PROCESSING AND ANALYSIS
OF
HELITEM AIRBORNE EM DATA

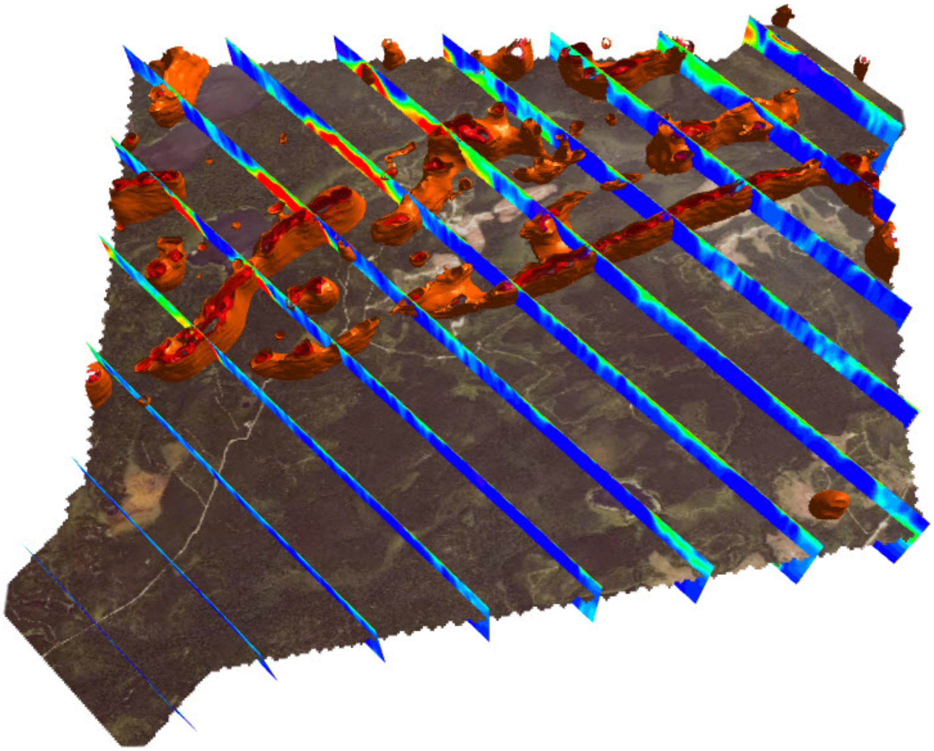
DIXIE LAKE

RED LAKE, ONTARIO

For

RED LAKE RESOURCES LTD.

June 18, 2015



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CONTENTS

1. SUMMARY

This report describes the processing and analysis of a HELITEM airborne electromagnetic (EM) and magnetic survey flown in April and May 2012 for Red Lake Resources Ltd. (Red Lake Resources) over the area of the Dixie Lake gold exploration project.

The Dixie Lake project is located in the Red Lake Mining Camp in north-western Ontario approximately 30 km south-southeast of Red Lake, Ontario. The project is within the Red Lake greenstone belt of the Uchi subprovince of the Archean Superior Province.

Mineral tenure currently held by Grandview Gold Inc., located 1.5 km to the north of the HELITEM survey boundary, contain a number of gold occurrences and a single (non-NI 43-101 complaint) resource with an upper estimate of 1.1 mil short tons at 0.10 oz./t (Janzen, 1989).

The Dixie Lake area has seen numerous exploration programs since the 1960’s. However, there is very limited bedrock exposure in the area and, as a result, exploration is heavily reliant on geophysical methods. There is a history of airborne and ground geophysical exploration in the area beginning in the late 1960’s.

Condor Consulting Inc. (Condor) was commissioned by Red Lake Resources to carry out processing, analysis and interpretation of the 2012 survey and to identify areas prospective for Au or volcanogenic massive sulphide (VMS) mineralization.

This assessment has identified twenty-three VMS Target Zones and seven gold Target Zones that are deemed worthy of follow-up work.

2. INTRODUCTION

Between April 29th and May 6th, 2012, Fugro Airborne Surveys (Fugro, now CGG) carried out a helicopter-borne airborne EM and magnetic geophysical survey (HELITEM) for Red Lake Resources over the Dixie Lake project (Fugro Airborne Surveys, 2012). The project is located approximately 30 km south-southeast of Red Lake, Ontario and approximately 1.5 km south of the Grandview Gold Inc. 88-04 gold deposit (Figure 1).

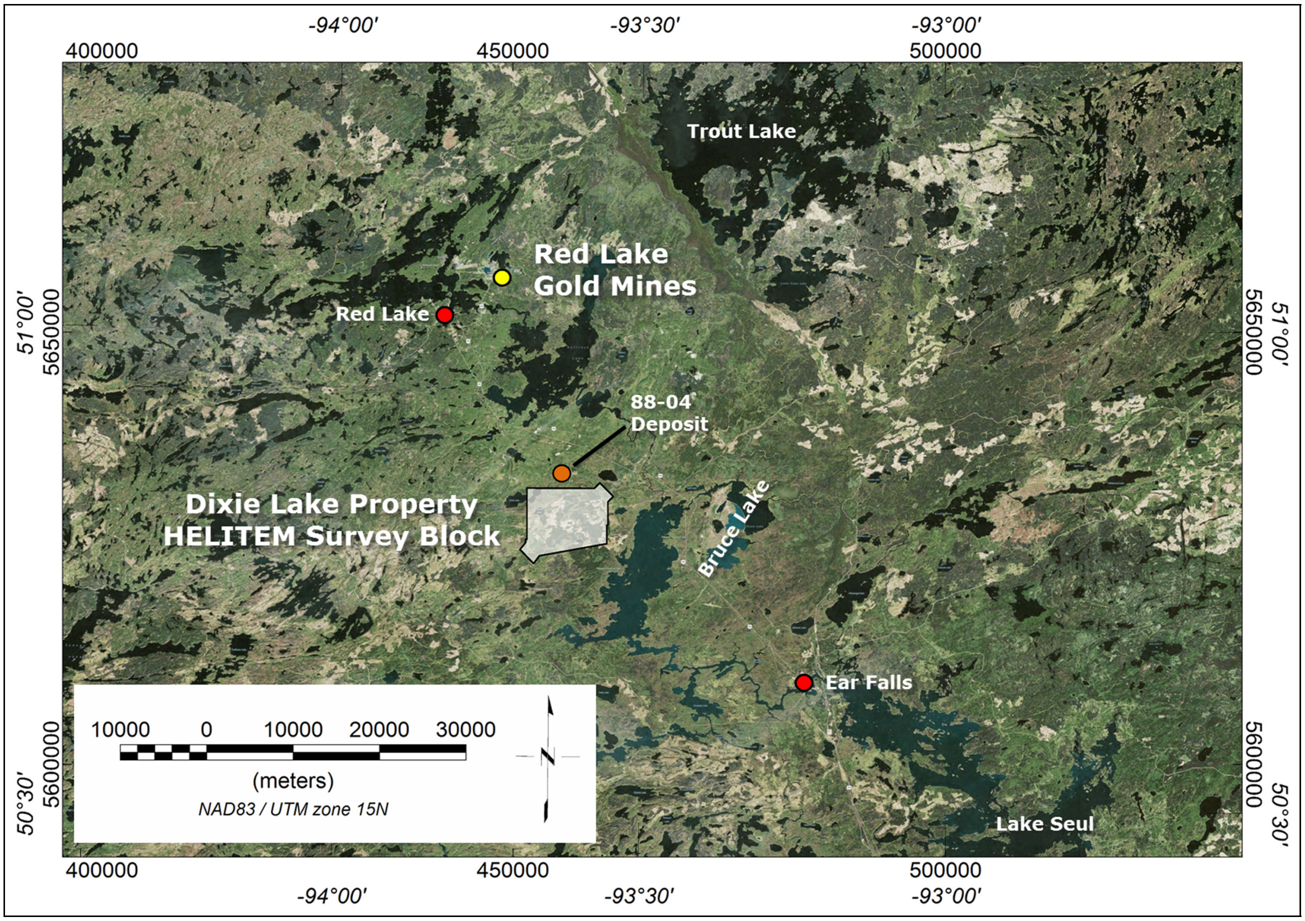

Figure 1: Location of the Dixie Lake project HELITEM survey area (white polygon) relative to the location of the communities of Red Lake and Ear Falls (red), the currently producing GoldCorp Red Lake gold mine complex (yellow), and the Grandview Gold 88-04 gold deposit.

The survey consisted of a single block with traverse and control (tie) lines oriented at 135° and 45°, respectively, with a nominal traverse and control line spacing of 100 m and 1,000 m, respectively. The aircraft was flown at a mean clearance of 86 m above ground level (AGL) with the magnetic sensor at a mean clearance of 35 m AGL. The EM transmitter (TX) and receiver (RX) were carried at mean clearances of 35 m AGL and 62 m AGL, respectively.

This report details the processing and interpretation of a total 769 line-km data (699 line-km acquired along the traverse lines, as calculated from the delivered database). The survey line-path is shown relative to the client tenure boundaries[1] in Figure 2 below.

