300), which lies 85 km to the northwest and provides basic services (e.g. groceries, fuel, accommodation and meals). The city of Whitehorse (population 25000) is located 205 km west-southwest of the Property (Figure 1) and offers a full range of services and supplies for mineral exploration and mining, including skilled labour, bulk fuel, freight, heavy equipment, groceries, hardware and daily jet service to Vancouver.

The Yukon electrical grid supplies 138 kV electrical power to the town of Faro, located 140 km northwest of the Wolf Property, but only 25 kV electricity to Ross River. Concentrates from the Wolverine Mine, located 75 km to the east of the Property, were trucked 900 km south to port facilities at Stewart, BC, prior to the mine's temporary shutdown in early 2015.

Surface rights over the Wolf Property are owned by the Crown and administered by the Yukon Territory; they would be available for any eventual mining operation. The Property has abundant water and water rights could be obtained for milling. It is still too early to determine potential tailings storage areas, potential waste disposal areas, and potential processing plant sites.

4.3 Physiography and Climate

The Wolf Property lies in the Pelly Mountains and is centered on Mount Vermillion, the crest of which forms part of the boundary between the Pelly watershed in the north and Upper Liard to the south. Topography is rugged with elevations ranging from 1500 m to 1882 m at the top of Mt Vermillion.

Most of the Property lies near or above the tree line. Lower-lying forest consists mostly of white and black spruce, with black spruce predominant in wetter areas and white spruce favouring drier ground. Paper birch, aspen, balsam and lodgepole pine are also present. Alpine fir grows near tree line. The understory is dominated by feather moss in dense coniferous stands and by willows and heath-like shrubs in more open areas. Sedge or sphagnum tussocks are common in wetlands and under black spruce. Shrub birch and willow occur in the subalpine and extend well above the tree line.

The climate is cold continental with a mean daily summer temperature of 15˚C and a mean daily winter temperature of -25˚C. Precipitation falls fairly evenly throughout the year, predominantly as rain from May through September and then as snow from October to April. Mean annual precipitation is 655 mm. Groundwork on the Property is possible from June until October, although snow may cover parts of higher elevations late into the summer. The drilling season is limited only by freezing temperatures and lack of liquid water for drilling.

5.0 EXPLORATION HISTORY

Several exploration programs have been undertaken on the Wolf Property between the initial discovery of mineralization in 1955 (Gibson et al., 1998) and this year's program. This historical work includes surface geochemistry, ground and airborne geophysics, trenching and drilling (Table 1).

No assessment work was filed for the initial discovery by Newmont in 1955 of mineralization on the current Wolf Property or the 1966–67 Newmont surface exploration. No geological or analytical information is available for the work done by Hesca Resources from 1972 to 1974 (Hesca, 1974).

In 1976, Newmont staked its Joe claims over their previously discovered showings. The following year, they collected 564 soil samples at 30 metre intervals along lines oriented at 042° and spaced 100 m apart, revealing roughly coincident Pb-Zn soil anomalies with maximum values of 7200 ppm Pb and 8544 ppm Zn (Ballantyne and Lalonde, 1977). Magnetic and horizontal shootback EM surveys were carried out over the geochemical grid without revealing conductors or magnetic anomalies. Ten trenches were excavated across two narrow sulphide zones; the best trench had 1.52 m grading 0.65% Pb and 4.20% Zn. In 1978, Newmont drilled 3 holes and filed only the drill logs for assessment, with their best intersection graded 5.6% Zn across 1.4 m core length (Newmont, 1978).

In 1982, Amax re-staked the ground as the Zap and Zoo claims and collected 32 chip samples, 10 silt samples and 300 soil samples (Harris, 1982). Their mapping showed a 75 m wide, seven kilometre long stratabound zone of altered pyritic volcanic rocks containing small galena-sphalerite showings associated with bedded barite, silicified volcanic rock and volcanic breccia, that they recognized as a volcanogenic massive sulphide ("VMS") system (Harris, 1982). Anomalous lead, zinc, barium and locally silver were returned from soil samples surrounding this band of altered volcanic rocks. Amax reported that the Newmont drilling was restricted to just 500 m of this 7000 m long alteration zone, and that holes were collared outside of the most anomalous soil geochemistry. Harris (1982) recommended that further surface work and a small drill program should be carried out, but no further work was recorded on the Property by Amax.

In 1990, the ground was re-staked as the Wolf claims by YGC Resources. Prospecting that summer confirmed the tenor of known showings (Carne, 1991).

YGC optioned their Wolf claims to Cominco in 1991 who then carried out soil sampling over the entire Property and detailed mapping in the Mt. Vermilion area. This work recognized three 0.1–3.0 m thick stratiform sulphide bands within a 22 m section of chloritized felsic flows and tuffs (MacRobbie, 1992). Follow up work included ground UTEM and magnetic surveys that identified a moderate conductor within these altered rocks. However, it was believed that "only a short 300–400 m strike-length portion of the horizon has any potential for massive sulphides" (Holroyd, 1992) and so Cominco allowed their option to lapse.

Table 1: Overview of historical work on the Wolf Property

Year(s)	Operator	Drilling		Other work	Reference
		# holes	*Metres*		
1966-67	Newmont Mining Co.			Mapping, soil sampling, construction of cat road from Highway #4, cat trenching	in Harris, 1982; Holbek and Wilson, 1997
1972-74	Hesca Resources Ltd	2	61	Trenching	Hesca, 1974
1977-78	Newmont Mining Co.	3	526	Surface geochemistry, EM and magnetic surveys, cat trenching	Ballantyne and Lalonde, 1977; Newmont, 1978
1982	Amax of Canada Ltd			Mapping, surface geochemistry	Harris, 1982
1990	YGC Resources			Reconnaissance	Carne, 1991
1991-92	Cominco Ltd			Soil sampling, mapping, ground UTEM	Holroyd, 1992; MacRobbie, 1992
1995	Atna Resources Ltd			Reconnaissance	Kallock, 1995
1996		3	399	Soil sampling, blast-trenching	Schmidt, 1997
1997		12	2769	Airborne EM-magnetics	Holbek and Wilson 1997; Lo and Gibson, 1999
1998		30	6625	Ground HLEM (MaxMin)	Gibson and Holbek, 1999
Total		**50**	**10380**		

YGC Resources optioned 65% of the Wolf Property to Atna Resources in 1995. Atna carried out reconnaissance mapping and rock sampling that year, discovering a new >2 m thick bed of massive barite with galena laminations on the northwest side of Mt. Vermilion, below the stratigraphic level of previously-recognized occurrences (Kallock, 1995).

In 1996, Atna focused on the previous year's discovery, with the best blast trench across it assaying 3.2% Pb and 111 g/t Ag over 5.3 m (Schmidt, 1997). A fan of three holes was drilled from a single site along a section 70 m south of the barite showing and parallel to its strike. Each hole intersected short Pb- and Zn-bearing pyritic intervals. A baritic horizon, assumed to be the downdip equivalent of the surface showing, was intersected in hole W96-2 and was included in the program's best intersection of 8.4 m grading 0.66% Pb and 2.36% Zn. Stratigraphy could not be correlated between holes, suggesting a complicated depositional environment and post-depositional faulting (Schmidt, 1997).

The 1997 Atna exploration program was directed at drill testing targets generated by previous operators, with a focus on coincident UTEM and soil geochemical anomalies. Hole W97-07, the discovery hole for the Wolf deposit, intersected a true thickness of 25.2 m grading 6.94% Zn, 2.78% Pb and 139 g/t Ag (Holbek and Wilson, 1997). Eight subsequent holes were drilled in 1997, all of which intersected this massive sulphide horizon with varying thicknesses and grades (Gibson and Holbek, 1999). In late 1997, an airborne EM-magnetic survey was flown over the entire belt, including the Wolf Property, with lines oriented at 040˚/220˚ and spaced 200 m apart (Lo and Gibson, 1999).

In 1998, exploration was mainly directed at drilling out the thick "keel" of the Wolf deposit, defining it over a 120 m width, 12 m average thickness, and 400 m downdip extent. Six holes (1,292 m) were also completed on the East Slope prospect, located 1.2 km southeast of the Wolf deposit, with the best hole (WF98-45) intersecting 4.6 m true width of massive, semi massive, mostly bedded sulphide, siliceous exhalite, and mineralized lapilli tuff grading 5.7% Zn, 2.1% Pb, and 43 g/t Ag (Gibson et al., 1998). Two grids (Wolf and East Slope) were surveyed with horizontal coplanar loop EM (MaxMin). A MaxMin conductor with 800 metre strike length and southerly 45˚ dip marked the Wolf massive sulphide deposit; it was coincident with, but larger than, the 1992 Cominco UTEM conductor and extends weakly for another 400 metres to the east beyond the limits of drilling. Another MaxMin conductor was identified over the East Slope massive sulphides but may indicate the argillites underlying the mineralized horizon (Gibson and Holbek, 1999).

In 2012, YGC Resources sold their residual 35% interest in the Wolf Property to Atna and in July 2016, Atna sold 100% interest in the Wolf Property to BMC (BMC Minerals Ltd., 2016).

6.0 2016 EXPLORATION PROGRAM

The 2016 exploration work program on the Wolf Property comprised a 214 line-km airborne magnetic and versatile time domain electromagnetic (VTEM™) survey as well as resampling of historical drill core. An additional 102.6 line-km of the VTEM survey was re-flown to redress QA/QC issues identified by BMC.

6.1 Airborne geophysics

The airborne survey was designed to provide full coverage of the Property and was undertaken by Geotech Ltd. ("Geotech") of North Aurora, Ontario, between 7–31 July 2016. Geotech provided their own Astar 350 B3 helicopter and pilot, and completed the work as part of a larger airborne survey that also covered BMC's KZK and Pelly properties.

The Wolf survey block covered an area of approximately 29 km² and was flown at an azimuth of 000° and traverse line spacing of 150 m (Venter et al., 2016). Tie lines were flown perpendicular to the traverse lines at a spacing of 1500 m. Navigation was achieved using a NovAtel WAAS enabled GPS receiver and screen display for the pilot and a NovAtel GPS antenna mounted on the helicopter tail. During the survey, an average altitude of 70 m above ground surface was maintained for the transmitter-receiver loop using a Terra TRA 3000/TRI40 radar mounted beneath the bubble of the helicopter cockpit. The survey was flown at an average speed of 80 km/hr. Additional survey details are provided in a logistics and results report written by Geotech (Venter et al., 2016) and included as Appendix D.

Quality assurance and quality control (QA/QC) of airborne survey data was monitored on a daily basis. Assessments included (a) horizontal deviation from the planned flight path, (b) terrain clearance, (c) noise on magnetic recordings, (d) magnetic diurnal variation, (e) recording failures in the navigational systems or deliverable instrumentation, (f) connectivity to navigational satellites, (g) along-line sampling and (h) the normally processed last time gate for the Z component. Excessively high terrain clearance led to 102.6 line-km of re-flights to bring the survey within QA/QC specifications.

6.2 Resampling of historical drill core

Resampling of historical drill core was completed 9 September 2016 on the Wolf Property itself, where core is stored in parallel vertical stacks that are up to eight boxes high. Forty-five samples were taken from contiguous intervals in four drill holes (Appendix E), with all four of these holes testing the Wolf deposit. Average sample length was 1.5 m (range = 0.6–3.1 m) and average weight is 3.8 kg (range = 1.0–8.3 kg).

Each resampled interval matched the historical interval. Resamples were marked with a wax-coated tag in the box, placed into a labelled plastic bag, closed with a plastic zip tie and flown back to KZK Camp where the bags were reopened to measure the bulk density. Samples were then returned to their plastic bags, zip tied and placed into labelled rice bags fastened with a numbered security tag. Three Certified Reference Materials (CRMs) and two blanks were added to the sample stream to monitor QA/QC of geochemical assays. Bulk density (BD) measurements for all 45 duplicate samples were done with the water immersion method, and were calibrated with a sulphide and silicate standard.

The three CRMs include one low-grade CDN-ME-1311 standard and one each of medium-grade standards OREAS 621 and OREAS 623. The two blanks were taken from 18 kg bags of landscaping stone acquired from Premier Horticulture Ltd, which were also used and calibrated in 2015 (Hughes et al., 2016). The two blanks weighed 1.1 and 1.8 kg, which is ~30–50% of the typical resample weight.

Geochemical analyses were done by SGS Mineral Services Geochemistry Vancouver of Burnaby, BC (“SGS”). Each of the 50 samples (45 duplicates, 5 QA/QC) was analysed twice for a total of 100 analyses. Key differences between the two analytical rounds (Table 2) was the use aqua regia digestion for one round (“aqua regia assays/analyses”) versus Na_2O_2 fusion (for base metals), atomic absorption spectrometry (for silver) and X-Ray fluorescence (for barium) in a second round, which is here referred to as the “Na_2O_2-AAS assays/analyses”. The aqua regia analyses were undertaken to replicate the methods used for the historical assays whereas the Na_2O_2-AAS assays follow the standing order for current BMC projects (e.g. Hughes et al., 2016). Prior to geochemical assay, drill core and blank samples were weighed, dried and crushed to 75% passing 2 mm and then split into a 250 g sample pulverized to 85% passing 75 microns. An overlimit of 4% Ba was used to trigger XRF analysis. Analytical certificates are attached as Appendix F.

Sample (or Pearson) correlation coefficients between historical and 2016 assay data sets were calculated with the “CORREL” function in Excel. Rank correlations were generated by first ranking the historical and 2016 data sets with the “RANK” function and then calculating the sample correlation coefficient with CORREL. In all calculations, samples that returned at least one assay below detection (i.e. whether in the historical or 2016 data) were removed from the data set.

Table 2: Overview of analytical methods used for the 2016 resampling and assay program

Element	Na_2O_2-AAS assays			Aqua regia assays		
	Code	*Method*	*Range*	*Code*	*Method*	*Range*
Ag <250 ppm	GE_AAS12E	2-acid digest, AAS	0.3-100 ppm	GE_ICP12B	2-acid digest, ICP-AES	2-100 ppm
Ag >250 ppm	GO_FAG313	FA, GRAV	10-5000 ppm			
Au <5ppm	GE_FAA313	FA, AAS	0.0005-10 ppm	GE_FAA313	FA, AAS	0.0005-10 ppm
Au >5 ppm	GO_FAG303	FA, GRAV	0.5-3000 ppm			
Cu	GO_ICP90Q	Na_2O_2 fusion, ICP-AES	0.01-30%	GE_ICP12B	2-acid digest, ICP-AES	0.5-10000 ppm
Fe			0.05-50%			0.01-15%
Pb			0.01-30%			2-10000 ppm
S			0.01-30%?			0.01-5%
Zn			0.01-30%			1-10000 ppm
Ba <4%	GO_ICP90Q	Na_2O_2 fusion, ICP-AES	0.01-30%?	GE_ICP12B	2-acid digest, ICP-AES	5-10000 ppm
Ba >4%	GO_XRF77B	$Na_2S_2O_7$ fusion, XRF	?			
As	GE_ICM14B	AR digest, ICP-AES, -MS	1-10000 ppm	GE_ICP12B	2-acid digest, ICP-AES	3-10000 ppm
Bi			0.02-10000 ppm			5-10000 ppm
Sb			0.05-10000 ppm			5-10000 ppm
Se			1-1000 ppm	ND	ND	ND
Hg	GE_ICM14B	AR digest, ICP-AES, -MS	0.01-10000 ppm	GE_ICP12B	2-acid digest, ICP-AES	1-10000 ppm
				GE_CVA20A	Cold vapour AAS	0.005-100 ppm

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Wolf Property lies in the Pelly-Cassiar Platform (Figure 3), which forms part of the North American miogeocline composed of rocks deposited on the western flank of Laurentia between the Proterozoic and mid-Jurassic. Within the Pelly-Cassiar Platform, Devono-Mississippian volcanic rocks form an arcuate belt about 80 km long and up to 25 km wide referred to as the Pelly Mountains volcanic belt ("PMVB" in Hunt, 2002). The volcanic rocks of this belt are dominantly high potassium felsic rocks (e.g. trachyte) at its southern end and intermediate volcanic at its northern end. In addition, these volcanic rocks are locally associated with bedded barite and VMS deposits and showings. The regional tectono-stratigraphic setting, the high-K geochemistry of the volcanic rocks, and the presence of bedded barite and VMS deposits, suggest that the PMVB may have been deposited in an intracontinental rift environment (Mortenson and Godwin, 1982).

Post-late Triassic deformation produced a series of southwest-dipping thrust panels and northeasterly-verging folds throughout the region (Gibson et al., 1998). The Pelly-Cassiar Platform is juxtaposed to the northeast by roughly coeval strata of the Selwyn Basin and Yukon-Tanana Terrane along the Tintina Fault Zone (Figure 3), which underwent ~425 km of Late Cretaceous dextral strike-slip movement (Hunt, 2002).

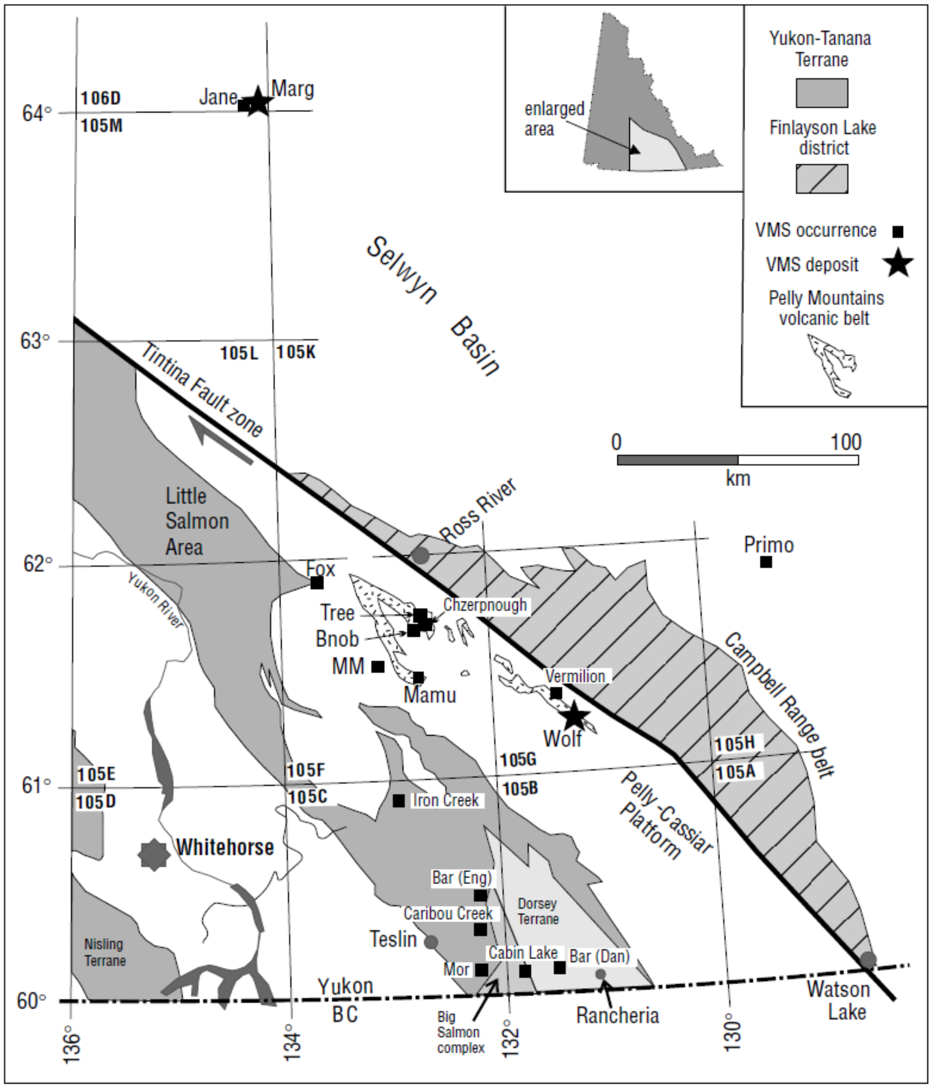


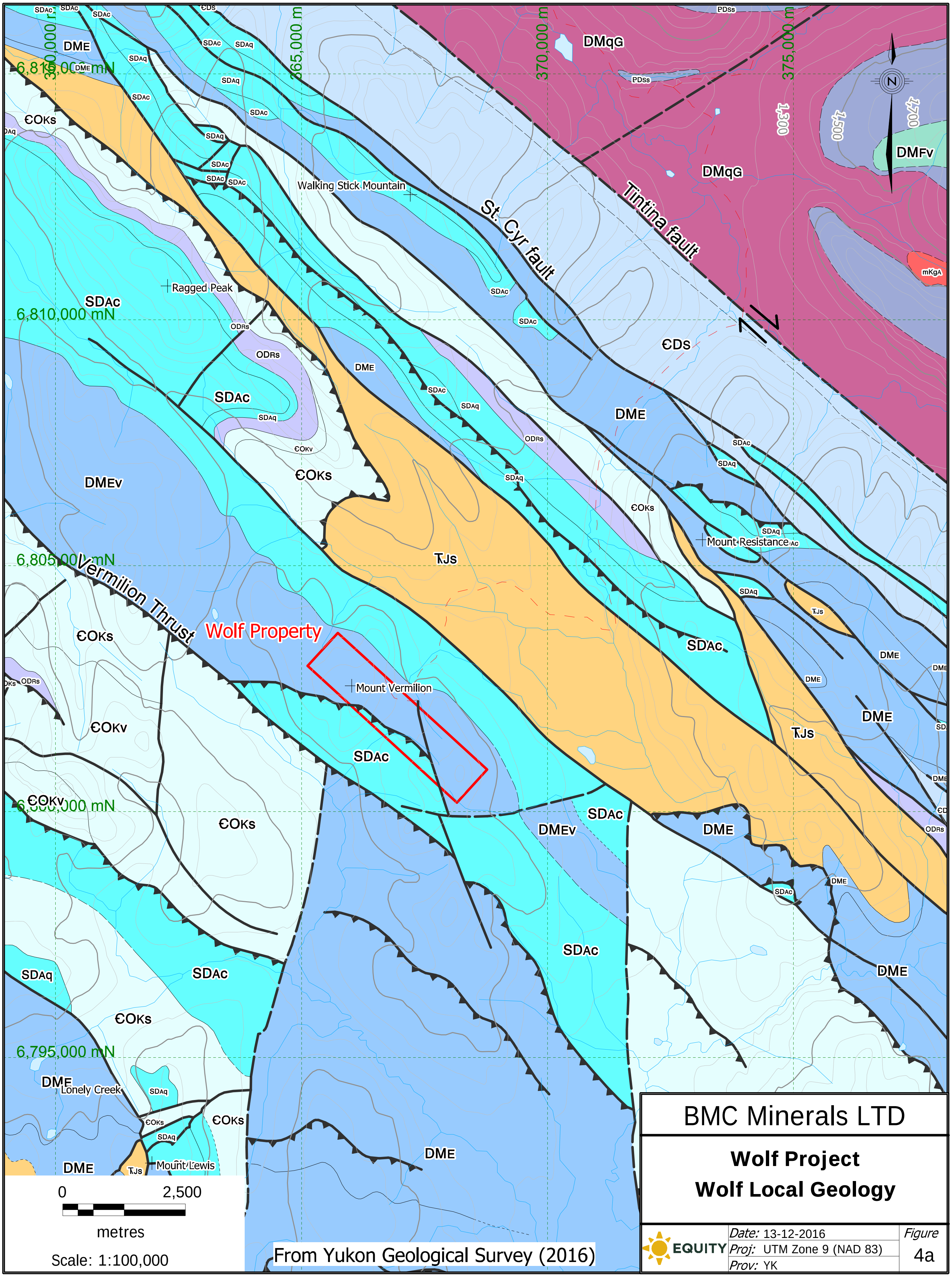
Figure 3: Regional geology of the Wolf Property (Figure 32 in Hunt, 2002)

7.1 Local Geology

The southern end of the Pelly Mountains volcanic belt was mapped by the Yukon Geological Survey at 1:25000 (Hunt, 1998, 1999, 2002), following discovery of the Wolf deposit in 1997. This work forms the basis for the below synopsis of the local- and property-scale geology.

The PMVB (Unit DMEv in Figures 4a, 4b) in the vicinity of the Wolf Property forms a moderately south-dipping homoclinal succession that unconformably overlies mid-Silurian to mid-Devonian Askin Group cliff-forming carbonate, limey siltstone and shale (Unit SDAc) to the northeast. To the southwest, the PMVB is bound by the Vermilion thrust, which has an estimated stratigraphic separation of about 1800 m and minimum overlap of 3.5 km. It places Askin Group and Cambro-Ordovician Kechika Group carbonate, limey siltstone and shale (Unit ЄOKs) above the PMVB, leaving it as a northwest-trending panel of volcanic rocks between thrust and angular unconformity (Figure 4a).

The Pelly Mountains volcanic belt comprises mostly felsic volcaniclastic with lesser felsic sills, dykes or flows and minor intermediate sills, dykes or flows. The base of this belt consists of dominantly brown-pink lapilli tuff interbedded with argillite and lesser trachyte sills or dykes. The middle of the succession consists primarily of heterolithic lapilli tuff hosting argillite clasts, maroon matrix tuff and breccia with green fragments from 1–60 cm across and trachyte flows, sills or dykes. The upper part of the succession consists of chlorite-altered volcaniclastic rocks and intermediate dykes and flows.



BMC Minerals LTD
Wolf Project
Wolf Local Geology
Date: 13-12-2016
Proj: UTM Zone 9 (NAD 83)
Prov: YK
Figure
4a
EQUITY
From Yukon Geological Survey (2016)
0
2,500
metres
Scale: 1:100,000
365,000 m
370,000 m
375,000 m
6,810,000 mN
6,805,000 mN
6,795,000 mN
Walking Stick Mountain
Ragged Peak
Mount Resistance
Mount Vermilion
Mount Lewis
Lonely Creek
Wolf Property
Vermilion Thrust
St. Cyr fault
Tintina fault
DMqG
DMFv
mKgA
PDss
ЄDs
DME
DMEv
SDAc
SDAq
ODRs
ЄOKs
ЄOKv
TJs

Legend

Yukon-Tanana

mKgA
granite, granodiorite

DMqG
augen granite

DMFv
amphibolite, hb-gneiss, ac±pg±cl-bi-schist, phyllite, quartzite, ultramafics

PDSs
coarse clastic sedimentary rocks

Cassiar

ŦJs
shale, sandstone, siltstone

DME
slate, sandstone, conglomerate, chert, tuff

DMEv (Pelly Mountains volcanic belt)
trachyte, andesite, flows, tuffs, dykes

SDAq
mudstone, siltstone, sandstone, quartzite, limestone, dolostone

SDAc (Askin Group)
mudstone, quartzite, limestone, dolostone

ЄDs
shale, slate, siltstone, limestone

ЄOKs (Kechika Group)
slate, phyllite, limestone

ЄOKv
basalt, flows, diabase, diorite, sills, greenstone, phyllite

ODRs
shale

contact, defined
contact, approximate
contact, inferred
fault, defined
fault, approximate
thrust fault

BMC Minerals LTD

Wolf Project

Wolf Local Geology Legend

EQUITY

Date: 13-12-2016	*Figure*	
Proj: Non-Earth (centimeters)	4b	
Prov: BC		

7.2 Property Geology

The following discussion of the Wolf Property geology (Figure 5) is adapted from Gibson et al (1998).

On the Wolf Property, the PMVB is represented by an approximately 900 m thick sequence of trachyte flows, lapilli and crystal tuffs, and lesser intercalated epiclastic and sedimentary rocks. Gibson et al (1998) subdivided the volcanic stratigraphy into seven units (Units 3a–3g). It is ambiguous whether the stratigraphy is right-side up or overturned, so the units in the following discussion are described from the base of the structural (not necessarily stratigraphic) section to its top.

The structurally lowermost unit (Unit 3b) is a poorly-defined assemblage of ash tuff, greywacke, argillite and local lapilli tuff. The lapilli tuffs of this unit are characterized by relatively coarse, elliptical fragments (20–40 mm) that are altered to a soft greenish yellow. The matrix appears to be serpentinized or chloritized although Mg values are low.

Unit 3a consists of highly pyritic, siliceous(?) felsic breccias and flows that structurally overlie Unit 3b in the East Slope area but not at the Wolf deposit. Texturally, this unit appears to be vent proximal and may even be part of a flow-dome complex. Directly above Unit 3a is a laminated barite-carbonate-sulphide exhalative unit up to 18 metres in thickness. This exhalite likely correlates with the lowermost barite horizon below the Wolf deposit and the massive galena showing at the base of the cliffs on the northwest side of Mt. Vermilion.

Unit 3c consists of ash tuff, epiclastic rocks, trachyte flows and/or sills, pyritic mudstone and exhalite, including massive sulphide horizons. It hosts the East Slope prospect and the middle sulphide horizon in the Wolf deposit area. The unit is distinct in that the tuffaceous and flow and/or sill rocks commonly contain fine quartz grains. The trachyte flows, sills and their adjacent tuffaceous units typically display unusual textures formed by fine to coarse disseminated to aggregated elliptical Fe-dolomite nodules, interpreted as peperite caused by the injection of magma into wet unconsolidated tuffs and volcanic sediments.

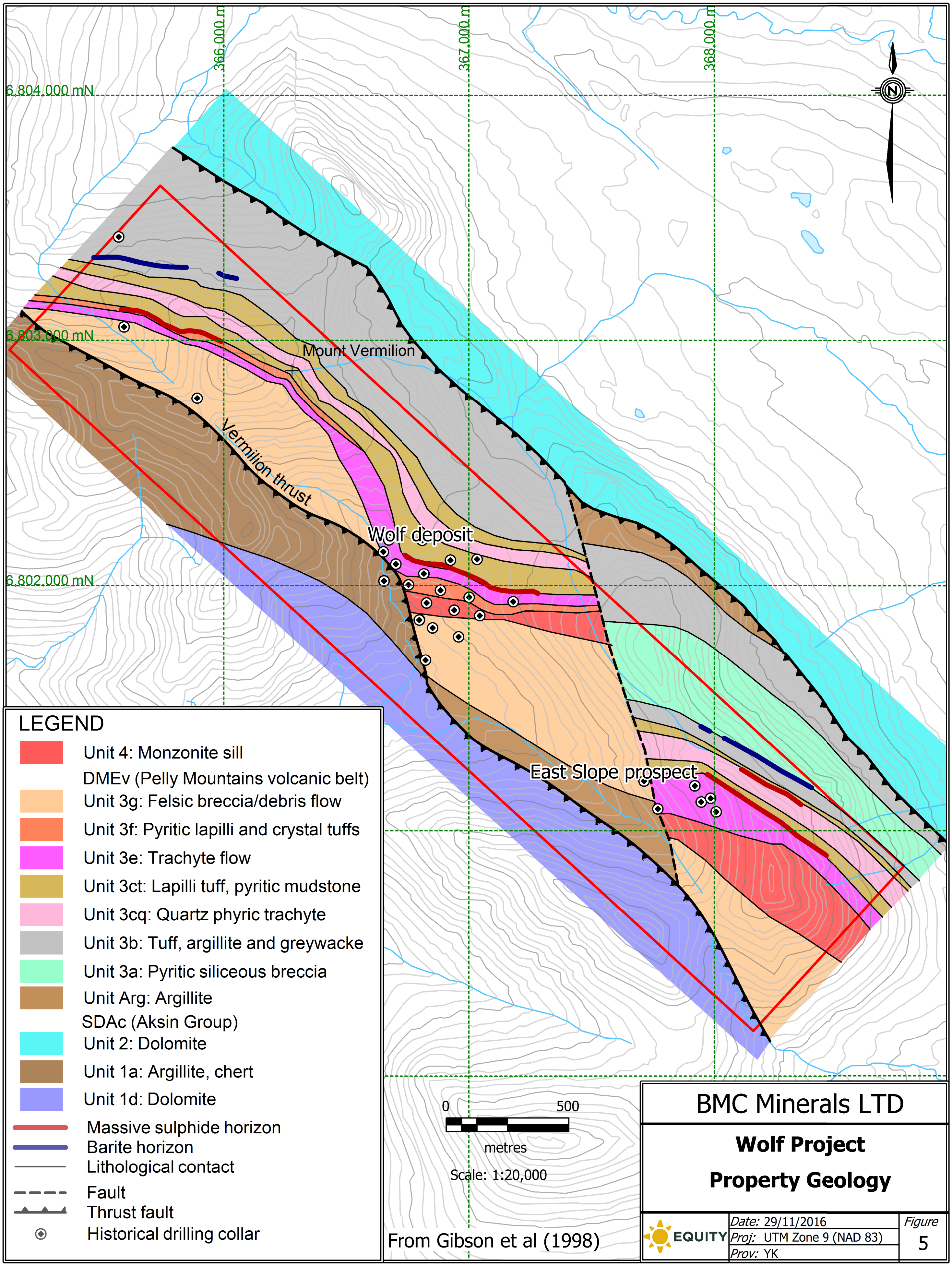
Unit 3d hosts the Wolf deposit and consists of altered lapilli and ash tuffs, pyritic ash tuff, mudstone, laminated barite and massive to semi-massive sulphide mineralization. The tuffaceous rocks of this unit are similar to those of Unit 3f and are only differentiated from them because of the intervening trachyte flows of Unit 3e. A pyritic-lapilli tuff subunit overlies the mineralization and is laterally extensive. This lithology is conspicuous due to strong sericite alteration and the presence of 10–20%, 3–15 mm fragments of massive pyrite and rarely, other sulphide minerals. There is no discernible zonation with respect to size and abundance of the sulphide fragments at the property scale.

The trachyte flows of Unit 3e are the most continuous lithology in the sequence. They are present almost everywhere in the belt and are easily recognizable due to their propensity to form both cliffs and gossans, the latter typically comprising 5–20% finely disseminated pyrite. These units may be partly intrusive but most of the textures seen in drill core support a flow origin, including amygdules, flow-top breccias and rare pillows. Although felsic in composition, textures common to flood basalts in this unit may be due to its high potassium content and a correspondingly less viscous magma.

The thickness of trachyte is variable and appears to shown an inverse relationship to the thickness of sulphide mineralization in the Wolf deposit. Commonly, but not always, the massive sulphide mineralization is separated from the trachyte flows by pyritic lapilli tuff and/or a thin layer of argillite.

Unit 3g is formed by >190 metres of lahars and/or debris flows and volcanic conglomerates interbedded with minor greywacke and argillite. Fragments are dominantly trachytic but other volcanic and sedimentary lithologies also occur. The matrix consists of fine-grained black chlorite that is locally bleached. Disseminated pyrite occurs locally - both within the trachytic fragments and also in the matrix - and rare patches of orange sphalerite are present.

Fine- to coarse-grained, equigranular to weakly porphyritic monzonite forms Unit 4. Chemically, this unit is distinct from the other igneous lithologies in that the potassium and sodium contents are approximately equal (in most other rocks on the Property, the ratio is 8 or 9:1). In drill core, this unit commonly appears altered and locally, intensely chloritized, however, the outcrops on the southern end of the Property, mapped regionally as syenite, appear to be relatively fresh.


366,000 m
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Mount Vermilion
Vermilion thrust
Wolf deposit
East Slope prospect
LEGEND
Unit 4: Monzonite sill
DMEv (Pelly Mountains volcanic belt)
Unit 3g: Felsic breccia/debris flow
Unit 3f: Pyritic lapilli and crystal tuffs
Unit 3e: Trachyte flow
Unit 3ct: Lapilli tuff, pyritic mudstone
Unit 3cq: Quartz phyric trachyte
Unit 3b: Tuff, argillite and greywacke
Unit 3a: Pyritic siliceous breccia
Unit Arg: Argillite
SDAc (Aksin Group)
Unit 2: Dolomite
Unit 1a: Argillite, chert
Unit 1d: Dolomite
Massive sulphide horizon
Barite horizon
Lithological contact
Fault
Thrust fault
Historical drilling collar
0
500
metres
Scale: 1:20,000
From Gibson et al (1998)
BMC Minerals LTD
Wolf Project
Property Geology
EQUITY
Date: 29/11/2016
Proj: UTM Zone 9 (NAD 83)
Prov: YK
Figure
5

A right-lateral fault offsets the PMVB stratigraphy (Units 3a–g and 4) by ~700 m between the Wolf deposit and the East Slope prospect (Figure 5).

As interpreted by Gibson et al (1998), the volcanic stratigraphy forms a northwesterly-trending panel between two thrust faults. Above the upper thrust fault (the Vermilion thrust), Upper Cambrian to Ordovician platformal carbonate rocks of the Askin Group (Units 1a, 1d) consist of limestone to dolomite with interbedded shale and tan to reddish weathering dolostone. The base of the PMVB is mapped as a thrust fault by Gibson et al (1998) and an angular unconformity by Hunt (1999, p. 78), and is underlain by Upper Silurian to Devonian dolomite of the Askin Group (Unit 2).

7.3 Mineralization

The Wolf Property covers several VMS occurrences including the Wolf deposit. Host rocks consist of Devono-Mississippian felsic volcanic and sedimentary rocks of the PMVB, which may be related to intracratonic rifting of the ancestral North American (Pelly-Cassiar) platform. This is in contrast to most other VMS deposits in the area that were formed at roughly the same time in a pericratonic arc or related back-arc basin (e.g. Wolverine, ABM, GP4F, Fyre Lake, Ice) within the Yukon-Tanana terrane.

On the Wolf Property, the PMVB hosts at least six horizons containing sulphide mineralization and/or exhalative barite. “Mineralized horizons are generally laterally extensive and occur as stratiform pyrite, carbonate, sphalerite, galena and barite...the “lower horizon” barite-carbonate exhalites reaches a thickness of up to eighteen metres at the East Slope in drill core. Barite ± sulphide float, outcrop and geochemical anomalies associated with this mineralization can be traced intermittently along the entire four kilometre length of the claim block” (p. 10 in Gibson and Holbek, 1999). The two most significant occurrences discovered to date, the Wolf VMS deposit and the East Slope prospect, are described below with descriptions taken from (Gibson et al., 1998) and (Gibson and Holbek, 1999).

7.3.1 Wolf deposit

The Wolf deposit is hosted within altered lapilli and ash tuffs, pyritic ash tuff and mudstone (Unit 3d), along the structurally highest of the mineralized horizons (Figure 6). It has a tabular form that dips 45° to the south, shows continuity for 600 m along strike and 500 m in downdip extent, and ranges from 2–25 m in width. The bulk of the mineralization is hosted within a high-grade “keel” that has a strike length of 125 m, downdip extent of 400 m and average thickness of 12 m (Gibson et al., 1998). The deposit remains open to expansion along strike to the east and downdip, but the Vermillion thrust is interpreted to have terminated the mineralized horizon towards the northwest.

The Wolf deposit massive sulphide mineralization consists primarily of fine-grained pyrite with bands of amber-coloured sphalerite and fine-grained, steely-grey galena. Medium-grained botryoidal sphalerite and galena occurs within a gangue of buff-coloured Fe-Mg carbonate and more rarely barite. Generally, sulphide intersections within the upper horizon grade from banded galena-pyrite to variably textured medium-grained sphalerite-pyrite. An extensive semi-massive barite and carbonate exhalite occurs immediately below the massive sulphide. This exhalite hosts disseminated to semi-massive sulphides in a banded, well-foliated, fine-grained matrix that generally maintains a relatively uniform thickness of 3–5 m throughout the Wolf deposit area. The occurrence of baritic exhalite below massive sulphide and the upward-domed shape of massive sulphide suggested by WF97-07 and -08 (Figure 6), would be consistent with interpretation of an overturned sequence.

Although typically absent, chalcopyrite occurs within mineralized quartz-carbonate stringers below the Wolf deposit. A narrow, high-grade massive sulphide horizon directly below the stringer zone assayed 1.4% Cu, 9.8% Zn, 1.1% Pb and 11.3 g/t Ag over 0.5 m. The association of chalcopyrite-rich stringers above this copper-enriched massive sulphide horizon is again suggestive of an overturned sequence of stringer (feeder?) zone stratigraphically beneath a sulphide horizon.

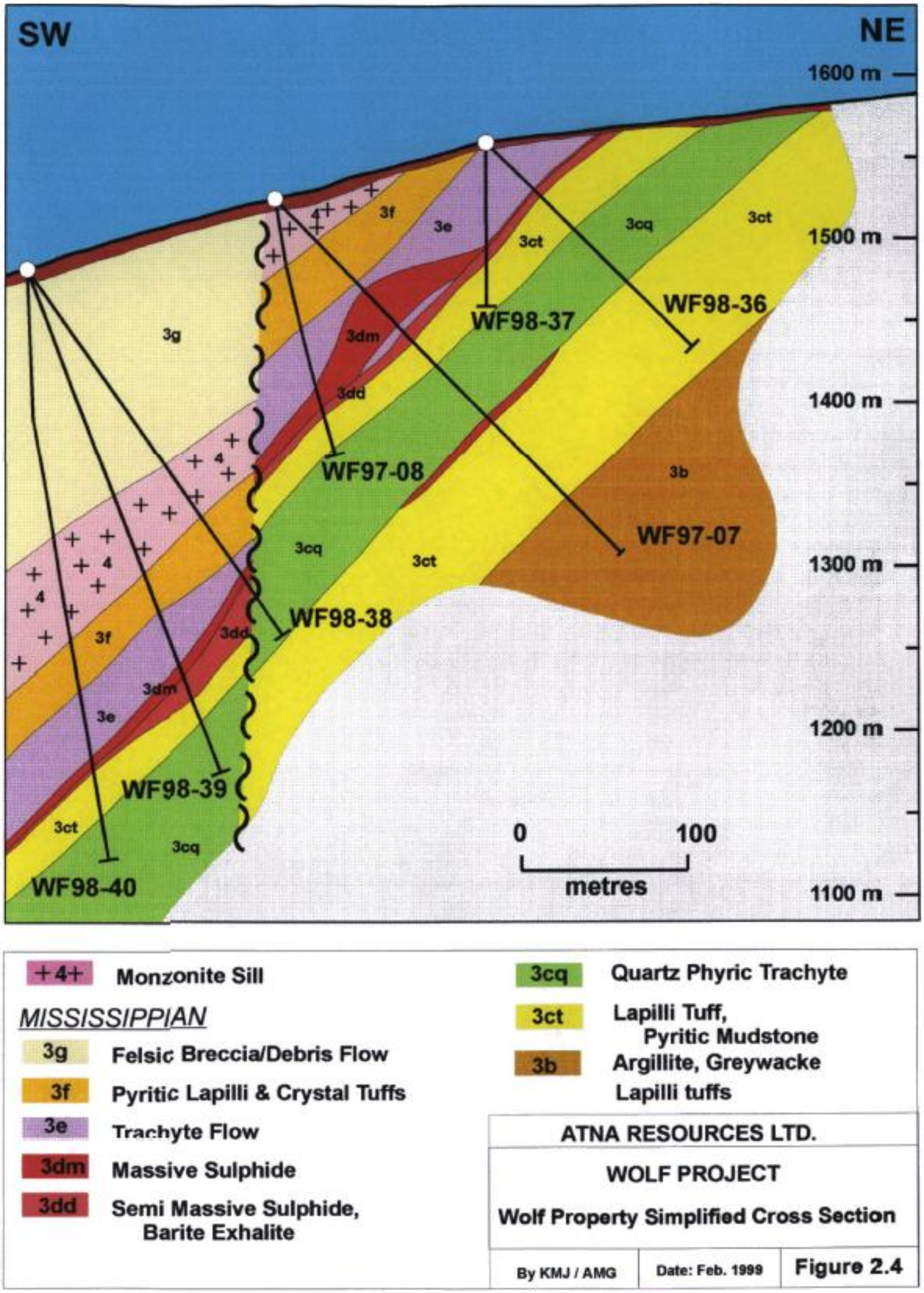


Figure 6: Simplified cross-section through the Wolf deposit (Figure 2.4 in Gibson and Holbek, 1999; Figure 4 in Gibson et al., 1998)

7.3.2 East Slope prospect

Understanding of the East Slope prospect is limited because only six holes have been drilled into it, all as part of Atna's last campaign on the Property. The prospect comprise an ~80 m thick sequence of disseminated lead-zinc mineralization hosting five narrow massive sulphide horizons, the fourth lowest having the highest grade over the greatest thickness. The last hole of the 1998 program, WF98-45, intersected 4.6 m true width of massive to semi-massive, mostly bedded, sulphide, siliceous exhalite and mineralized lapilli tuff grading 5.7% Zn, 2.1% Pb, and 42.6 g/t Ag at a stratigraphic level interpreted to be roughly 70 m below the Wolf deposit upper horizon.

The fifth or lowermost horizon comprises a bedded barite, carbonate, pyrite exhalite horizon with minor amounts of disseminated sphalerite and galena. This exhalite horizon, which attains a true thickness of up to 18 m, likely correlates with the lower (baritic) horizon in the Wolf deposit and Mt. Vermilion areas. The lower exhalite horizon is underlain by a pyritic, siliceous, felsic breccia, fragmental tuff and flow unit (Unit 3a), tentatively identified as a felsic dome/vent complex, was intersected in five out of six East Slope drill holes. None of the holes drilled through the unit, which is greater than 80 m in true thickness. Up to 2% combined disseminated sphalerite and galena are present in Unit 3a along with 15% widespread disseminated to interstitial pyrite.

8.0 RESULTS

The 2016 work program on the Wolf Property comprised an airborne VTEM survey as well as the resampling and assay of historical drill core.

8.1 Airborne VTEM survey

The 2016 airborne magnetic and VTEM survey over the Wolf Property was done over 214 line-km, with results described below in terms of their relation to the Property geology and mineral showings. Overall, the results confirm the northwesterly strike of the stratigraphic units as indicated by the regional map (Yukon Geological Survey, 2016).

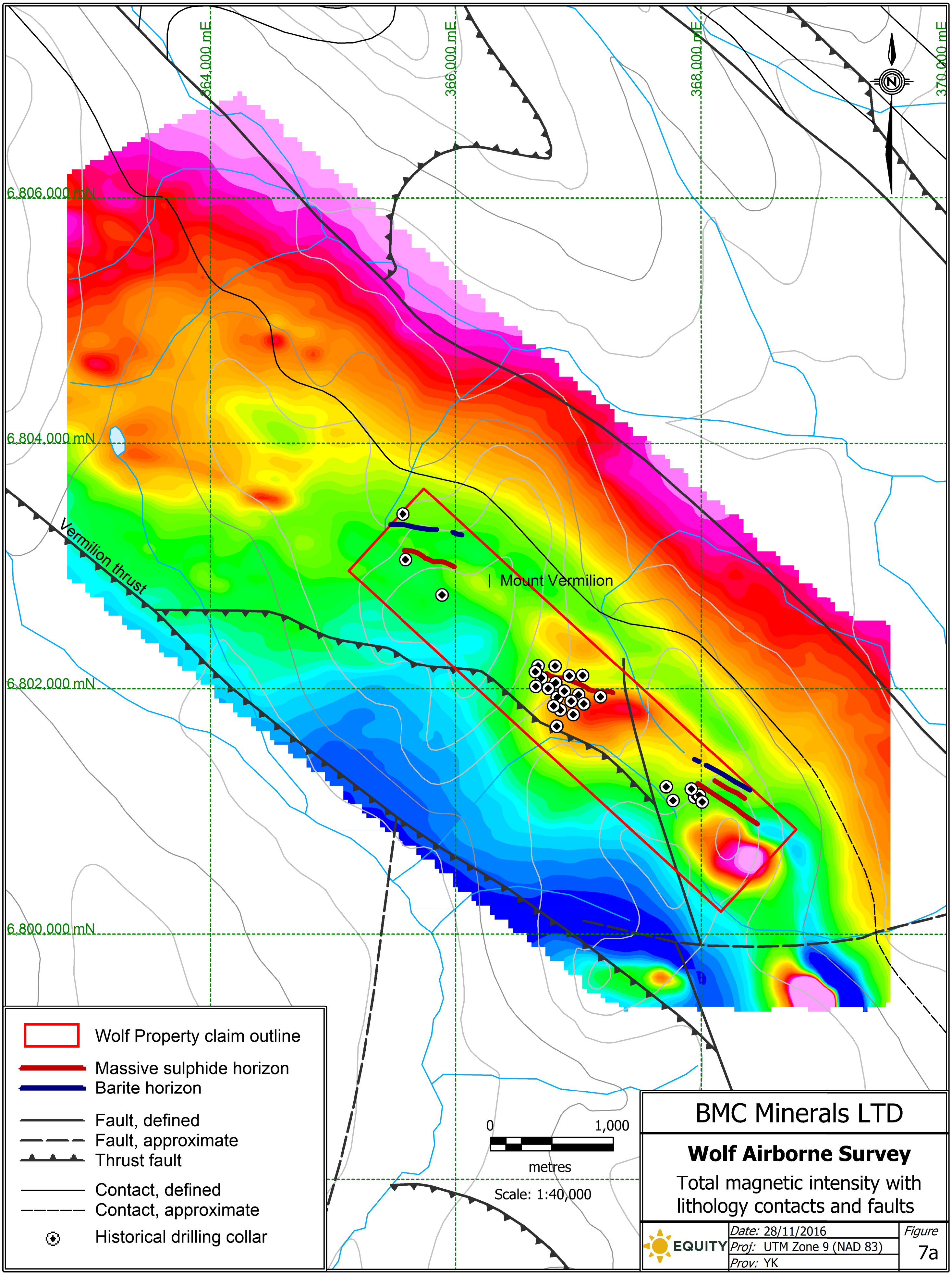
8.1.1 Magnetics

Magnetic data is mapped as total intensity (TMI), calculated vertical gradient (CVG), total horizontal gradient (TotHGrad) and tilt-angle derivative (TiltDrv), as well as the measured cross-line gradient (Hgcxline) and in-line gradients (Hginline) (Venter et al., 2016).

The TMI map (Figure 7a) suggests a moderate to locally high magnetic response for intercalated volcanic and sedimentary rocks of the Pelly Mountains volcanic belt (PMVB), possibly high magnetic response from Askin Group dolomite to the northeast and a low response for structurally overlying Askin Group carbonate to the southwest (Figure 7a). The most prominent highs in the PMVB match up with the monzonite unit of Gibson et al (1998).

The total horizontal gradient (TotHGrad) map shows a similar pattern, with a locally high magnetic response for the PMVB and, in this case, a more subdued responses from both under- and overlying Askin Group rocks. Within the PMVB, felsic volcanic and breccia units appear to show a stronger response than binding argillite units. The calculated vertical gradient shows more elevated response from the structurally overlying Askin carbonate rocks, possibly because the PMVB is dipping underneath it (see maps in Appendix D).

Overall, newly collected airborne magnetic data indicates an elevated response for the PMVB, especially in association with monzonite ± felsic volcanic and/or breccia, and a subdued response for over- and underlying Askin Group rocks.



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Vermilion thrust
Mount Vermilion
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Wolf Property claim outline
Massive sulphide horizon
Barite horizon
Fault, defined
Fault, approximate
Thrust fault
Contact, defined
Contact, approximate
Historical drilling collar
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Scale: 1:40,000
BMC Minerals LTD
Wolf Airborne Survey
Total magnetic intensity with lithology contacts and faults
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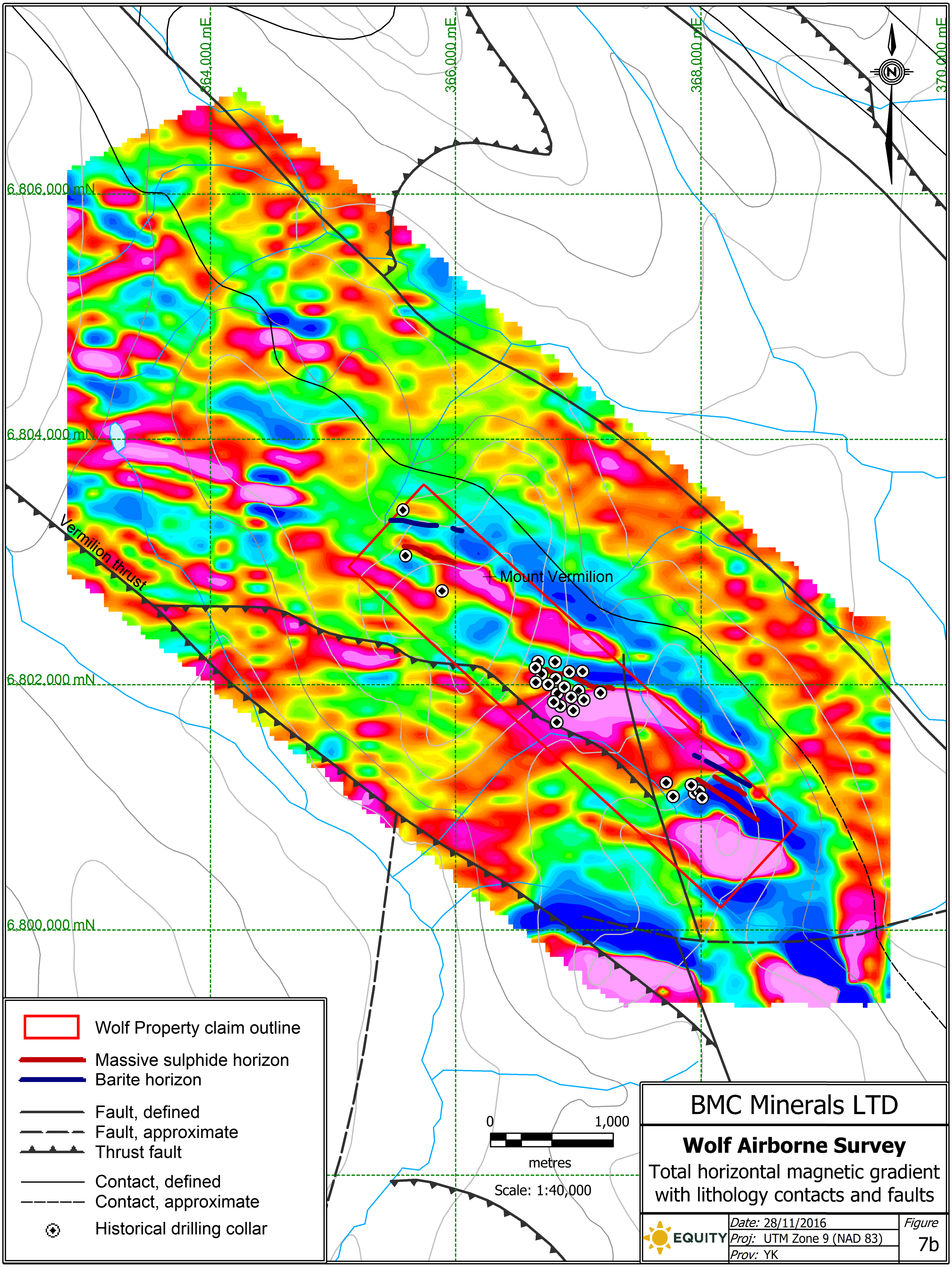
7a



BMC Minerals LTD

Wolf Airborne Survey

Total horizontal magnetic gradient with lithology contacts and faults

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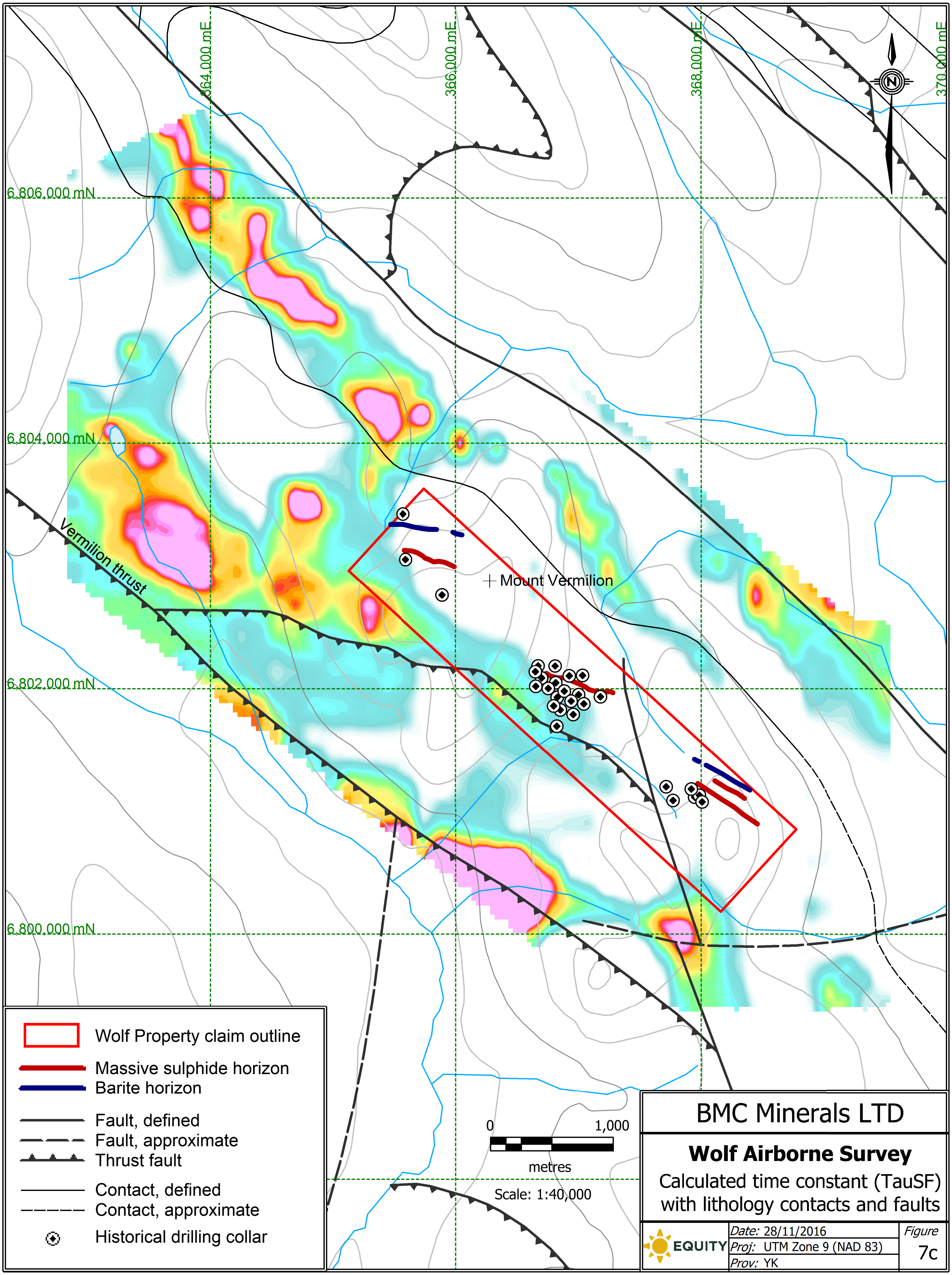
Figure 7b



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BMC Minerals LTD
Wolf Airborne Survey
Calculated time constant (TauSF)
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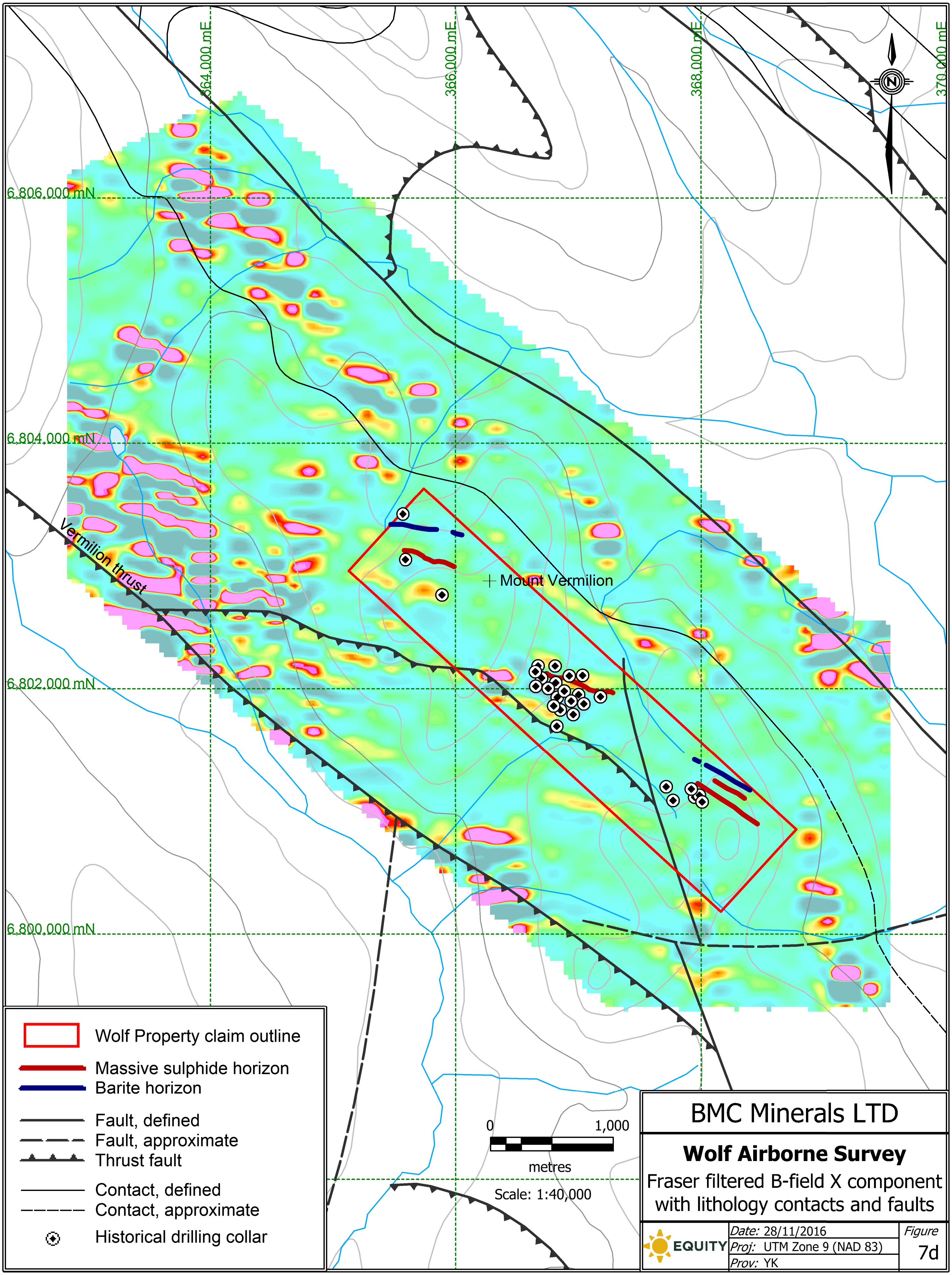
7c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Wolf Property claim outline
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Wolf Airborne Survey
Fraser filtered B-field X component with lithology contacts and faults
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Date: 28/11/2016
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7d

8.1.2 Conductivity

Conductivity data is mapped as calculated time constant with vertical derivative contours (TauSF) and for channels 15 (SFz15), 30 (SFz30) and 45 (SFz45), time constant with B-field Z component (TauBF) and component channel 36 (BFz36) and Fraser filtered B-field X component for channel 20 (SFxFF20) (Venter et al., 2016).

Most of the gridded vertical derivative products are similar, showing prominent EM anomalies within the western part of the PMVB and underlying Askin Group (Figure 7c). The strong EM response in the PMVB lies along strike of an argillite unit mapped by Gibson et al (1998), suggesting this response may be caused by carbonaceous material. Otherwise, the origin of these EM anomalies, and those within the Askin Group, is unknown. There is no EM response for the Wolf deposit.

Electromagnetic anomalies show little notable offset on the deeper channels (i.e. SFz15, 30 and 45 products), suggesting a steeply dipping to subvertical stratigraphy. This is somewhat consistent with geological mapping (e.g. Gibson et al., 1998; Holbek and Wilson, 1997) although outcrop measurements also record more moderate dips that are not explicitly indicated by the later EM channels.

Maps showing the B-field Z component are similar to the vertical derivative products, showing a cluster of electromagnetic anomalies in the western parts of the PMVB and the Askin Group. Anomalies in the PMVB may be related to carbonaceous material whereas sources for the Askin Group are unknown, since regional mapping (Yukon Geological Survey, 2016) suggests constituent lithologies consist mostly of dolostone, limestone, quartzite and mudstone.

The Fraser-filtered electromagnetic data shows a moderate to weak anomaly over top of the Wolf deposit, and is thereby the only EM product that identified this VMS occurrence (Figure 7d).

8.2 Resampling and assay of historical drill core

The 2016 Wolf resampling and assay program was done to evaluate the accuracy of historical assays, and involved the collection of 45 samples from four historical drill holes that tested the Wolf deposit. Bulk density was determined for each of these samples. Geochemical assays were done with two different methods so that each sample has two sets of assay data. Results are further described below.

8.2.1 Bulk density

Bulk density (BD) measurements were taken for all 45 duplicate samples and were calibrated with a sulphide and silicate standard. These standards comprise an NQ-sized piece of massive sulphide (named “SG MXSX”) with bulk density of 4.60 ± 0.10 kg/m^3, and BQ-sized porphyritic rhyolite (“SG RHY”) with density of 2.65 ± 0.05 kg/m^3. Both of these standards were calibrated at the start of the 2016 field season. Weights for both standards are broadly similar to core samples and one standard was weighed for every nine bulk density measurements of drill core samples.

All field measurements of standards fell within acceptable limits. The bulk density of duplicate core samples ranges from 2.70 to 4.22 kg/m^3 and averages 3.18 kg/m^3, consistent with sampling of sulphide-bearing rocks.

8.2.1 Geochemical assay

Quality assurance and quality control (QA/QC) of geochemical assays was monitored with the insertion of certified reference materials (CRMs) and blanks into the sample stream, as described in section 6.2. No QA/QC failures were recorded for the Na_2O_2-AAS assays so that these analyses are considered accurate and free of contamination for Ag, Au, Cu, Fe, Pb and Zn. The aqua regia assays, on the other hand, have not passed QA/QC because (a) there was a 3-SD failure of Ag in CRM sample Q190649, and (2) of a lack of overlimit assays for Zn and Pb, which prevents QA/QC monitoring with medium- and high-grade CRM. However, the strong correlation between many elements from the Na_2O_2-AAS and aqua regia data sets (Table 3, Figure 8), including Zn, Pb and Ag, suggests that the aqua regia assays are also likely accurate, within their analytical limits, and contaminant-free.

Sample correlation coefficients between historical and 2016 aqua regia assays are ≥0.90 for most elements except barium, which shows no correlation (see “Historical vs. aqua regia” columns in Table 3) and so suggests that aqua regia digestion is unsuitable for analyzing Ba in these samples. Correlations for ranked data are broadly similar. These results confirm that the historical data can be precisely duplicated with an aqua regia digest and ICP-AES analysis.

Sample correlation between historical and Na_2O_2-AAS assays is also ≥0.90 for many of the elements (including Ag, Pb, Zn) but is slightly weaker for copper and gold, ranging from 0.84 to 0.89 (Table 3, Figure 9). These weak correlations are likely related to the overall scarcity of samples exceeding detection for Cu and Au, meaning correlation is based on relatively few data points that are all close to the detection limit (e.g. Figure 9d). Correlation coefficients for barium and bismuth, on the other hand, are close to zero. Barium assays obtained by XRF range from 5400–157000 ppm (0.5–15.7%) compared to maximums of 150 ppm (0.01%) and 213 ppm (0.02%) in the historical and 2016 aqua regia assays.

The generally strong correlation between the 2016 duplicates (both aqua regia and Na_2O_2-AAS) suggests that the historical assay data is likely accurate for Ag, Pb, Zn, Au, Cu, As, Fe, Hg and Sb but not for Ba and Bi.

Table 3: Sample correlations (*r*) for historical and 2016 assays and ranked assays

	Na_2O_2-AAS vs. aqua regia			**Historical vs. aqua regia**			**Historical vs. Na_2O_2-AAS**		
Element	*Pairs (N)*	*Assay (r)*	*Rank (r)*	*Pairs (N)*	*Assay (r)*	*Rank (r)*	*Pairs (N)*	*Assay (r)*	*Rank (r)*
Ag	26	0.98	0.96	26	0.95	0.88	45	0.99	0.96
As	45	1.00	1.00	45	0.98	0.98	45	0.98	0.98
Au	15	0.99	0.96	10	0.92	0.89	9	0.89	0.80
Ba	45	-0.17	-0.13	45	0.05	-0.04	45	0.21	0.54
Bi	0	-	-	0	-	-	35	-0.19	-0.38
Cu	16	1.00	0.99	45	0.90	0.86	17	0.84	0.90
Fe	29	0.99	0.98	29	0.96	0.96	45	0.99	0.98
Hg	45	1.00	1.00	20	0.99	0.97	20	0.99	0.97
Pb	33	1.00	0.98	43	0.98	0.95	35	1.00	0.96
S	9	0.98	0.98	0			0		
Sb	24	1.00	0.96	28	0.92	0.94	26	0.92	0.89
Zn	27	1.00	0.99	34	0.94	0.92	38	0.99	0.94

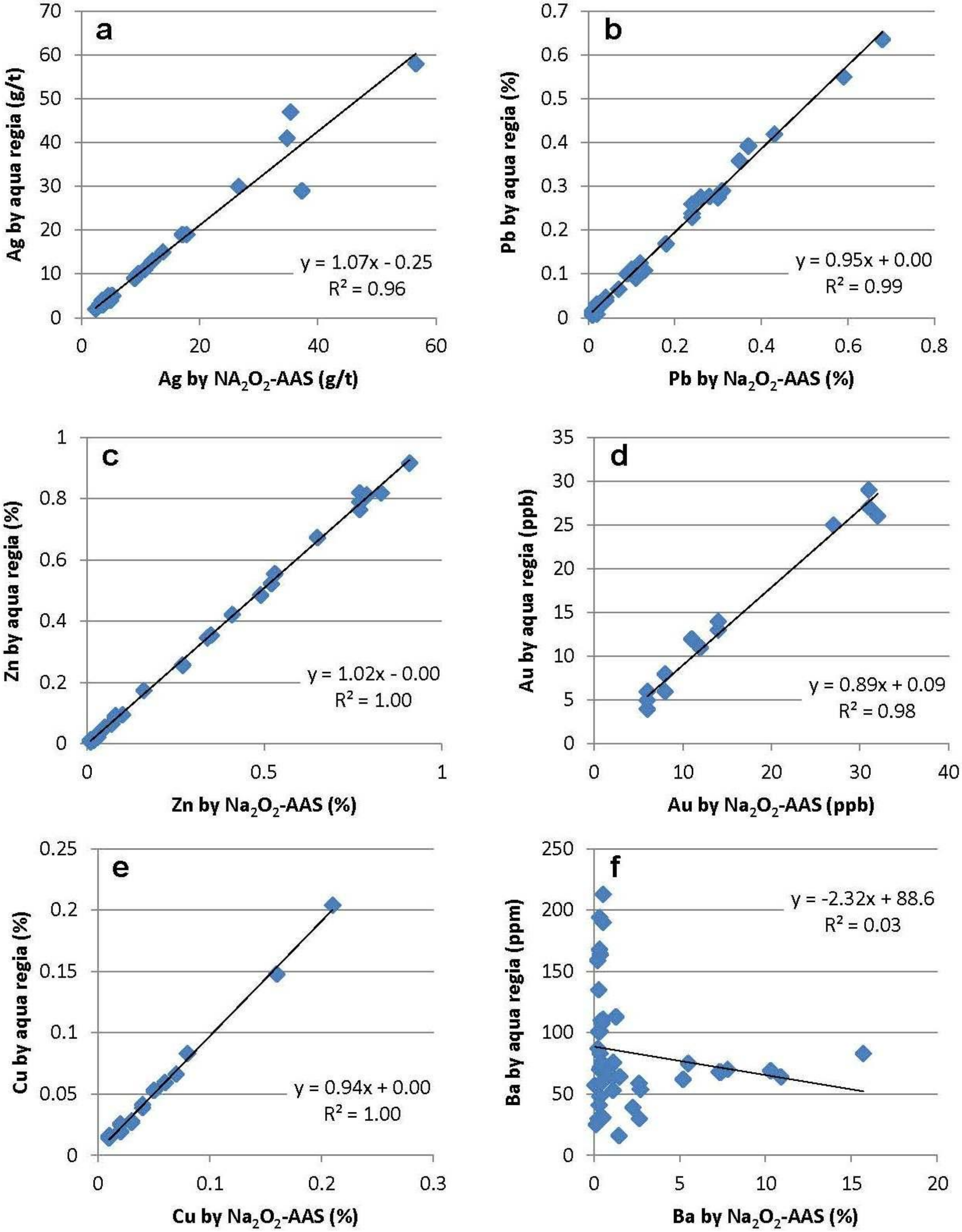

Figure 8: Scatter plots comparing new analyses by Na_2O_2-AAS and aqua regia methods.
Plots show (a) silver, (b) lead, (c) zinc, (d) gold, (e) copper and (f) barium. Note strong correlations for all elements except Ba, suggesting that 2016 aqua regia analyses are mostly accurate even though they did not pass QA/QC. The linear equation and coefficient of determination (R^2) are shown for each regression line.

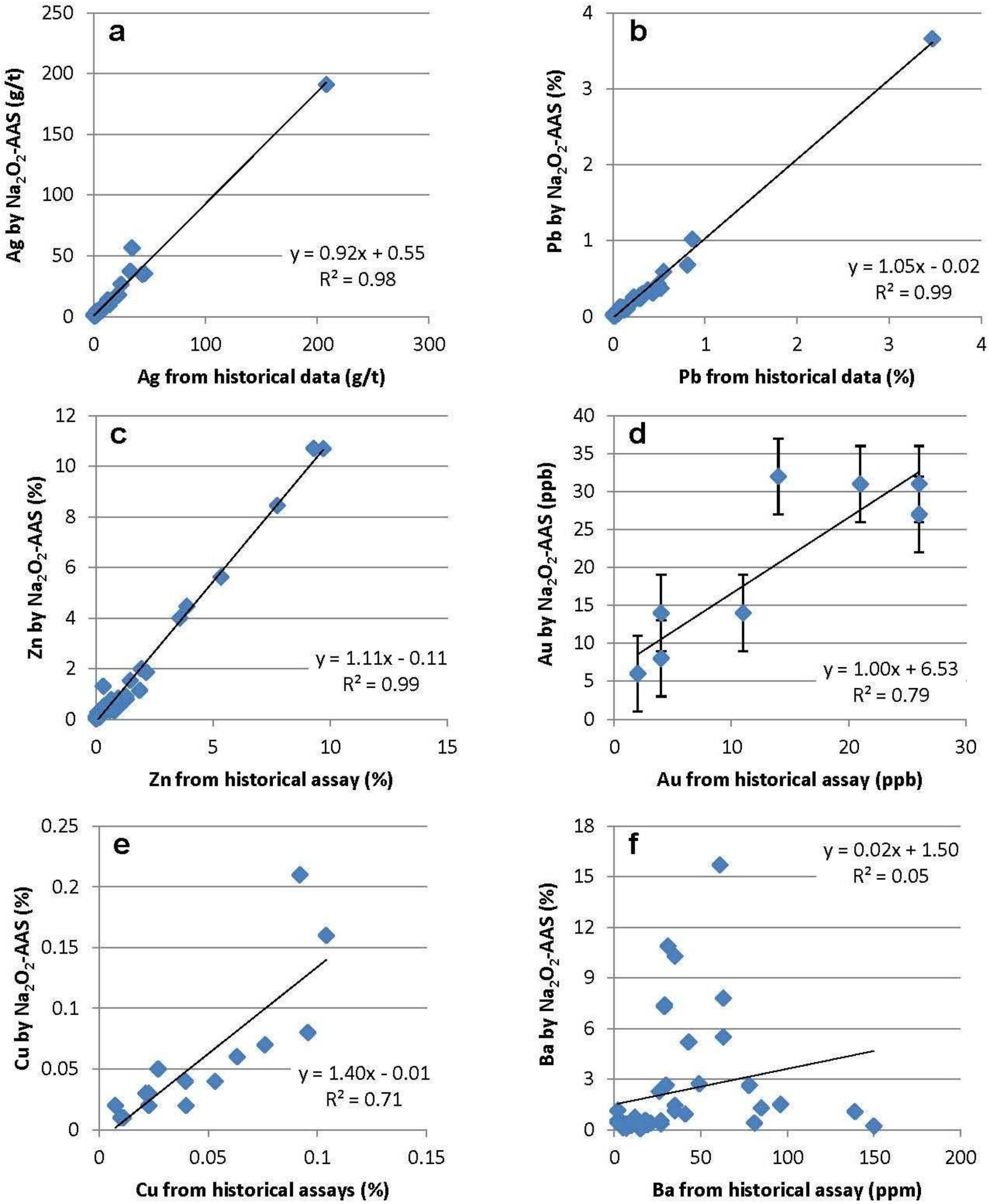

Figure 9: Scatter plots comparing historical assays with 2016 Na_2O_2-AAS duplicates, showing (a) silver, (b) lead, (c) zinc, (d) gold with 5 ppb error bars, (e) copper and (f) barium. Note strong correlations for Ag, Pb and Zn, low concentrations and weaker correlations for Au and Cu, and the lack of correlation for barium. The linear equation and coefficient of determination (R^2) are shown for each regression line.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Notable findings through a preliminary comparison of 2016 VTEM™ data with historical geological mapping on the Wolf Property suggests:

- No EM or magnetic response for the Wolf deposit or East Slope prospect;
- The prospective Pelly Mountain volcanic belt appears to show elevated magnetic and locally high EM response, the latter possibly related to carbonaceous material;
- Under- and overlying Askin Group carbonate shows generally low magnetic and EM response;
- The MINFILE coordinate for the Hasselberg, or Wolf, deposit lies 1250 m north-northwest of where the Wolf deposit was drilled by Atna.

Results from the 2016 resampling and geochemical assay program show strong correlation for Ag, Pb, Zn, Au, Cu, As, Fe, Hg and Sb, and so the historical assays for these elements are likely accurate. Barium and bismuth, on the other hand, show poor accuracy and precision for both the historical and 2016 aqua regia analyses:

Follow-up work should include careful integration of the 2016 VTEM data with property- and regional-scale geological mapping of the Wolf Property, follow-up groundwork for the conductor cluster in both the PMVB and the Askin Group, and, most importantly, processing of the 2016 airborne magnetic-VTEM data by an expert geophysicist.

Respectfully submitted,

Signed and sealed: “Ron Voordouw”	*Signed and Sealed: “Henry Awmack"*
___________________________	___________________________
Ron Voordouw	Henry Awmack

EQUITY EXPLORATION CONSULTANTS LTD.

Vancouver, British Columbia

Date: January 4th, 2017

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Appendix B: Statement of Expenditures

STATEMENT OF EXPENDITURES
Wolf Project
February 01, 2016 - December 31, 2016

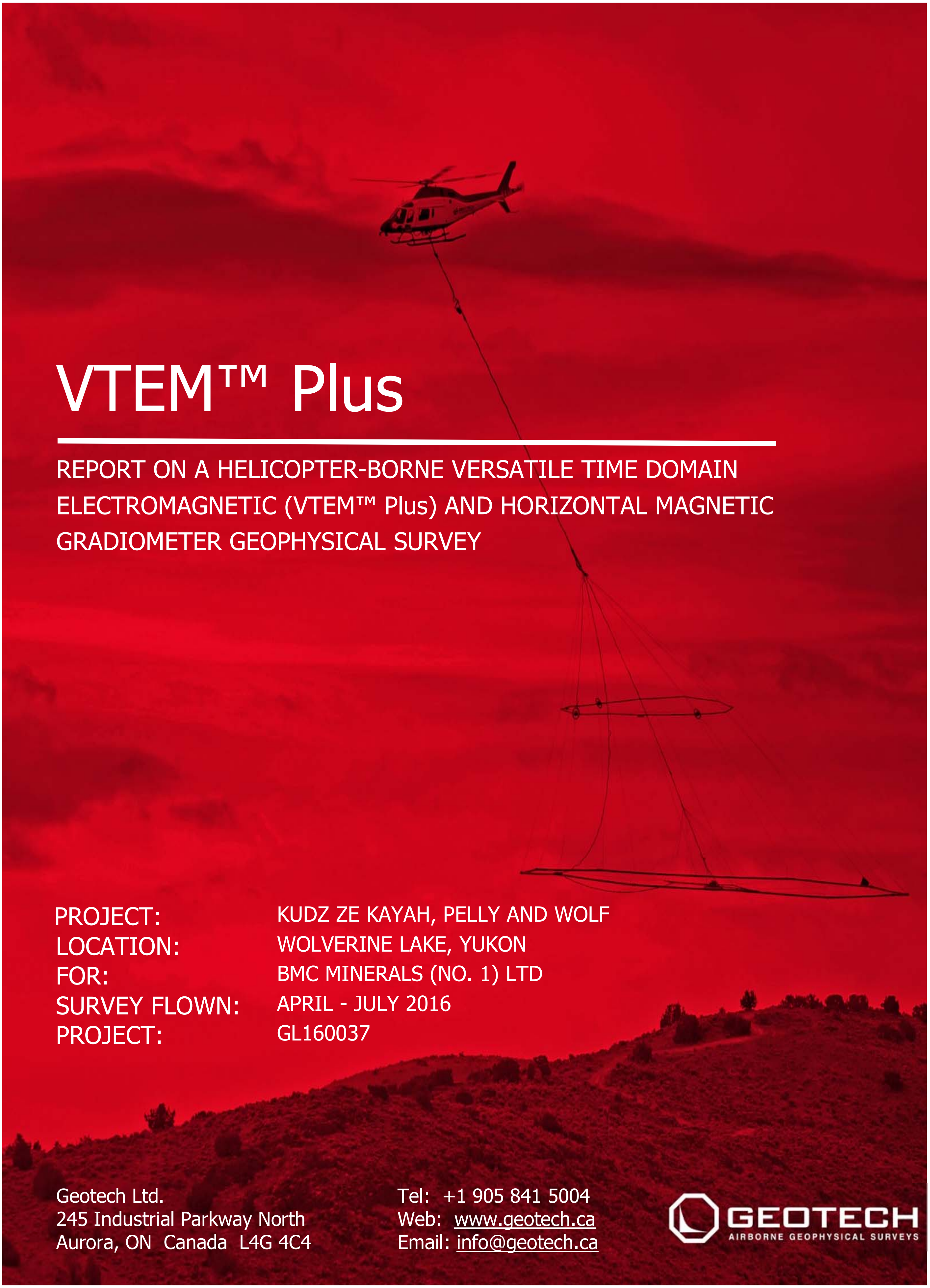
PROFESSIONAL FEES AND WAGES:			
Henry Awmank, P. Geo.			
2.88 days @ $700/day	2,016.00		
Scott Parker, GIS / Logistics			
0.50 hours @ $75/hour	37.50		
Ronald, Voordouw, P.Geo.			
4.13 days @ $700/day	2,891.00		
Agata Zurek, GIS			
29.00 hours @ $75/hour	2,175.00	$	7,119.50
EXPENSES:			
Chemical Analyses	4,276.72		
Helicopter Charters	1,597.47		
Bulk Fuel	4,050.00		
Project Support	1,707.39		
Airborne Geophysics: Field Work	57,019.66		
Geophysical Consulting	2,756.25	$	71,407.49
TOTAL:		$	78,526.99

Appendix C: Claim Data

Table C-1: Tenure details for Wolf Property claims

Grant Number	Tenure Type	Claim Name	Claim Label	Staking Date	Recording Date	Expiry Date	Area km²
YB16894	Quartz	WOLF	WOLF 1	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16895	Quartz	WOLF	WOLF 2	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16896	Quartz	WOLF	WOLF 3	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16897	Quartz	WOLF	WOLF 4	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16898	Quartz	WOLF	WOLF 5	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16899	Quartz	WOLF	WOLF 6	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16900	Quartz	WOLF	WOLF 7	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16901	Quartz	WOLF	WOLF 8	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16902	Quartz	WOLF	WOLF 9	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16903	Quartz	WOLF	WOLF 10	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16904	Quartz	WOLF	WOLF 11	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16905	Quartz	WOLF	WOLF 12	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16906	Quartz	WOLF	WOLF 13	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16907	Quartz	WOLF	WOLF 14	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16908	Quartz	WOLF	WOLF 15	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16909	Quartz	WOLF	WOLF 16	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16910	Quartz	WOLF	WOLF 17	26-Mar-99	30-Mar-99	30-Mar-17	0.21
YB16911	Quartz	WOLF	WOLF 18	26-Mar-99	30-Mar-99	30-Mar-17	0.21
Total			**18 claims**				**3.75**

Appendix D: Airborne Survey Report



VTEM™ Plus

REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™ Plus) AND HORIZONTAL MAGNETIC GRADIOMETER GEOPHYSICAL SURVEY

PROJECT: KUDZ ZE KAYAH, PELLY AND WOLF
LOCATION: WOLVERINE LAKE, YUKON
FOR: BMC MINERALS (NO. 1) LTD
SURVEY FLOWN: APRIL - JULY 2016
PROJECT: GL160037

Geotech Ltd.
245 Industrial Parkway North
Aurora, ON Canada L4G 4C4

Tel: +1 905 841 5004
Web: www.geotech.ca
Email: info@geotech.ca

GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

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EXECUTIVE SUMMARY

KUDZ ZE KAYAH, PELLY AND WOLF - WOLVERINE LAKE, YUKON

During April 23rd to July 31st 2016 Geotech Ltd. carried out a helicopter-borne geophysical survey over Kudz Ze Kayah, Pelly and Wolf situated near Wolverine Lake, Yukon.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEMplus) system and horizontal magnetic gradiometer with two caesium sensors. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 1589 line-kilometres of geophysical data were acquired during the survey.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as the following maps:

- Electromagnetic stacked profiles of the B-field Z Component,
- Electromagnetic stacked profiles of dB/dt Z Component,
- B-Field Z Component Channel grids,
- dB/dt X Component Fraser Filtered Channel grid,
- Total Magnetic Intensity (TMI),
- Magnetic Total Horizontal Gradient,
- Magnetic Tilt-Angle Derivative of TMI,
- Calculated Time Constant (Tau) with Calculated Vertical Derivative contours and
- Resistivity Depth Images (RDI) sections are presented.

Digital data includes all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, processing, final image presentation and the specifications for the digital data set.

1. INTRODUCTION

1.1 GENERAL CONSIDERATIONS

Geotech Ltd. performed a helicopter-borne geophysical survey over Kudz Ze Kayah, Pelly and Wolf situated near Wolverine Lake, Yukon (Figure 1 & Figure 2).

Robin Black represented BMC Minerals (No. 1) Ltd during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEMplus) system with Full-Waveform processing. Measurements consisted of Vertical (Z), In-line Horizontal (X) and Cross-line Horizontal (Y) components of the EM fields using induction coils and the aeromagnetic total field using a magnetic gradiometer. A total of 1589 line-km of geophysical data were acquired during the survey.

The crew was based out of Watson Lake (Figure 2) in Yukon for the acquisition phase of the survey. Survey flying started on April 23rd and was completed on July 31st, 2016.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Final data processing followed immediately after the end of the survey. Final reporting, data presentation and archiving were completed from the Aurora office of Geotech Ltd. in October, 2016.

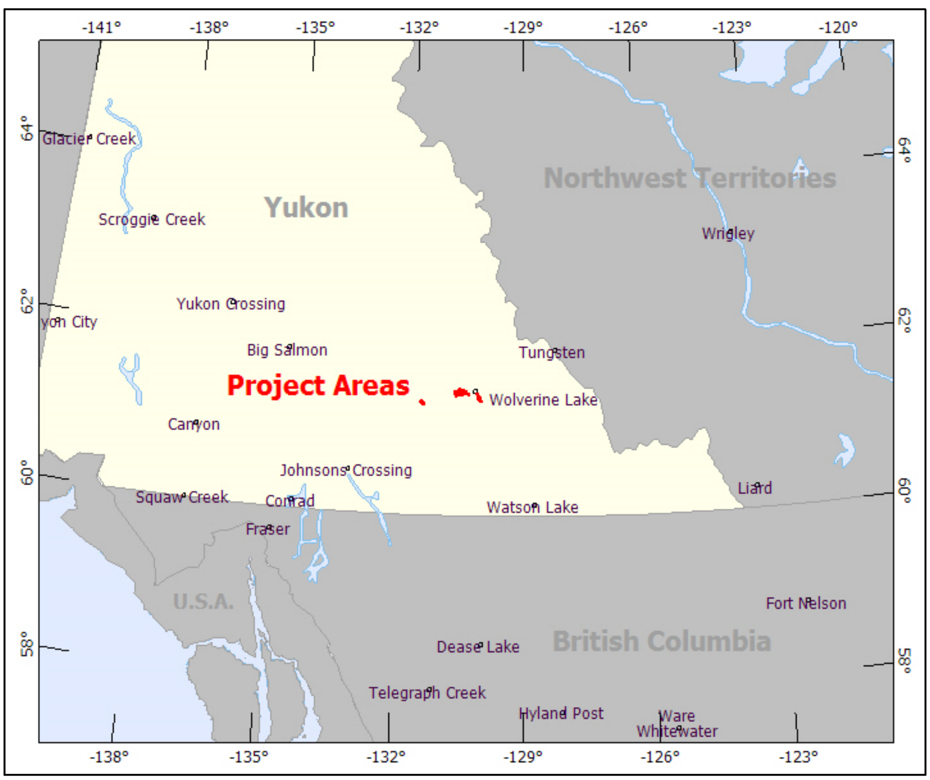

Figure 1: Survey location

1.2 SURVEY AND SYSTEM SPECIFICATIONS

The survey areas, Kudz Ze Kayah, Pelly and Wolf are located approximately 8 kilometres west, 2 kilometres east and 71 kilometres southwest of Wolverine Lake, Yukon respectively (Figure 2).

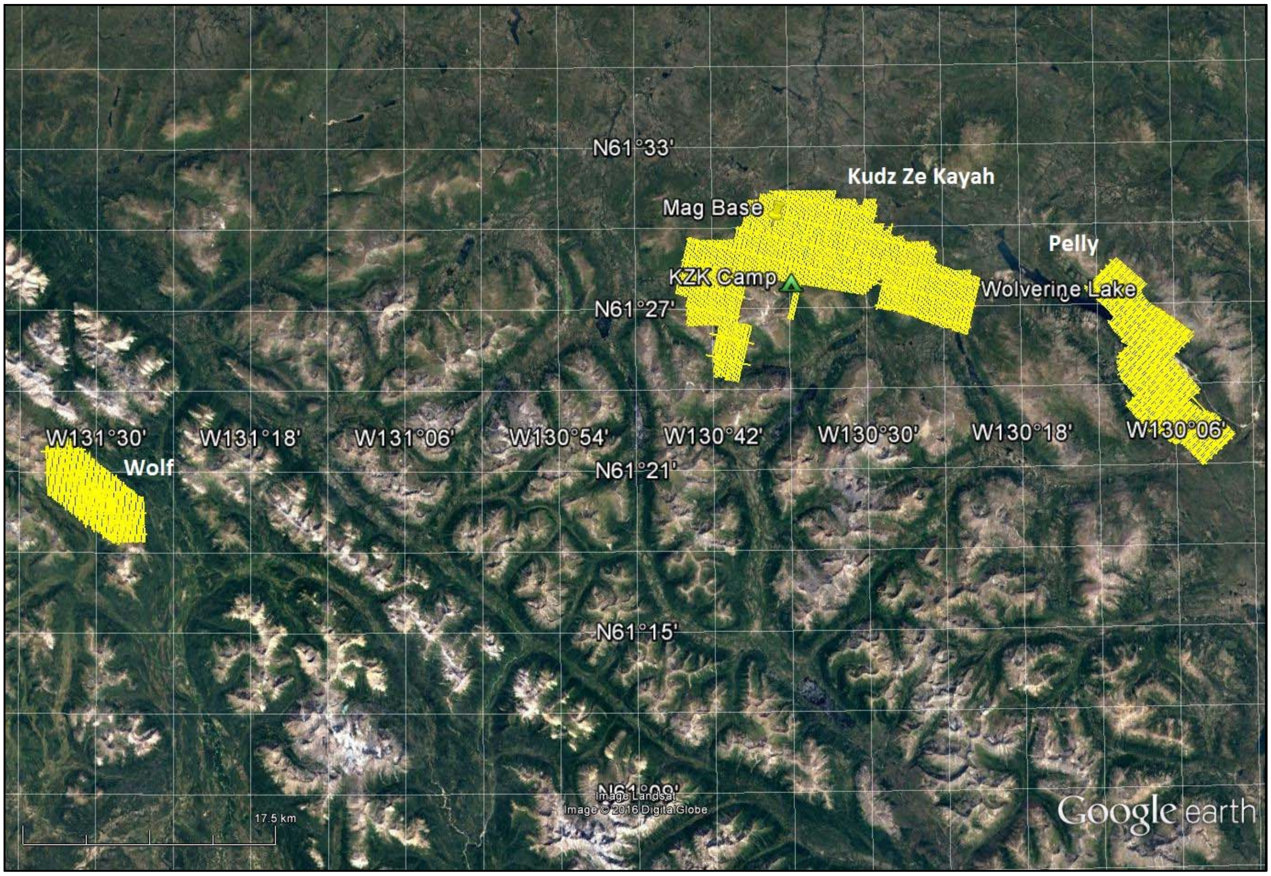

Figure 2: Survey area location on Google Earth.

The block, Kudz Ze Kayah was flown in a northeast to southwest (N 15° E azimuth) direction; Pelly was flown in a southwest to northeast (N48° E azimuth) direction and Wolf was flown in a north to south (N0° E azimuth) direction with traverse line spacing of 150 metres as depicted in Figure 3 to 4. Tie lines were flown perpendicular to the traverse lines at a spacing of 1500 metres respectively. For more detailed information on the flight spacing and direction see Table 1.

1.3 TOPOGRAPHIC RELIEF AND CULTURAL FEATURES

Topographically, the survey areas exhibits an extremely rugged relief with an elevation ranging from 1104 to 2079 metres above mean sea level over an area of 241 square kilometres (Figure 3 to 5).

There are various rivers and streams running through the survey areas which connect various lakes. There are no visible signs of culture such as roads, transmission lines, mining areas and settlements located in the survey areas (Figure 3 to 5).

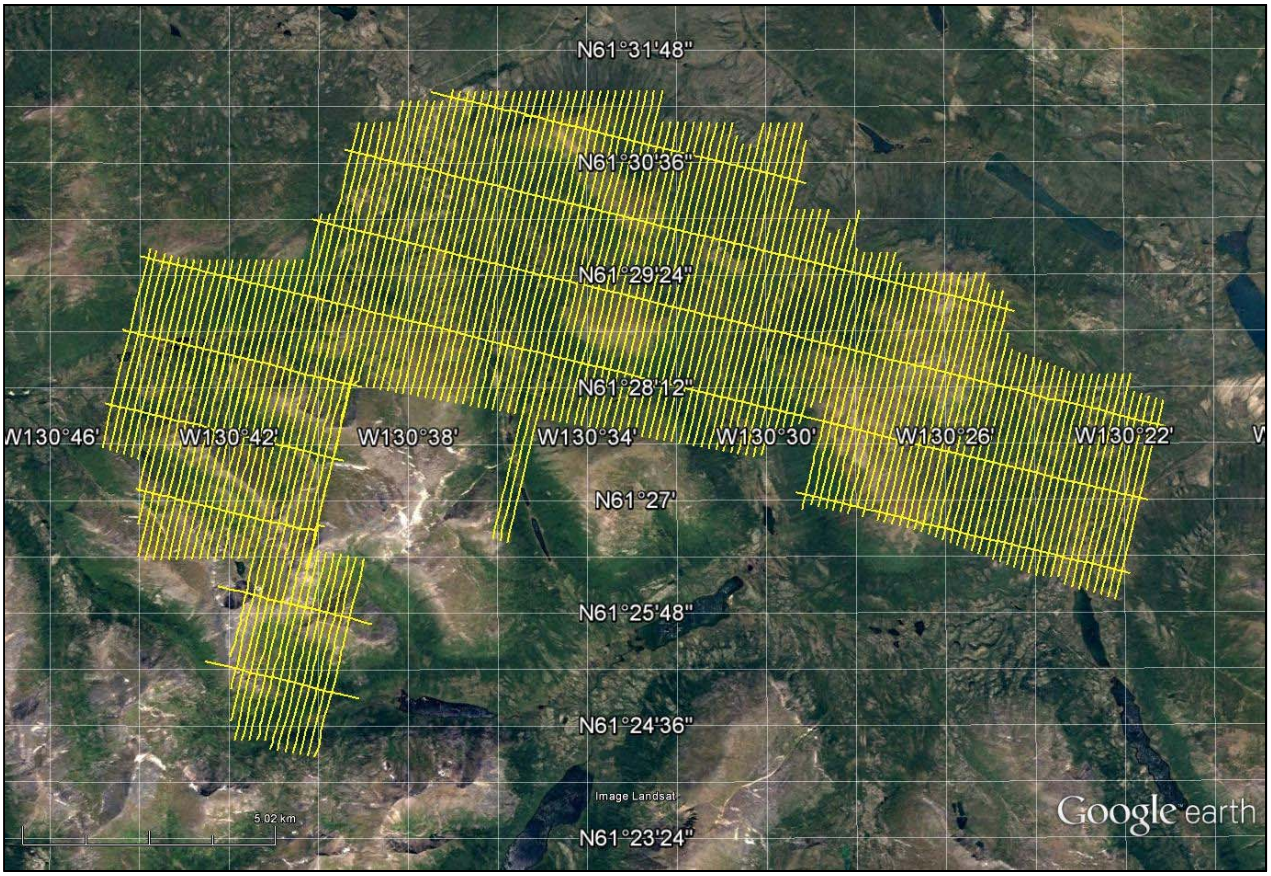

Figure 3: Flight path of Kudz Ze Kayah over a Google Earth Image.

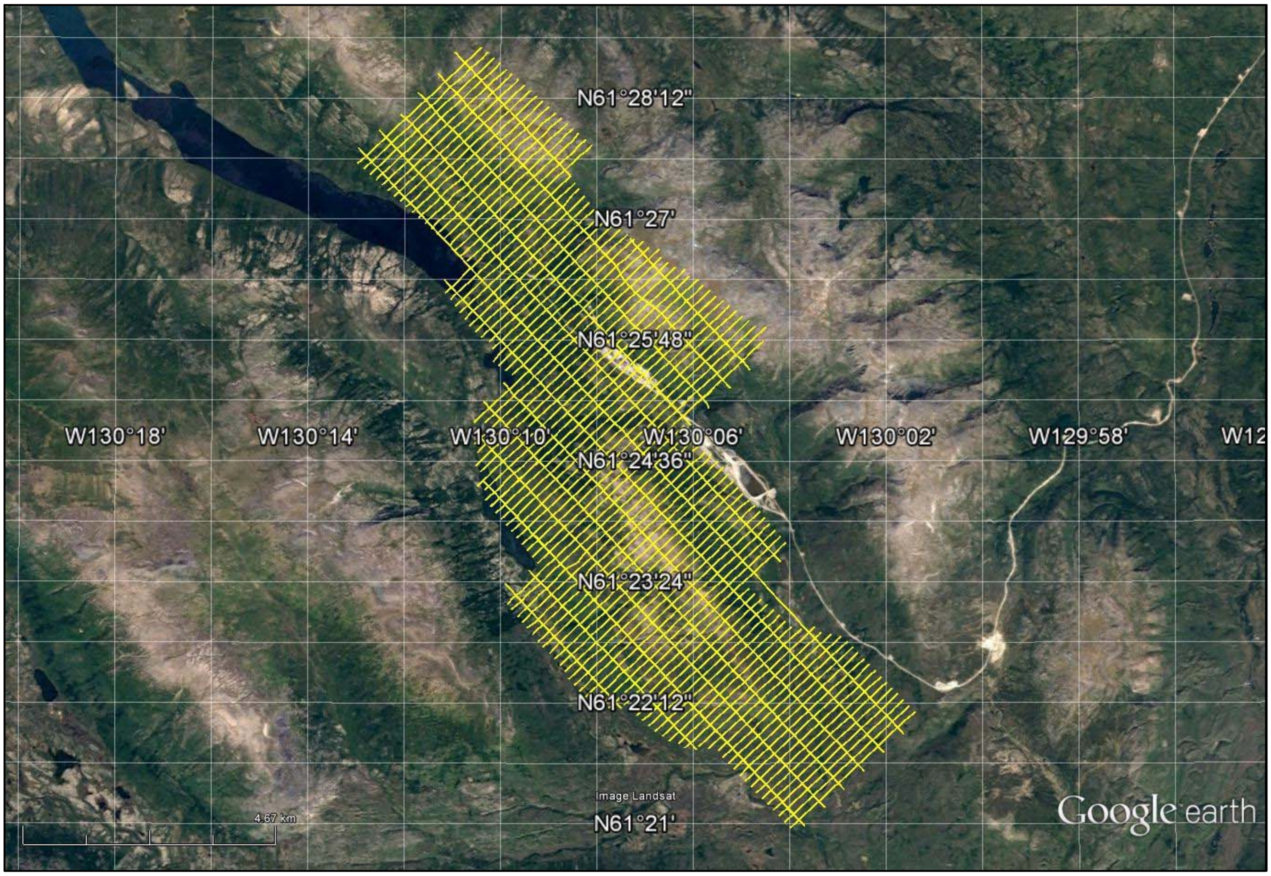

Figure 4: Flight path of Pelly over a Google Earth Image.

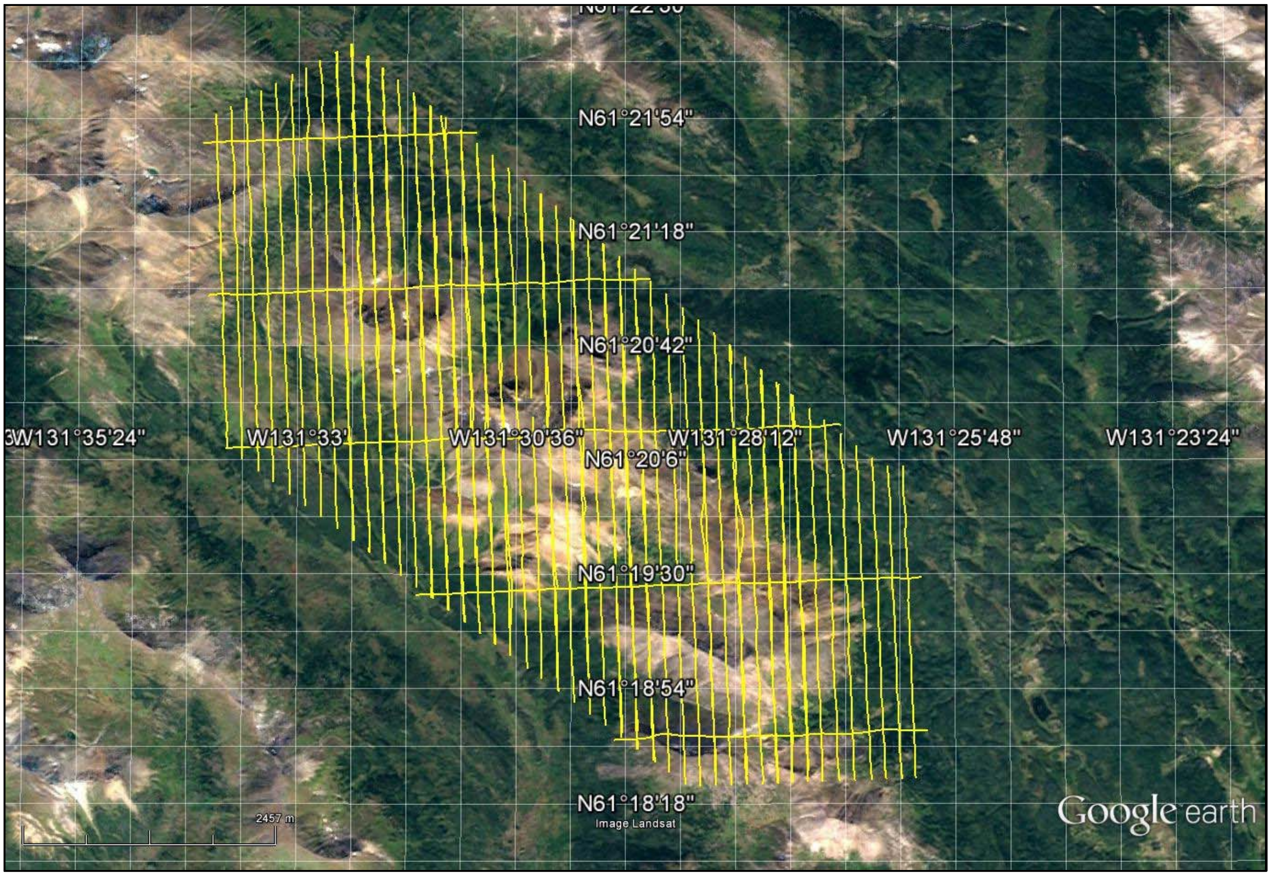

Figure 5: Flight path of Wolf over a Google Earth Image.

2. DATA ACQUISITION

2.1 SURVEY AREA

The survey areas (see Figure 3, Figure 4, Figure 5 and Appendix A) and general flight specifications are as follows:

Table 1: Survey Specifications

Survey block	Line spacing (m)	Area (Km^2)	Planned[1] Line-km	Actual Line-km	Flight direction	Line numbers
Kudz Ze Kayah	Traverse: 150	121	902	851.8	N 15° E / N 195° E	L3000 - L4350 L1305 - L1555
	Tie: 1500			86.5	N 105° E / N 285° E	T5000 - T5080
Pelly	Traverse: 150	91	473	370.1	N 48° E / N 228° E	L4000 - L4960
	Tie: 1500			111.5	N 138° E / N 318° E	T5000 - T5040
Wolf	Traverse: 150	29	214	295.5	N 0° E / N 180° E	L6000 - L6440
	Tie: 1500			21.1	N 90° E / N 270° E	T7000 - T7040
TOTAL		241	1589	1736.5		

Survey area boundaries co-ordinates are provided in Appendix B.

2.2 SURVEY OPERATIONS

Survey operations were based out of Watson Lake and Kudz Ze Kayah Camp in Yukon from April 11th until July 31st 2016. The following table shows the timing of the flying.

Table 2: Survey schedule

Date	Flight #	Flown km	Block	Crew location	Comments
11-Apr-2016				Watson Lake, Yukon	Crew arrived
12-Apr-2016				Watson Lake, Yukon	System assembly limited due to weather
13-Apr-2016				Watson Lake, Yukon	System assembly
14-Apr-2016				Watson Lake, Yukon	Testing
15-Apr-2016				Watson Lake, Yukon	No production due to technical issues
16-Apr-2016				Watson Lake, Yukon	No production due to technical issues
17-Apr-2016				Watson Lake, Yukon	No production due to technical issues & recon flight
18-Apr-2016				Watson Lake, Yukon	No production due to technical issues
19-Apr-2016				Watson Lake, Yukon	No production due to technical issues
20-Apr-2016				Watson Lake, Yukon	No production due to technical issues & test flight
21-Apr-2016				Watson Lake, Yukon	Mobilized to camp
22-Apr-2016				KZK CAMP, Yukon	Set up & testing – no production

[1] Note: Actual Line kilometres represent the total line kilometres in the final database. These line-km normally exceed the Planned Line-km, as indicated in the survey NAV files. However, flying was stopped early as requested by the client.

Date	Flight #	Flown km	Block	Crew location	Comments
					due to weather
23-Apr-2016	1,2,3	280	KZK	KZK CAMP, Yukon	280km flown
24-Apr-2016	4,5	188	KZK	KZK CAMP, Yukon	188km flown
25-Apr-2016	6	25	KZK	KZK CAMP, Yukon	25km flown limited due to weather
26-Apr-2016	7,8,9	247	KZK	KZK CAMP, Yukon	247km flown
27-Apr-2016				KZK CAMP, Yukon	No production due to weather
28-Apr-2016	10,11	149	KZK	KZK CAMP, Yukon	149km flown
29-Apr-2016				KZK CAMP, Yukon	No production due to weather
30-Apr-2016				KZK CAMP, Yukon	No production due to weather
1-May-2016	12	6	Pelly	KZK CAMP, Yukon	6km flown limited due to weather
2-May-2016				KZK CAMP, Yukon	No production due to weather
3-May-2016	13,14	155	KZK	KZK CAMP, Yukon	155km flown – Stopped until July
5-Jul-2016				KZK CAMP, Yukon	Crew arrived
6-Jul-2016				KZK CAMP, Yukon	System set & recon flight
7-Jul-2016	15	56	wolf	KZK CAMP, Yukon	56km flown limited due to technical issues
8-Jul-2016	16,17	106	wolf	KZK CAMP, Yukon	160km flown
9-Jul-2016	18,19,20	52	wolf	KZK CAMP, Yukon	52km flown
10-Jul-2016	21	49	Pelly	KZK CAMP, Yukon	49km flown limited due to weather
11-Jul-2016	22,23,24	123	Pelly	KZK CAMP, Yukon	123km flown
12-Jul-2016	25,26	106	Pelly	KZK CAMP, Yukon	106km flown
13-Jul-2016	27,28,29	110	Pelly	KZK CAMP, Yukon	110km flown
14-Jul-2016	30	35	Pelly	KZK CAMP, Yukon	30km flown & waiting for reflight confirmation
15-Jul-2016			Pelly	KZK CAMP, Yukon	Waiting for reflight confirmation
16-Jul-2016	31,32	77	Pelly	KZK CAMP, Yukon	77km flown
17-Jul-2016	33	50	Pelly	KZK CAMP, Yukon	Remaining kms were flown – flying completed
18-Jul-2016				KZK CAMP, Yukon	Waiting on re-flights
19-Jul-2016				KZK CAMP, Yukon	Waiting on re-flights
20-Jul-2016			wolf	KZK CAMP, Yukon	No production due to weather
21-Jul-2016	34	24	wolf	KZK CAMP, Yukon	24km flown limited due to technical issues
22-Jul-2016				KZK CAMP, Yukon	No production due to weather
23-Jul-2016				KZK CAMP, Yukon	No production due to weather
24-Jul-2016				KZK CAMP, Yukon	No production due to weather
25-Jul-2016				KZK CAMP, Yukon	Flight aborted due to weather
26-Jul-2016				KZK CAMP, Yukon	Flight aborted due to weather
27-Jul-2016				KZK CAMP, Yukon	No production due to weather
28-Jul-2016				KZK CAMP, Yukon	No production due to weather
29-Jul-2016				KZK CAMP, Yukon	No production due to weather
30-Jul-2016		20	wolf	KZK CAMP, Yukon	20km flown
31-Jul-2016		103	wolf	KZK CAMP, Yukon	Remaining kms were flown – flying complete

2.3 FLIGHT SPECIFICATIONS

During the survey the helicopter was maintained at a mean altitude of 101 metres above the ground with an average survey speed of 80 km/hour. This allowed for an actual average Transmitter-receiver loop terrain clearance of 70 metres and a magnetic sensor clearance of 80 metres.

The on board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

2.4 AIRCRAFT AND EQUIPMENT

2.4.1 SURVEY AIRCRAFT

The survey was flown using a Eurocopter Aerospatiale (Astar) 350 B3 helicopter, registration C-GTNI and C-FVTM. The helicopter is owned and operated by Trans North Helicopters. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd crew.

2.4.2 ELECTROMAGNETIC SYSTEM

The electromagnetic system was a Geotech Time Domain EM (VTEM™Plus) full receiver-waveform streamed data recorded system. The "full waveform VTEM system" uses the streamed half-cycle recording of transmitter and receiver waveforms to obtain a complete system response calibration throughout the entire survey flight. The VTEM™ transmitter current waveform is shown diagrammatically in Figure 6. VTEM with the Serial number 17 and 31 had been used for the survey.

The VTEM™ Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The receiver system for the project also included a coincident-coaxial X-direction coil to measure the in-line dB/dt and calculate B-Field responses. The Transmitter-receiver loop was towed at a mean distance of 31 metres below the aircraft as shown in Figure 7.

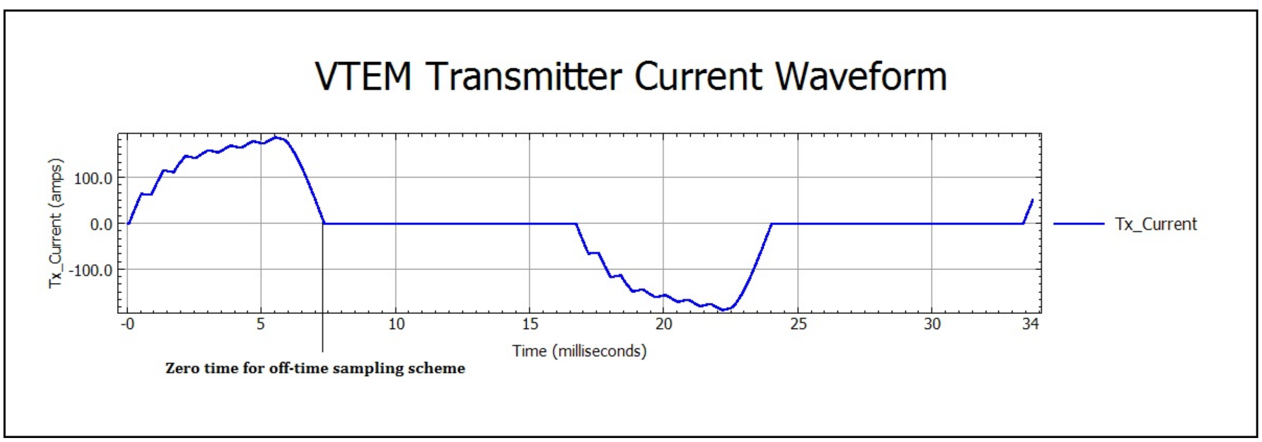

Figure 6: VTEM™ Transmitter Current Waveform

The VTEM™ decay sampling scheme is shown in Table 3 below. Forty-three time measurement gates were used for the final data processing in the range from 0.021 to 8.083 msec. Zero time for the off-time sampling scheme is equal to the current pulse width and is defined as the time near the end of the turn-off ramp where the dI/dt waveform falls to 1/2 of its peak value.

Table 3: Off-Time Decay Sampling Scheme

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
4	0.018	0.023	0.021	0.005
5	0.023	0.029	0.026	0.005
6	0.029	0.034	0.031	0.005
7	0.034	0.039	0.036	0.005
8	0.039	0.045	0.042	0.006
9	0.045	0.051	0.048	0.007
10	0.051	0.059	0.055	0.008
11	0.059	0.068	0.063	0.009
12	0.068	0.078	0.073	0.010
13	0.078	0.090	0.083	0.012
14	0.090	0.103	0.096	0.013
15	0.103	0.118	0.110	0.015
16	0.118	0.136	0.126	0.018
17	0.136	0.156	0.145	0.020
18	0.156	0.179	0.167	0.023
19	0.179	0.206	0.192	0.027
20	0.206	0.236	0.220	0.030
21	0.236	0.271	0.253	0.035
22	0.271	0.312	0.290	0.040
23	0.312	0.358	0.333	0.046
24	0.358	0.411	0.383	0.053
25	0.411	0.472	0.440	0.061
26	0.472	0.543	0.505	0.070
27	0.543	0.623	0.580	0.081
28	0.623	0.716	0.667	0.093
29	0.716	0.823	0.766	0.107
30	0.823	0.945	0.880	0.122
31	0.945	1.086	1.010	0.141
32	1.086	1.247	1.161	0.161
33	1.247	1.432	1.333	0.185
34	1.432	1.646	1.531	0.214
35	1.646	1.891	1.760	0.245
36	1.891	2.172	2.021	0.281
37	2.172	2.495	2.323	0.323
38	2.495	2.865	2.667	0.370

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
39	2.865	3.292	3.063	0.427
40	3.292	3.781	3.521	0.490
41	3.781	4.341	4.042	0.560
42	4.341	4.987	4.641	0.646
43	4.987	5.729	5.333	0.742
44	5.729	6.581	6.125	0.852
45	6.581	7.560	7.036	0.979
46	7.560	8.685	8.083	1.125

Z Component: 4 - 46 time gates
X Component: 20 - 46 time gates
Y Component: 20 - 46 time gates

VTEM™ system specifications:

Transmitter	Receiver
• Transmitter loop diameter: 26 m • Number of turns: 4 • Effective Transmitter loop area: 2123.7 m^2 • Transmitter base frequency: 30 Hz • Peak current: 189 A • Pulse width: 7.34 ms • Waveform shape: Bi-polar trapezoid • Peak dipole moment: 401,382 nIA • Actual average Transmitter-receiver loop terrain clearance: 70 metres above the ground	• X Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m^2 • Z-Coil and Y-coil diameter: 1.2 m • Number of turns: 100 • Effective coil area: 113.04 m^2

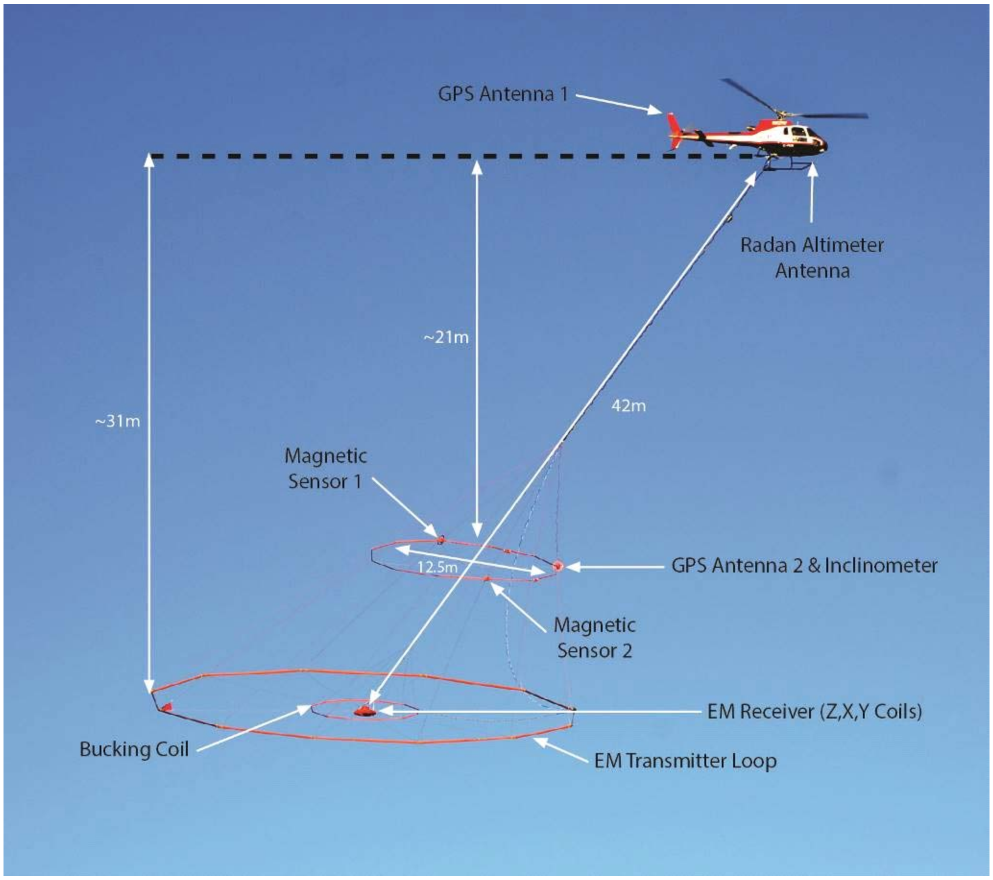

Figure 7: VTEM™Plus System Configuration.

2.4.3 FULL WAVEFORM VTEM™ SENSOR CALIBRATION

The calibration is performed on the complete VTEM™ system installed in and connected to the helicopter, using special calibration equipment.

The procedure takes half-cycle files acquired and calculates a calibration file consisting of a single stacked half-cycle waveform. The purpose of the stacking is to attenuate natural and man-made magnetic signals, leaving only the response to the calibration signal.

2.4.4 HORIZONTAL MAGNETIC GRADIOMETER

The horizontal magnetic gradiometer consists of two Geometrics split-beam field magnetic sensors with a sampling interval of 0.1 seconds. These sensors are mounted 12.5 metres apart on a separate loop, 10 metres above the Transmitter-receiver loop. A GPS antenna and Gyro Inclinometer is installed on the separate loop to accurately record the tilt and position of the magnetic gradiomag bird.

2.4.5 RADAR ALTIMETER

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 7).

2.4.6 GPS NAVIGATION SYSTEM

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's WAAS (Wide Area Augmentation System) enabled GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 7). As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The co-ordinates of the survey area were set-up prior to the survey and the information was fed into the airborne navigation system. The second GPS antenna is installed on the additional magnetic loop together with Gyro Inclinometer.

2.4.7 DIGITAL ACQUISITION SYSTEM

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4.

Table 4: Acquisition Sampling Rates

Data Type	Sampling
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec
Inclinometer	0.1 sec

2.5 BASE STATION

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed at the tree line; back of the camp (61°30.0666'N, 130°37.3108'W); away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

<u>FIELD:</u>

Project Manager:	Darren Tuck (Office)
Data QC:	Nick Venter (Office)
Crew chief:	Jan Dabrowski
Operator:	Jan Dabrowski
	Roger Leblanc

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Trans North Helicopters

Pilot:	Doug Hladun
	Pierre Forand
Mechanical Engineer:	Clayton Whitney

<u>OFFICE</u>:

Preliminary Data Processing:	Nick Venter
Final Data Processing:	Gaurav Nailwal
Final Data QA/QC:	Geoffrey Plastow
Reporting/Mapping:	Liz Mathew

Data acquisition phase was carried out under the supervision of Andrei Bagrianski, P. Geo, and Chief Operating Officer. Processing phase was carried out under the supervision of Geoffrey Plastow, P. Geo, Data Processing Manager. The customer relations were looked after by David Hitz.

4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

4.1 FLIGHT PATH

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the NAD83 Datum, UTM Zone 9 North coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

4.2 ELECTROMAGNETIC DATA

The Full Waveform EM specific data processing operations included:

- Half cycle stacking (performed at time of acquisition);
- System response correction;
- Parasitic and drift removal by deconvolution.

A three stage digital filtering process was used to reject major sferic events and to reduce noise levels. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 15 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for the B-field Z component and dB/dt responses in the Z and X components. B-field Z component time channel recorded at 2.021 milliseconds after the termination of the impulse is also presented as a colour image. Calculated Time Constant (TAU) with Calculated Vertical Derivative contours is presented in Appendix C and E. Resistivity Depth Image (RDI) is also presented in Appendix F and G.

VTEM has three receiver coil orientations. Z-axis coil is oriented parallel to the transmitter coil axis and both are horizontal to the ground. The X-axis and Y-axis coil is oriented parallel to the ground and along the line-of-flight. This combined three coil configuration provides information on the position, depth, dip and thickness of a conductor. Generalized modeling results of VTEM max data are shown in Appendix D.

In general X-component data produce cross-over type anomalies: from "+ to – "in flight direction of flight for "thin" sub vertical targets and from "- to +" in direction of flight for "thick" targets. Z component data produce double peak type anomalies for "thin" sub vertical targets and single peak for "thick" targets.

The limits and change-over of "thin-thick" depends on dimensions of a TEM system (Appendix D, Figure D-16).

Because of X component polarity is under line-of-flight, convolution Fraser Filter (Figure 8) is applied to X component data to represent axes of conductors in the form of grid map. In this case positive FF anomalies always correspond to "plus-to-minus" X data crossovers independent of the flight direction.

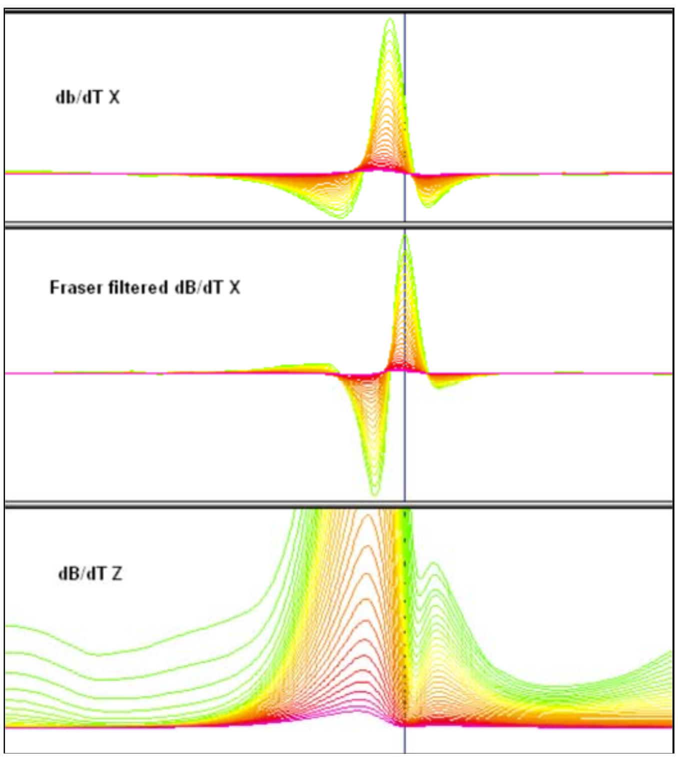

Figure 8: Z, X and Fraser filtered X (FFx) components for "thin" target.

4.3 HORIZONTAL MAGNETIC GRADIOMETER DATA

The horizontal gradients data from the VTEM™Plus are measured by two magnetometers 12.5 m apart on an independent bird mounted10m above the VTEM™ loop. A GPS and a Gyro Inclinometer help to determine the positions and orientations of the magnetometers. The data from the two magnetometers are corrected for position and orientation variations, as well as for the diurnal variations using the base station data.

The position of the centre of the horizontal magnetic gradiometer bird is calculated form the GPS utilizing in-house processing tool in Geosoft. Following that total magnetic intensity is calculated at the center of the bird by calculating the mean values from both sensors. In addition to the total intensity advanced processing is done to calculate the in-line and cross-line (or lateral) horizontal gradient which enhance the understanding of magnetic targets. The in-line (longitudinal) horizontal gradient is calculated from the difference of two consecutive total magnetic field readings divided by the distance along the flight line direction, while the cross-line (lateral) horizontal magnetic gradient is calculated from the difference in the magnetic readings from both magnetic sensors divided by their horizontal separation.

Two advanced magnetic derivative products, the total horizontal derivative (THDR), and tilt angle derivative and are also created. The total horizontal derivative or gradient is defined as:

THDR = sqrt(Hx*Hx+Hy*Hy), where Hx and Hy are cross-line and in-line horizontal gradients.

The tilt angle derivative (TDR) is defined as:

TDR = arctan(Vz/THDR), where THDR is the total horizontal derivative, and Vz is the vertical derivative.

Measured cross-line gradients can help to enhance cross-line linear features during gridding.

5. DELIVERABLES

5.1 SURVEY REPORT

The survey report describes the data acquisition, processing, and final presentation of the survey results. The survey report is provided in two paper copies and digitally in PDF format.

5.2 MAPS

Final maps were produced at scale of 1:20,000 (Kudz Ze Kayah and Pelly) and 1:10,000 (Wolf) for best representation of the survey size and line spacing. The coordinate/projection system used was NAD83 Datum, UTM Zone 9 North. All maps show the flight path trace and topographic data; latitude and longitude are also noted on maps.

The preliminary and final results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a colour magnetic TMI contour map.

- Maps at 1:20,000 (Kudz Ze Kayah and Pelly) and 1:10,000 (Wolf) in Geosoft MAP format, as follows:

GL160037_*scale*k _*bb*_dBdtz: dB/dt profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
GL160037_ *scale*k _*bb*_Bfieldz: B-field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
GL160037_ *scale*k _*bb*_BFz36: B-field Z Component Channel 36, Time Gate 2.021 ms colour image.
GL160037_ *scale*k _*bb*_SFxFF20: dBdt X Component Fraser Filtered Channel 20, Time Gate 0.220 ms colour image.
GL160037_ *scale*k _*bb*_TMI: Total magnetic intensity (TMI) colour image and contours.
GL160037_ *scale*k _*bb* _TauSF: dB/dt Calculated Time Constant (Tau) with Calculated Vertical Derivative contours
GL160037_ *scale*k _*bb*_TotHGrad: Magnetic Total Horizontal Gradient colour image.
GL160037_ *scale*k _*b*b_TiltDrv: Magnetic Tilt-Angle Derivative colour image.

where *scale* represents the scale of the map
bb represents the block name

- Maps are also presented in PDF format.
- The topographic data base was derived from 1:50,000 NRC (Natural Resources Canada) NTDB data, www.geogratis.ca.
- A Google Earth file *GL16*0037*_FP.kml* showing the flight path of the block is included. Free versions of Google Earth software from: http://earth.google.com/download-earth.html

5.3 DIGITAL DATA

Two copies of the data and maps on DVD were prepared to accompany the report. Each DVD contains a digital file of the line data in GDB Geosoft Montaj format as well as the maps in Geosoft Montaj Map and PDF format.

- DVD structure.

Data contains databases, grids and maps, as described below.
Report contains a copy of the report and appendices in PDF format.

Databases in Geosoft GDB format, containing the channels listed in Table 5.

Table 5: Geosoft GDB Data Format

Channel name	Units	Description
X:	metres	UTM Easting NAD83 Zone 9 North
Y:	metres	UTM Northing NAD83 Zone 9 North
Longitude:	Decimal Degrees	WGS 84 Longitude data
Latitude:	Decimal Degrees	WGS 84 Latitude data
Z:	metres	GPS antenna elevation (above Geoid)
Zb:	metres	EM bird elevation (above Geoid)
Radar:	metres	helicopter terrain clearance from radar altimeter
Radarb:	metres	Calculated EM transmitter-receiver loop terrain clearance from radar altimeter
DEM:	metres	Digital Elevation Model
Gtime:	Seconds of the day	GPS time
Mag1L:	nT	Measured Total Magnetic field data (left sensor)
Mag1R:	nT	Measured Total Magnetic field data (right sensor)
Basemag:	nT	Magnetic diurnal variation data
Mag2LZ:	nT	Z corrected (w.r.t. loop center) and diurnal corrected magnetic field left mag
Mag2RZ:	nT	Z corrected (w.r.t. loop center) and diurnal corrected magnetic field right mag
TMI2:	nT	Calculated from diurnal corrected total magnetic field intensity of the centre of the loop
TMI3:	nT	Microleveled total magnetic field intensity of the centre of the loop
Hginline:		Calculated in-line gradient
Hgcxline:		measured cross-line gradient
CVG:	nT/m	Calculated Magnetic Vertical Gradient
SFz[4]:	$pV/(A*m^4)$	Z dB/dt 0.021 millisecond time channel
SFz[5]:	$pV/(A*m^4)$	Z dB/dt 0.026 millisecond time channel
SFz[6]:	$pV/(A*m^4)$	Z dB/dt 0.031 millisecond time channel
SFz[7]:	$pV/(A*m^4)$	Z dB/dt 0.036 millisecond time channel
SFz[8]:	$pV/(A*m^4)$	Z dB/dt 0.042 millisecond time channel
SFz[9]:	$pV/(A*m^4)$	Z dB/dt 0.048 millisecond time channel
SFz[10]:	$pV/(A*m^4)$	Z dB/dt 0.055 millisecond time channel
SFz[11]:	$pV/(A*m^4)$	Z dB/dt 0.063 millisecond time channel
SFz[12]:	$pV/(A*m^4)$	Z dB/dt 0.073 millisecond time channel
SFz[13]:	$pV/(A*m^4)$	Z dB/dt 0.083 millisecond time channel
SFz[14]:	$pV/(A*m^4)$	Z dB/dt 0.096 millisecond time channel

Channel name	Units	Description
SFz[15]:	pV/(A*m^4)	Z dB/dt 0.110 millisecond time channel
SFz[16]:	pV/(A*m^4)	Z dB/dt 0.126 millisecond time channel
SFz[17]:	pV/(A*m^4)	Z dB/dt 0.145 millisecond time channel
SFz[18]:	pV/(A*m^4)	Z dB/dt 0.167 millisecond time channel
SFz[19]:	pV/(A*m^4)	Z dB/dt 0.192 millisecond time channel
SFz[20]:	pV/(A*m^4)	Z dB/dt 0.220 millisecond time channel
SFz[21]:	pV/(A*m^4)	Z dB/dt 0.253 millisecond time channel
SFz[22]:	pV/(A*m^4)	Z dB/dt 0.290 millisecond time channel
SFz[23]:	pV/(A*m^4)	Z dB/dt 0.333 millisecond time channel
SFz[24]:	pV/(A*m^4)	Z dB/dt 0.383 millisecond time channel
SFz[25]:	pV/(A*m^4)	Z dB/dt 0.440 millisecond time channel
SFz[26]:	pV/(A*m^4)	Z dB/dt 0.505 millisecond time channel
SFz[27]:	pV/(A*m^4)	Z dB/dt 0.580 millisecond time channel
SFz[28]:	pV/(A*m^4)	Z dB/dt 0.667 millisecond time channel
SFz[29]:	pV/(A*m^4)	Z dB/dt 0.766 millisecond time channel
SFz[30]:	pV/(A*m^4)	Z dB/dt 0.880 millisecond time channel
SFz[31]:	pV/(A*m^4)	Z dB/dt 1.010 millisecond time channel
SFz[32]:	pV/(A*m^4)	Z dB/dt 1.161 millisecond time channel
SFz[33]:	pV/(A*m^4)	Z dB/dt 1.333 millisecond time channel
SFz[34]:	pV/(A*m^4)	Z dB/dt 1.531 millisecond time channel
SFz[35]:	pV/(A*m^4)	Z dB/dt 1.760 millisecond time channel
SFz[36]:	pV/(A*m^4)	Z dB/dt 2.021 millisecond time channel
SFz[37]:	pV/(A*m^4)	Z dB/dt 2.323 millisecond time channel
SFz[38]:	pV/(A*m^4)	Z dB/dt 2.667 millisecond time channel
SFz[39]:	pV/(A*m^4)	Z dB/dt 3.063 millisecond time channel
SFz[40]:	pV/(A*m^4)	Z dB/dt 3.521 millisecond time channel
SFz[41]:	pV/(A*m^4)	Z dB/dt 4.042 millisecond time channel
SFz[42]:	pV/(A*m^4)	Z dB/dt 4.641 millisecond time channel
SFz[43]:	pV/(A*m^4)	Z dB/dt 5.333 millisecond time channel
SFz[44]:	pV/(A*m^4)	Z dB/dt 6.125 millisecond time channel
SFz[45]:	pV/(A*m^4)	Z dB/dt 7.036 millisecond time channel
SFz[46]:	pV/(A*m^4)	Z dB/dt 8.083 millisecond time channel
SFx[20]:	pV/(A*m^4)	X dB/dt 0.220 millisecond time channel
SFx[21]:	pV/(A*m^4)	X dB/dt 0.253 millisecond time channel
SFx[22]:	pV/(A*m^4)	X dB/dt 0.290 millisecond time channel
SFx[23]:	pV/(A*m^4)	X dB/dt 0.333 millisecond time channel
SFx[24]:	pV/(A*m^4)	X dB/dt 0.383 millisecond time channel
SFx[25]:	pV/(A*m^4)	X dB/dt 0.440 millisecond time channel
SFx[26]:	pV/(A*m^4)	X dB/dt 0.505 millisecond time channel
SFx[27]:	pV/(A*m^4)	X dB/dt 0.580 millisecond time channel
SFx[28]:	pV/(A*m^4)	X dB/dt 0.667 millisecond time channel
SFx[29]:	pV/(A*m^4)	X dB/dt 0.766 millisecond time channel
SFx[30]:	pV/(A*m^4)	X dB/dt 0.880 millisecond time channel
SFx[31]:	pV/(A*m^4)	X dB/dt 1.010 millisecond time channel
SFx[32]:	pV/(A*m^4)	X dB/dt 1.161 millisecond time channel
SFx[33]:	pV/(A*m^4)	X dB/dt 1.333 millisecond time channel
SFx[34]:	pV/(A*m^4)	X dB/dt 1.531 millisecond time channel
SFx[35]:	pV/(A*m^4)	X dB/dt 1.760 millisecond time channel
SFx[36]:	pV/(A*m^4)	X dB/dt 2.021 millisecond time channel
SFx[37]:	pV/(A*m^4)	X dB/dt 2.323 millisecond time channel

Channel name	Units	Description
SFx[38]:	pV/(A*m^4)	X dB/dt 2.667 millisecond time channel
SFx[39]:	pV/(A*m^4)	X dB/dt 3.063 millisecond time channel
SFx[40]:	pV/(A*m^4)	X dB/dt 3.521 millisecond time channel
SFx[41]:	pV/(A*m^4)	X dB/dt 4.042 millisecond time channel
SFx[42]:	pV/(A*m^4)	X dB/dt 4.641 millisecond time channel
SFx[43]:	pV/(A*m^4)	X dB/dt 5.333 millisecond time channel
SFx[44]:	pV/(A*m^4)	X dB/dt 6.125 millisecond time channel
SFx[45]:	pV/(A*m^4)	X dB/dt 7.036 millisecond time channel
SFx[46]:	pV/(A*m^4)	X dB/dt 8.083 millisecond time channel
SFy[20]:	pV/(A*m^4)	Y dB/dt 0.220 millisecond time channel
SFy[21]:	pV/(A*m^4)	Y dB/dt 0.253 millisecond time channel
SFy[22]:	pV/(A*m^4)	Y dB/dt 0.290 millisecond time channel
SFy[23]:	pV/(A*m^4)	Y dB/dt 0.333 millisecond time channel
SFy[24]:	pV/(A*m^4)	Y dB/dt 0.383 millisecond time channel
SFy[25]:	pV/(A*m^4)	Y dB/dt 0.440 millisecond time channel
SFy[26]:	pV/(A*m^4)	Y dB/dt 0.505 millisecond time channel
SFy[27]:	pV/(A*m^4)	Y dB/dt 0.580 millisecond time channel
SFy[28]:	pV/(A*m^4)	Y dB/dt 0.667 millisecond time channel
SFy[29]:	pV/(A*m^4)	Y dB/dt 0.766 millisecond time channel
SFy[30]:	pV/(A*m^4)	Y dB/dt 0.880 millisecond time channel
SFy[31]:	pV/(A*m^4)	Y dB/dt 1.010 millisecond time channel
SFy[32]:	pV/(A*m^4)	Y dB/dt 1.161 millisecond time channel
SFy[33]:	pV/(A*m^4)	Y dB/dt 1.333 millisecond time channel
SFy[34]:	pV/(A*m^4)	Y dB/dt 1.531 millisecond time channel
SFy[35]:	pV/(A*m^4)	Y dB/dt 1.760 millisecond time channel
SFy[36]:	pV/(A*m^4)	Y dB/dt 2.021 millisecond time channel
SFy[37]:	pV/(A*m^4)	Y dB/dt 2.323 millisecond time channel
SFy[38]:	pV/(A*m^4)	Y dB/dt 2.667 millisecond time channel
SFy[39]:	pV/(A*m^4)	Y dB/dt 3.063 millisecond time channel
SFy[40]:	pV/(A*m^4)	Y dB/dt 3.521 millisecond time channel
SFy[41]:	pV/(A*m^4)	Y dB/dt 4.042 millisecond time channel
SFy[42]:	pV/(A*m^4)	Y dB/dt 4.641 millisecond time channel
SFy[43]:	pV/(A*m^4)	Y dB/dt 5.333 millisecond time channel
SFy[44]:	pV/(A*m^4)	Y dB/dt 6.125 millisecond time channel
SFy[45]:	pV/(A*m^4)	Y dB/dt 7.036 millisecond time channel
SFy[46]:	pV/(A*m^4)	Y dB/dt 8.083 millisecond time channel
BFz	(pV*ms)/(A*m^4)	Z B-Field data for time channels 4 to 46
BFx	(pV*ms)/(A*m^4)	X B-Field data for time channels 20 to 46
BFy:	(pV*ms)/(A*m^4)	Y B-Field data for time channels 20 to 46
SFxFF:	pV/(A*m^4)	Fraser Filtered X dB/dt
NchanBF:		Latest time channels of TAU calculation
TauBF:	ms	Time constant B-Field
NchanSF:		Latest time channels of TAU calculation
TauSF:	ms	Time constant dB/dt
PLM:		60 Hz power line monitor

Electromagnetic B-field and dB/dt Z component data is found in array channel format between indexes 4 – 46, and X and Y component data from 20 – 46, as described above.

- Database of the Resistivity Depth Images in Geosoft GDB format, containing the following channels:

Table 6: Geosoft Resistivity Depth Image GDB Data Format

Channel name	Units	Description
Xg:	metres	UTM Easting NAD83 Zone 9 North
Yg:	metres	UTM Northing NAD83 Zone 9 North
Dist:	meters	Distance from the beginning of the line
Depth:	meters	array channel, depth from the surface
Z:	meters	array channel, depth from sea level
AppRes:	Ohm-m	array channel, Apparent Resistivity
TR:	meters	EM system height from sea level
Topo:	meters	digital elevation model
Radarb:	metres	Calculated EM transmitter-receiver loop terrain clearance from radar altimeter
SF:	pV/(A*m^4)	array channel, dB/dT
MAG:	nT	TMI data
CVG:	nT/m	CVG data
DOI:	metres	Depth of Investigation: a measure of VTEM depth effectiveness
PLM:		60Hz Power Line Monitor

- Database of the VTEM Waveform "GL160037_waveform_final.gdb" in Geosoft GDB format, containing the following channels:

Table 7: Geosoft database for the VTEM waveform

Channel name	Units	Description
Time:	milliseconds	Sampling rate interval, 5.2083 microseconds
Tx_Current:	amps	Output current of the transmitter

- Grids in Geosoft GRD and GeoTIFF format, as follows:

*bb*_BFz36:	B-Field Z Component Channel 36 (Time Gate 2.021 ms)
*bb*_CVG:	Calculated Vertical Derivative (nT/m)
*bb*_DEM:	Digital Elevation Model (metres)
*bb*_Hgcxline:	Measured Cross-Line Gradient (nT/m)
*bb*_Hginline:	Measured In-Line Gradient (nT/m)
*bb*_PLM:	Power Line Monitor (60Hz)
*bb*_SFxFF20:	Fraser Filtered dB/dt X Component Channel 20 (Time Gate 0.220ms)
*bb*_SFz15:	dB/dt Z Component Channel 15 (Time Gate 0.110 ms)
*bb*_SFz30:	dB/dt Z Component Channel 30 (Time Gate 0.880 ms)
*bb*_SFz45:	dB/dt Z Component Channel 45 (Time Gate 7.036 ms)
*bb*_TauBF:	B-Field Z Component, Calculated Time Constant (ms)
*bb*_TauSF:	dB/dt Z Component, Calculated Time Constant (ms)
*bb*_TiltDerivative:	Magnetic Tilt derivative (radians)
*bb*_TMI:	Total Magnetic Intensity (nT)
*bb*_TotalHorgrad:	Magnetic Total Horizontal Gradient (nT/m)

where *bb* represents the block name

A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information. A grid cell size of 37.5 metres was used.

6. CONCLUSIONS AND RECOMMENDATIONS

A helicopter-borne versatile time domain electromagnetic (VTEMplus) and horizontal magnetic gradiometer geophysical survey has been completed over Kudz Ze Kayah, Pelly and Wolf situated near Wolverine Lake, Yukon.

The total area coverage is 241 km^2. Total survey line coverage 1589 line kilometres. The principal sensors included a Time Domain EM system and a horizontal magnetic gradiometer using two caesium magnetometers. Results have been presented as stacked profiles, and contour colour images at a scale of 1:20,000 (Kudz Ze Kayah and Pelly) and 1:10,000 (Wolf). A formal Interpretation has not been included or requested.

Based on the geophysical results obtained, a number of TEM anomalous zones are identified across the blocks. All of these anomalies are considered to be induced by low to moderate conductive targets. They can be seen overlapping the TAU decay parameter image presented with the calculated vertical magnetic gradient (CVG) contours in the Appendix C.

The main conductive zones in the Kudz Ze Kayah blocks are oriented NE-SW in the western part to NW-SE in the centre part having strong association with the magnetic anomalies. The conductive zone in the southern part of L3252-L3370 oriented NE-SW exhibits AIIP phenomenon and follows the magnetic trend. Most of the conductors can be approximated as “thick” subvertical plates and some as “thin” plates with the inherent double-peak response. Some of the zones being on the edge of the survey boundary are not well defined. Detailed resistivity depth sections were created for all the survey lines. According to the detailed resistivity depth imaging, the top of the EM response sources varies in depth from about 50-80m deep).

The main conductive zones in the Pelly and Wolf blocks are oriented NE-SW and are associated with the magnetic anomalies. Most of the conductors can be approximated as “thick” subvertical plates and some as “thin” plates with the inherent double-peak response. Some of the zones being on the edge of the survey boundary are not well defined. Detailed resistivity depth sections were created for all the survey lines. According to the detailed resistivity depth imaging, the top of the EM response sources varies in depth from about 50-80m deep).

If the conductors correspond to an exploration model, it is recommended picking anomalies with conductance grading and center localization of the targets, detail resistivity depth imaging and Maxwell plate modelling prior to ground follow up and drill testing. Since the EM conductors have close associations with the magnetic anomalies, 3D inversions and detailed structural interpretation for magnetic data are also suggested.

Respectfully submitted[2],

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Geotech Ltd.

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10/14/16
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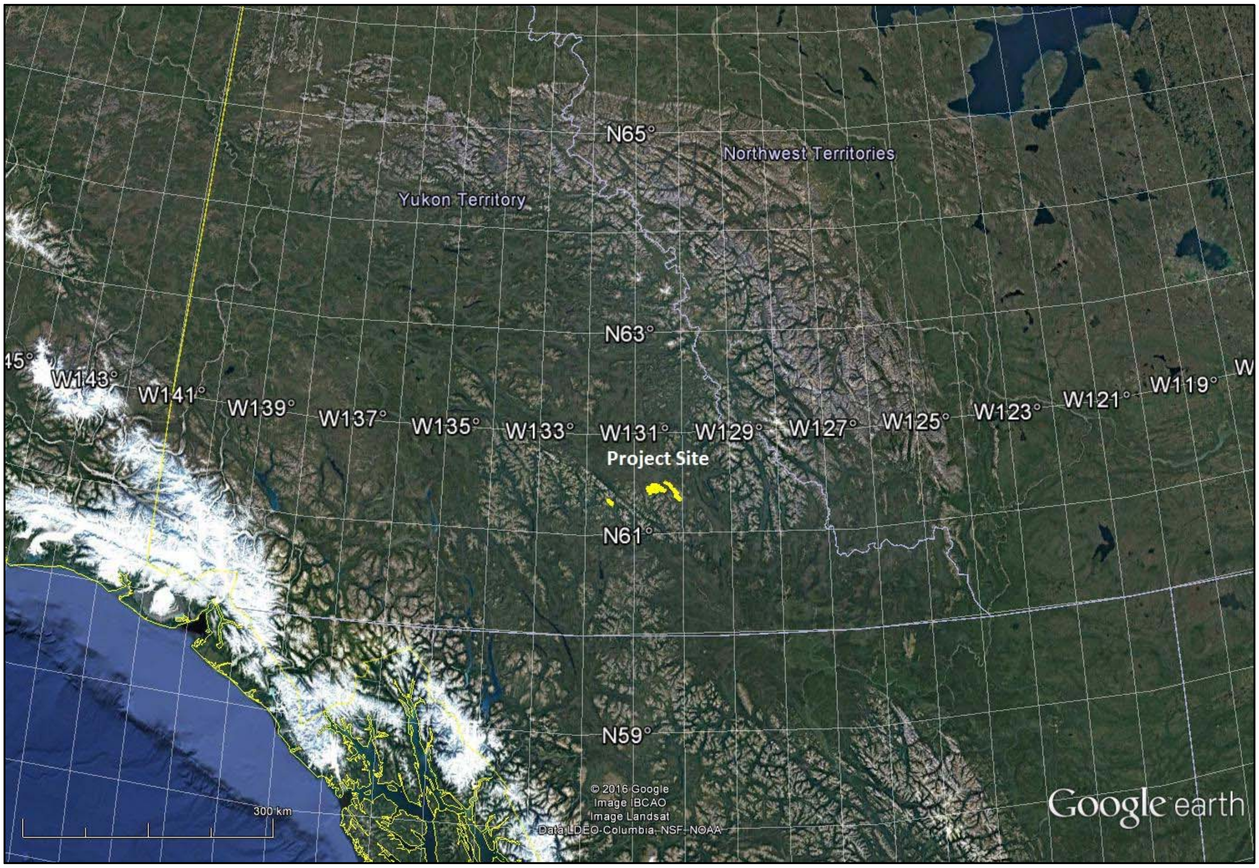
October, 2016

[2] Final data processing of the EM and magnetic data were carried out by Gaurav Nailwal, from the office of Geotech Ltd. in Aurora, Ontario, under the supervision of Geoffrey Plastow, P.Geo. Data Processing Manager.

APPENDIX A

SURVEY AREA LOCATION MAP



Overview of the Survey Area

APPENDIX B

SURVEY AREA COORDINATES

(WGS 84, UTM Zone 9 North)

Kudz Ze Kayah

X	Y
412005	6816377
411085	6813001
412018	6812815
411005	6809041
410084	6809227
410135	6809405
409300	6809419
409351	6811643
409717	6813012
407553	6813037
407608	6815024
406881	6815278
407894	6819052
408586	6818811
411027	6818759
411277	6819654
411542	6819646
412042	6821440
412810	6821429
412954	6821854
413832	6821826
413873	6822014
418263	6821917
418108	6821307
419619	6821248
419610	6820829
419959	6820821
420088	6821230
420984	6821215
420967	6820356
420720	6819511
421420	6819495
421411	6818924
422192	6819644
421920	6818615
422803	6818606
422796	6818201
424555	6818157
424540	6817946

X	Y
424595	6817942
424592	6817798
424908	6817791
424888	6816652
426229	6816114
427312	6816090
427314	6815756
427981	6815528
426968	6811754
426301	6811982
426225	6811981
425854	6812109
425857	6812241
425392	6812268
425202	6812337
423875	6812878
422249	6813577
422250	6813676
421994	6813681
421820	6813755
421818	6813673
421361	6813681
420907	6813830
420568	6813519
421195	6815893
419970	6814803
419805	6814773
412005	6816377

Wolf

X	Y
364237	6806799
362839	6806136
362839	6802966
362839	6802966
367270	6799467
369510	6799467
369522	6802462
369247	6802459
369187	6802527
364237	6806799

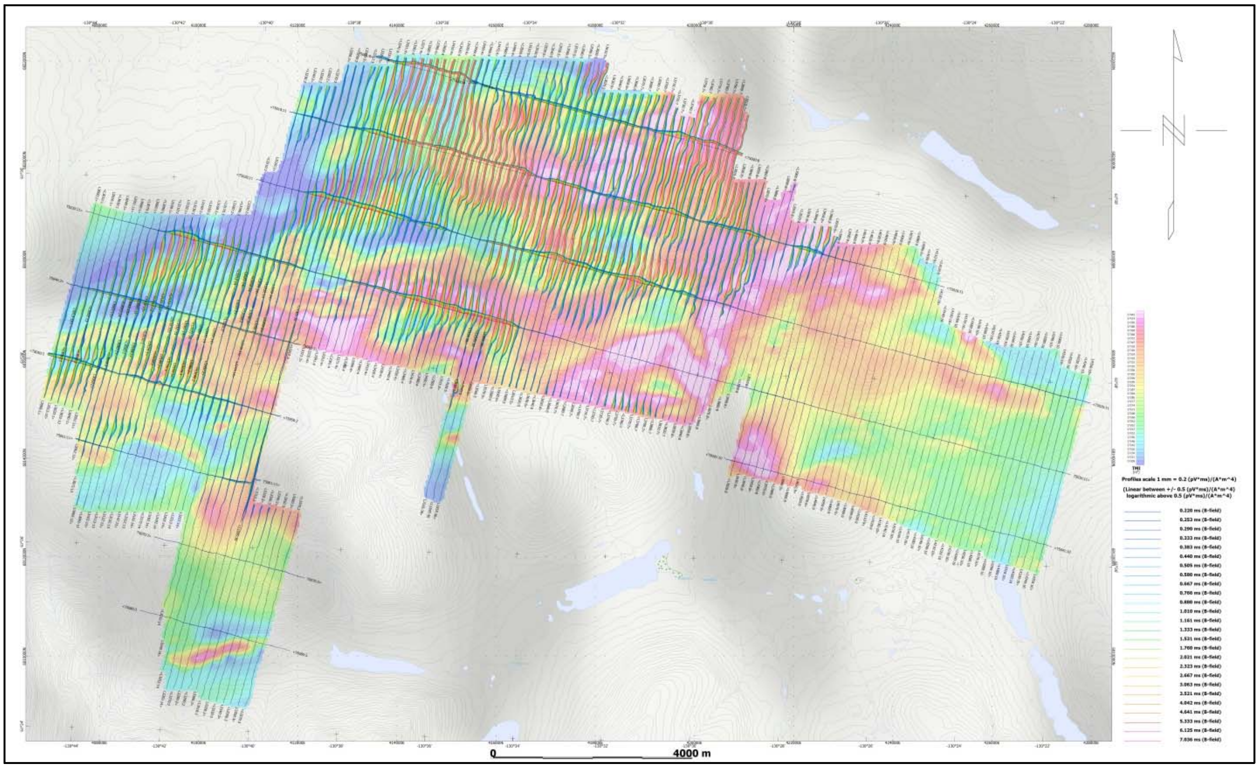
Pelly

X	Y
435126	6814679
437356	6816687
439476	6814734
438973	6814291
439488	6813548
439798	6813298
441018	6812431
441631	6812018
441611	6811991
441705	6811918
441722	6811933
442175	6811564
442440	6811361
442497	6811434
442712	6811256
442320	6810986
442440	6810812
442386	6810743
441065	6809551
441171	6809418
441339	6809288
441315	6809236
441525	6808965
441587	6809012
442719	6807596
443001	6807246
442159	6806577
443015	6805829
443895	6805661
445285	6804164
443055	6802156
441666	6803654
440786	6803821
439926	6804567
439329	6804578
438315	6805839
438033	6806190
437785	6806498
438466	6807113

X	Y
437929	6807783
437474	6808348
437468	6808564
437348	6809053
437438	6809123
437339	6809247
437326	6809424
437402	6809489
437424	6809541
437407	6809597
437427	6809658
437445	6809717
437499	6809764
437474	6809798
437501	6809904
437468	6809978
438112	6810557
438078	6810592
437739	6810834
437548	6810985
437660	6811098
437652	6811217
437567	6811281
437497	6811293
437480	6811331
437258	6811541
437225	6811581
436743	6812284
437246	6812727

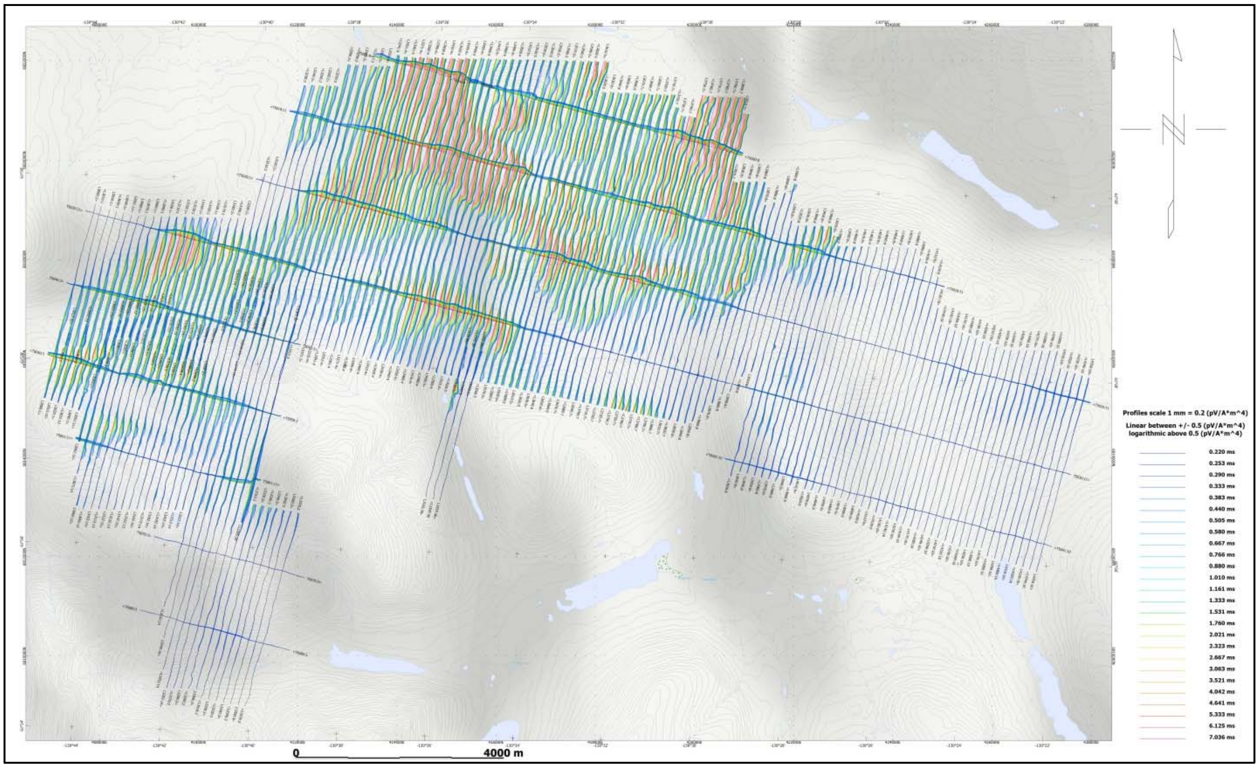
APPENDIX C

GEOPHYSICAL MAPS[1]

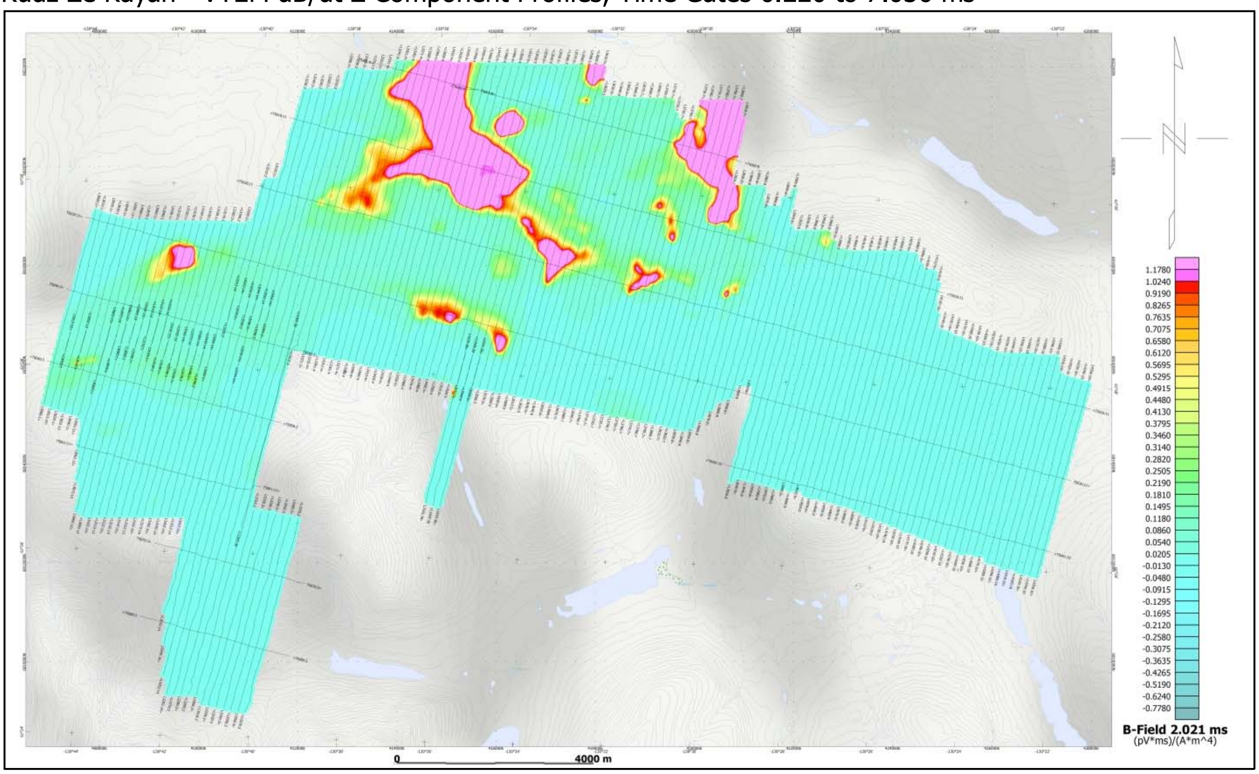


Kudz Ze Kayah - VTEM B-Field Z Component Profiles, Time Gates 0.220 to 7.036 ms

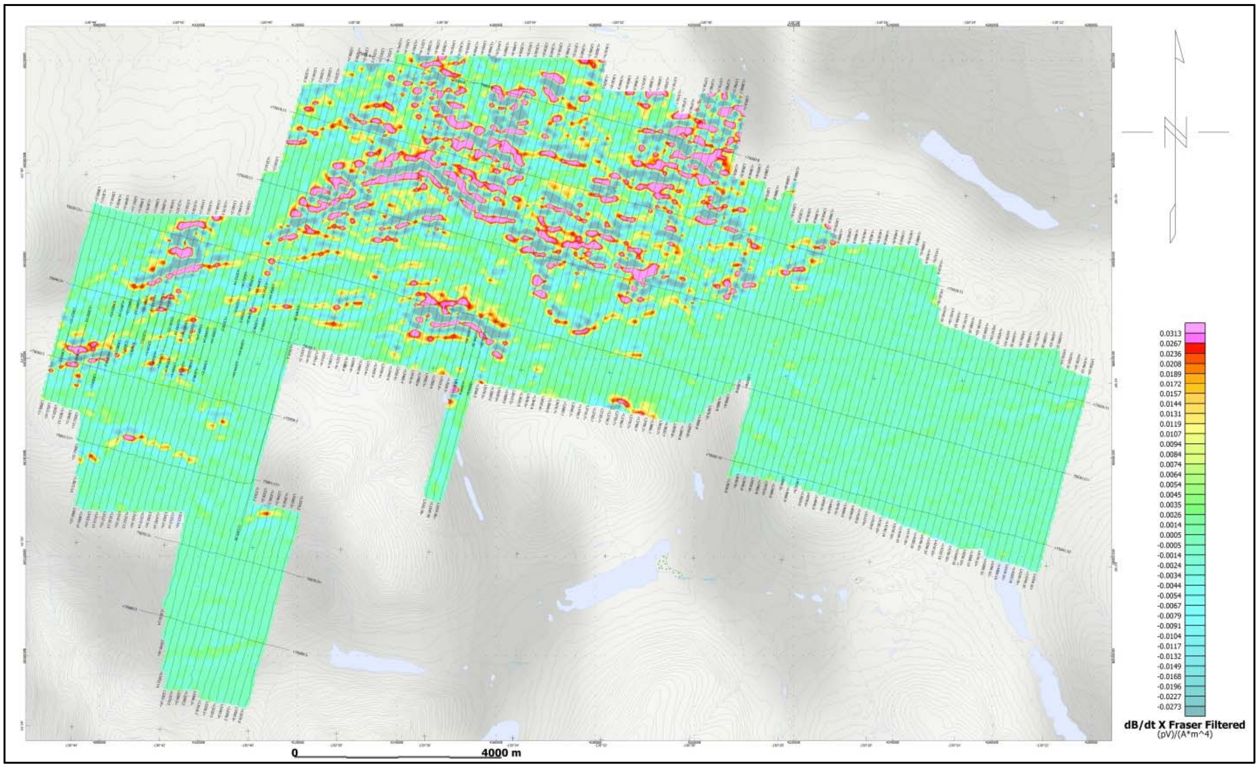
[1] Full size geophysical maps are also available in PDF format on the final DVD



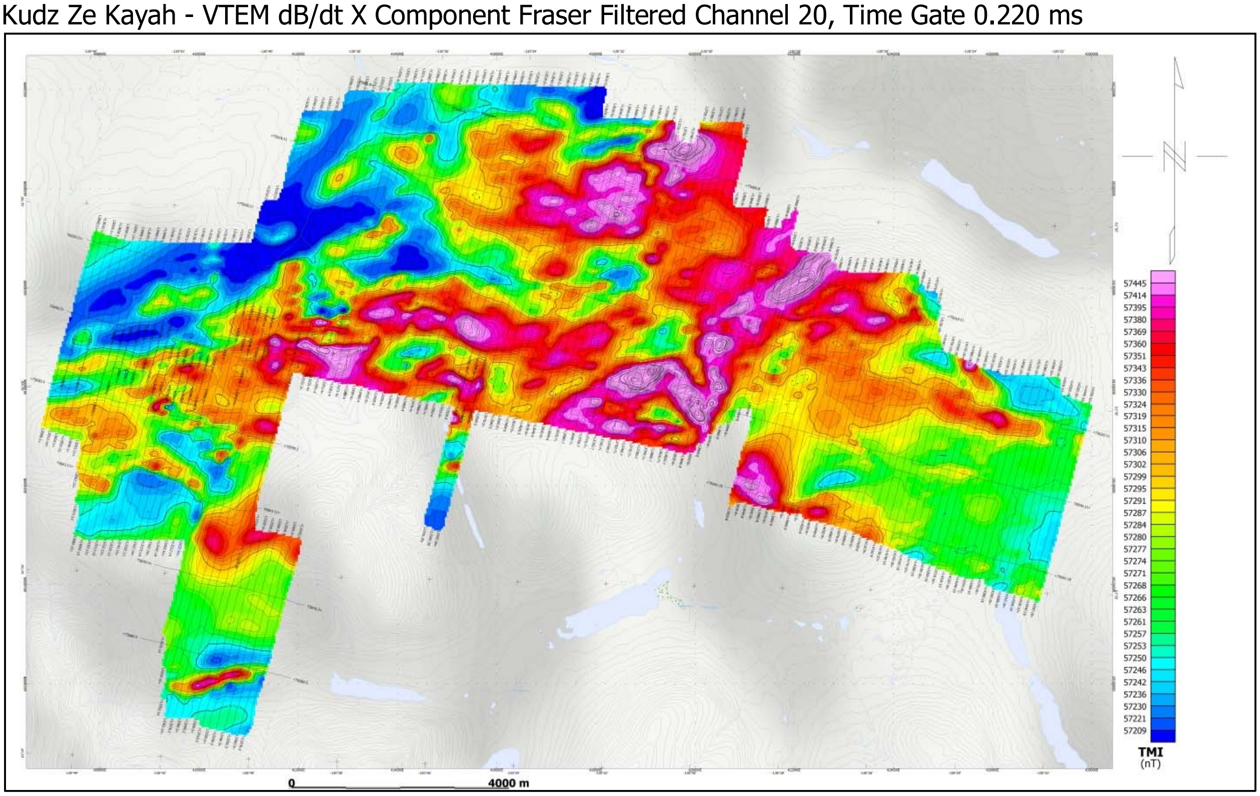
Kudz Ze Kayah - VTEM dB/dt Z Component Profiles, Time Gates 0.220 to 7.036 ms



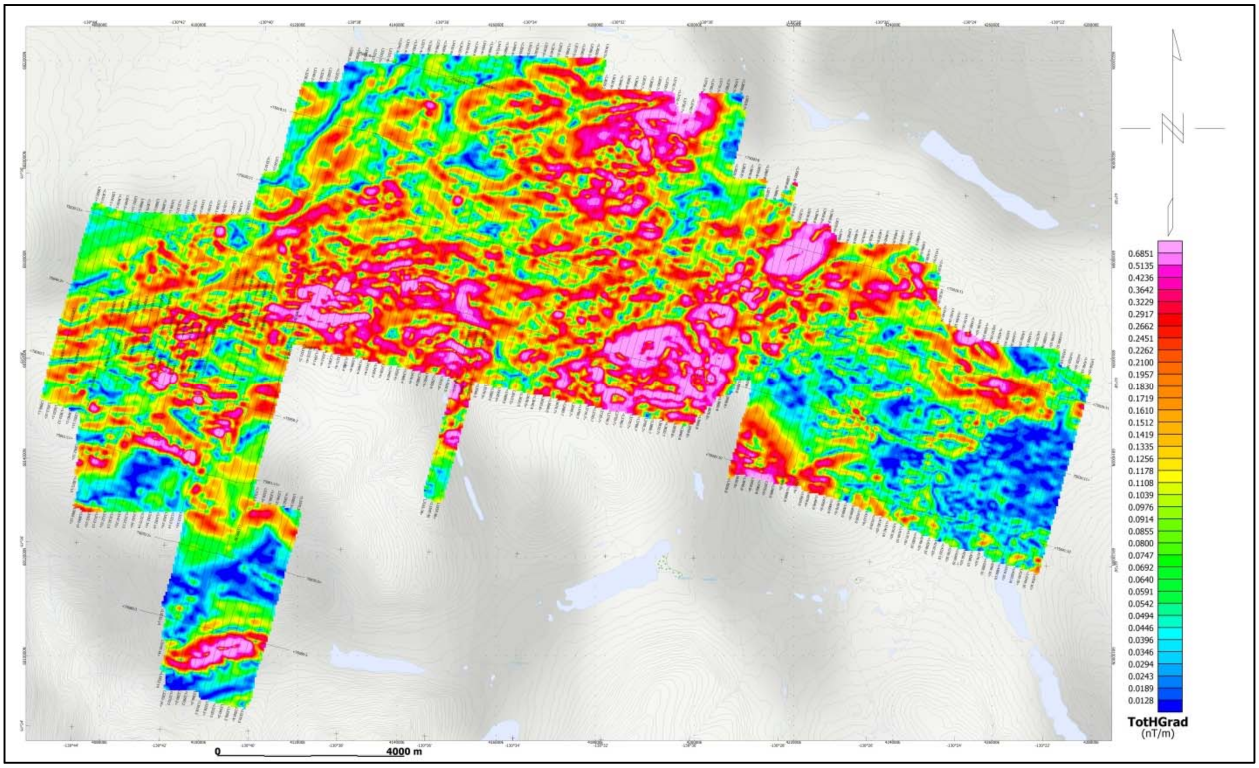
Kudz Ze Kayah - VTEM B-Field Z Component Channel 36, Time Gate 2.021 ms



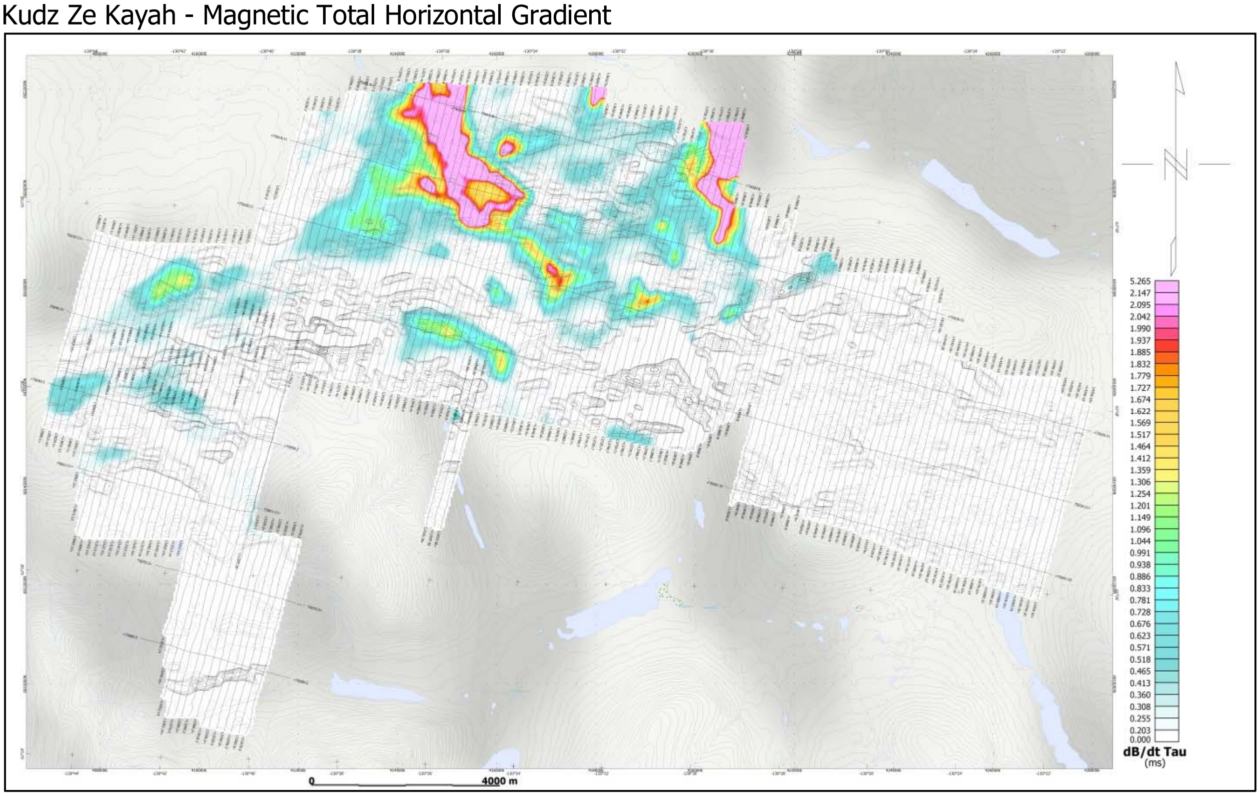
Kudz Ze Kayah - VTEM dB/dt X Component Fraser Filtered Channel 20, Time Gate 0.220 ms



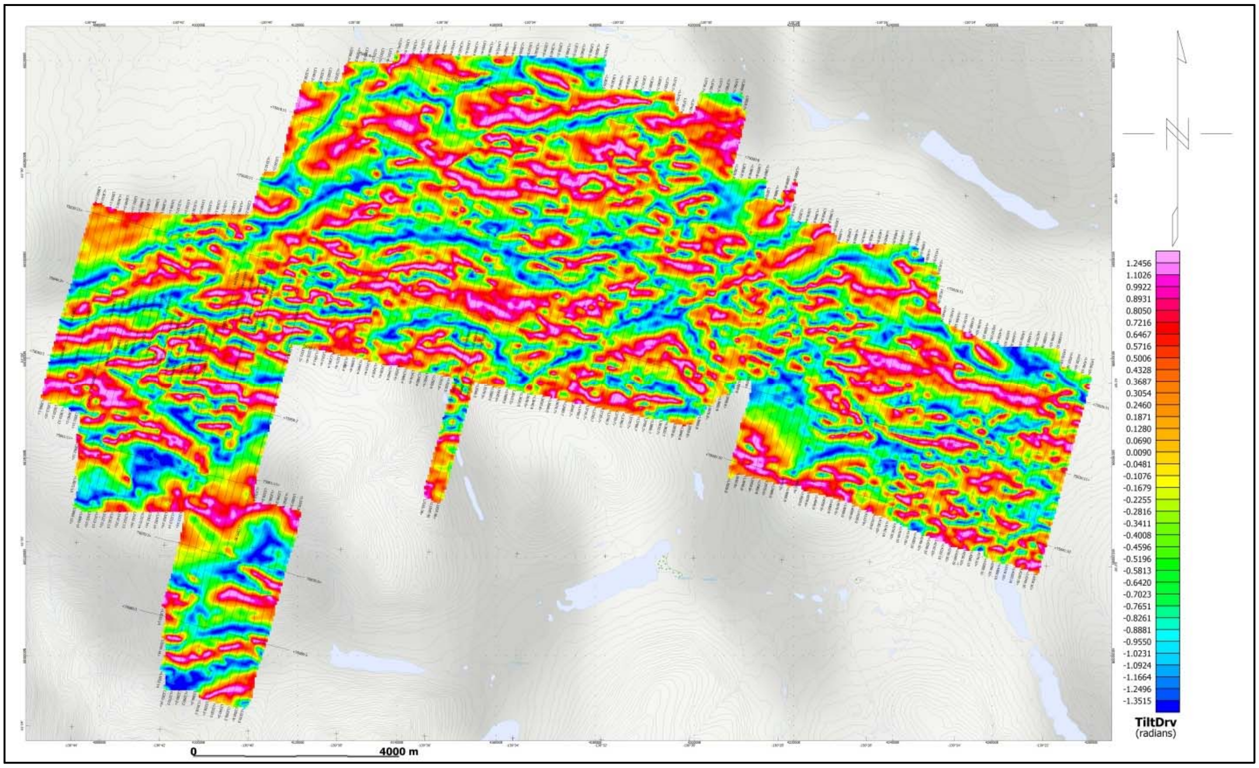
Kudz Ze Kayah - Total Magnetic Intensity (TMI)



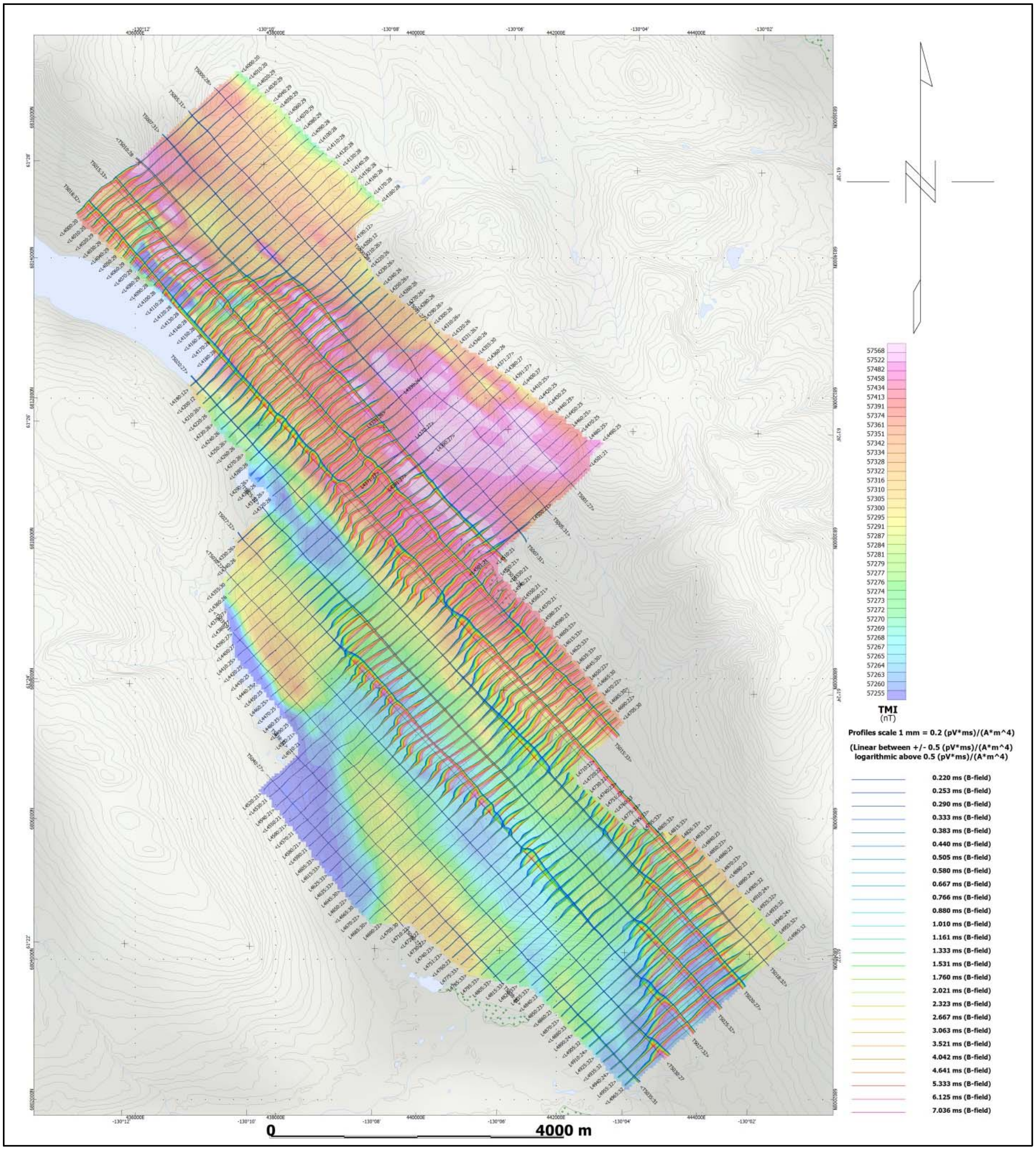
Kudz Ze Kayah - Magnetic Total Horizontal Gradient



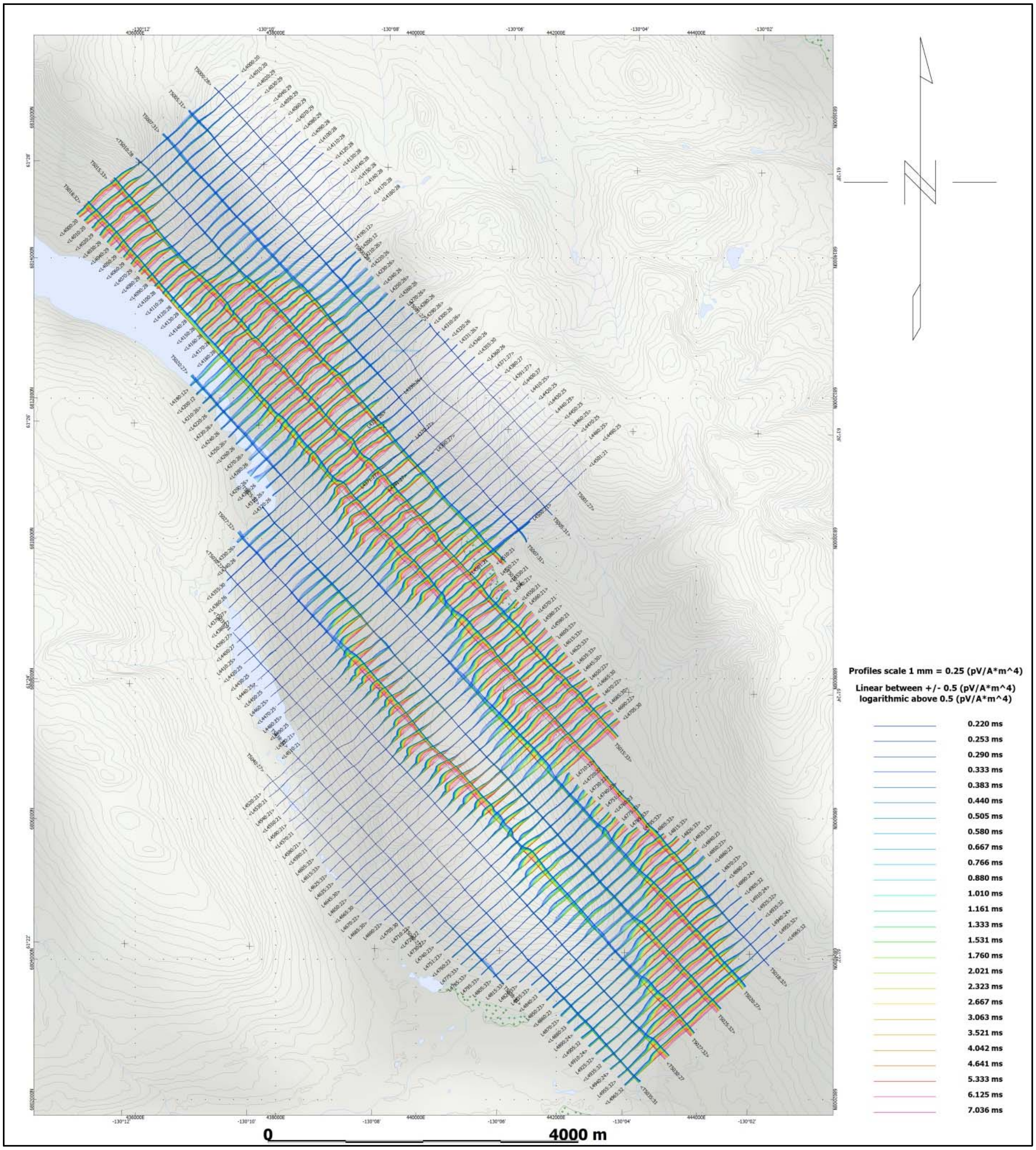
Kudz Ze Kayah - dB/dt Calculated Time Constant (Tau) with Calculated Vertical Derivative contours



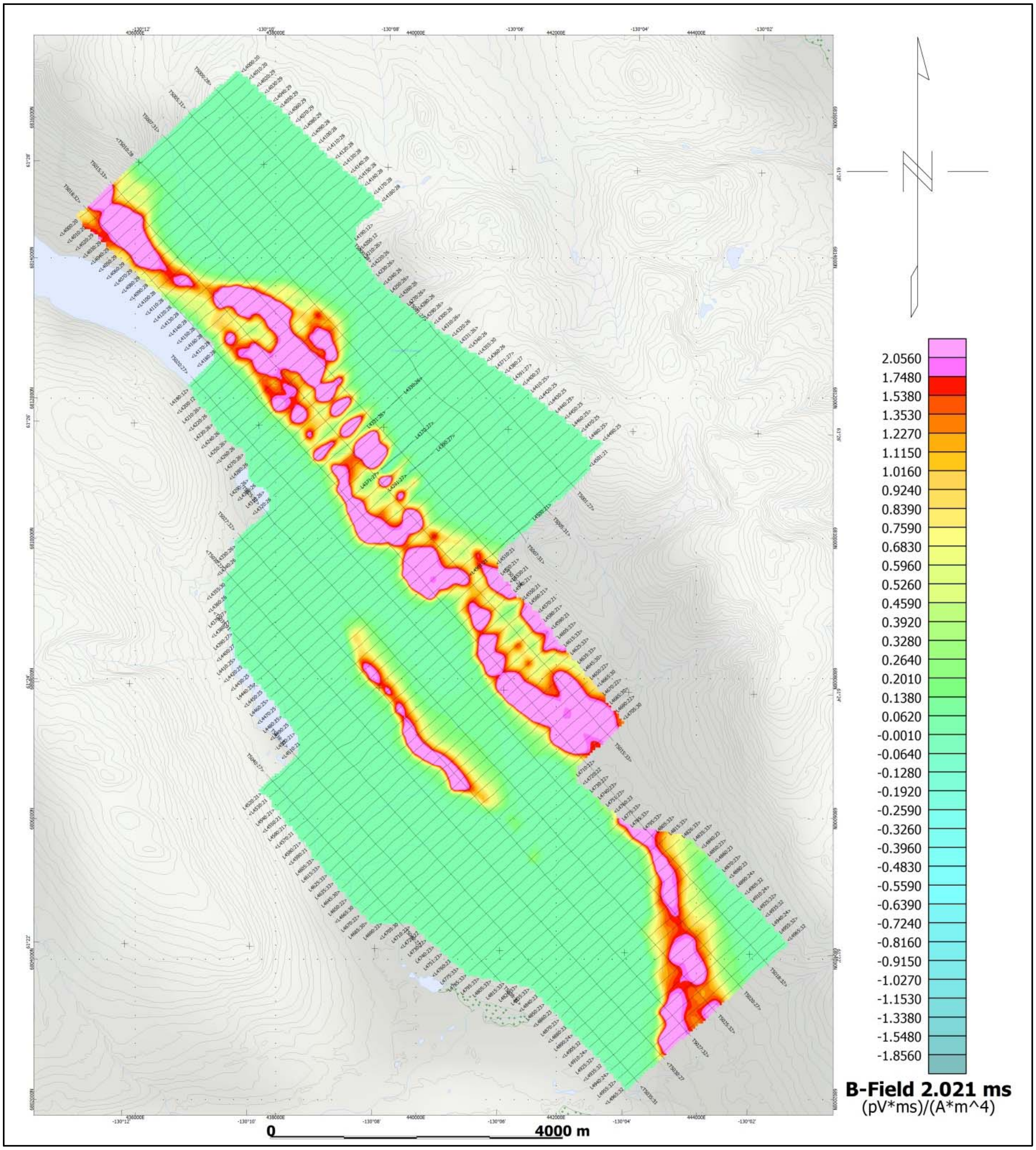
Kudz Ze Kayah - Magnetic Tilt - Angle Derivative



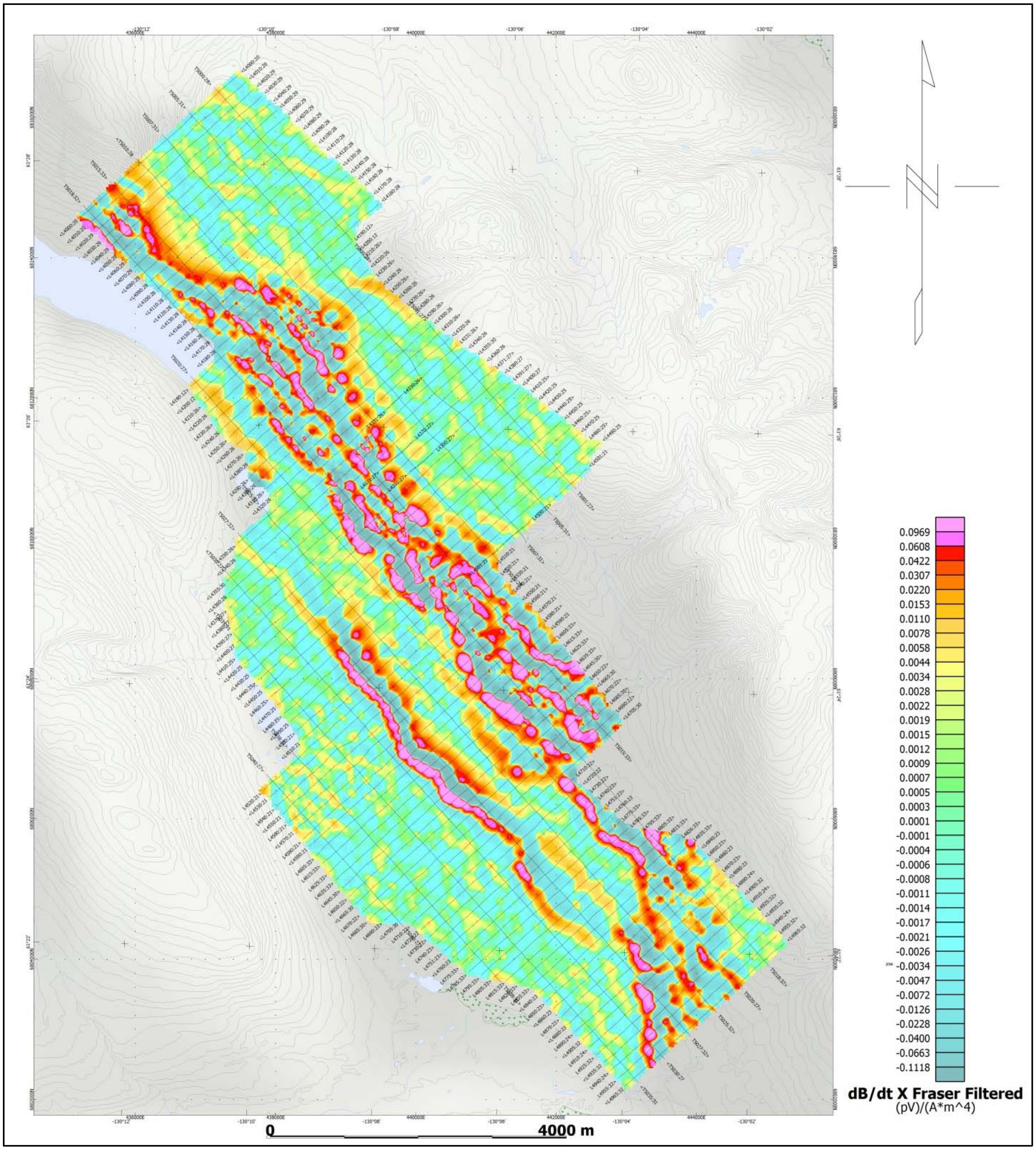
Pelly - VTEM B-Field Z Component Profiles, Time Gates 0.220 to 7.036 ms