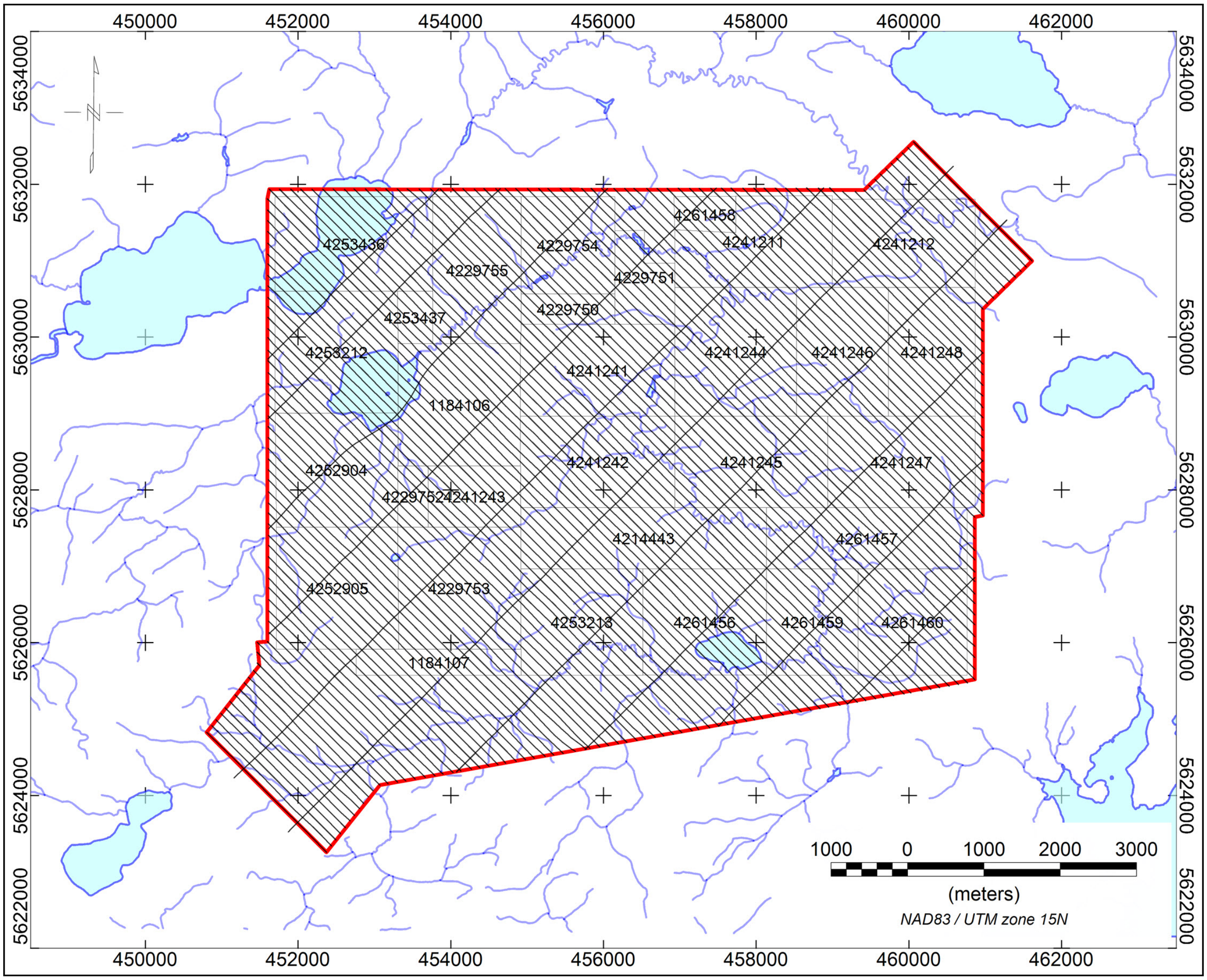

Figure 2: HELITEM Dixie Lake Block line path superimposed on lakes and rivers showing the Red Lake Resources mineral exploration dispositions.

Further information regarding the survey parameters and Fugro deliverables may be found in the survey logistics report included in Appendix C (archive DVD). Appendix C also includes revised HELITEM waveform files provided to Condor by CGG in March, 2015.

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[1] The client tenure is taken from polygons in MNDM active claims GIS layer as of March 11, 2015 which correspond to the claims shown on geological compilation map (Pryslak, 2014a) provided by Red Lake Resources. The MNDM active claims summary indicates the claims are held 100% by Larry Herbert.

A variety of unattributed public data sources have been used in the compilation of this report:

- CanVec digital topographic base data for NTS sheet 052K13
- Canadian Digital Elevation Data (CDED) for NTS sheet 052K13
- Canmatrix digital topographic base maps for NTS sheets 052K and 052K13
- Ontario Mineral Deposit Index (revised 2014)
- Ontario Mineral Claims Index (downloaded March 12, 2015)
- Ontario MNDM drill database (revised July, 2014)

Additional documents and data were provided by the client and are included in Appendix C to this report:

- Fugro HELITEM survey deliverables for Dixie Lake block
- Georeferenced raster geology (Pryslak, 2014)
- Property review report by Mount Morgan Resources Ltd. (Fedikow, 2014)
- Project overview powerpoint presentation by Orix Geoscience Inc. (Herbert, 2015)

3. GEOLOGY

Regional Geological Setting

The Dixie Lake project is located near the southern margin of the Red Lake greenstone belt of the Uchi Subprovince of the Archean Superior province of the Canadian Shield. The Red Lake belt hosts one of Canada's largest gold camps with historical production in excess of 20 M oz. Au. The closest past or present producing gold mines are located more than 20 km to the NW of the Dixie Lake project in the Red Lake camp (identified by "1" through "3" in Figure 3).

Due to sparse bedrock outcrop, the project area is almost completely unmapped in Precambrian bedrock geology maps (see Ferguson et al., 1968, Breaks et al., 1975, and Muir, 1994). However, the project area is included in the relatively recent geological compilation map of the East Uchi subprovince by Sanborn-Barrie et al. (2004) (Figure 3, top). The Precambrian bedrock geology presented in this compilation is assumed to have been interpreted from regional geophysical data with the assistance of available geological data. The relationship between the available regional total magnetic intensity (TMI) grids (Figure 3, bottom) and the regional Precambrian geology in the project area (using unit descriptions from Sanborn-Barrie et al.) is outlined below.

The Archean tonalite to granodiorite (lithological unit Ube2tn) is interpreted to underlay the south-east third of the project area and is correlated with a moderate magnetic low with little internal variation. This unit is interpreted to be intruded in the southwest corner of the survey area by Neoarchean diorite to quartz diorite (Gsk11di) which is correlated with a moderate magnetic high with some internal linear structure trending northeast.

To the south of the survey area, Ube2tn sits in faulted contact with the metasedimentary migmatite of the English River Assemblage (Feg6sm). The fault is defined by a moderate magnetic high with strong linear character and variable northeast to east trend. Similar structures to the south define a regional anastomosing fault system with general east-west trend.

To the north and west of the tonalite to granodiorite unit (Ube2tn) the survey area is interpreted to be underlain by Archean mafic volcanic rocks (Uus2mv) which are correlated with linear bands of magnetic highs and lows with a general east-west orientation. The interpreted contact between Ube2tn in the south and Uus2mv in the north is defined by a sharp change from magnetic low to high along an east-northeast trend. The linear bands in mafic volcanics diverge from nearly parallel to the interpreted contact approximately 10 km east of the project to a nearly south-east orientation immediately north of the survey area presenting a clear fault along the east-northeast trend of the Ube2tn and Uus2mv contact north-east of the survey area.

There are several parallel features in the interpreted felsic to mafic volcanic units to the north of the project area. The closest differentiated unit is the intermediate to felsic McNeely sequence volcanics of the Confederation assemblage (also present at Red Lake). To the east of the project area the McNeely sequence is interpreted to sit in faulted contact with the Uus2mv volcanics which underlie the project area. The interpreted fault is terminated in the Pakwash Lake in the compilation map but appears to be continuous through the project area at the contact between the volcanic (Uus2mv) and intrusive (Ube2tn) packages.

Iron formation (IF) is interpreted to correlate with areas of intense linear magnetic highs within the mafic volcanics; examples are present near the west and east limits of the survey area and approximately 13 km to the east proximal to the historic Griffith hematite and gemstone mine (identified as “4” in Figure 3).

In summary, the south-eastern half of the project area, as well as small areas on the west and northwest, is interpreted to be underlain by Archean felsic intrusive rocks which are correlated with relative magnetic lows with little magnetic variation. The intrusives are in contact (likely faulted) with Archean mafic volcanic rocks which are interpreted to cover the remainder of the project area; these mafic rocks are correlated with bands of magnetic highs and lows with variable, but generally north-east linear trends. There are interpreted north-east trending IF occurrences in the mafic volcanics on the west side of the project area which correlate with intense linear magnetic highs.