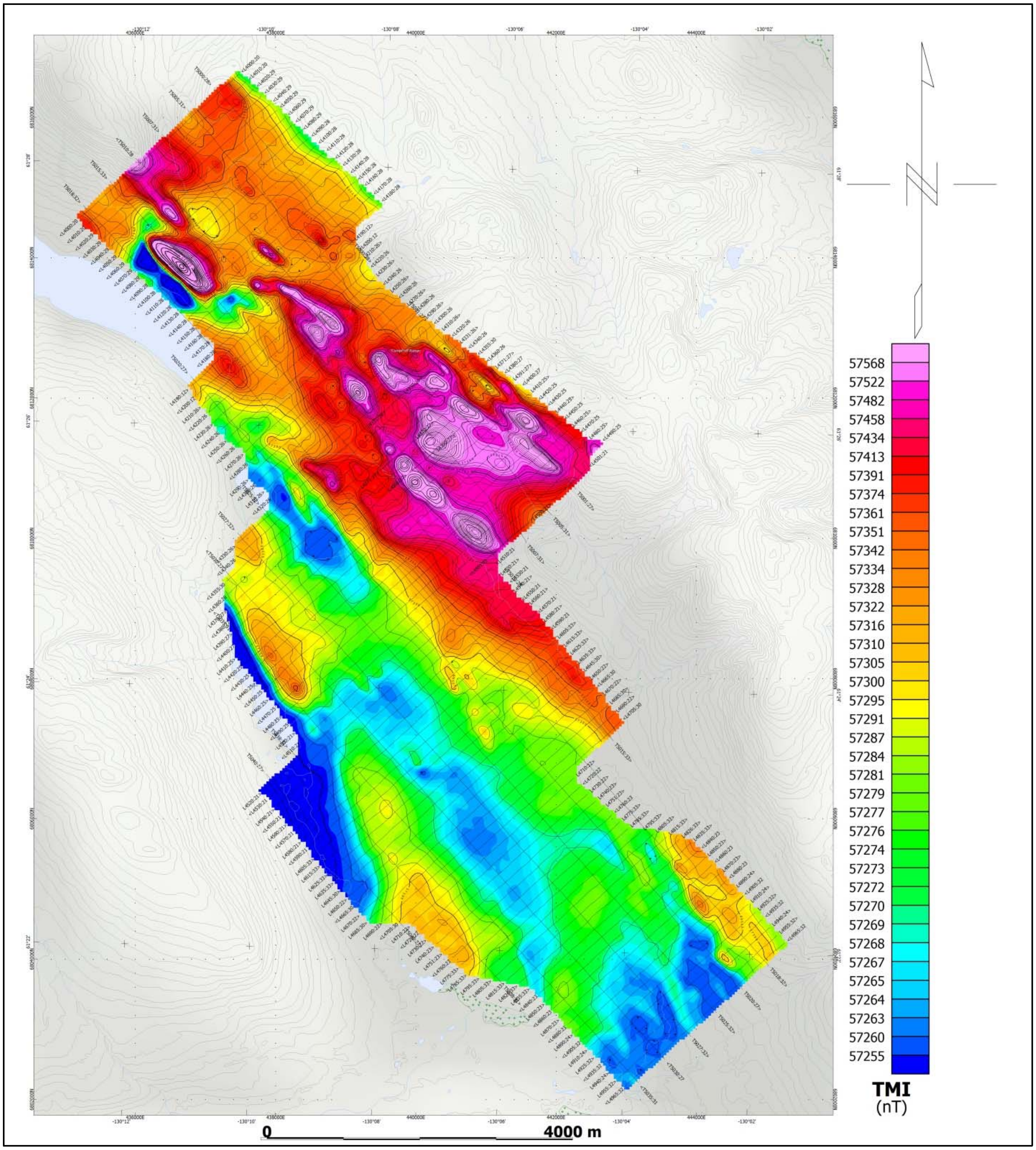
Pelly - VTEM dB/dt Z Component Profiles, Time Gates 0.220 to 7.036 ms



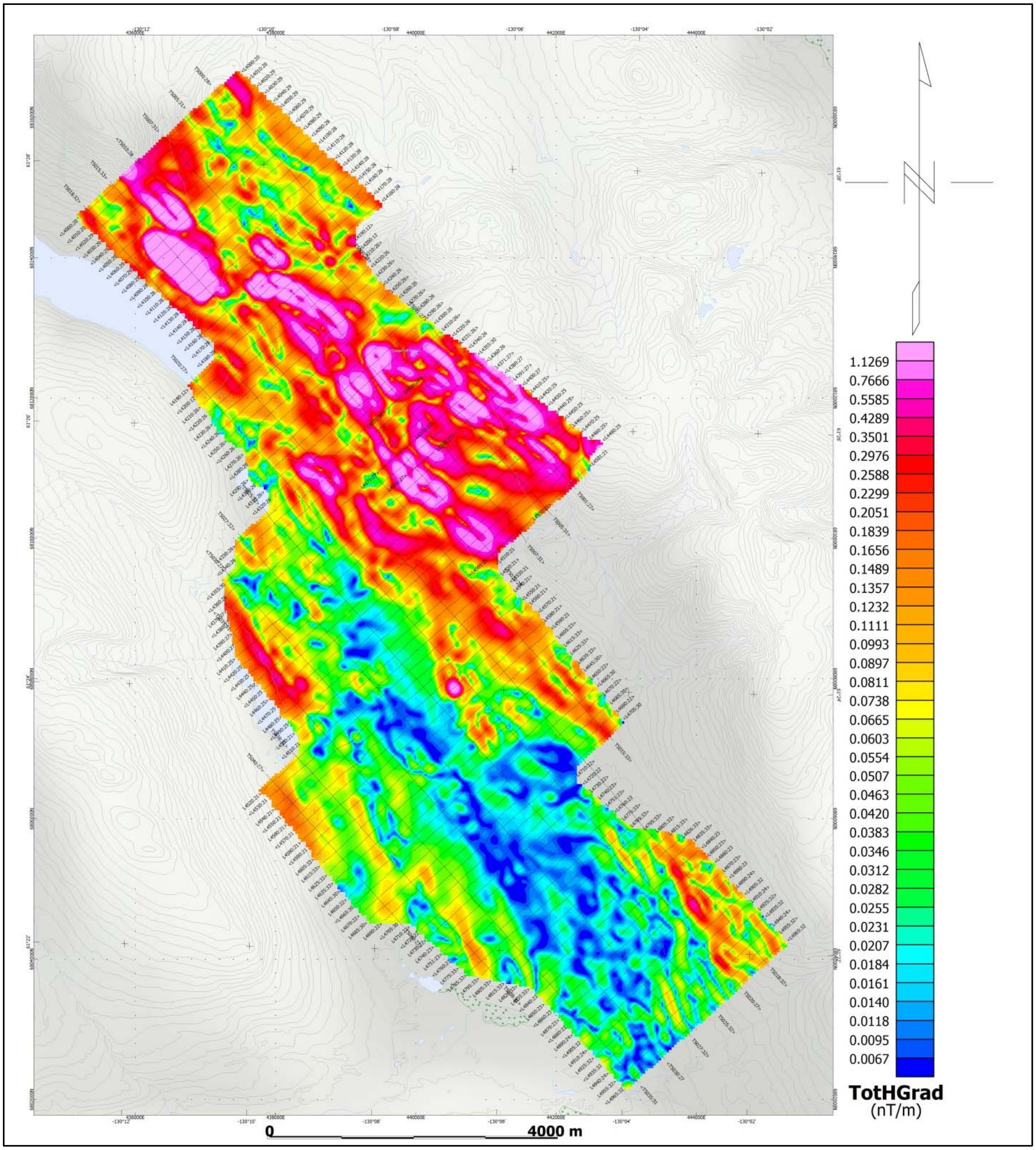
Pelly - VTEM B-Field Z Component Channel 36, Time Gate 2.021 ms



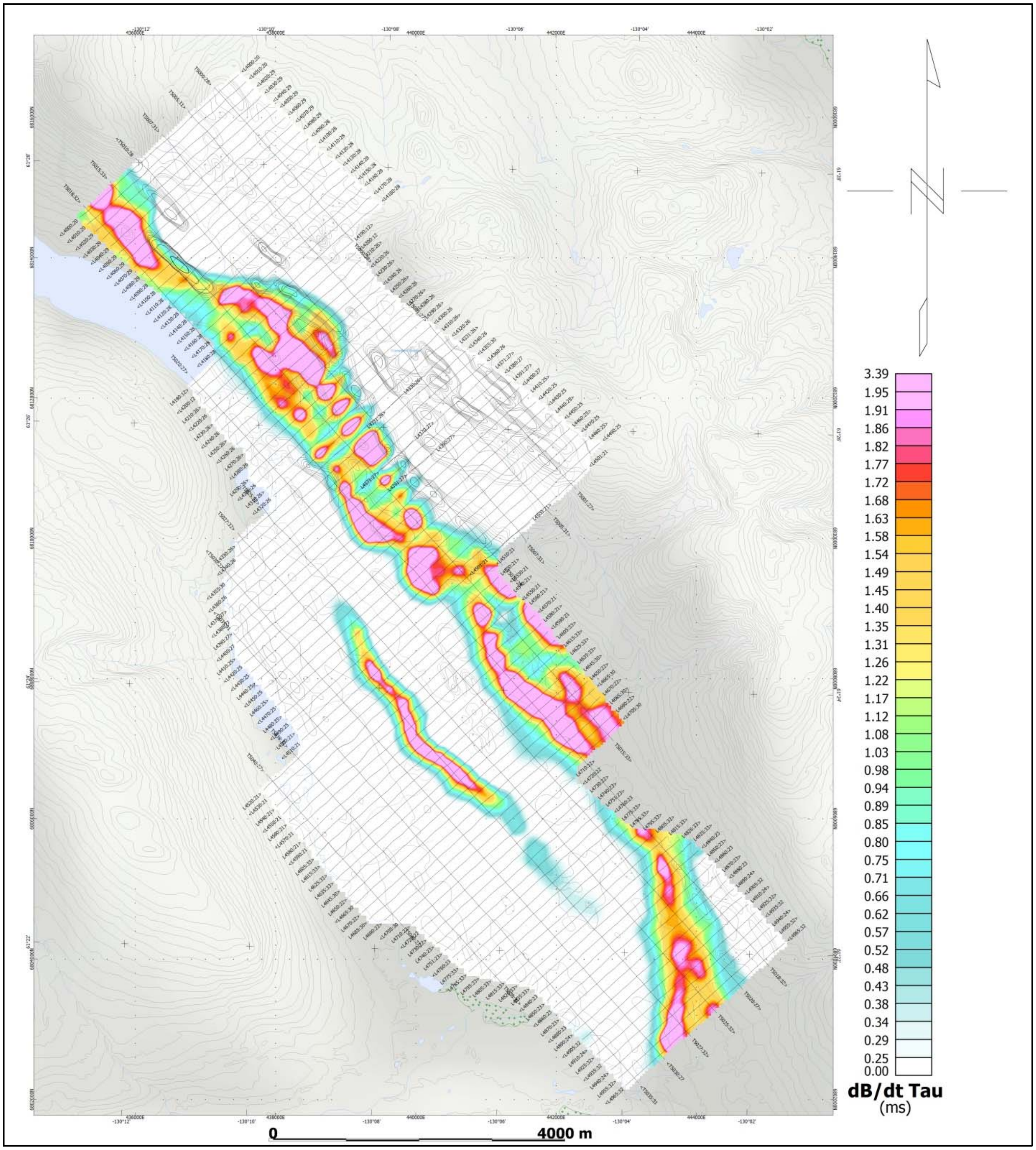
Pelly - VTEM dB/dt X Component Fraser Filtered Channel 20, Time Gate 0.220 ms



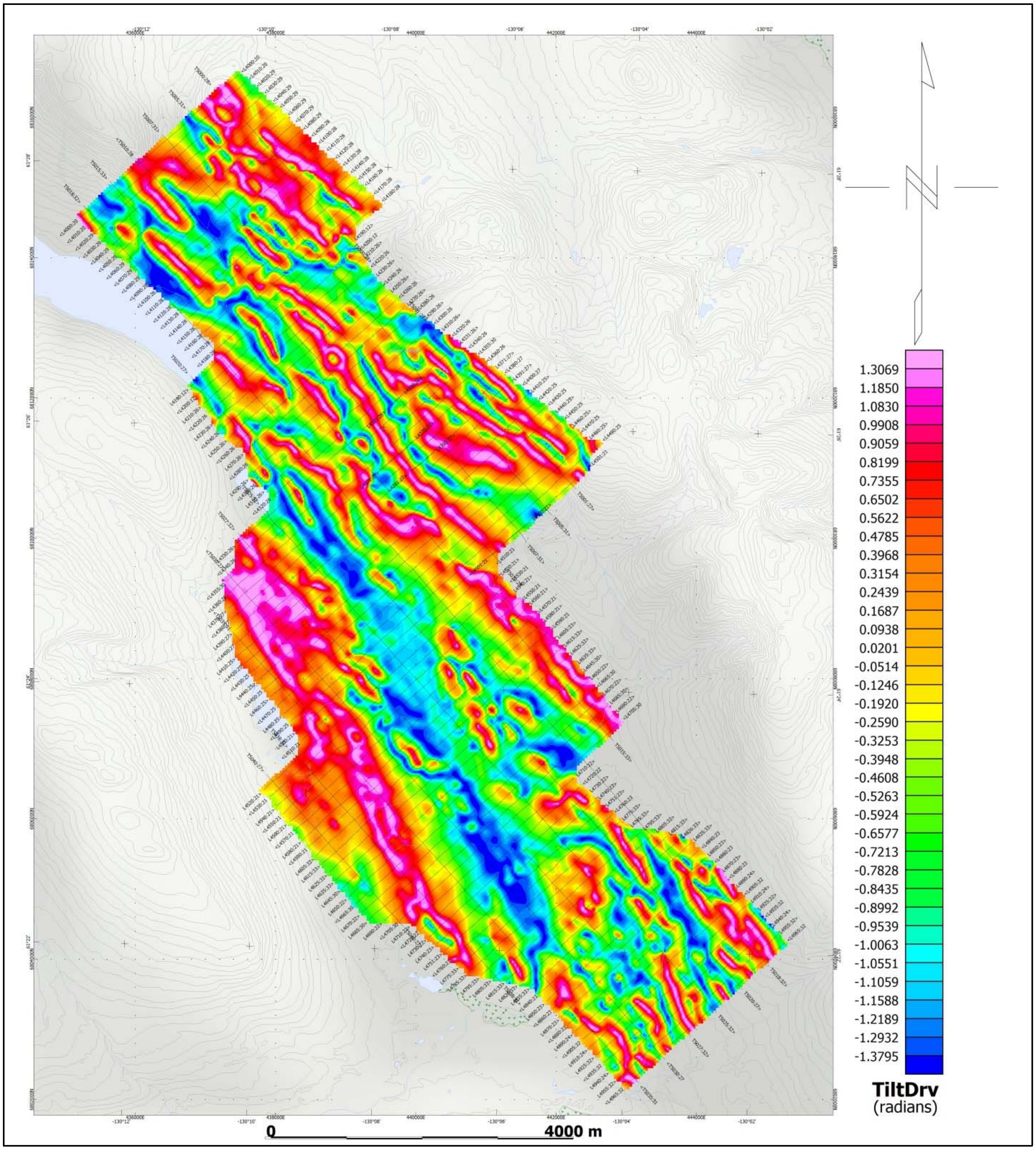
Pelly - Total Magnetic Intensity (TMI)



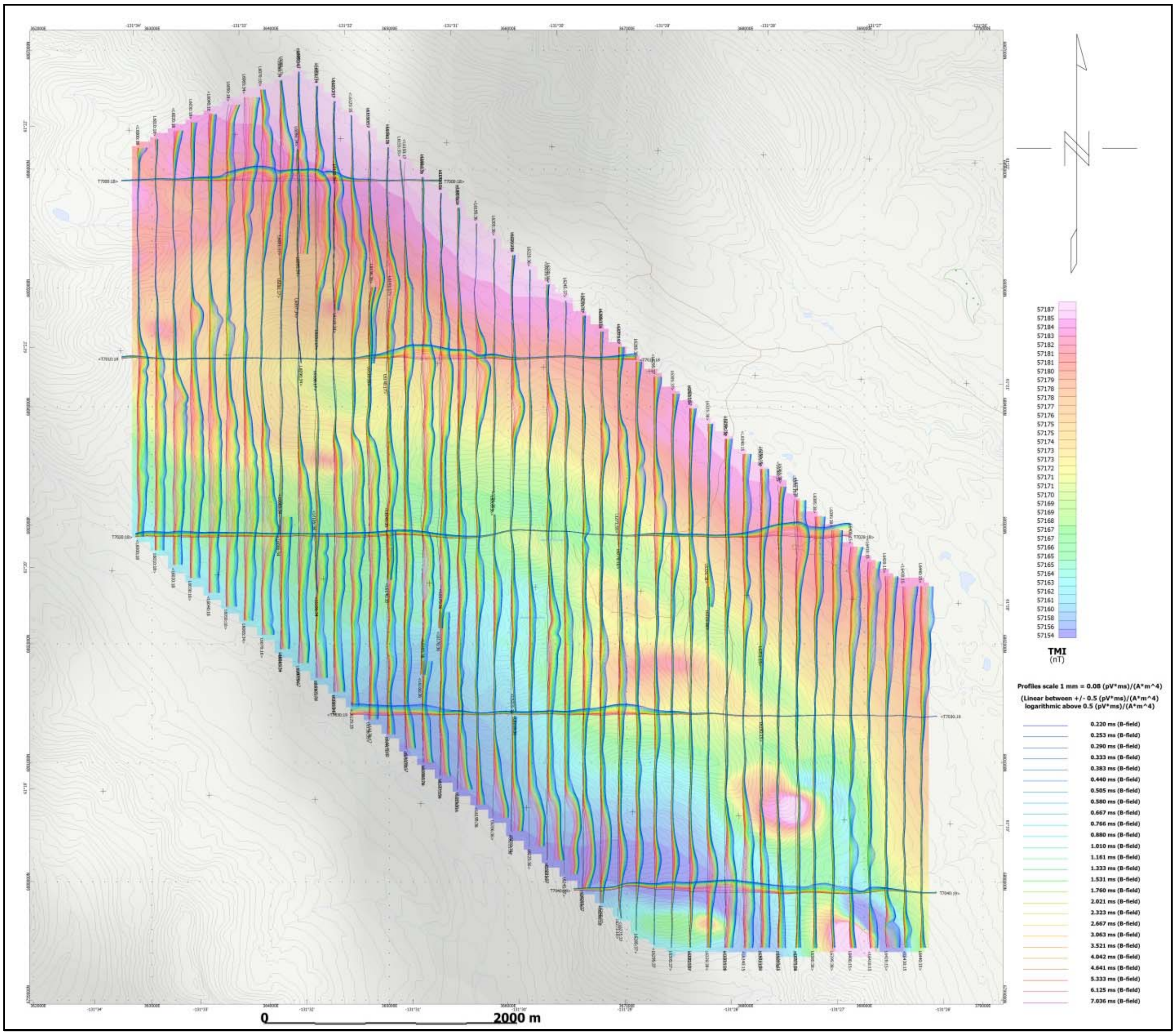
Pelly - Magnetic Total Horizontal Gradient



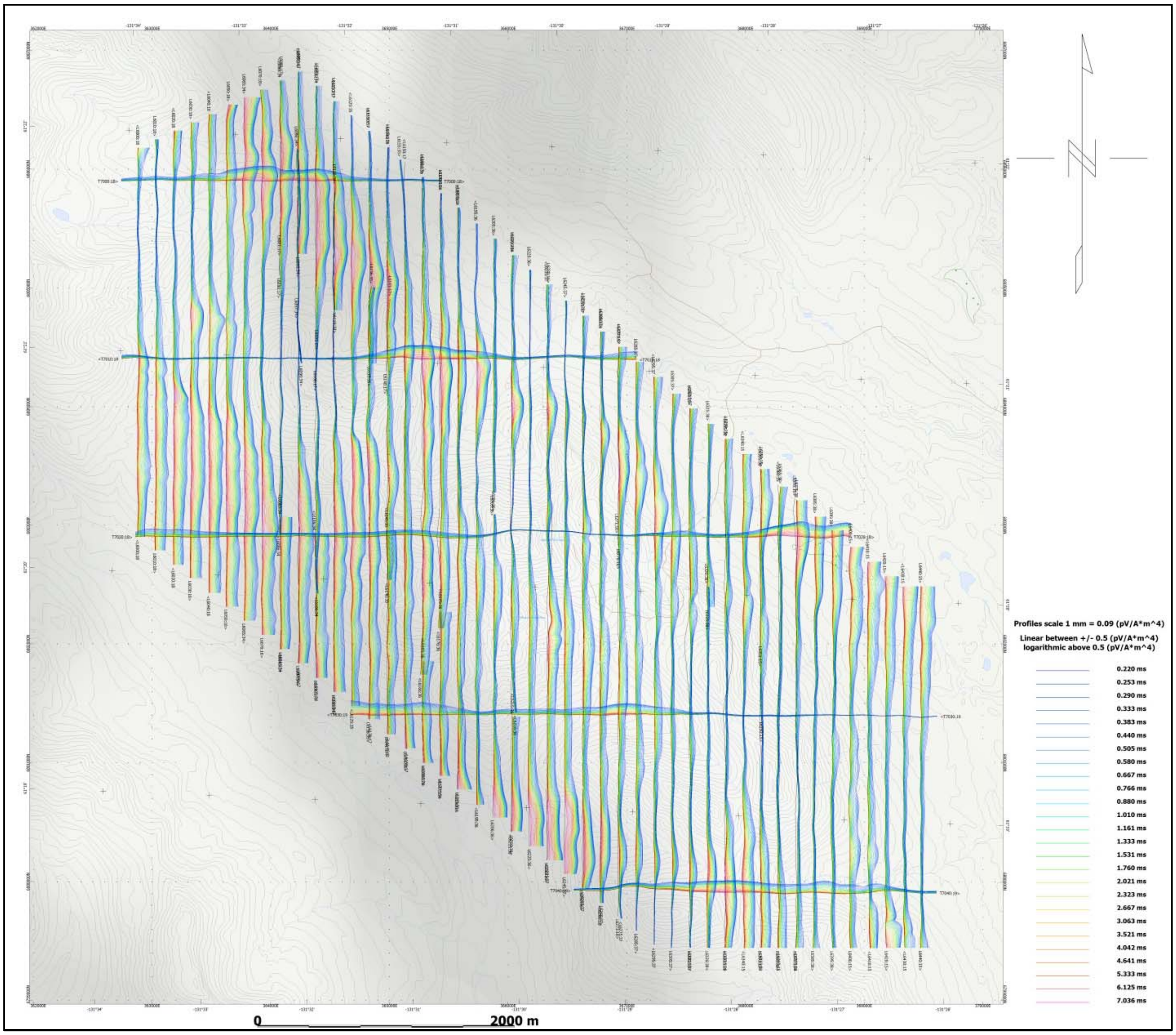
Pelly - dB/dt Calculated Time Constant (Tau) with Calculated Vertical Derivative contours



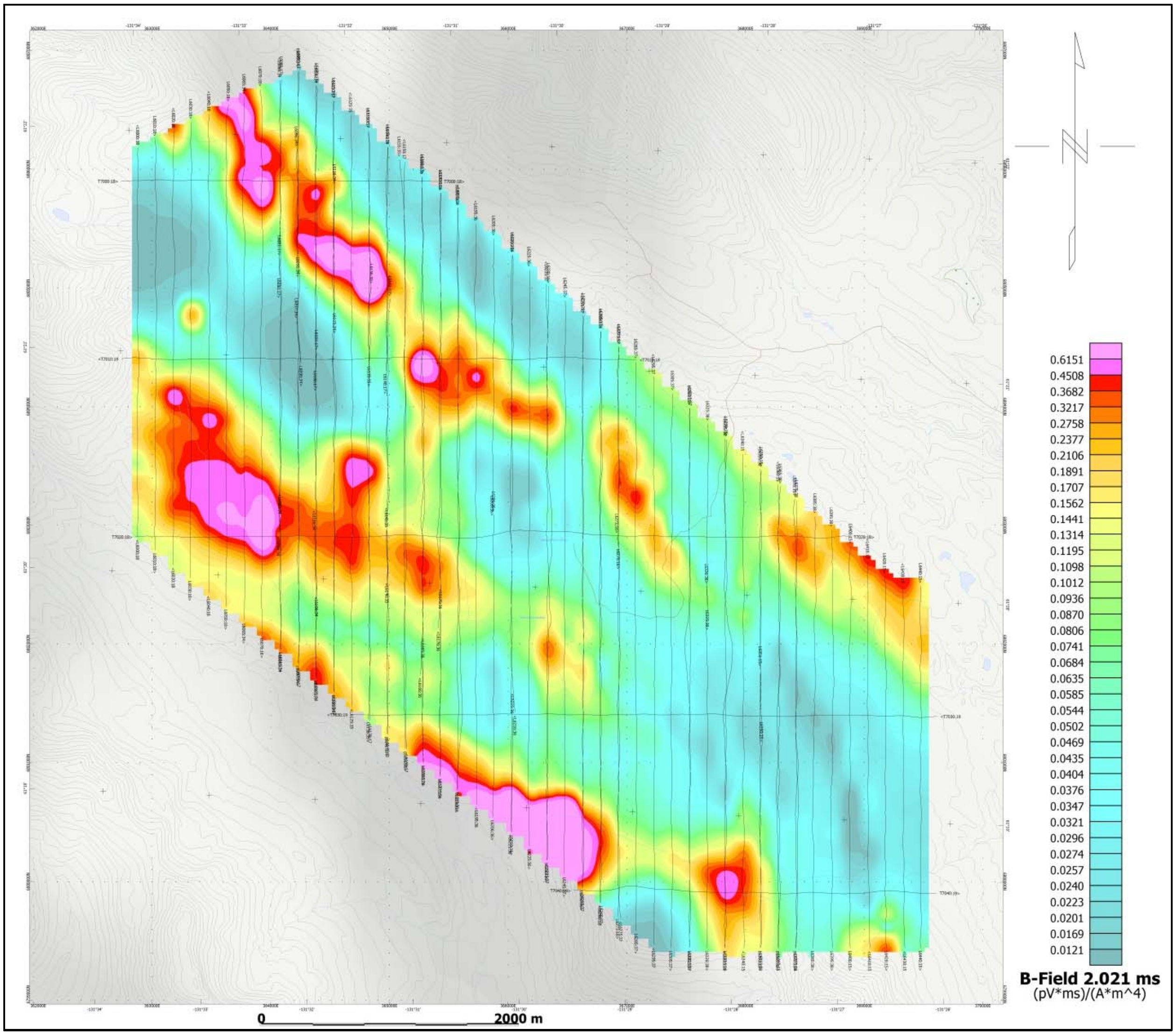
Pelly - Magnetic Tilt - Angle Derivative



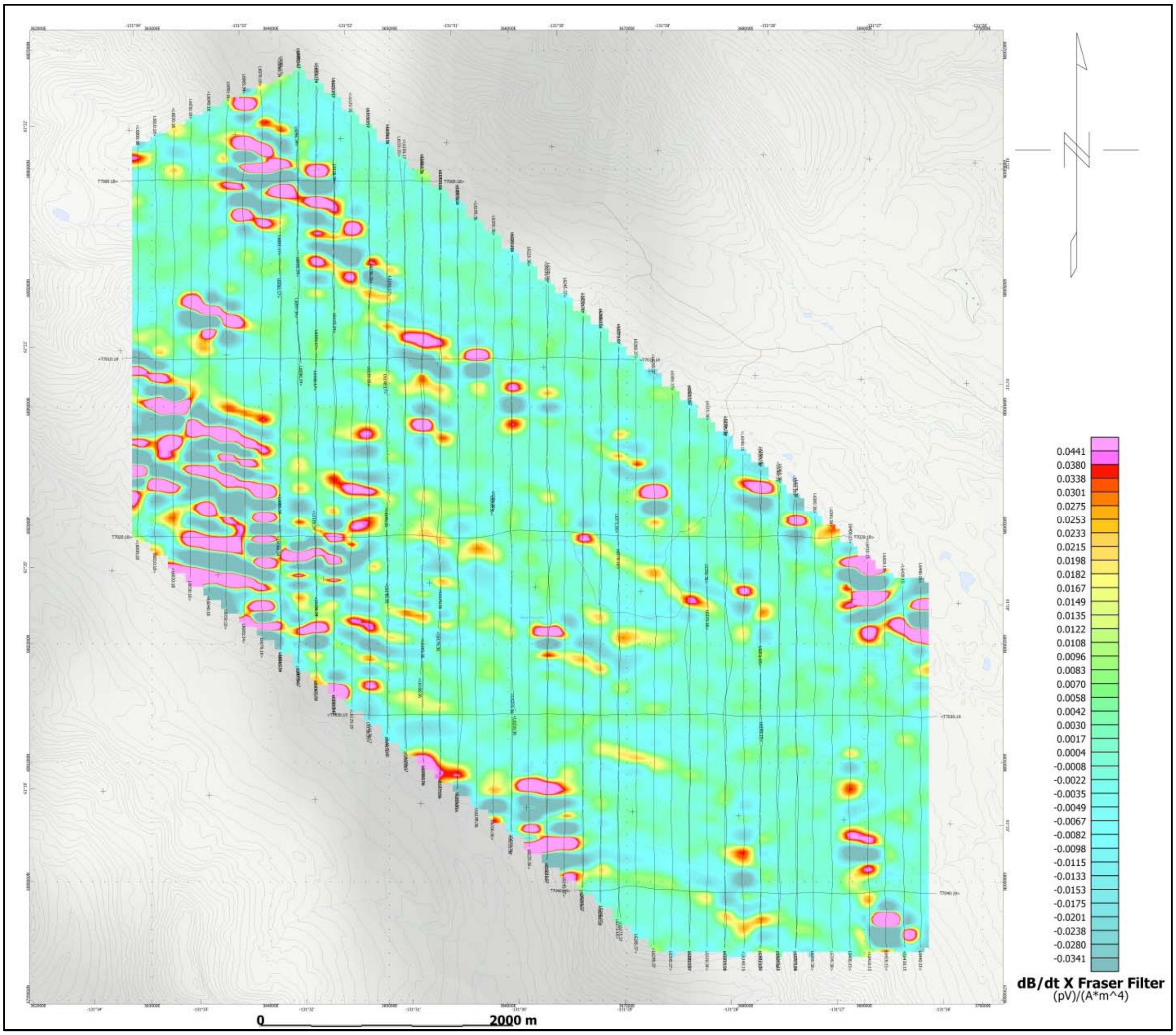
Wolf - VTEM B-Field Z Component Profiles, Time Gates 0.220 to 7.036 ms



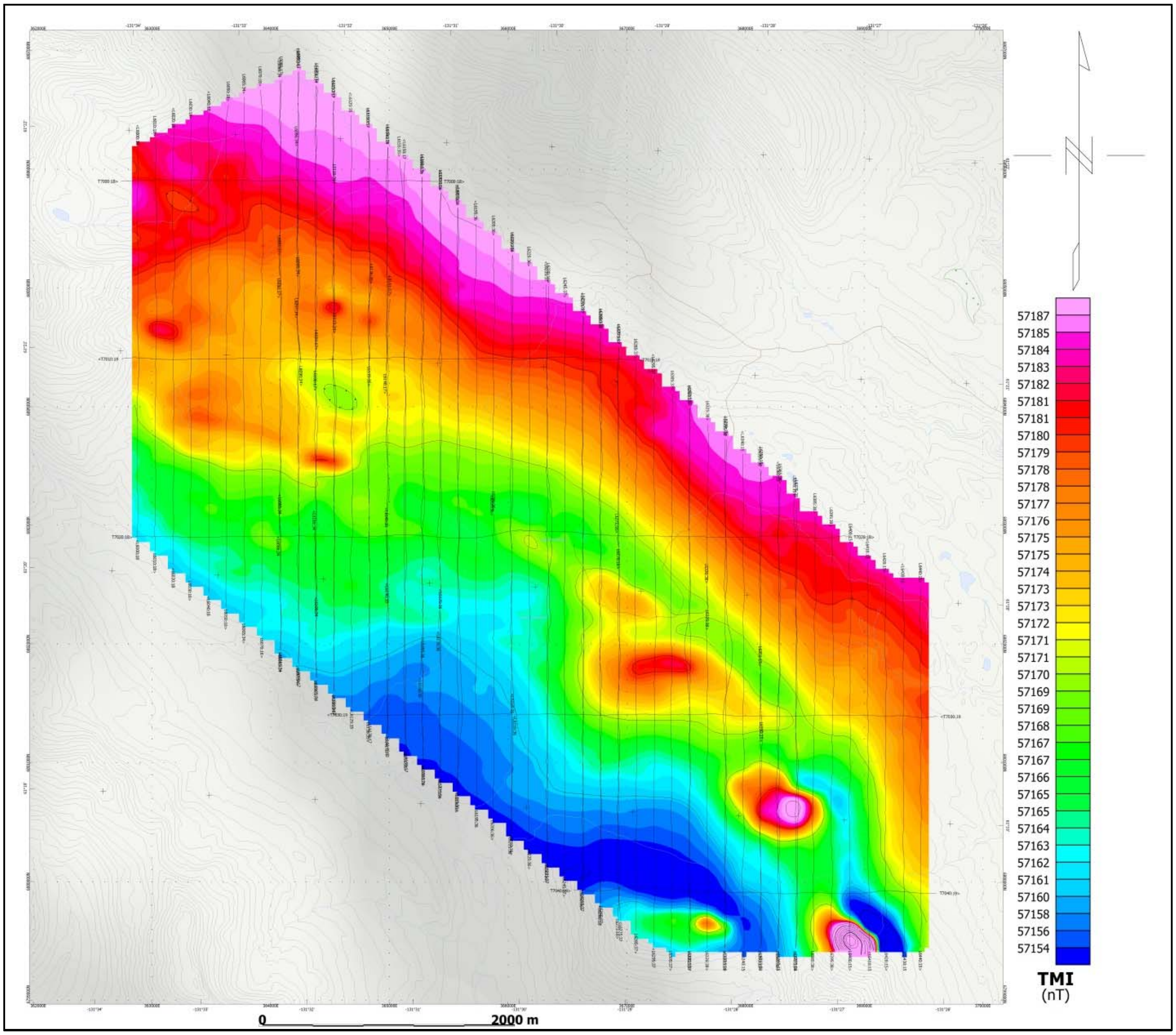
Wolf - VTEM dB/dt Z Component Profiles, Time Gates 0.220 to 7.036 ms



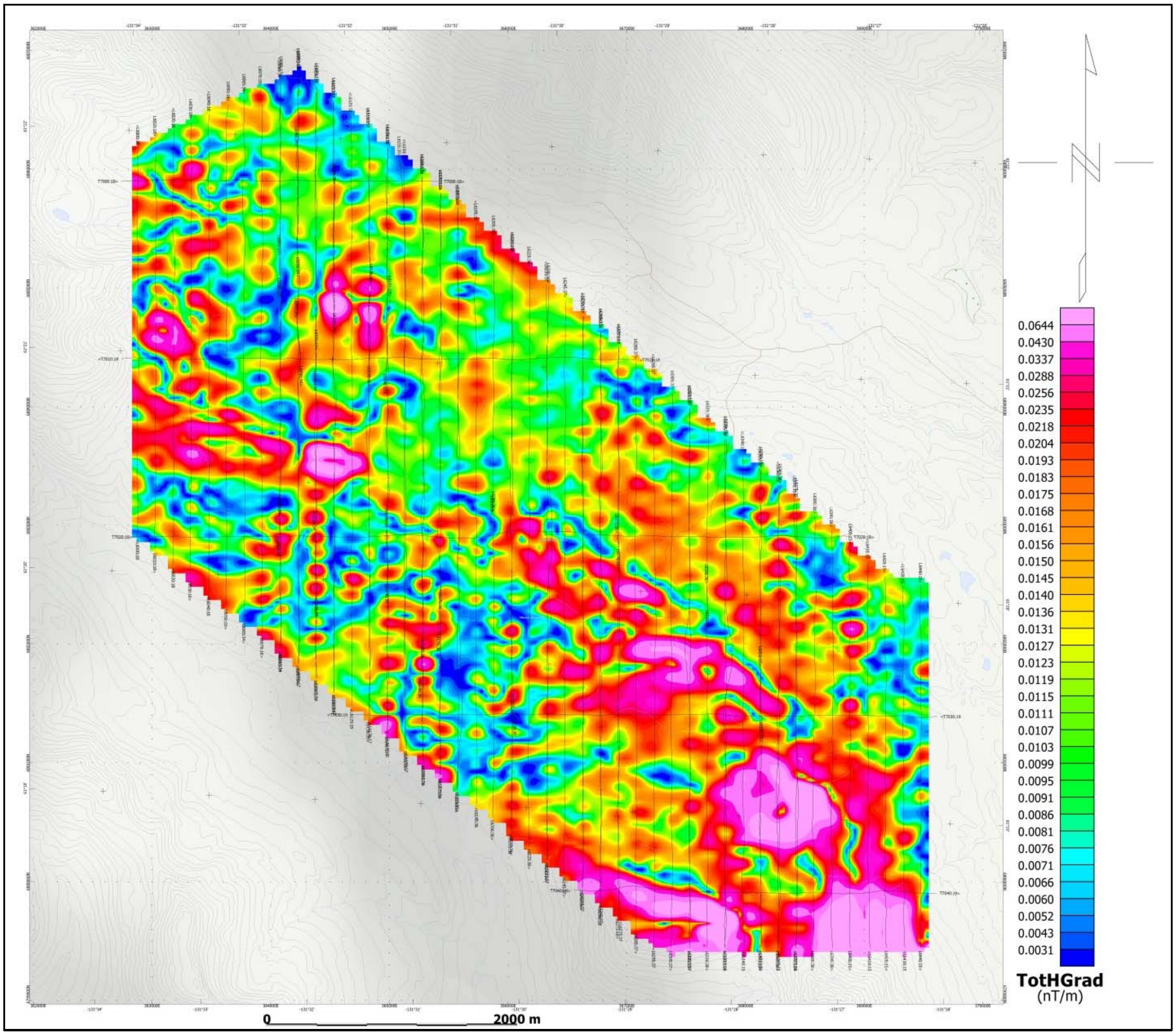
Wolf - VTEM B-Field Z Component Channel 36, Time Gate 2.021 ms



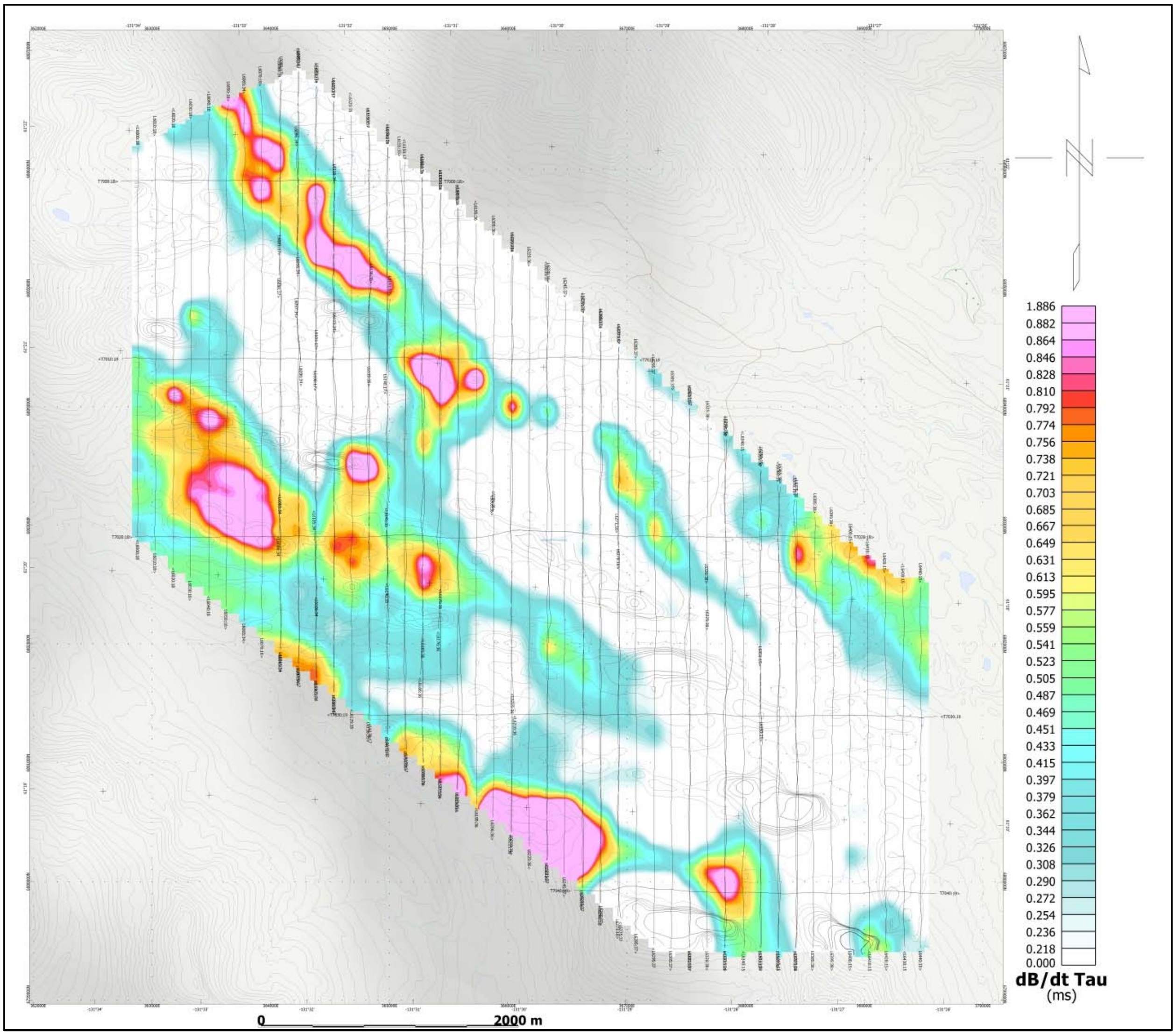
Wolf - VTEM dB/dt X Component Fraser Filtered Channel 20, Time Gate 0.220 ms



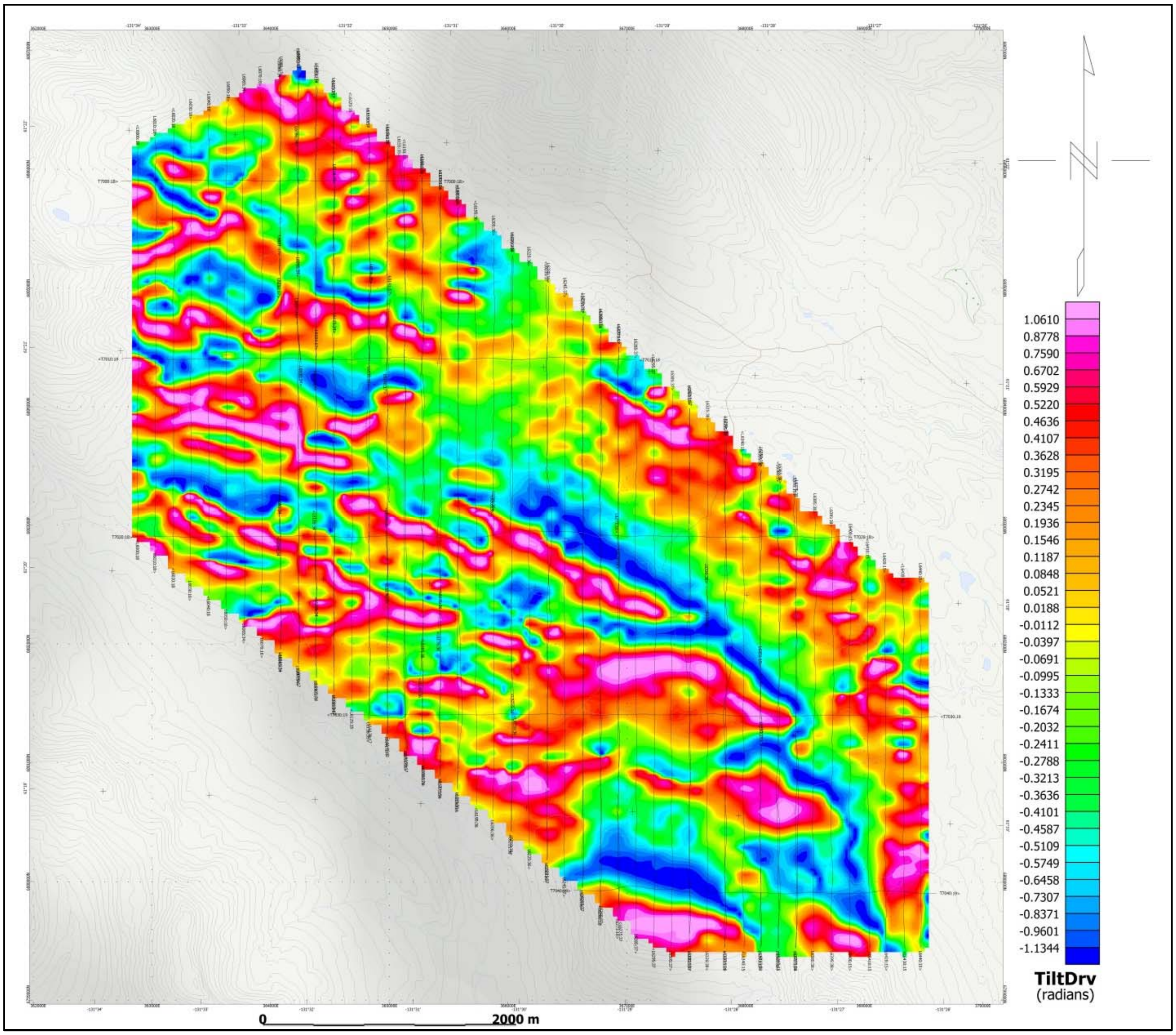
Wolf - Total Magnetic Intensity (TMI)



Wolf - Magnetic Total Horizontal Gradient



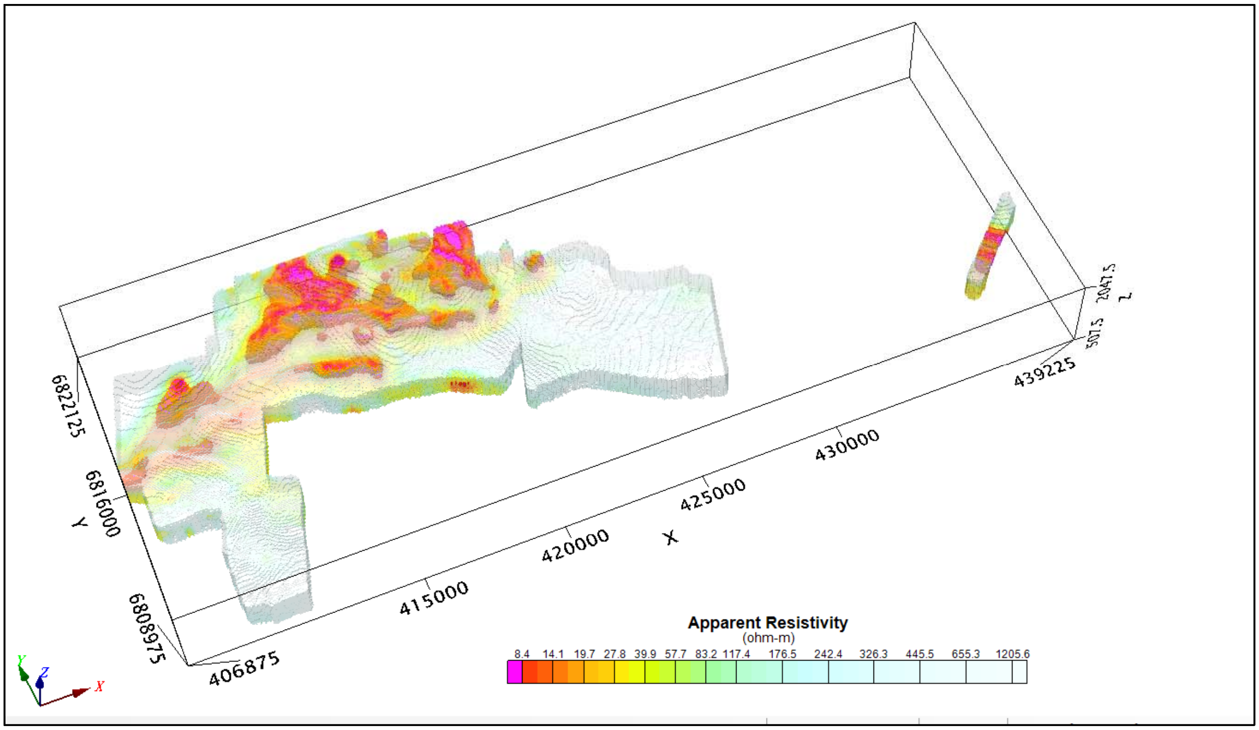
Wolf - dB/dt Calculated Time Constant (Tau) with Calculated Vertical Derivative contours



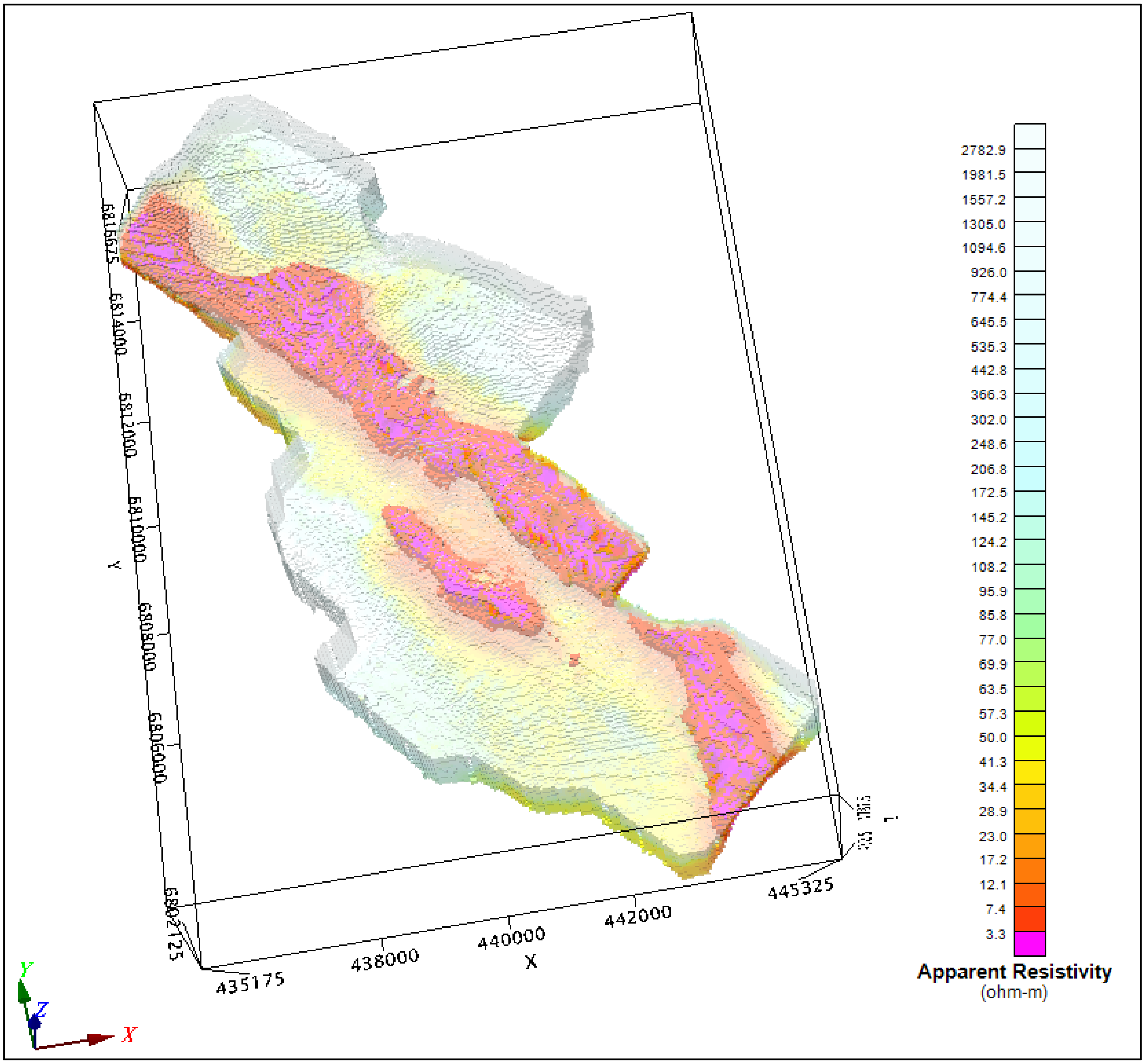
Wolf - Magnetic Tilt - Angle Derivative

RESISTIVITY DEPTH IMAGE (RDI) MAPS

3D Resistivity-Depth Image (RDI)

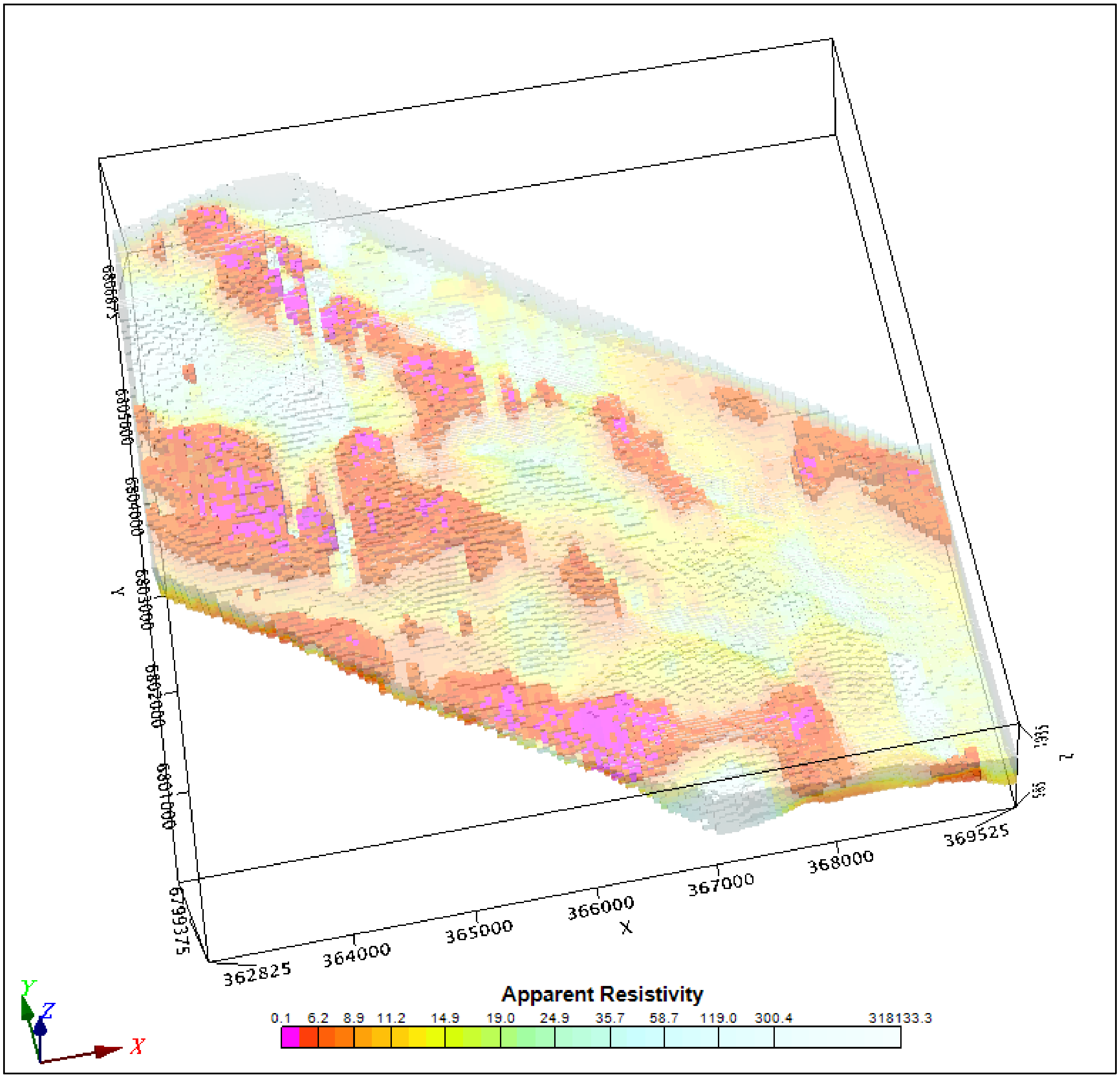


Kudz Ze Kayah



6815675
6814000
6812000
6810000
6808000
6806000
6802725
Y
435175
438000
440000
442000
445325
X
2782.9
1981.5
1557.2
1305.0
1094.6
926.0
774.4
645.5
535.3
442.8
366.3
302.0
248.6
206.8
172.5
145.2
124.2
108.2
95.9
85.8
77.0
69.9
63.5
57.3
50.0
41.3
34.4
28.9
23.0
17.2
12.1
7.4
3.3
Apparent Resistivity
(ohm-m)
Y
Z
X

Pelly



Apparent Resistivity
0.1
6.2
8.9
11.2
14.9
19.0
24.9
35.7
58.7
119.0
300.4
318133.3
362825
364000
365000
366000
367000
368000
369525
X
Y
Z

Wolf

APPENDIX D

GENERALIZED MODELING RESULTS OF THE VTEM SYSTEM
INTRODUCTION

The VTEM system is based on a concentric or central loop design, whereby, the receiver is positioned at the centre of a transmitter loop that produces a primary field. The wave form is a bi-polar, modified square wave with a turn-on and turn-off at each end.

During turn-on and turn-off, a time varying field is produced (dB/dt) and an electro-motive force (emf) is created as a finite impulse response. A current ring around the transmitter loop moves outward and downward as time progresses. When conductive rocks and mineralization are encountered, a secondary field is created by mutual induction and measured by the receiver at the centre of the transmitter loop.

Efficient modeling of the results can be carried out on regularly shaped geometries, thus yielding close approximations to the parameters of the measured targets. The following is a description of a series of common models made for the purpose of promoting a general understanding of the measured results.

A set of models has been produced for the Geotech VTEM® system dB/dT Z and X components (see models D1 to D15). The Maxwell ™ modeling program (EMIT Technology Pty. Ltd. Midland, WA, AU) used to generate the following responses assumes a resistive half-space. The reader is encouraged to review these models, so as to get a general understanding of the responses as they apply to survey results. While these models do not begin to cover all possibilities, they give a general perspective on the simple and most commonly encountered anomalies.

As the plate dips and departs from the vertical position, the peaks become asymmetrical.

As the dip increases, the aspect ratio (Min/Max) decreases and this aspect ratio can be used as an empirical guide to dip angles from near 90º to about 30º. The method is not sensitive enough where dips are less than about 30º.

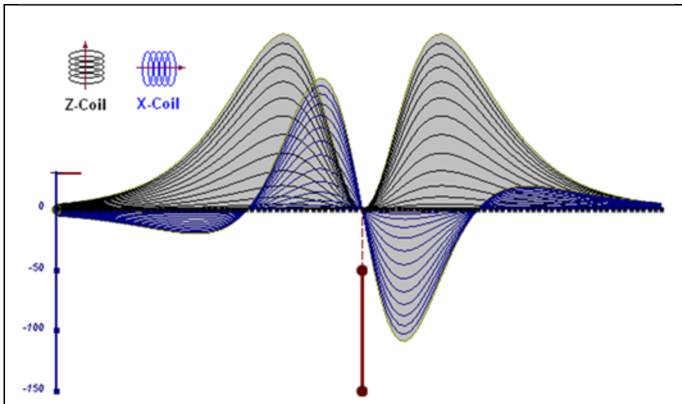


Figure D-1: vertical thin plate

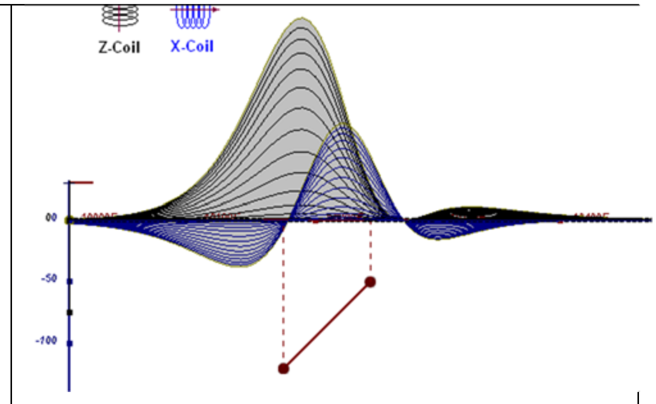


Figure D-2: inclined thin plate

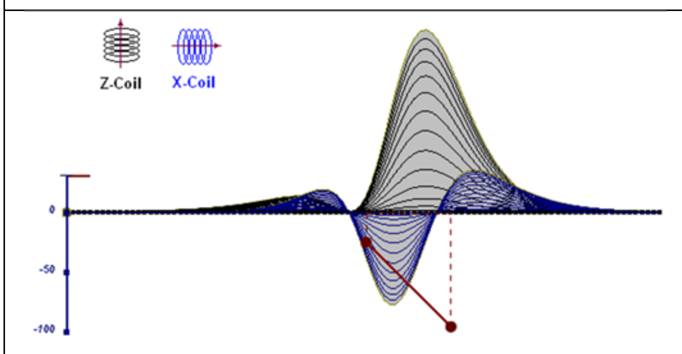


Figure D-3: inclined thin plate

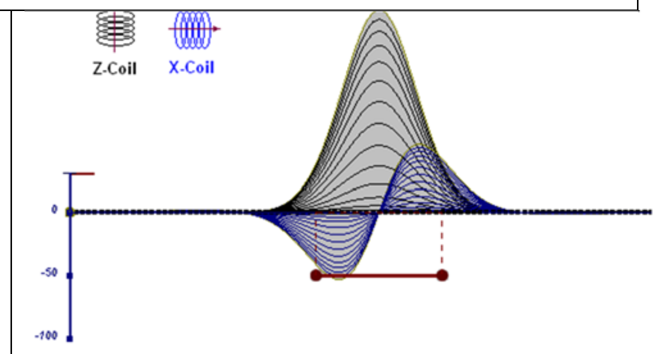


Figure D-4: horizontal thin plate

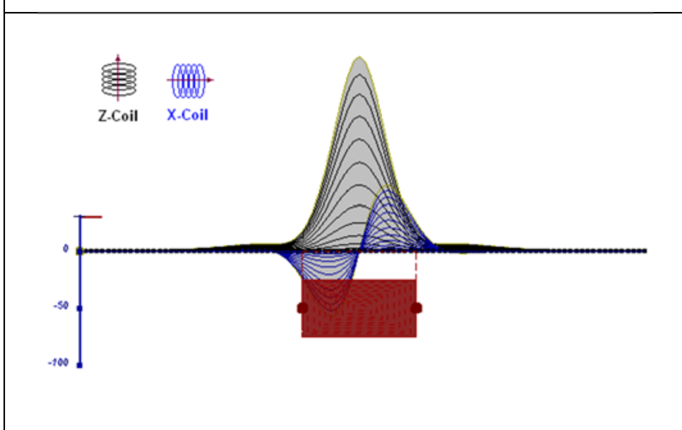


Figure D-5: horizontal thick plate (linear scale of the response)

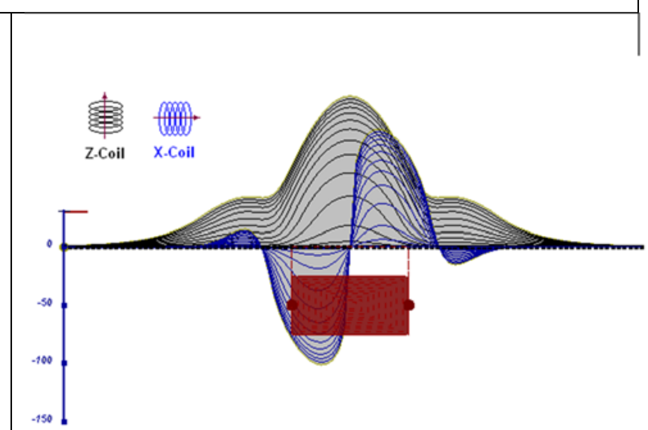


Figure D-6: horizontal thick plate (log scale of the response)

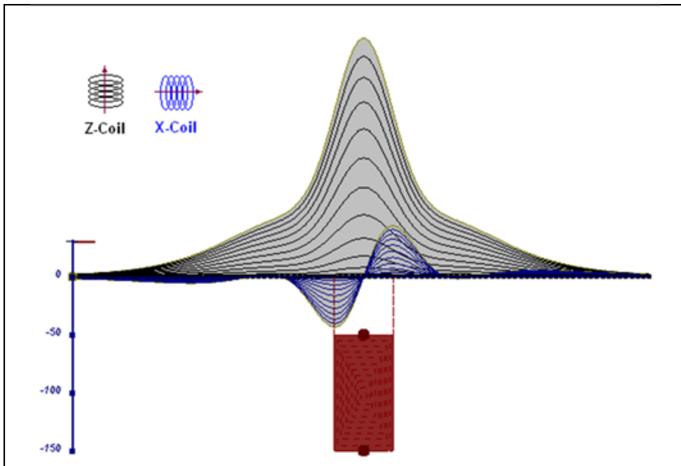


Figure D-7: vertical thick plate (linear scale of the response). 50 m depth

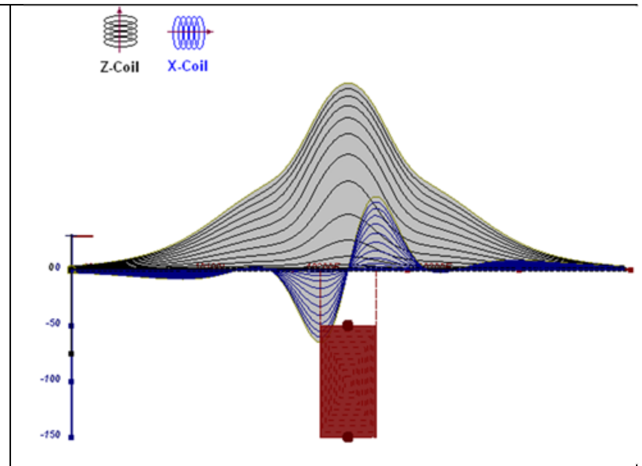


Figure D-8: vertical thick plate (log scale of the response). 50 m depth

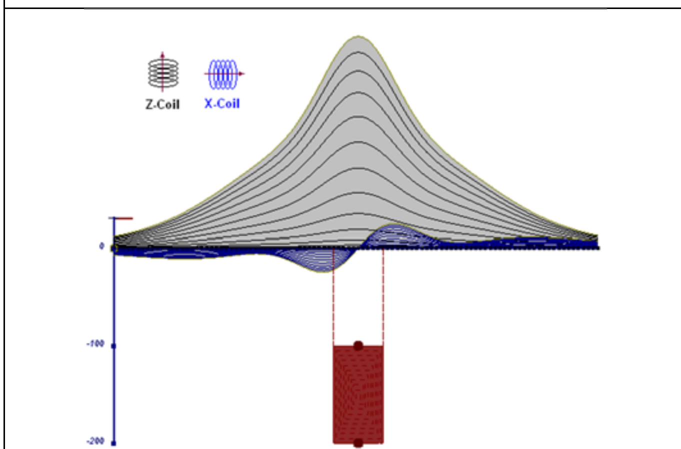


Figure D-9: vertical thick plate (linear scale of the response). 100 m depth

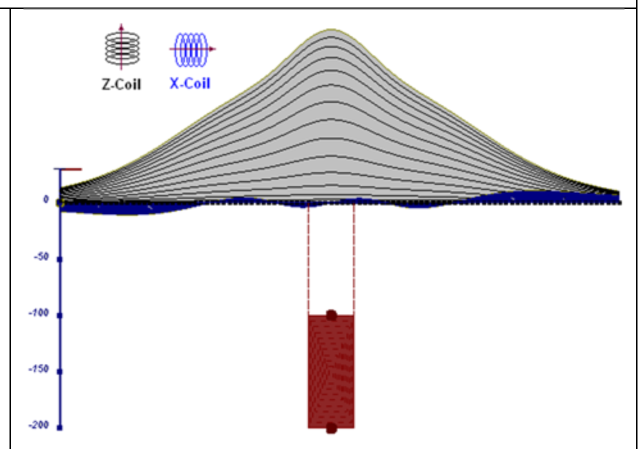


Figure D-10: vertical thick plate (linear scale of the response). Depth / horizontal thickness=2.5

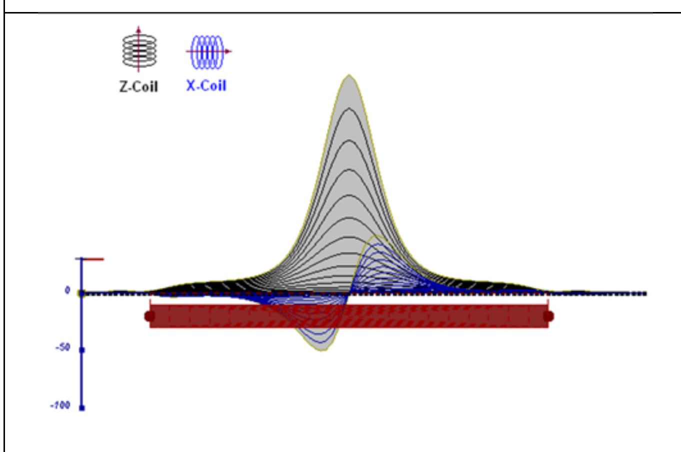


Figure D-11: horizontal thick plate (linear scale of the response)

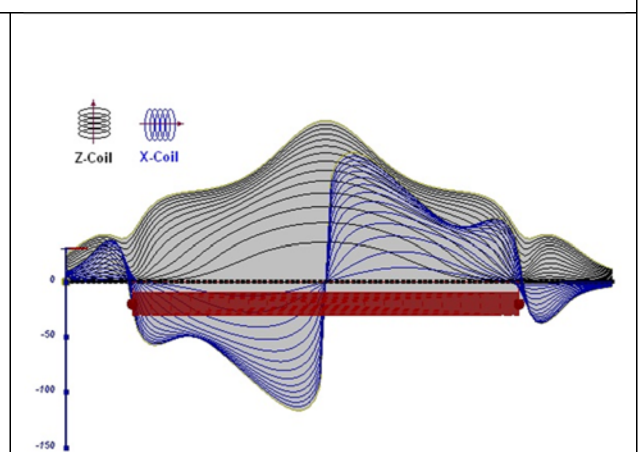


Figure D-12: horizontal thick plate (log scale of the response)

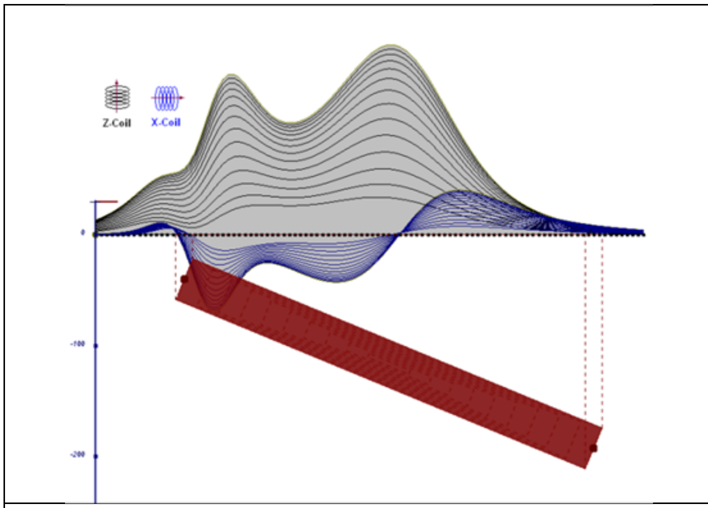
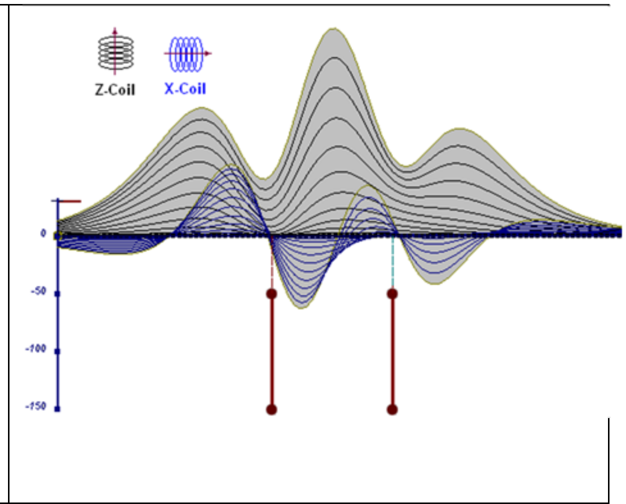
	

Figure D-13: inclined long thick plate	**Figure D-14**: two vertical thin plates

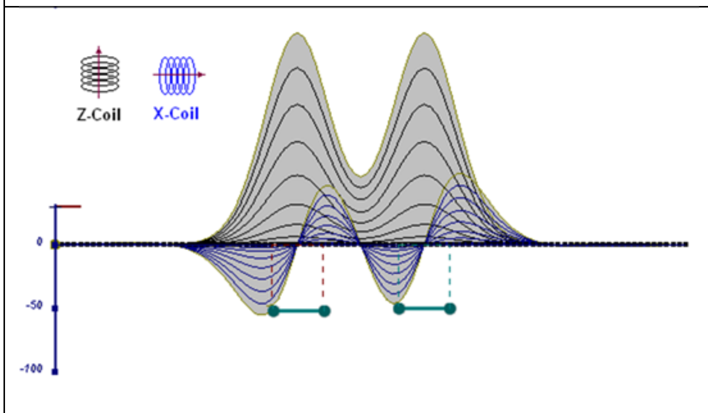
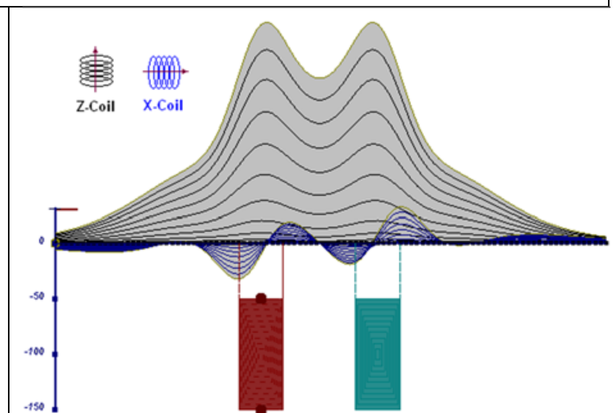

	

Figure D-15: two horizontal thin plates	**Figure D-16**: two vertical thick plates

The same type of target but with different thickness, for example, creates different form of the response:

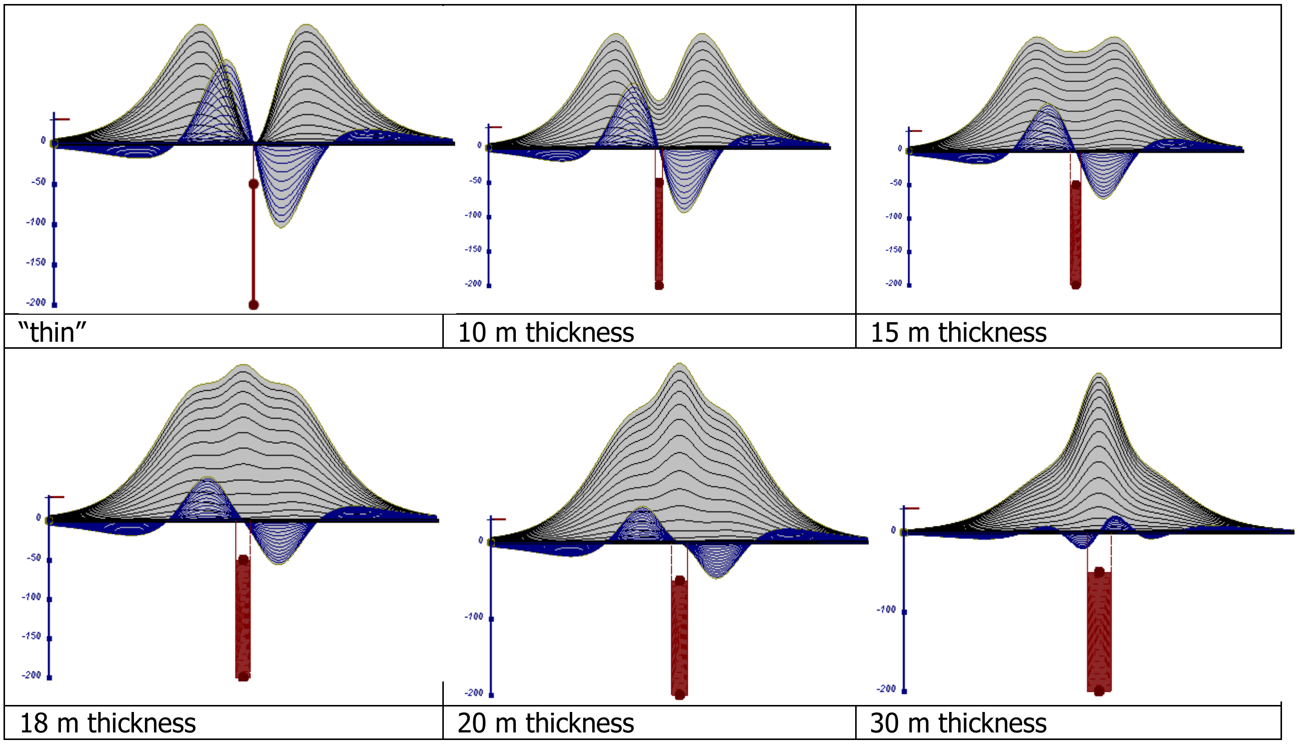


Figure D-17: Conductive vertical plate, depth 50 m, strike length 200 m, depth extends 150 m.

Alexander Prikhodko, PhD, P.Geo
Geotech Ltd.

September 2010

APPENDIX E

EM TIME CONSTANT (TAU) ANALYSIS

Estimation of time constant parameter[1] in transient electromagnetic method is one of the steps toward the extraction of the information about conductances beneath the surface from TEM measurements.

The most reliable method to discriminate or rank conductors from overburden, background or one and other is by calculating the EM field decay time constant (TAU parameter), which directly depends on conductance despite their depth and accordingly amplitude of the response.

THEORY

As established in electromagnetic theory, the magnitude of the electro-motive force (emf) induced is proportional to the time rate of change of primary magnetic field at the conductor. This emf causes eddy currents to flow in the conductor with a characteristic transient decay, whose Time Constant (Tau) is a function of the conductance of the survey target or conductivity and geometry (including dimensions) of the target. The decaying currents generate a proportional secondary magnetic field, the time rate of change of which is measured by the receiver coil as induced voltage during the Off time.

The receiver coil output voltage (**e_0**) is proportional to the time rate of change of the secondary magnetic field and has the form,

$$e_0 \ \alpha \ (1 / \tau) \ e^{-(t/\tau)}$$

Where,
τ = L/R is the characteristic time constant of the target (TAU)
R = resistance
L = inductance

From the expression, conductive targets that have small value of resistance and hence large value of τ yield signals with small initial amplitude that decays relatively slowly with progress of time. Conversely, signals from poorly conducting targets that have large resistance value and small τ, have high initial amplitude but decay rapidly with time[1] (Fig. E1).

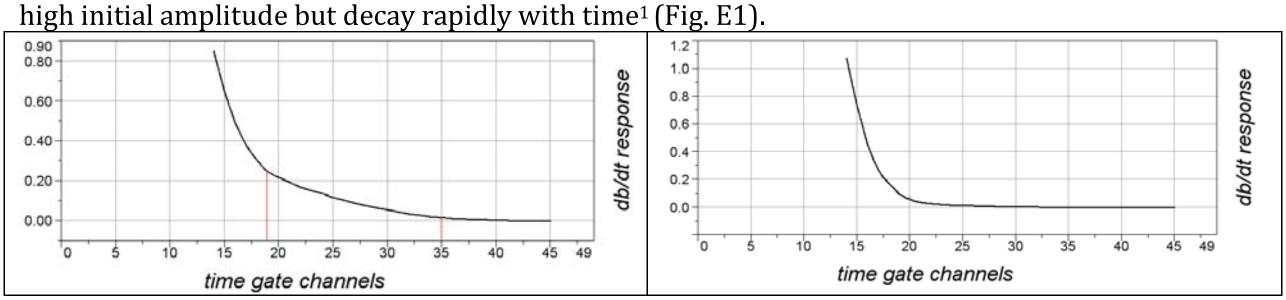


Figure E-1: Left – presence of good conductor, right – poor conductor.

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[1] McNeill, JD, 1980, "Applications of Transient Electromagnetic Techniques", Technical Note TN-7 page 5, Geonics Limited, Mississauga, Ontario.

EM Time Constant (Tau) Calculation

The EM Time-Constant (TAU) is a general measure of the speed of decay of the electromagnetic response and indicates the presence of eddy currents in conductive sources as well as reflecting the "conductance quality" of a source. Although TAU can be calculated using either the measured dB/dt decay or the calculated B-field decay, dB/dt is commonly preferred due to better stability (S/N) relating to signal noise. Generally, TAU calculated on base of early time response reflects both near surface overburden and poor conductors whereas, in the late ranges of time, deep and more conductive sources, respectively. For example early time TAU distribution in an area that indicates conductive overburden is shown in Figure 2.

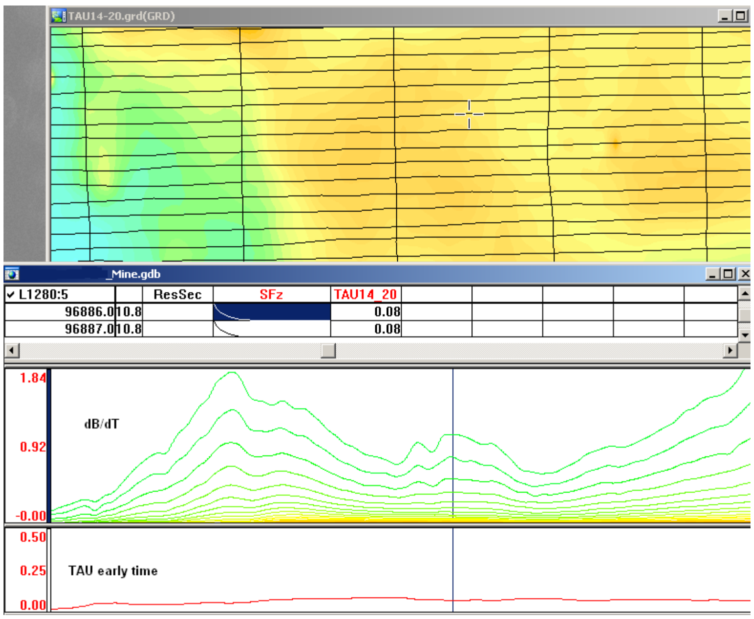

Figure E-2: Map of early time TAU. Area with overburden conductive layer and local sources.

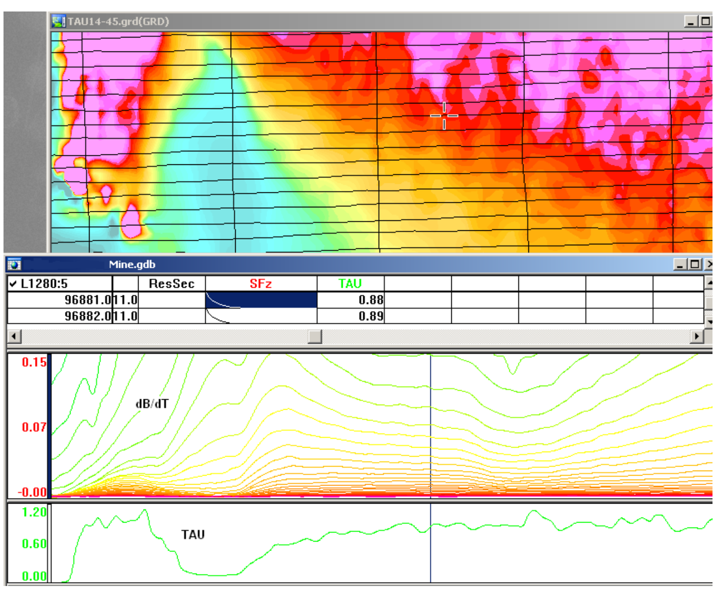

Figure E-3: Map of full time range TAU with EM anomaly due to deep highly conductive target.

There are many advantages of TAU maps:

- TAU depends only on one parameter (conductance) in contrast to response magnitude;
- TAU is integral parameter, which covers time range and all conductive zones and targets are displayed independently of their depth and conductivity on a single map.
- Very good differential resolution in complex conductive places with many sources with different conductivity.
- Signs of the presence of good conductive targets are amplified and emphasized independently of their depth and level of response accordingly.

In the example shown in Figure 4 and 5, three local targets are defined, each of them with a different depth of burial, as indicated on the resistivity depth image (RDI). All are very good conductors but the deeper target (number 2) has a relatively weak dB/dt signal yet also features the strongest total TAU (Figure 4). This example highlights the benefit of TAU analysis in terms of an additional target discrimination tool.

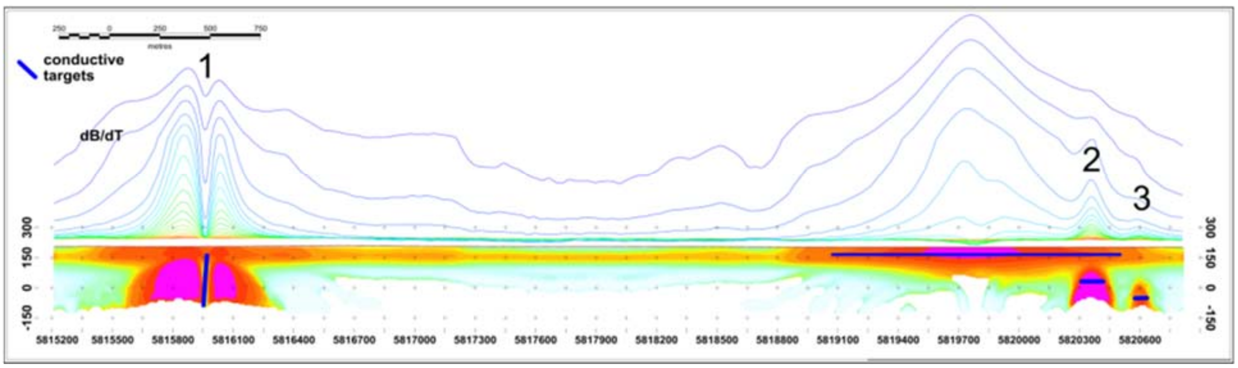

Figure E-4: dB/dt profile and RDI with different depths of targets.

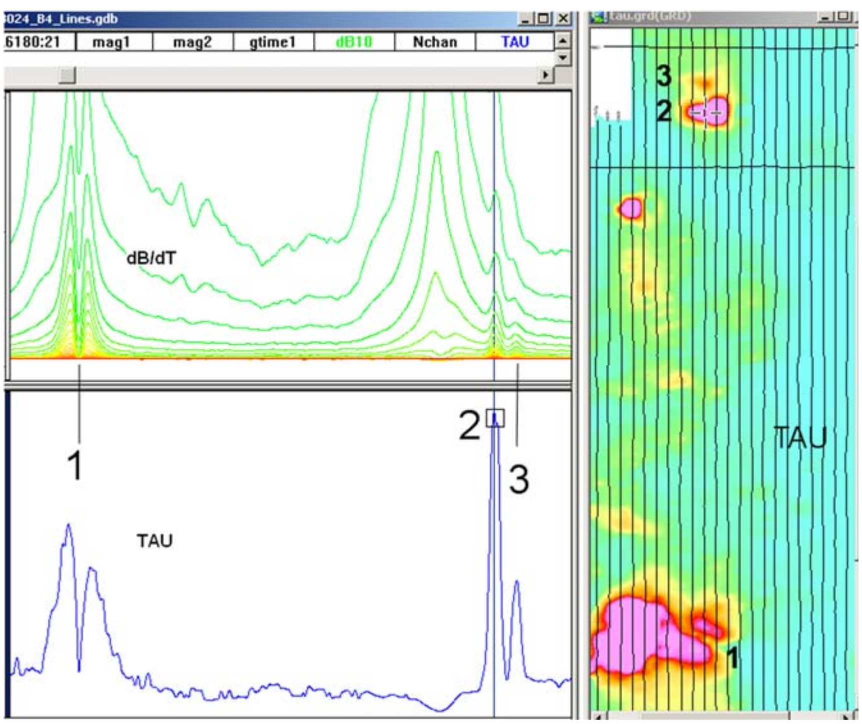

Figure E-5: Map of total TAU and dB/dt profile.

The EM Time Constants for dB/dt and B-field were calculated using the "sliding Tau" in-house program developed at Geotech2. The principle of the calculation is based on using of time window (4 time channels) which is sliding along the curve decay and looking for latest time channels which have a response above the level of noise and decay. The EM decays are obtained from all available decay channels, starting at the latest channel. Time constants are taken from a least square fit of a straight-line (log/linear space) over the last 4 gates above a pre-set signal threshold level (Figure F6). Threshold settings are pointed in the "label" property of TAU database channels. The sliding Tau method determines that, as the amplitudes increase, the time-constant is taken at progressively later times in the EM decay. Conversely, as the amplitudes decrease, Tau is taken at progressively earlier times in the decay. If the maximum signal amplitude falls below the threshold, or becomes negative for any of the 4 time gates, then Tau is not calculated and is assigned a value of "dummy" by default.

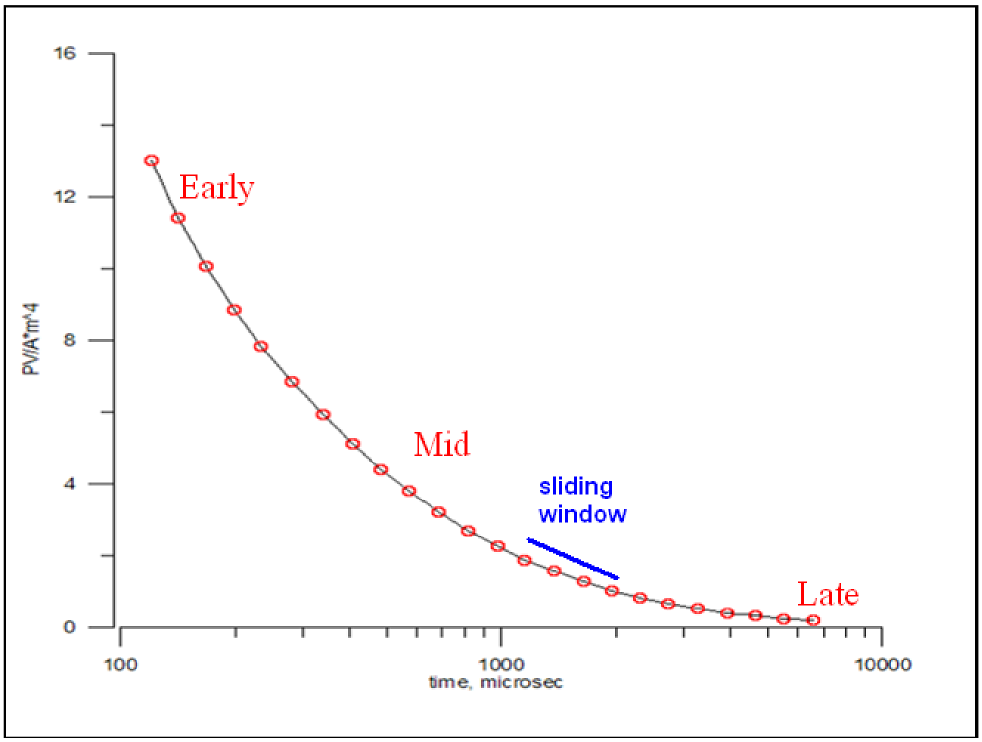

Figure E-6: Typical dB/dt decays of Vtem data

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September 2010

[2] by A.Prikhodko

APPENDIX F

TEM RESISTIVITY DEPTH IMAGING (RDI)

Resistivity depth imaging (RDI) is technique used to rapidly convert EM profile decay data into an equivalent resistivity versus depth cross-section, by deconvolving the measured TEM data.
The used RDI algorithm of Resistivity-Depth transformation is based on scheme of the apparent resistivity transform of Maxwell A.Meju (1998)[1] and TEM response from conductive half-space. The program is developed by Alexander Prikhodko and depth calibrated based on forward plate modeling for VTEM system configuration (Fig. 1-10).

RDIs provide reasonable indications of conductor relative depth and vertical extent, as well as accurate 1D layered-earth apparent conductivity/resistivity structure across VTEM flight lines. Approximate depth of investigation of a TEM system, image of secondary field distribution in half space, effective resistivity, initial geometry and position of conductive targets is the information obtained on base of the RDIs.

Maxwell forward modeling with RDI sections from the synthetic responses (VTEM system).

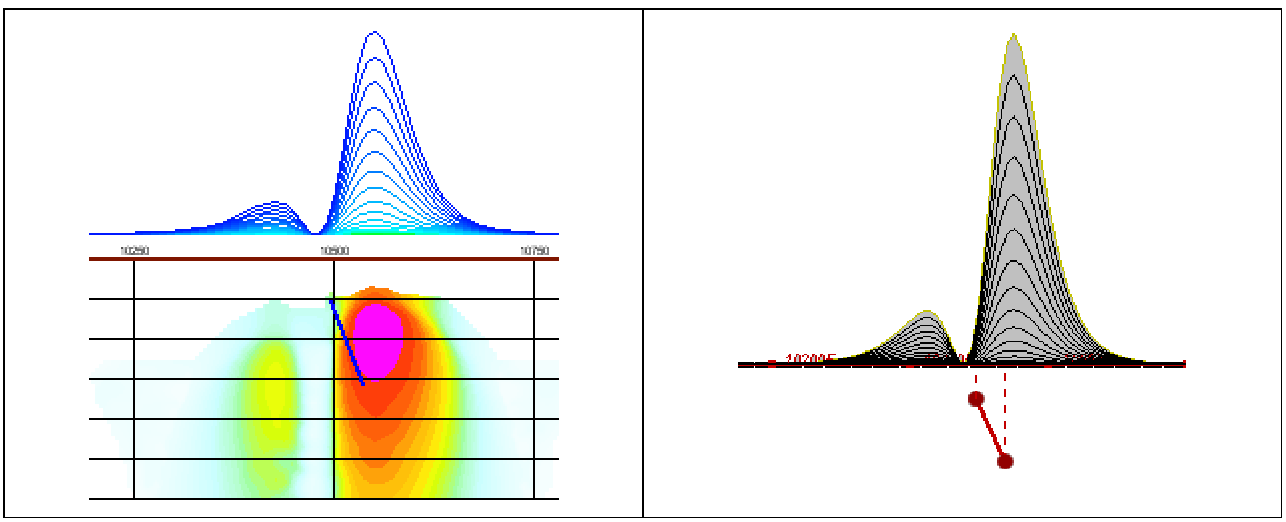


Figure F-1: Maxwell plate model and RDI from the calculated response for conductive “thin” plate (depth 50 m, dip 65 degree, depth extend 100 m).

[1] Maxwell A.Meju, 1998, Short Note: A simple method of transient electromagnetic data analysis, Geophysics, **63**, 405–410.