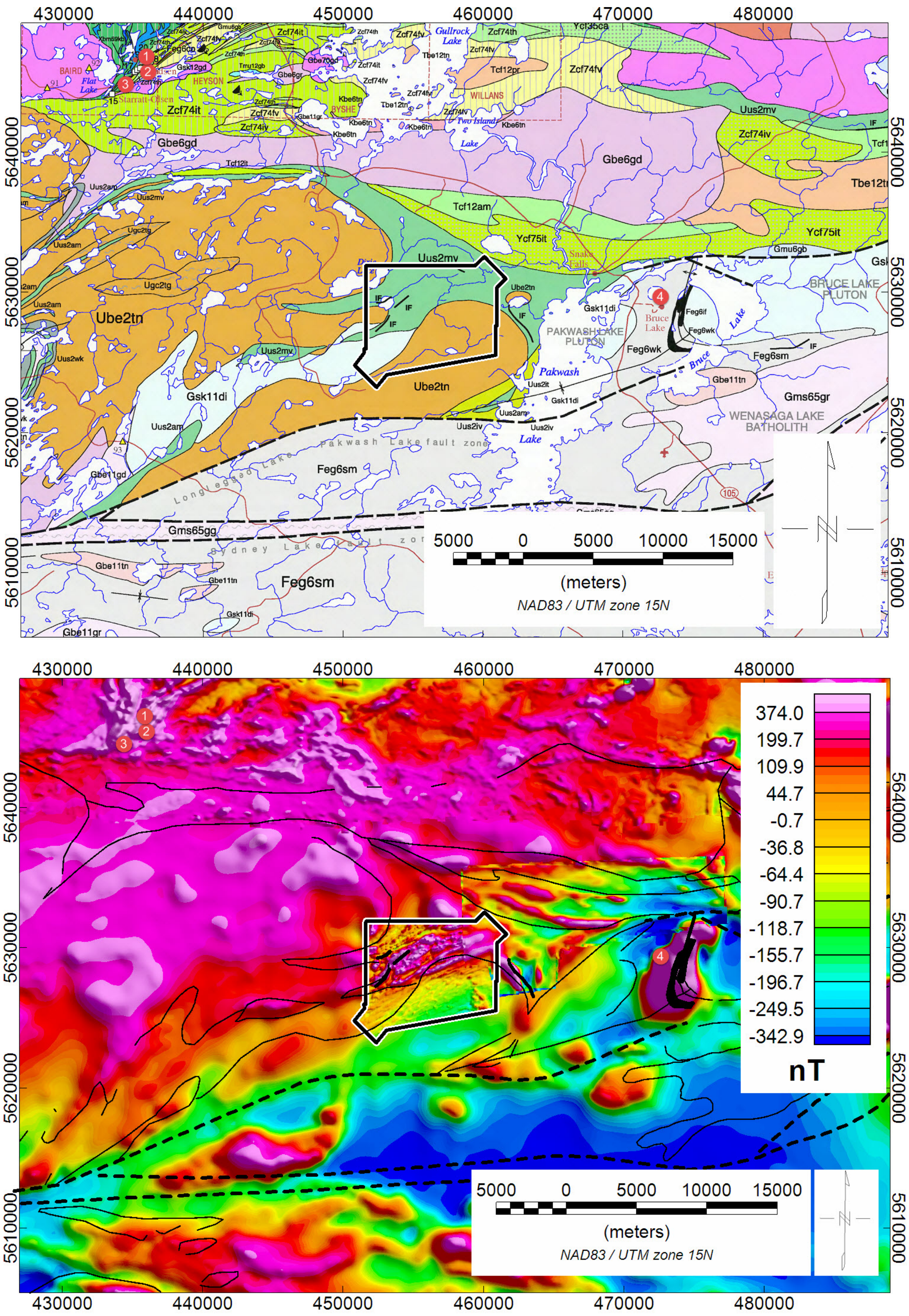

Figure 3: Extract from the most recent regional Precambrian geology compilation covering the project area (Sanborn-Barrie, 2004) showing survey outline (top) and mosaic of regional public TMI data with line work from geology compilation and survey outline (bottom). Past or current producing gold mines (1-3) and an iron/gemstone mine (4) are identified by red circles.

Project Geology

Red Lake Resources has undertaken a multi-year program of prospecting, overburden stripping and localized detailed mapping (Herbert and Pryslak, 2010 and 2012) and drilling (Pryslak, 2012). The work is summarized in an exploration review report by Fedikow (2014), and compiled by Pryslak as the mineral occurrence map shown in Figure 4 (op. cit.) and the project compilation geology map shown in Figures 5 and 6 (Pryslak, 2014).

Based on review of assay results of samples presented in MNDM assessment files, there are no significant gold showings on the project tenure area and only minor copper occurs as chalcopyrite in association with other sulphides (identified in Figure 4 as occurrence “3”). Fedikow (2014) highlights the potential for both precious and base metal mineralization in the project area, noting anomalous Au, Ag, and Cu assays from grab and composite chip samples taken during the 2013 exploration campaign.

The project compilation geology map includes areas of different intensity of color shading; areas of point geological data from outcrop or drilling are assumed to be solid color shading while areas of inferred geology are light color shading. A significant portion of the project area is shaded in light blue surrounding sparse areas of solid green identified as mafic volcanics (Figure 5). It is assumed here that areas of light blue shading have very limited outcrop and are interpreted to be possible mafic volcanics.

Small areas (typically less than 3 Ha) almost exclusively in the center of the project area have been stripped of overburden and mapped in detail (Herbert and Pryslak, 2010 and 2012); the majority of these areas are roughly in common with areas of outcrop shown in Figure 6.

The compilation geology map indicates that the majority of the survey area in the north is underlain by massive or pillowed mafic volcanics intercalated with intermediate and felsic volcanics, clastic metasediments (primarily conglomerates), as well as minor quartz porphyry intrusives and mafic intrusives. Iron formation is interpreted within the volcanic sequences. There is a small, lozenge-shaped felsic intrusive (granodiorite) on the northern edge of the survey area and a large felsic (granodiorite) intrusive underlying the southern half. The contact between the mafic volcanics and the granodiorite is interpreted to be a fault or shear near the eastern limit of the map; the granodiorite proximal to the contact is noted as “sheared” in a single case. A number of shears are interpreted to bound volcanic and clastic units sub-parallel to the contact with the granodiorite. A cluster of conjugate faults are interpreted along an approximate south-east orientation near the center-north of the survey area.

The Red Lake Resources Dixie Lake project is located directly south of the Grandview Gold Inc. Dixie Lake project[2] which contains a gold deposit and a number of showings. The proejct geology map extends north of the Red Lake Resources tenure to include the area of the gold deposit and showings. A 43-101 technical report was completed on the Grandview Gold project by SRK Consulting (Lee, 2004) under previous operator Alberta Star/Fronteer. This report contains a summary of the regional and project geology and provides valuable background information on historical exploration work spanning both the Grandview Gold and Dixie Lake properties. Some additional background geology as it pertains to the 88-04 deposit is presented in the following section on target models.

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[2] For clarity, the Red Lake Resources Dixie Lake projectis referred to as the Dixie Lake project while the Grandview Gold Dixie Lake project is referred to as the Grandview Gold project.