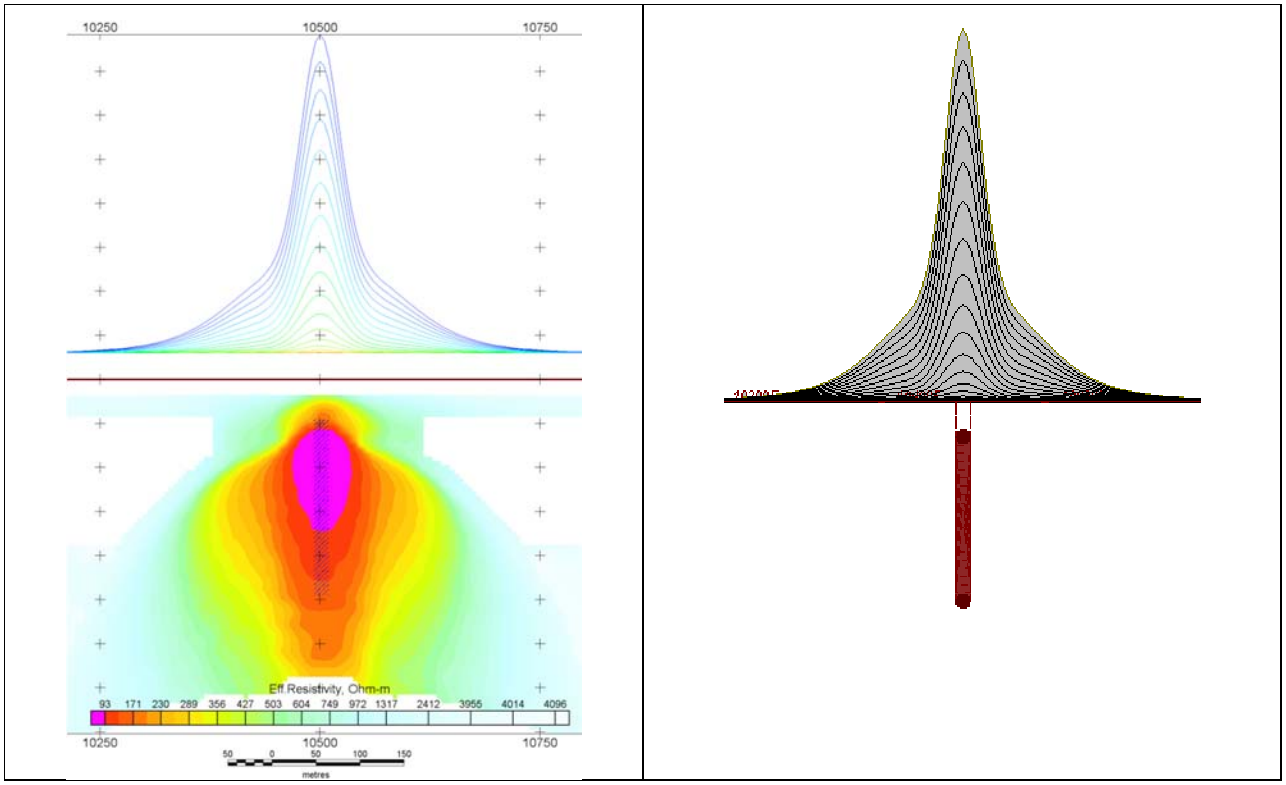


Figure F-2: Maxwell plate model and RDI from the calculated response for "thick" plate 18 m thickness, depth 50 m, depth extend 200 m).

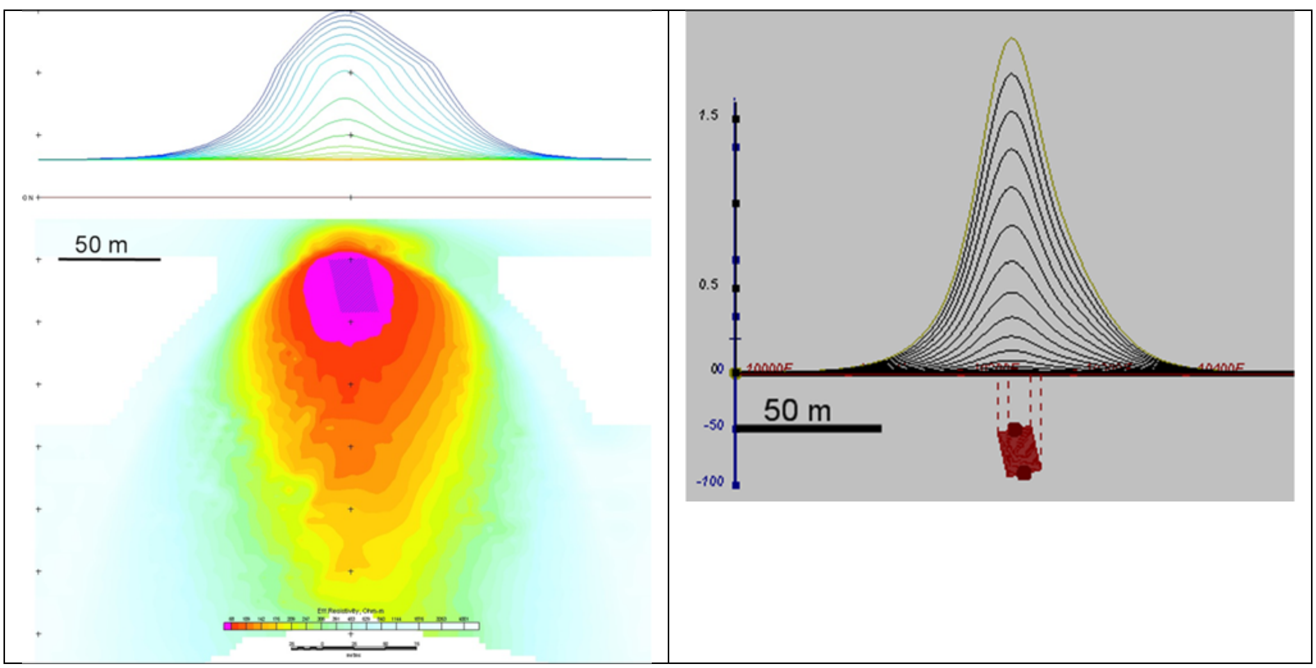


Figure F-3: Maxwell plate model and RDI from the calculated response for bulk ("thick") 100 m length, 40 m depth extend, 30 m thickness

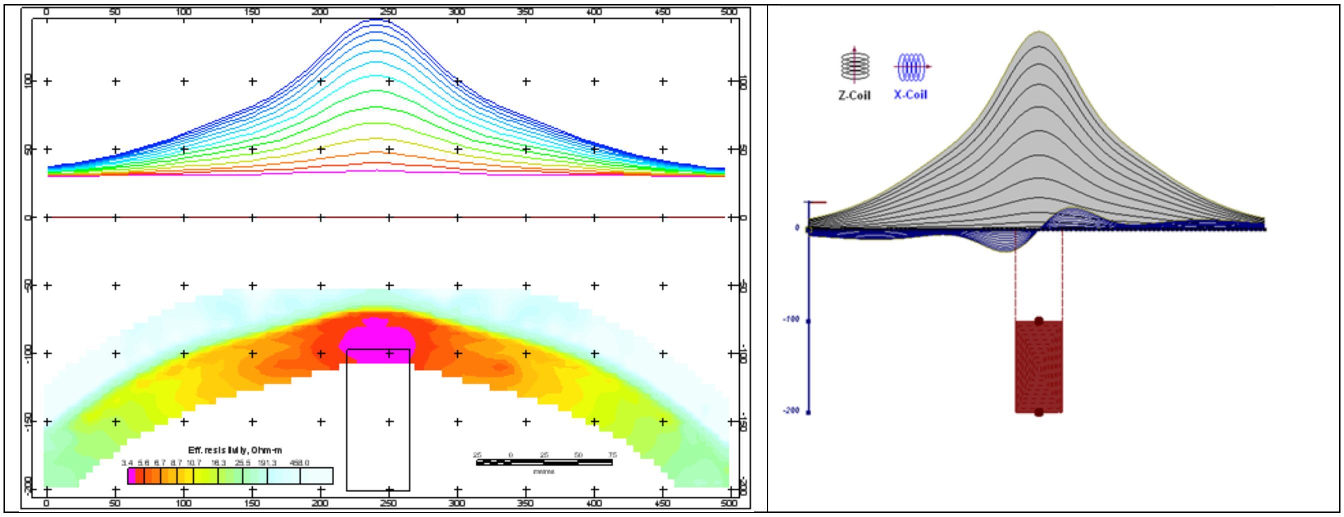


Figure F-4: Maxwell plate model and RDI from the calculated response for "thick" vertical target (depth 100 m, depth extend 100 m). 19-44 chan.

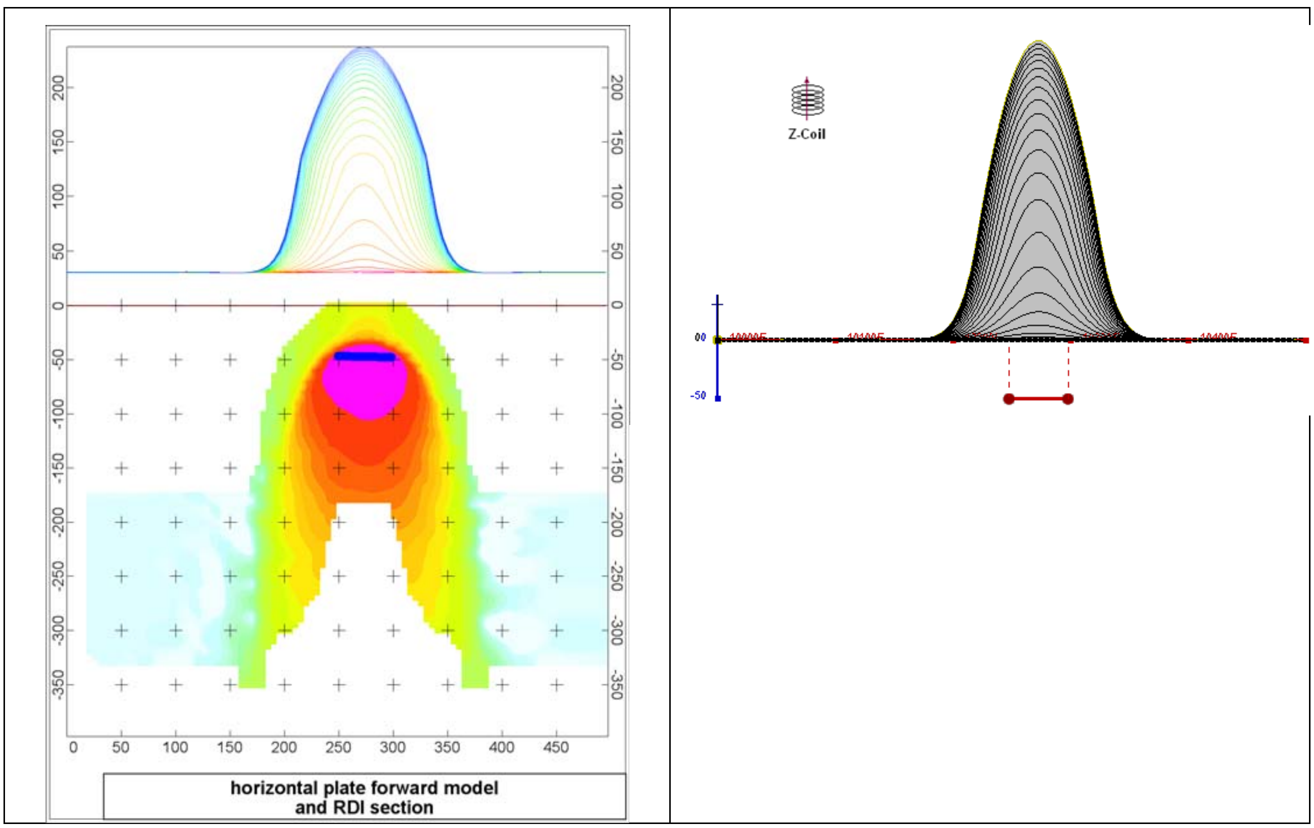


Figure F-5: Maxwell plate model and RDI from the calculated response for horizontal thin plate (depth 50 m, dim 50x100 m). 15-44 chan.

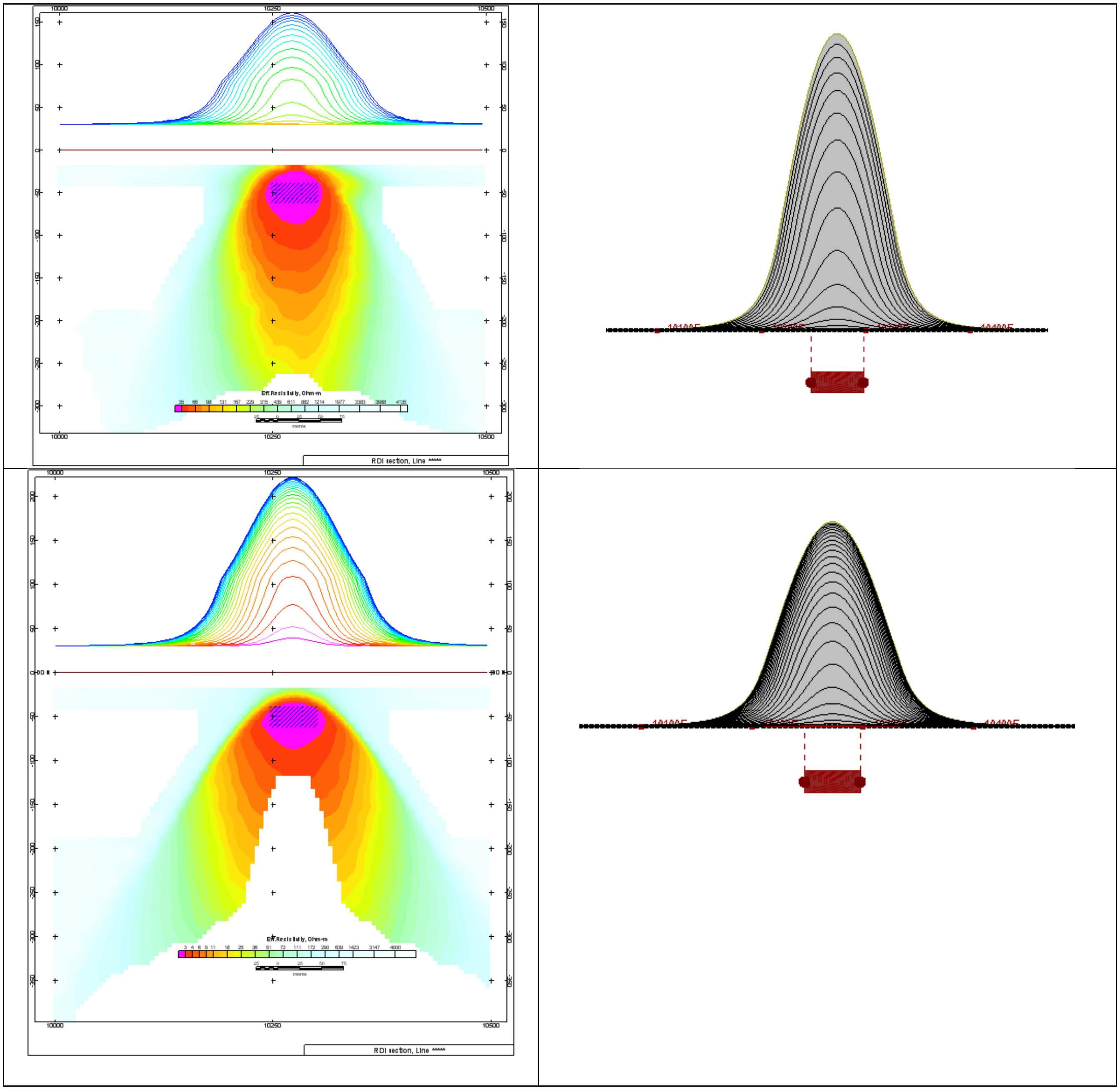


Figure F-6: Maxwell plate model and RDI from the calculated response for horizontal thick (20m) plate – less conductive (on the top), more conductive (below).

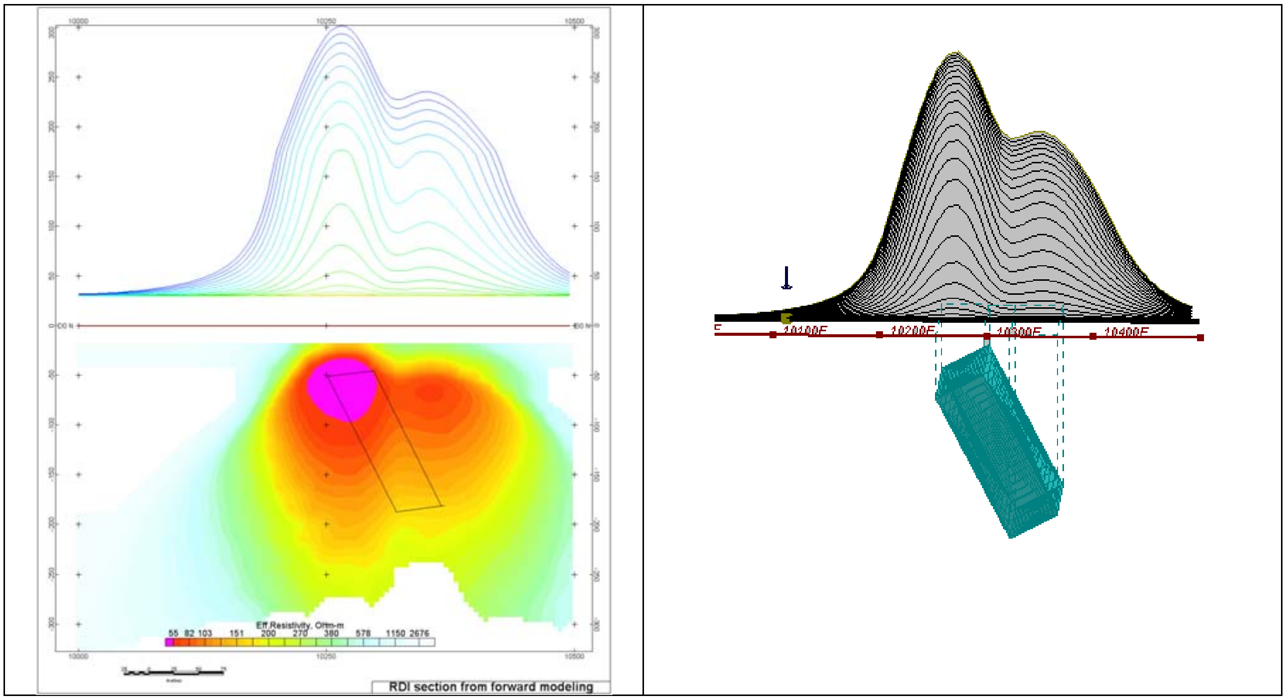


Figure F-7: Maxwell plate model and RDI from the calculated response for inclined thick (50m) plate. Depth extends 150 m, depth to the target 50 m.

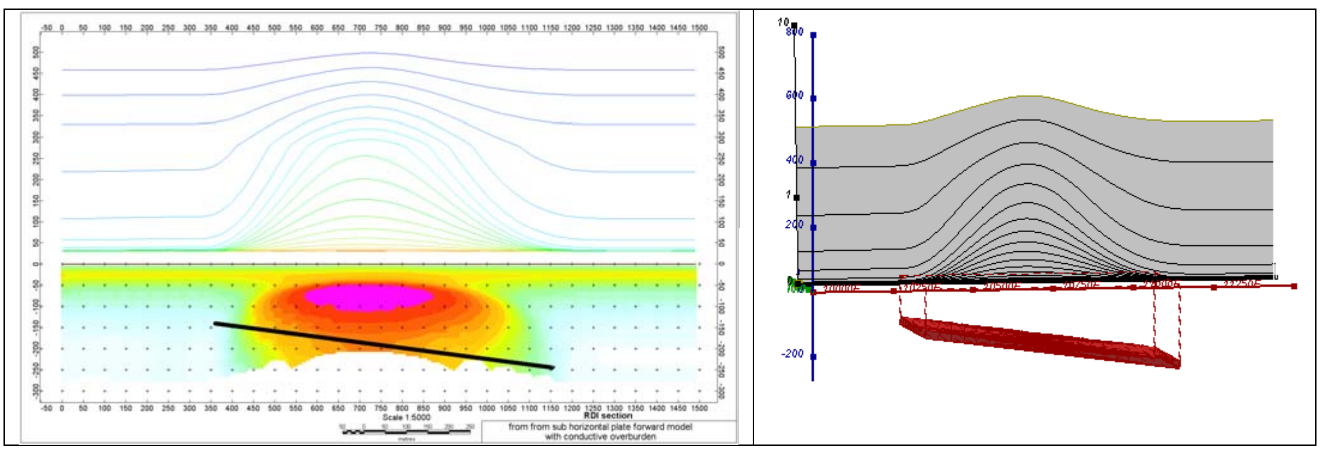


Figure F-8: Maxwell plate model and RDI from the calculated response for the long, wide and deep subhorizontal plate (depth 140 m, dim 25x500x800 m) with conductive overburden.

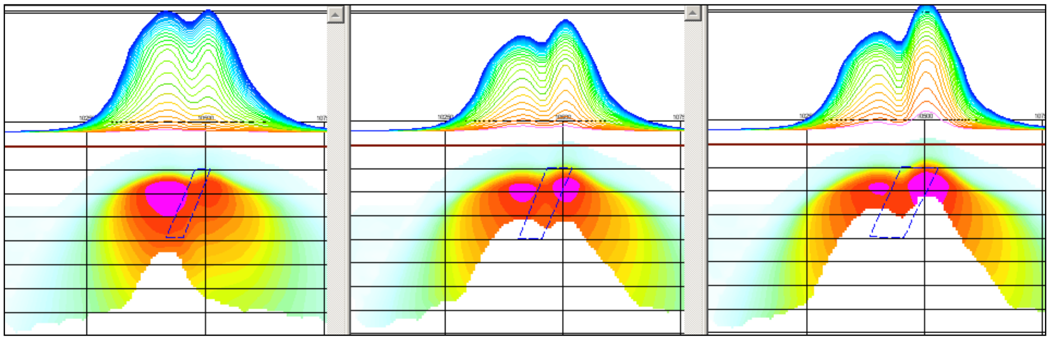


Figure F-9: Maxwell plate models and RDIs from the calculated response for "thick" dipping plates (35, 50, 75 m thickness), depth 50 m, conductivity 2.5 S/m.

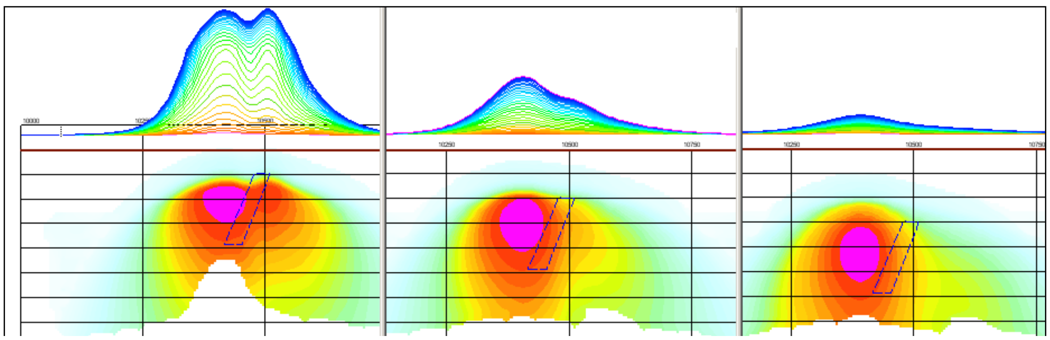


Figure F-10: Maxwell plate models and RDIs from the calculated response for "thick" (35 m thickness) dipping plate on different depth (50, 100, 150 m), conductivity 2.5 S/m.

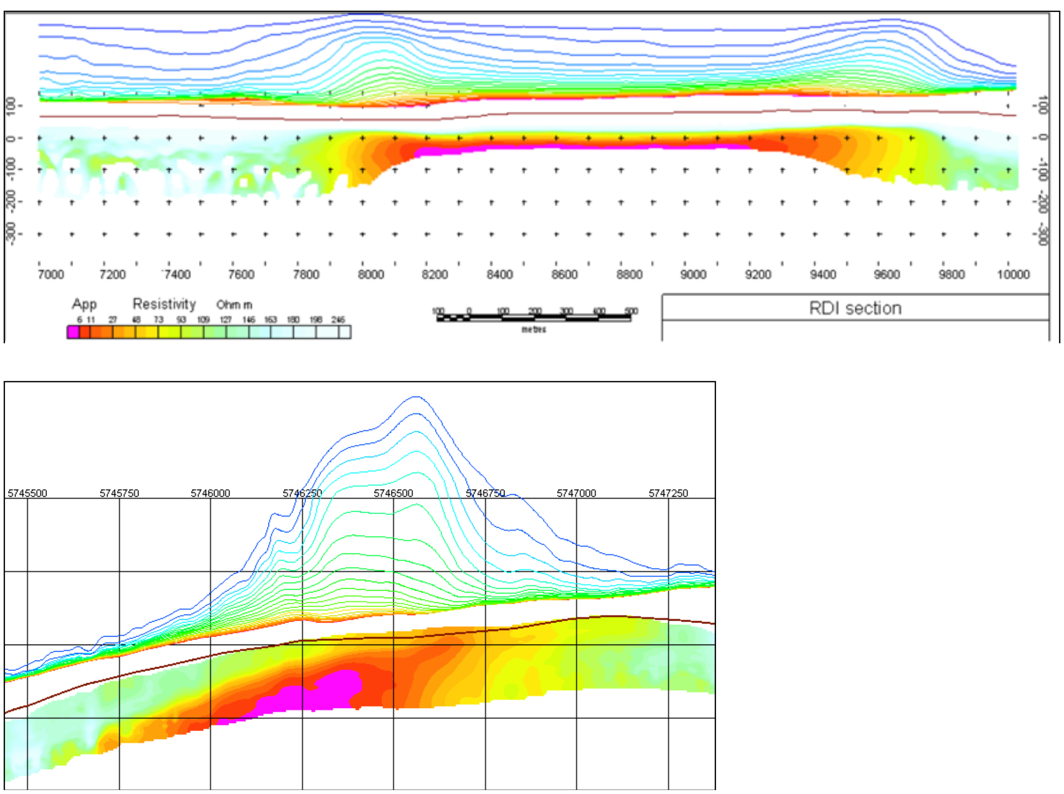
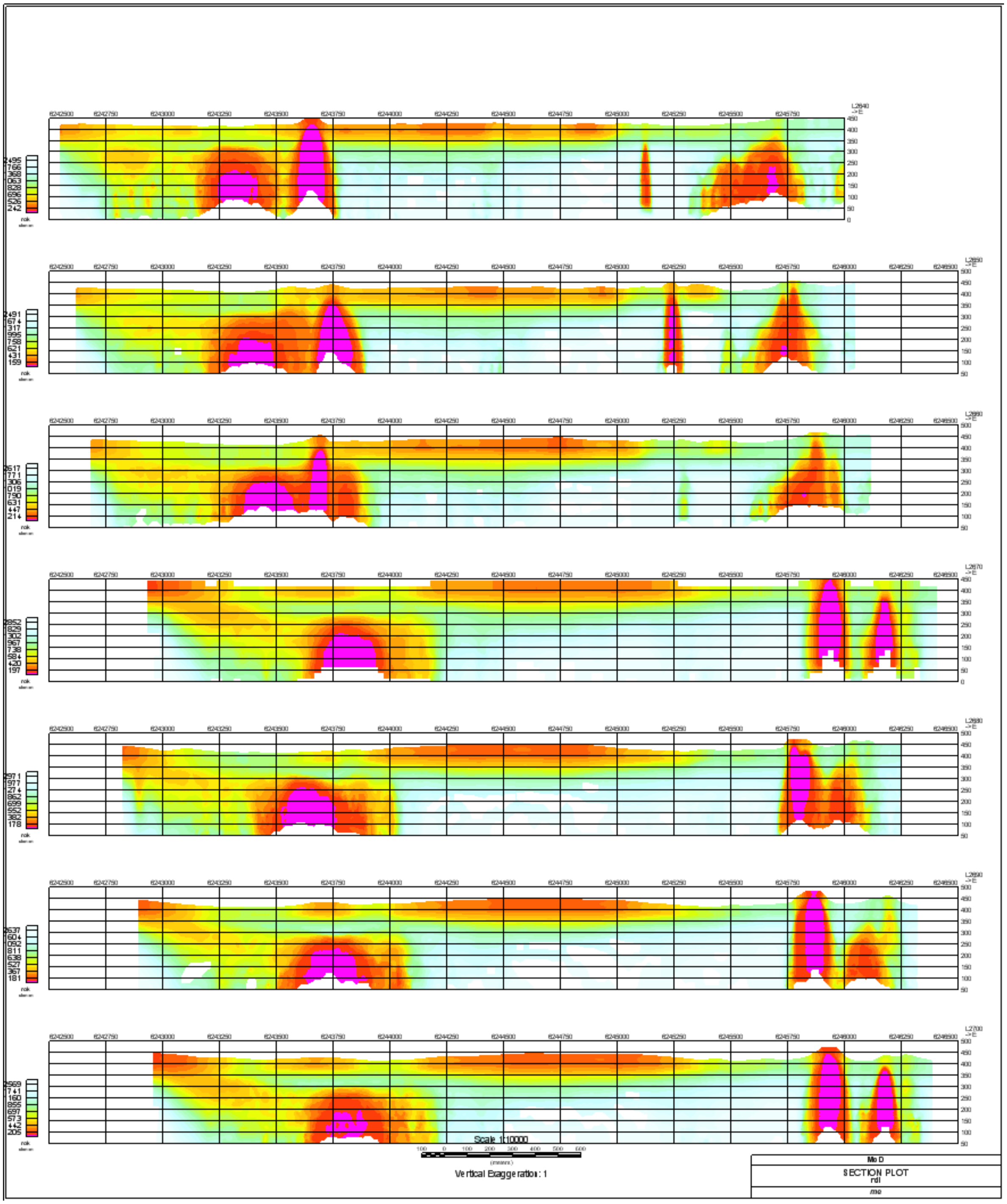


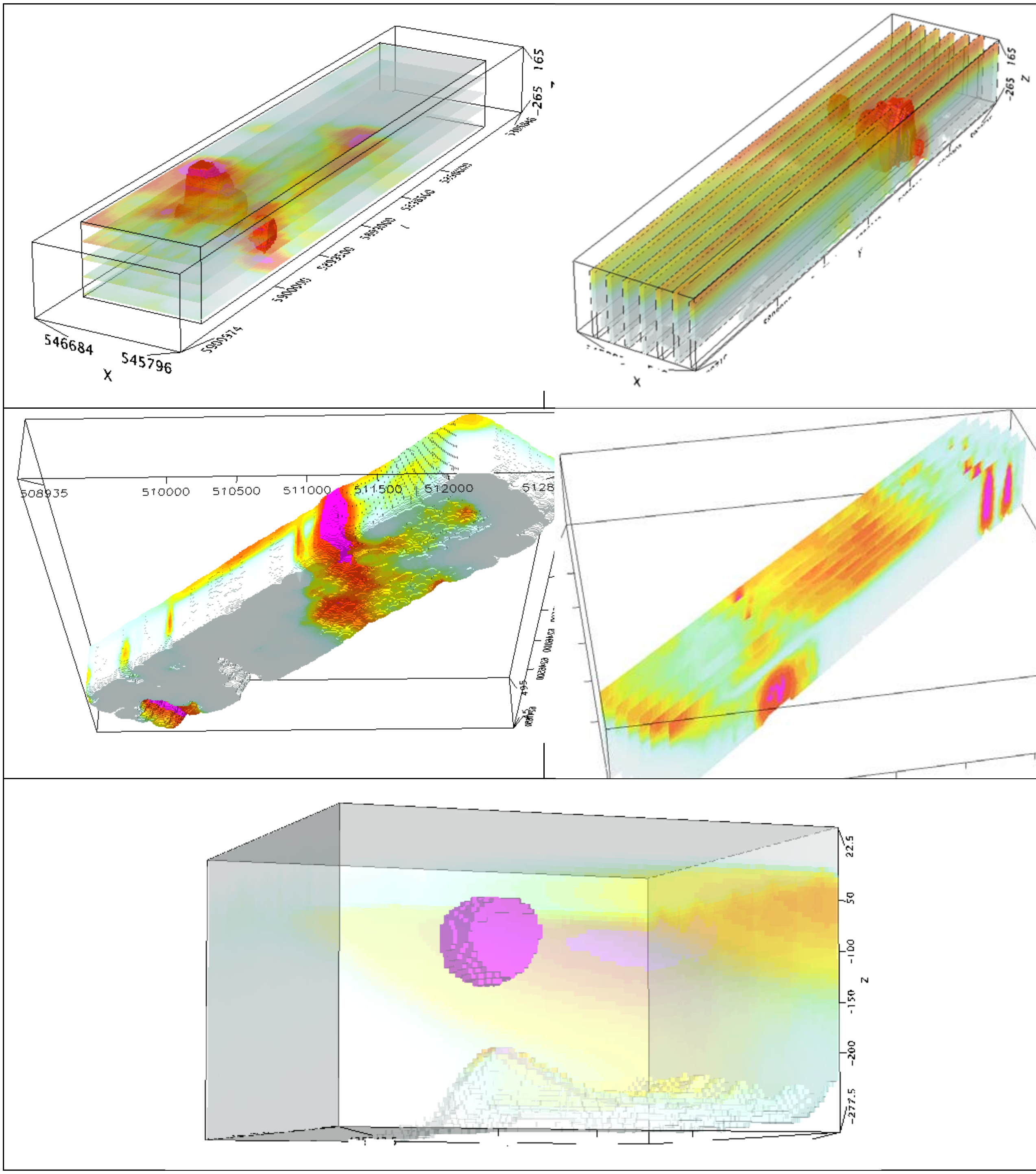
Figure F-11: RDI section for the real horizontal and slightly dipping conductive layers

FORMS OF RDI PRESENTATION

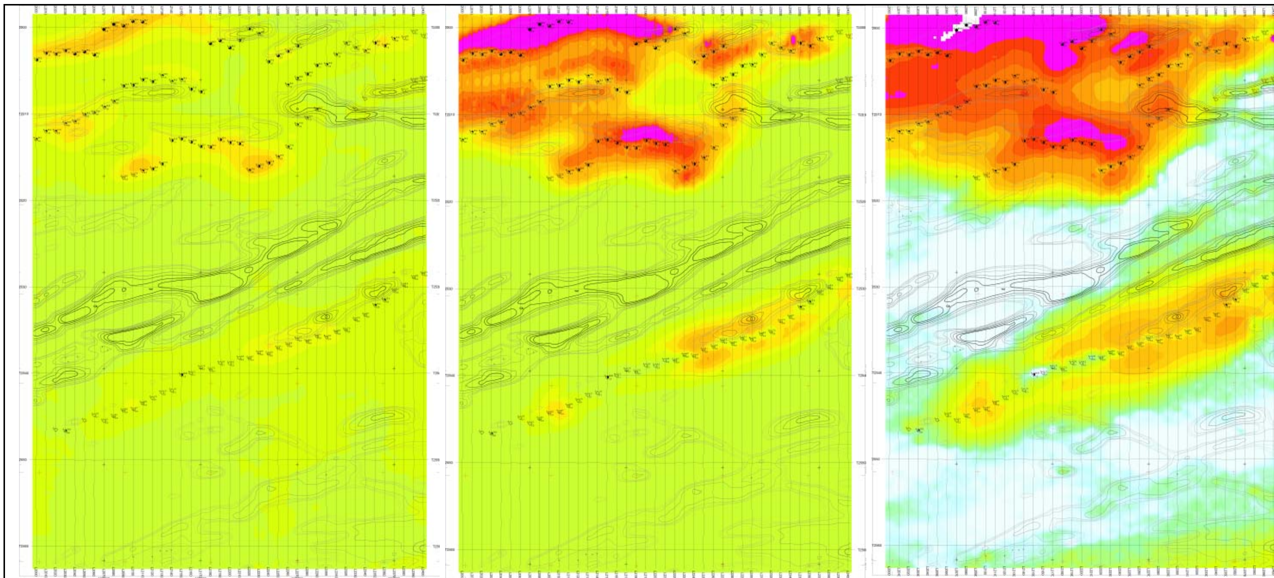
PRESENTATION OF SERIES OF LINES



3D PRESENTATION OF RDIS

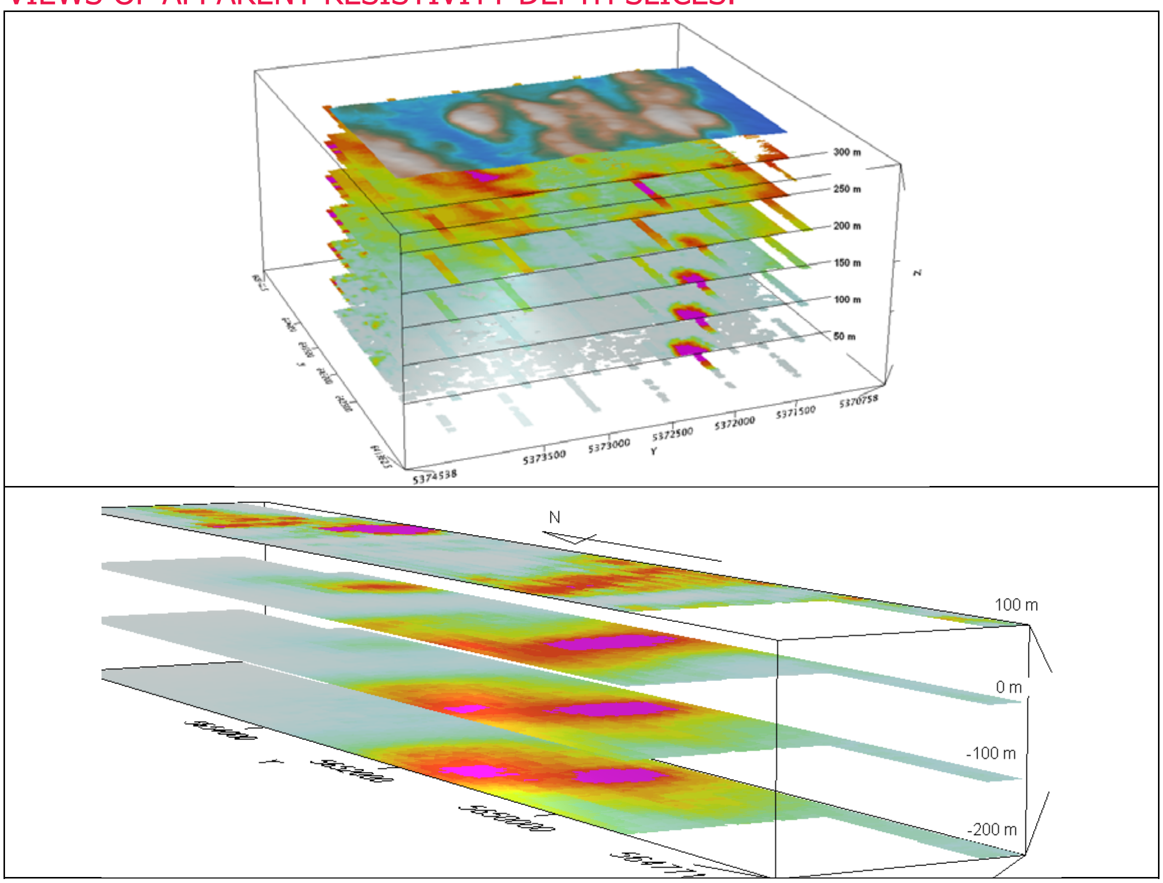


APPARENT RESISTIVITY DEPTH SLICES PLANS:



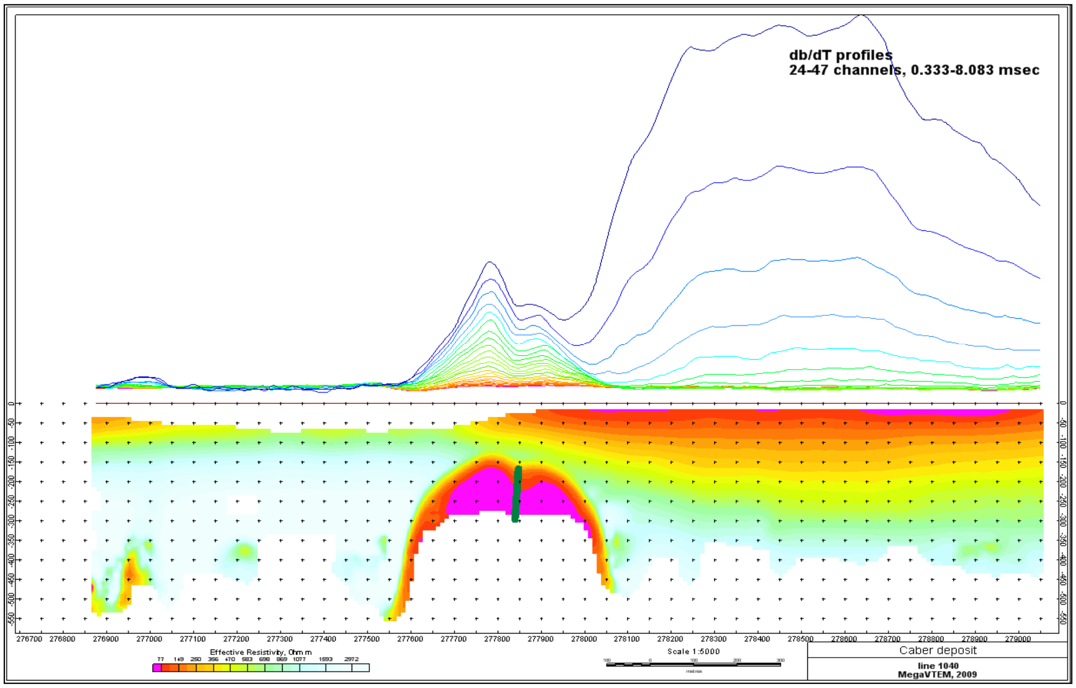
0 m (surface)	-100 m	-200 m

3D VIEWS OF APPARENT RESISTIVITY DEPTH SLICES:

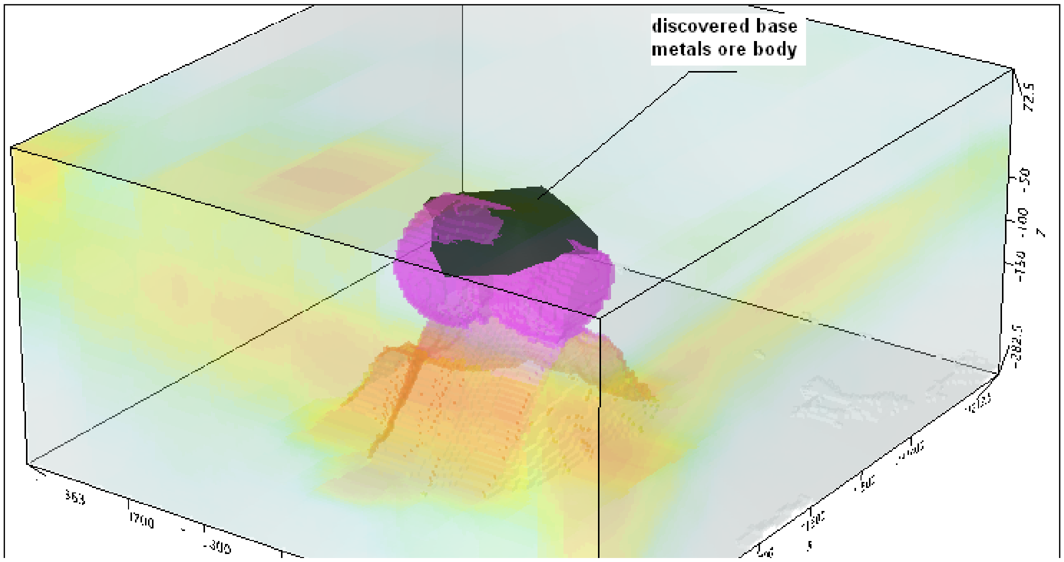


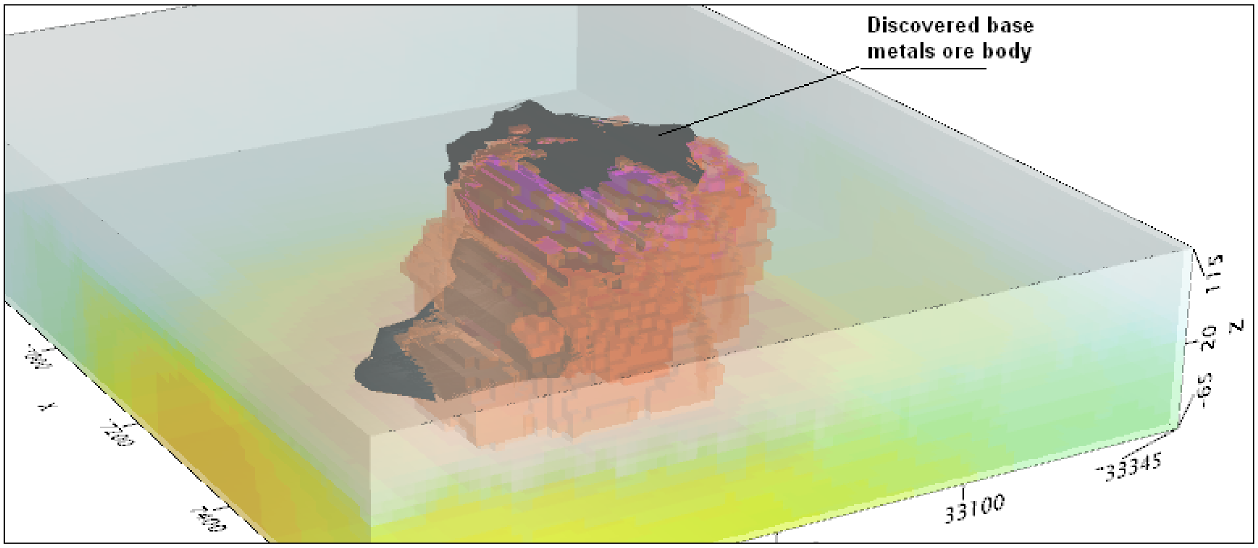
REAL BASE METAL TARGETS IN COMPARISON WITH RDIS:

RDI section of the line over Caber deposit ("thin" subvertical plate target and conductive overburden.



3D RDI VOXELS WITH BASE METALS ORE BODIES (MIDDLE EAST):





Alexander Prikhodko, PhD, P.Geo
Geotech Ltd.
April 2011

APPENDIX G
RESISTIVITY DEPTH IMAGES (RDI)

Please see attached DVD for the PDF.

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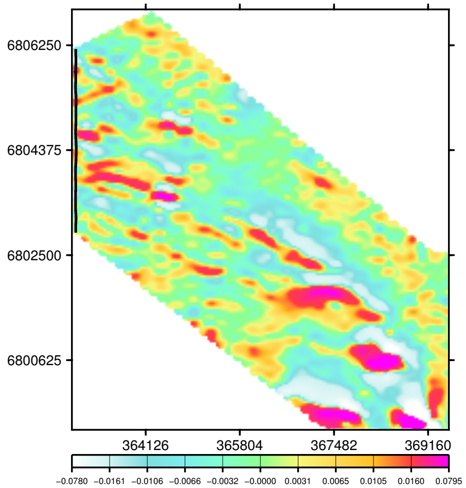
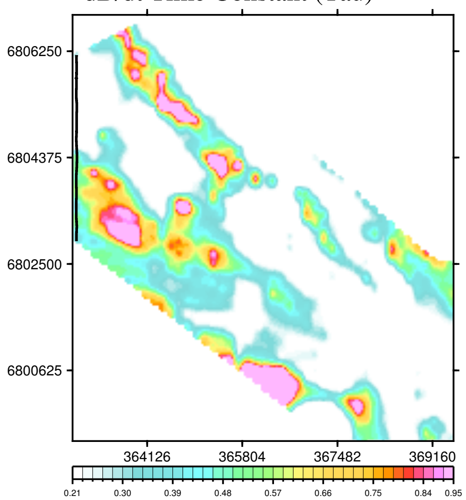
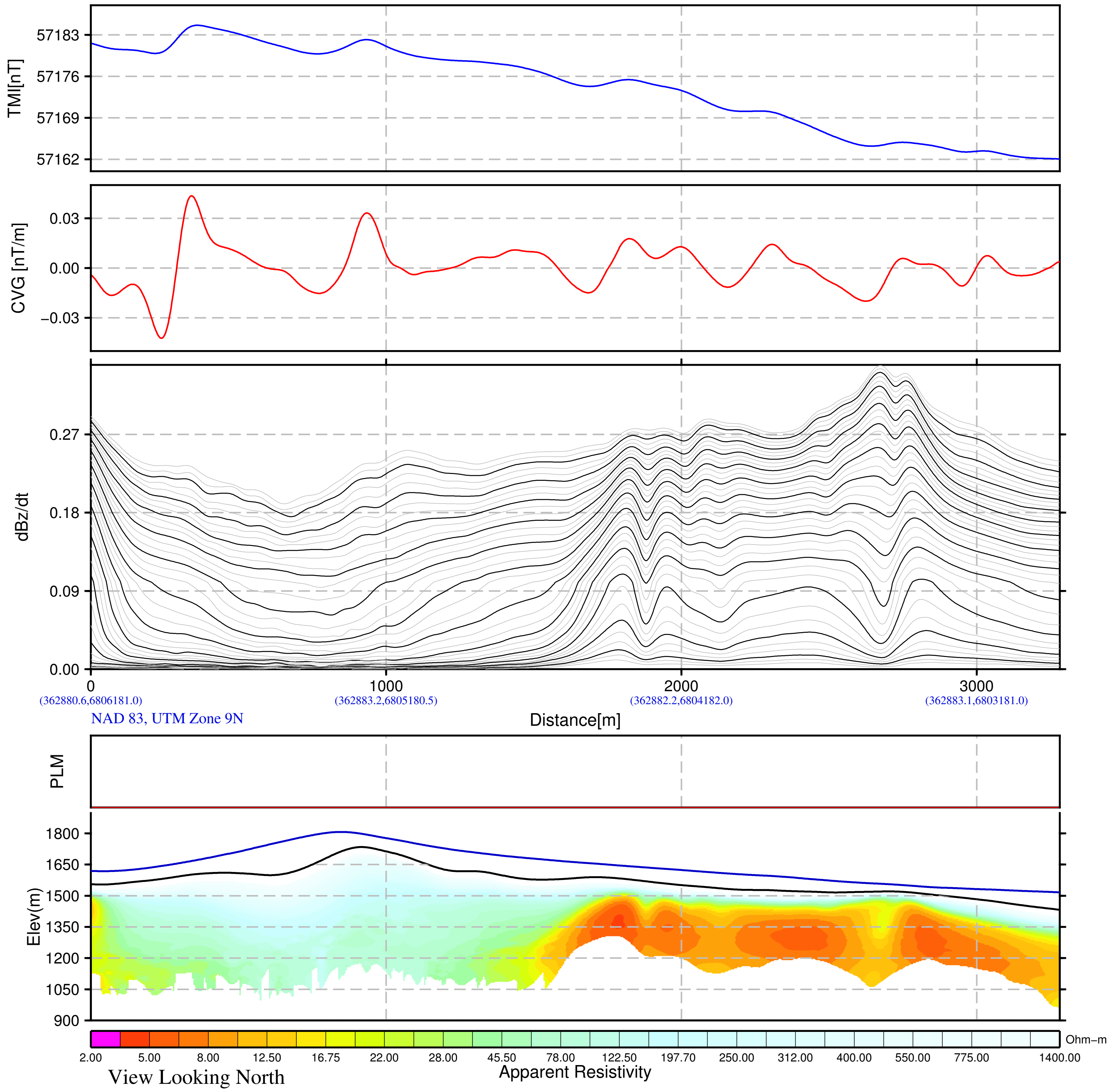
Resistivity Depth Image (RDI) for Line 6000

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Resistivity Depth Image (RDI) for Line 6010

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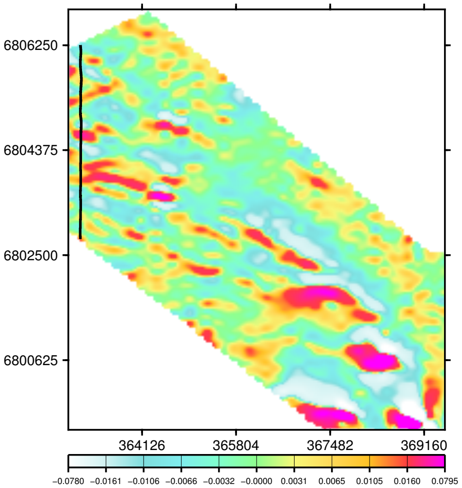
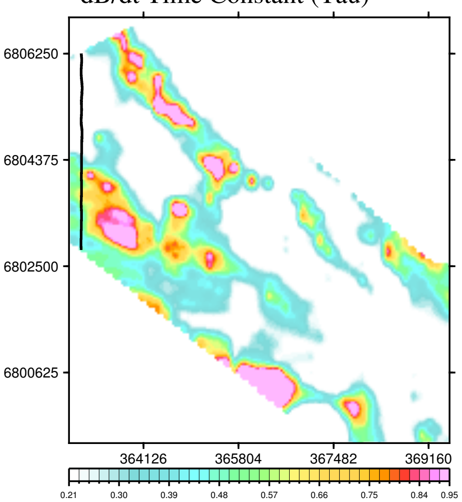
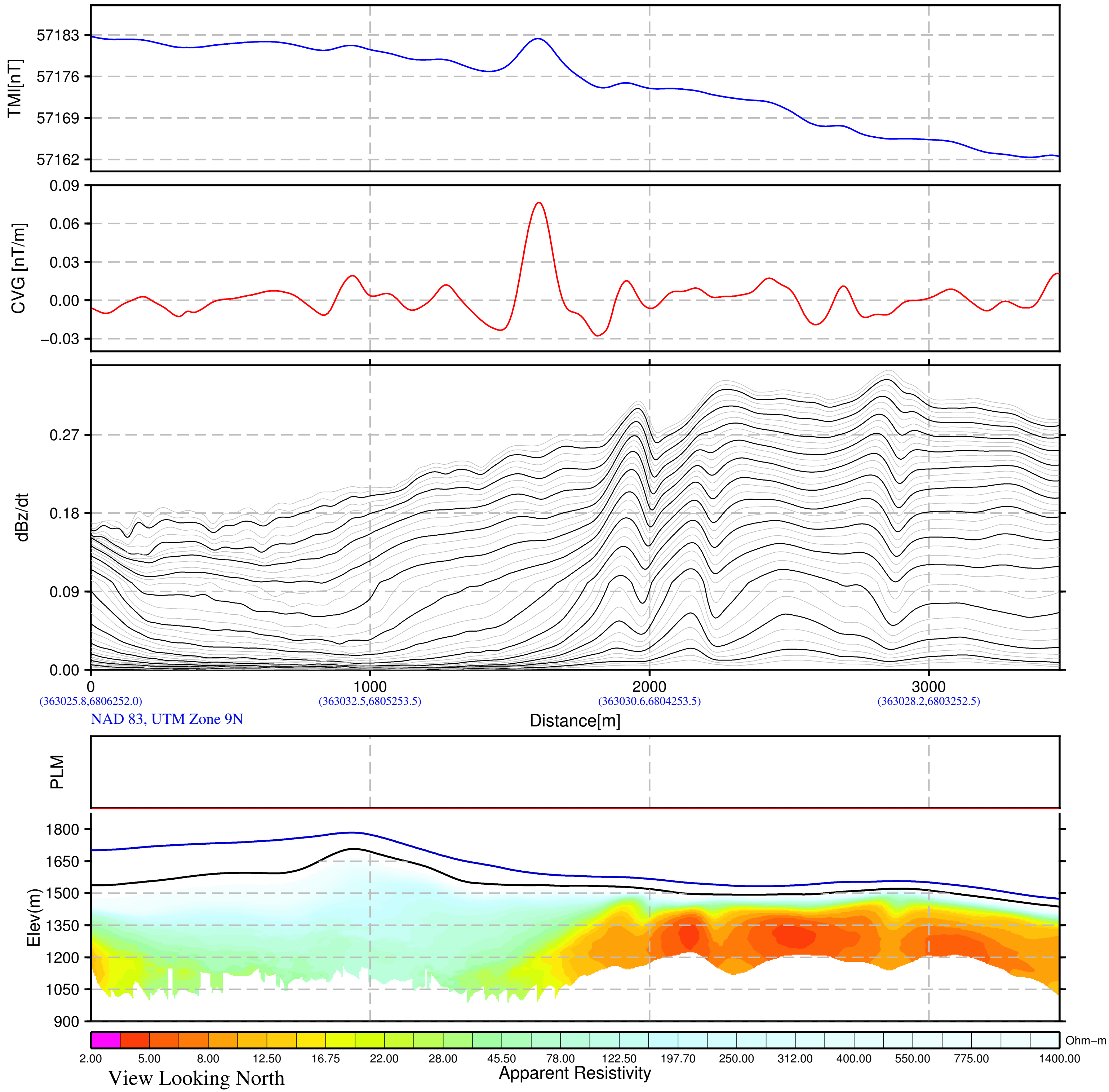
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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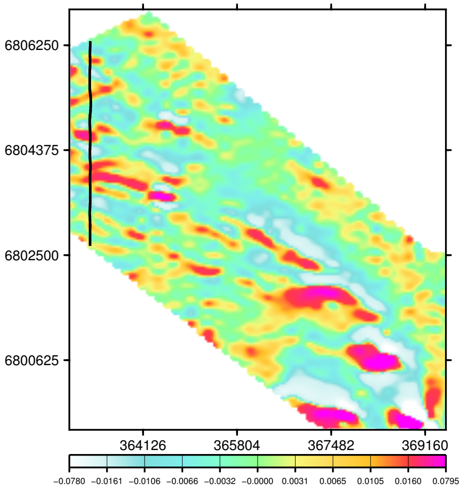
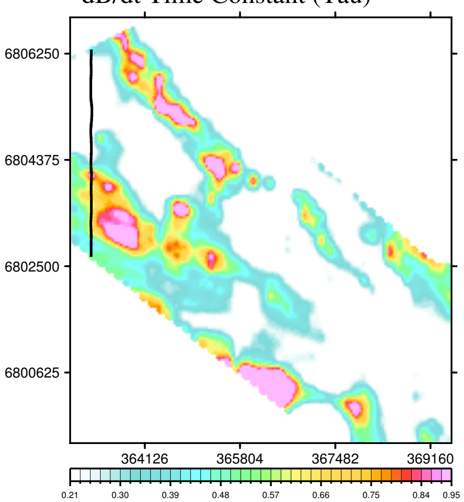
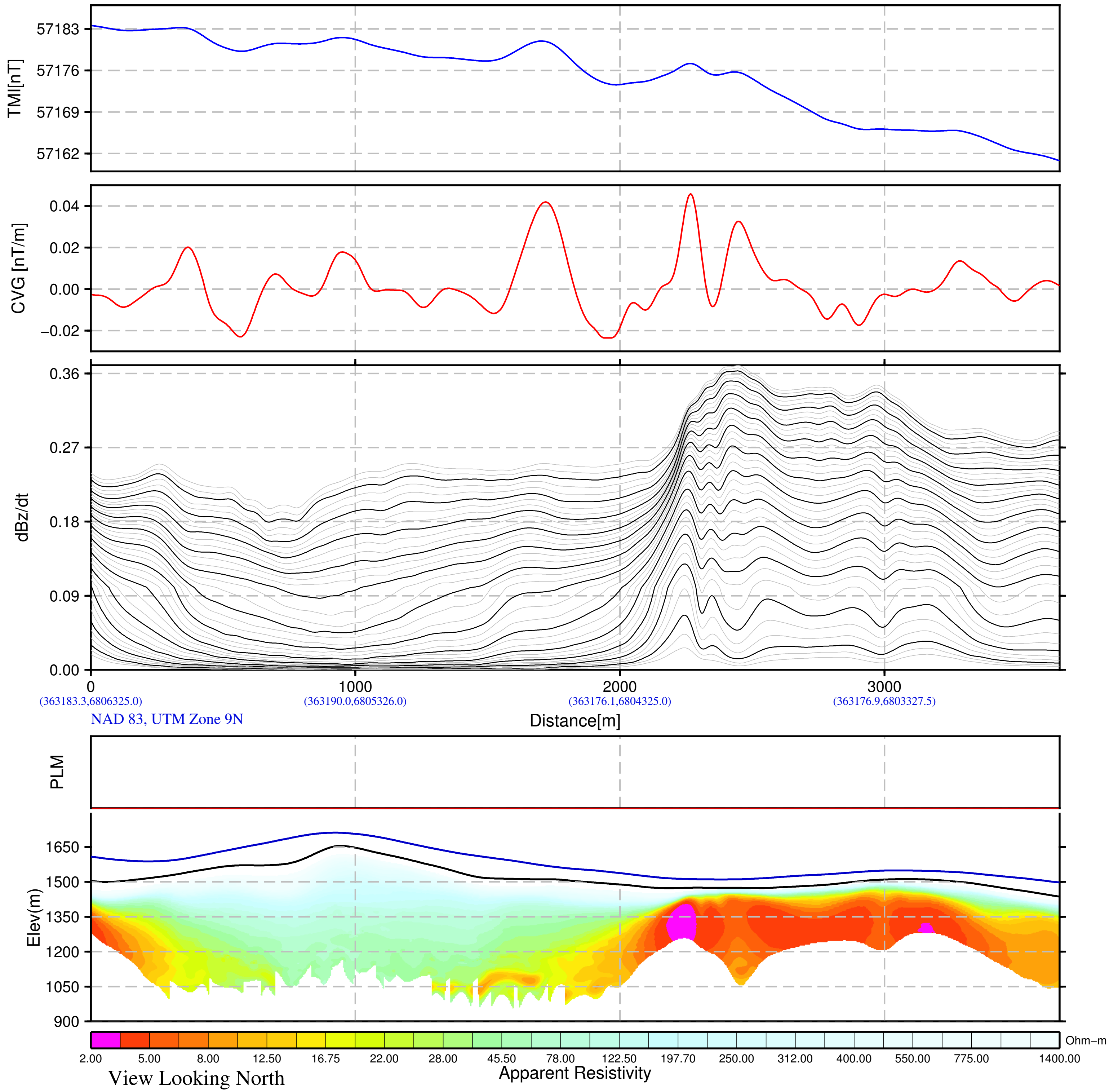
Resistivity Depth Image (RDI) for Line 6020

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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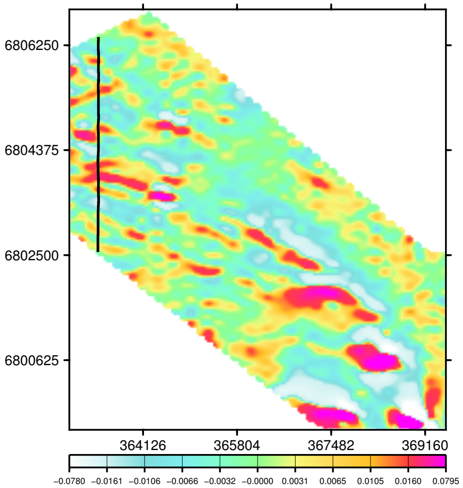
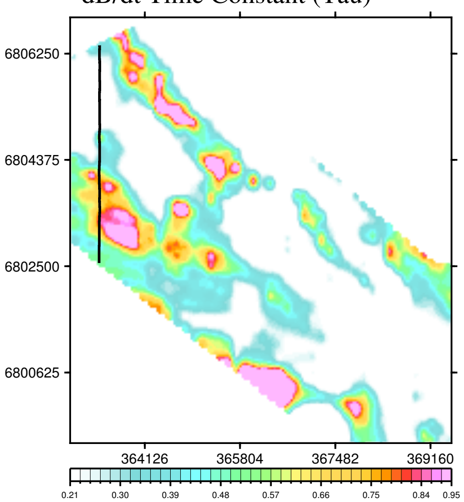
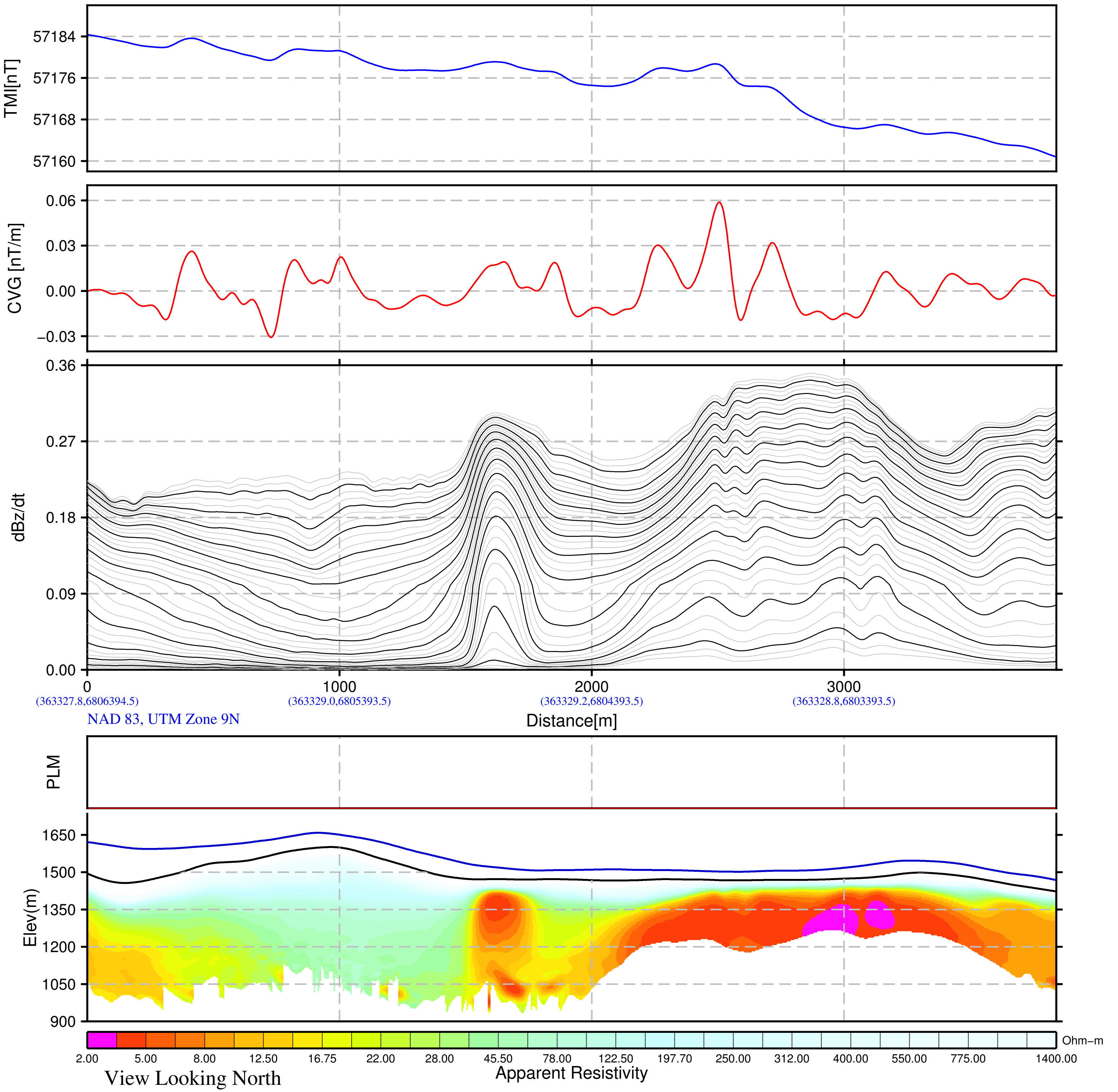
Resistivity Depth Image (RDI) for Line 6030

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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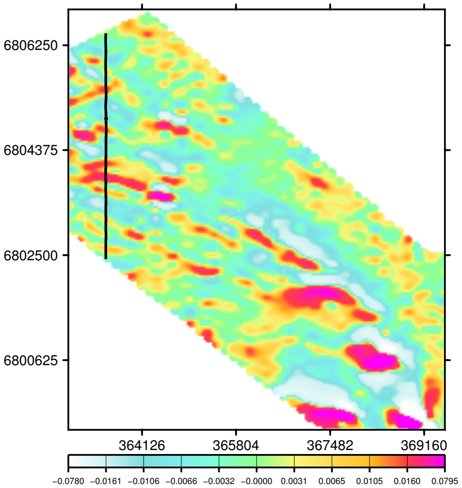
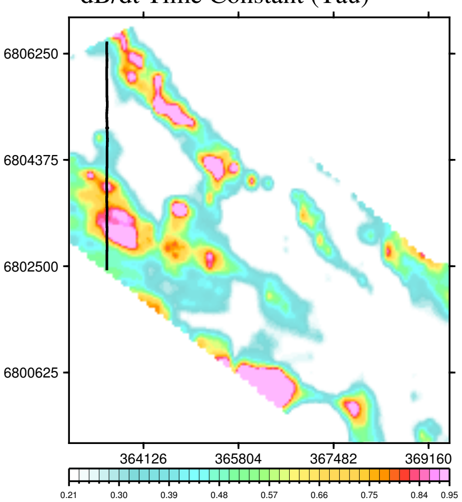
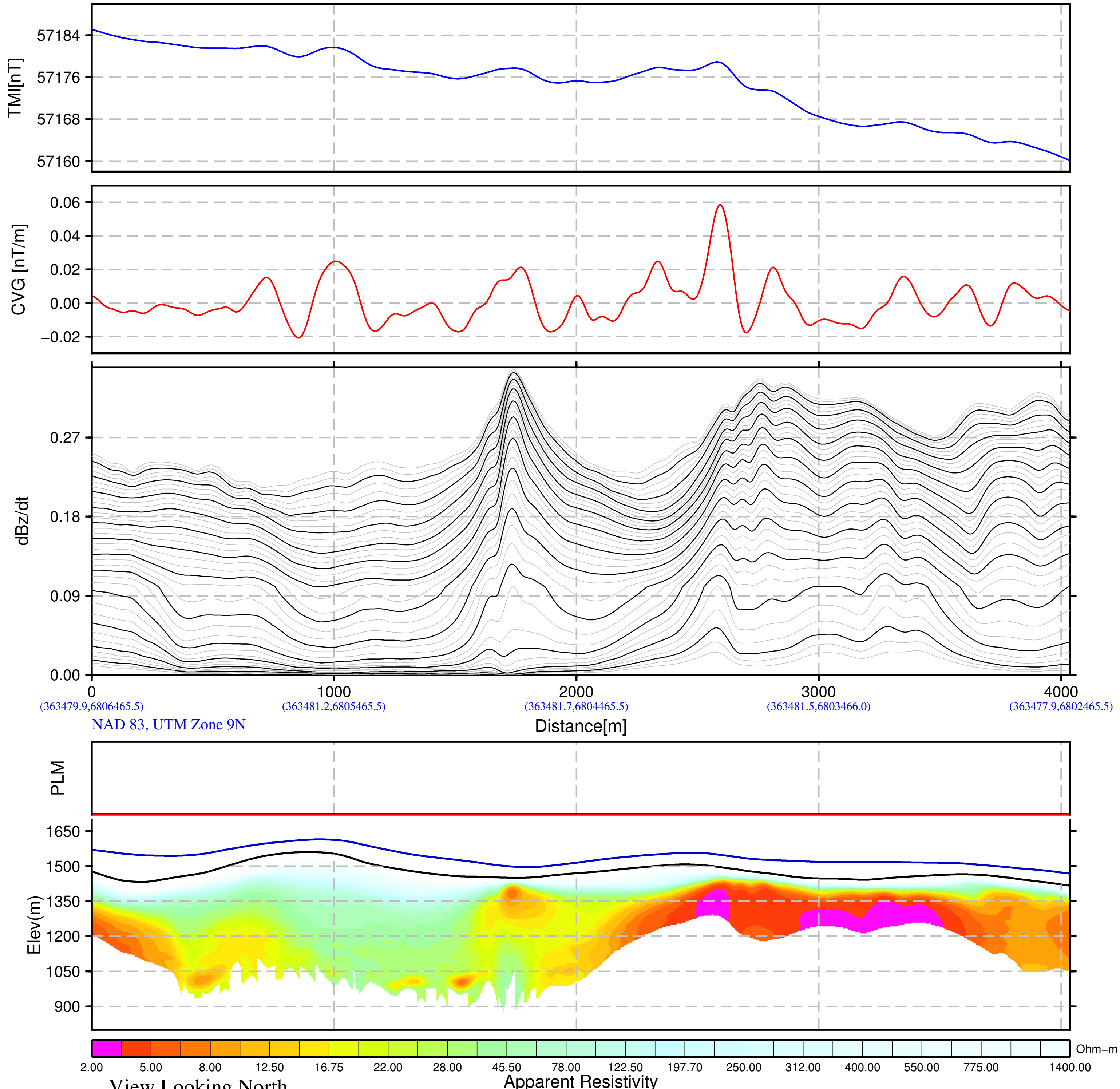
Resistivity Depth Image (RDI) for Line 6040

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Resistivity Depth Image (RDI) for Line 6050

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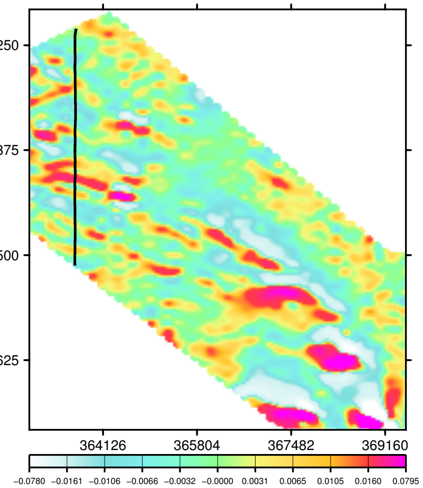
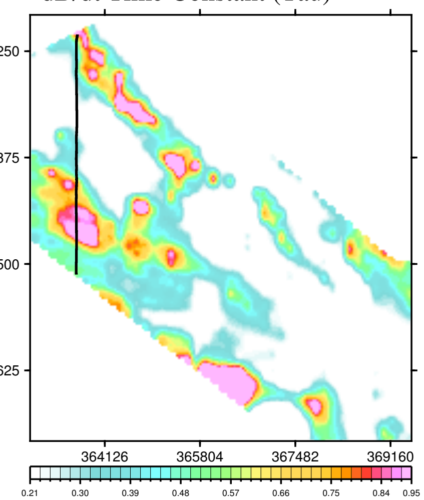
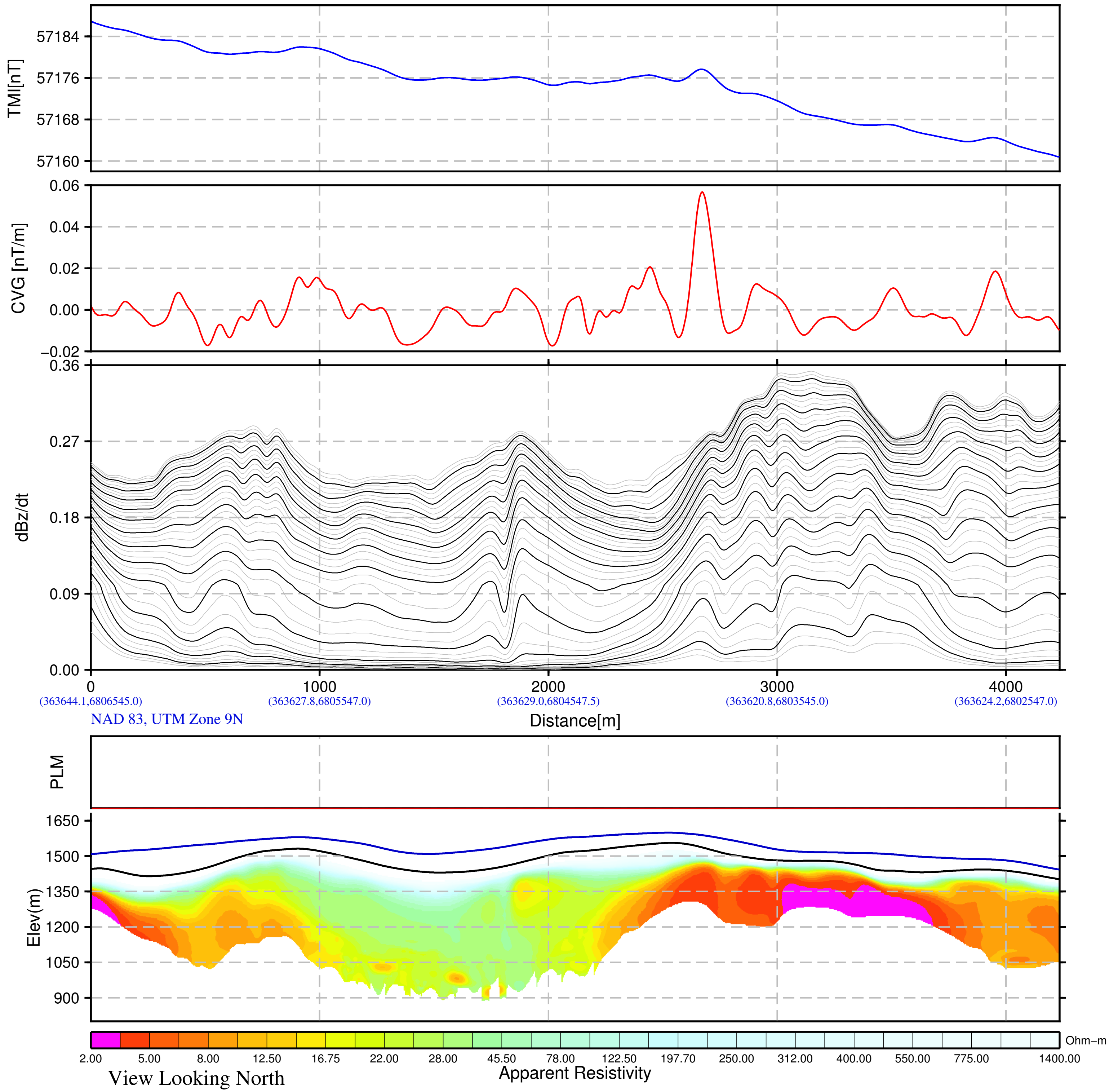
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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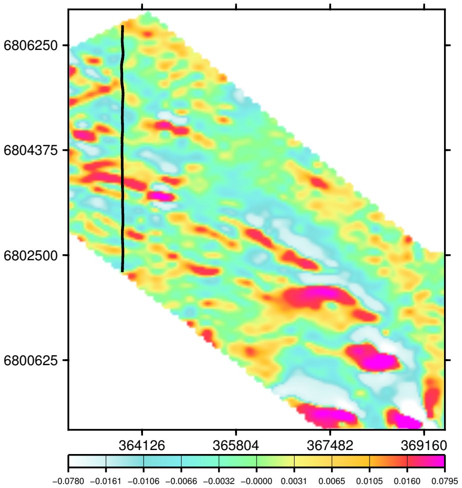
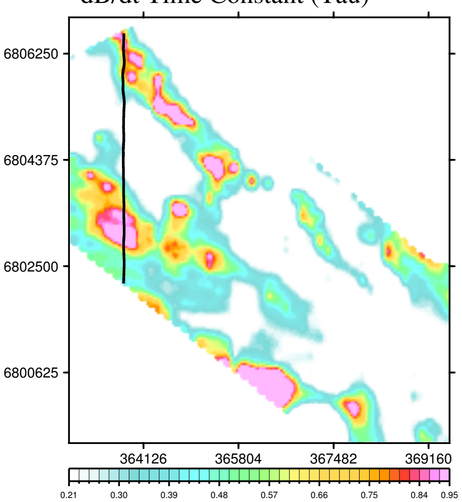
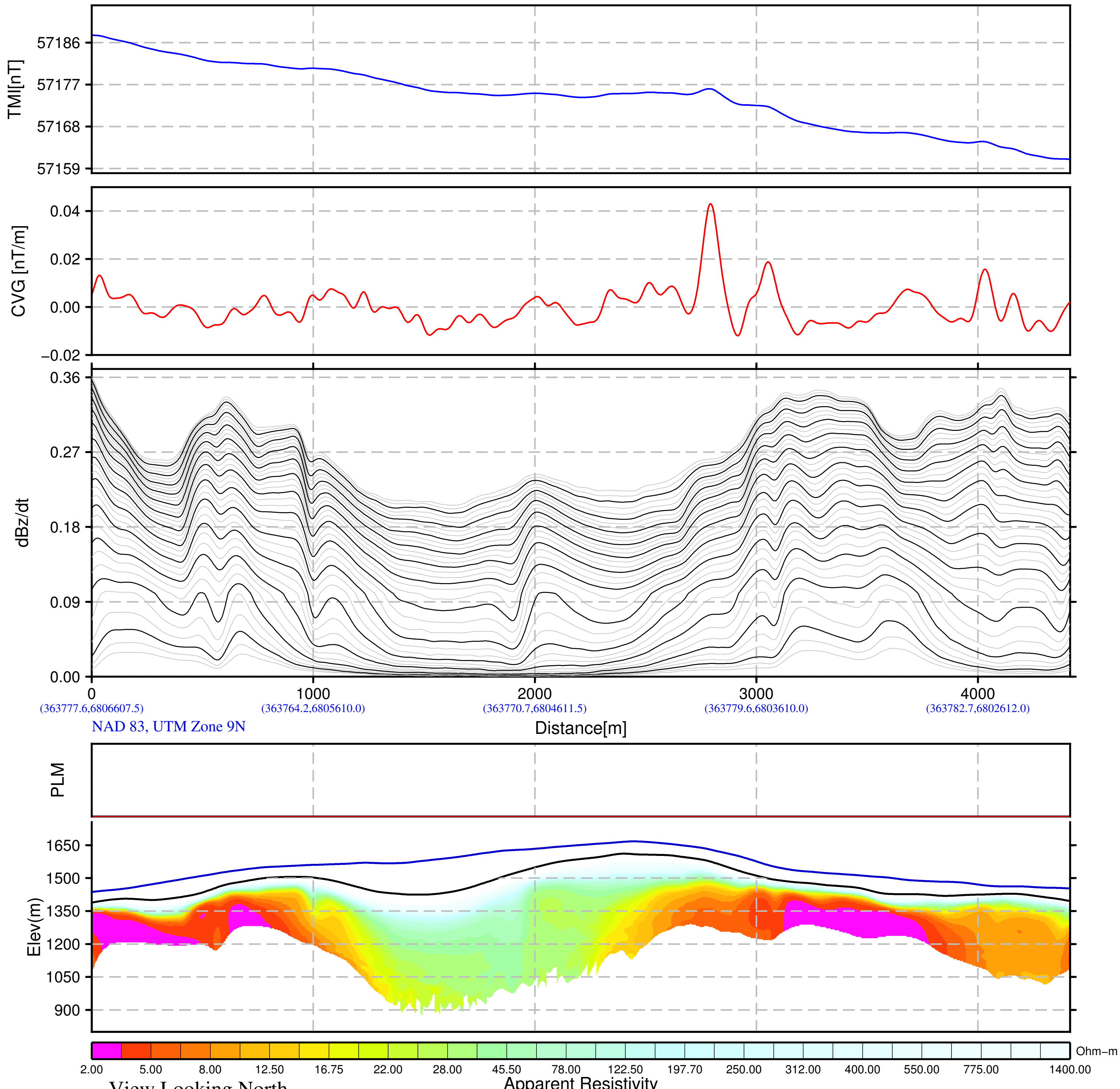
Resistivity Depth Image (RDI) for Line 6065

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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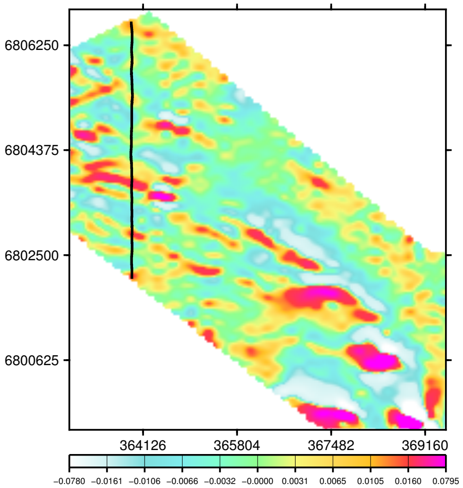
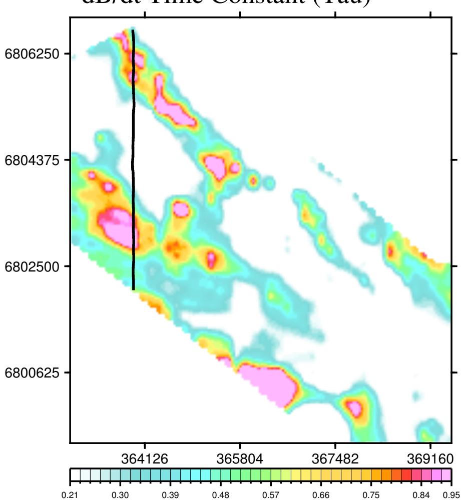
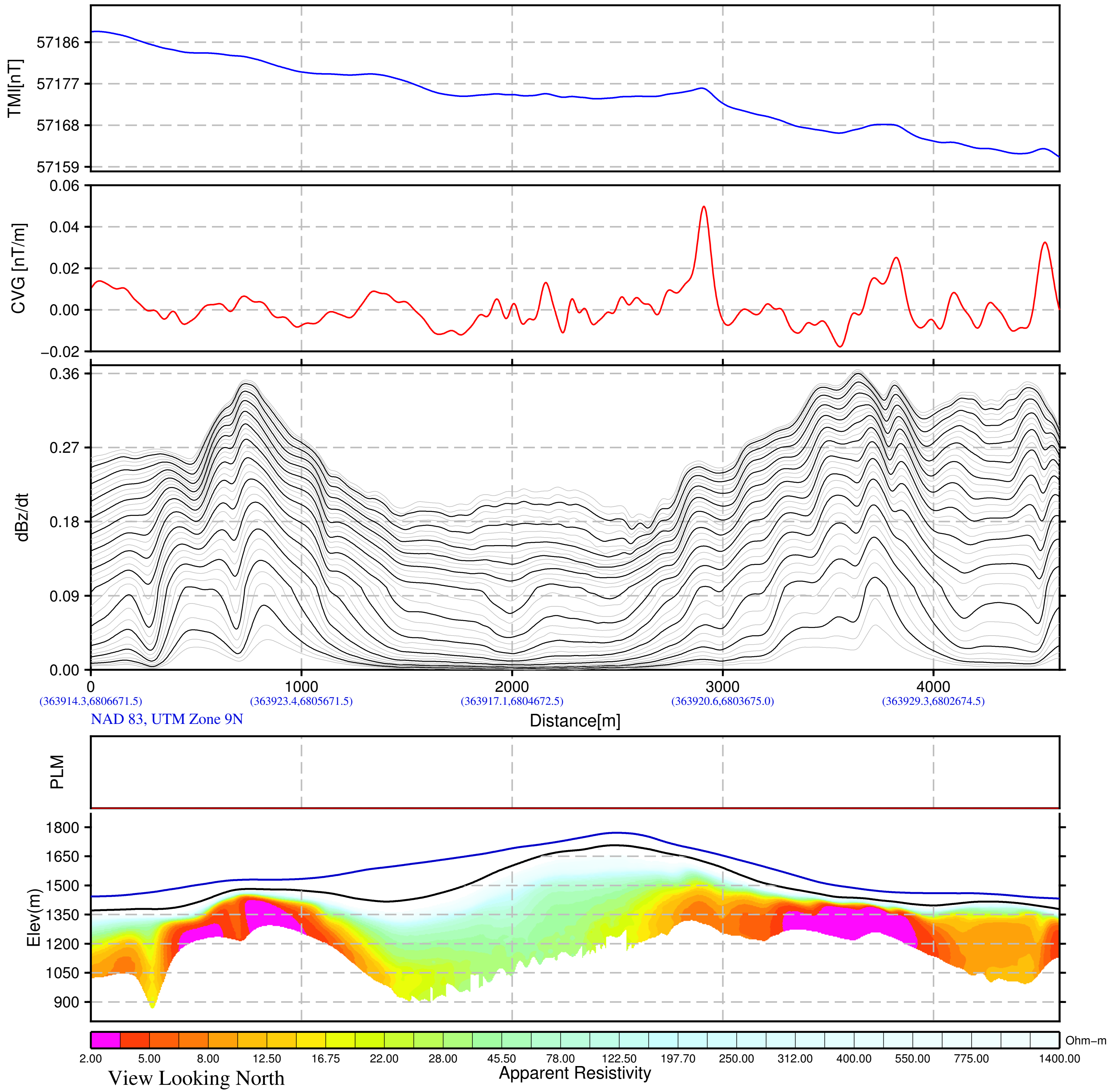
Resistivity Depth Image (RDI) for Line 6070

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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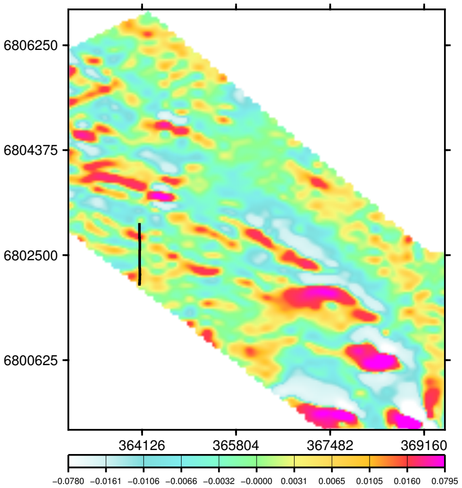
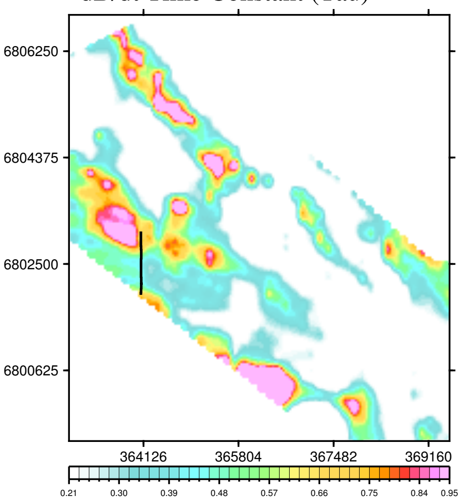
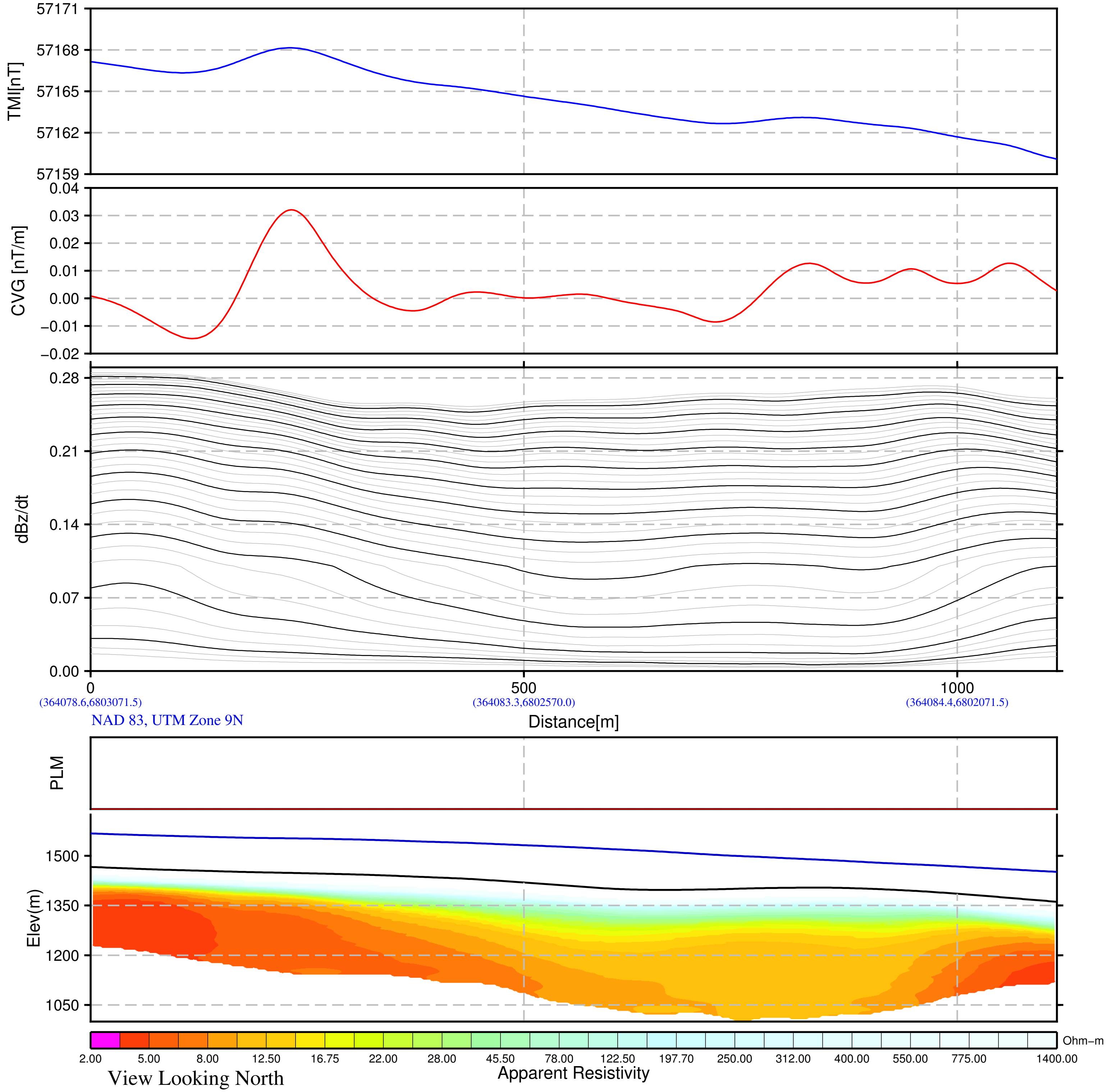
Resistivity Depth Image (RDI) for Line 6085

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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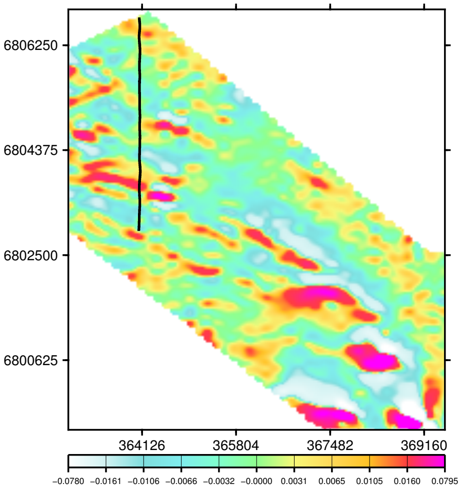
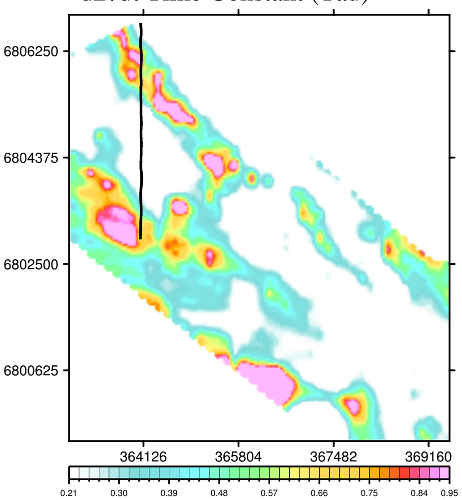
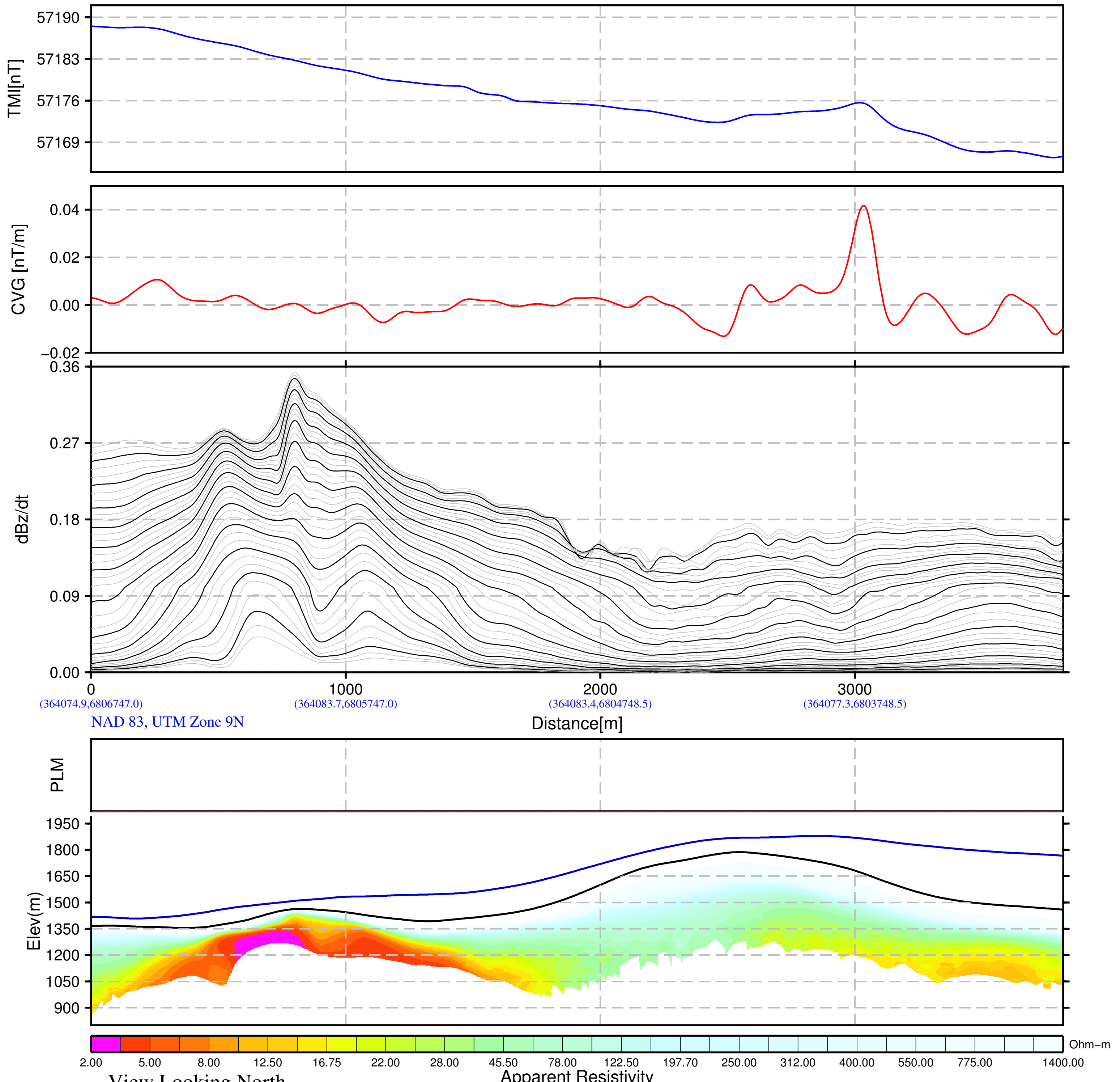
Resistivity Depth Image (RDI) for Line 6086

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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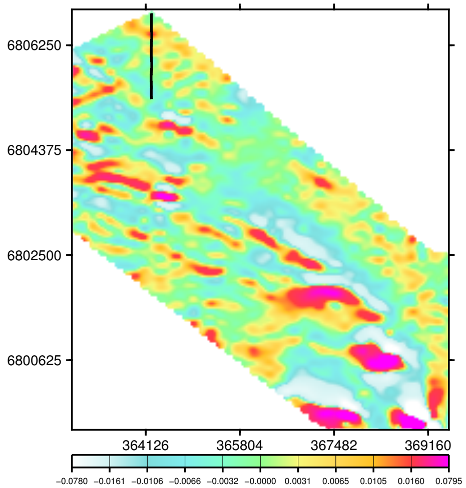
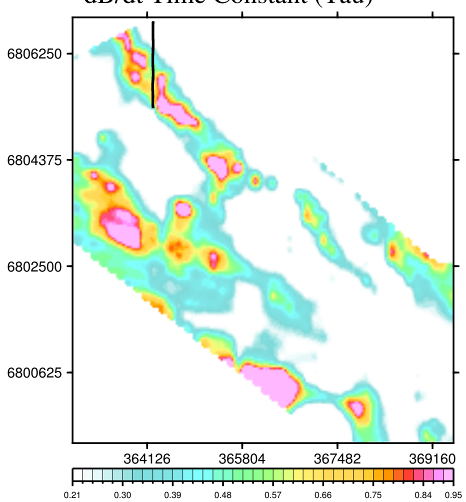
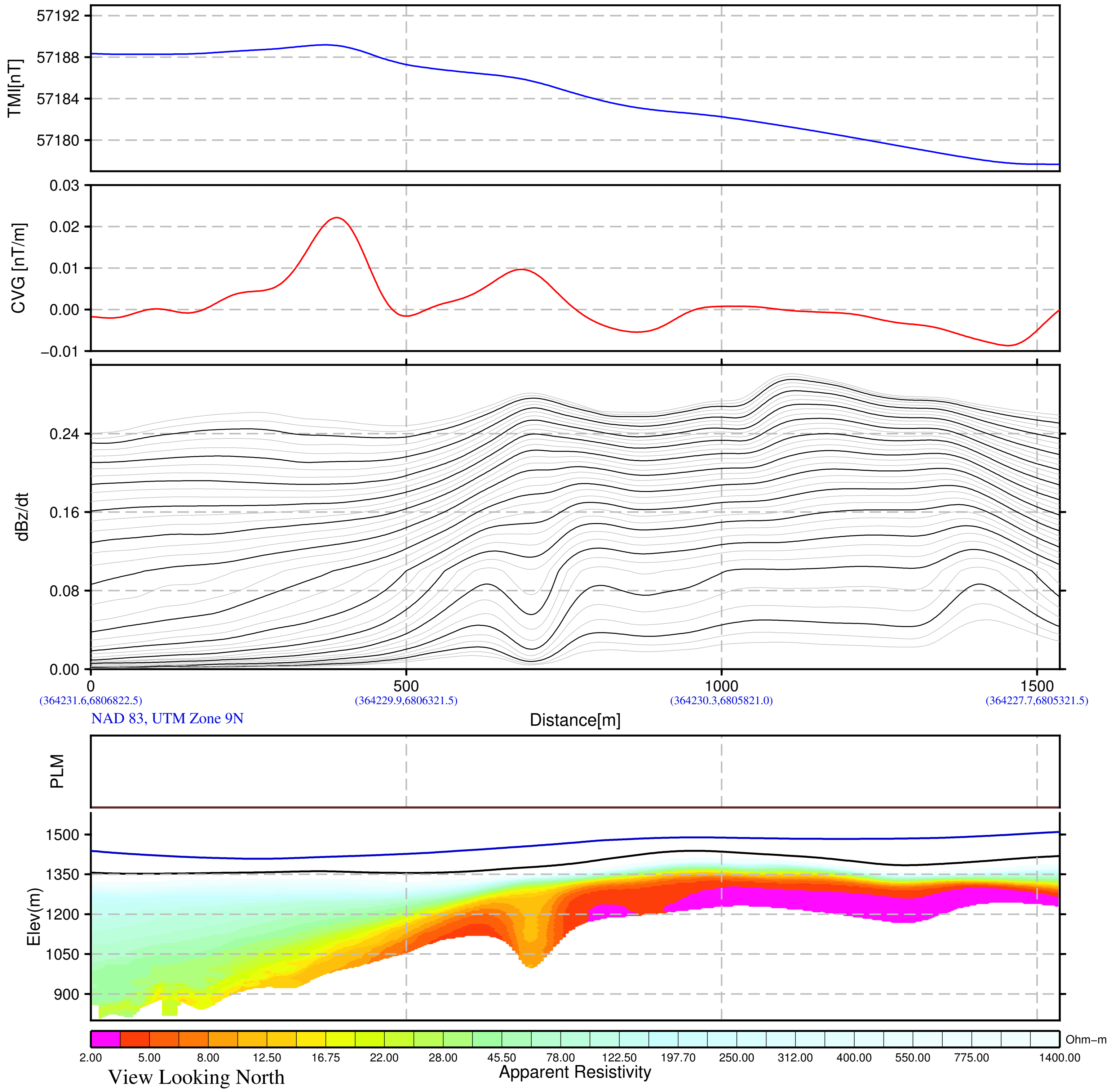
Resistivity Depth Image (RDI) for Line 6095

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

VTEM System:VTEM31−Plus
Job Number:GL160037
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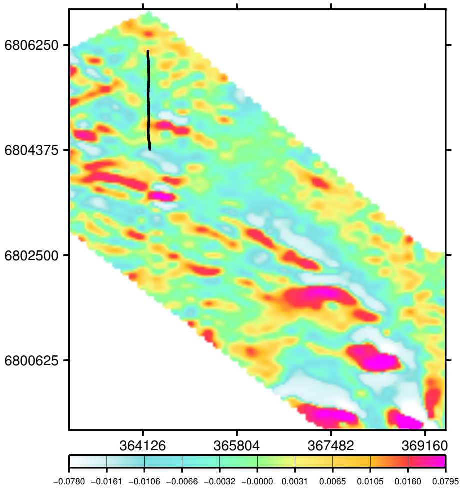
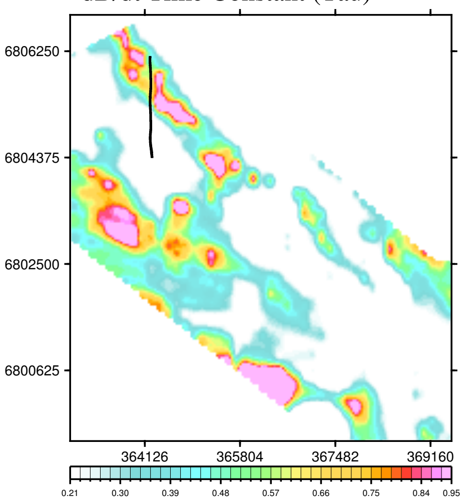
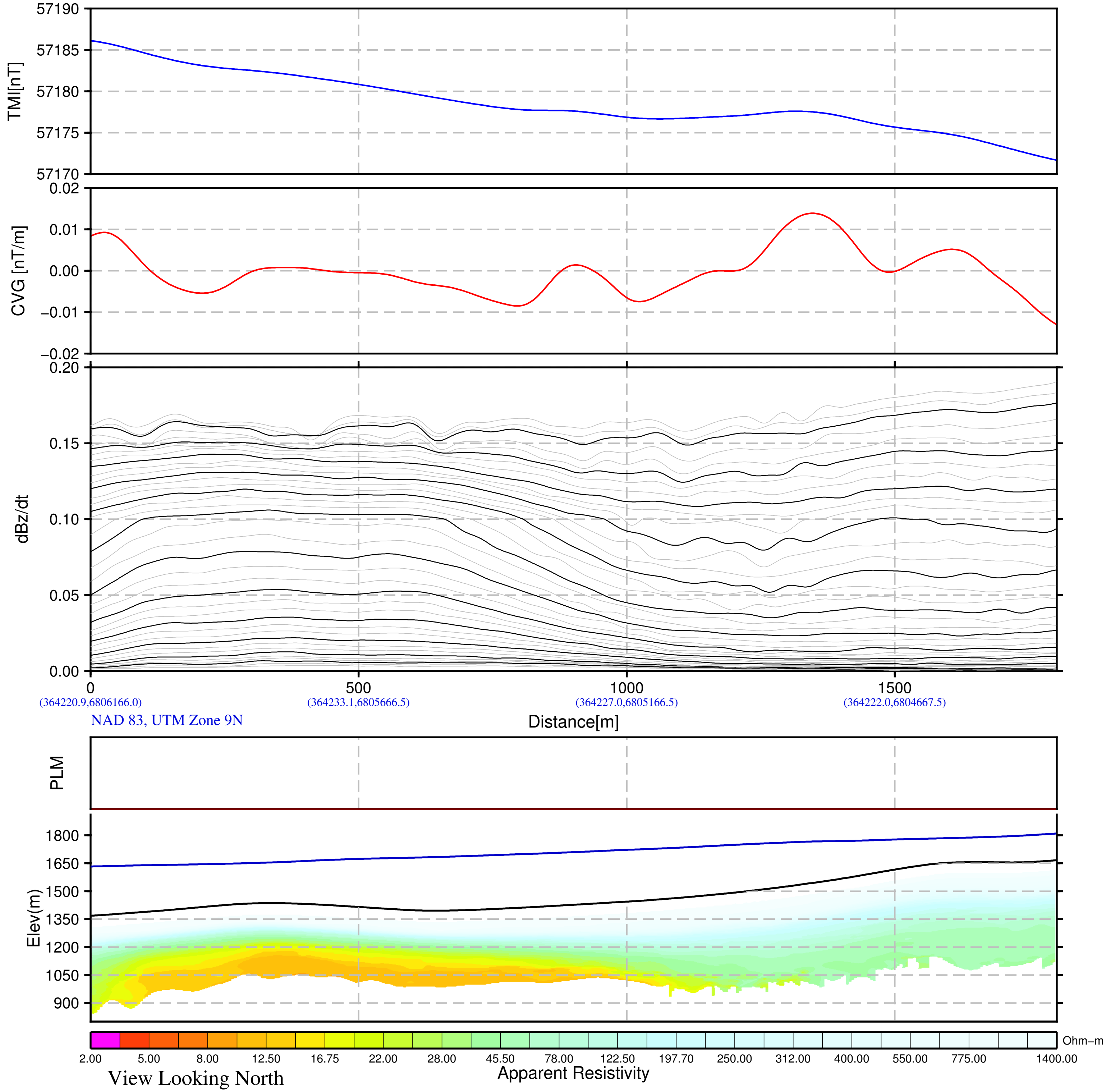
Resistivity Depth Image (RDI) for Line 6096

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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Resistivity Depth Image (RDI) for Line 6097

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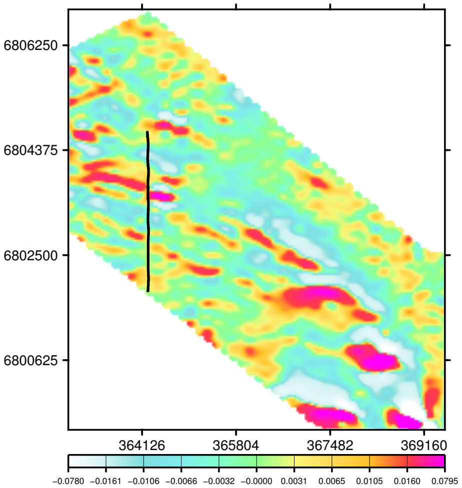
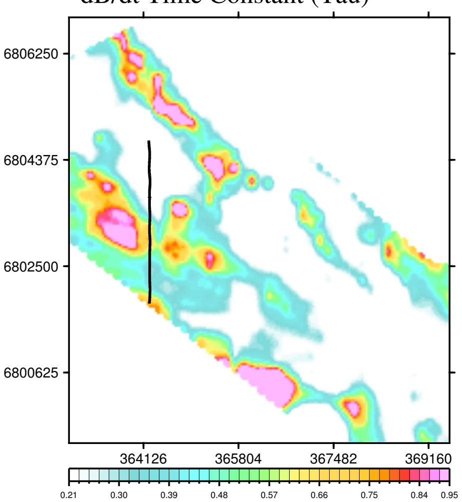
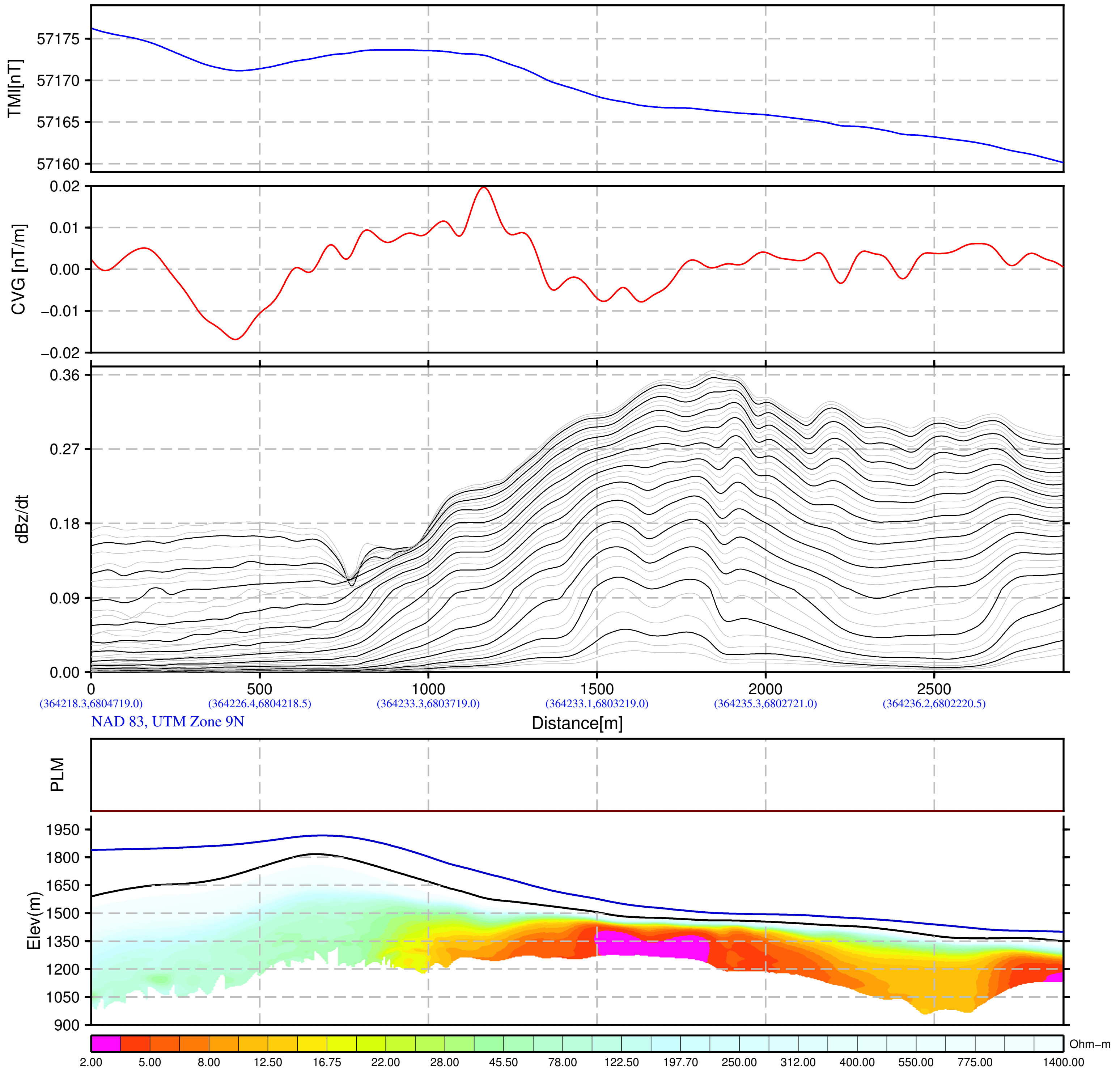
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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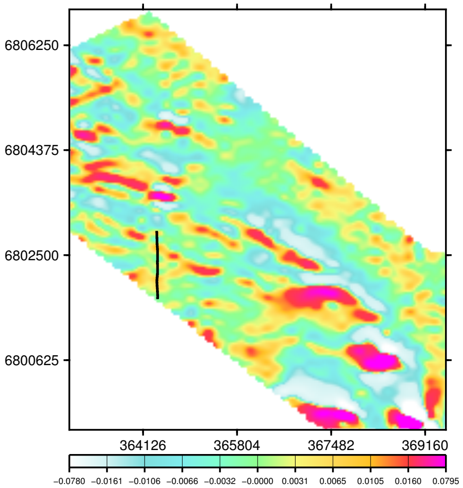
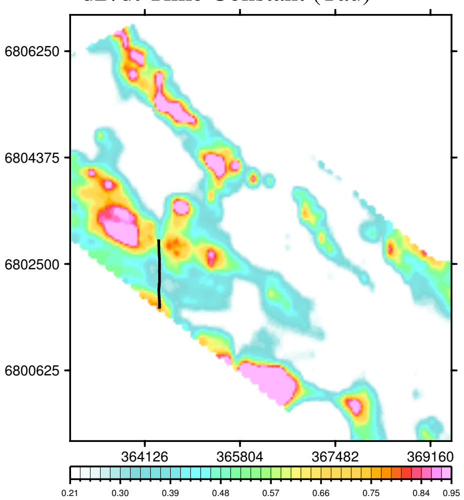
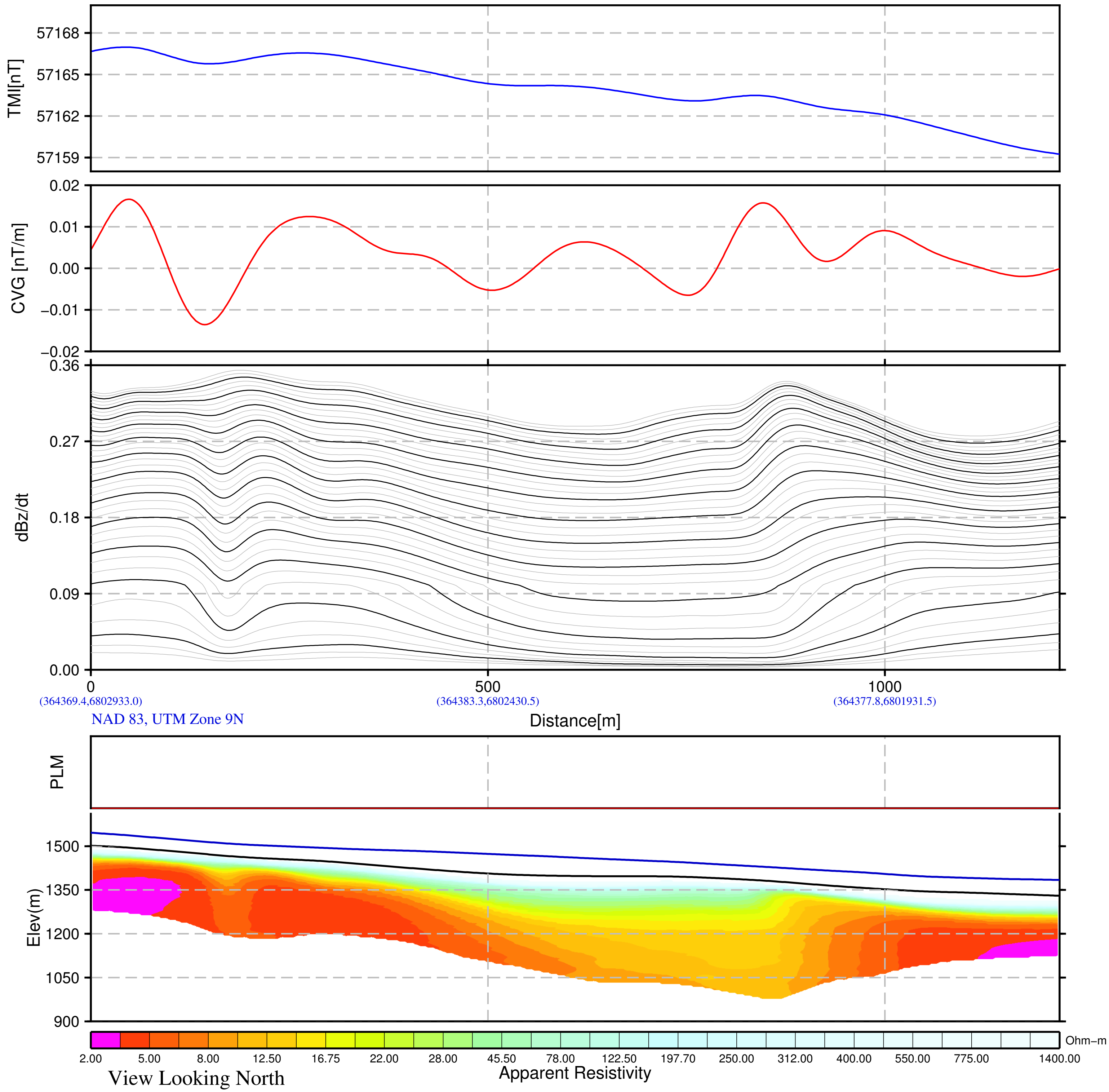
Resistivity Depth Image (RDI) for Line 6105

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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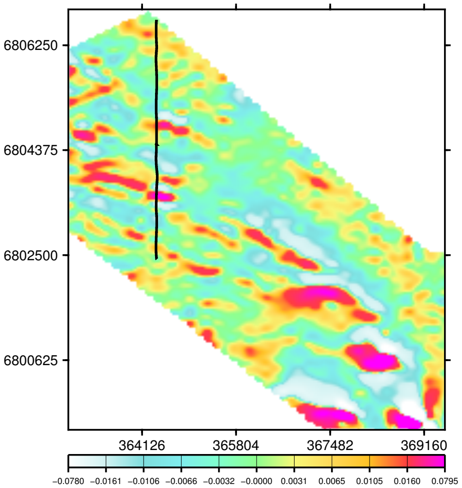
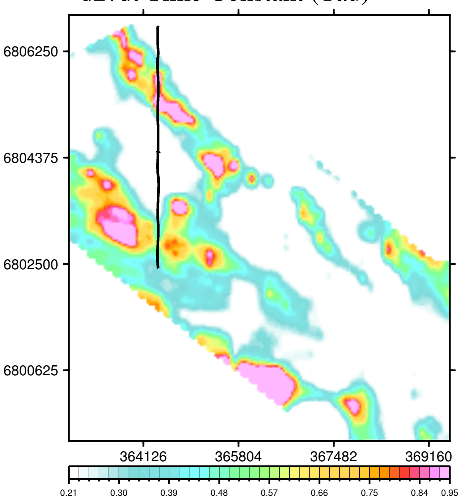
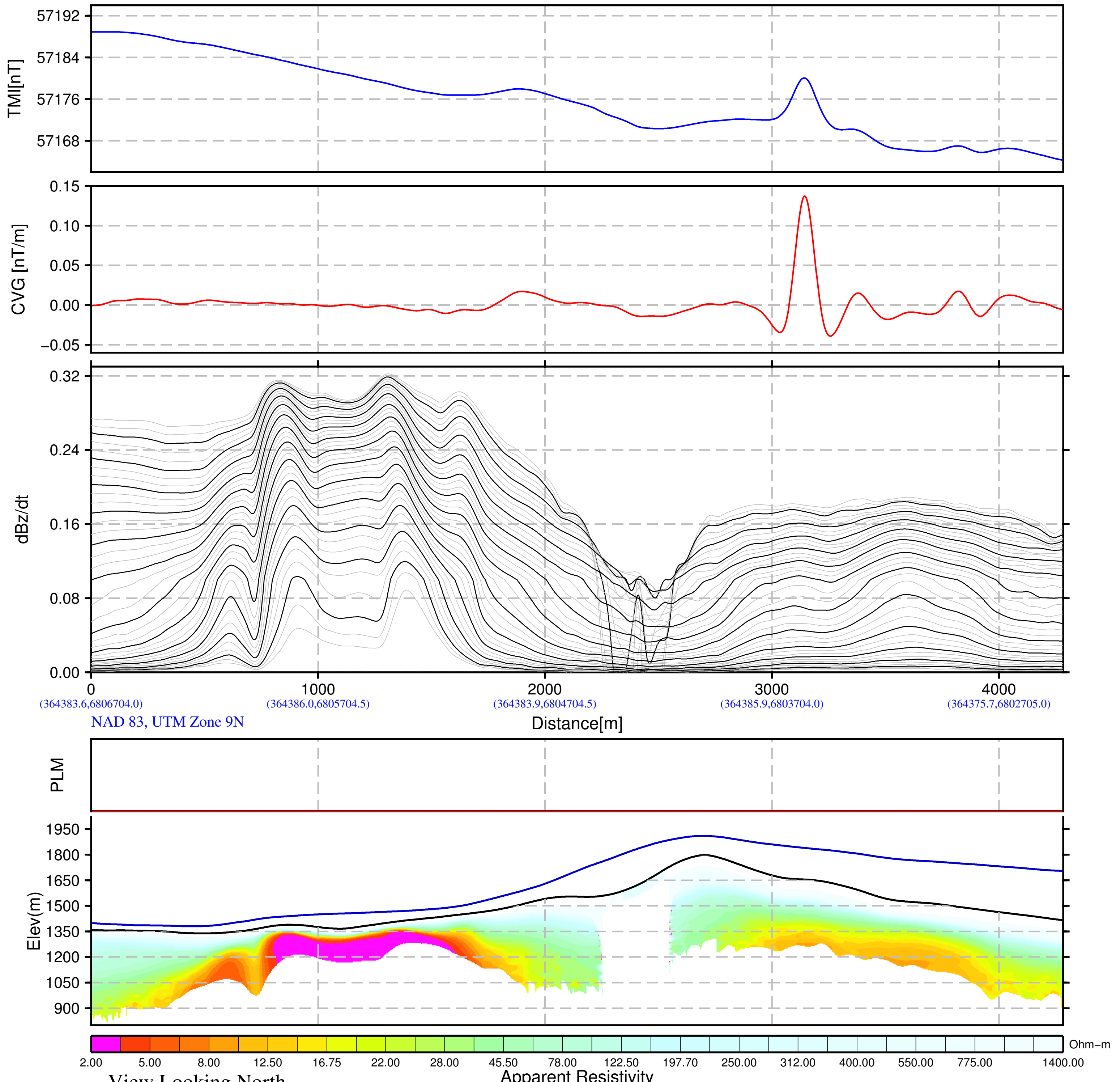
Resistivity Depth Image (RDI) for Line 6106

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





View Looking North

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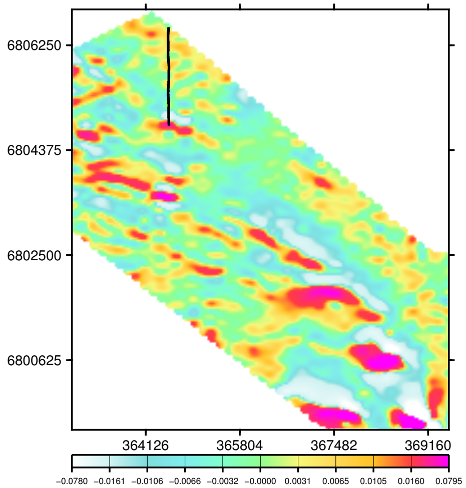
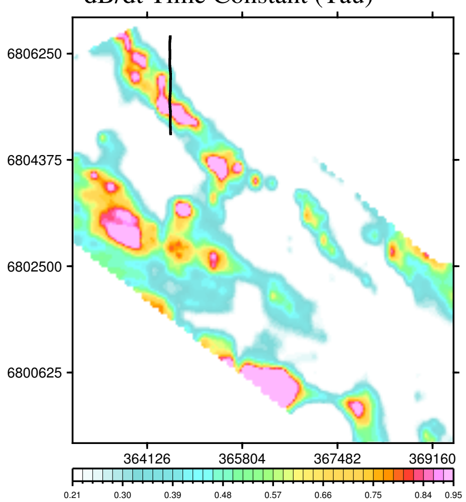
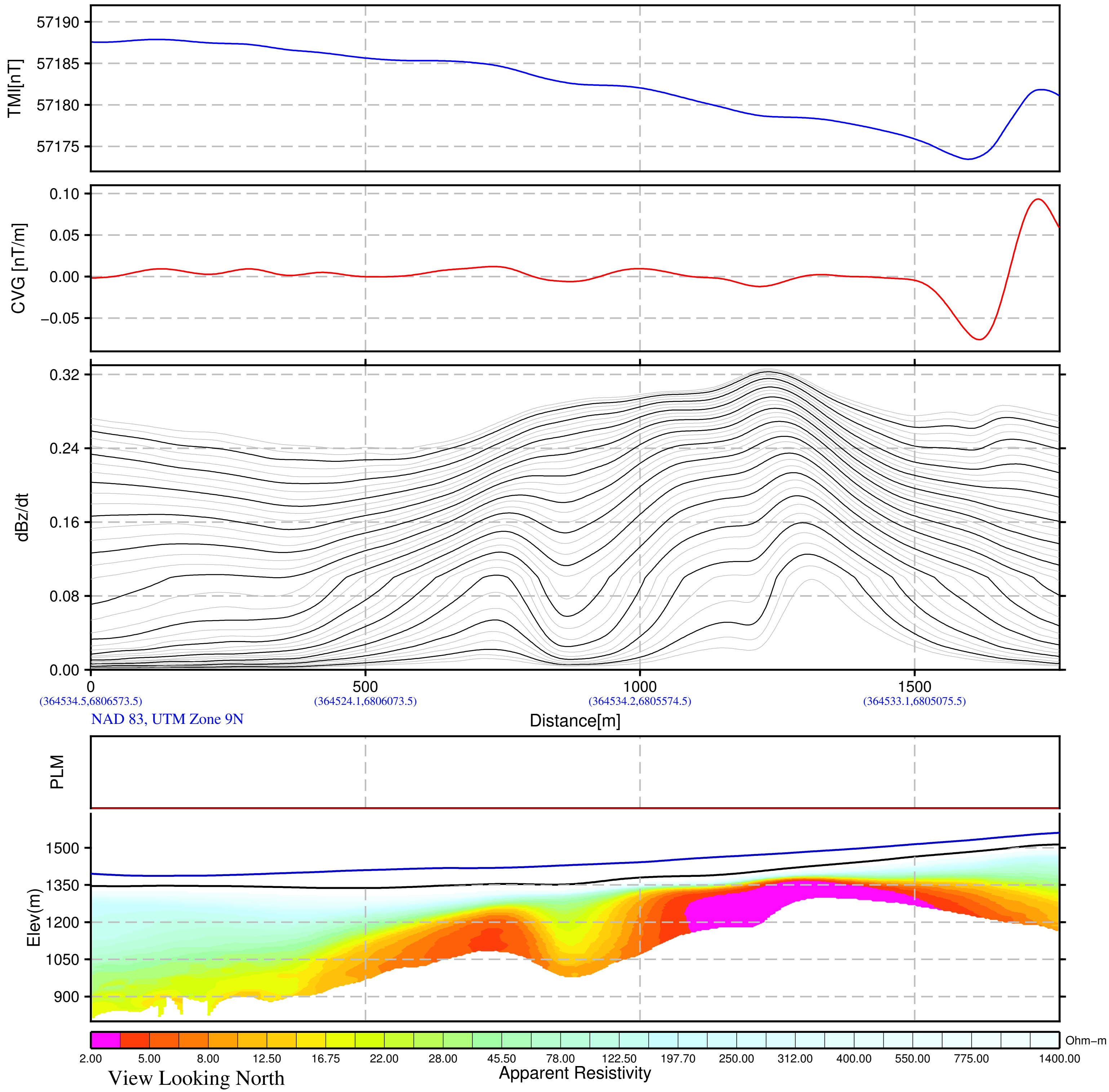
Resistivity Depth Image (RDI) for Line 6115

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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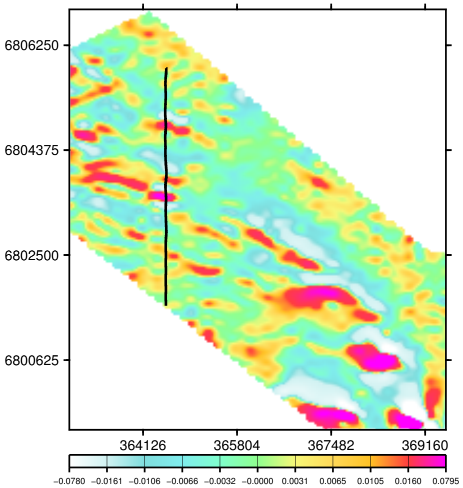
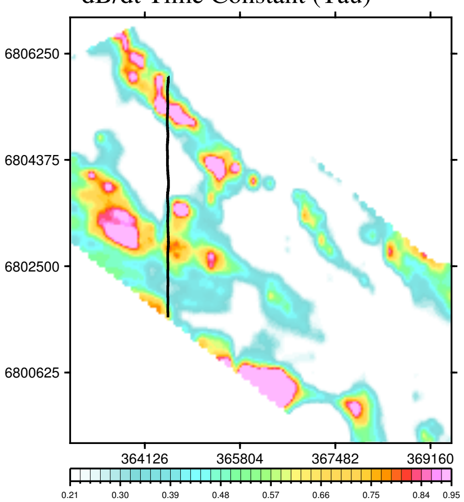
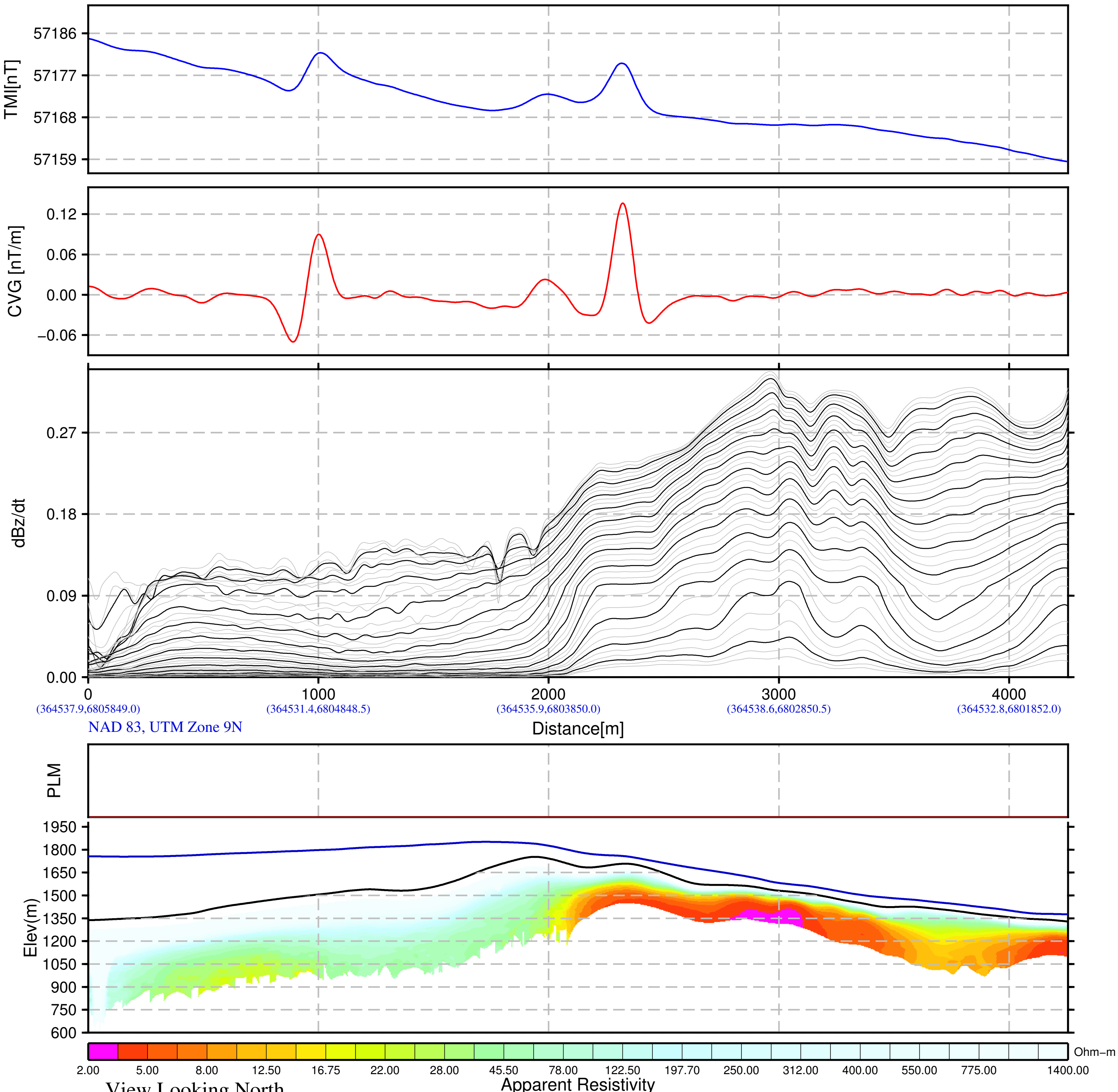
Resistivity Depth Image (RDI) for Line 6116

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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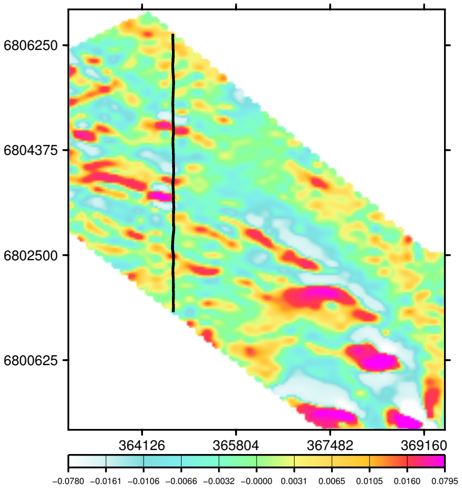
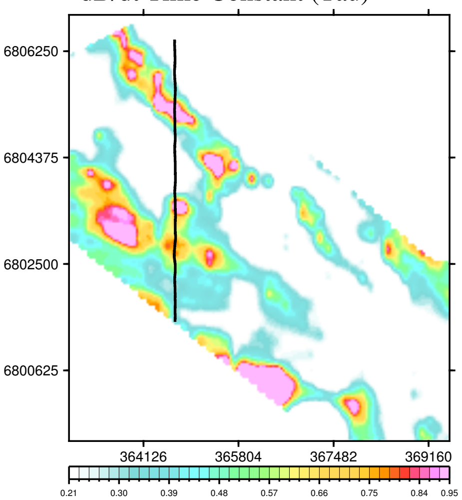
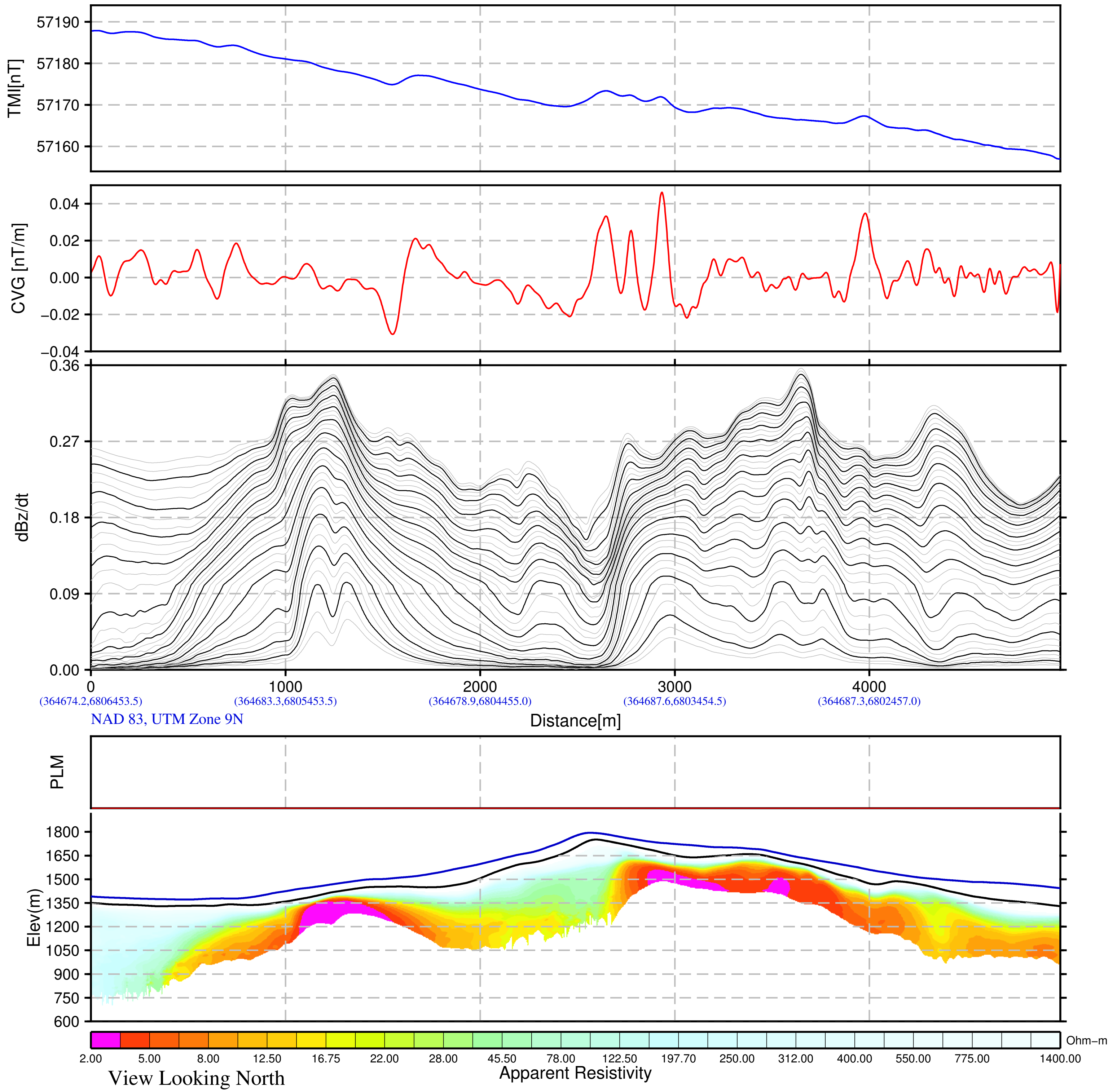
Resistivity Depth Image (RDI) for Line 6125

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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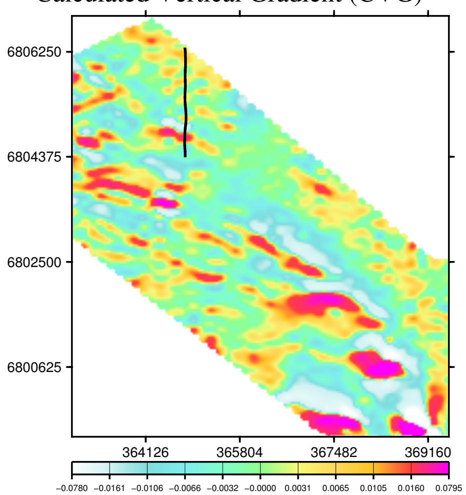
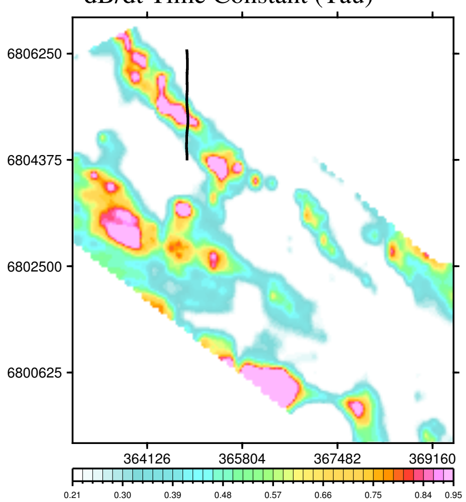
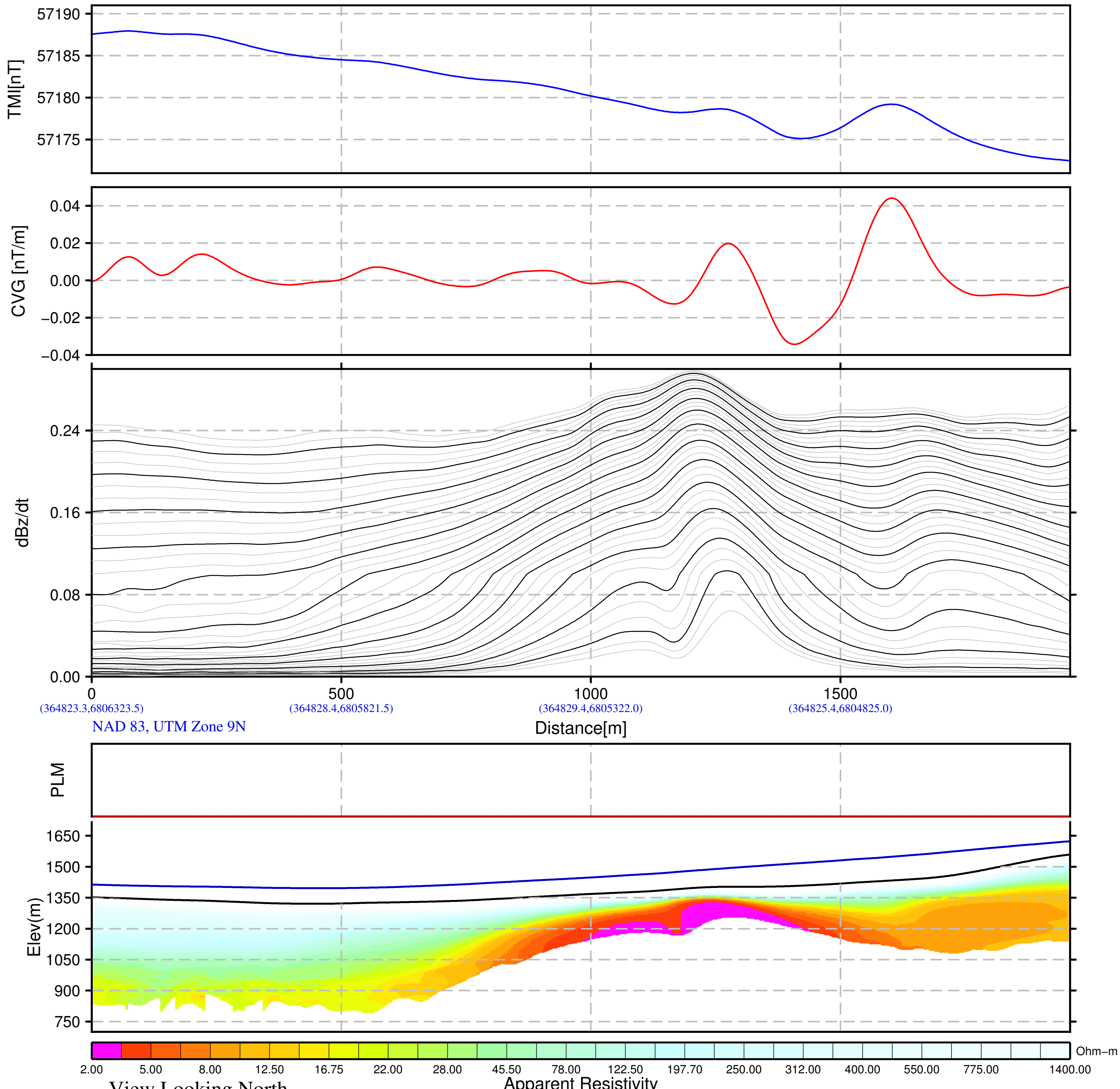
Resistivity Depth Image (RDI) for Line 6135

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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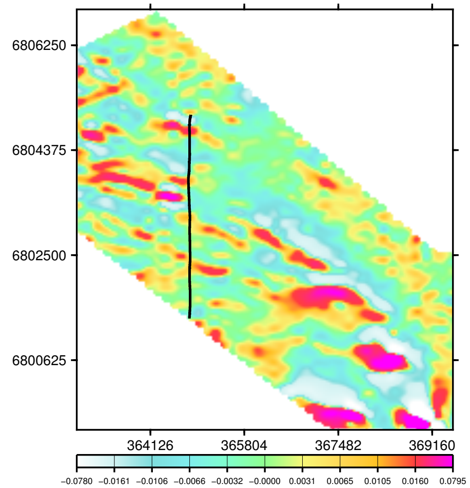
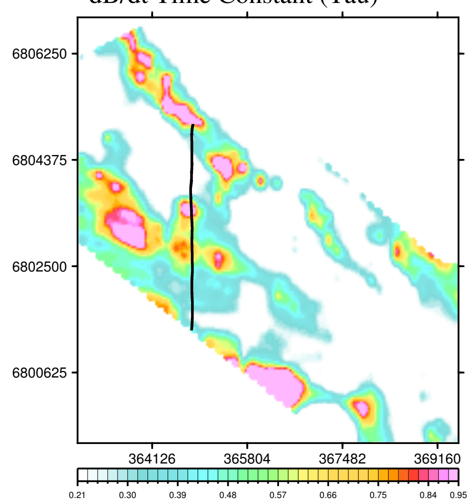
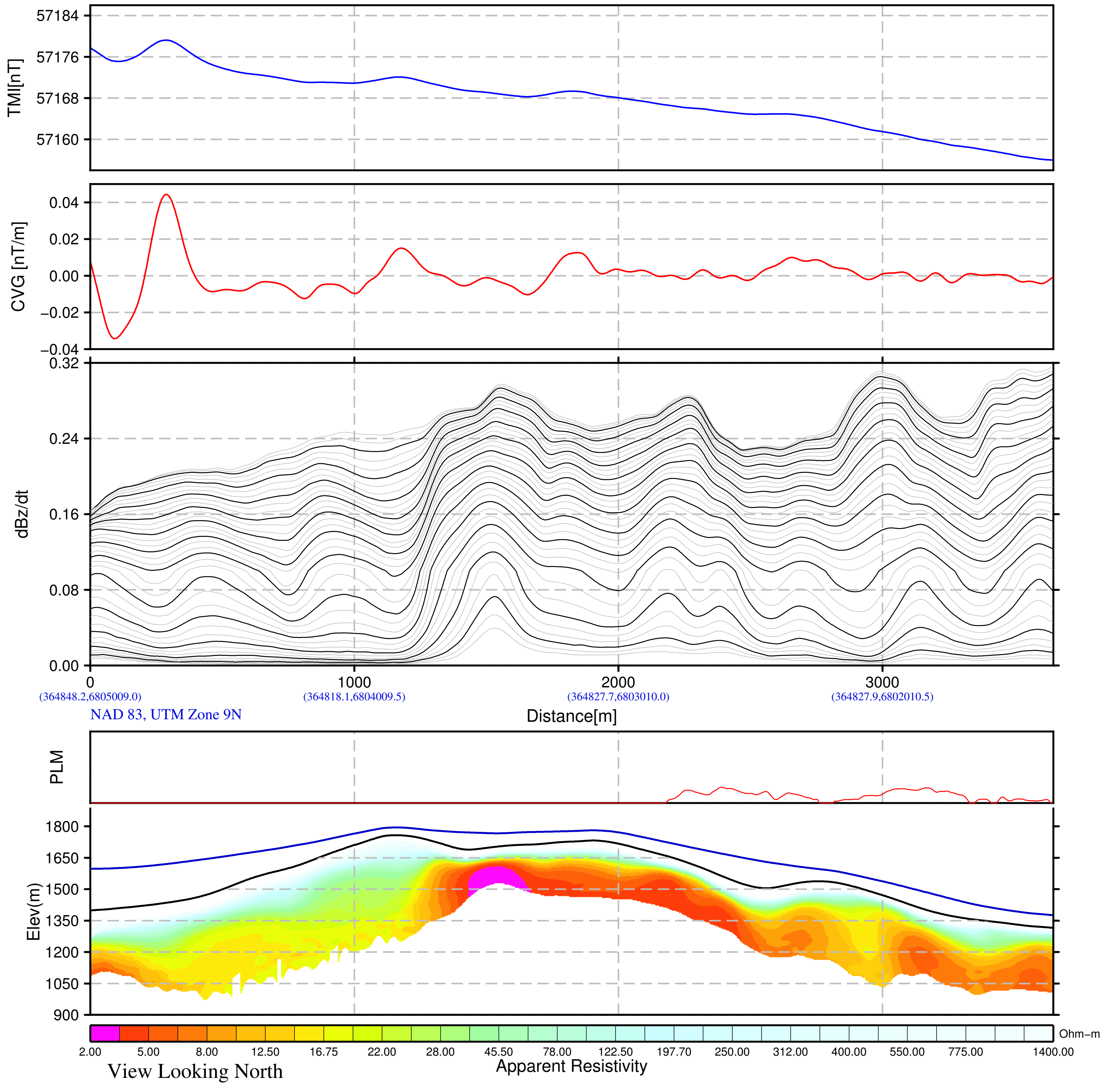
Resistivity Depth Image (RDI) for Line 6136

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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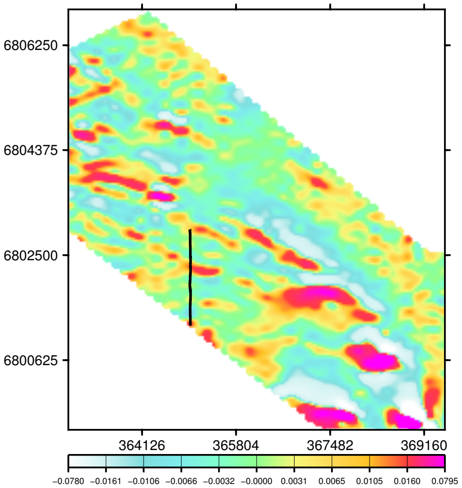
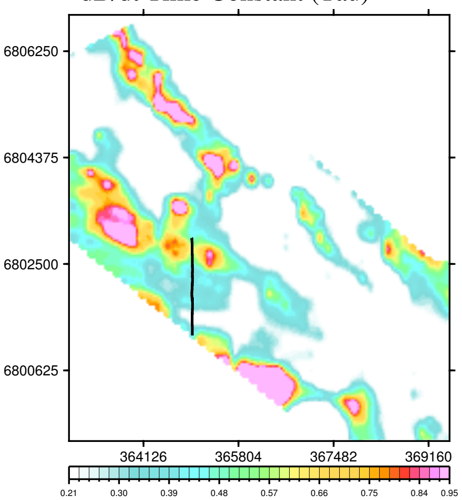
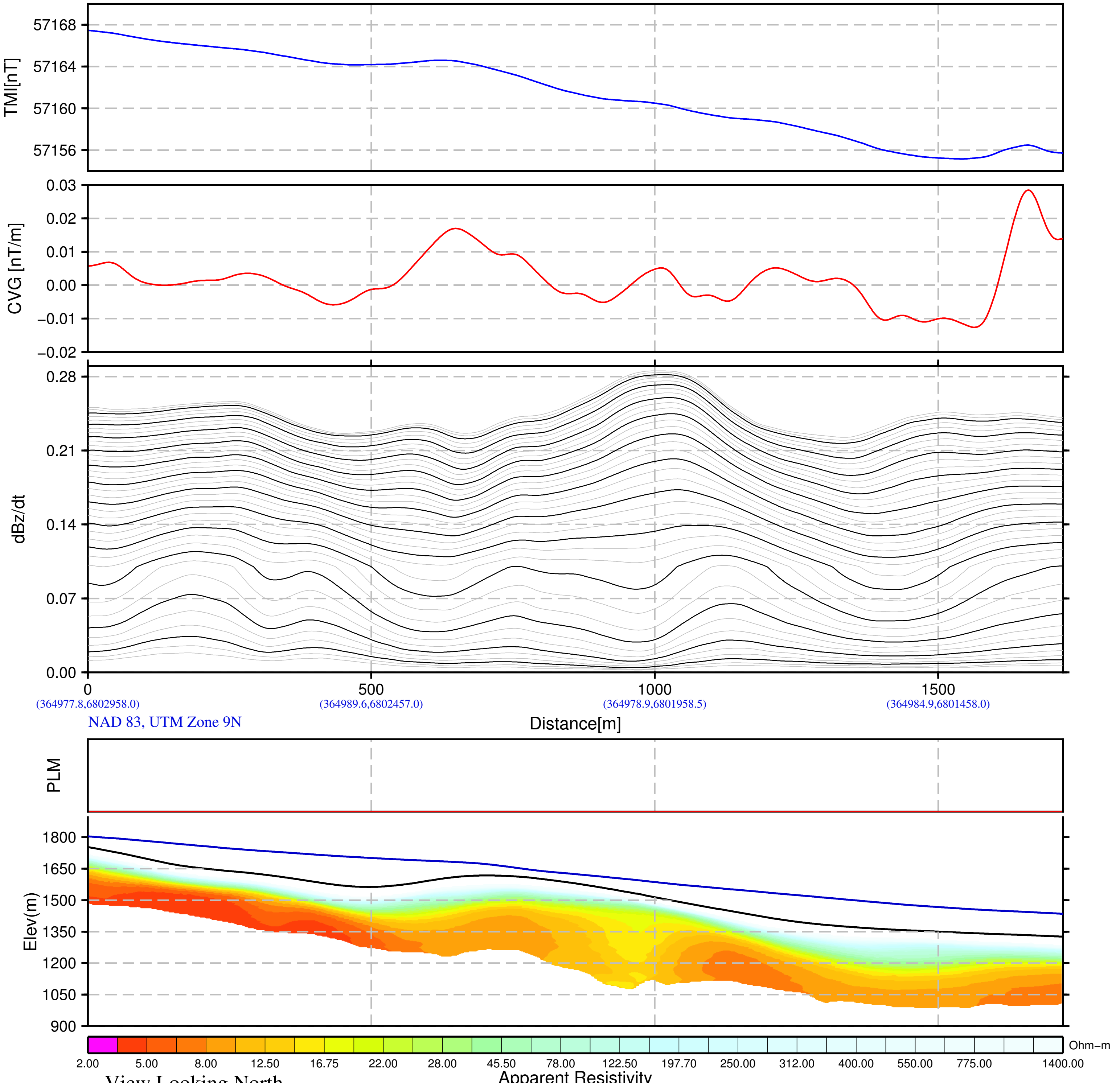
Resistivity Depth Image (RDI) for Line 6145

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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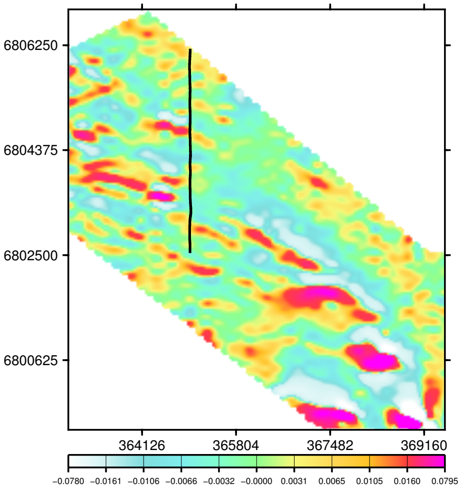
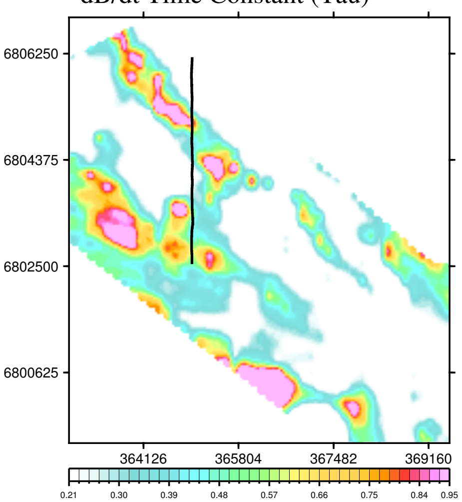
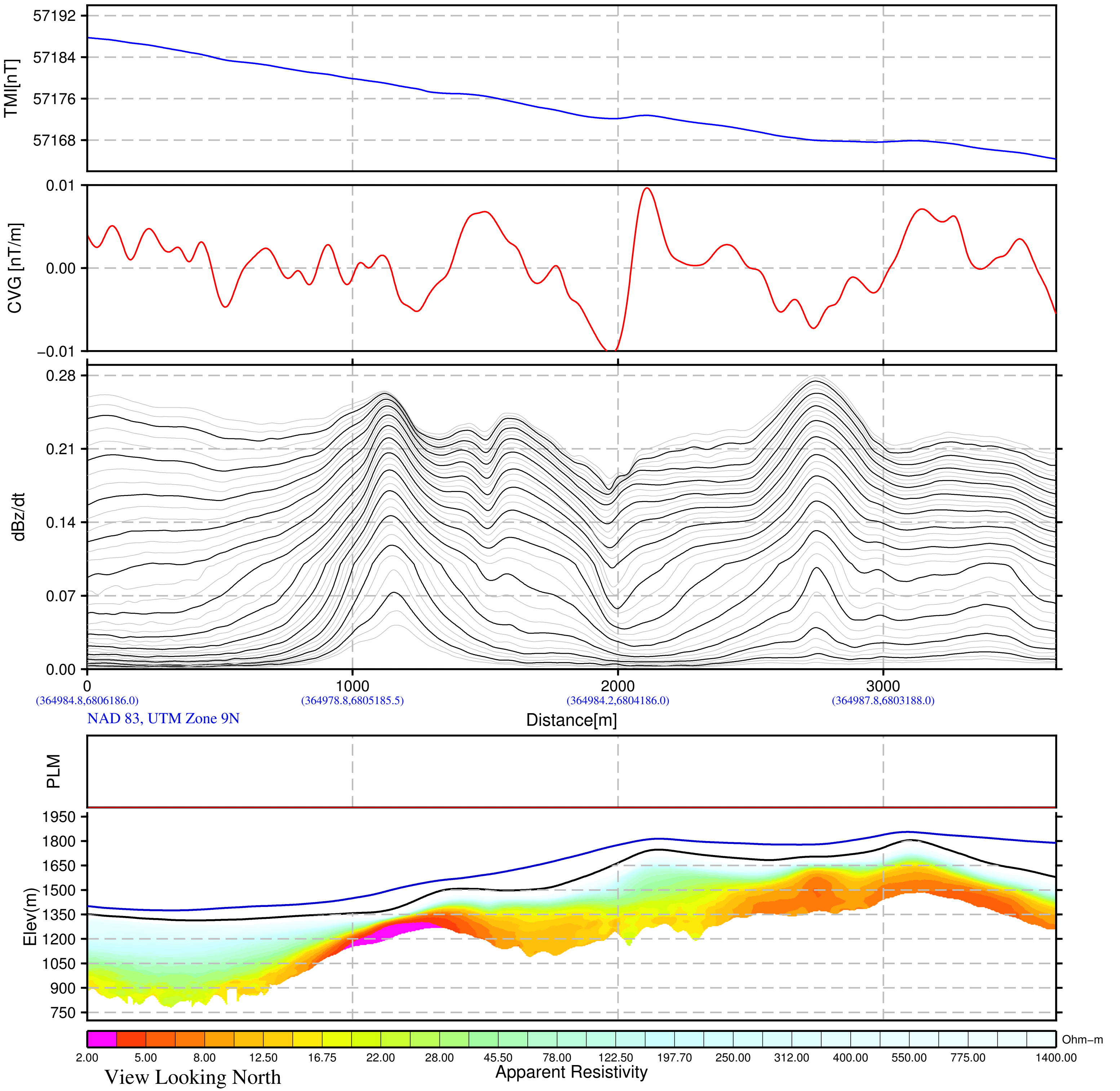
Resistivity Depth Image (RDI) for Line 6146

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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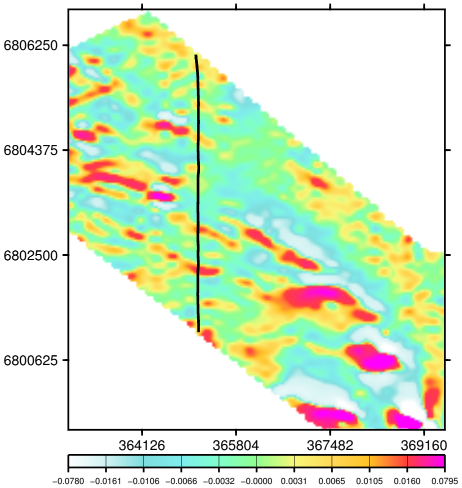
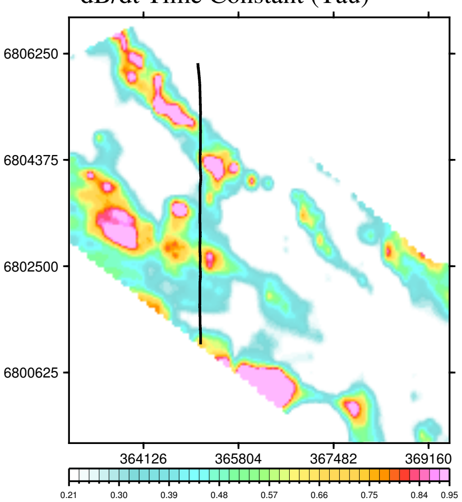
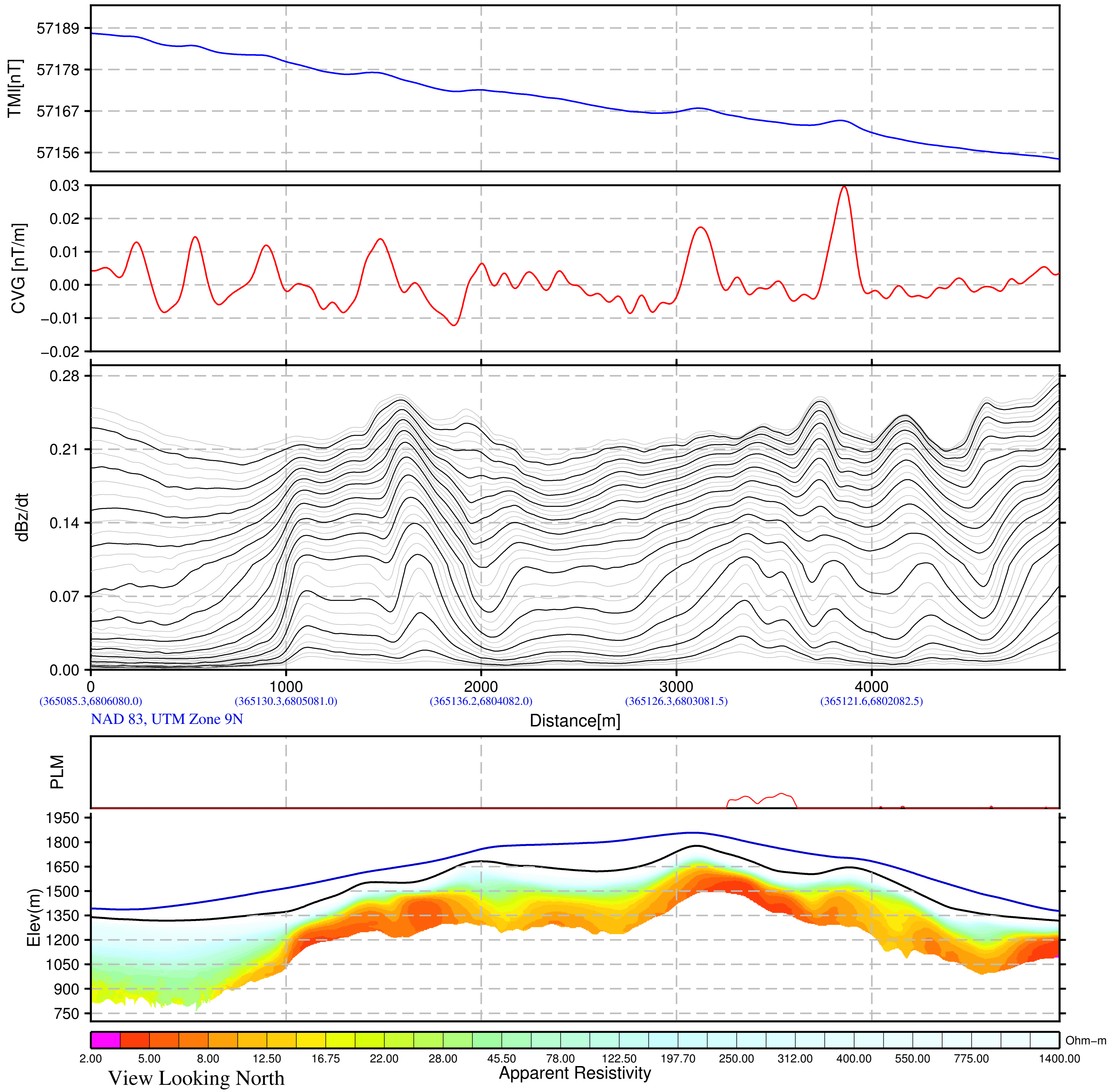
Resistivity Depth Image (RDI) for Line 6155

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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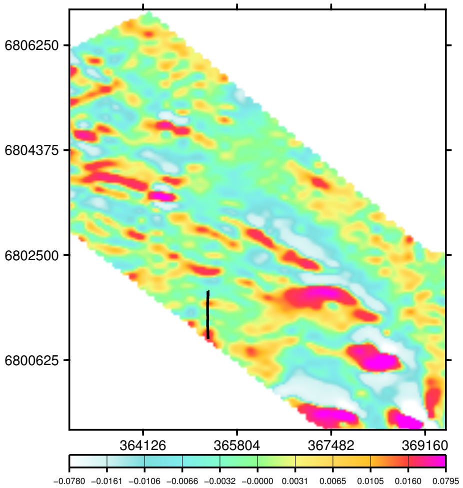
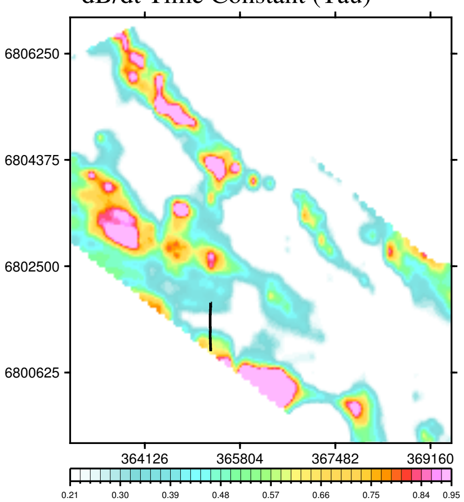
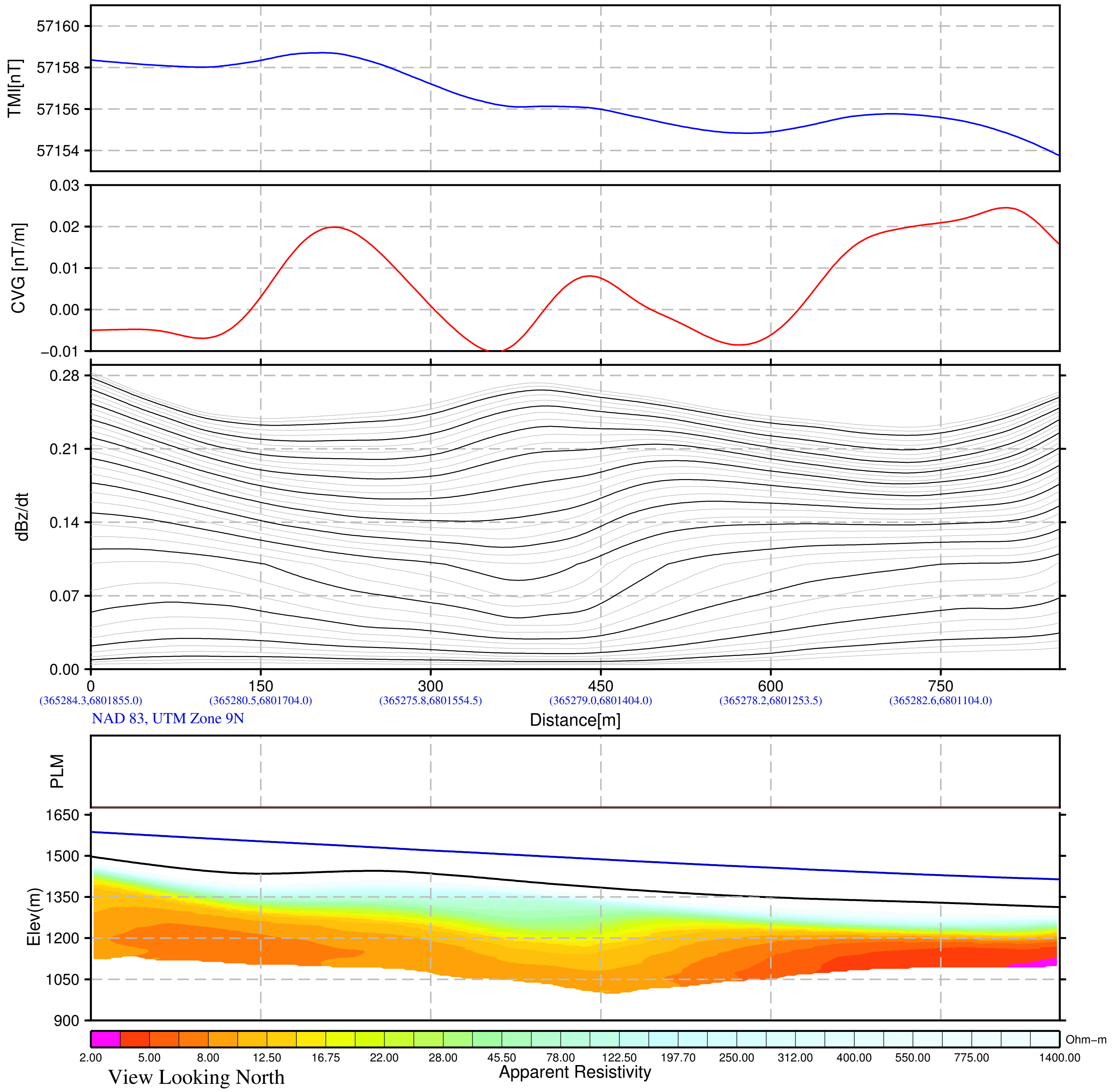
Resistivity Depth Image (RDI) for Line 6165

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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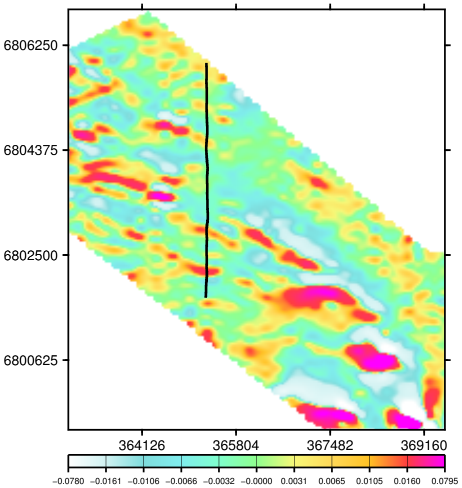
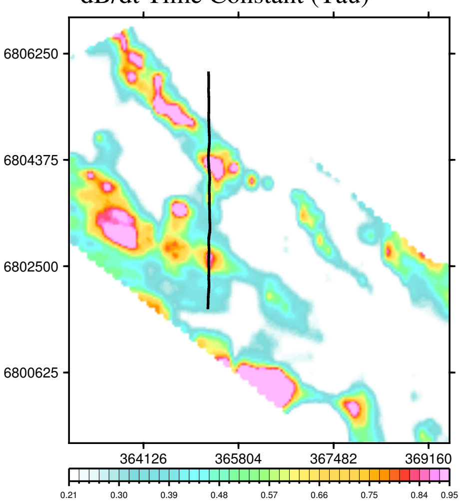
Resistivity Depth Image (RDI) for Line 6166

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)



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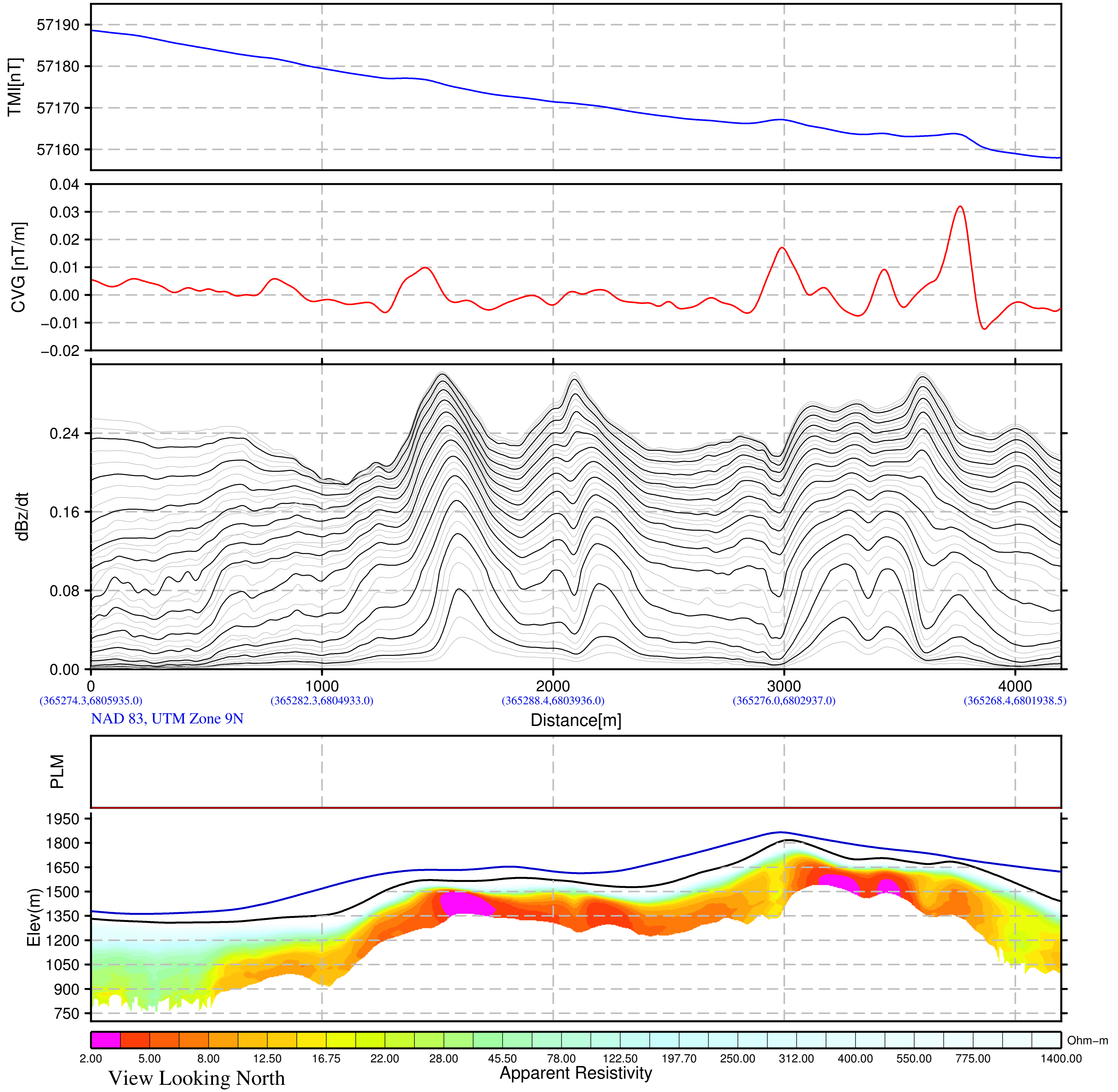

Resistivity Depth Image (RDI) for Line 6175

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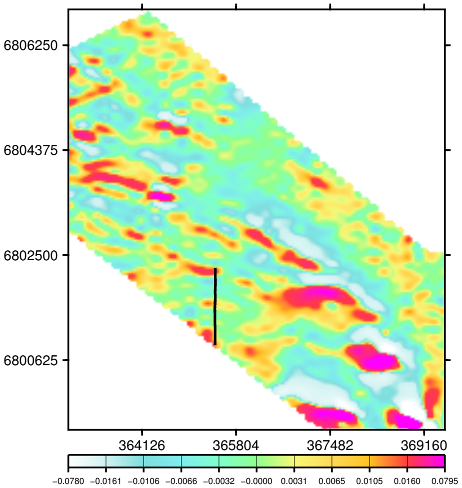
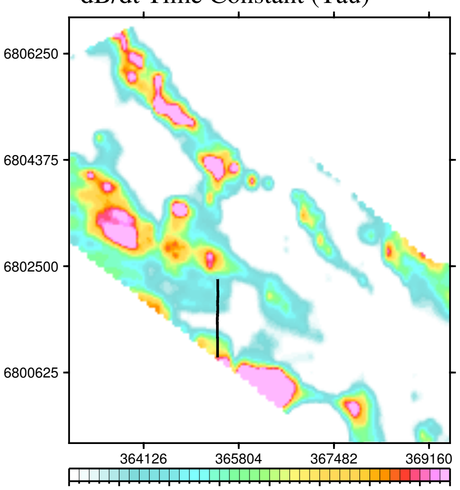
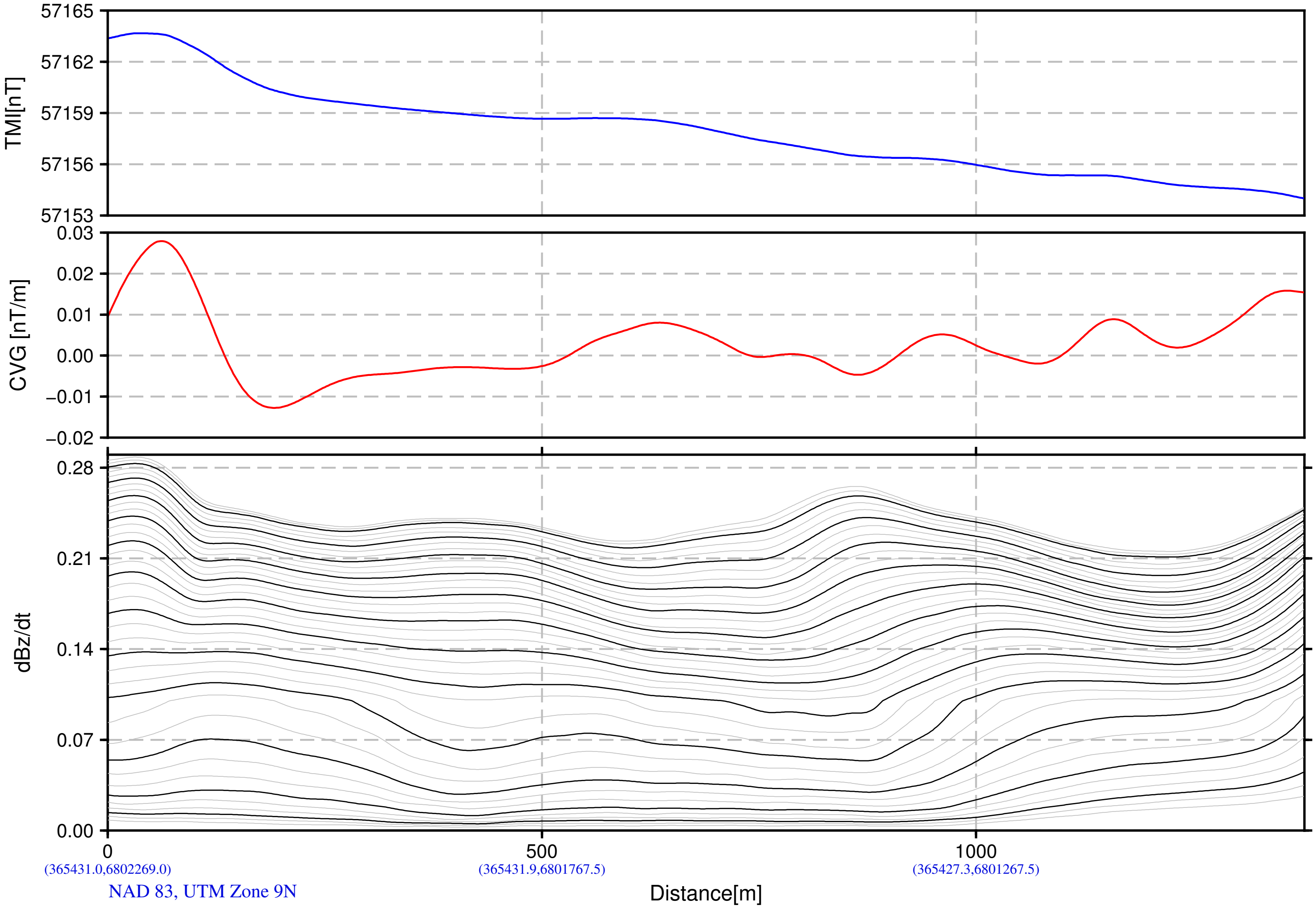
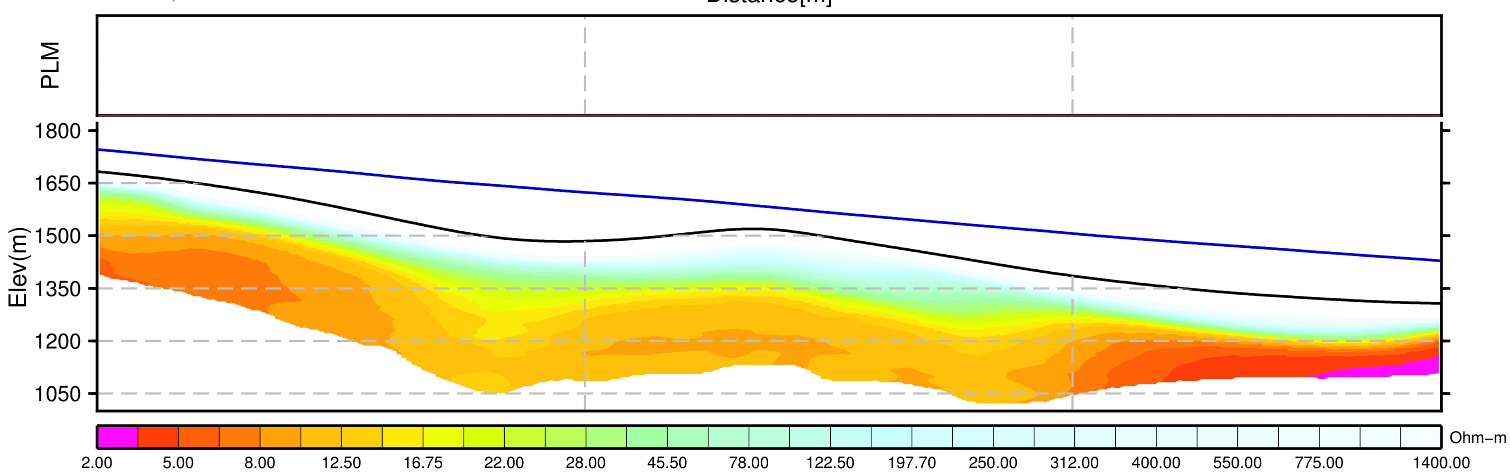
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)







View Looking North

BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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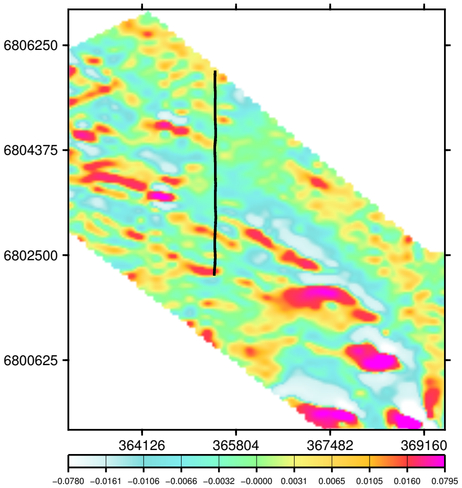
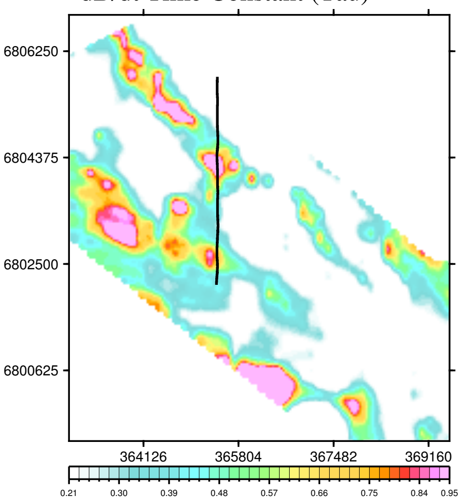
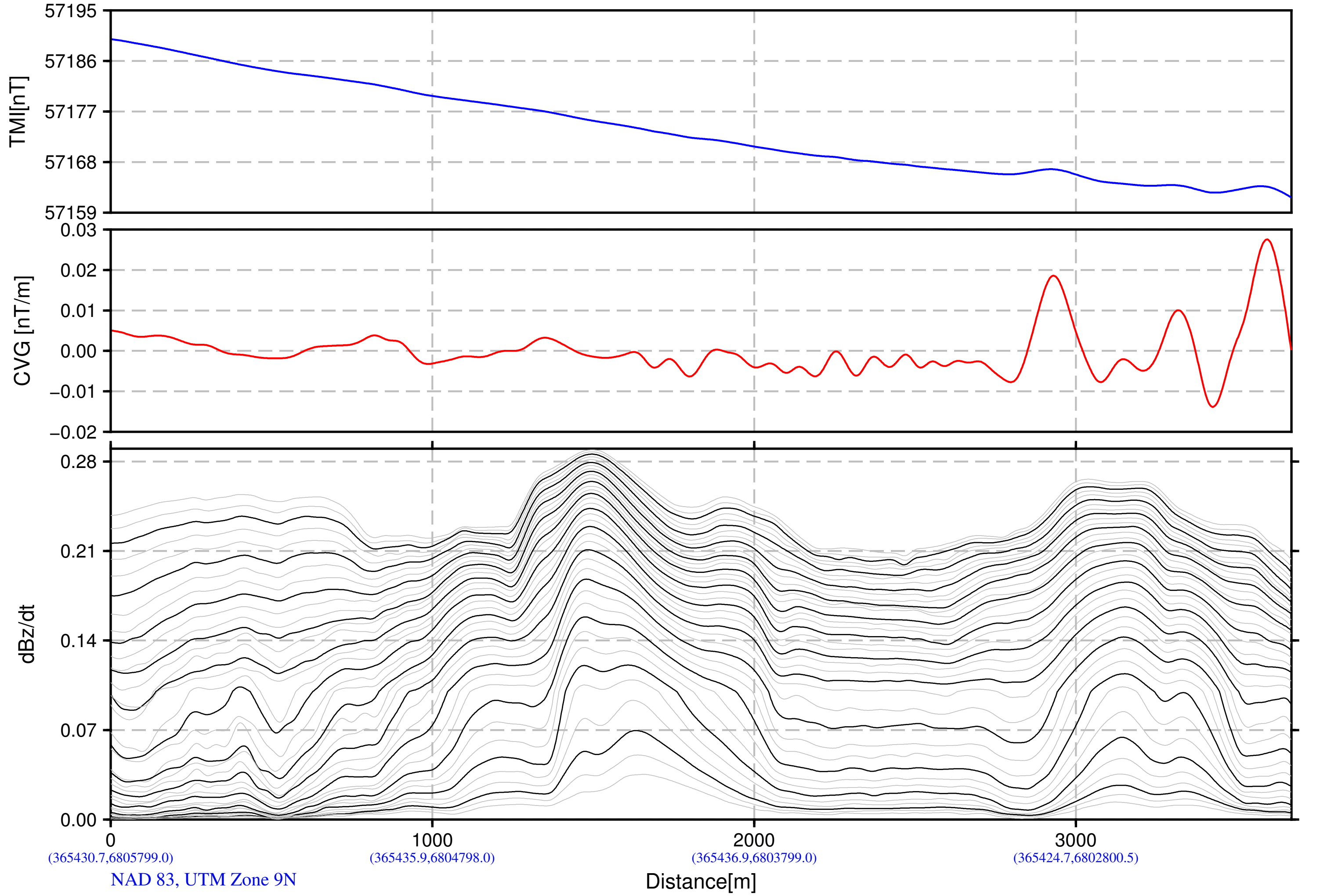
Resistivity Depth Image (RDI) for Line 6176

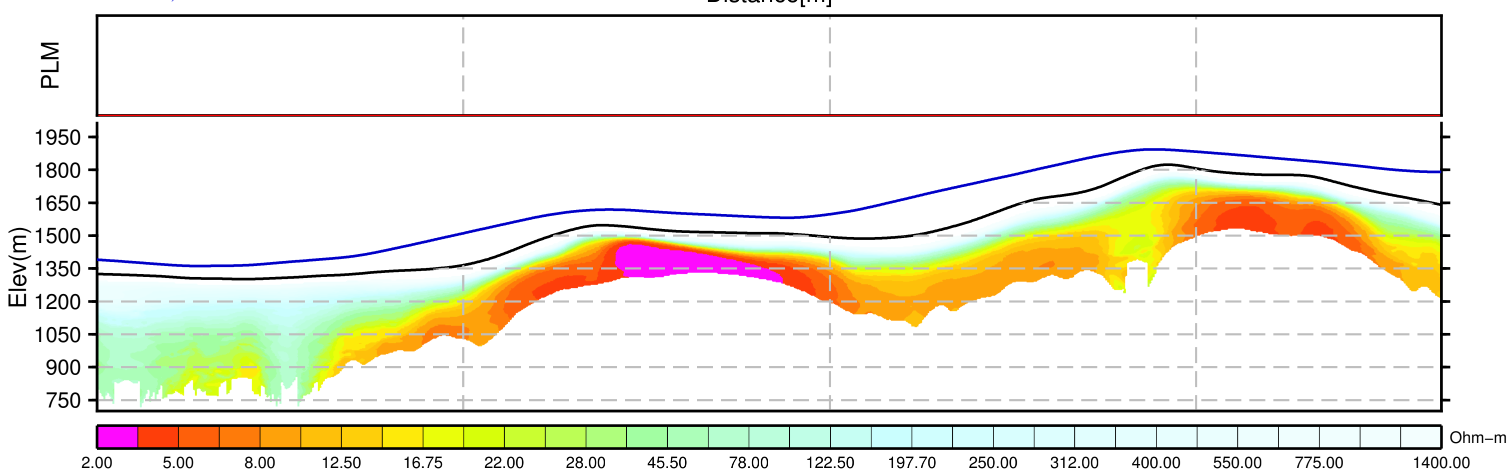
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)