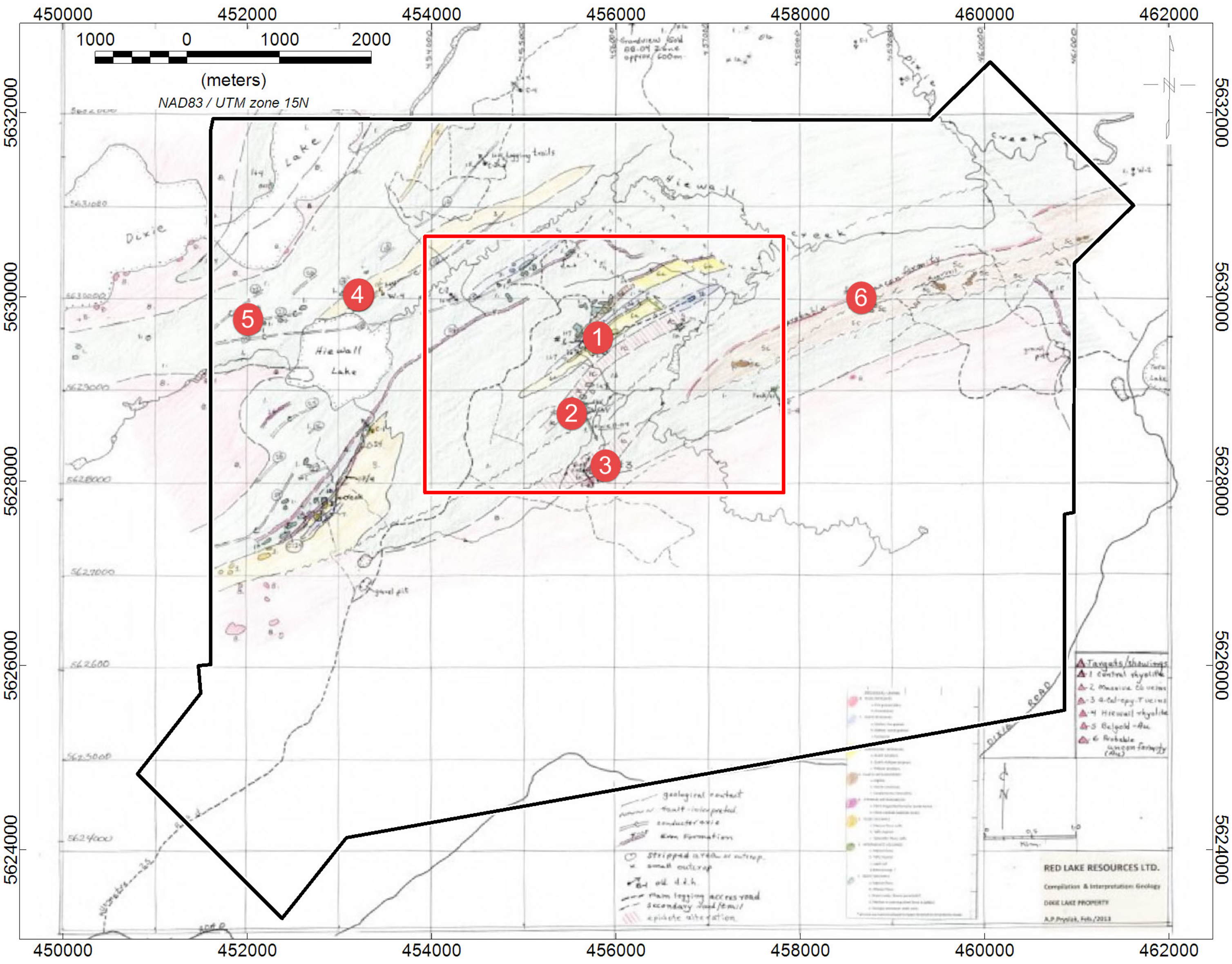

Figure 4: Mineral occurrences (Fedikow, 2014). Noted features are: 1) Central rhyolite, 2) Massive Ca veins, 3) Q-Cal-cpy veins, 4) Hiewall rhyolite, 5) Belgold - Au, 6) Probable unconformity (Au).

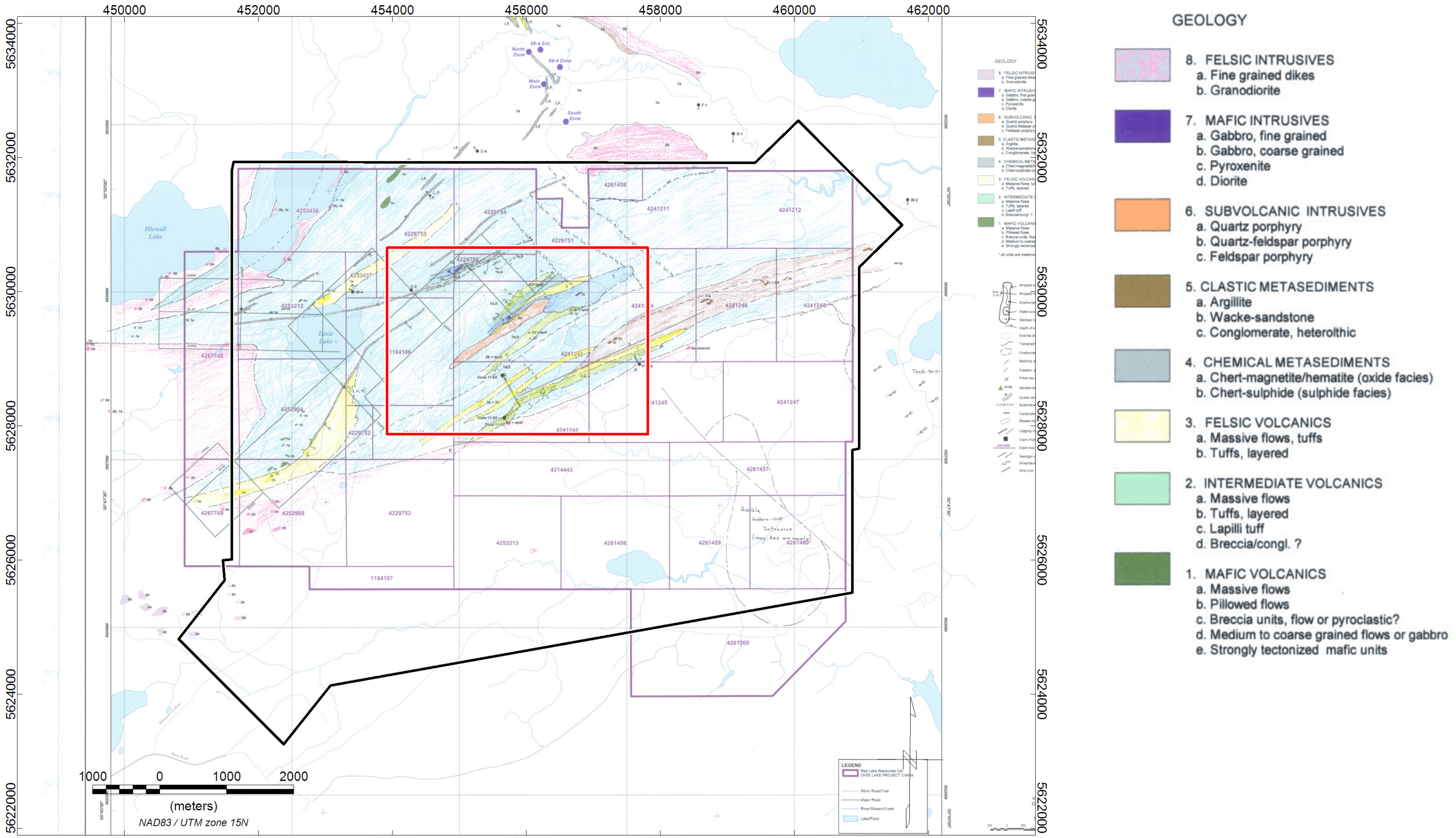

Figure 5: Red Lake Resources project compilation geology (modified from Pryslak, 2014).

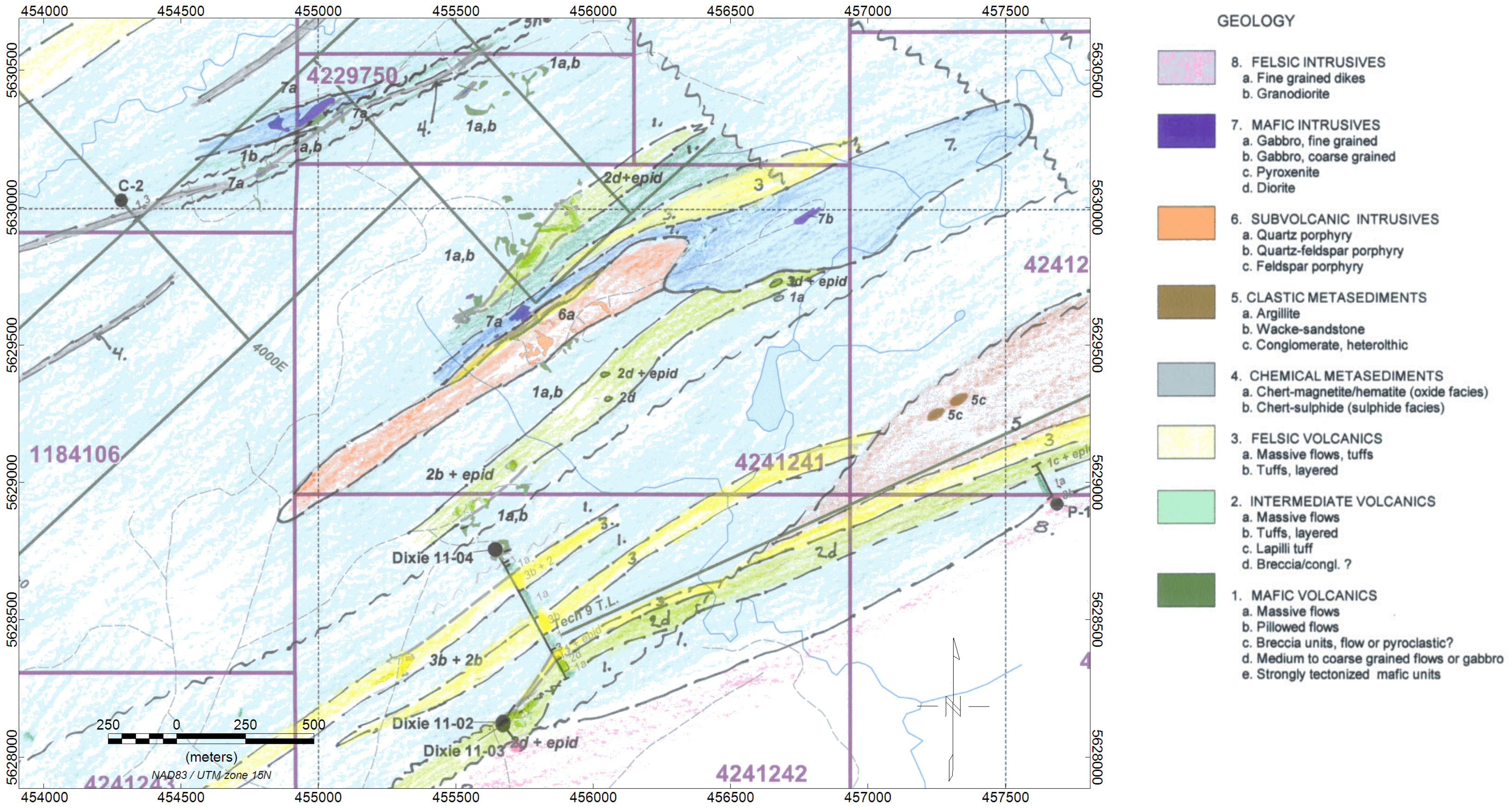

Figure 6: Detail of Red Lake Resources project compilation geology (Pryslak, 2014). Map area is outlined by red box in the previous figure.