View Looking North

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Wolf Block
Yukon, Canada

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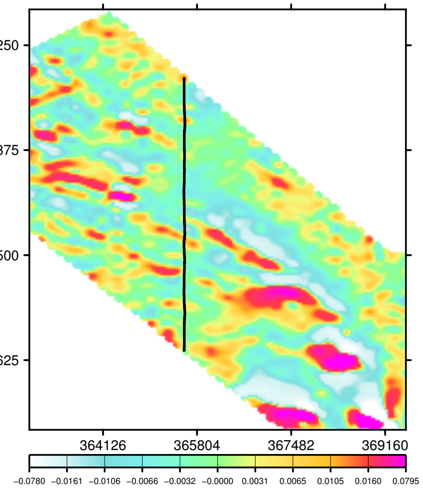
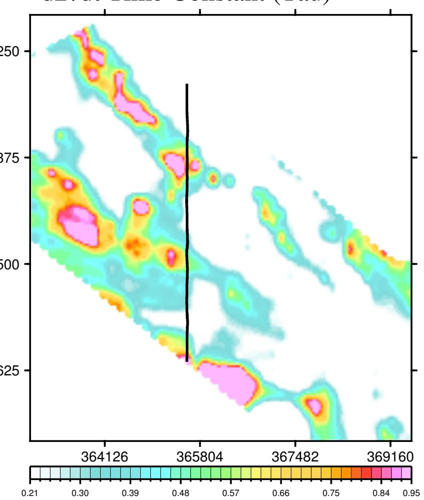
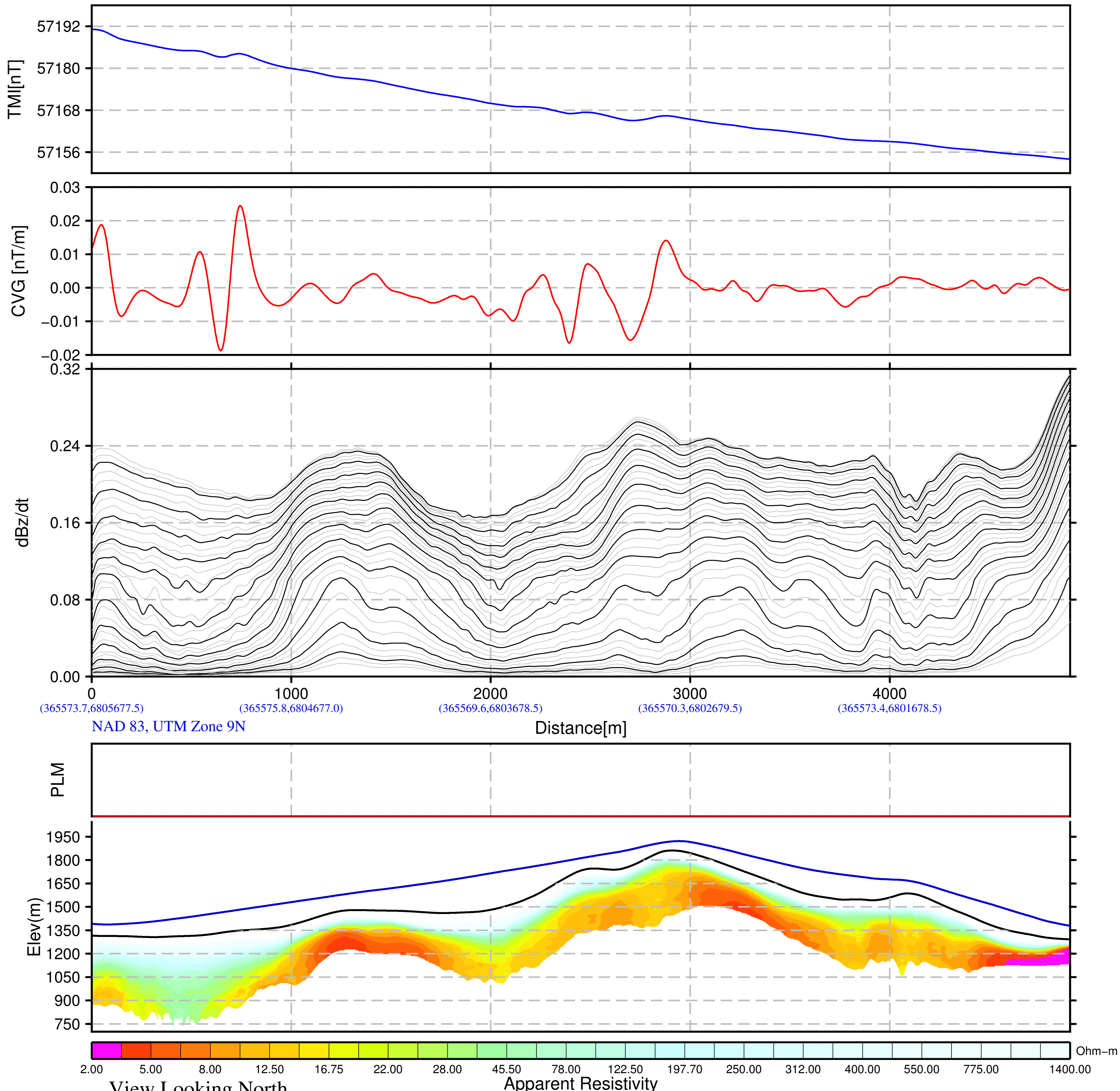
Resistivity Depth Image (RDI) for Line 6185

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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Job Number:GL160037
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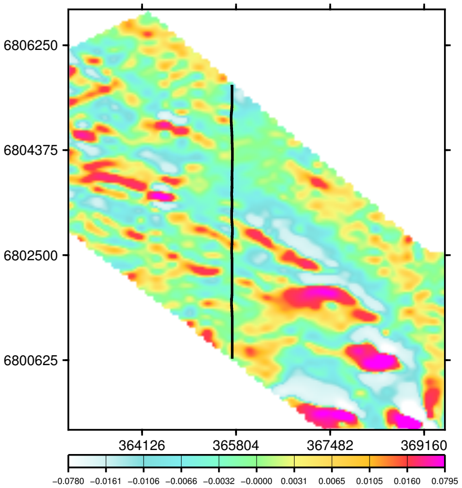
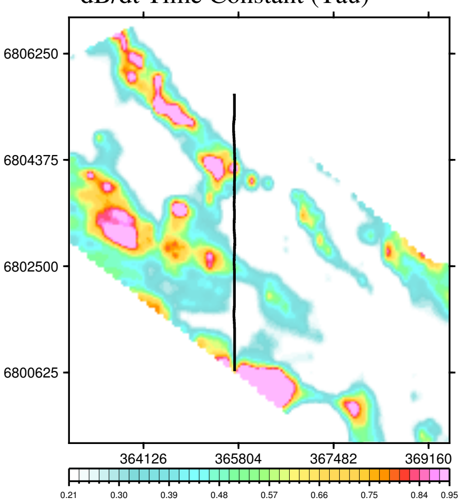
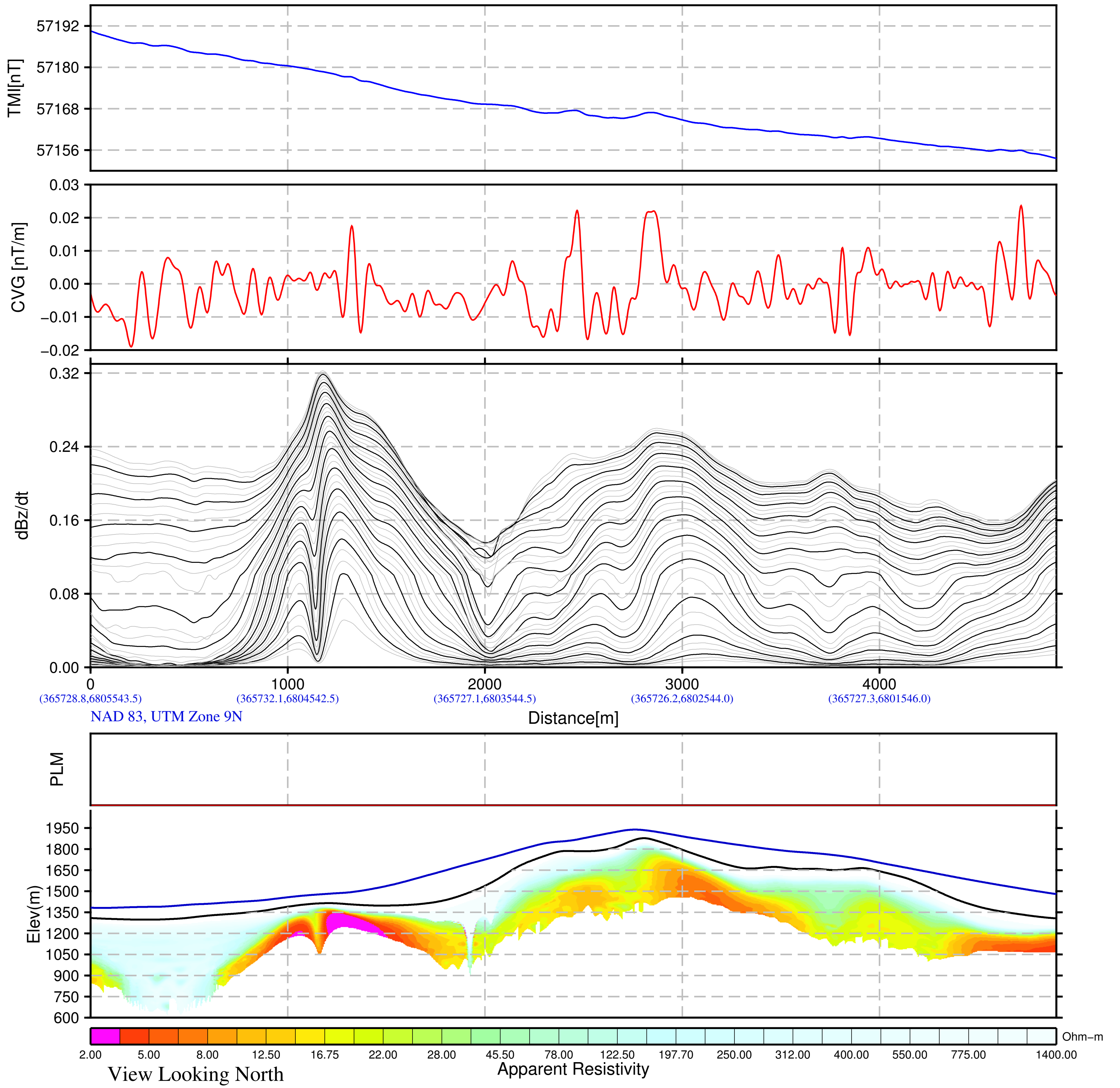
Resistivity Depth Image (RDI) for Line 6195

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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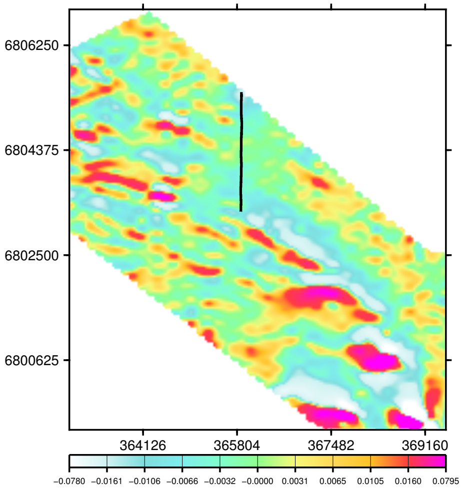
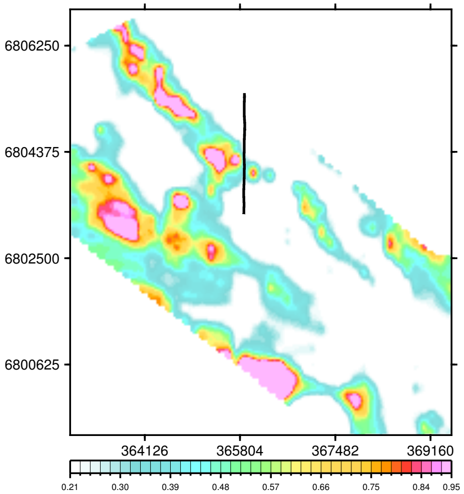
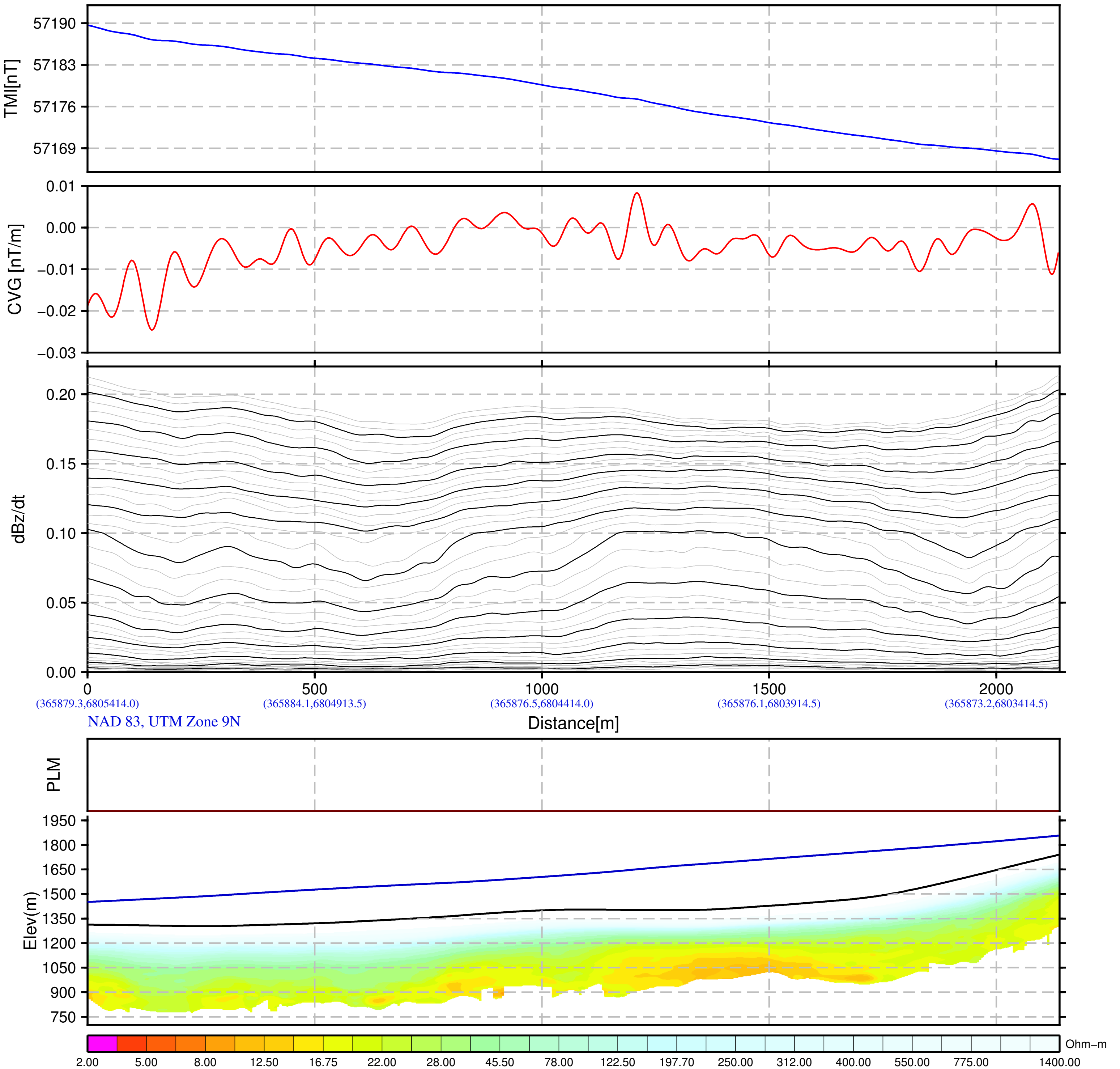
Resistivity Depth Image (RDI) for Line 6205

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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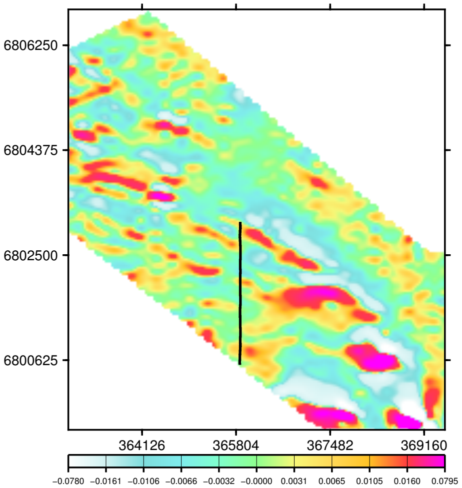
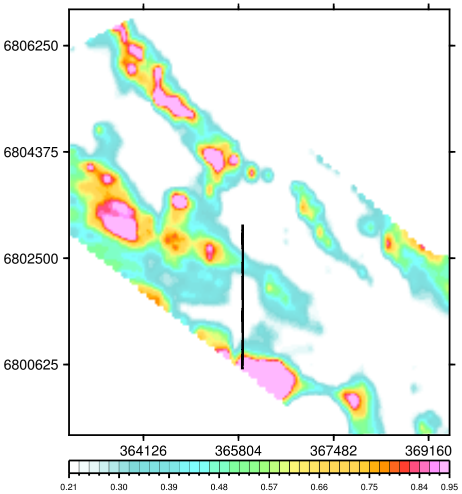
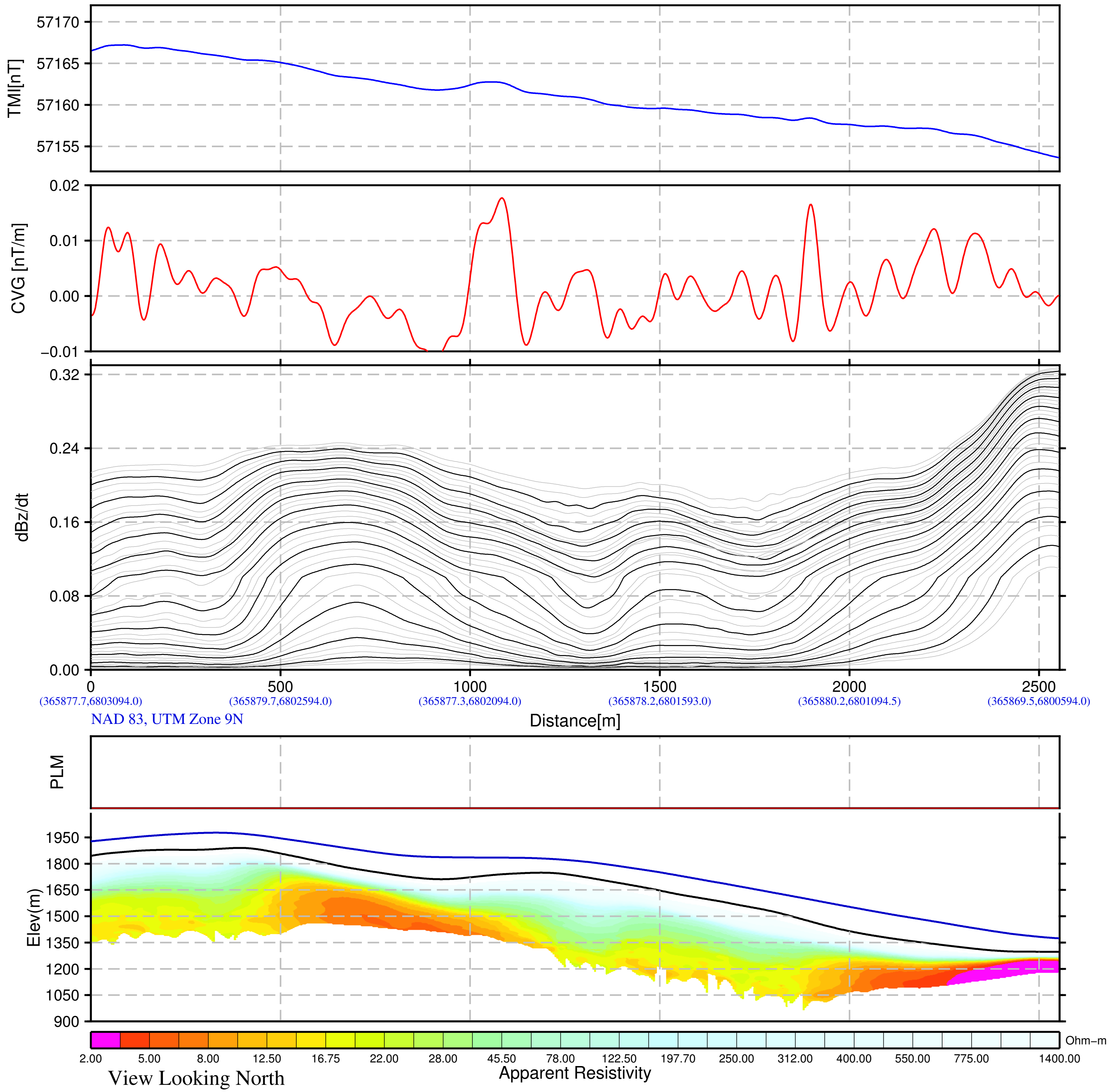
Resistivity Depth Image (RDI) for Line 6206

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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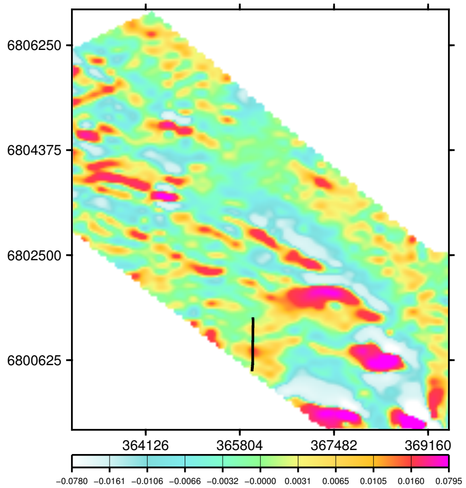
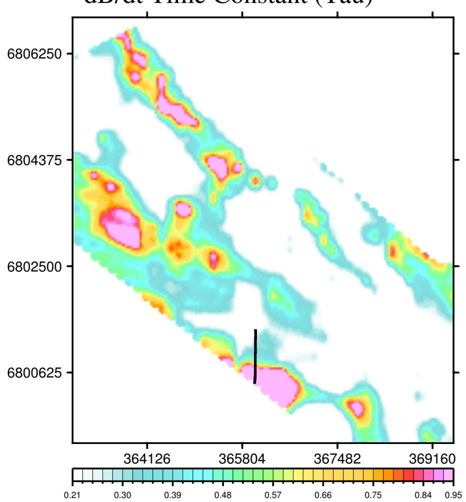
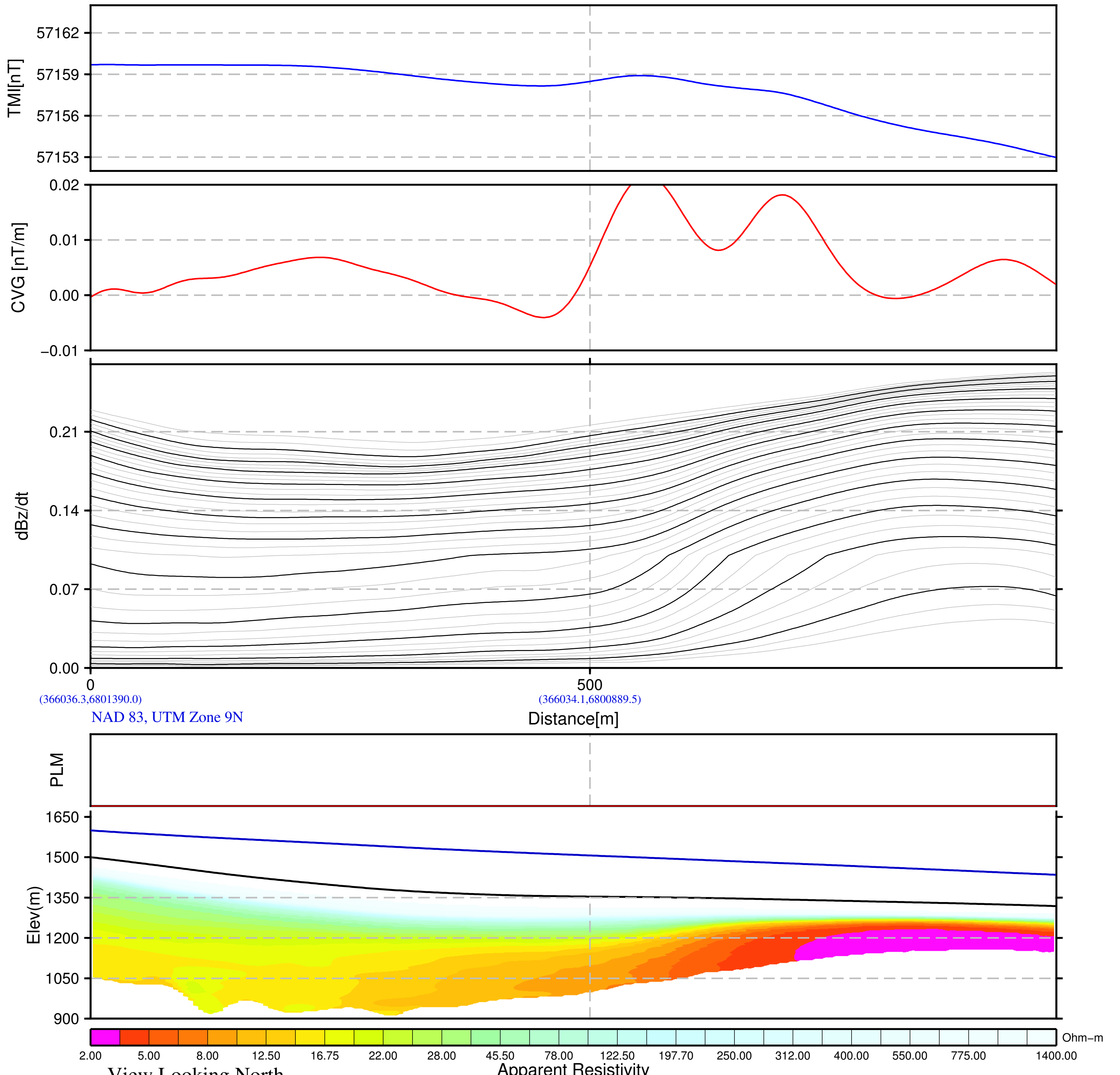
Resistivity Depth Image (RDI) for Line 6215

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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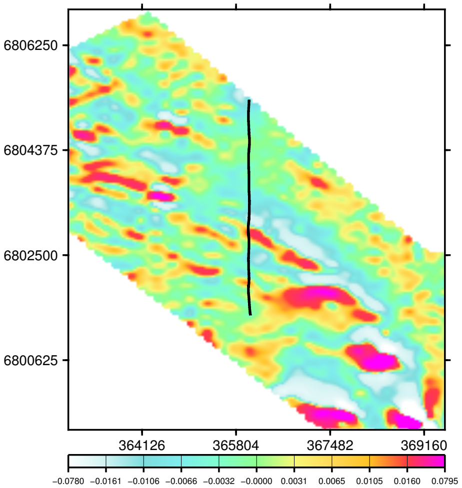
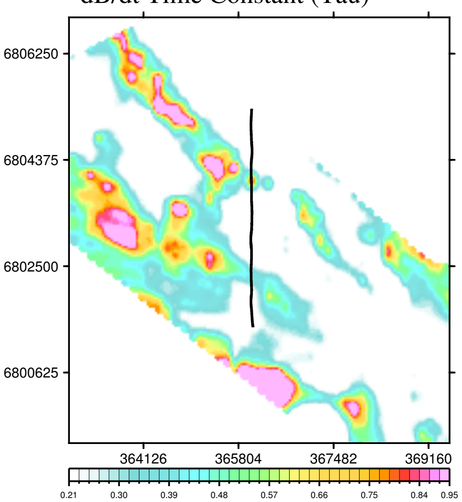
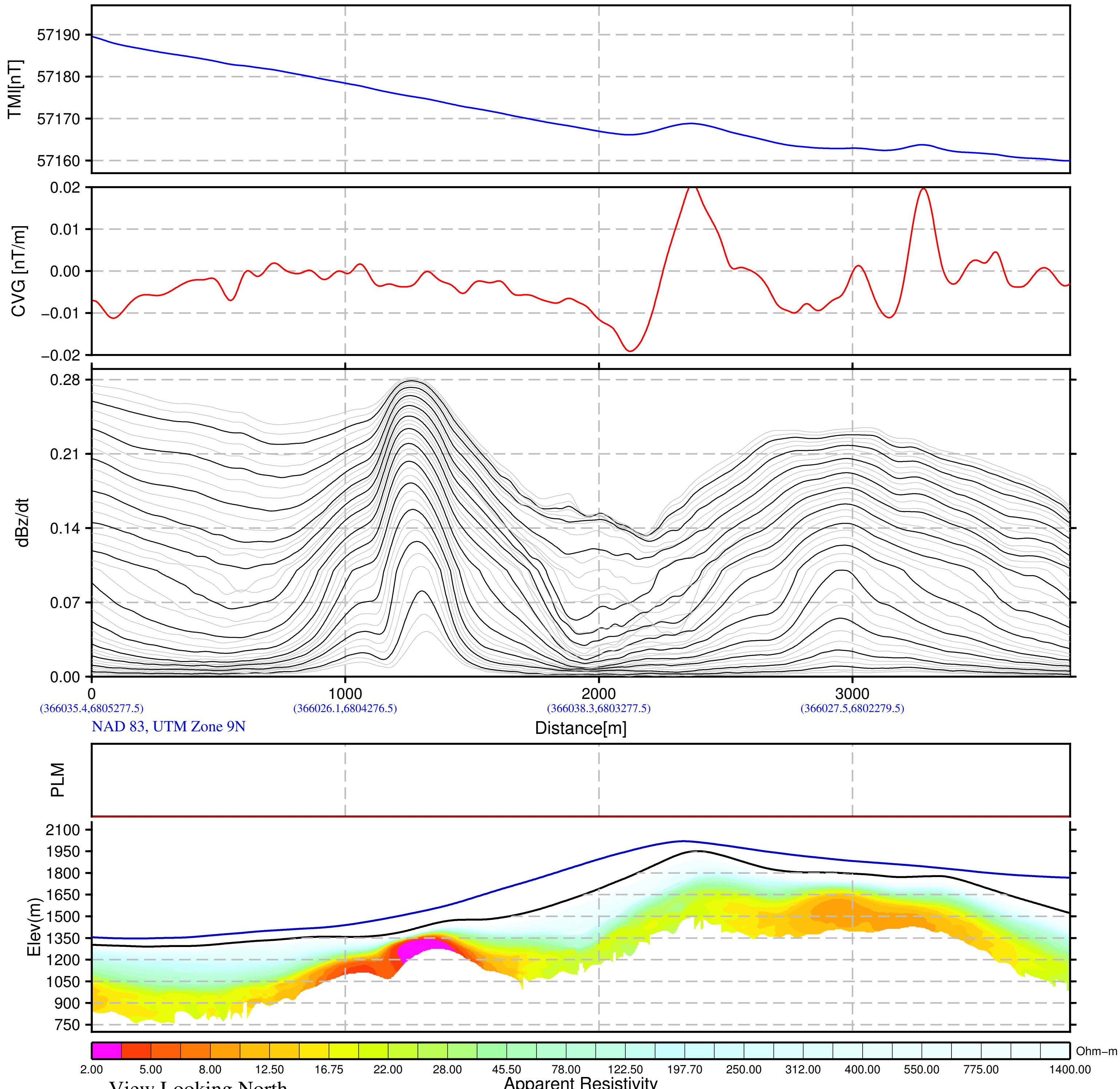
Resistivity Depth Image (RDI) for Line 6216

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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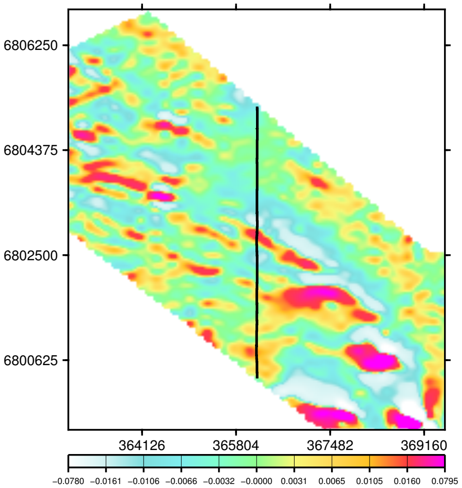
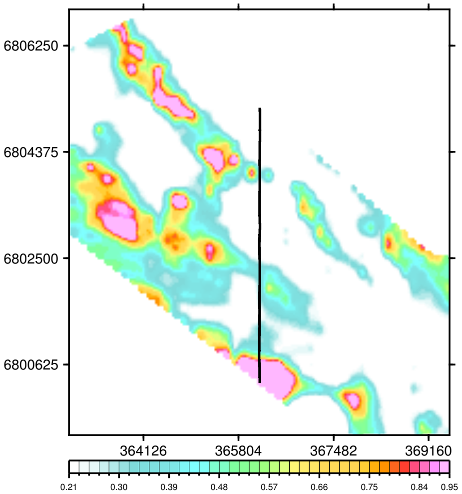
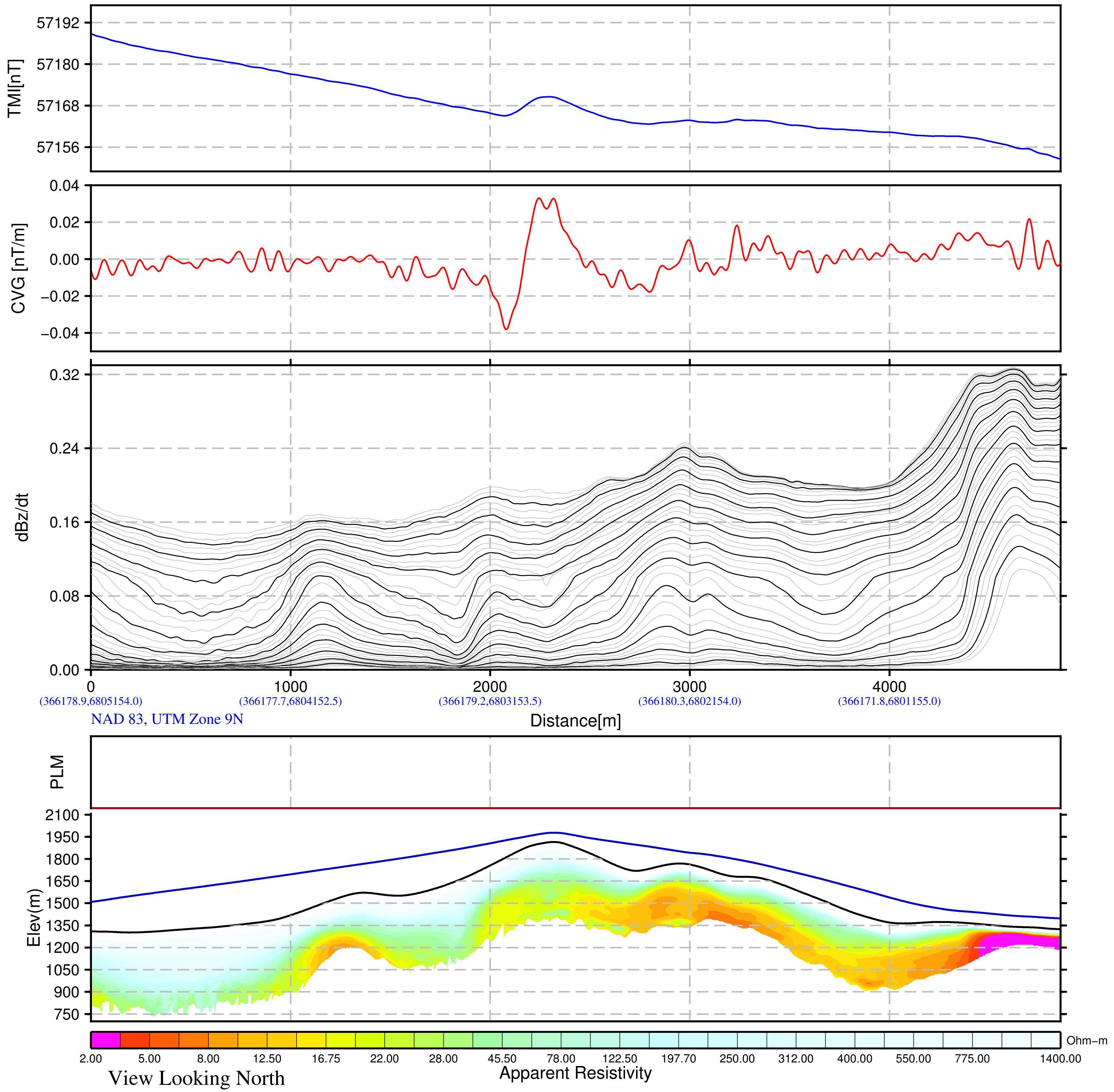
Resistivity Depth Image (RDI) for Line 6225

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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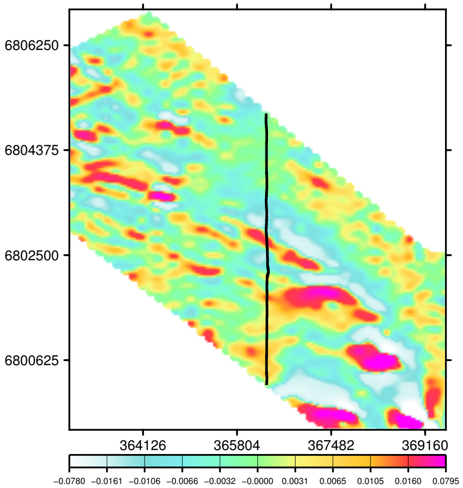
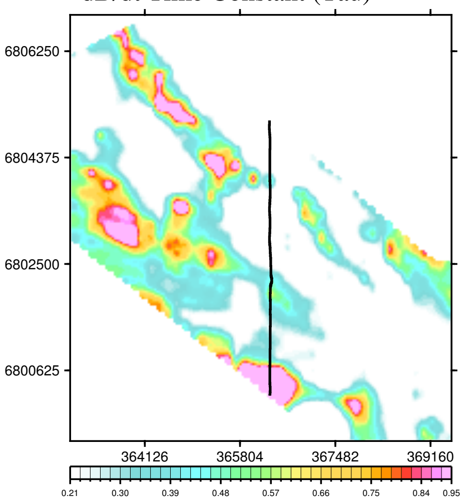
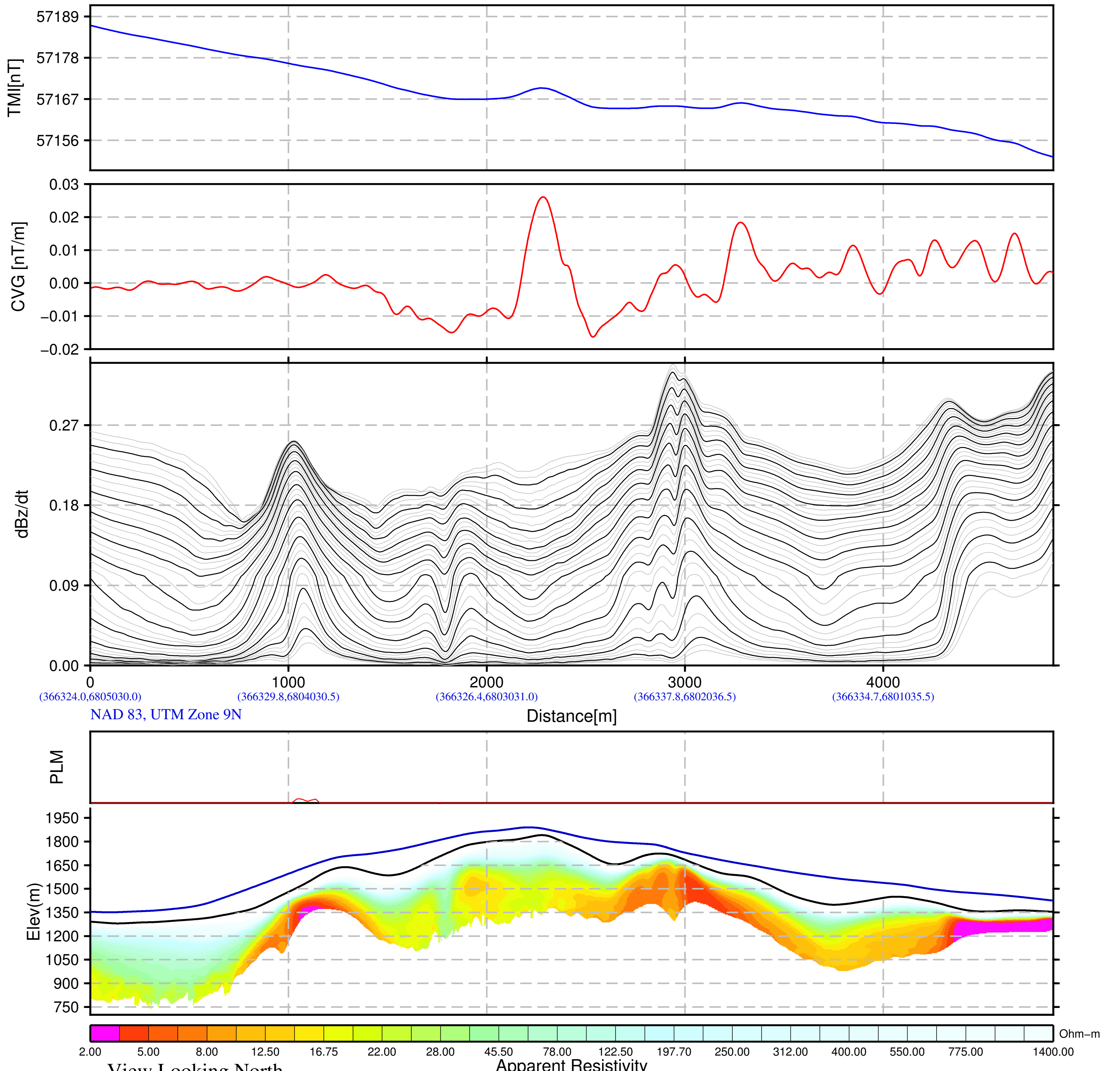
Resistivity Depth Image (RDI) for Line 6235

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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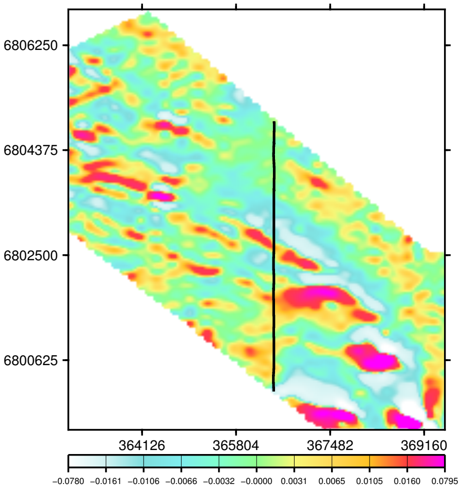
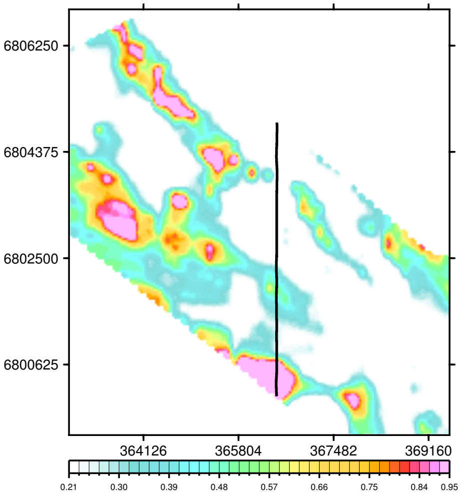
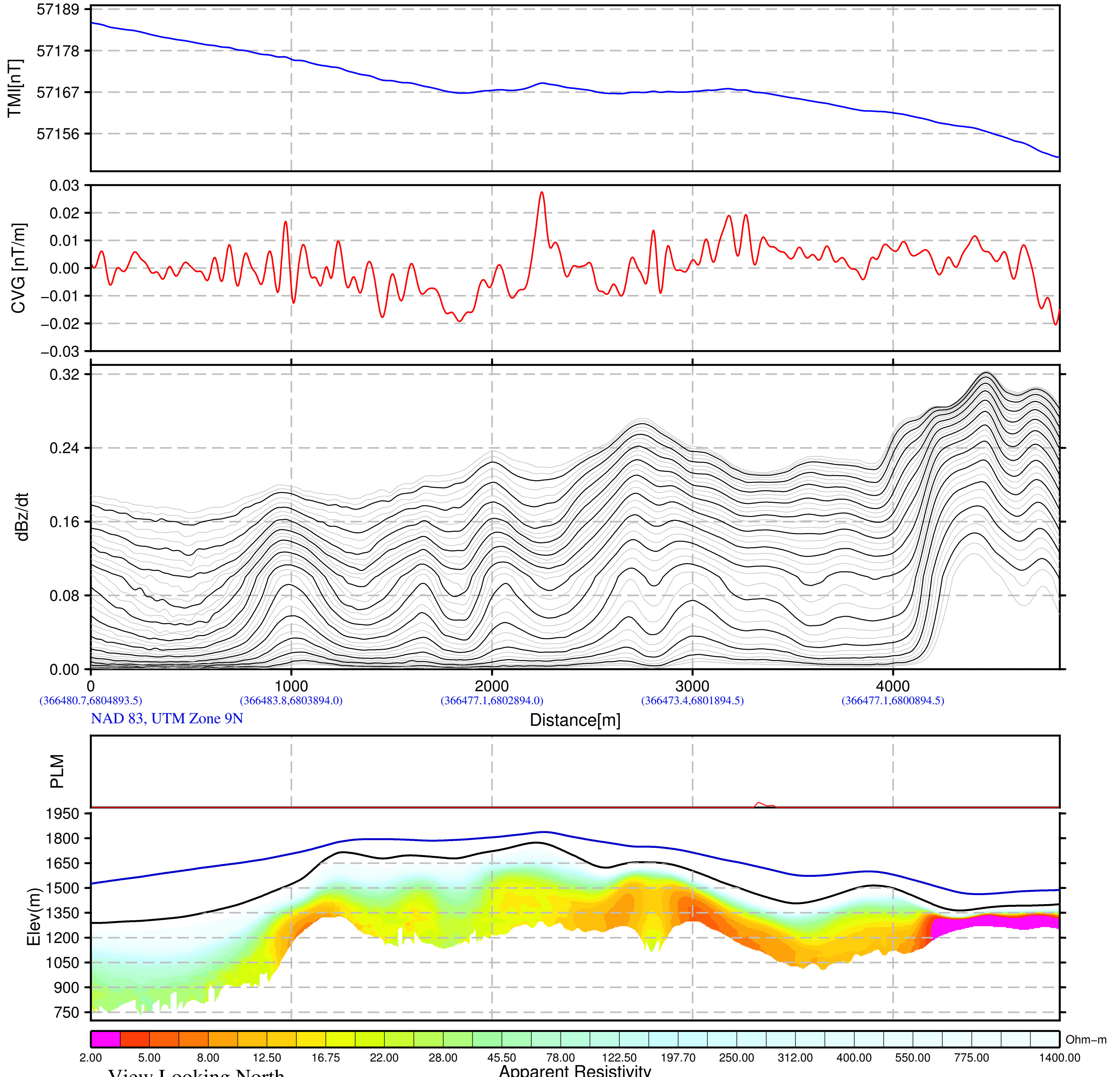
Resistivity Depth Image (RDI) for Line 6245

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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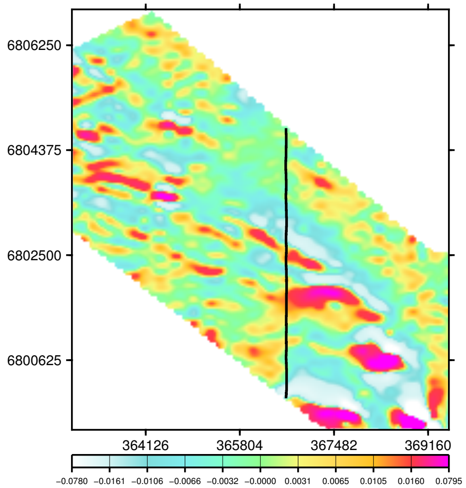
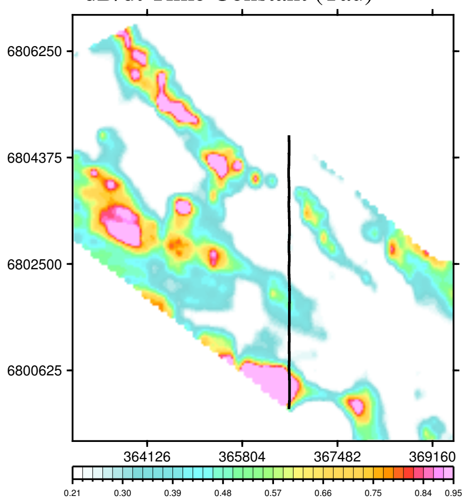
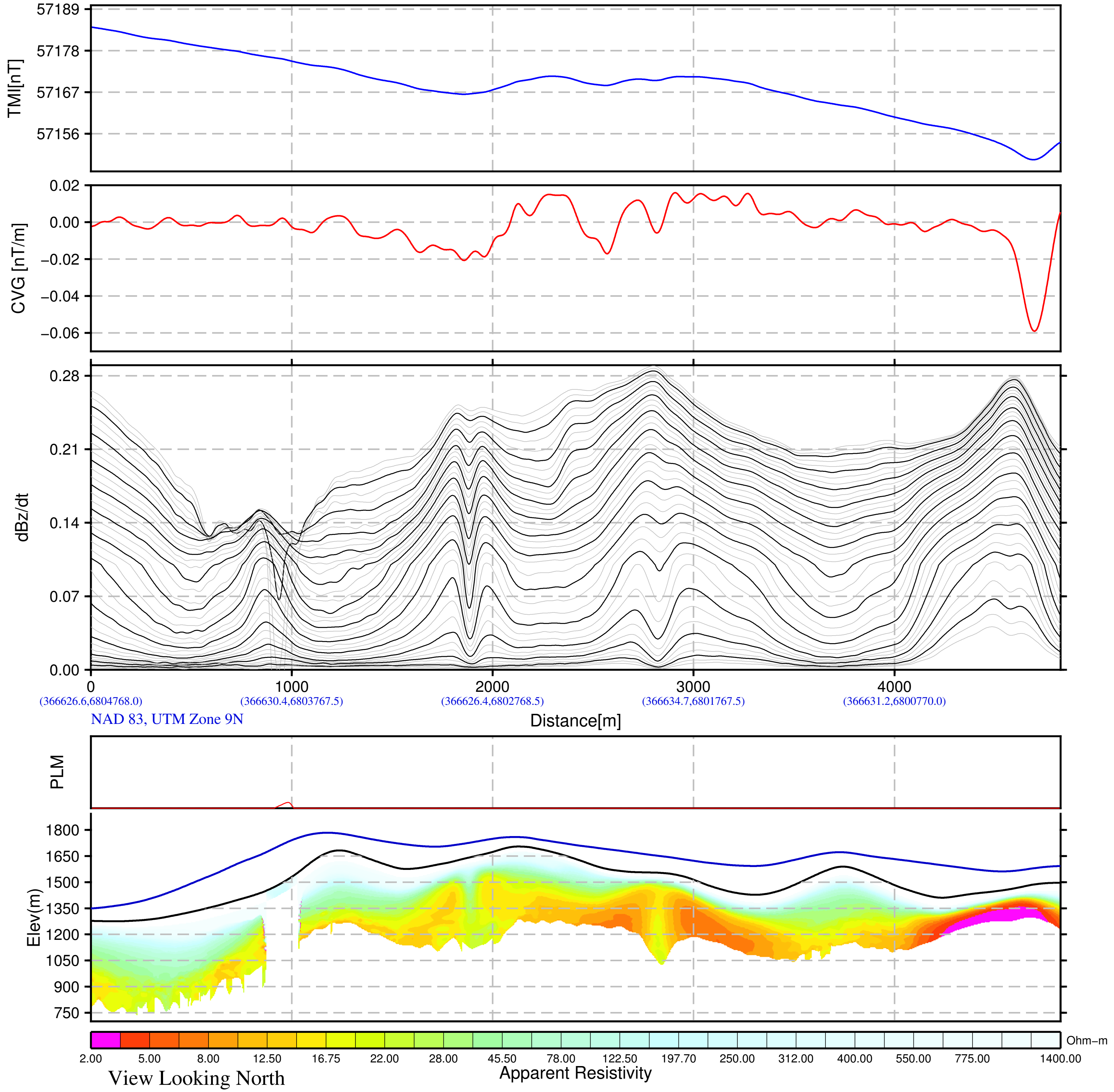
Resistivity Depth Image (RDI) for Line 6255

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Resistivity Depth Image (RDI) for Line 6265

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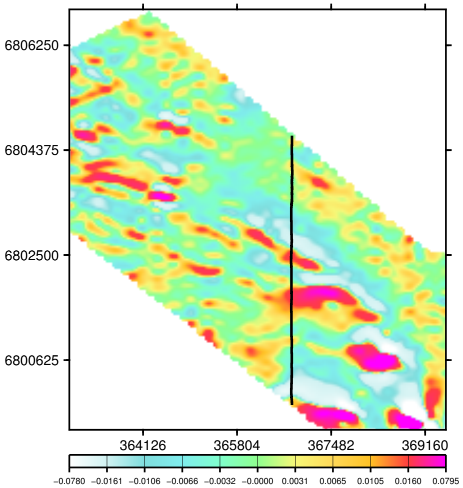
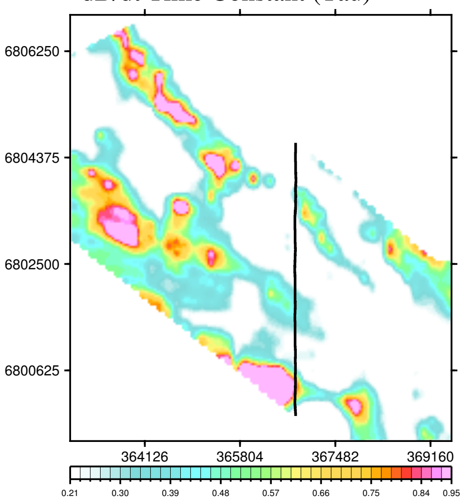
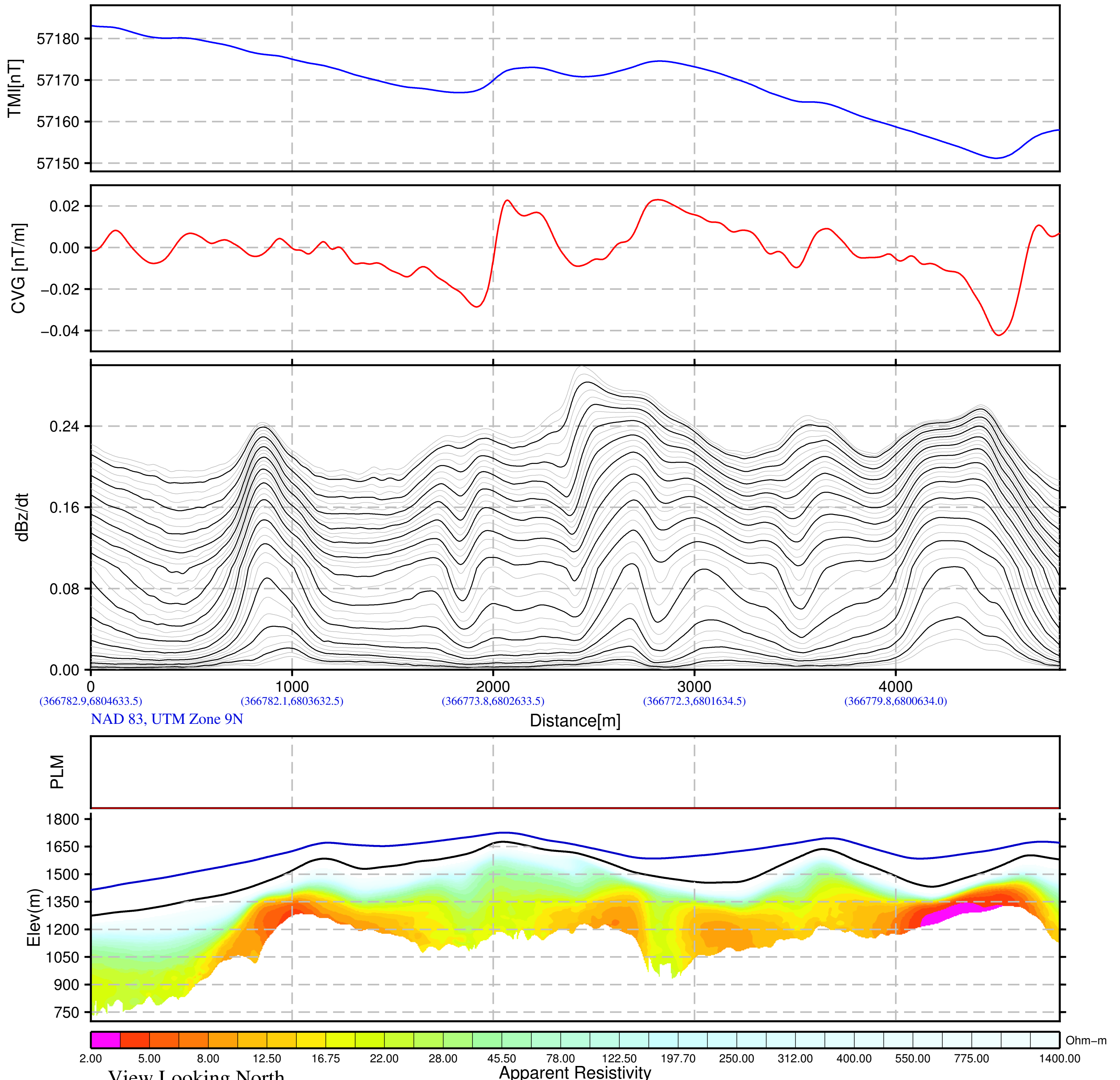
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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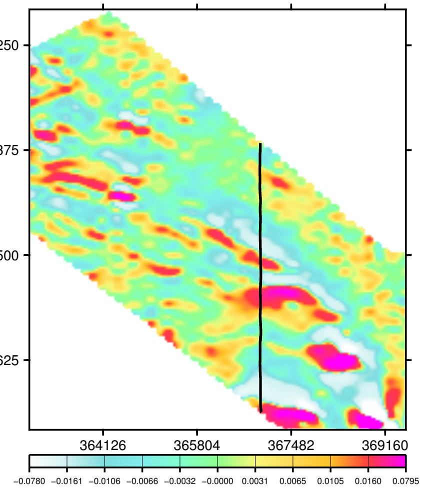
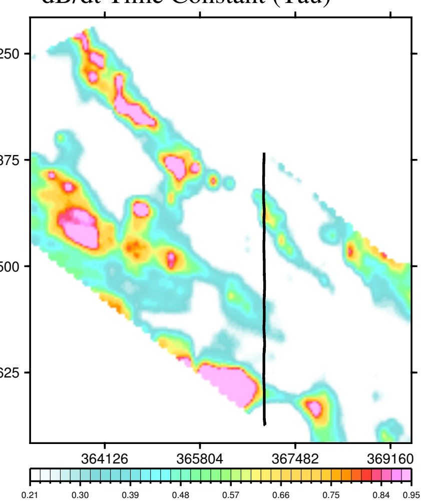
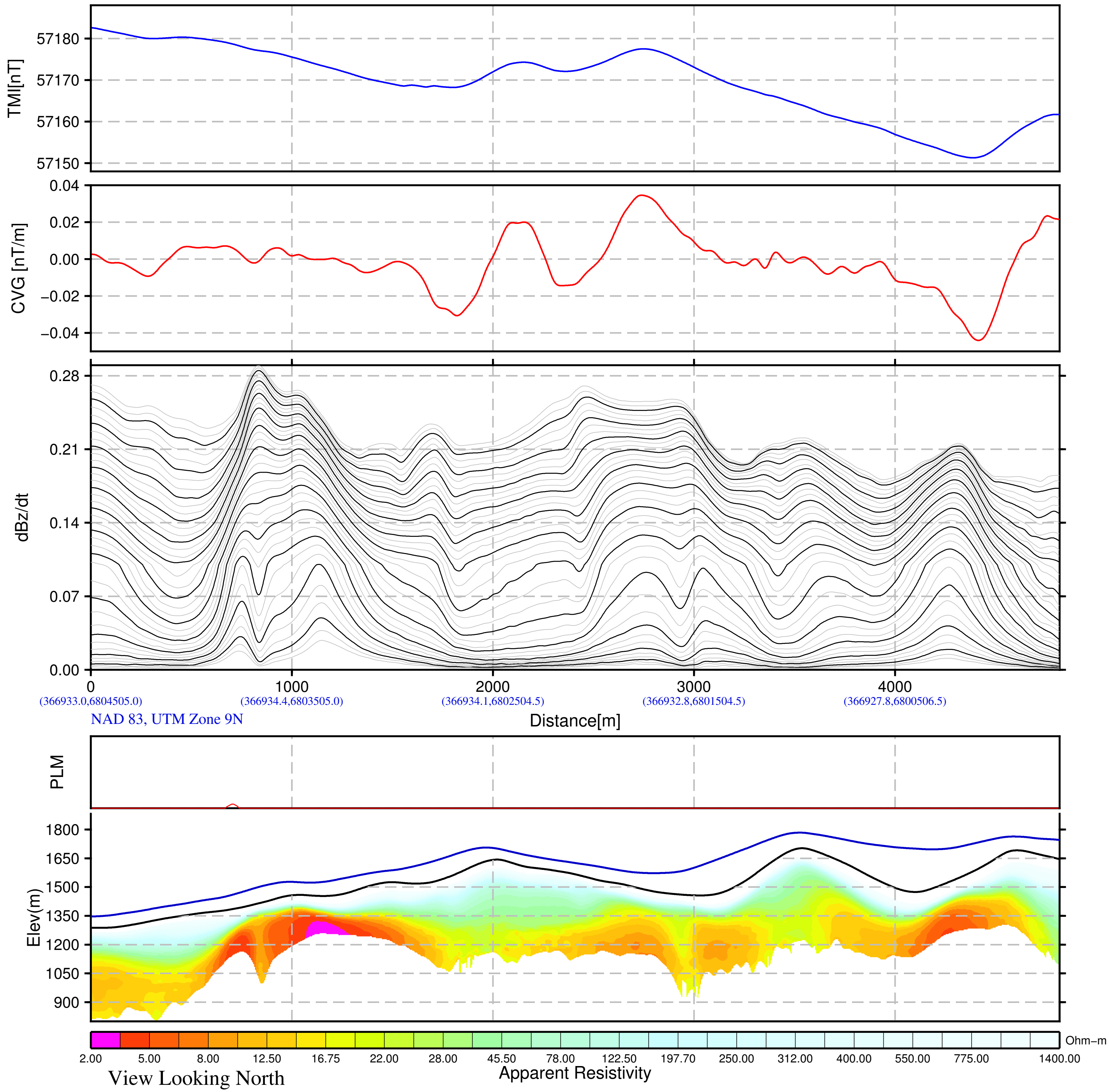
Resistivity Depth Image (RDI) for Line 6275

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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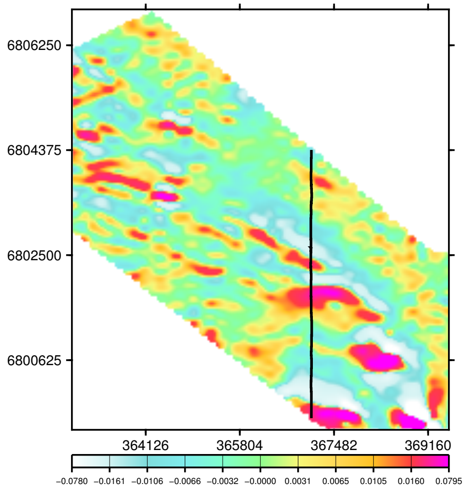
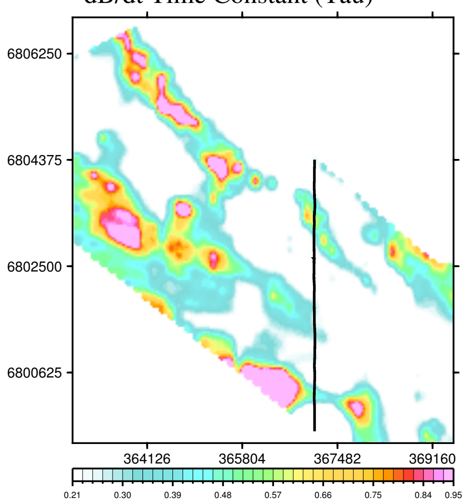
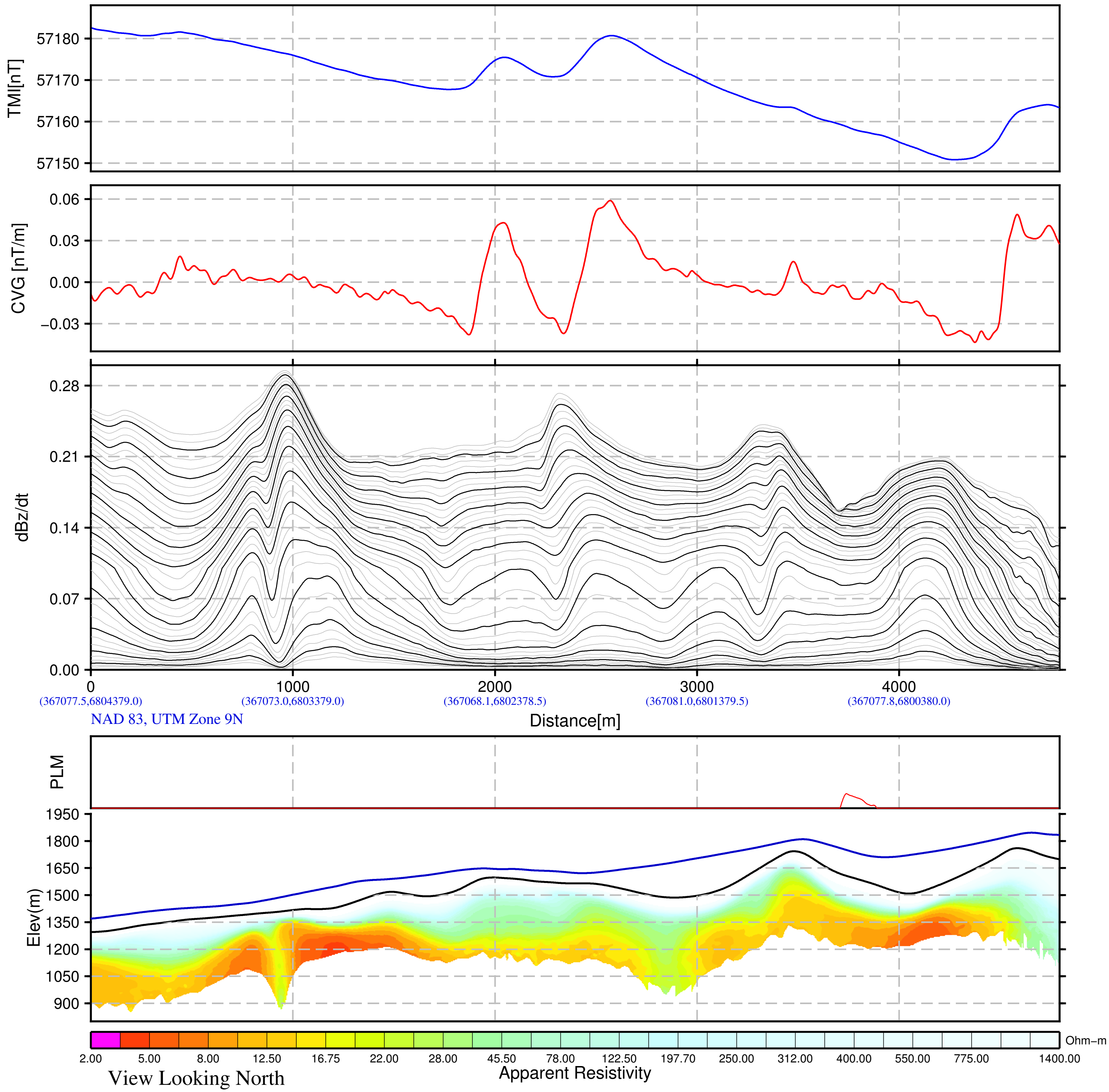
Resistivity Depth Image (RDI) for Line 6285

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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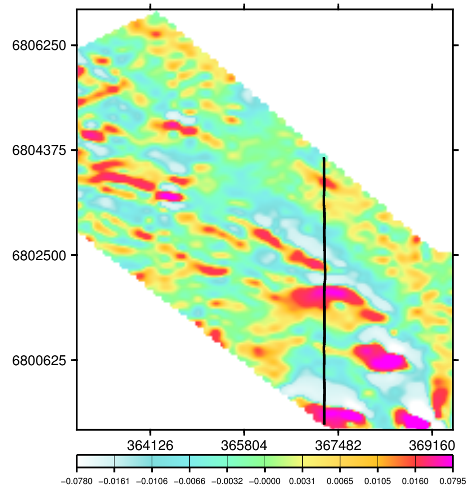
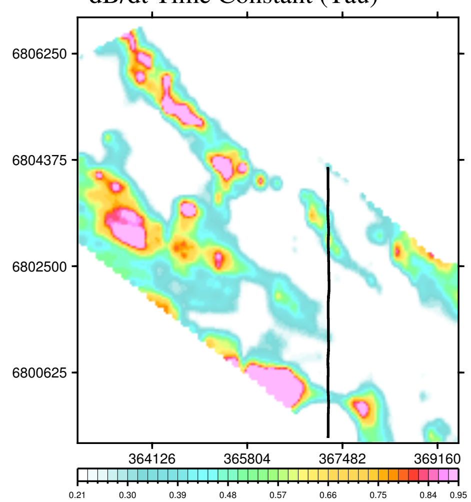
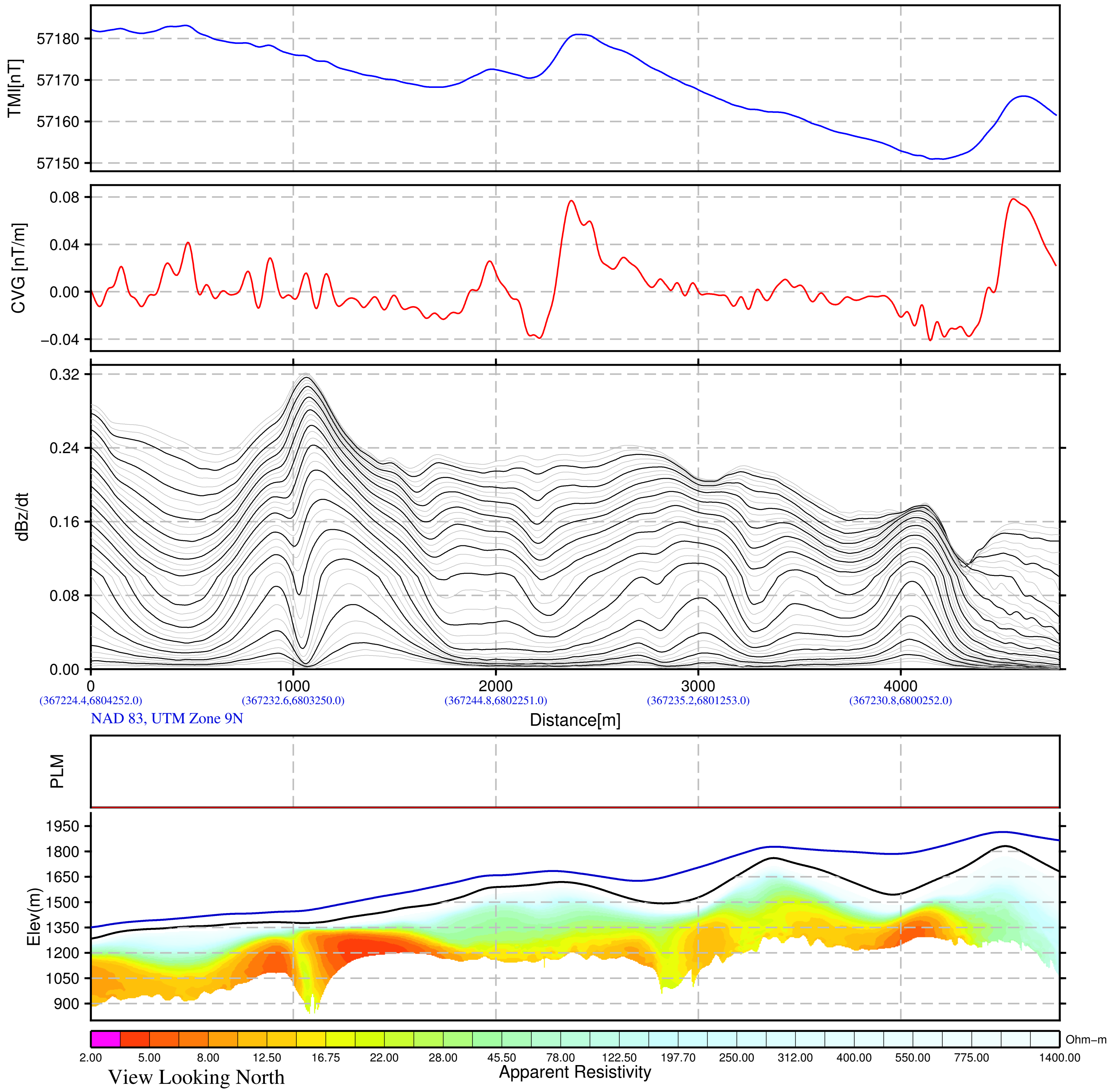
Resistivity Depth Image (RDI) for Line 6295

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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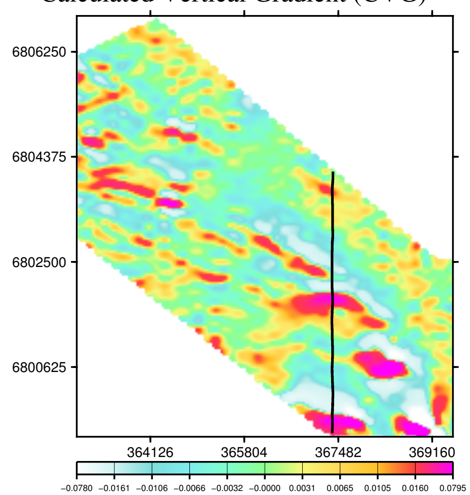
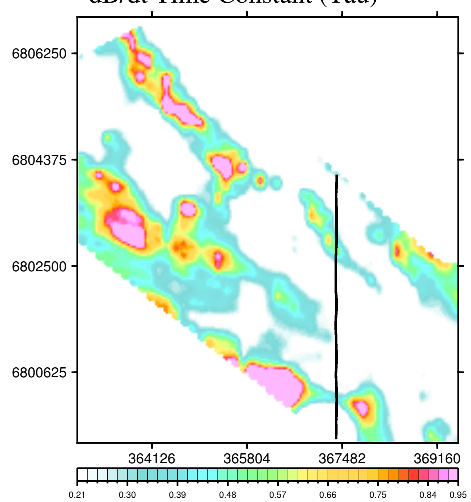
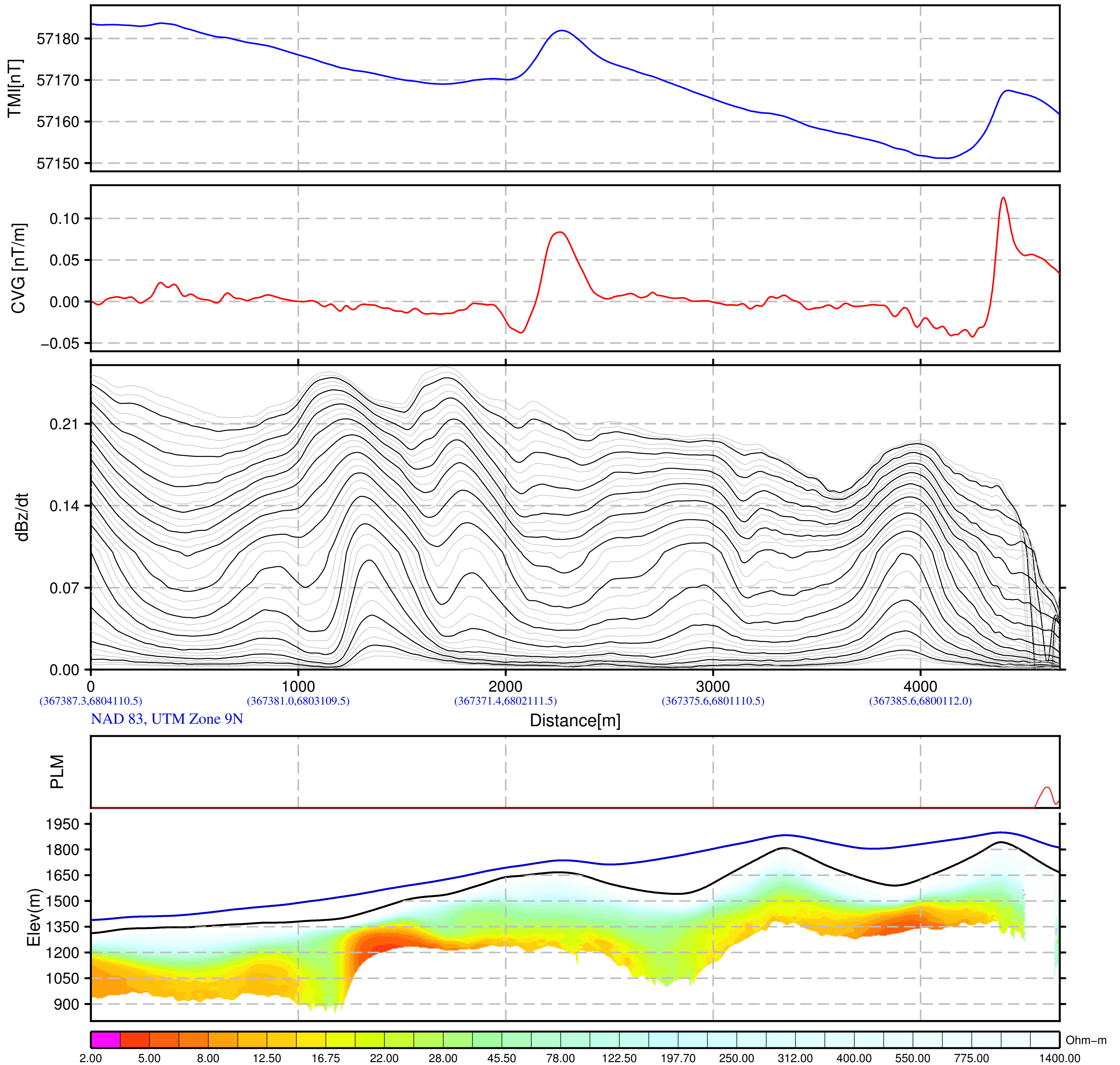
Resistivity Depth Image (RDI) for Line 6305

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Resistivity Depth Image (RDI) for Line 6315

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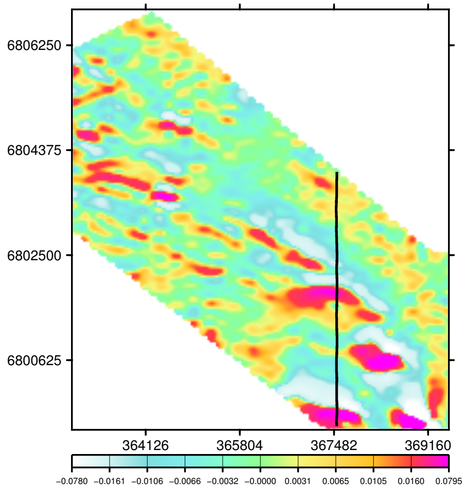
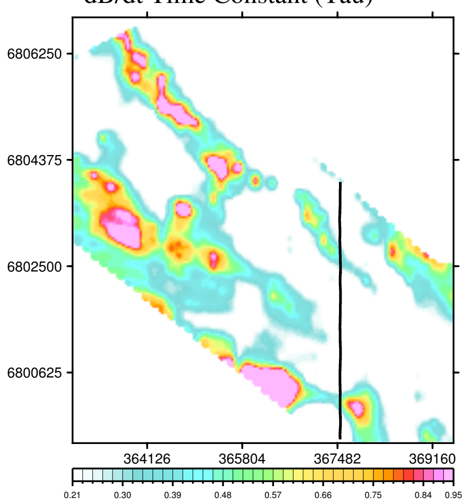
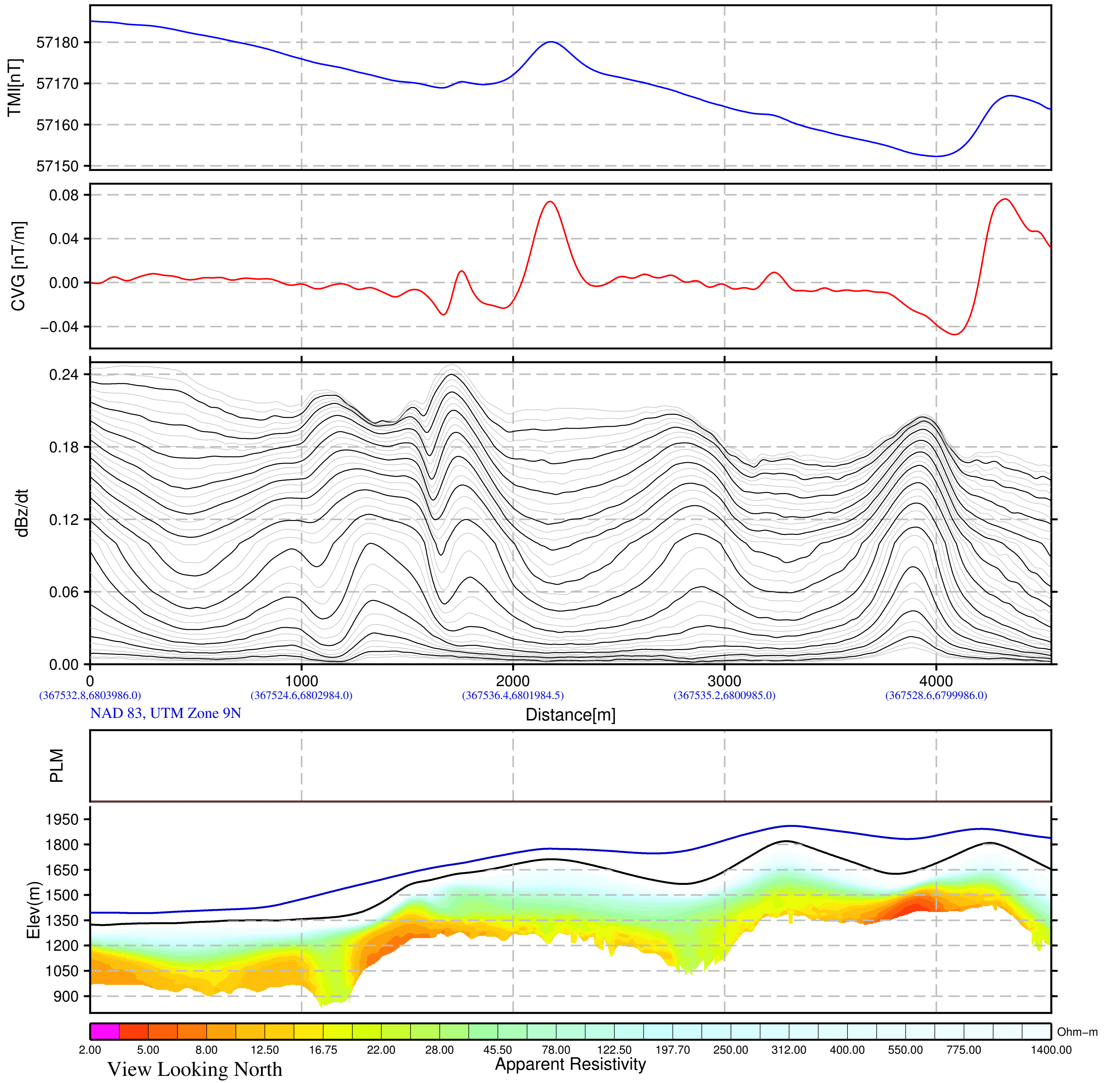
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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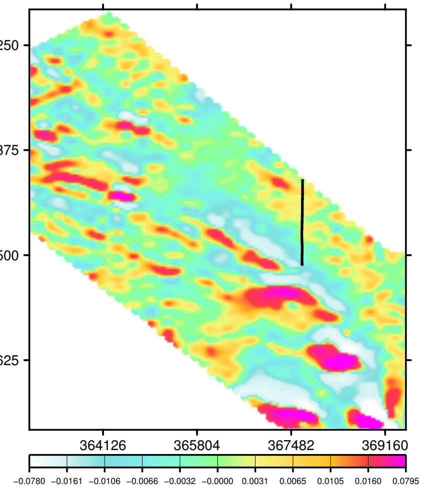
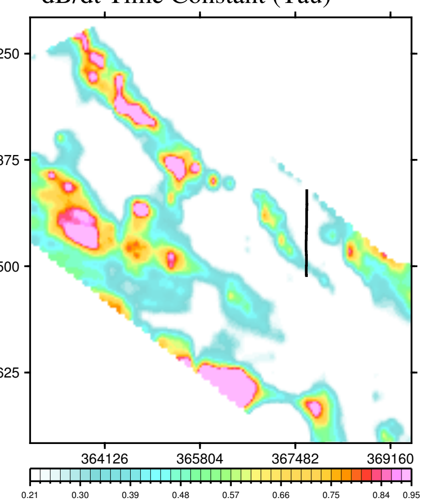
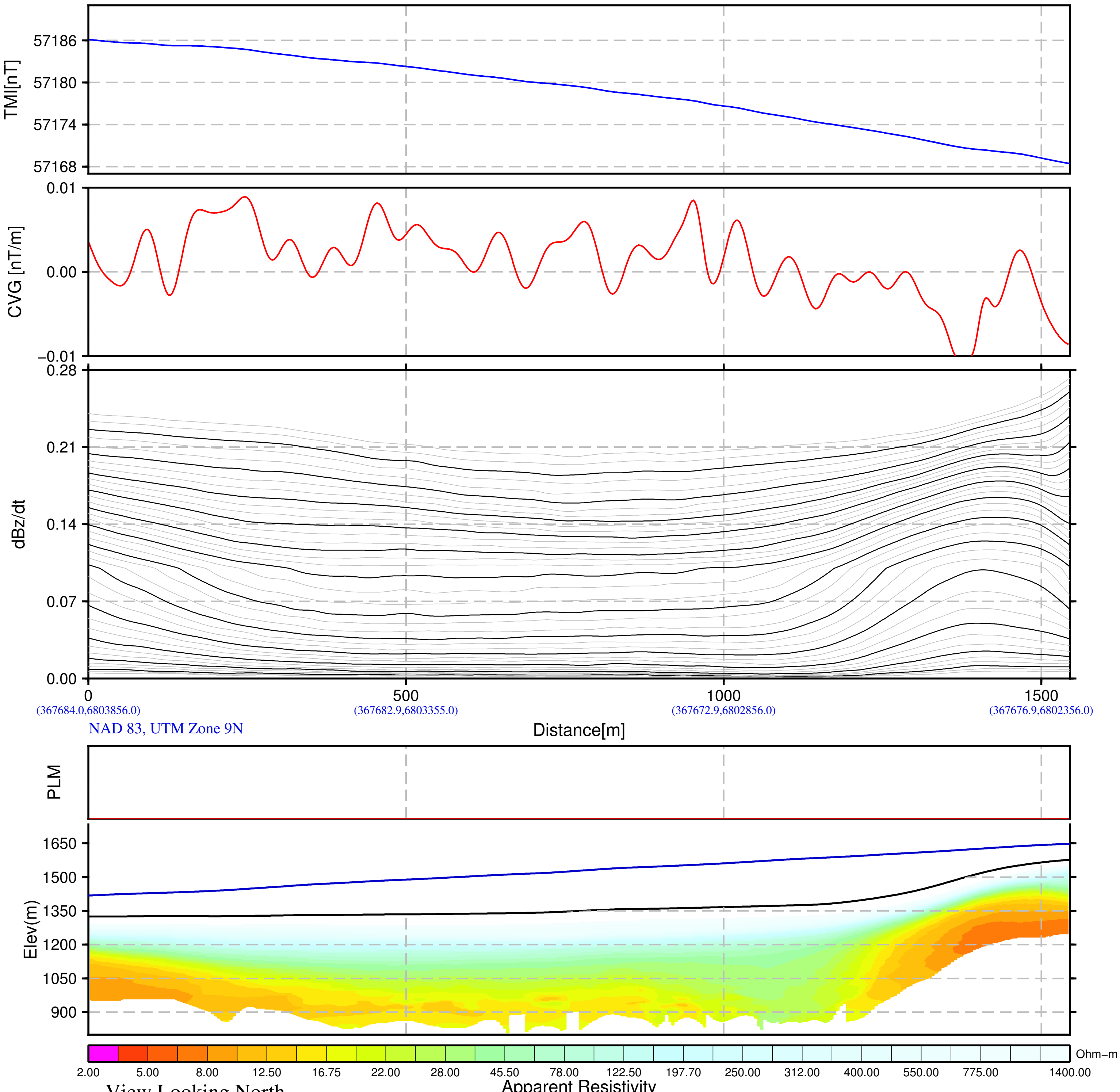
Resistivity Depth Image (RDI) for Line 6325

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





View Looking North

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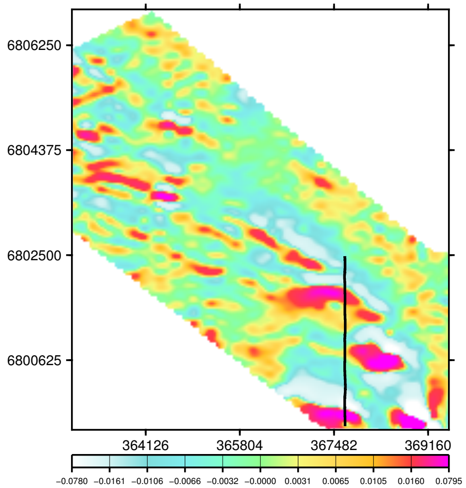
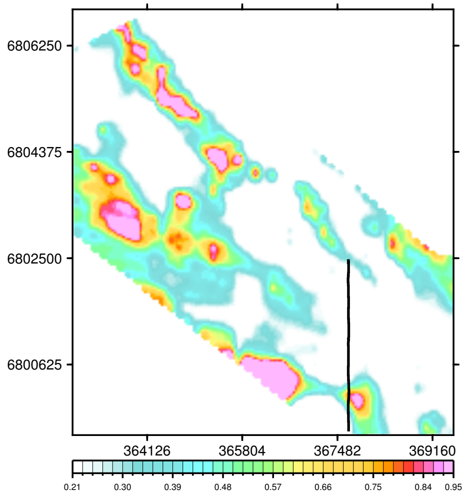
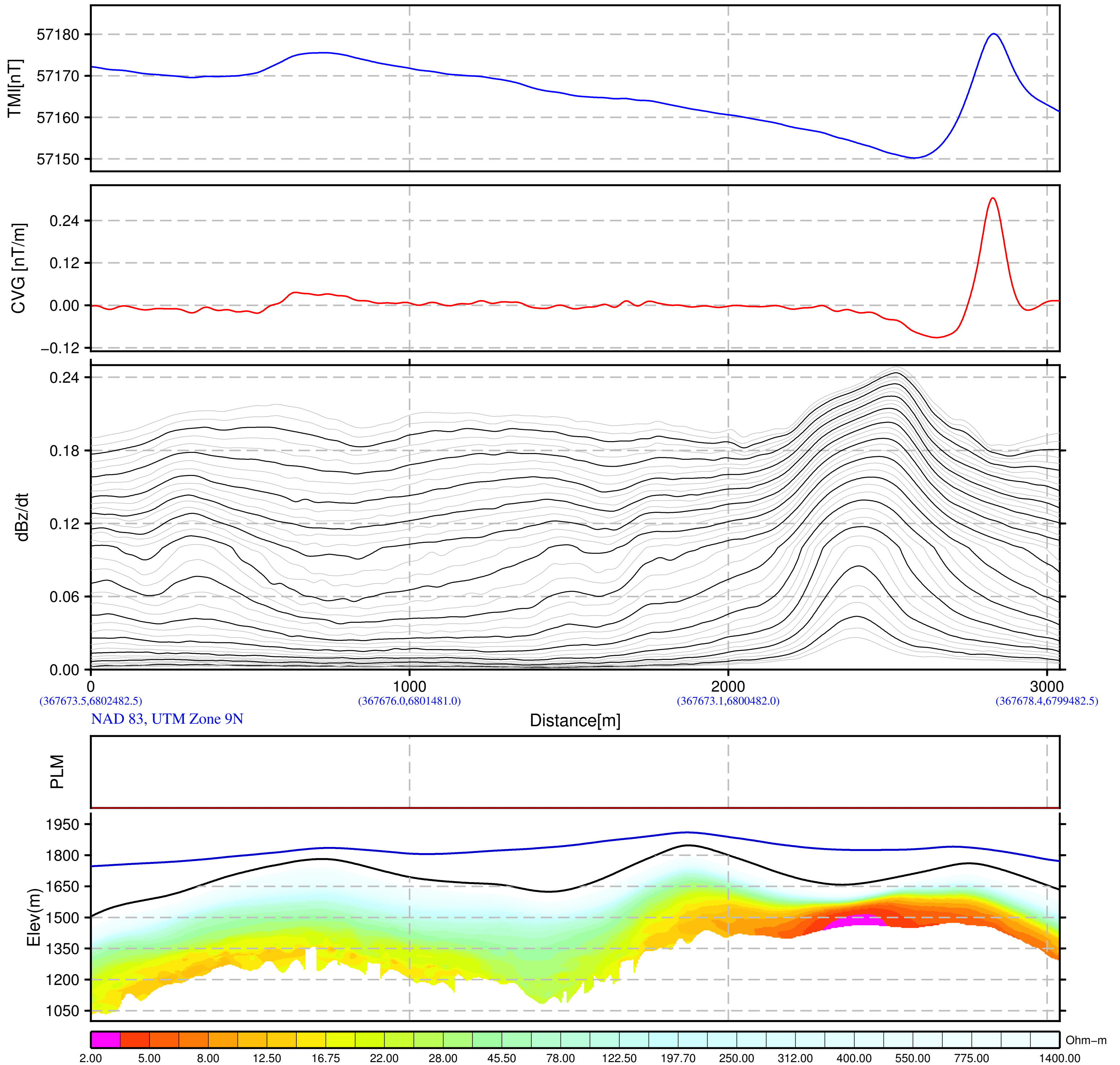
Resistivity Depth Image (RDI) for Line 6326

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

VTEM System:VTEM31−Plus
Job Number:GL160037
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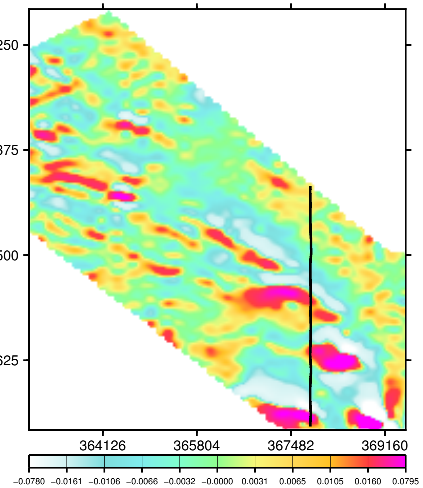
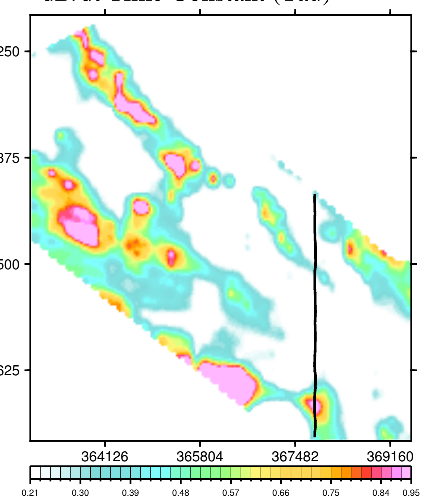
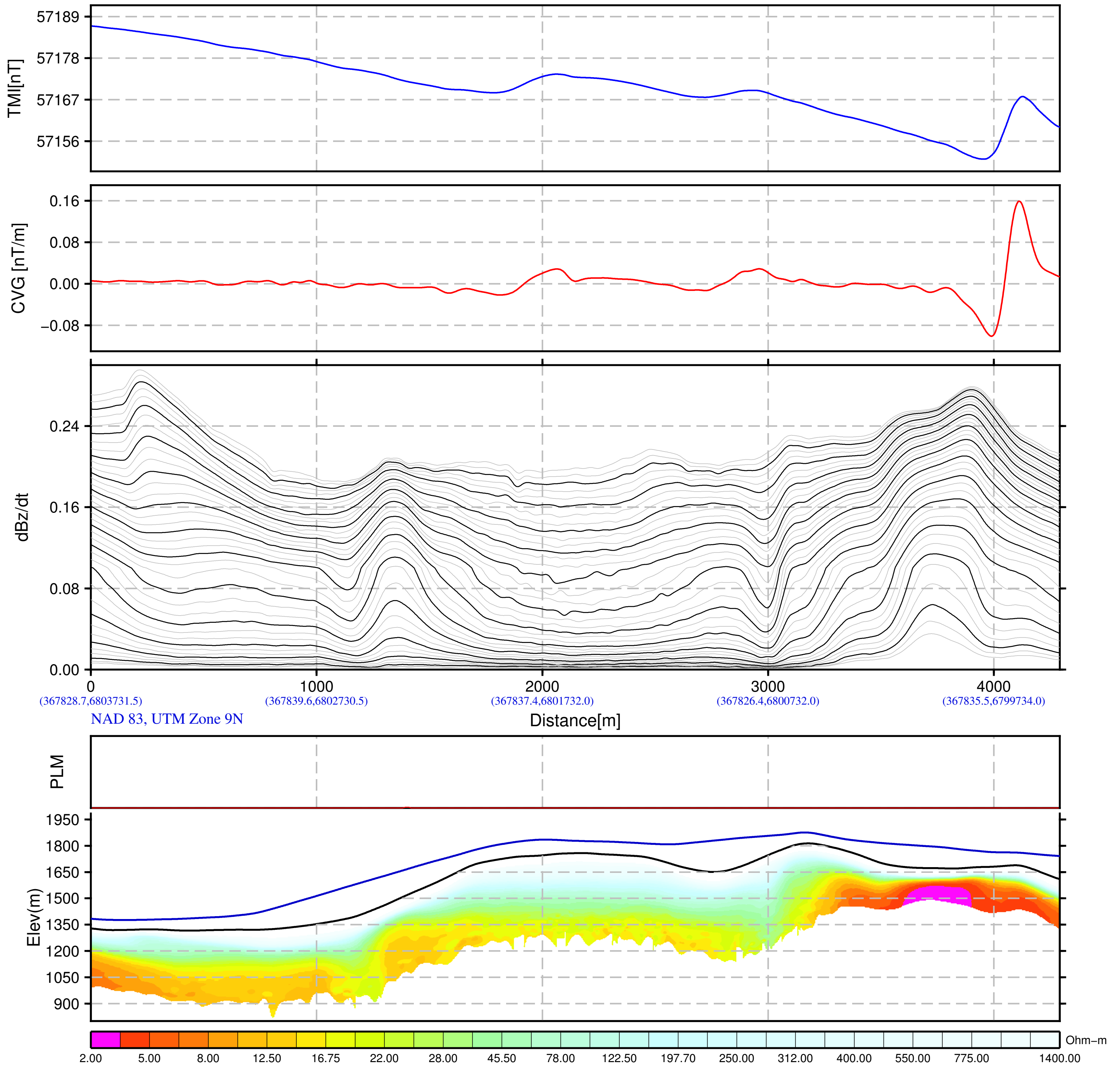
Resistivity Depth Image (RDI) for Line 6335

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





View Looking North

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Wolf Block
Yukon, Canada

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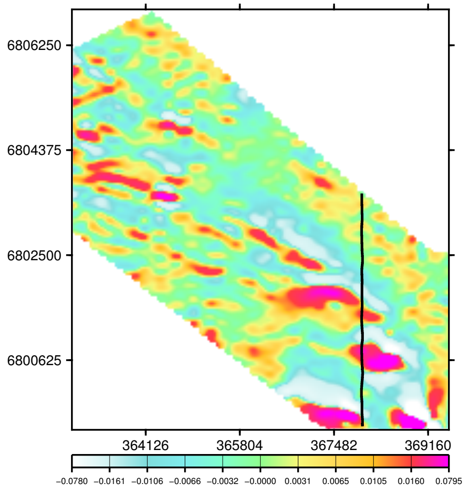
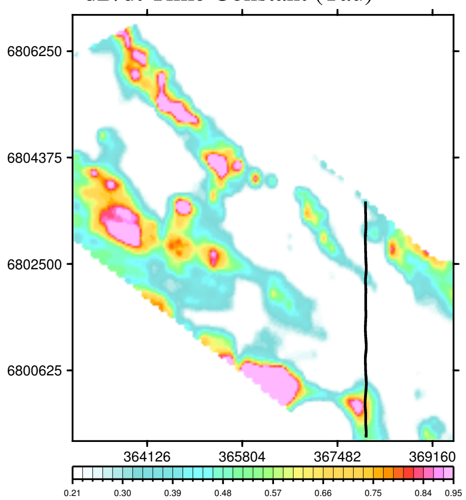
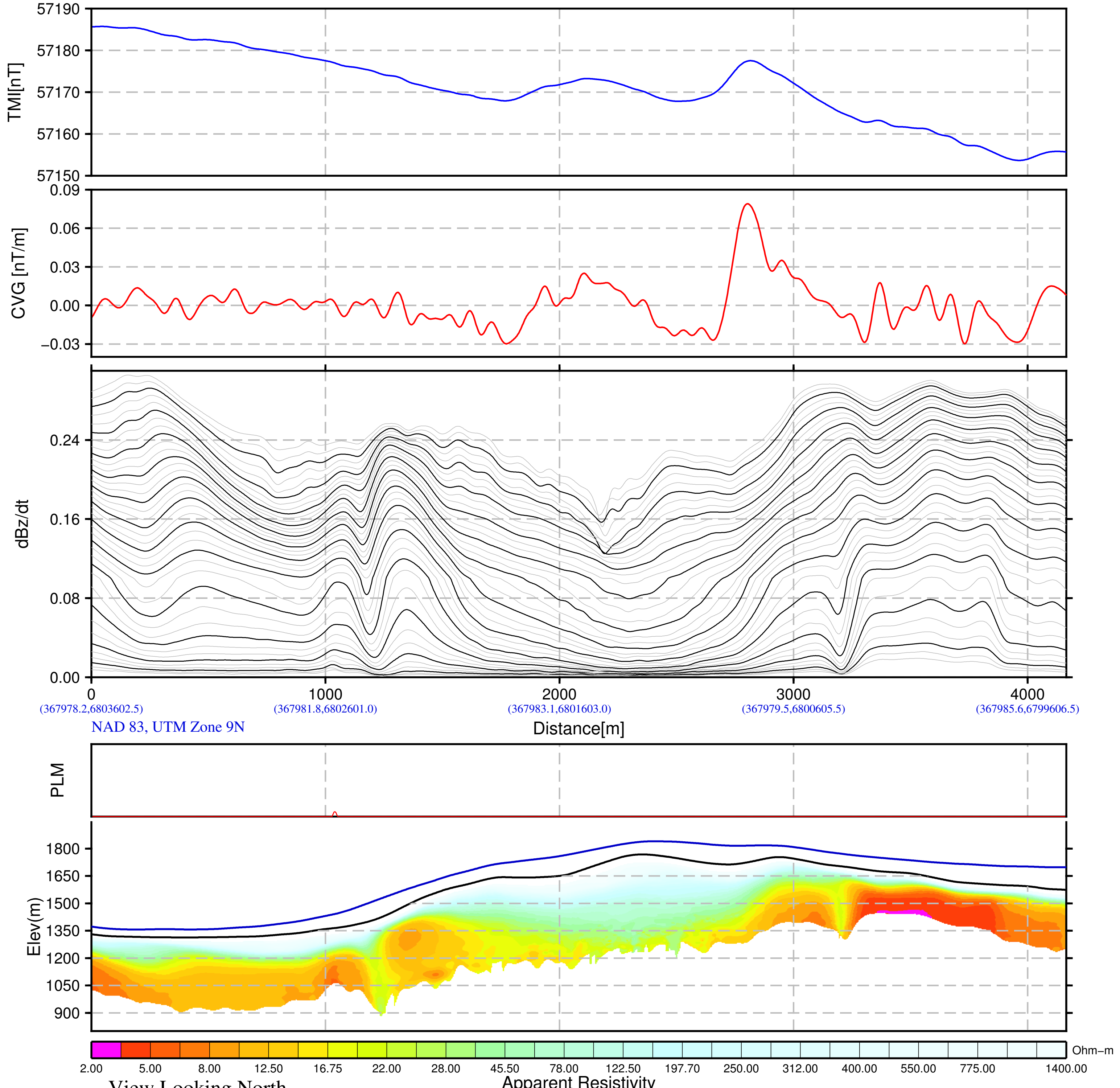
Resistivity Depth Image (RDI) for Line 6340

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





View Looking North

BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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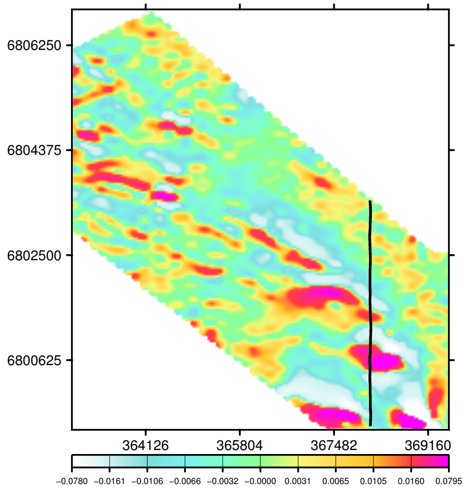
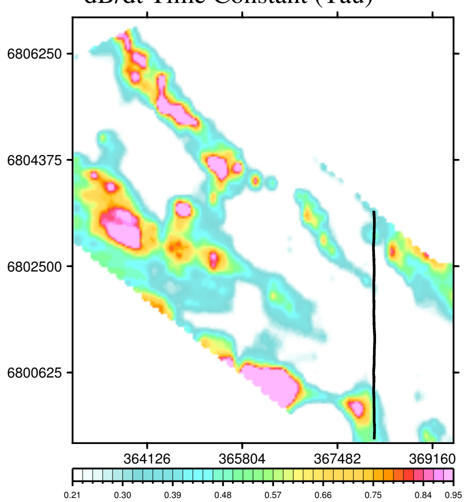
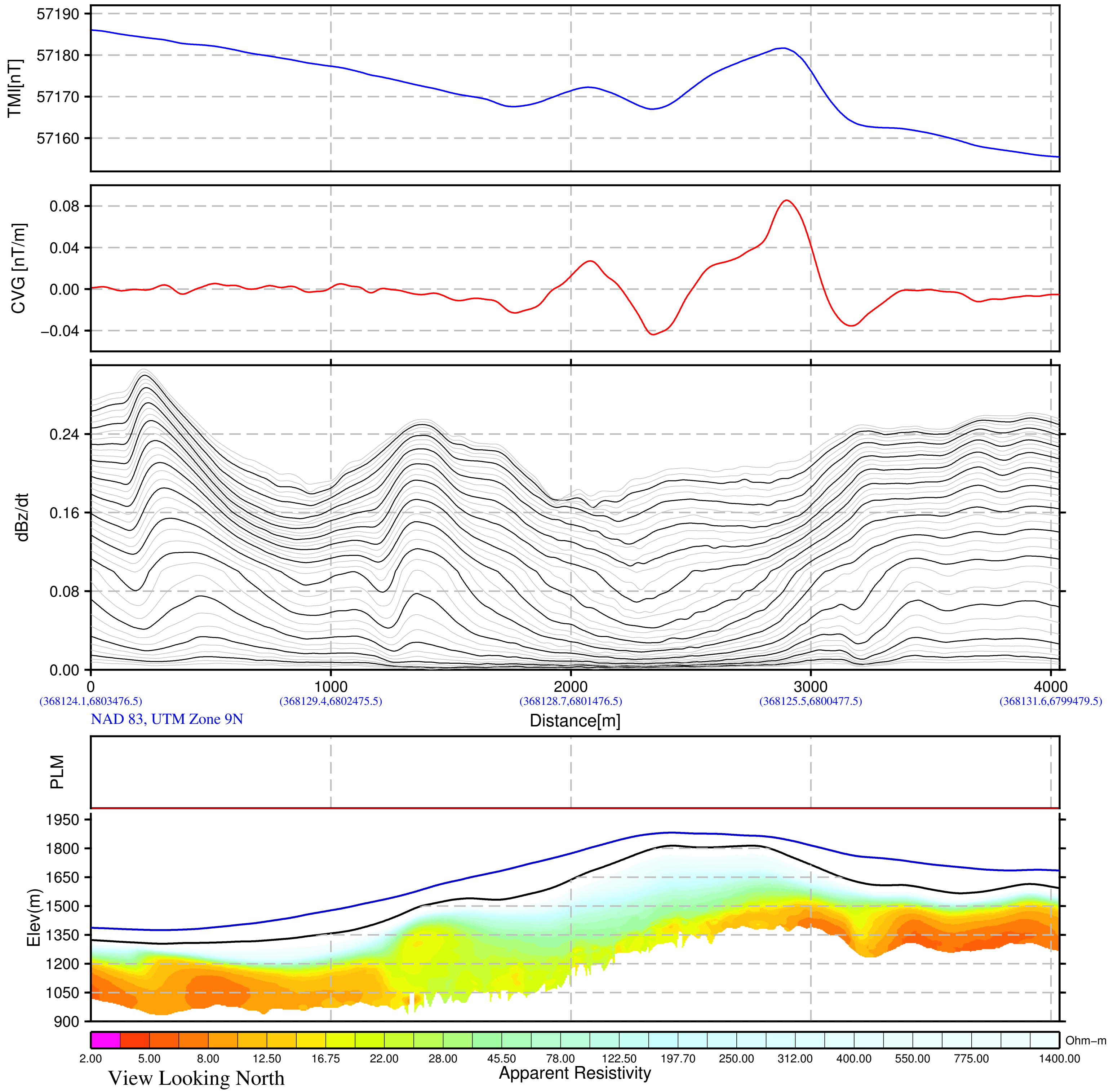
Resistivity Depth Image (RDI) for Line 6355

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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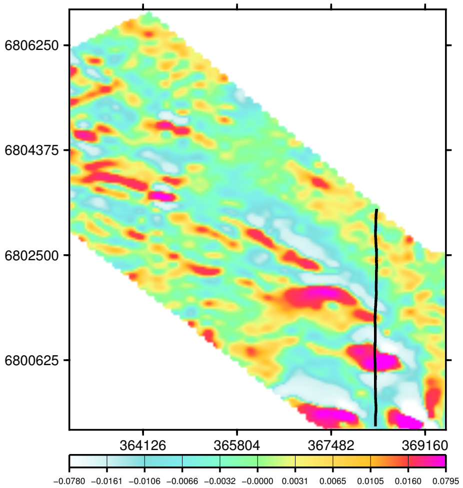
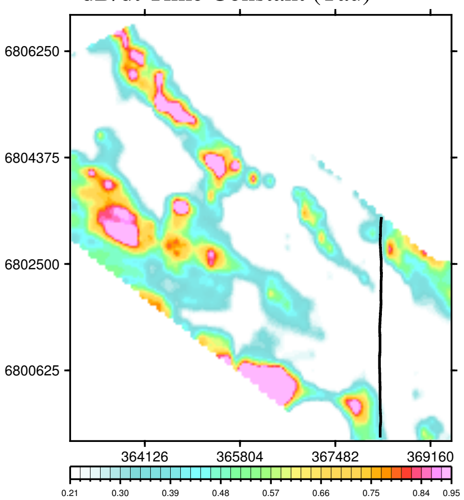
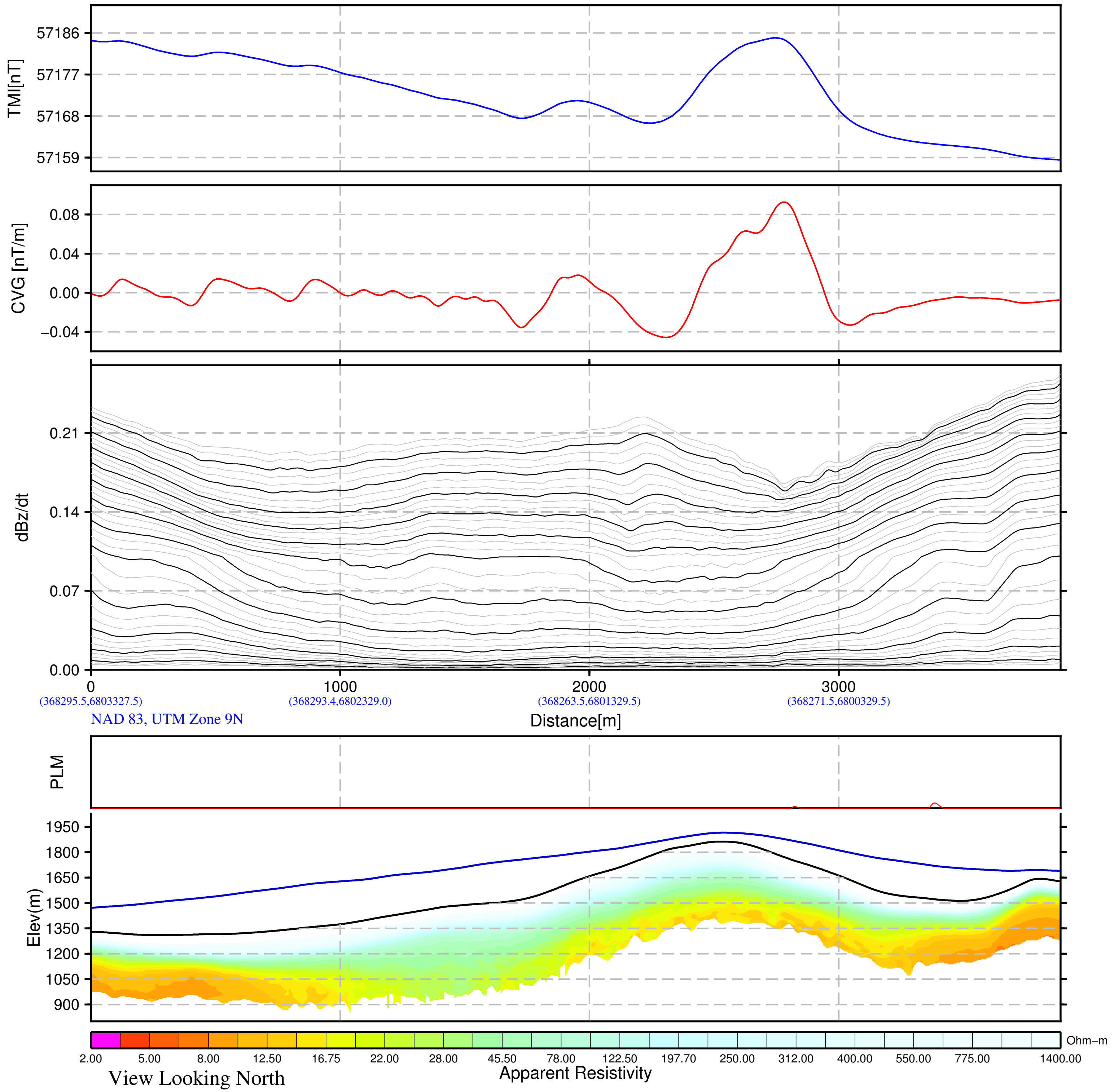
Resistivity Depth Image (RDI) for Line 6365

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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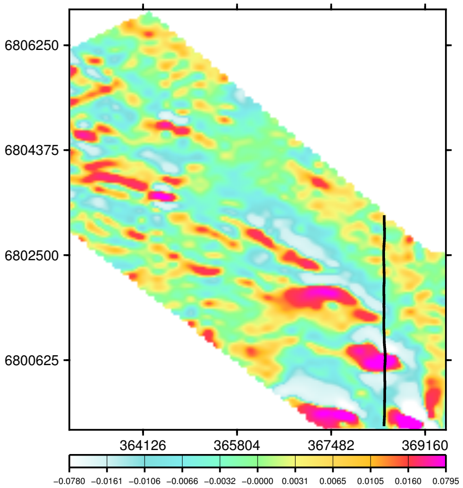
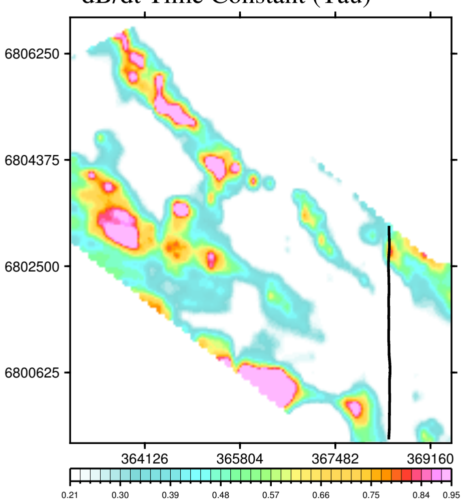
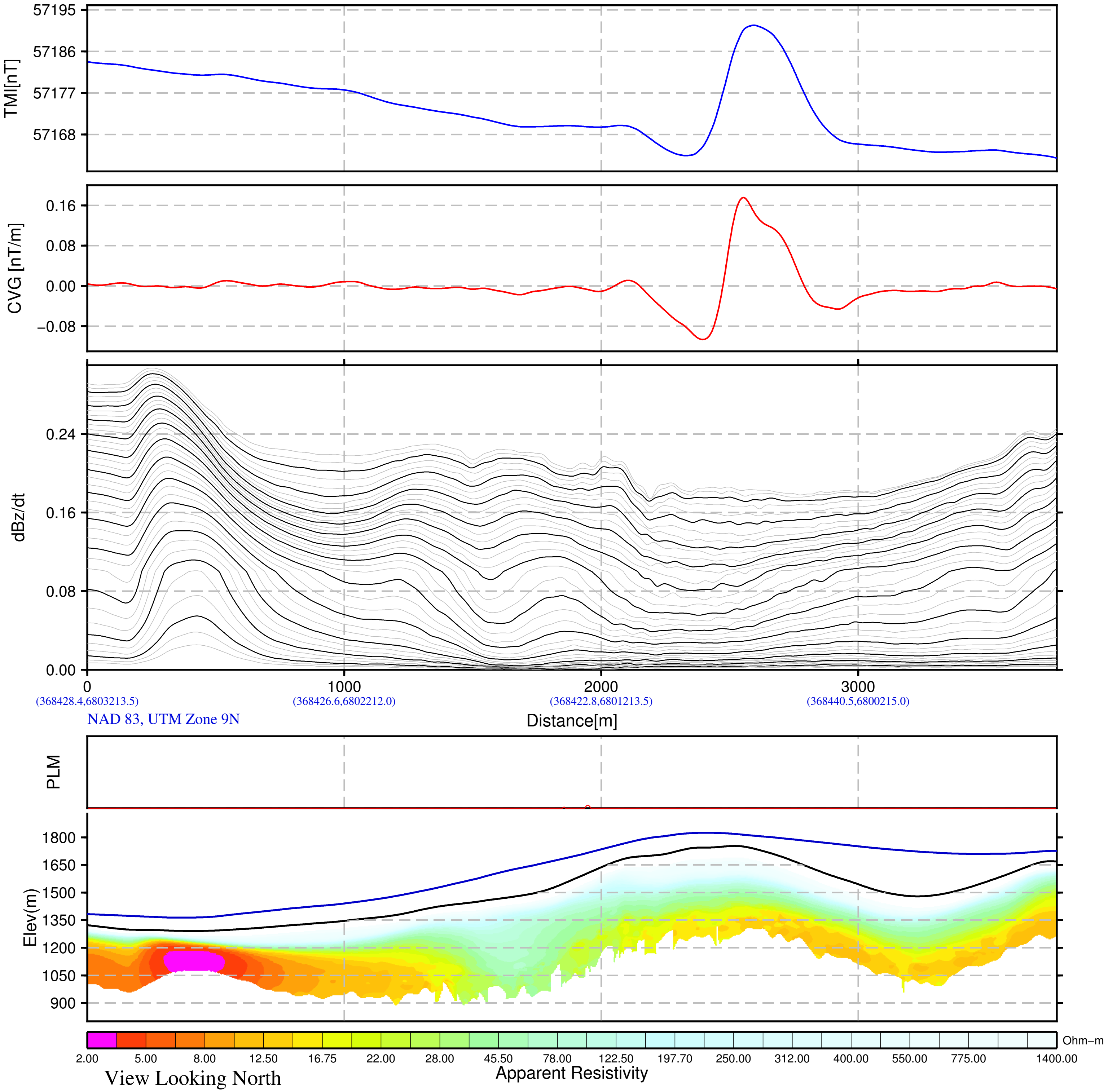
Resistivity Depth Image (RDI) for Line 6375

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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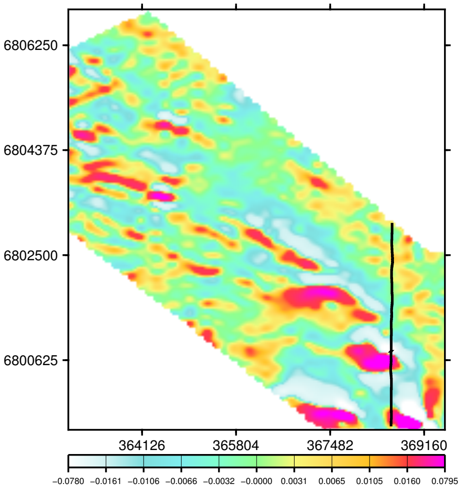
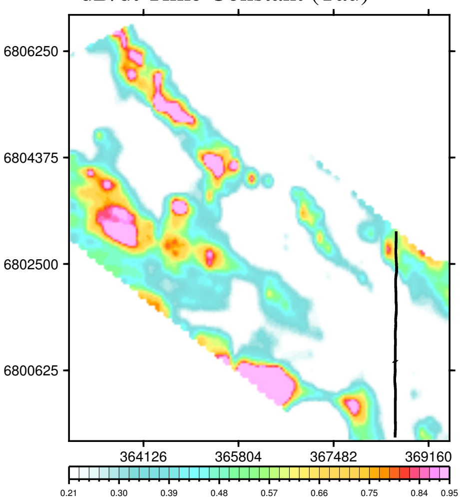
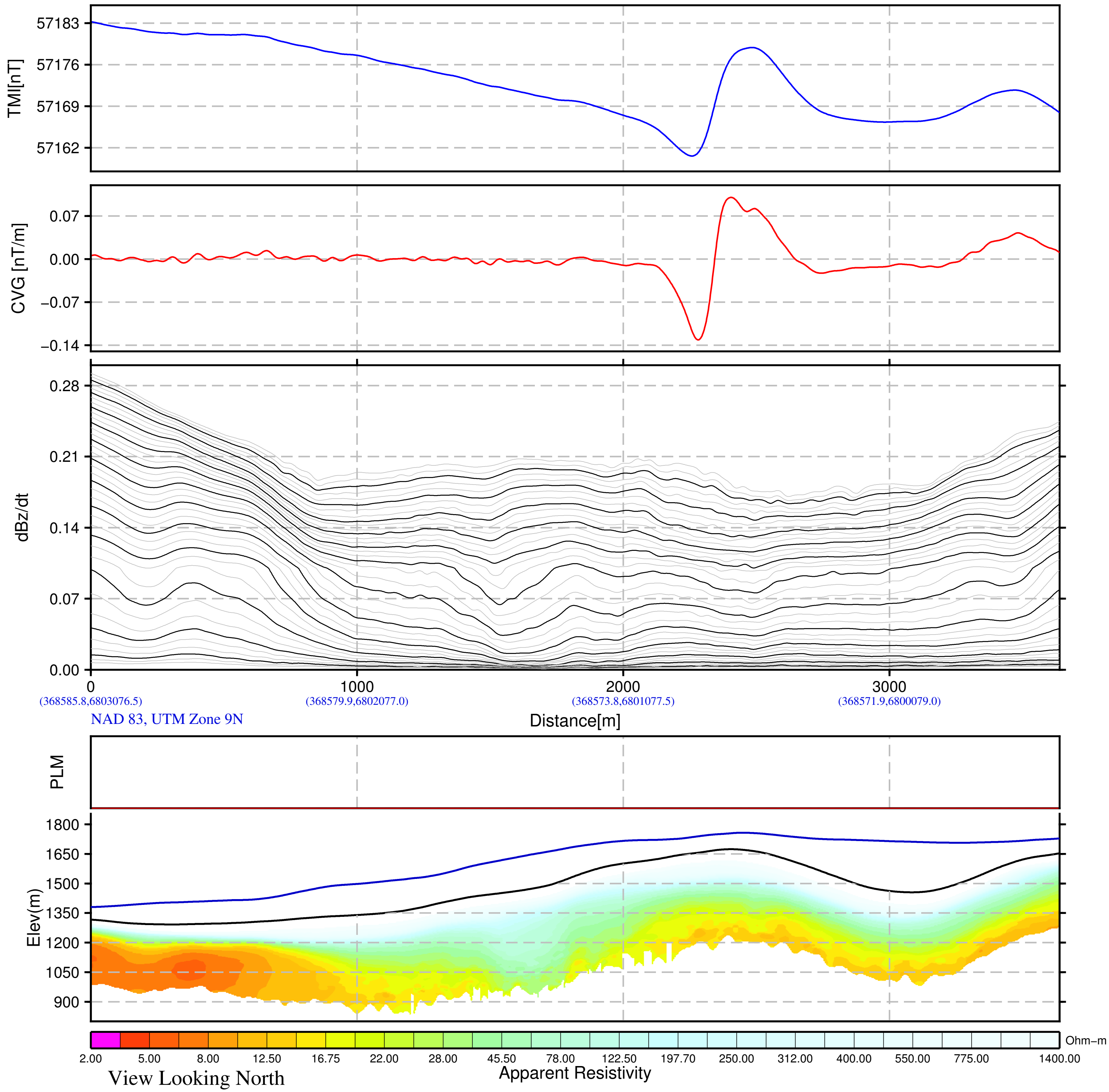
Resistivity Depth Image (RDI) for Line 6385

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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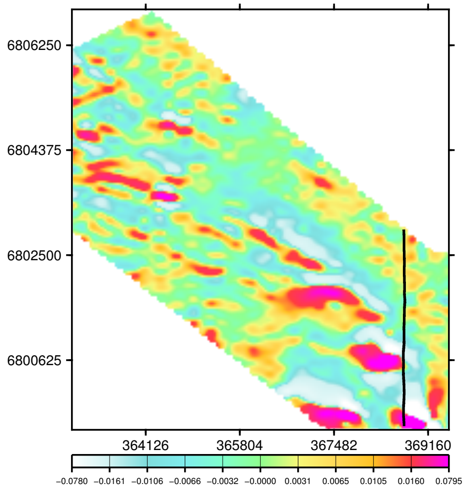
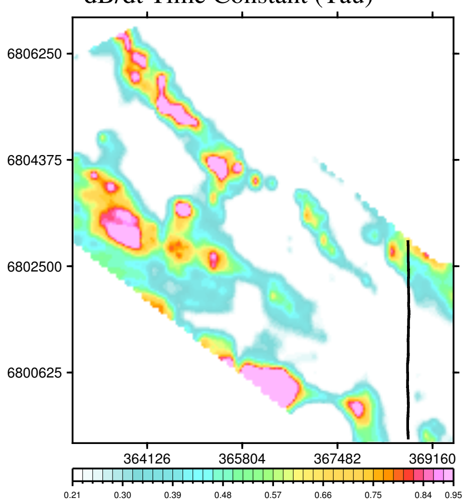
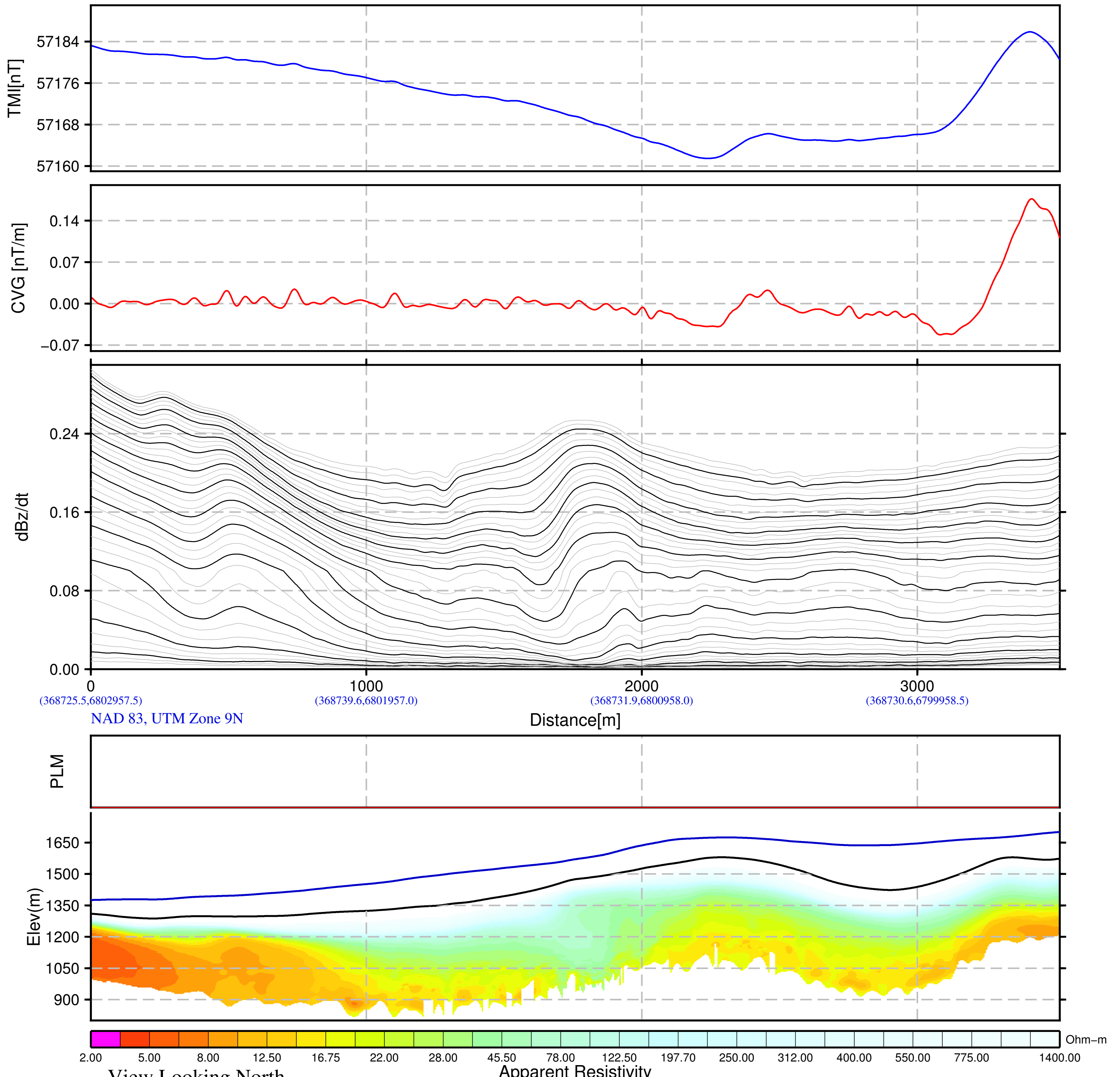
Resistivity Depth Image (RDI) for Line 6395

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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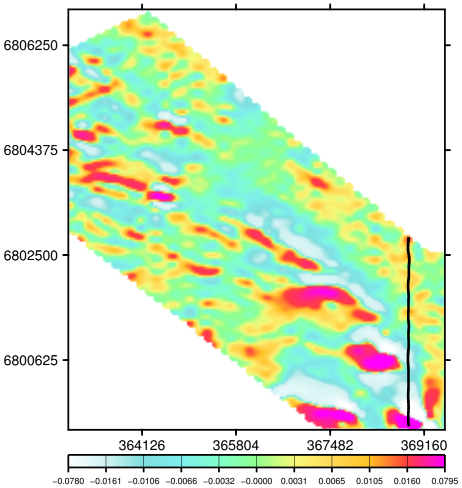
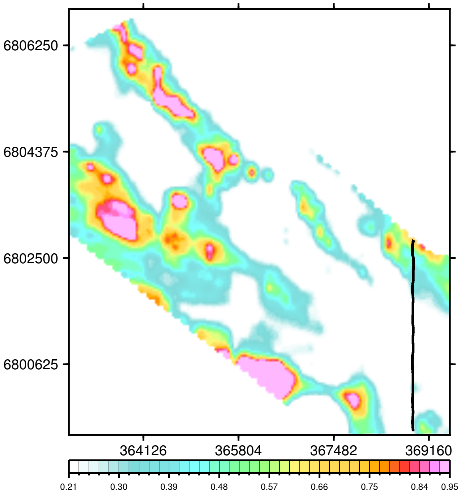
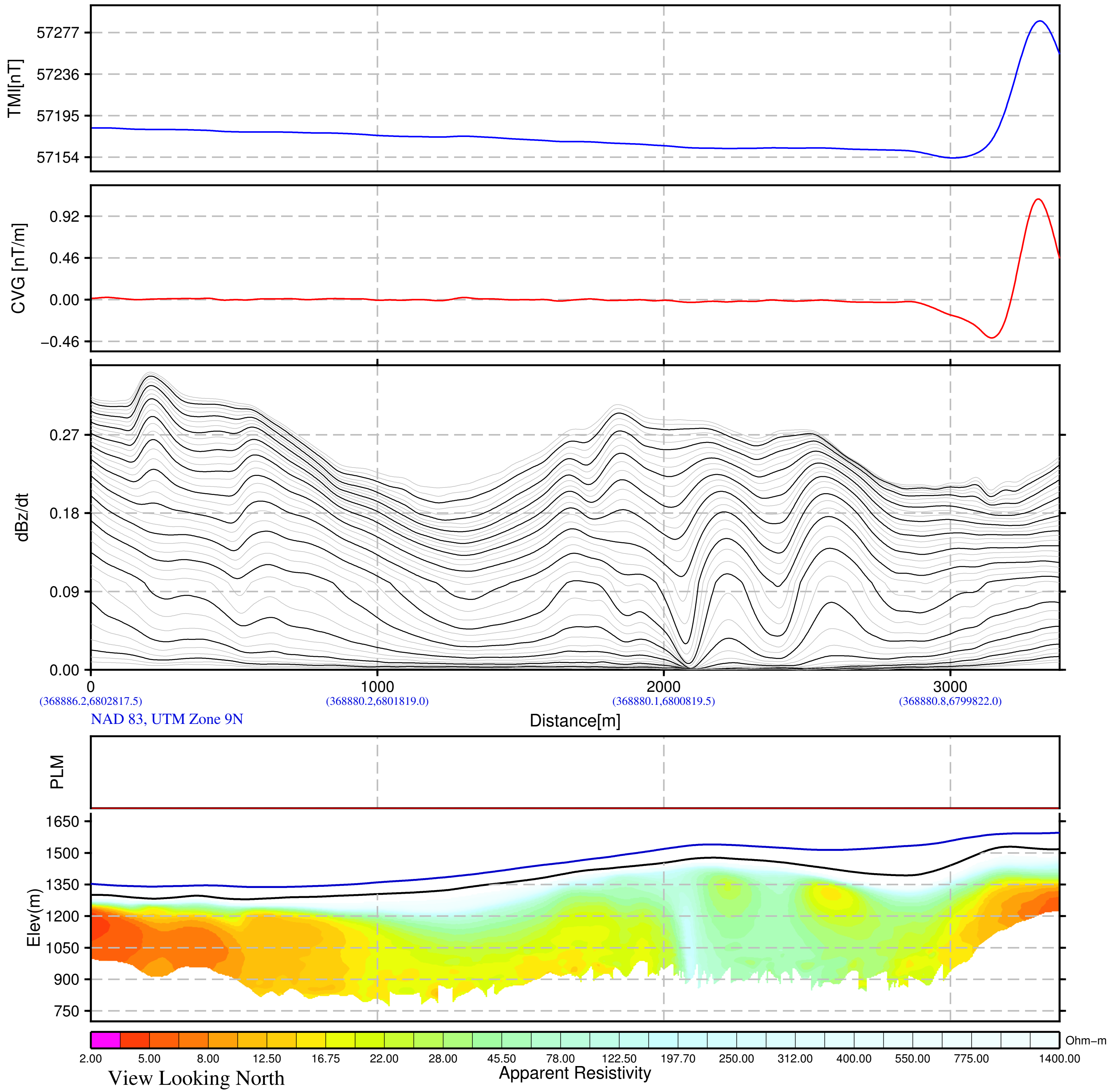
Resistivity Depth Image (RDI) for Line 6400

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
Yukon, Canada

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Resistivity Depth Image (RDI) for Line 6410

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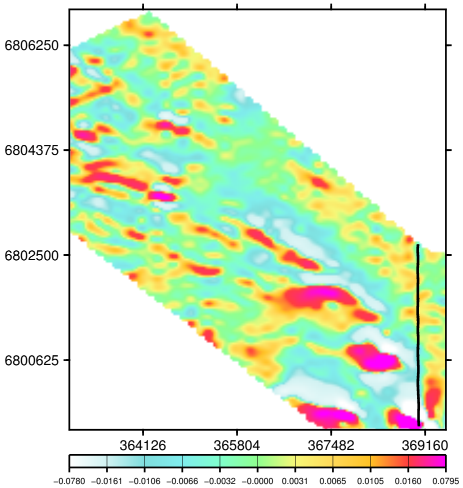
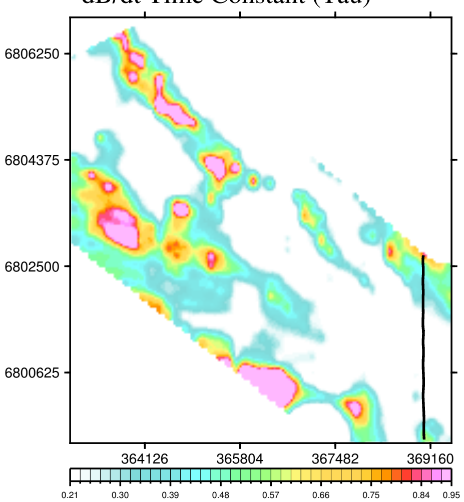
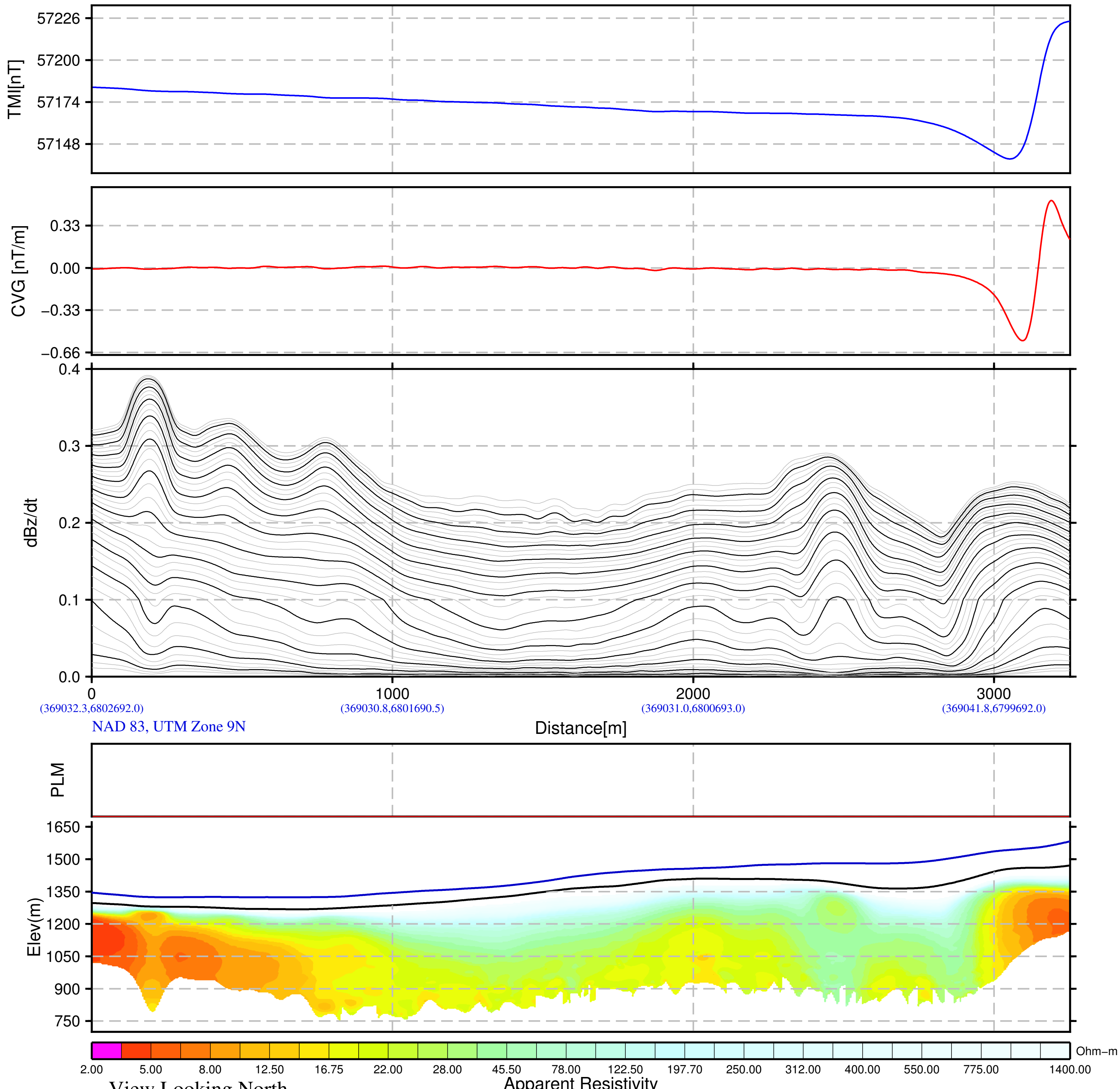
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





View Looking North

BMC Minerals (N0.1) Ltd.
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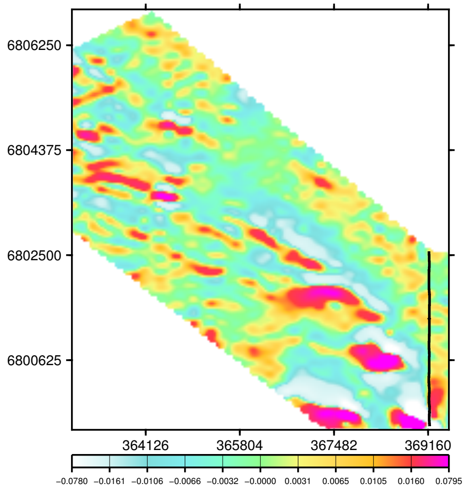
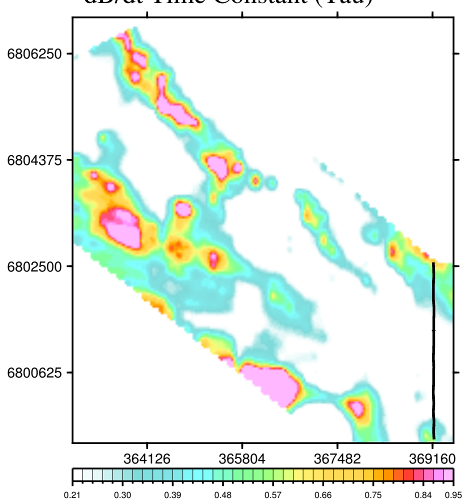
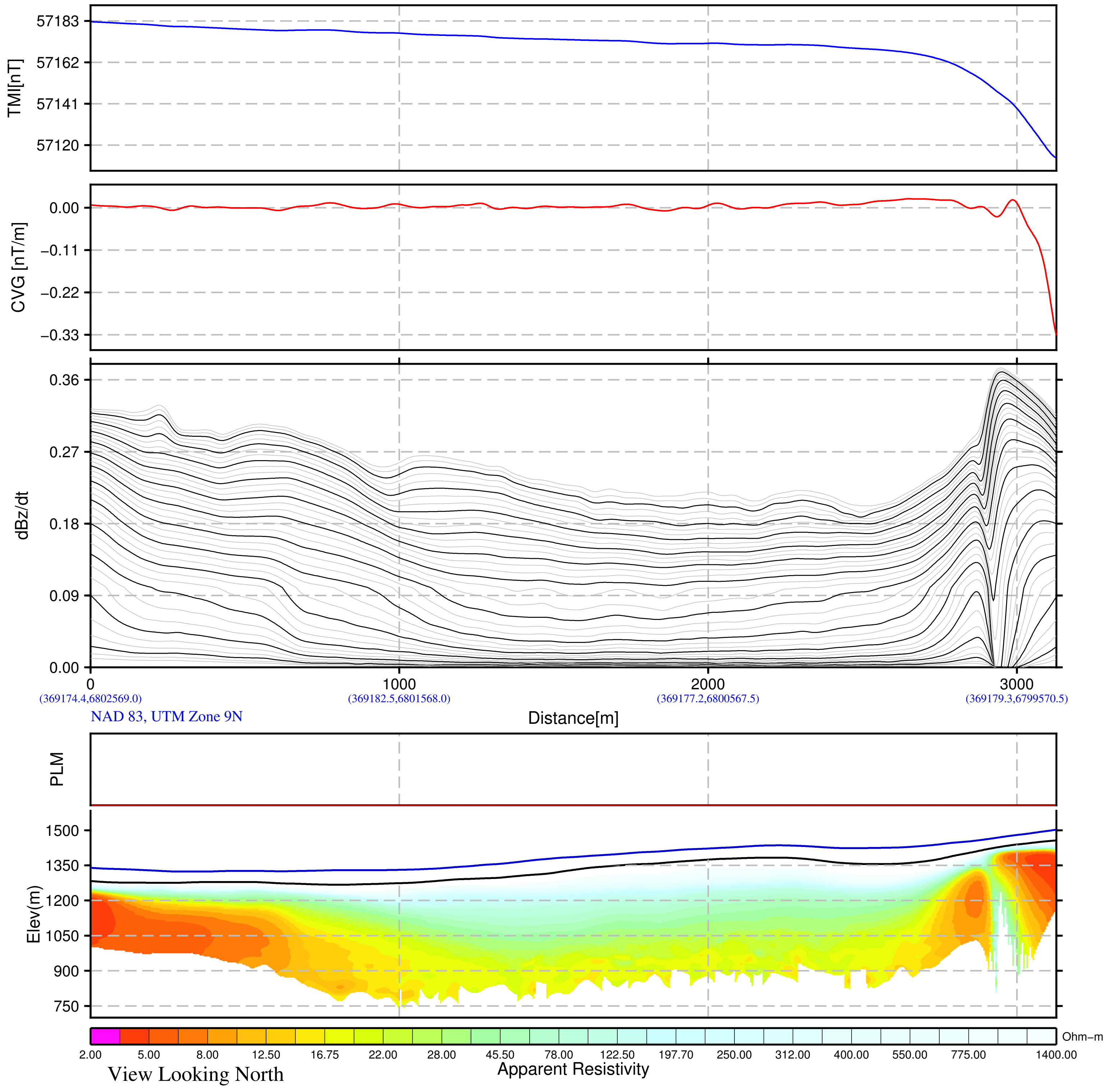
Resistivity Depth Image (RDI) for Line 6420

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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Wolf Block
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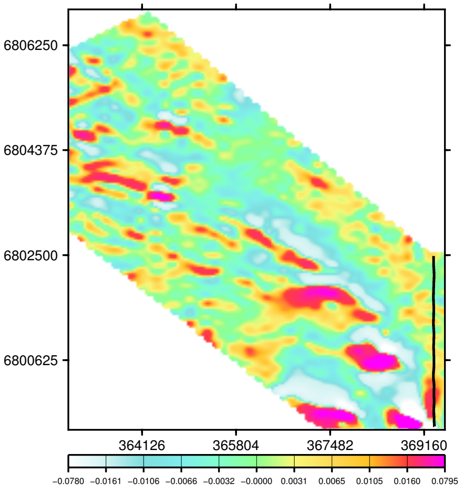
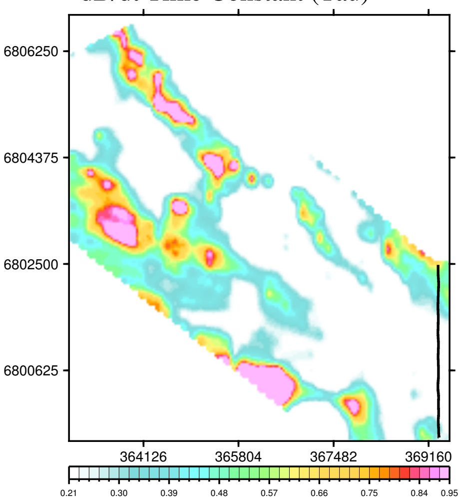
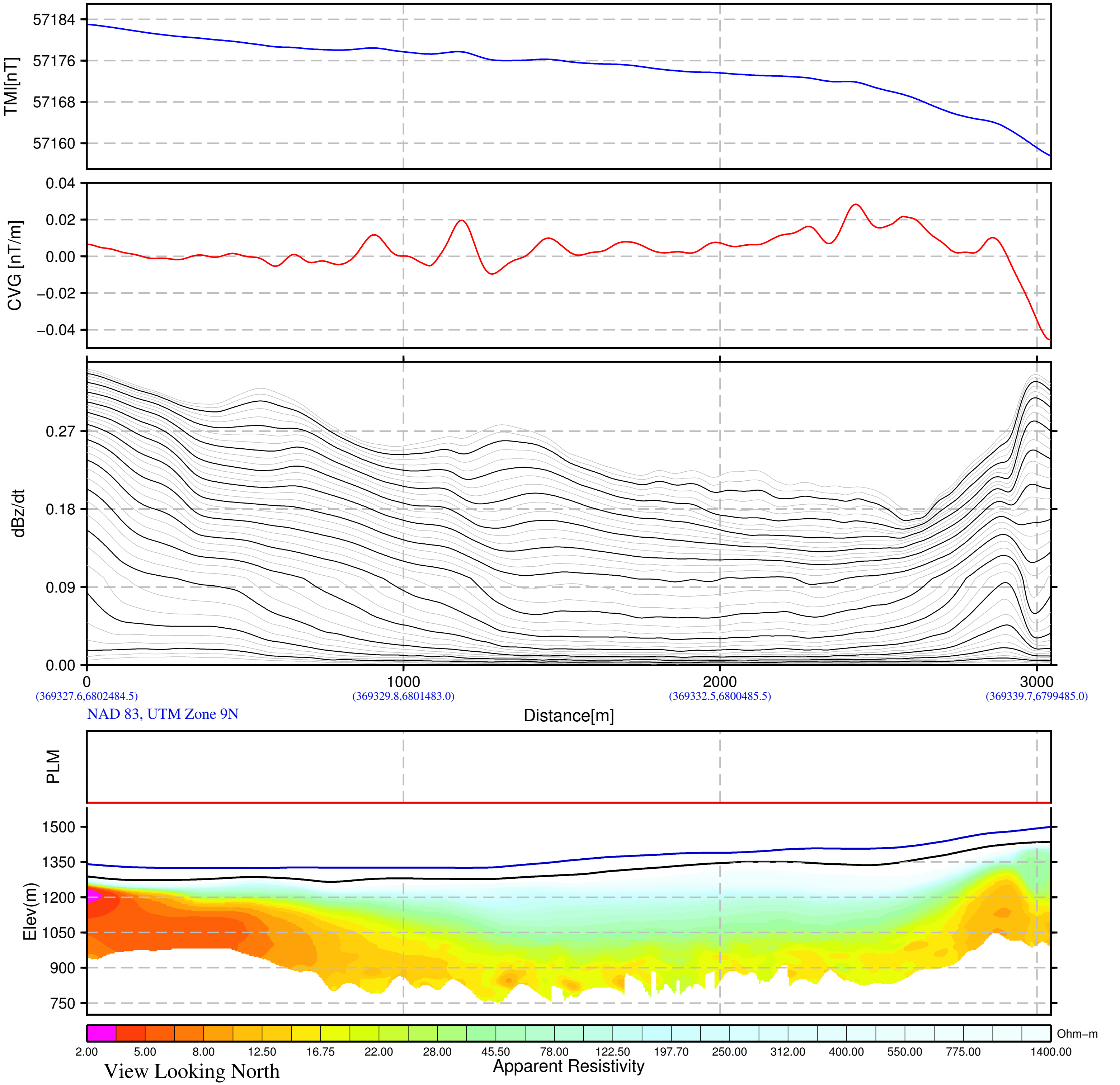
Resistivity Depth Image (RDI) for Line 6430

Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)





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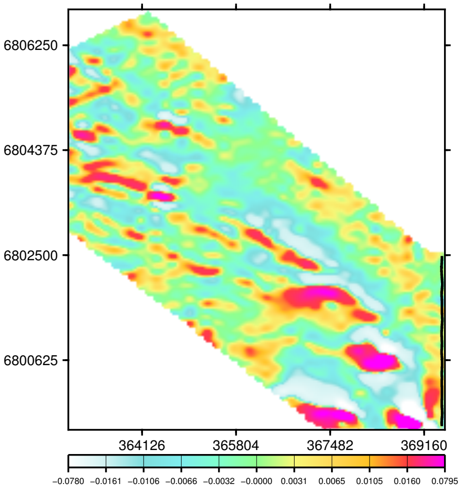
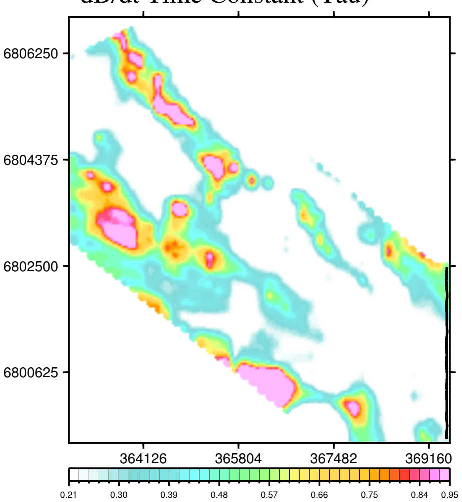
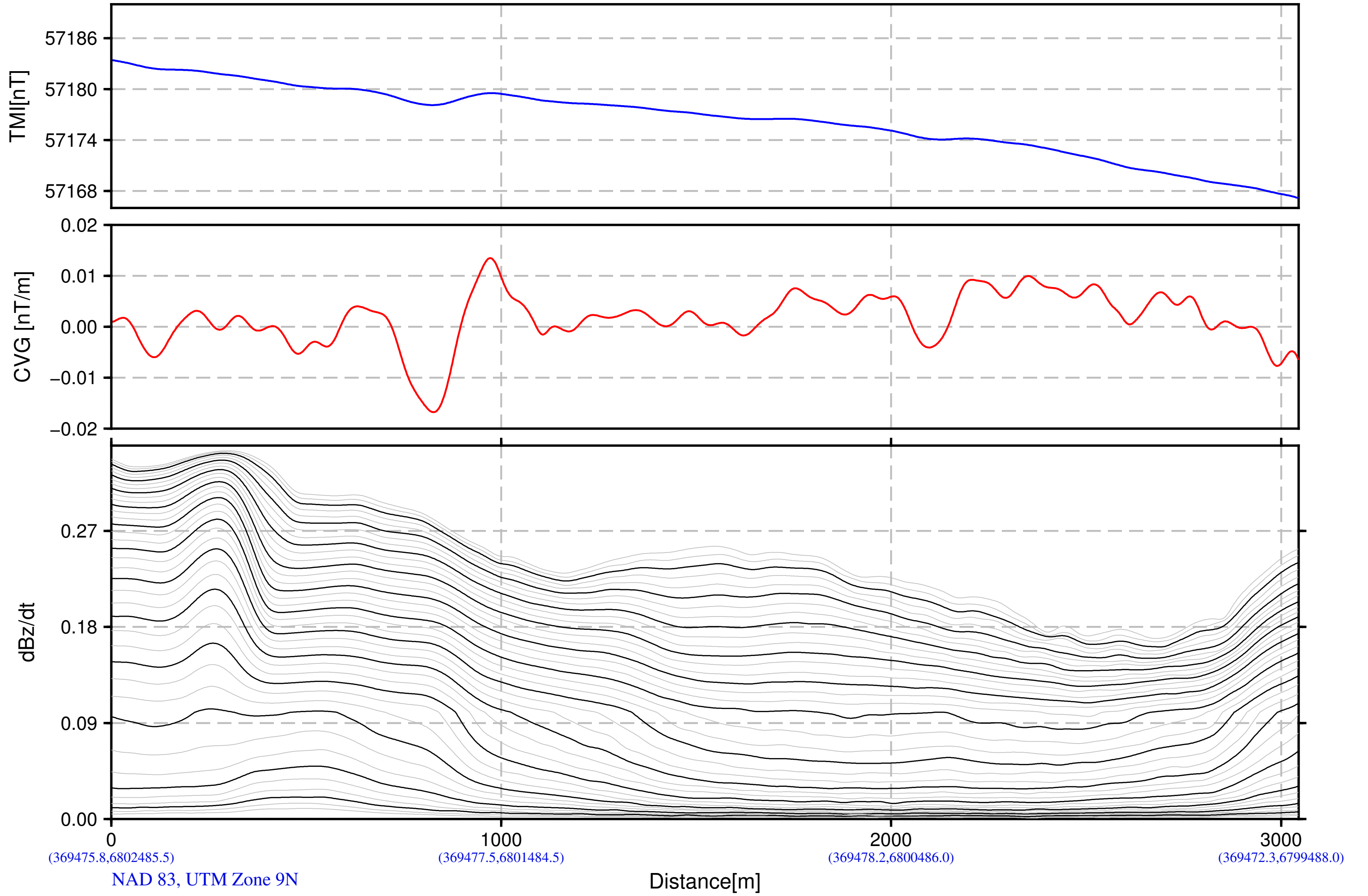
Resistivity Depth Image (RDI) for Line 6440

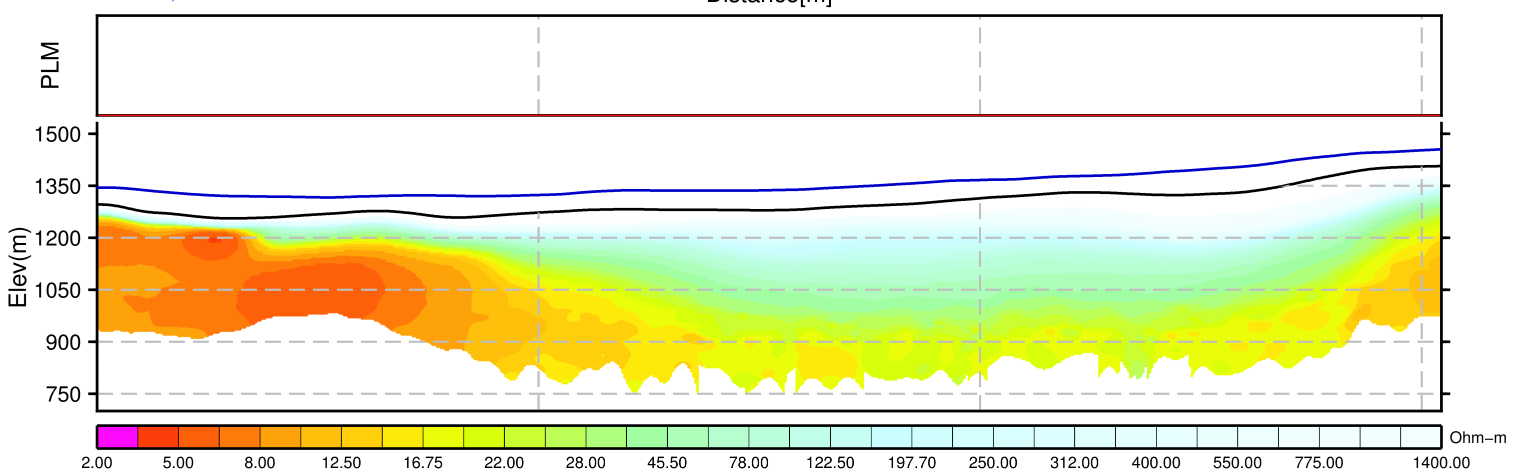
Calculated Vertical Gradient (CVG)



dB/dt Time Constant (Tau)







View Looking North

BMC Minerals (N0.1) Ltd.
Wolf Block
Yukon, Canada

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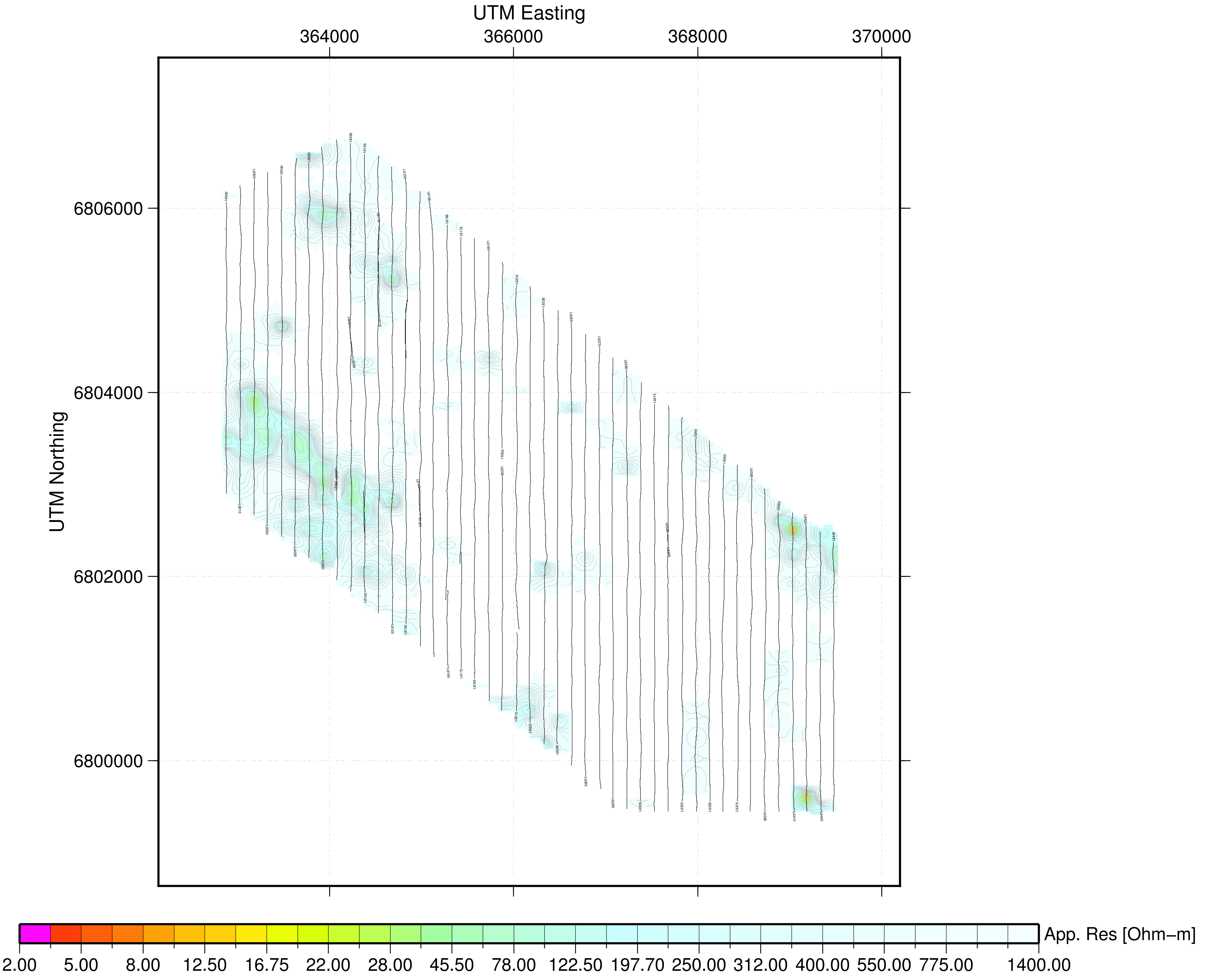
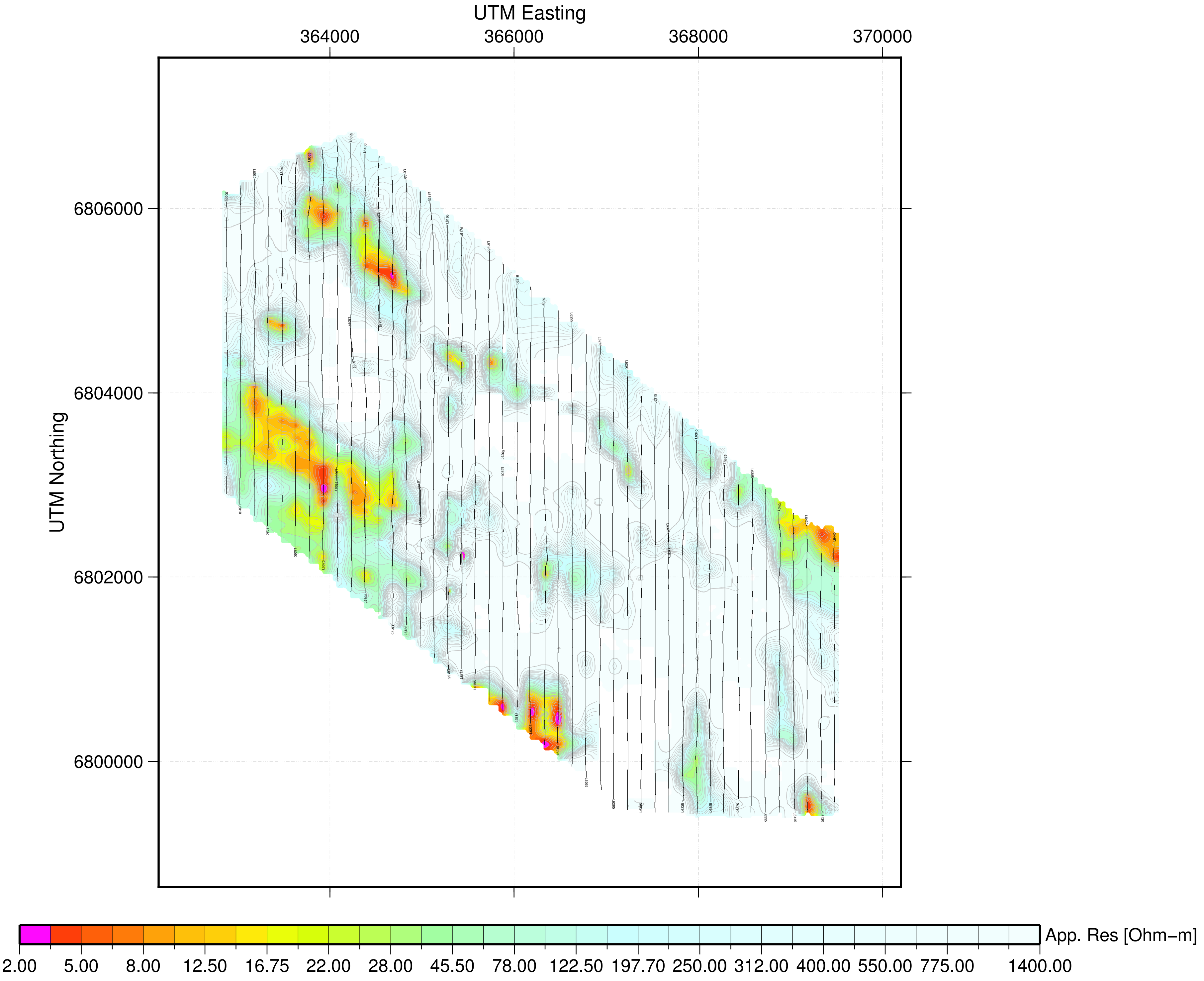
VTEM RDI: Resistivity Depth Slice at 025m of depth



VTEM RDI: Resistivity Depth Slice at 050m of depth



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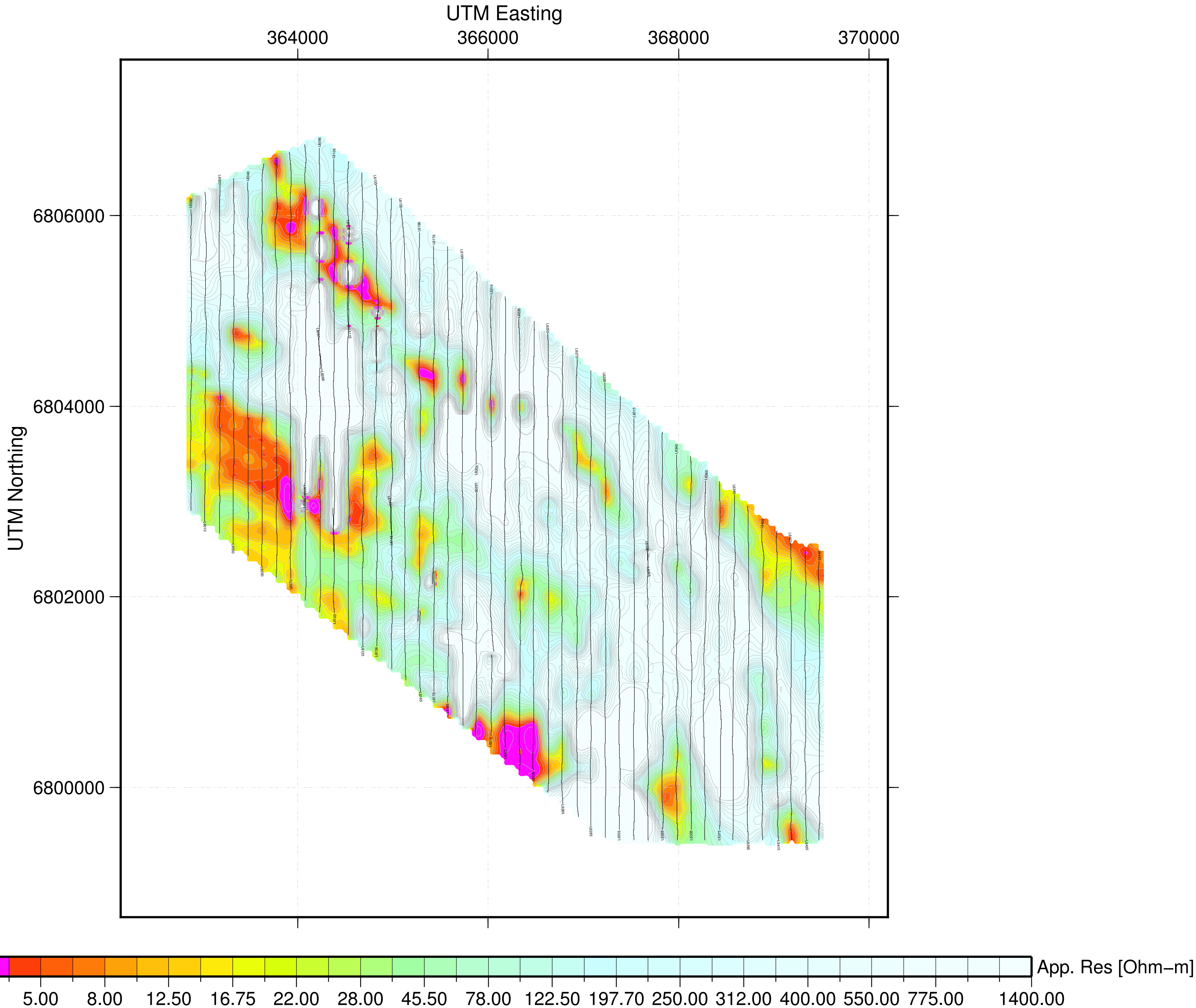
VTEM RDI: Resistivity Depth Slice at 075m of depth



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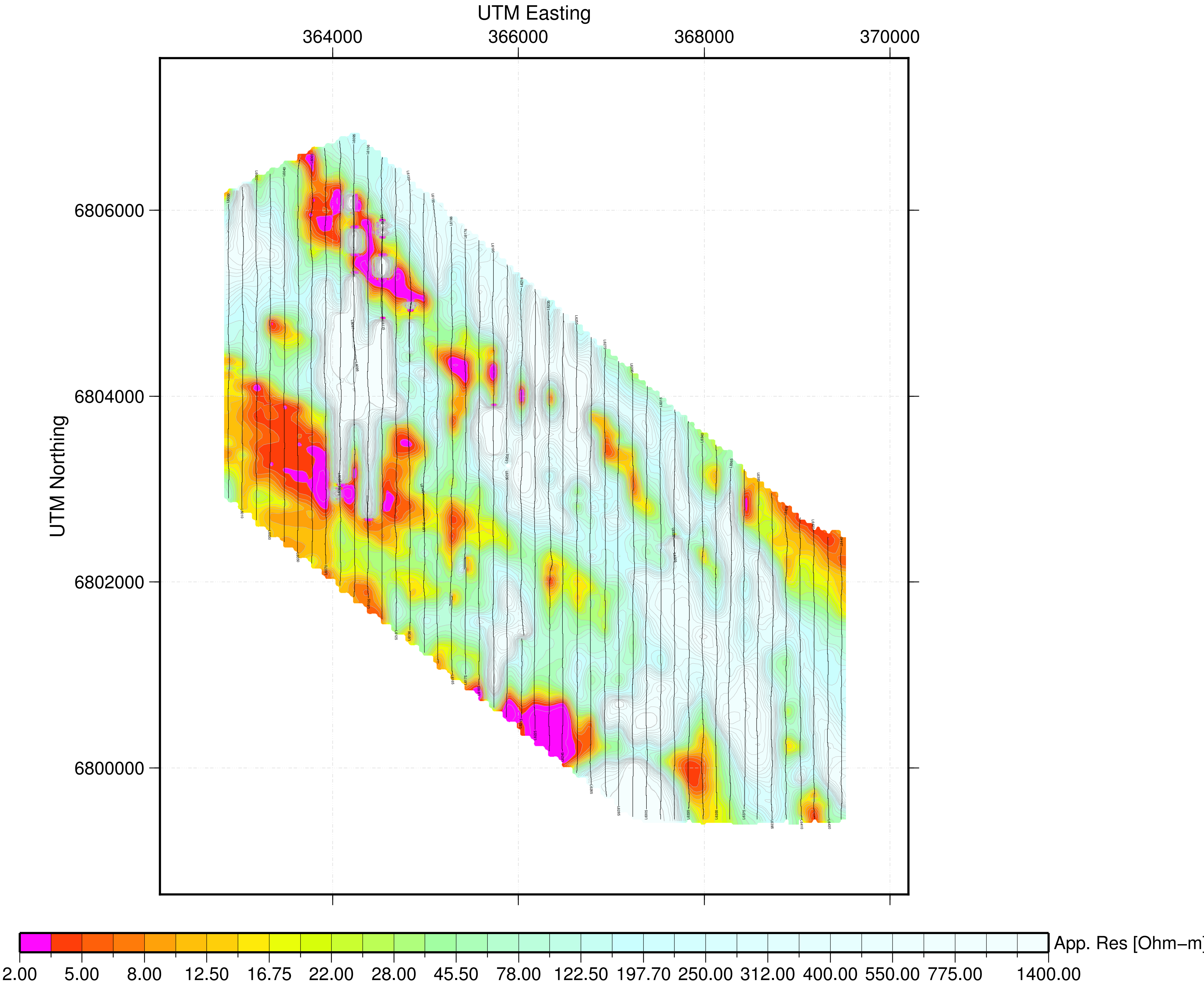
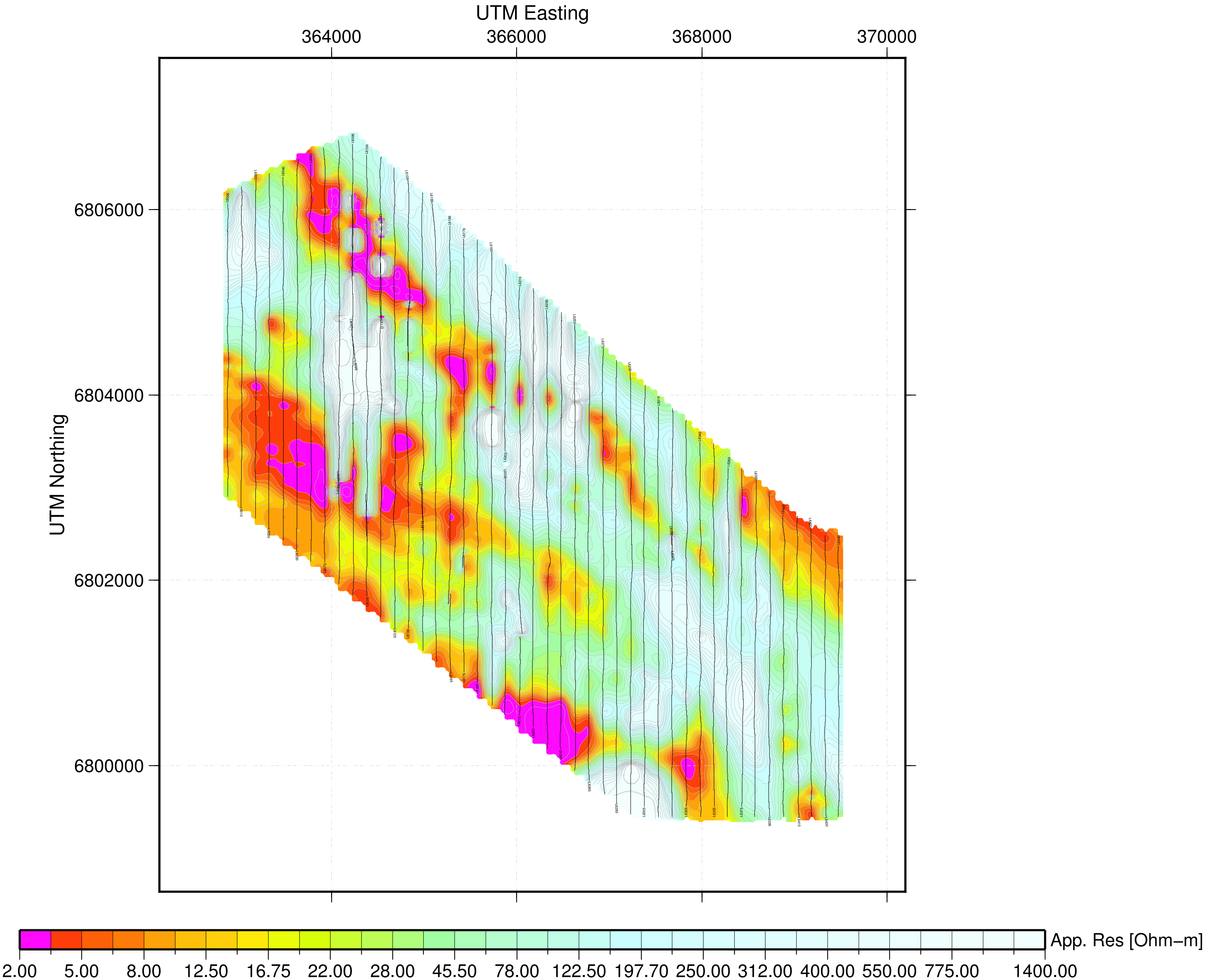
VTEM RDI: Resistivity Depth Slice at 100m of depth



VTEM RDI: Resistivity Depth Slice at 125m of depth



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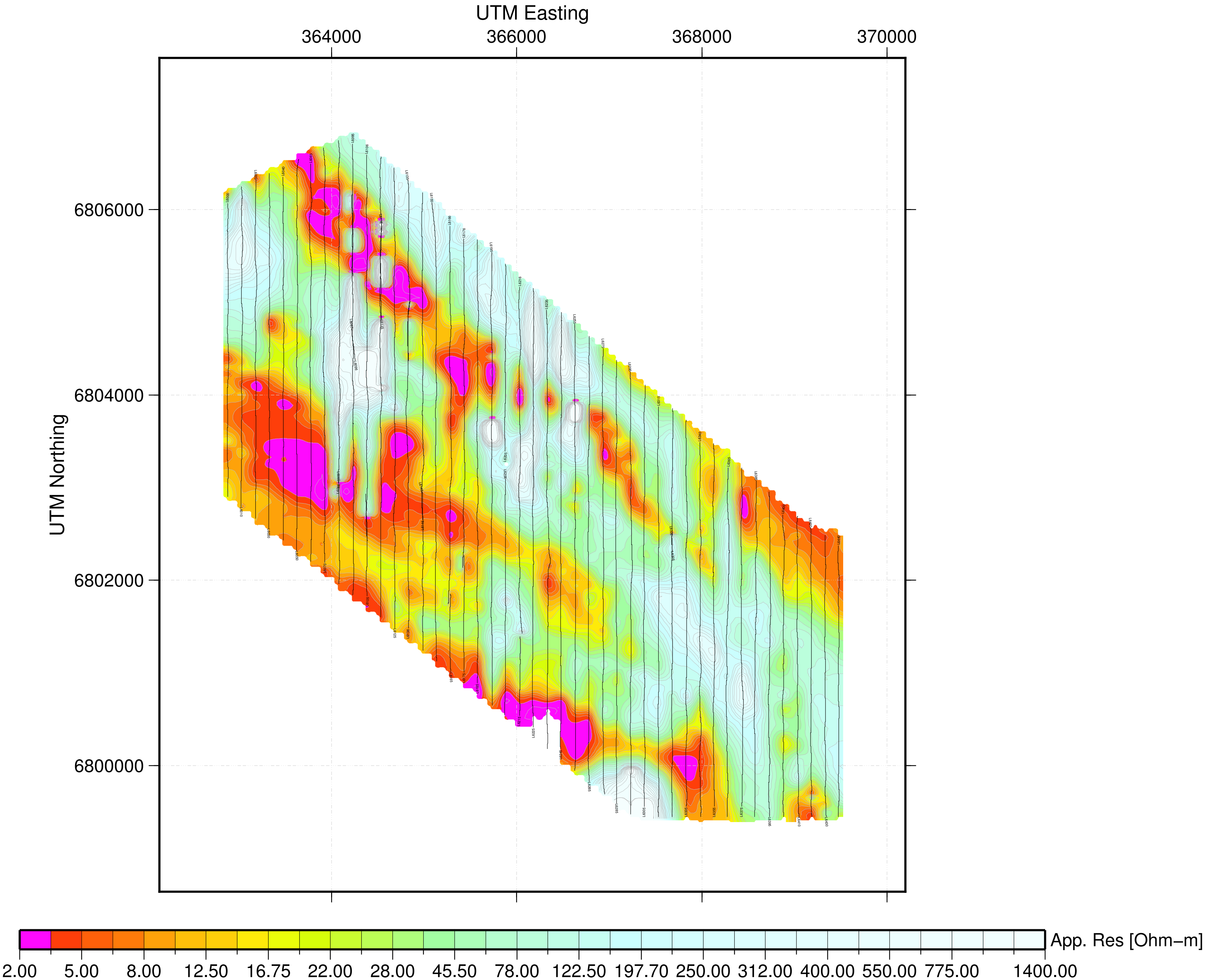
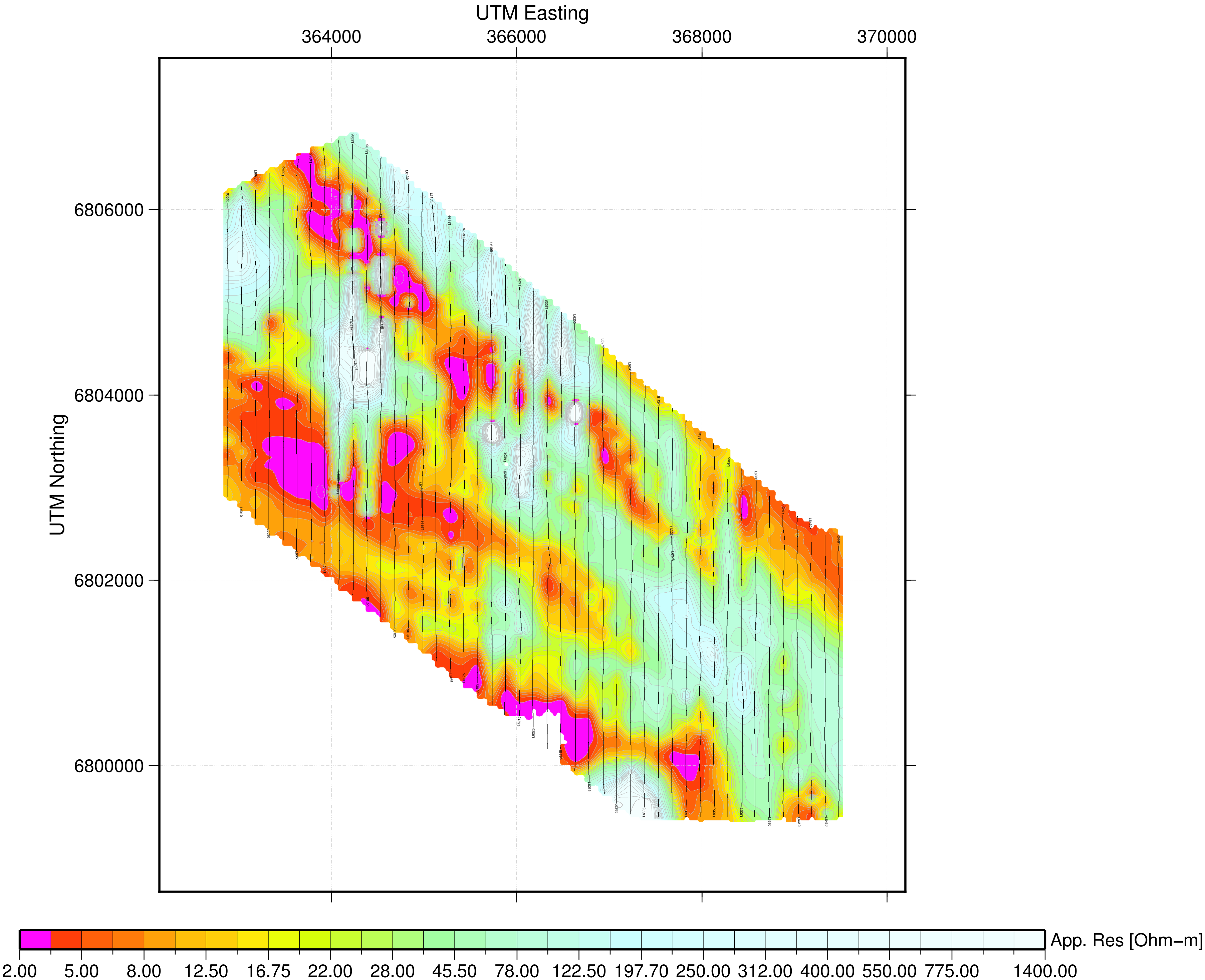
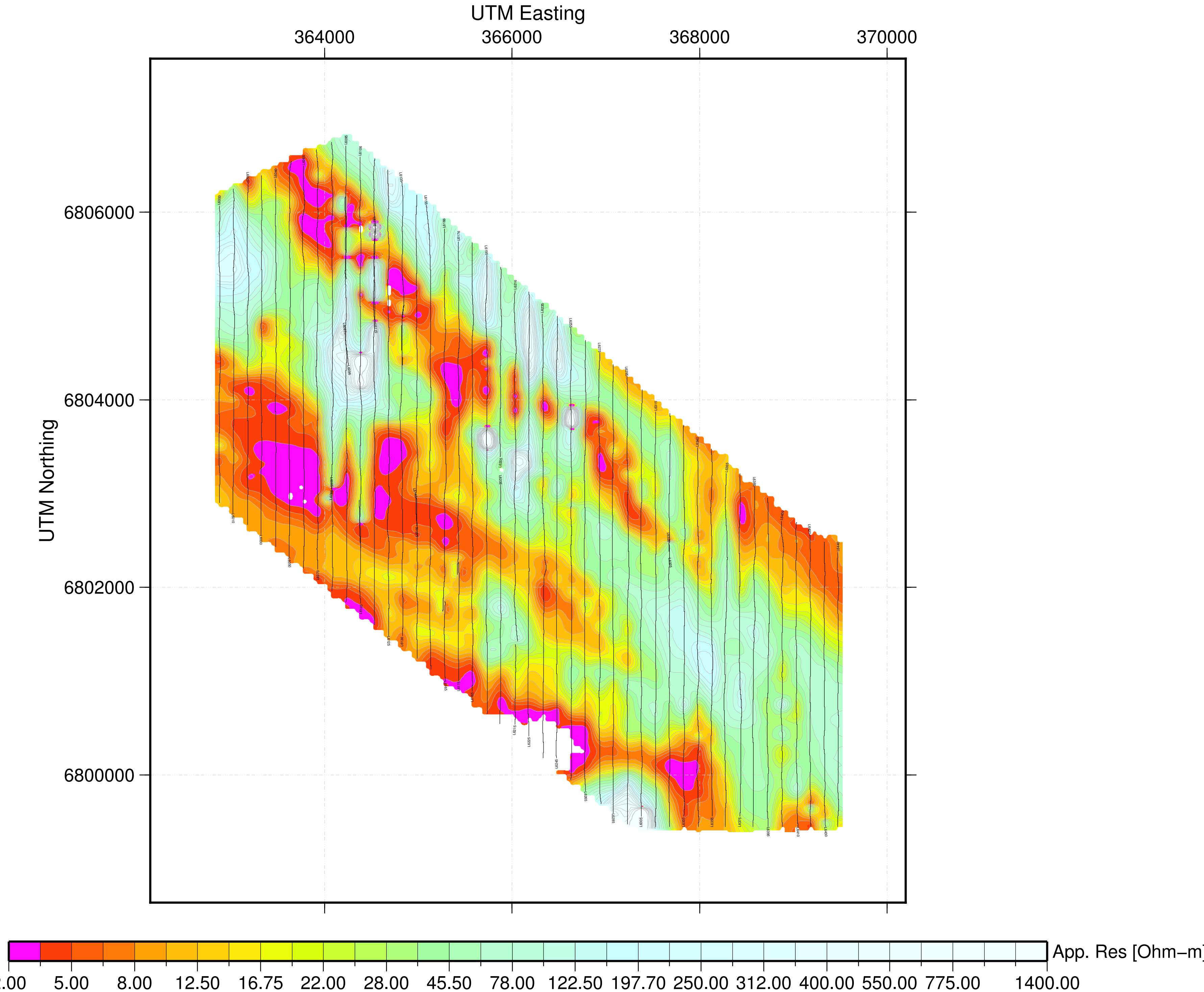
VTEM RDI: Resistivity Depth Slice at 150m of depth