4. Target Models

Introduction

Condor was commissioned to review the HELITEM magnetic and EM data to identify areas of potential economic gold or base metal mineralization. Gold deposits rarely provide any direct geophysical response due to the typical low-grade and disseminated nature of the mineralization; however, the deposits may be indirectly targeted by mapping structures, associated sulphides or zones of alteration which may contain gold mineralization. VMS deposits may be directly targeted as they have magnetic and conductivity properties which are typically significantly different from the host rocks.

Red Lake Resources has identified prospective structures and formations for gold mineralization (local shear-zones, quartz-carbonate veining, and iron formation) on some parts of the project area by removing overburden, trenching and drilling. Sulphide mineralization is nearly ubiquitous in the assessment report drill logs and is typically interpreted as IF and coincident with stratigraphic conductors. VMS deposits may be temporally and spatially associated with IF and are typically located in mafic volcanic stratigraphy. Target models are presented for both quartz-carbonate vein gold deposits, Banded Iron Formation (BIF)-associated gold deposits, and VMS deposits.

The Grandview Gold 88-04 Au deposit and geophysical response is also examined in order to provide a local target analogue for gold.

Generic Target Models

Greenstone-hosted quartz-carbonate vein deposits (gold)

These deposits are described as networks of gold-bearing quartz-carbonate veins commonly distributed along major fault zones in deformed greenstone terranes of all ages (Ridley, 1997). While deposits may be found in a range of host lithologies and metamorphic grades, the majority of deposits are associated with mafic rocks metamorphosed to greenschist-facies. The veins or vein networks typically have strike and dip lengths of 100 m to 1,000 m and are hosted by steeply dipping brittle-ductile shear zones (Figure 7), and locally in related extensional features in a wide variety of lithologies (op. cit.). The mineralization is dominated by quartz and carbonate, with sulphides (pyrite, chalcopyrite, and pyrrhotite) comprising less than 10% by volume (op. cit.).

Airborne magnetic and EM data are used as indirect targeting vectors to delineate bedding and lithology. The airborne magnetic response (and to a limited extent EM response) may be used to identify brittle-ductile faults and shear zones which are possible permeable conduits for ore-bearing hydrothermal fluid. Similarly, these responses may be used to identify extensional features, fold hinges, and fracture zones which may have allowed increased fluid mixing and ore deposition. Local magnetic lows on deposit scale (1 – 2 km) may indicate areas of magnetite destruction associated with carbonate alteration.

Iron-formation-hosted (BIF) vein and disseminated deposits (gold)

BIF-associated gold deposits occur as strata-bound, disseminated to massive sulphides (pyrite, pyrrhotite, and arsenopyrite) and as discordant quartz veins. The deposits preferentially form at sites of structural complexity, such as fold hinges and discordant shear zones, in regionally extensive IF. The IF may be oxide, carbonate or sulphide facies and is commonly located proximal to contacts between volcanic and sedimentary rocks. (see “Homestake-type” example in Figure 7). Local alteration associated with deposits may include sulphidation of the IF adjacent to quartz veins or more distal chloritic and carbonate alteration. (Ridley, 1997).

The airborne magnetic and EM responses may be used to indirectly target BIF-hosted gold deposits by mapping IF as well as structure. The IF is typically a magnetic and EM high but response may be variable depending on the IF facies (while magnetite and pyrrhotite have very high magnetic susceptibilities, the magnetic susceptibility of hematite is relatively low). Local variations in responses may indicate local sulphidation of the IF (possible increase in magnetic and EM response) or carbonate alteration (possible decrease in magnetic response).

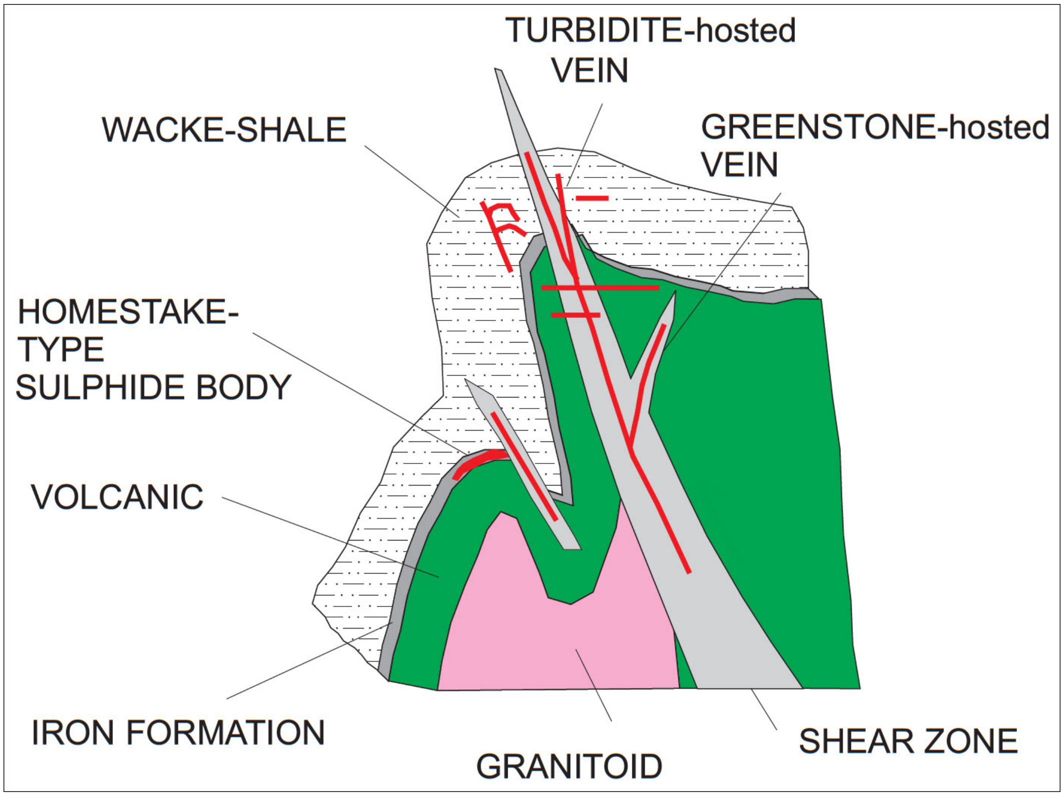

Figure 7: Setting of quartz-carbonate vein and BIF-associated ("Homestake-type") greenstone hosted gold deposits (modified from Dubé et al, 2007).

Volcanogenic Massive Sulphides (base metals + gold)

These deposits are typically stratabound bodies of massive sulphide hydrothermal ore and other sulphidic ores which formed near the seafloor in relatively deep marine volcanic environments (Ridley, 1997). The most common sulphide mineral in VMS deposits is pyrite, which may be accompanied by pyrrhotite, chalcopyrite, sphalerite and galena (Galley et al, 2007); additional, non-sulphide, metallic minerals may include magnetite, hematite, and cassiderite (Ford et al., 2007).

The generic, simplified deposit model is a concordant lens of massive sulphide underlain by a discordant stockwork of vein-type sulphide mineralization in a pipe of hydrothermally altered rock as shown in Figure 8 (Ridley, 1997). A set of lithologically classified VMS models is presented in Galley et al. (2007). In some models, VMS deposits may be spatially and temporally associated with IF. The massive sulphide portion of the body varies from lenticular to podiform; if podiform, the plan view area of the body is up to 100 m x 100 m (Ridley, 1997). In deformed rocks the VMS deposit may have greater strike length and down-dip extent. Ford et al. (2007) presents the example of the Caber deposit near Matagami, Quebec which is 200 m – 250 in strike and 150 m – 250 m down-dip.

Host rocks are typically submarine volcanic rocks, or less commonly turbidites or other deep-sea sedimentary rocks, intercalated with volcanic rocks (Ridley, 1997). Many deposits are adjacent to faults, including caldera rim faults, or localized volcanic features such as rhyolite domes (op. cit.).