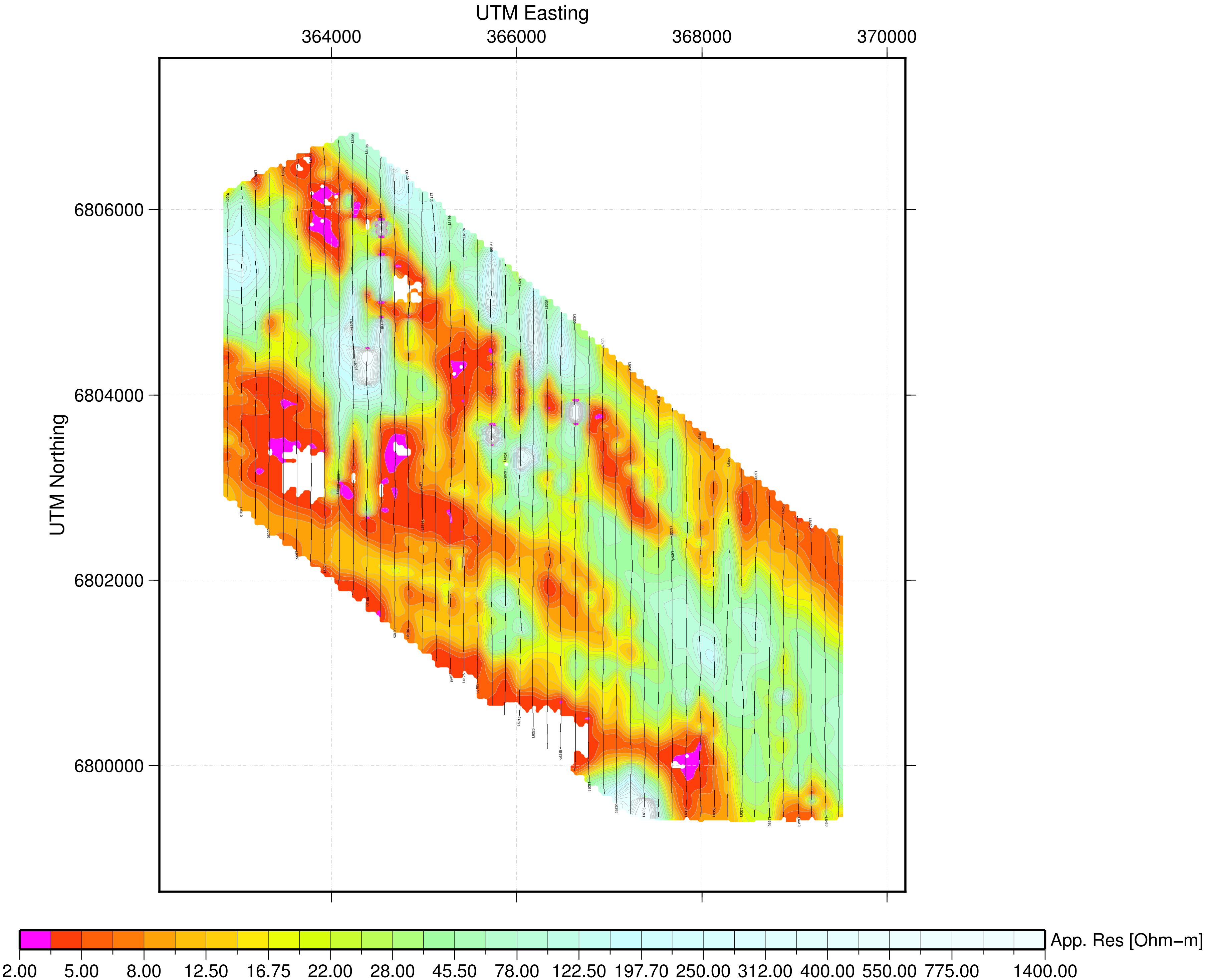
VTEM RDI: Resistivity Depth Slice at 175m of depth



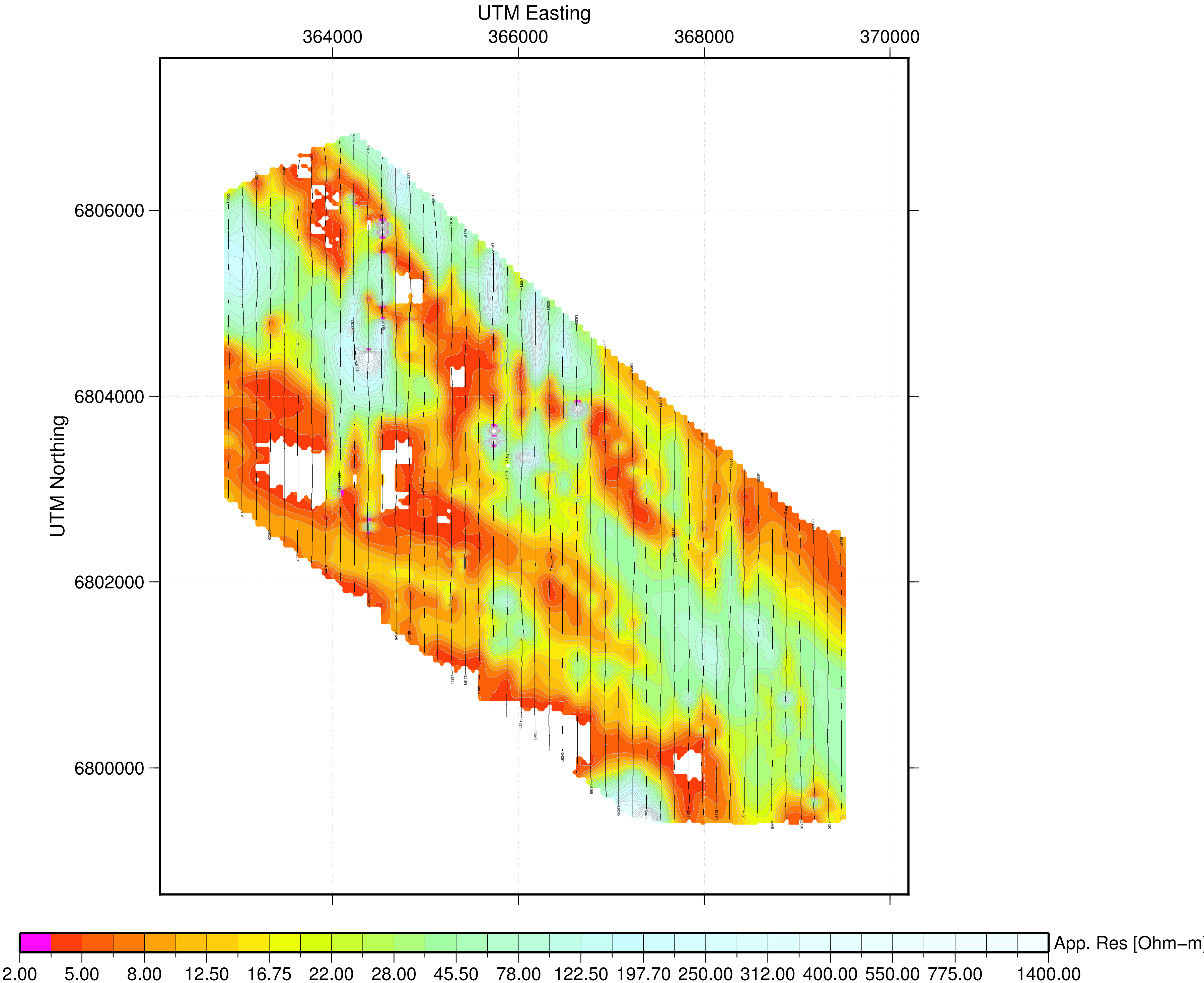
VTEM RDI: Resistivity Depth Slice at 200m of depth



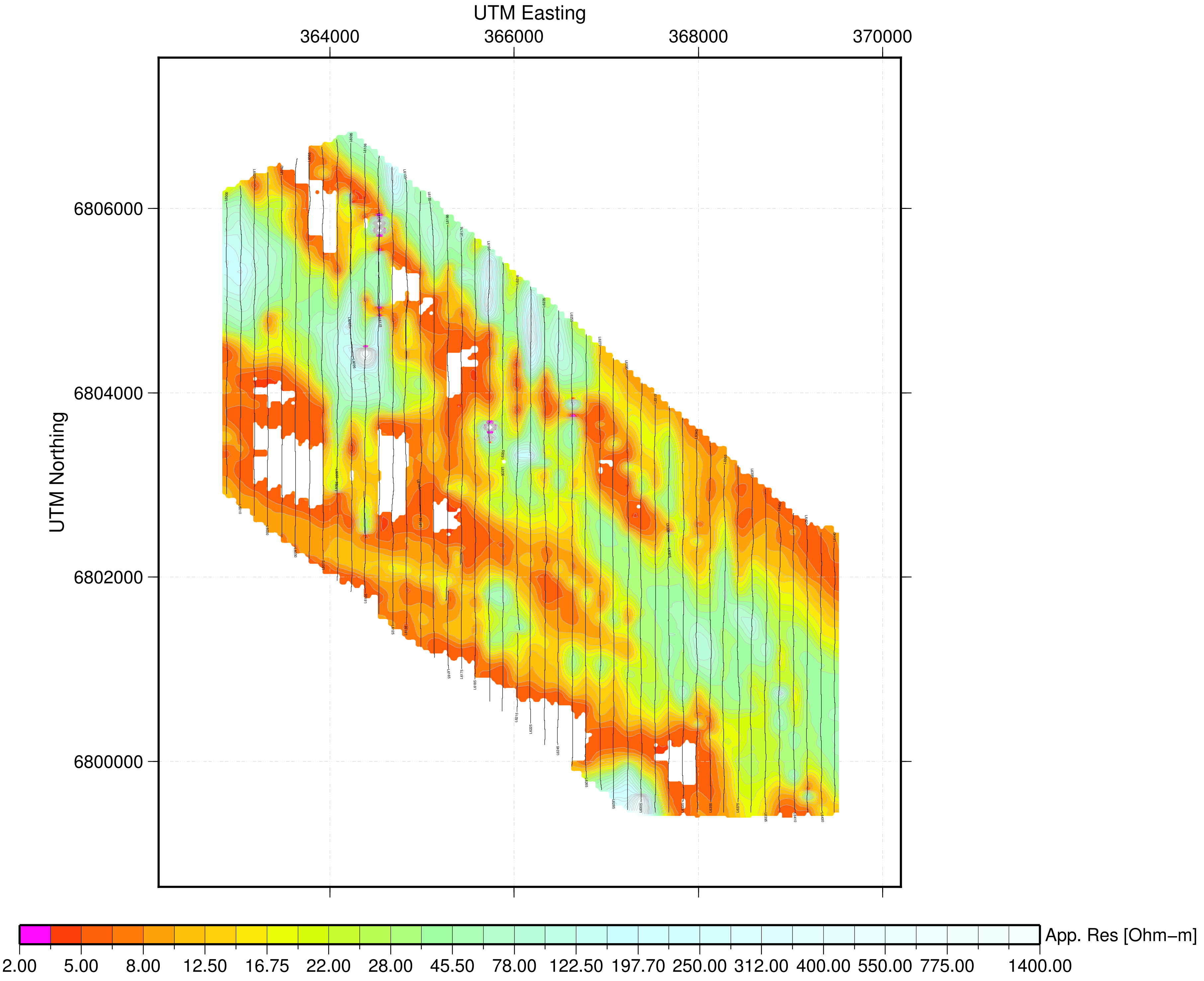
VTEM RDI: Resistivity Depth Slice at 225m of depth



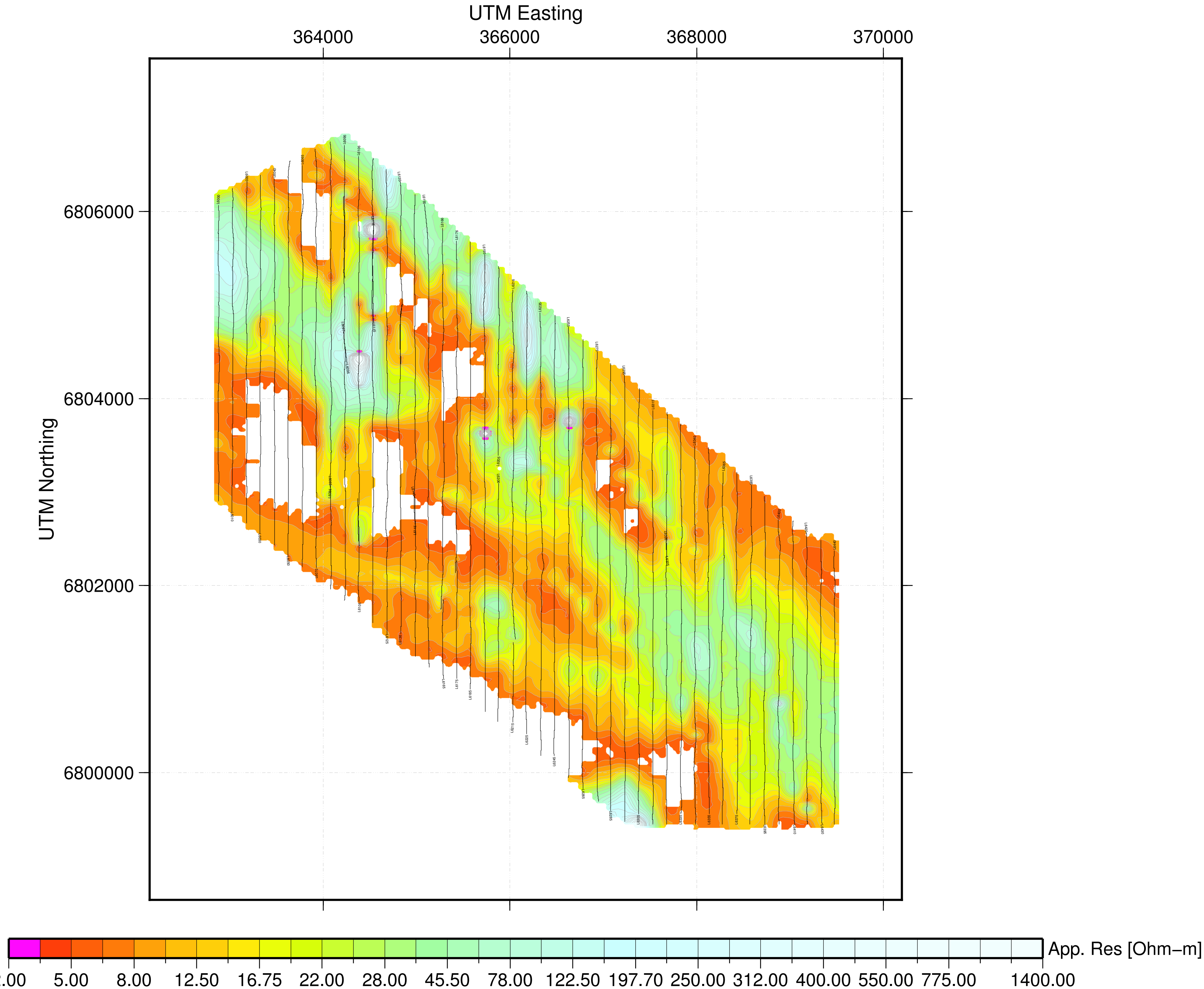
VTEM RDI: Resistivity Depth Slice at 250m of depth



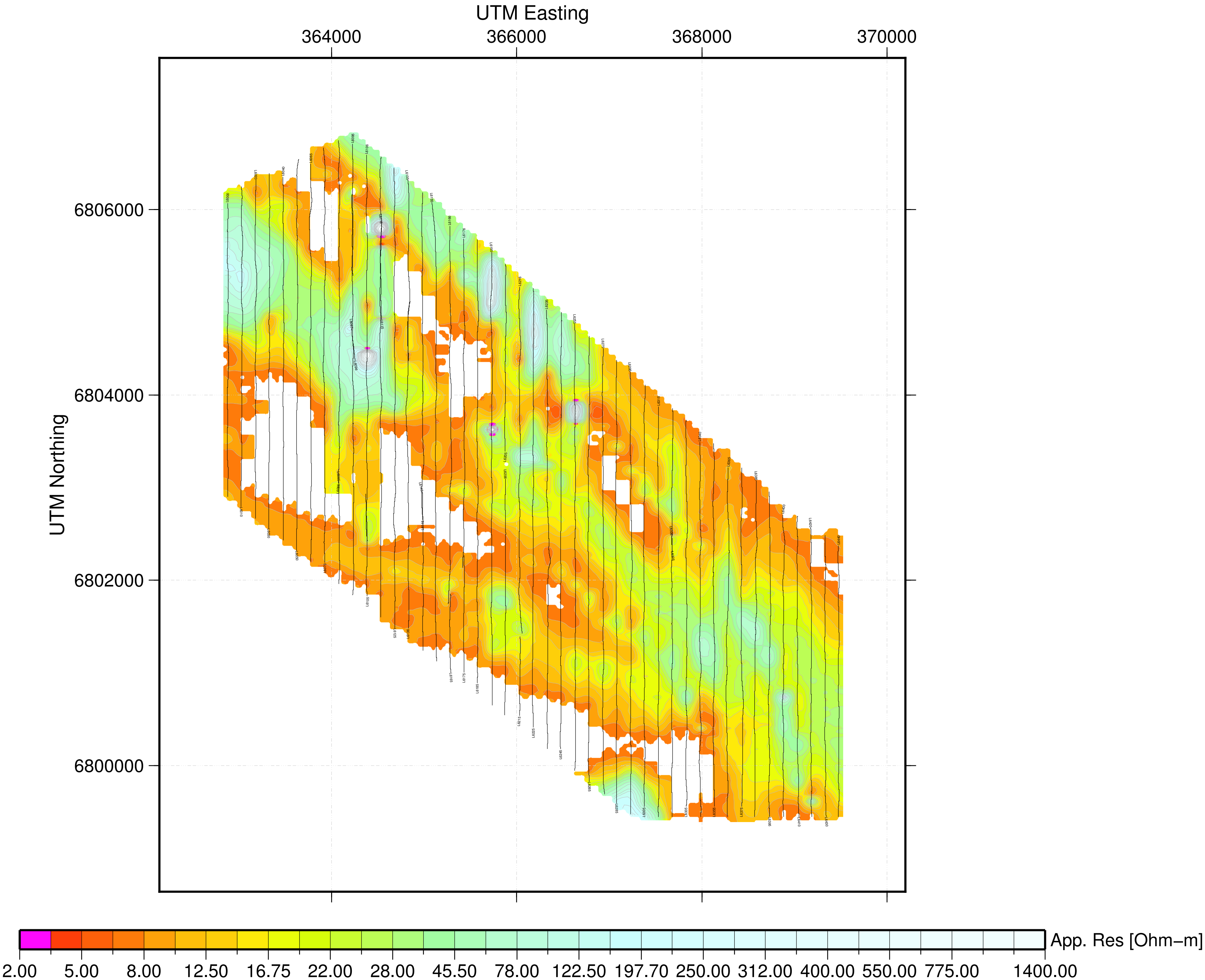
VTEM RDI: Resistivity Depth Slice at 275m of depth



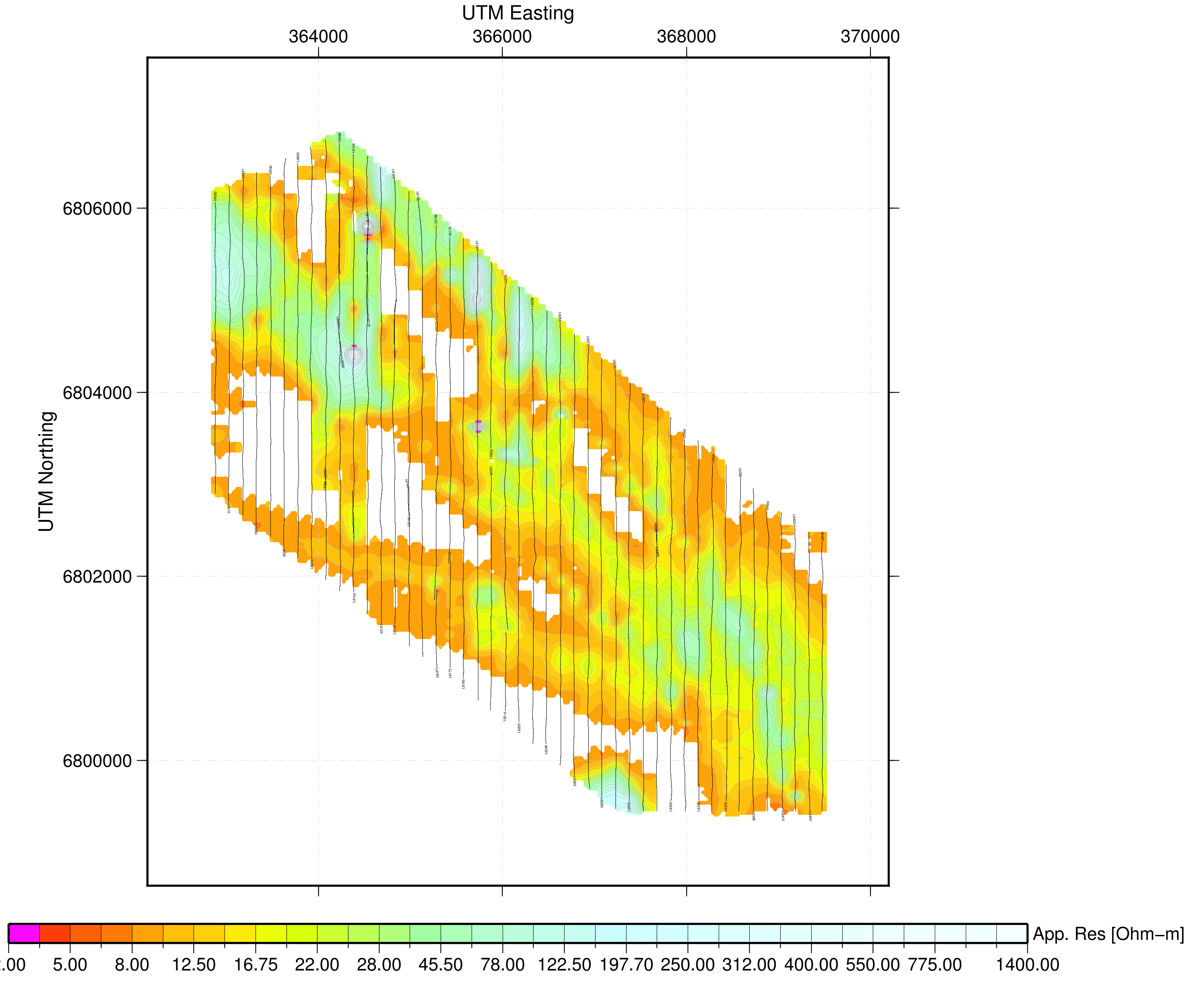
VTEM RDI: Resistivity Depth Slice at 300m of depth



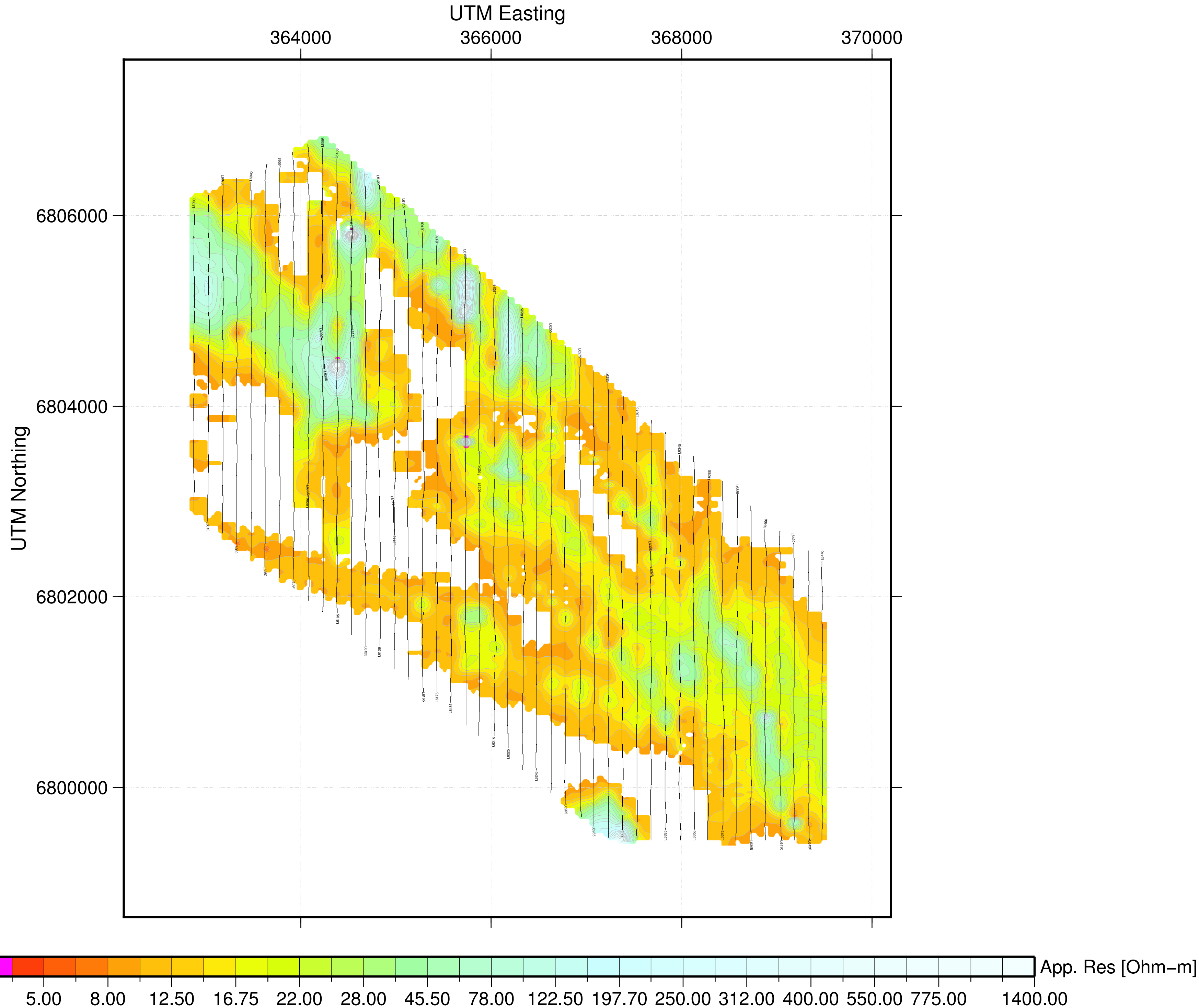
VTEM RDI: Resistivity Depth Slice at 325m of depth



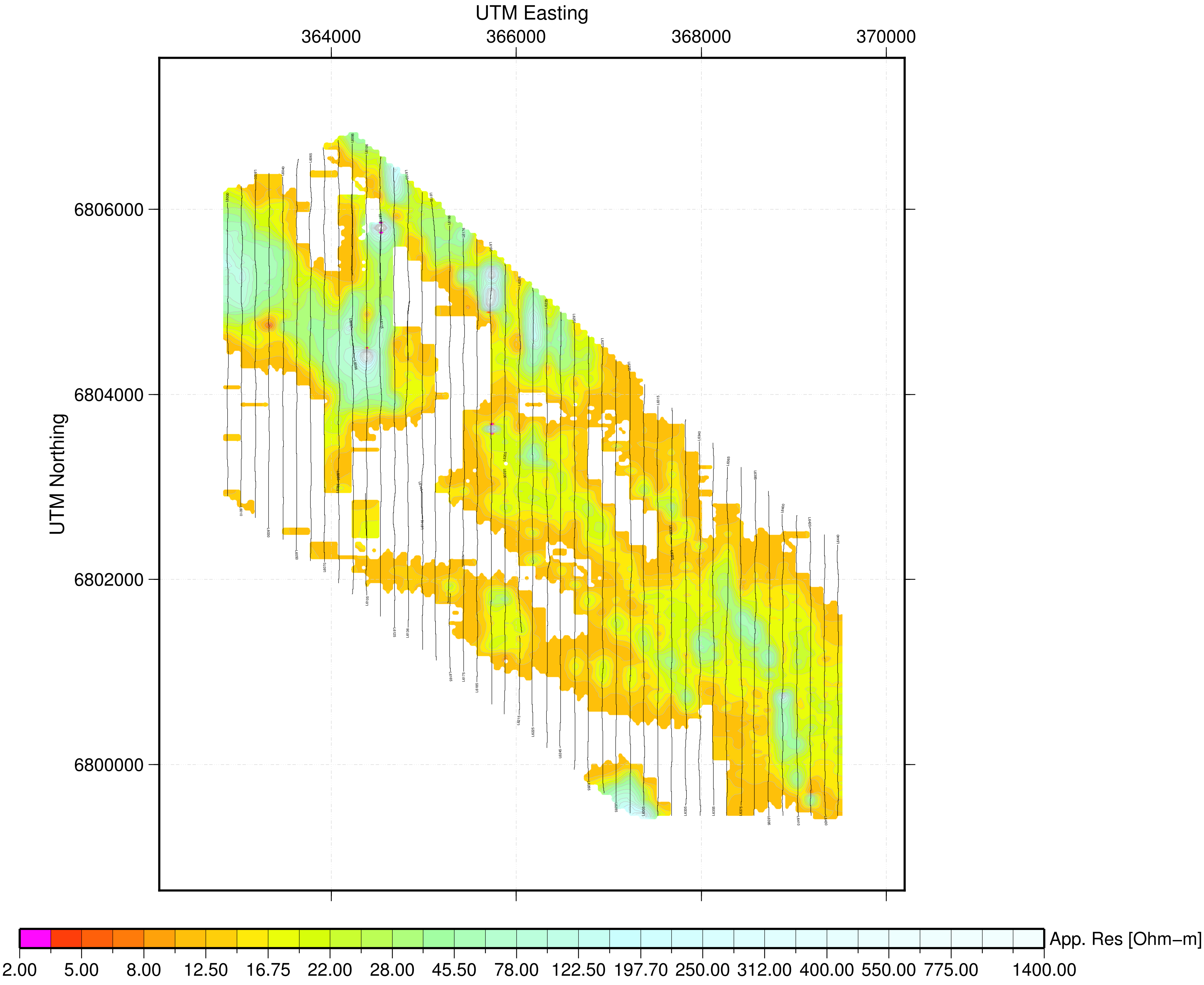
VTEM RDI: Resistivity Depth Slice at 350m of depth



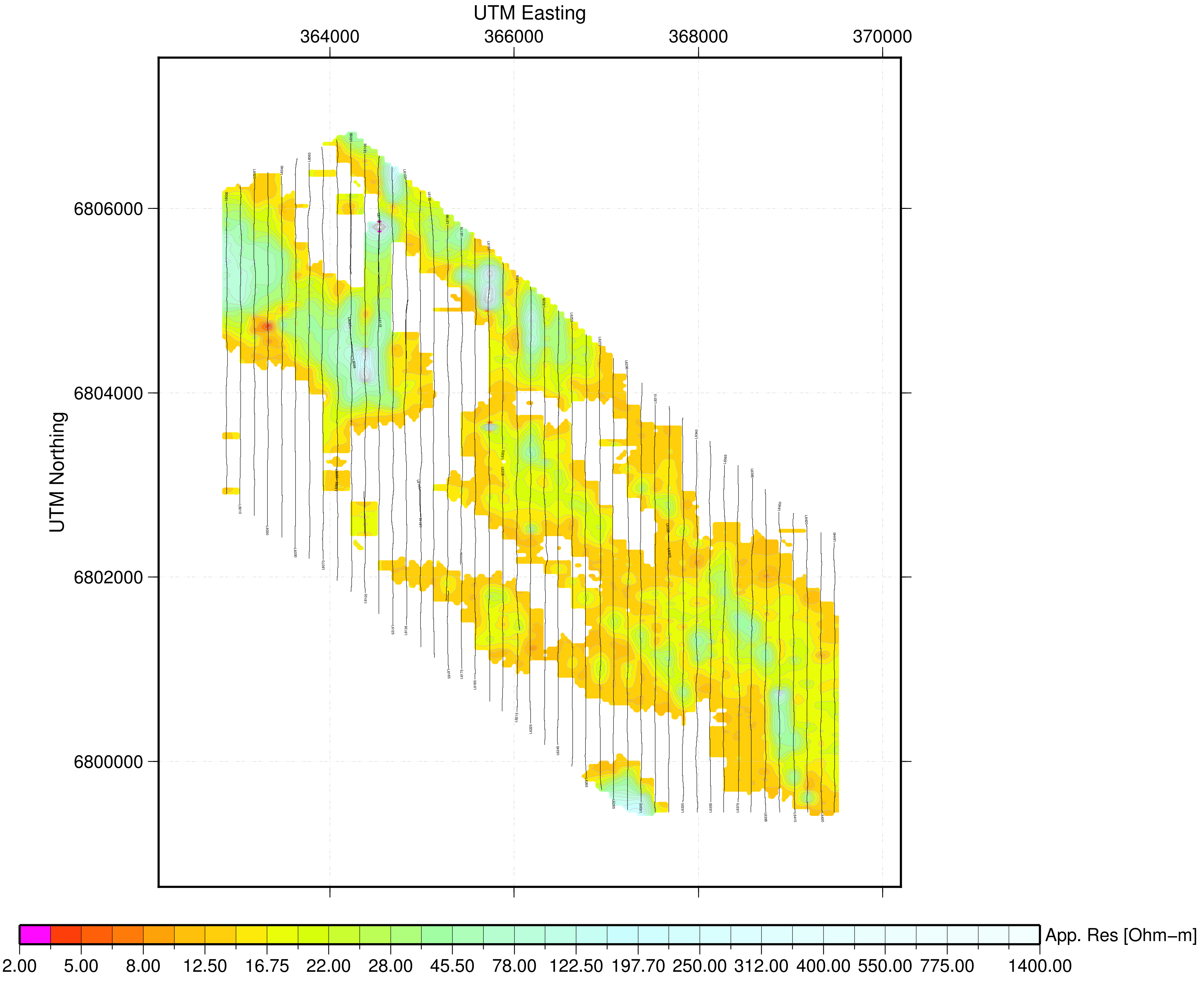
VTEM RDI: Resistivity Depth Slice at 375m of depth



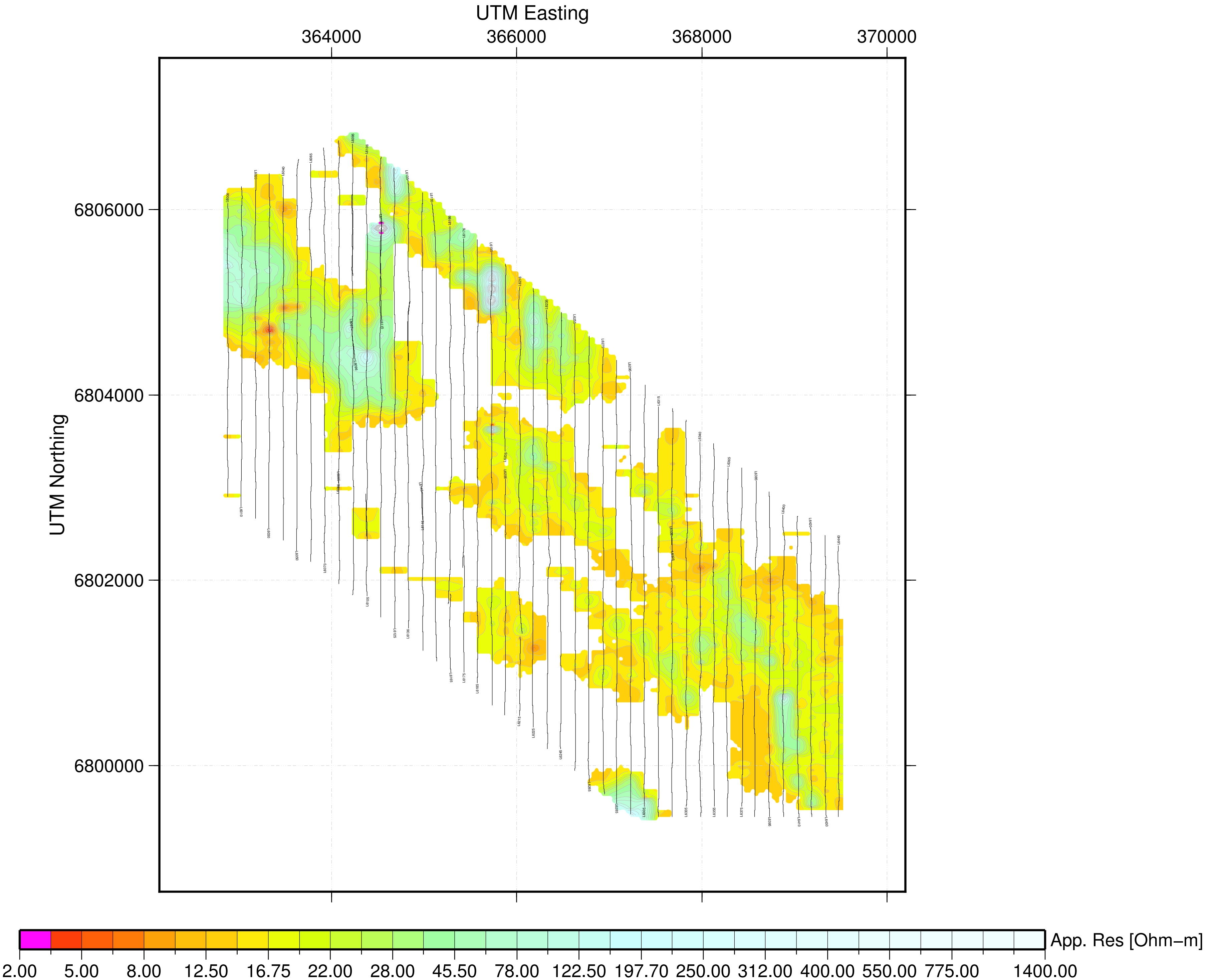
VTEM RDI: Resistivity Depth Slice at 400m of depth



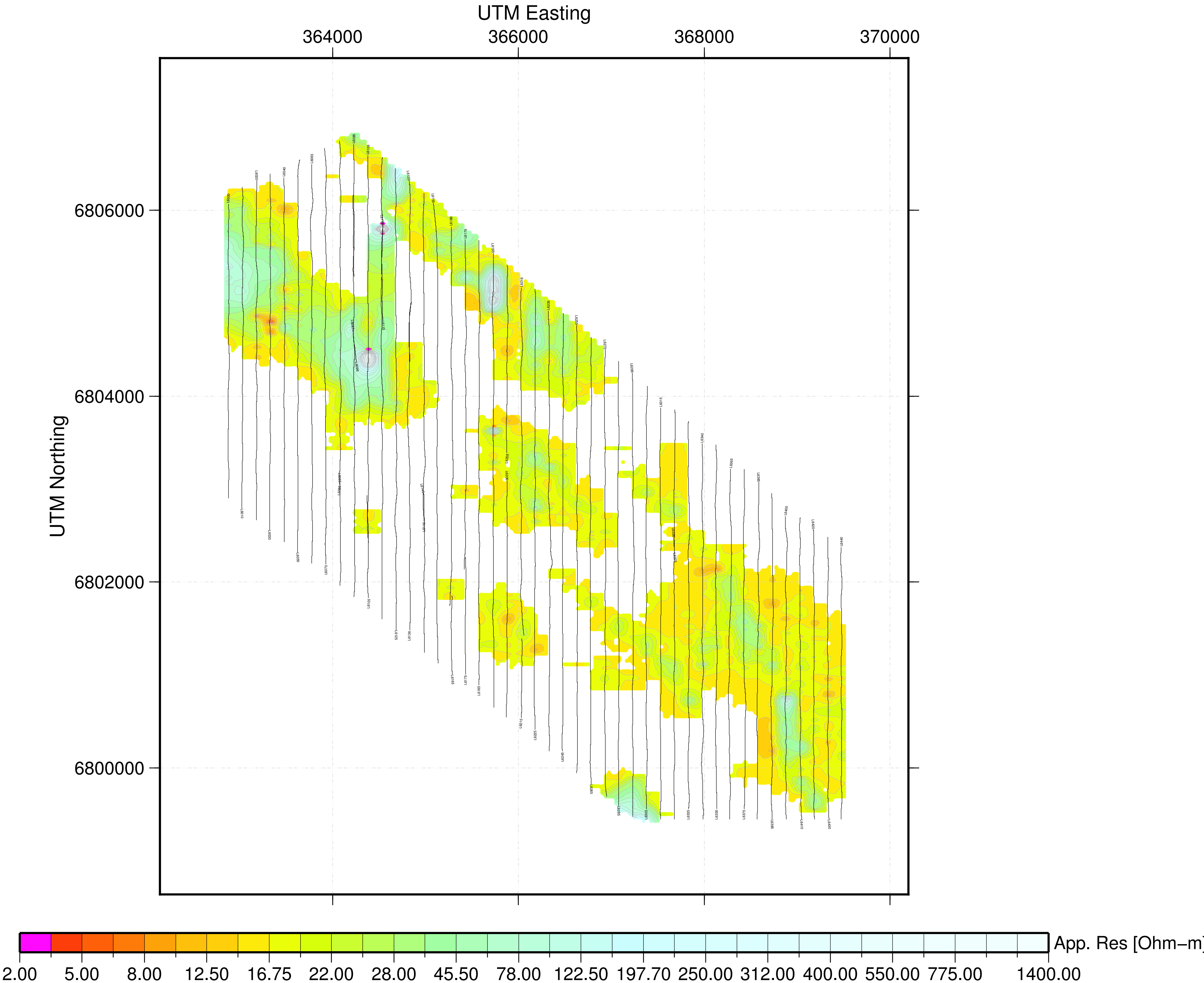
VTEM RDI: Resistivity Depth Slice at 425m of depth



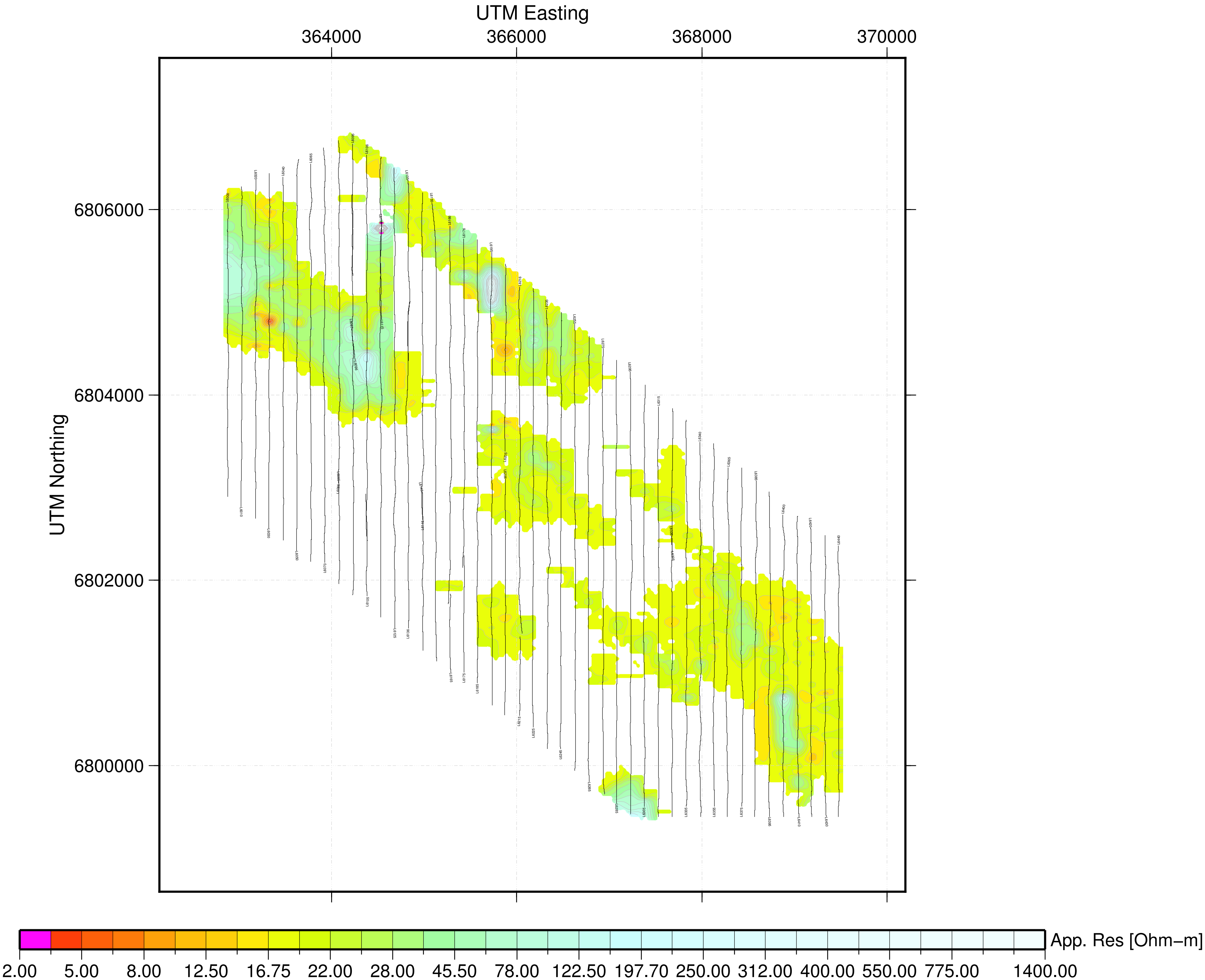
VTEM RDI: Resistivity Depth Slice at 450m of depth



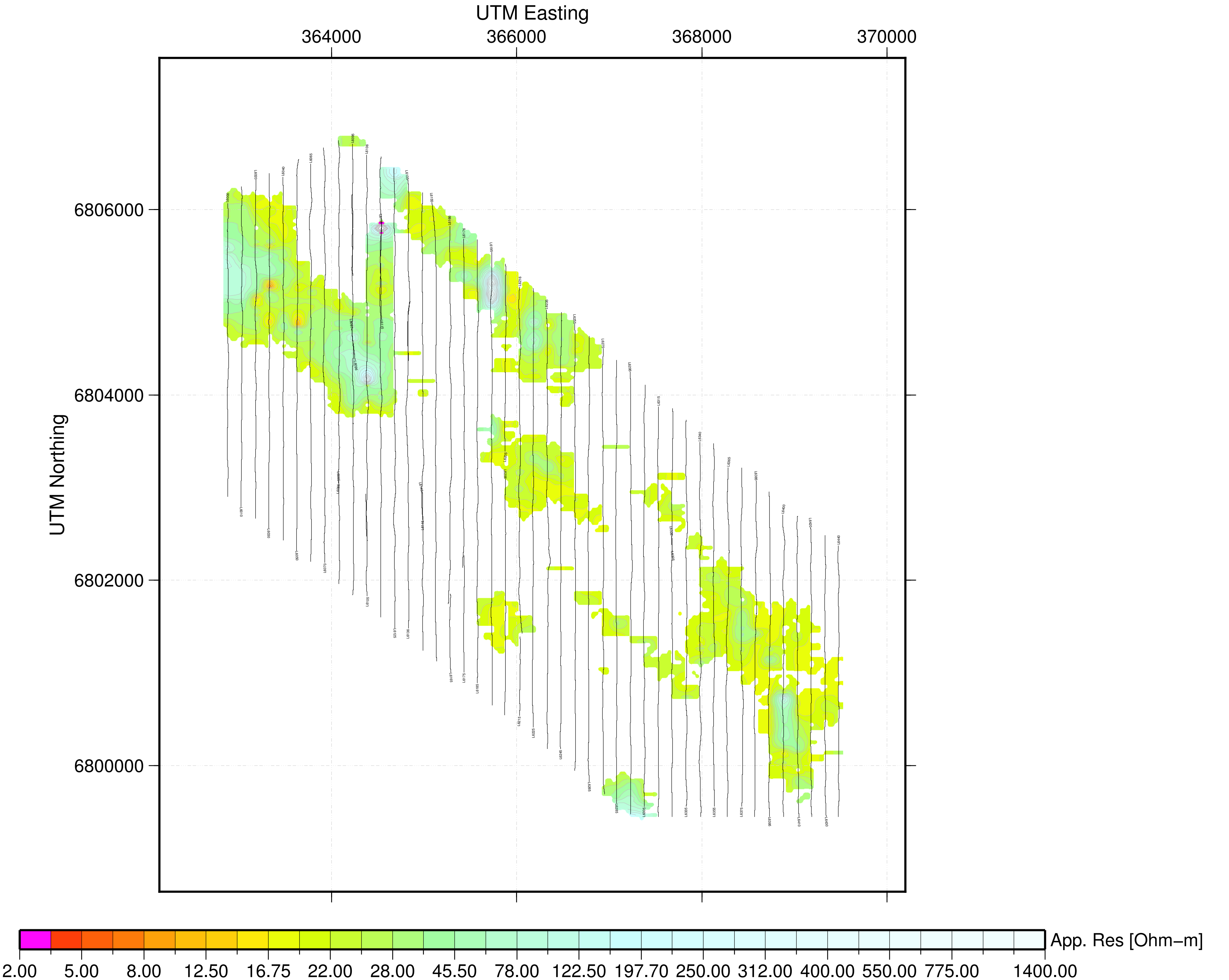
VTEM RDI: Resistivity Depth Slice at 475m of depth



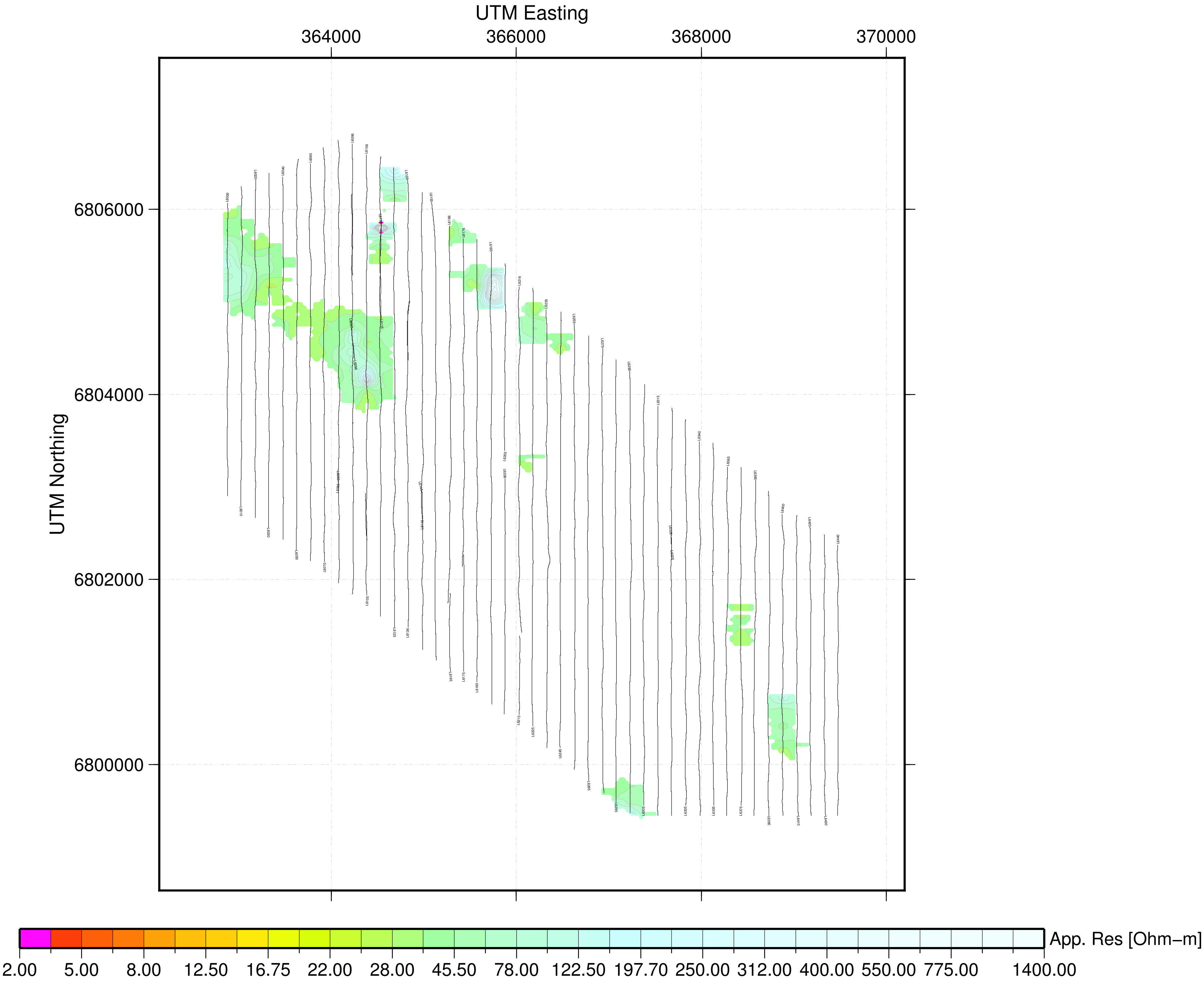
VTEM RDI: Resistivity Depth Slice at 500m of depth



VTEM RDI: Resistivity Depth Slice at 525m of depth



VTEM RDI: Resistivity Depth Slice at 550m of depth



Appendix E: List of Historical Core Resamples

This appendix provides a list of the samples taken as part of the 2016 Wolf resampling and assay program. Samples are listed in the alphanumeric order of their 2016 sample IDs.

Table E-1: List of samples taken for the 2016 Wolf resampling and assay program

Hole ID	Original ID	2016 Sample ID	Sample Type	From (m)	To (m)	Length (m)	Weight (kg)
WF98-40	40-10	Q190601	HC	298.0	298.6	0.6	1.03
WF98-40	40-11	Q190602	HC	298.6	299.6	1.0	2.80
WF98-40	40-12	Q190603	HC	299.6	300.6	1.0	2.88
WF98-40	40-13	Q190604	HC	300.6	301.6	1.0	3.06
WF98-40	40-14	Q190605	HC	301.6	302.4	0.8	2.03
WF98-40	40-15	Q190606	HC	302.4	303.2	0.8	2.53
WF98-40	40-16	Q190607	HC	303.2	304.3	1.1	3.19
WF98-40	40-17	Q190608	HC	304.3	305.0	0.7	2.03
WF98-40	40-18	Q190609	HC	305.0	306.0	1.0	2.73
WF98-40	40-19	Q190610	HC	306.0	306.6	0.6	1.84
WF98-40	40-20	Q190611	HC	306.6	307.3	0.7	2.17
WF97-15	WF715 1100-1130	Q190612	HC	110.0	113.0	3.0	6.22
WF97-15	WF715 1130-1145	Q190613	HC	113.0	114.5	1.5	4.34
WF97-15	WF715 1145-1160	Q190614	HC	114.5	116.0	1.5	3.76
WF97-15	WF715 1160-1175	Q190615	HC	116.0	117.5	1.5	3.84
WF97-15	WF715 1175-1190	Q190616	HC	117.5	119.0	1.5	4.22
WF97-15	WF715 1190-1215	Q190617	HC	119.0	121.5	2.5	6.29
WF97-15	WF715 1215-1230	Q190618	HC	121.5	123.0	1.5	5.19
WF97-15	WF715 1230-1245	Q190619	HC	123.0	124.5	1.5	4.22
WF97-15	WF715 1245-1260	Q190621	HC	124.5	126.0	1.5	3.52
WF97-15	WF715 1260-1280	Q190622	HC	126.0	128.6	2.6	4.79
WF97-15	WF715 1286-1302	Q190623	HC	128.6	130.2	1.6	6.79
WF97-15	WF715 1302-1318	Q190624	HC	130.2	131.8	1.6	6.96
WF97-15	WF715 1318-1345	Q190625	HC	131.8	134.9	3.1	8.28
WF97-15	WF715 1343-1370	Q190626	HC	134.9	137.0	2.1	5.59
WF97-11	WF711 1199-1219	Q190627	HC	119.9	121.9	2.0	4.27
WF97-11	WF711 1219-1235	Q190628	HC	121.9	123.5	1.6	3.54
WF97-11	WF711 1235-1250	Q190629	HC	123.5	125.0	1.5	3.30
WF97-11	WF7I1 1250-1260	Q190631	HC	125.0	126.0	1.0	2.48
WF97-11	WF711 1260-1280	Q190632	HC	126.0	128.0	2.0	4.42
WF97-11	WF711 1280-1300	Q190633	HC	128.0	130.0	2.0	4.99
WF97-11	WF711 1300-1318	Q190634	HC	130.0	131.8	1.8	4.32
WF97-11	WF711 1318-1338	Q190635	HC	131.8	133.8	2.0	5.00
WF97-11	WF711 1338- 1353	Q190636	HC	133.8	135.5	1.7	3.54
WF97-11	WF711 1353-1365	Q190637	HC	135.5	136.5	1.0	2.52
WF97-11	WF711 1365-1380	Q190638	HC	136.5	138.0	1.5	3.56
WF98-37	37-05	Q190639	HC	62.8	63.8	1.0	1.92
WF98-37	37-06	Q190641	HC	63.8	65.1	1.3	3.98
WF98-37	37-07	Q190642	HC	65.1	67.1	2.0	2.03
WF98-37	37-08	Q190643	HC	67.1	68.6	1.5	3.07
WF98-37	37-09	Q190644	HC	68.6	70.1	1.5	2.99
WF98-37	37-10	Q190645	HC	70.1	71.6	1.5	2.98
WF98-37	37-11	Q190646	HC	71.6	74.1	2.5	3.15

Hole ID	Original ID	2016 Sample ID	Sample Type	From (m)	To (m)	Length (m)	Weight (kg)
WF98-37	37-12	Q190647	HC	74.1	75.6	1.5	4.19
WF98-37	37-13	Q190648	HC	75.6	76.6	1.0	3.24
Totals and averages		**45 samples**				**1.5 m**	**3.77 kg**

Appendix F: Certificates of Analysis

This appendix contains certificates of analysis (COA) from the 2016 Wolf resampling and assay program. COAs are listed in alphanumeric order, with the first page of each COA indicated in the Page Number column of Table F-1 below.

Table F-1: Table of contents for COAs in this appendix

Certificate of Analysis

Work Order : VC162955

[Report File No.: 0000019319]

To: **ROBIN BLACK**
BMC MINERALS (NO 1) LTD
530-1130 WEST PENDER ST
VANCOUVER BC V6E 4A4

Date: Oct 07, 2016

P.O. No.	:	PO# BMC16-01_44,45,46,47
Project No.	:	KZK
No. Of Samples	:	50
Date Submitted	:	Sep 19, 2016
Report Comprises	:	Pages 1 to 5 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Comments:

Ba and S data is informational only.

Certified By : ______________________
John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

Element	WtKg	M75um	@Au	@Ag	Ba	@Cu	Fe	@Pb
Method	G_WGH79	G_SCR34	GE_FAA313	GE_AAS12E	GO_ICP90Q	GO_ICP90Q	GO_ICP90Q	GO_ICP90Q
Det.Lim.	0.01	0.01	5	0.3	0.01	0.01	0.05	0.01
Units	kg	%	ppb	g/t	%	%	%	%
Q190627	4.270	N.A.	<5	0.7	0.54	<0.01	3.55	<0.01
Q190628	3.535	93.2	<5	0.5	0.55	<0.01	4.51	<0.01
Q190629	3.300	N.A.	<5	4.1	1.15	<0.01	7.85	0.12
Q190630	0.115	N.A.	839	44.0	0.05	0.47	20.1	0.31
Q190631	2.480	N.A.	<5	4.6	0.53	<0.01	18.8	0.24
Q190632	4.415	N.A.	<5	5.1	0.48	<0.01	7.16	0.24
Q190633	4.990	N.A.	<5	9.6	0.75	<0.01	9.81	0.37
Q190634	4.320	N.A.	<5	4.4	0.55	<0.01	8.10	0.10
Q190635	4.995	N.A.	6	3.7	0.39	<0.01	8.77	0.02
Q190636	3.540	N.A.	6	3.9	0.45	<0.01	11.9	0.02
Q190637	2.515	N.A.	<5	4.2	0.29	<0.01	6.44	0.01
Q190638	3.555	N.A.	<5	3.5	0.44	<0.01	5.58	0.01
Q190612	6.220	N.A.	<5	3.1	0.38	0.03	7.73	0.26
Q190613	4.335	N.A.	<5	1.2	0.35	<0.01	10.2	0.04
Q190614	3.760	N.A.	<5	0.9	0.32	<0.01	10.4	<0.01
Q190615	3.835	N.A.	8	1.6	0.26	0.03	12.8	0.01
Q190616	4.215	N.A.	6	0.7	0.30	<0.01	11.9	<0.01
Q190617	6.285	N.A.	12	1.3	0.34	<0.01	19.5	<0.01
Q190618	5.190	N.A.	14	1.5	0.35	0.04	23.3	<0.01
Q190619	4.215	N.A.	11	3.5	0.31	0.16	21.0	0.01
Q190620	1.165	N.A.	<5	<0.3	<0.01	<0.01	0.16	<0.01
Q190621	3.520	N.A.	<5	1.0	0.37	<0.01	10.8	0.01
Q190622	4.790	N.A.	<5	0.6	0.36	<0.01	12.7	0.01
Q190623	6.785	N.A.	<5	0.7	0.24	0.02	24.2	<0.01
Q190624	6.955	N.A.	<5	0.5	0.13	0.02	30.2	<0.01
Q190625	8.280	N.A.	<5	0.7	0.09	0.08	21.6	<0.01
Q190626	5.590	N.A.	<5	1.0	0.07	0.21	19.8	<0.01
Q190639	1.915	N.A.	<5	1.9	1.29	<0.01	5.35	0.02
Q190640	1.840	N.A.	<5	<0.3	<0.01	<0.01	<0.05	<0.01
Q190641	3.980	N.A.	8	12.0	2.65	0.02	22.3	0.18
Q190642	2.030	N.A.	<5	0.6	>4.00	<0.01	9.53	0.02
Q190643	3.065	N.A.	<5	0.6	>4.00	<0.01	7.96	0.03
Q190644	2.990	N.A.	<5	1.8	>4.00	<0.01	8.46	0.31
Q190645	2.980	N.A.	<5	9.0	2.27	<0.01	13.1	0.35
Q190646	3.150	N.A.	<5	10.7	>4.00	<0.01	9.35	0.28
*Dup Q190646	N.A.	N.A.	<5	10.7	>4.00	<0.01	9.39	0.28
Q190647	4.185	N.A.	<5	4.9	>4.00	<0.01	5.87	0.12
Q190648	3.240	N.A.	<5	37.3	>4.00	0.01	6.04	1.02
Q190649	0.130	N.A.	1280	64.8	0.25	0.37	3.70	1.31
Q190650	0.130	N.A.	847	19.4	0.14	1.78	13.6	0.26

SGS

Final : VC162955 Order: PO# BMC16-01_44,45,46,47

Report File No.: 0000019319

Element Method Det.Lim. Units	WtKg G_WGH79 0.01 kg	M75um G_SCR34 0.01 %	@Au GE_FAA313 5 ppb	@Ag GE_AAS12E 0.3 g/t	Ba GO_ICP90Q 0.01 %	@Cu GO_ICP90Q 0.01 %	Fe GO_ICP90Q 0.05 %	@Pb GO_ICP90Q 0.01 %
Q190601	1.030	N.A.	6	4.5	0.22	<0.01	4.71	0.04
Q190602	2.800	N.A.	6	191	1.46	0.06	24.5	3.66
Q190603	2.875	N.A.	14	26.6	2.72	0.01	21.1	0.43
Q190604	3.060	N.A.	32	35.4	0.40	0.04	31.3	0.68
Q190605	2.030	N.A.	31	34.8	1.07	0.07	26.3	0.11
Q190606	2.525	N.A.	31	13.8	2.63	0.02	23.4	0.13
Q190607	3.190	N.A.	27	56.6	1.51	0.05	23.8	0.30
Q190608	2.030	N.A.	<5	17.1	>4.00	<0.01	23.4	0.59
Q190609	2.730	N.A.	<5	17.8	>4.00	<0.01	11.6	0.24
Q190610	1.840	N.A.	<5	5.3	1.12	<0.01	12.5	0.09
Q190611	2.170	N.A.	<5	2.4	0.93	<0.01	13.0	0.07
*Rep Q190632				5.2				
*Rep Q190603				26.2				
*Std SU_1B				6.0				
*Std OREAS621				68.0				
*Std AMIS0268				199				
*Blk BLANK				<0.3				
*Rep Q190613					0.34	<0.01	10.2	0.04
*Rep Q190607					1.52	0.05	24.0	0.30
*Std OREAS131B					0.08	0.02	5.70	1.80
*Std RM183-89					3.02	<0.01	36.1	0.03
*Std ME-19					0.17	0.46	3.97	0.95
*Blk BLANK					<0.01	<0.01	<0.05	<0.01

SGS

Final : VC162955 Order: PO# BMC16-01_44,45,46,47

Report File No.: 0000019319

Element	S	@Zn	As	Sb	@Bi	@Hg	@Se	Ba
Method	GO_ICP90Q	GO_ICP90Q	GE_ICM14B	GE_ICM14B	GE_ICM14B	GE_ICM14B	GE_ICM14B	GO_XRF77B
Det.Lim.	0.1	0.01	3	5	0.02	0.01	1	0.2
Units	%	%	ppm	ppm	ppm	ppm	ppm	%
Q190627	3.6	<0.01	23	6	0.14	0.10	2	N.A.
Q190628	4.5	<0.01	13	6	0.19	0.16	<1	N.A.
Q190629	8.7	0.34	28	12	0.90	1.23	<1	N.A.
Q190630	17.5	1.13	1410	93	23.5	8.76	123	N.A.
Q190631	19.5	0.41	119	20	0.19	0.65	<1	N.A.
Q190632	5.1	0.77	28	9	0.15	0.48	<1	N.A.
Q190633	8.1	1.14	52	7	0.22	0.64	<1	N.A.
Q190634	6.6	0.35	42	<5	0.14	0.22	<1	N.A.
Q190635	7.4	0.03	45	6	0.16	0.08	<1	N.A.
Q190636	9.4	0.07	93	<5	0.20	0.20	<1	N.A.
Q190637	5.2	<0.01	39	<5	0.16	0.02	<1	N.A.
Q190638	4.8	0.01	30	<5	0.10	0.03	<1	N.A.
Q190612	3.9	0.77	46	<5	0.14	0.57	<1	N.A.
Q190613	2.8	0.52	30	<5	0.08	0.37	<1	N.A.
Q190614	3.2	0.53	32	<5	0.13	0.39	<1	N.A.
Q190615	7.9	1.30	83	<5	0.12	1.03	<1	N.A.
Q190616	3.6	0.16	50	<5	0.27	0.08	<1	N.A.
Q190617	8.1	0.01	152	7	0.14	<0.01	<1	N.A.
Q190618	14.6	0.01	204	7	0.25	0.02	2	N.A.
Q190619	15.9	0.01	171	11	0.38	0.03	1	N.A.
Q190620	0.1	<0.01	5	<5	<0.02	<0.01	<1	N.A.
Q190621	6.1	0.08	34	<5	0.14	0.08	<1	N.A.
Q190622	9.7	<0.01	31	<5	0.15	0.91	<1	N.A.
Q190623	23.1	<0.01	184	<5	1.11	1.05	12	N.A.
Q190624	25.7	<0.01	209	<5	0.92	0.05	9	N.A.
Q190625	11.9	<0.01	97	<5	2.52	<0.01	2	N.A.
Q190626	8.3	0.05	128	<5	2.26	0.04	1	N.A.
Q190639	4.9	0.08	18	<5	0.05	0.23	<1	N.A.
Q190640	<0.1	<0.01	4	<5	<0.02	<0.01	<1	N.A.
Q190641	26.2	1.86	152	67	0.11	5.81	<1	N.A.
Q190642	11.6	0.02	28	<5	0.14	0.07	<1	7.4
Q190643	10.0	0.03	13	<5	0.16	0.15	<1	7.3
Q190644	12.1	0.79	22	5	0.13	2.03	<1	10.3
Q190645	15.0	0.83	46	9	0.18	1.53	<1	N.A.
Q190646	13.0	0.91	38	10	0.30	1.32	<1	10.9
*Dup Q190646	12.8	0.91	38	9	0.29	1.26	<1	11.0
Q190647	9.1	0.49	33	<5	0.19	0.36	<1	15.7
Q190648	8.0	4.00	44	67	0.14	1.98	1	5.2
Q190649	4.5	5.22	75	106	3.91	4.11	5	N.A.
Q190650	9.5	1.10	82	16	17.3	0.79	22	N.A.

Final : VC162955 Order: PO# BMC16-01_44,45,46,47

Report File No.: 0000019319

Element	S	@Zn	As	Sb	@Bi	@Hg	@Se	Ba
Method	GO_ICP90Q	GO_ICP90Q	GE_ICM14B	GE_ICM14B	GE_ICM14B	GE_ICM14B	GE_ICM14B	GO_XRF77B
Det.Lim.	0.1	0.01	3	5	0.02	0.01	1	0.2
Units	%	%	ppm	ppm	ppm	ppm	ppm	%
Q190601	3.7	0.10	107	13	0.15	0.16	19	N.A.
Q190602	29.4	2.00	263	398	0.07	4.85	7	N.A.
Q190603	25.8	5.62	255	58	0.08	13.2	2	N.A.
Q190604	40.3	10.7	312	156	<0.02	40.7	3	N.A.
Q190605	34.0	8.45	317	223	<0.02	7.49	3	N.A.
Q190606	26.1	4.46	224	42	0.07	1.82	1	N.A.
Q190607	32.1	10.7	277	224	0.03	4.50	3	N.A.
Q190608	29.6	1.53	126	21	0.09	2.02	<1	7.8
Q190609	14.4	0.77	54	33	0.16	1.13	<1	5.5
Q190610	13.9	0.65	81	11	0.16	0.97	<1	N.A.
Q190611	8.5	0.27	33	<5	0.14	0.25	<1	N.A.
*Rep Q190635			45	6	0.17	0.09	<1	
*Rep Q190610			83	13	0.15	0.93	<1	
*Std OREAS621			N.A.	107	N.A.	N.A.	N.A.	
*Std DS-1			6860	N.A.	N.A.	82.1	N.A.	
*Std OREAS934			N.A.	N.A.	507	N.A.	82	
*Blk BLANK			<3	<5	<0.02	<0.01	<1	
*Rep Q190613	2.7	0.52						
*Rep Q190607	31.6	10.6						
*Std OREAS131B	4.8	3.04						
*Std RM183-89	0.8	<0.01						
*Std ME-19	1.6	0.77						
*Blk BLANK	<0.1	<0.01						
*Std CRM3594-86								10.7
*Blk BLANK								<0.2
*Rep Q190648								5.0

Certificate of Analysis

Work Order : VC162955A

[Report File No.: 0000019320]

To: ROBIN BLACK
BMC MINERALS (NO 1) LTD
530-1130 WEST PENDER ST
VANCOUVER BC V6E 4A4

Date: Oct 07, 2016

P.O. No.	:	PO# BMC16-01_44,45,46,47
Project No.	:	KZK
No. Of Samples	:	50
Date Submitted	:	Sep 19, 2016
Report Comprises	:	Pages 1 to 11 (Inclusive of Cover Sheet)

Distribution of unused material:

Active files:

Comments:

Multielement analysis by GE_ICP12B is not optimized for this grade of material and some results may have interferences or lower than expected recoveries as a consequence

Certified By : ____________________

John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS

Final : VC162955A Order: PO# BMC16-01_44,45,46,47

Report File No.: 0000019320

Element	Ag	Al	As	Ba	Be	Bi	Ca	Cd
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	2	0.01	3	5	0.5	5	0.01	1
Units	ppm	%	ppm	ppm	ppm	ppm	%	ppm
Q190627	<2	0.43	22	213	<0.5	<5	1.41	<1
Q190628	<2	0.46	12	190	<0.5	<5	1.53	<1
Q190629	4	0.39	28	76	<0.5	<5	1.04	20
Q190630	46	0.83	1380	31	<0.5	27	1.86	63
Q190631	4	0.21	125	31	<0.5	<5	0.06	16
Q190632	5	0.35	29	108	<0.5	<5	0.08	57
Q190633	10	0.31	52	68	<0.5	<5	0.57	76
Q190634	4	0.35	43	111	<0.5	<5	0.28	20
Q190635	3	0.43	42	72	<0.5	<5	0.37	1
Q190636	4	0.30	97	76	<0.5	<5	0.60	4
Q190637	4	0.52	37	101	<0.5	<5	0.23	<1
Q190638	3	0.37	30	110	<0.5	<5	0.89	<1
Q190612	3	0.28	47	164	<0.5	<5	0.85	42
Q190613	<2	0.25	31	194	<0.5	<5	0.29	27
Q190614	<2	0.22	33	168	<0.5	<5	0.17	29
Q190615	<2	0.19	87	87	<0.5	<5	0.07	72
Q190616	<2	0.24	56	135	<0.5	<5	0.09	9
Q190617	<2	0.22	151	70	<0.5	<5	0.13	<1
Q190618	<2	0.21	207	48	<0.5	<5	0.12	<1
Q190619	4	0.23	153	41	<0.5	<5	0.08	<1
Q190620	<2	0.05	4	9	<0.5	<5	>15.0	<1
Q190621	<2	0.25	33	101	<0.5	<5	0.81	4
Q190622	<2	0.25	32	83	<0.5	<5	0.17	<1
Q190623	<2	0.19	186	30	<0.5	<5	0.81	1
Q190624	<2	0.19	210	25	<0.5	<5	0.38	2
Q190625	<2	0.24	98	57	<0.5	<5	0.48	<1
Q190626	<2	0.22	125	57	<0.5	<5	0.13	2
Q190639	<2	0.22	19	113	<0.5	<5	3.50	3
Q190640	<2	0.03	6	9	<0.5	<5	>15.0	<1
Q190641	13	0.14	152	30	<0.5	<5	0.65	66
Q190642	<2	0.15	26	68	<0.5	<5	0.07	<1
Q190643	<2	0.18	14	68	<0.5	<5	0.08	<1
Q190644	<2	0.16	19	69	<0.5	<5	0.02	19
Q190645	9	0.19	48	39	<0.5	<5	0.18	18
Q190646	11	0.18	38	64	<0.5	<5	0.09	24
*Dup Q190646	11	0.20	37	58	<0.5	<5	0.09	24
Q190647	4	0.19	35	83	<0.5	<5	0.39	23
Q190648	29	0.29	49	62	<0.5	<5	0.13	286
Q190649	29	1.48	69	131	<0.5	<5	1.69	280
Q190650	21	1.79	79	90	<0.5	14	1.11	53

Element	Ag	Al	As	Ba	Be	Bi	Ca	Cd
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	2	0.01	3	5	0.5	5	0.01	1
Units	ppm	%	ppm	ppm	ppm	ppm	%	ppm
Q190601	5	0.14	104	159	<0.5	<5	4.63	7
Q190602	>100	0.27	260	16	<0.5	<5	5.12	145
Q190603	30	0.63	250	54	<0.5	<5	2.80	273
Q190604	47	0.14	282	59	<0.5	<5	3.33	482
Q190605	41	0.33	305	64	<0.5	<5	4.27	416
Q190606	15	1.16	215	59	<0.5	<5	3.72	248
Q190607	58	0.42	279	64	<0.5	<5	2.45	652
Q190608	19	0.38	135	70	<0.5	<5	0.17	51
Q190609	19	0.53	60	75	<0.5	<5	0.29	50
Q190610	5	0.27	83	53	<0.5	<5	0.09	32
Q190611	2	0.28	32	72	<0.5	<5	0.59	9
*Rep Q190613	<2	0.25	32	194	<0.5	<5	0.28	27
*Std XRAL01A	2	0.54	1150	3190	<0.5	11	2.03	3
*Std OREAS901	<2	0.92	68	84	4.1	<5	0.09	<1
*Blk BLANK	<2	<0.01	<3	<5	<0.5	<5	<0.01	<1
*Blk BLANK	<2	<0.01	<3	<5	<0.5	<5	<0.01	<1

Element	Co	Cr	Cu	Fe	Hg	K	La	Li
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	1	1	0.5	0.01	1	0.01	0.5	1
Units	ppm	ppm	ppm	%	ppm	%	ppm	ppm
Q190627	14	3	30.9	3.80	<1	0.28	22.0	<1
Q190628	18	2	29.0	4.60	<1	0.29	26.4	2
Q190629	6	<1	25.7	8.30	<1	0.24	23.5	2
Q190630	52	25	4840	>15.0	7	0.10	2.2	9
Q190631	3	<1	38.3	>15.0	<1	0.15	85.5	1
Q190632	2	2	19.7	6.84	<1	0.24	87.5	3
Q190633	2	1	26.7	9.81	<1	0.25	72.2	4
Q190634	2	2	22.4	7.91	<1	0.25	33.6	3
Q190635	1	1	42.1	7.59	<1	0.23	28.7	2
Q190636	2	2	53.1	11.5	<1	0.24	23.6	2
Q190637	1	2	29.8	6.27	<1	0.25	43.0	2
Q190638	1	3	24.4	5.55	<1	0.17	22.3	<1
Q190612	1	2	280	7.44	<1	0.23	20.5	2
Q190613	2	2	70.8	10.5	<1	0.18	27.5	2
Q190614	2	2	65.5	10.9	<1	0.17	29.1	1
Q190615	2	1	269	12.5	2	0.14	14.2	<1
Q190616	2	1	39.9	11.5	<1	0.16	15.4	1
Q190617	2	<1	42.0	>15.0	<1	0.16	4.8	2
Q190618	5	<1	389	>15.0	<1	0.12	4.1	1
Q190619	4	<1	1480	>15.0	<1	0.12	2.5	<1
Q190620	<1	<1	2.5	0.16	<1	<0.01	<0.5	<1
Q190621	2	<1	27.1	11.6	<1	0.16	3.2	1
Q190622	2	<1	28.6	12.6	<1	0.17	2.5	1
Q190623	13	<1	192	>15.0	<1	0.13	0.9	<1
Q190624	13	<1	200	>15.0	<1	0.11	1.3	1
Q190625	9	<1	830	>15.0	<1	0.09	1.5	1
Q190626	11	<1	2040	>15.0	<1	0.08	1.6	2
Q190639	1	2	14.3	5.70	<1	0.18	19.1	1
Q190640	<1	<1	0.6	0.04	<1	<0.01	<0.5	<1
Q190641	2	<1	258	>15.0	4	0.10	18.7	1
Q190642	2	1	10.0	9.82	<1	0.12	18.6	1
Q190643	2	1	6.4	8.28	<1	0.14	38.7	<1
Q190644	1	1	6.0	8.81	2	0.12	34.5	1
Q190645	2	1	7.6	12.8	2	0.14	28.9	1
Q190646	2	1	8.3	9.41	<1	0.13	27.6	<1
*Dup Q190646	2	<1	8.0	9.48	<1	0.14	25.7	<1
Q190647	1	1	10.1	5.19	<1	0.17	52.5	3
Q190648	1	1	142	5.05	2	0.26	105	5
Q190649	29	39	3590	3.32	4	0.31	19.4	7
Q190650	207	15	>10000	12.8	<1	0.17	16.4	11

Element	Co	Cr	Cu	Fe	Hg	K	La	Li
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	1	1	0.5	0.01	1	0.01	0.5	1
Units	ppm	ppm	ppm	%	ppm	%	ppm	ppm
Q190601	2	12	22.0	4.72	<1	0.10	10.1	2
Q190602	3	<1	593	>15.0	3	0.18	48.2	4
Q190603	2	<1	161	>15.0	13	0.44	98.0	11
Q190604	3	<1	414	>15.0	40	0.09	33.7	7
Q190605	2	<1	662	>15.0	5	0.18	63.3	12
Q190606	3	<1	252	>15.0	<1	0.60	130	15
Q190607	2	<1	529	>15.0	2	0.21	32.7	5
Q190608	3	<1	27.6	>15.0	1	0.16	37.5	<1
Q190609	2	<1	59.4	11.4	<1	0.22	101	1
Q190610	2	1	15.8	12.2	<1	0.15	95.4	<1
Q190611	2	<1	8.5	12.1	<1	0.20	68.4	3
*Rep Q190613	2	2	69.2	10.1	<1	0.17	27.3	2
*Std XRAL01A	6	131	104	2.06	10	0.16	8.5	4
*Std OREAS901	76	24	1480	3.93	<1	0.54	40.2	3
*Blk BLANK	<1	<1	<0.5	<0.01	<1	<0.01	<0.5	<1
*Blk BLANK	<1	<1	<0.5	<0.01	<1	<0.01	<0.5	<1

Element	Mg	Mn	Mo	Na	Ni	P	Pb	S
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	0.01	2	1	0.01	1	0.01	2	0.01
Units	%	ppm	ppm	%	ppm	%	ppm	%
Q190627	0.18	120	7	0.02	20	0.29	63	3.80
Q190628	0.22	185	9	0.01	20	0.22	92	4.63
Q190629	0.18	156	12	0.02	4	0.09	1250	>5.00
Q190630	1.11	882	5	0.01	28	0.03	2970	>5.00
Q190631	0.02	41	15	0.02	<1	0.02	2380	>5.00
Q190632	0.11	617	8	0.02	<1	0.03	2590	>5.00
Q190633	0.19	1100	8	0.01	<1	0.03	3920	>5.00
Q190634	0.16	608	14	0.02	4	0.02	1110	>5.00
Q190635	0.21	449	8	0.02	<1	0.01	285	>5.00
Q190636	0.36	1130	12	0.01	<1	0.02	248	>5.00
Q190637	0.14	215	2	0.04	<1	0.02	127	>5.00
Q190638	0.23	554	3	0.03	<1	0.01	151	4.64
Q190612	0.48	2550	5	0.01	<1	0.02	2750	3.87
Q190613	0.66	2090	3	0.01	<1	0.02	464	2.70
Q190614	0.62	1740	5	0.01	<1	0.02	165	3.12
Q190615	0.44	1190	6	0.01	<1	0.02	134	>5.00
Q190616	0.76	1110	4	0.01	<1	0.01	50	3.38
Q190617	1.23	1590	3	0.02	<1	<0.01	108	>5.00
Q190618	0.97	1500	1	0.02	<1	<0.01	86	>5.00
Q190619	0.65	886	4	0.02	<1	<0.01	169	>5.00
Q190620	1.35	36	<1	0.02	<1	<0.01	<2	0.14
Q190621	0.95	1050	7	0.02	<1	<0.01	100	>5.00
Q190622	0.53	738	9	0.02	<1	<0.01	56	>5.00
Q190623	0.57	634	4	0.02	<1	<0.01	79	>5.00
Q190624	0.91	816	<1	0.02	<1	<0.01	61	>5.00
Q190625	1.31	847	2	0.05	<1	<0.01	29	>5.00
Q190626	1.87	737	2	0.05	<1	<0.01	32	>5.00
Q190639	1.14	609	5	0.01	2	0.04	317	4.96
Q190640	1.37	25	<1	0.01	<1	<0.01	<2	0.08
Q190641	0.19	240	6	0.01	2	<0.01	1690	>5.00
Q190642	0.02	49	9	0.02	<1	0.01	85	>5.00
Q190643	0.02	34	9	0.02	<1	<0.01	294	>5.00
Q190644	0.01	31	8	0.02	<1	<0.01	2900	>5.00
Q190645	0.04	140	10	0.02	<1	0.01	3580	>5.00
Q190646	0.02	62	8	0.02	<1	0.01	2770	>5.00
*Dup Q190646	0.02	50	8	0.02	<1	0.01	2660	>5.00
Q190647	0.06	439	8	0.01	<1	0.02	1080	>5.00
Q190648	0.02	159	7	0.01	<1	0.03	>10000	>5.00
Q190649	0.46	499	14	0.13	31	0.04	>10000	4.49
Q190650	1.17	541	8	0.06	15	0.04	2530	>5.00

Element Method Det.Lim. Units	Mg GE_ICP12B 0.01 %	Mn GE_ICP12B 2 ppm	Mo GE_ICP12B 1 ppm	Na GE_ICP12B 0.01 %	Ni GE_ICP12B 1 ppm	P GE_ICP12B 0.01 %	Pb GE_ICP12B 2 ppm	S GE_ICP12B 0.01 %
Q190601	1.62	742	20	0.01	60	0.10	387	3.62
Q190602	1.93	793	7	0.01	8	0.01	>10000	>5.00
Q190603	0.91	473	9	0.02	1	0.02	4190	>5.00
Q190604	1.00	538	<1	0.02	2	<0.01	6350	>5.00
Q190605	0.90	452	1	0.04	2	<0.01	908	>5.00
Q190606	0.58	1760	2	0.03	<1	0.02	1080	>5.00
Q190607	0.70	693	2	0.01	<1	0.02	2740	>5.00
Q190608	0.04	55	4	0.02	<1	0.01	5500	>5.00
Q190609	0.05	143	14	0.02	1	0.03	2290	>5.00
Q190610	0.02	152	10	0.01	<1	0.02	1000	>5.00
Q190611	0.17	2750	8	0.01	<1	0.03	654	>5.00
*Rep Q190613	0.65	2020	2	0.01	<1	0.02	461	2.61
*Std XRAL01A	0.29	294	10	0.02	44	0.08	76	0.15
*Std OREAS901	0.13	309	3	0.02	38	0.06	14	0.03
*Blk BLANK	<0.01	<2	<1	<0.01	<1	<0.01	<2	<0.01
*Blk BLANK	<0.01	<2	<1	<0.01	<1	<0.01	<2	<0.01

Element	Sb	Sc	Sn	Sr	Ti	V	W	Y
Method	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B	GE_ICP12B
Det.Lim.	5	0.5	10	5	0.01	1	10	0.5
Units	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Q190627	8	<0.5	<10	227	<0.01	6	<10	8.1
Q190628	5	0.7	<10	298	<0.01	4	<10	6.1
Q190629	11	<0.5	<10	185	<0.01	1	<10	3.7
Q190630	97	1.6	<10	45	<0.01	25	<10	3.3
Q190631	21	<0.5	<10	15	<0.01	<1	<10	2.6
Q190632	7	<0.5	<10	17	<0.01	<1	<10	3.5
Q190633	8	<0.5	<10	117	<0.01	<1	<10	3.5
Q190634	5	<0.5	<10	51	<0.01	<1	<10	2.2
Q190635	<5	<0.5	<10	64	<0.01	<1	<10	1.8
Q190636	6	<0.5	<10	85	<0.01	<1	<10	1.9
Q190637	<5	<0.5	<10	50	<0.01	<1	<10	1.9
Q190638	<5	<0.5	<10	127	<0.01	<1	<10	2.5
Q190612	<5	<0.5	<10	50	<0.01	<1	<10	3.3
Q190613	<5	<0.5	<10	24	<0.01	<1	<10	3.0
Q190614	<5	<0.5	<10	14	<0.01	<1	<10	2.7
Q190615	<5	<0.5	<10	<5	<0.01	<1	<10	1.8
Q190616	<5	<0.5	<10	<5	<0.01	<1	<10	2.1
Q190617	8	<0.5	<10	5	<0.01	<1	<10	2.7
Q190618	11	<0.5	<10	<5	<0.01	1	<10	2.2
Q190619	12	<0.5	<10	<5	<0.01	<1	<10	1.4
Q190620	<5	<0.5	<10	5120	0.02	3	<10	1.1
Q190621	<5	<0.5	<10	13	<0.01	<1	<10	2.5
Q190622	<5	<0.5	<10	<5	<0.01	<1	<10	1.6
Q190623	<5	<0.5	<10	22	<0.01	<1	<10	2.3
Q190624	<5	<0.5	<10	8	<0.01	1	<10	2.0
Q190625	<5	<0.5	<10	13	<0.01	1	<10	2.5
Q190626	<5	<0.5	<10	8	<0.01	<1	<10	3.0
Q190639	5	0.6	<10	339	<0.01	2	<10	6.6
Q190640	<5	<0.5	<10	4410	<0.01	<1	<10	<0.5
Q190641	64	<0.5	<10	32	<0.01	<1	<10	1.8
Q190642	<5	<0.5	<10	13	<0.01	<1	<10	1.5
Q190643	<5	<0.5	<10	15	<0.01	<1	<10	1.6
Q190644	6	<0.5	<10	15	<0.01	<1	<10	1.7
Q190645	11	<0.5	<10	11	<0.01	<1	<10	1.7
Q190646	9	<0.5	<10	13	<0.01	<1	<10	1.6
*Dup Q190646	8	<0.5	<10	13	<0.01	<1	<10	1.6
Q190647	6	<0.5	<10	35	<0.01	<1	<10	3.6
Q190648	62	<0.5	<10	18	<0.01	<1	<10	4.6
Q190649	101	1.6	<10	19	0.01	10	<10	6.6
Q190650	16	4.2	<10	14	0.02	17	<10	7.5

Element Method Det.Lim. Units	Sb GE_ICP12B 5 ppm	Sc GE_ICP12B 0.5 ppm	Sn GE_ICP12B 10 ppm	Sr GE_ICP12B 5 ppm	Ti GE_ICP12B 0.01 %	V GE_ICP12B 1 ppm	W GE_ICP12B 10 ppm	Y GE_ICP12B 0.5 ppm
Q190601	12	0.5	<10	126	<0.01	27	<10	7.2
Q190602	392	<0.5	<10	165	<0.01	12	<10	5.0
Q190603	57	<0.5	<10	76	<0.01	2	<10	8.8
Q190604	140	<0.5	<10	87	<0.01	5	<10	4.7
Q190605	212	<0.5	10	126	<0.01	4	<10	8.9
Q190606	43	<0.5	20	92	0.01	2	<10	13.4
Q190607	224	<0.5	<10	138	<0.01	2	<10	4.2
Q190608	24	<0.5	<10	23	<0.01	<1	<10	2.6
Q190609	30	<0.5	<10	29	<0.01	<1	<10	5.2
Q190610	10	<0.5	<10	31	<0.01	<1	<10	3.6
Q190611	<5	<0.5	<10	74	<0.01	<1	<10	4.3
*Rep Q190613	<5	<0.5	<10	23	<0.01	<1	<10	3.1
*Std XRAL01A	117	3.1	<10	70	<0.01	248	10	10.7
*Std OREAS901	<5	4.6	<10	18	<0.01	20	<10	18.8
*Blk BLANK	<5	<0.5	<10	<5	<0.01	<1	<10	<0.5
*Blk BLANK	<5	<0.5	<10	<5	<0.01	<1	<10	<0.5

Element	Zn	Zr	Au@	Hg
Method	GE_ICP12B	GE_ICP12B	GE_FAI313	GE_CVA20A
Det.Lim.	1	0.5	1	0.005
Units	ppm	ppm	ppb	ppm
Q190627	17	29.0	<1	0.091
Q190628	52	15.2	<1	0.161
Q190629	3460	13.4	1	1.26
Q190630	>10000	5.1	842	9.24
Q190631	4220	11.0	2	0.696
Q190632	8190	7.3	<1	0.461
Q190633	>10000	8.6	<1	0.566
Q190634	3540	9.2	1	0.217
Q190635	212	6.2	4	0.093
Q190636	648	7.1	6	0.175
Q190637	19	5.9	3	0.025
Q190638	63	5.2	2	0.020
Q190612	7890	8.5	4	0.519
Q190613	5230	7.2	5	0.401
Q190614	5550	7.3	3	0.377
Q190615	>10000	6.5	8	0.989
Q190616	1740	6.8	5	0.109
Q190617	93	9.6	11	0.030
Q190618	119	9.4	14	0.010
Q190619	138	9.3	12	0.010
Q190620	5	1.6	<1	<0.005
Q190621	927	7.3	2	0.061
Q190622	54	7.5	1	0.760
Q190623	43	10.0	3	0.953
Q190624	30	9.7	4	0.042
Q190625	54	9.4	3	0.007
Q190626	534	8.9	3	0.028
Q190639	843	9.6	<1	0.194
Q190640	2	0.5	<1	<0.005
Q190641	>10000	10.2	6	5.84
Q190642	120	9.2	<1	0.059
Q190643	326	10.0	<1	0.129
Q190644	8120	8.5	<1	1.84
Q190645	8180	8.5	<1	1.46
Q190646	9160	8.2	<1	1.13
*Dup Q190646	9180	8.3	<1	1.13
Q190647	4860	7.7	<1	0.241
Q190648	>10000	10.0	<1	2.00
Q190649	>10000	46.2	1260	4.11
Q190650	9980	46.8	779	0.823

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Element	Zn	Zr	Au@	Hg
Method	GE_ICP12B	GE_ICP12B	GE_FAI313	GE_CVA20A
Det.Lim.	1	0.5	1	0.005
Units	ppm	ppm	ppb	ppm
Q190601	951	5.3	4	0.173
Q190602	>10000	19.2	5	5.04
Q190603	>10000	18.0	13	13.8
Q190604	>10000	14.9	26	43.0
Q190605	>10000	15.5	27	7.49
Q190606	>10000	14.9	29	1.88
Q190607	>10000	11.2	25	4.46
Q190608	>10000	10.8	2	2.10
Q190609	7640	16.7	<1	1.18
Q190610	6730	8.4	<1	0.856
Q190611	2570	7.2	<1	0.227
*Rep Q190614			3	
*Rep Q190601			4	
*Std OXN117			7410	
*Std OXB130			121	
*Std OREAS214			2960	
*Blk BLANK			<1	
*Rep Q190631				0.671
*Rep Q190639				0.178
*Rep Q190603				13.3
*Std DS-1				82.8
*Std DS-1				81.0
*Blk BLANK				<0.005
*Rep Q190613	5180	7.5		
*Std XRAL01A	188	6.3		
*Std OREAS901	21	29.3		
*Blk BLANK	<1	<0.5		
*Blk BLANK	<1	<0.5		

Appendix G: Data Disk

Appendix H: Qualified Person's Certificate

GEOLOGIST'S CERTIFICATE

Ronald J. Voordouw
2327 Mary Hill Road
Port Coquitlam, BC, Canada
V3C 3A6

I, **RONALD VOORDOUW**, Ph.D., P.Geo., do hereby certify that:

1. I am presently a Project Geologist with Equity Exploration Consultants Ltd, with offices at Suite 1510, 250 Howe Street, Vancouver, British Columbia, Canada.
2. I graduated from the University of Calgary, Alberta, Canada, with a Bachelor of Science degree in geology in 1999, and with a Doctorate in geology in 2006 from the Memorial University of Newfoundland, Canada.
3. I am a professional geoscientist in good standing (#06962) in the province of Newfoundland and Labrador.
4. Since 2006 I have been involved in natural resource exploration for base metals and gold (2006, 2011 to present); research on PGE deposits (2007, 2008); and regional geological mapping (2009, 2010) in Canada and South Africa.
5. I am a co-author of the assessment report "*2016 Geophysical and Geochemical Report on the Wolf Property*" prepared for BMC Minerals LTD. I am responsible for sections 1.0–4.0, 6.0 and 8.0–9.0.
6. I visited the Property twice in 2016, including to help with the historical core resampling program.

Dated 4 January 2017, at Vancouver, British Columbia.

Signed and sealed: "*Ronald J. Voordouw*"

Ronald J. Voordouw, Ph.D., P.Geo

ENGINEER'S CERTIFICATE

Henry J. Awmack
1843 Crescent Road
Victoria, BC, Canada
V8S 2G7

I, **HENRY J. AWMACK**, P.Eng., do hereby certify that:

1. I am a Professional Engineer with offices at Suite 1510, 250 Howe Street, Vancouver and residing at 1843 Crescent Road, Victoria, British Columbia, Canada.
2. I graduated from the University of British Columbia with a Bachelor of Applied Science (Honours) degree in geological engineering (Mineral Exploration Option) in 1982, and I have practiced my profession continuously since 1982.
3. I am a member in good standing (#15,709) of the Association of Professional Engineers and Geoscientists of British Columbia and a Fellow of the Society of Economic Geologists.
4. Since 1982, I have been involved in mineral exploration for gold, silver, copper, lead, zinc, cobalt, nickel and tin in Canada, Costa Rica, Panamá, Chile, Argentina, Brazil, Peru, Ecuador, Venezuela, Nicaragua, Bolivia, Mexico, Indonesia, China, Sénégal, Colombia, Namibia and Egypt.
5. I am a Senior Geological Consultant with Equity Exploration Consultants Ltd., a geological consulting and contracting firm, and have been with Equity in various capacities since February 1987.
6. I am a co-author of the report entitled "*2016 Geophysical and Geochemical Report on the Wolf Property*" prepared for BMC Minerals LTD. I am responsible for Sections 5.0 and 7.0.
7. I have not examined the property which is the subject of the Assessment Report.

Dated 4 January 2017, in Vancouver, British Columbia

Signed and sealed: *"Henry J. Awmack"*

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Henry J. Awmack, P. Eng.