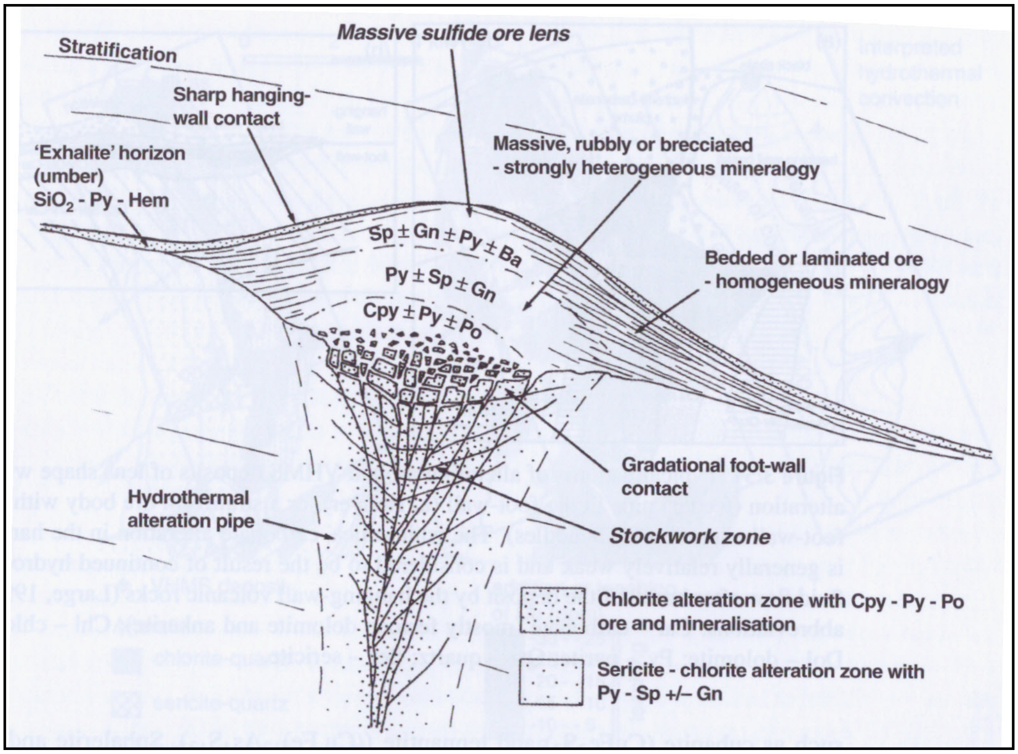

Figure 8: Idealized structure and distribution of ore in a lenticular VMS deposit from Ridley (1997).

The airborne magnetic and EM responses may be used to directly target VMS mineralization due to: the relatively high magnetic susceptibilities of most sulphide minerals (primarily pyrrhotite and excluding sphalerite and galena); and the relatively high conductivity of metallic sulphide minerals. Isolated magnetic highs and mid- to late-time EM responses with strike extent on the order of several hundred meters are prospective. Prospectivity of a given target would be increased when located in interpreted mafic volcanics or in proximity to IF, faults or intrusions. Given the spatial and temporal association between IF and VMS variation in magnetic and EM response along the strike of an inferred IF should also be considered prospective.

88-04 Gold Deposit Model

Deposit Geology

The Grandview Gold 88-04 gold deposit is part of a cluster of gold occurrences (the "gold zone") located approximately 0.5 to 1.5 km north of the Dixie Lake project tenure area. Teck Explorations

Ltd. produced a resource estimate for the 88-04 gold deposit (non-compliant with current NI 43-101 standards) of 417,000 tons grading 0.126 oz./ton Au. This estimate was subsequently updated by Teck using additional drilling information to produce an “optimistic possible tonnage” of 1.1 million short tons at 0.10 oz./ton Au (Janzen, 1989).

The gold occurrences are identified (from north to south) as the C, North, 88-04, Main, South, and MMI-East zones (Lee, 2004). Grandview Resources defined an additional occurrence northwest of the 88-04 zone which they termed the 88-04 extension (Tuchscherer et al., 2007). The project geology, location of the 88-04 deposit, and the approximate location of the other gold occurrences are shown in Figure 9, below.

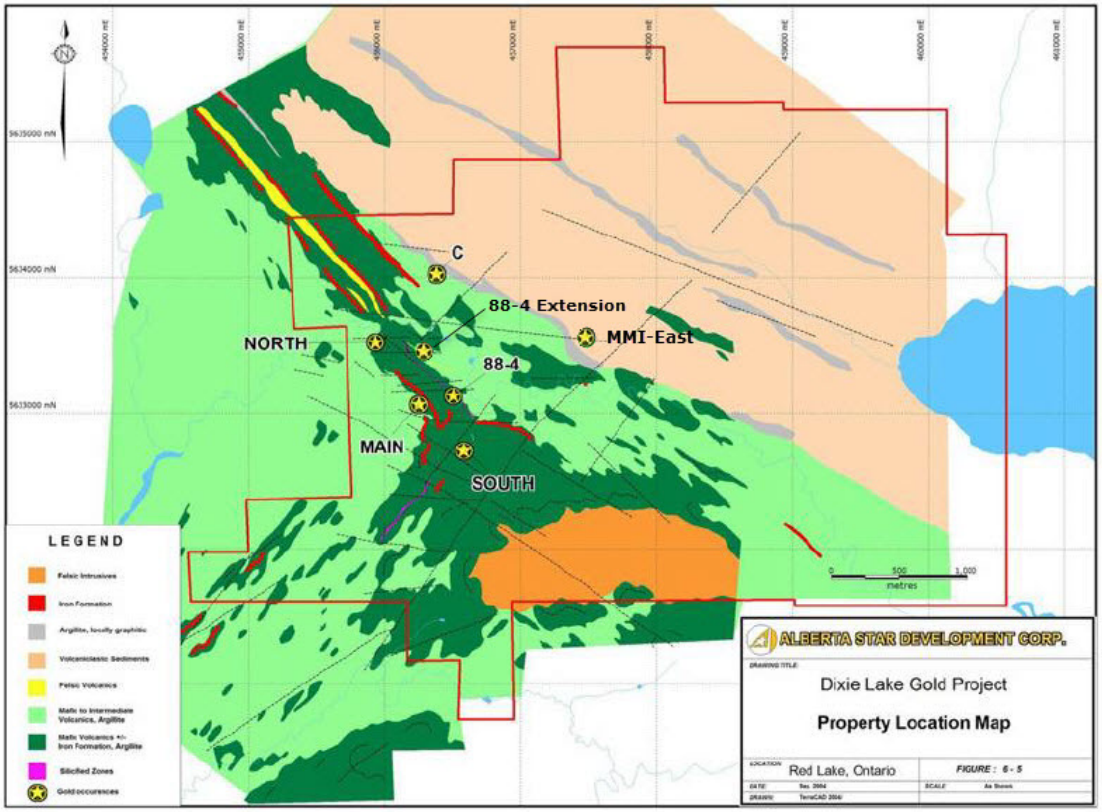

Figure 9: Grandview Gold Dixie Lake project geology (modified from Lee, 2004).

The mineralization in the 88-04 deposit is described by Lee (2004) as a “… silicified and sulphidized-sedimentary rock occurring in a sequence of mafic volcanic rocks”. The alteration is correlated with argillaceous sedimentary rock where the dominant sulphide mineral is pyrrhotite (2-40%), with smaller amounts of pyrite (2-15%), arsenopyrite (1-4%), chalcopyrite (2%), sphalerite (<2%), and the addition of trace magnetite.

Based on review of Lee (2004) and later results reported in Tuchscherer et al. (2007), the gold mineralization has variable host-lithologies and styles: sulphide-rich argillaceous rock with pyrrhotite as the dominant sulphide mineral (88-04, Main, South), basaltic rocks with sulphide stringers or in faults (Main), sulphide bearing quartz veins (D), and pyrite-rich intermediate to felsic volcanic rocks or quartz-porphyry dykes (C), differing descriptions depending on author.

Lee proposes a strict structural control on the 88-04 deposit where the silicified ore shoot is located in one limb of a sinusoidal fold in the host argillite. The mineralization occurs at the intersection of two strain zones and is supported by structural interpretation of outcrop and magnetic data (Lee, 2004).

Geophysical Character

The gold zone is located in an area of a moderate total magnetic intensity response with relative magnetic lows to the east and west and relative magnetic highs to the northwest and south (Figure 10). The zone is a roughly north-northwest to south-southeast trending broad “saddle” with an amplitude of approximately 300 nT (estimate based on contours from assessment report plots) less than the lowest amplitudes in the surrounding magnetic highs to the northwest and south. There is a strong annular magnetic high surrounding a low (mapped as a granitoid intrusion) located immediately south-east of the gold zone.

Based on the available data there is no consistent positive correlation between variation in the TMI and the location of the individual gold occurrences (there are possible local highs associated with the Main and South occurrences, but the result is not consistent across the other occurrences). However, the occurrences are located in an area of disrupted magnetic fabric where several trends intersect implying local structural complexity. The trend of the 88-04 deposit is parallel to the fabric of the magnetic field variations in the TMI high to the northwest.

The airborne and ground EM conductor axes were digitized from all available assessment reports over the area of the gold occurrences (Figure 10). The 88-04 deposit as well as the 88-04 Extension, Main, and South occurrences were all directly coincident with conductor axes from airborne EM (AEM) surveys. The 88-04 deposit was coincident with a conductor axis defined from a ground horizontal loop EM (HLEM) survey. There is no significant positive correlation between occurrence location and areas of anomalous IP chargeability.

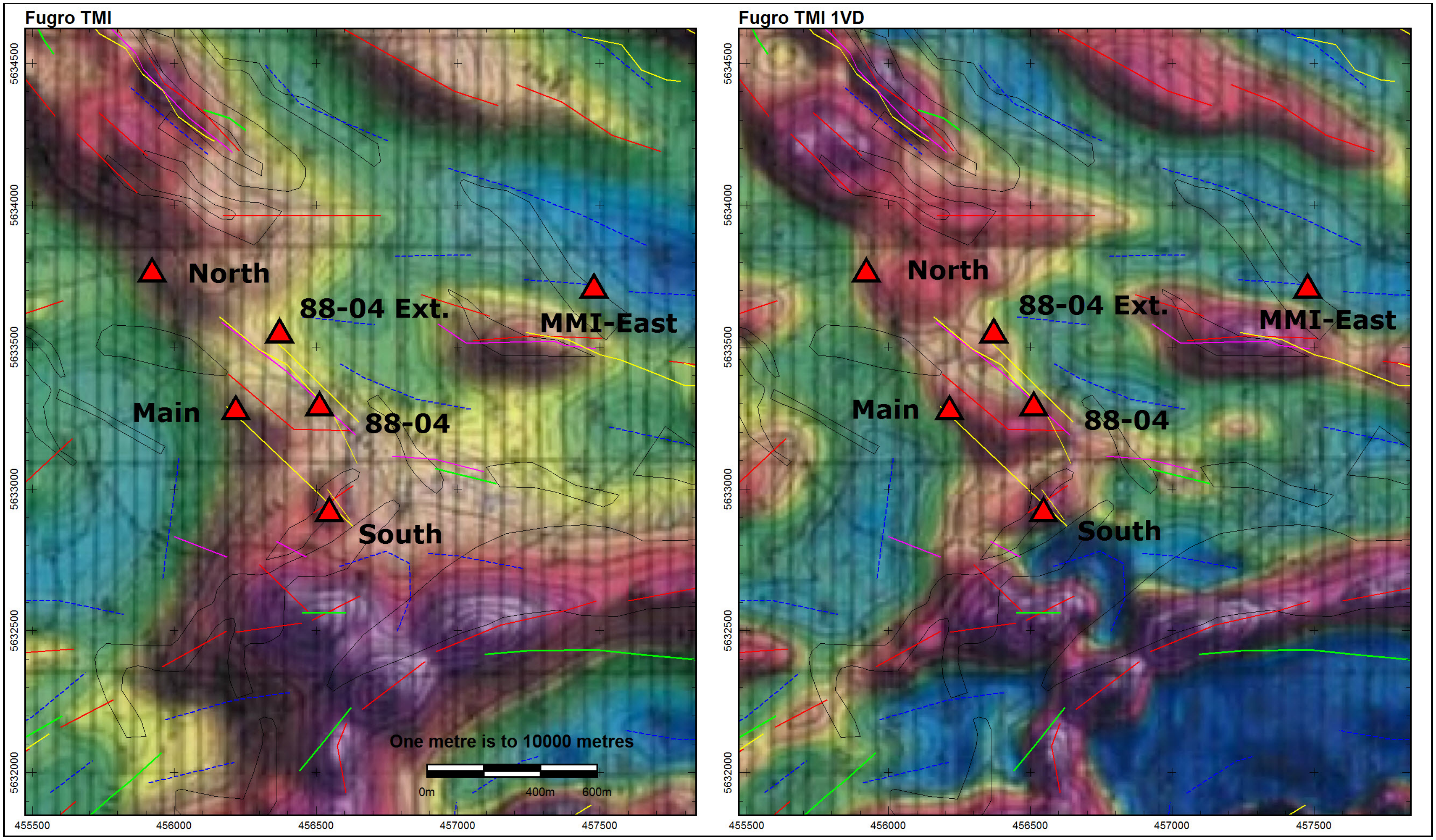

Figure 10: Comparison of Gold occurrences and geophysical responses in the area of the Grandview Gold 88-04 gold deposit. Colored lines indicate linear geophysical features digitized from assessment report plots. Dashed Blue = TMI 1VD low, Red = TMI 1VD high, Yellow = airborne EM conductor axis, Purple = ground HLEM conductor axis, Green = ground VLF-EM conductor axis. Black polygons indicate areas of anomalous IP chargeability.

5. PREVIOUS EXPLORATION

The Dixie Lake area has been the location of numerous exploration programs since the 1960's. Early exploration included soil, lake water and lake sediment sampling, geophysical surveys, and diamond drilling. The record of this historical work is contained in the Ontario MNDM Assessment file archives and in other public documents (such as NI 43-101 technical reports) generated by explorers in the area. The assessment files do not contain digital data, but in some cases useful images of the primary geophysical data and interpreted outcomes are included.

The following sections summarize geophysical surveys, drilling and physical work which have significant overlap with the Red Lake Resources Dixie Lake project. For a description of work completed to the north on the current Grandview Gold Dixie Lake project see reports by Lee (2004) and Tuchscherer et al. (2007).

Airborne Geophysics

The assessment report covering the 2003 fixed-wing horizontal magnetic gradiometer survey over the northern third of the Dixie Lake project as well as the 88-04 gold deposit (Valenta, 2004) (AFRI 52K13NE2008) includes good quality plots. The survey was flown at nominal 100 m ground clearance; 75 m traverse line spacing at a flight line orientation of 0°. A Terraquest report (2005) (AFRI 20001087) provides good quality plots showing magnetic response mostly outside the mineral tenure area to the east. A summary of historic airborne geophysical work overlapping the project area is included in Table 1 below.

Table 1: A summary of assessment reports on airborne geophysical surveys overlapping the Dixie Lake project

Exploration Company	Survey Company	Year	Survey Method	AFRI Number
Caravelle Mines	Questor Surveys	1969	MAG, TDEM (Input Mark V)	52K13SE0057
Cominco	Questor Survey	1977	MAG	52K14SW0003
Golden Terrace Resources Ltd.	Aerodat	1985	MAG, FDEM, VLF-EM	52K13NW0053
Teck	DIGHEM Surveys	1990	FDEM (Dighem IV)	52K13SE0010, 52K13SSE0011, 52K13SSE0014, 52K13SSE0015, 52K13SSE0021
Fronteer Development Group	Fugro Airborne Surveys	2003	MAG (Horizontal Gradient)	52K13NE2008
Grandcru Resources Corp.	Terraquest	2005	MAG	20001087

Ground Geophysics

A significant amount of ground survey work (primarily magnetic surveys and shallow EM in the form of HLEM or VLF surveys) has been conducted in the project area. A single IP survey is documented by Grandcru Resources Corp. (2005) (AFRI 20001419). A summary of ground geophysical work overlapping the project area is included in Table 2 below. The outline of the various ground geophysical surveys overlapping the project area is presented in Figure 11.

Table 2: A summary of assessment reports on ground geophysical surveys overlapping the Dixie Lake project area

Exploration Company	Survey Company	Year	Survey Method	AFRI Number
Newmont Mining Corporation of Canada	Caravelle Mines Ltd.	1970	Physical property measurements	52K13SE0055
Caravelle Mines Ltd.	Caravelle Mines Ltd.	1972	MAG, HLEM, VEM	52K13SE0053
St. Joseph Explorations Ltd.	St. Joseph Explorations Ltd.	1977	MAG, HLEM	52K13SE0049
Canadian Particia Exploration Ltd.	Derry, Michener, Booth and Wahl	1990	MAG, HLEM	52K13SE0024
Teck	Independent Exploration Services Ltd.	1990	MAG, VLF	52K13SE0016, 52K13SE0025
C.D.Huston	C.D.Huston	1991	MAG, VLF	52K13SE0009
Grandcru Resources Corp.	Dan Patrie Exploration Ltd.	2005	MAG, IP (PDP)	20001419

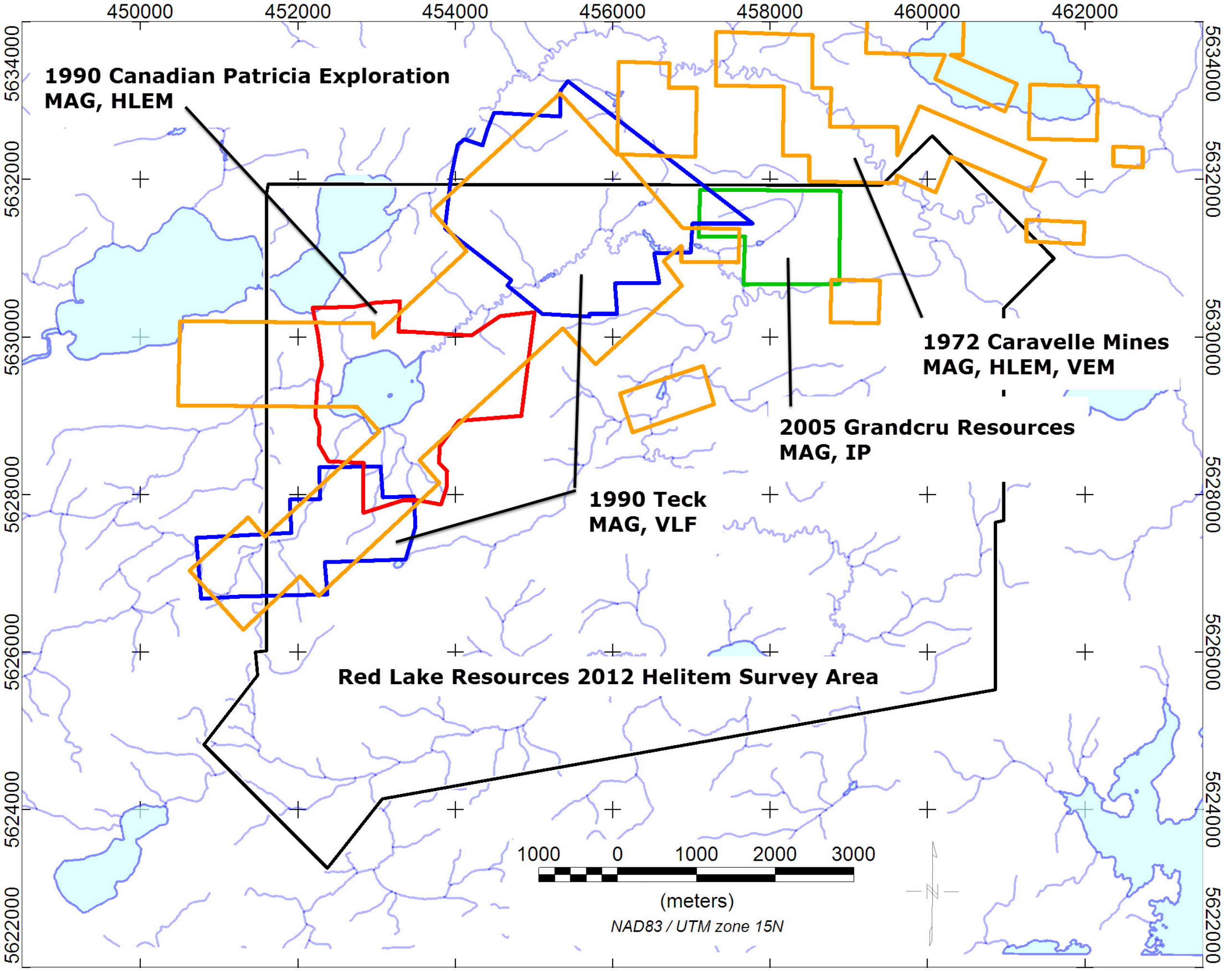

Figure 11: Historical ground geophysical surveys overlapping the Dixie Lake project area. The 2012 HELITEM survey area is shown as a black polygon with colored polygons defining the extent of the ground surveys.

Drilling and other work

A very limited amount of drilling has been completed in the project area with most holes located in the area of the gold occurrences to the north. In addition to the drilling, overburden stripping, mapping and sampling was reported by Herbert and Pryslak (2010, and 2012) in AFRI 20009303 and 20011532, respectively. A summary of drilling campaigns in the project area is presented in Table 3 below; the locations of the collars compared to the airborne survey area are presented in Figure 12.

Table 3: Summary of Assessment reports on drilling overlapping the Dixie Lake project area.

Exploration Company	Year	Targets	AFRI Number
Newmont	1970	HLEM Anomalies (target descriptions in 52K13SE0047 only)	52K13SE0044, 52K13SE0045, 52K13SE0046, 52K13SE0047, 52K13SE0048
Caravelle Mines	1972		52K13SE0040
Teck	1991	IP Anomaly	52K13SE0003
L. Herbert	2012		20011439

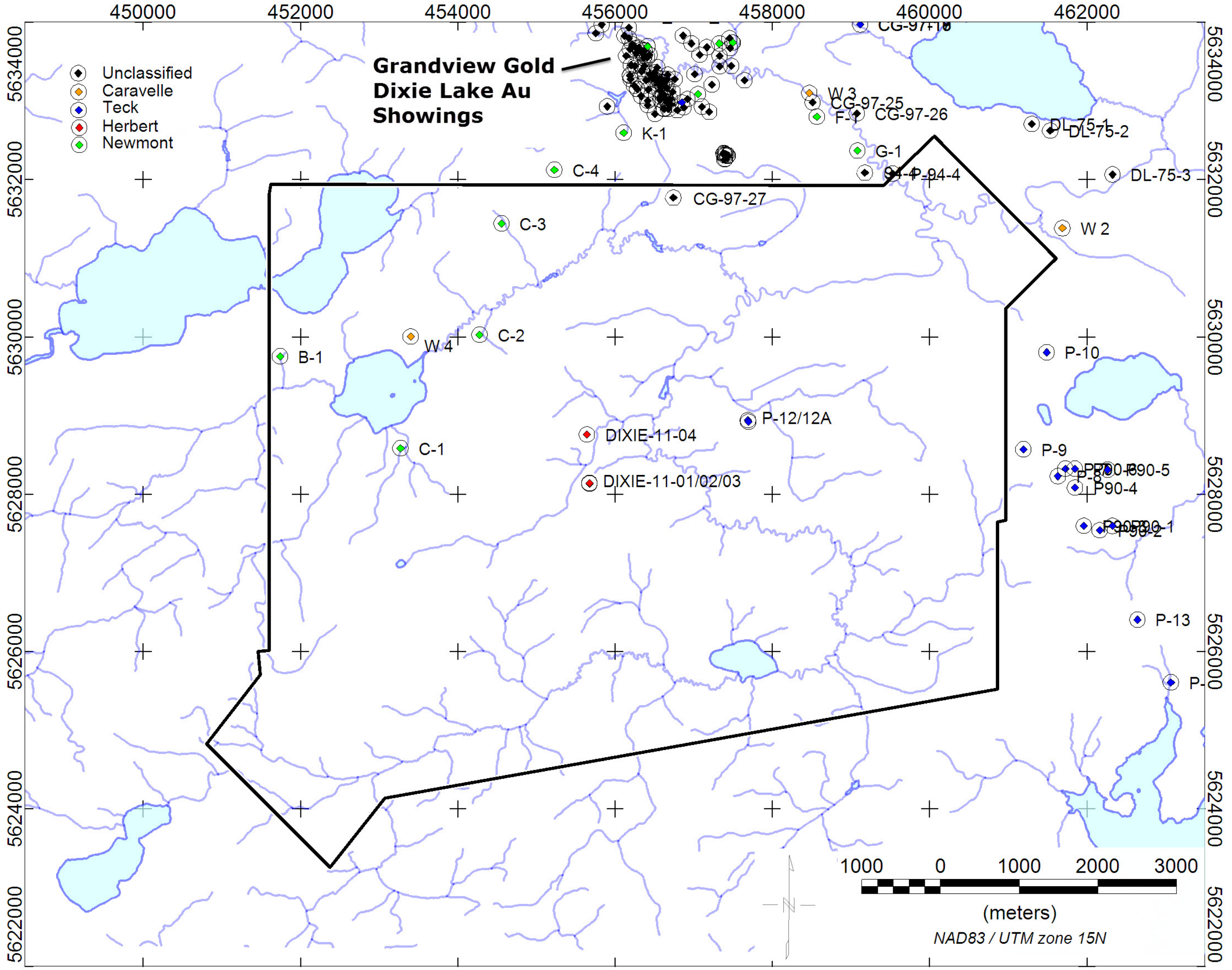

Figure 12: Historical drilling overlapping the Dixie Lake project area. The 2012 HELITEM survey area is shown as a black polygon with colored collar markers defining the company responsible for the drilling.

6. PROCESSING, ANALYSIS TECHNIQUES AND PRODUCTS

Processing

Time Constant: AdTau

The AdTau program calculates the time constant (tau) from time domain decay data. The outcome is termed ***AdTau*** because, rather than using a fixed suite of channels as commonly done, the user sets a noise level and depending on the local characteristics of the data, the program will then select a set of five channels above this noise level. In resistive areas, the earlier channels will tend to be used, whereas in conductive terrains the latest channels available would generally be used. A typical decay fit; in this case, the last five channels are shown to the right in Figure 13.

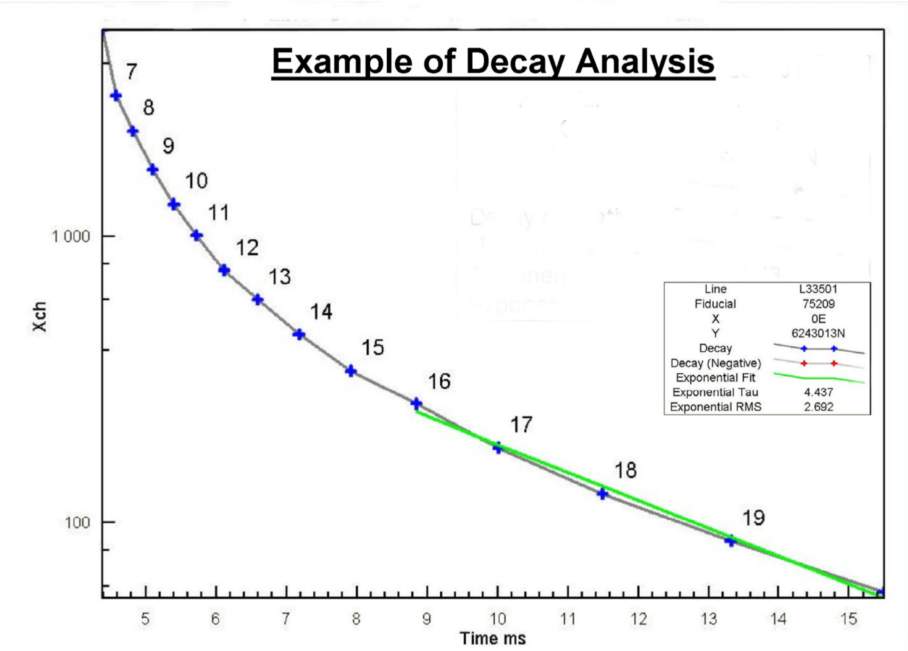

Figure 13: Typical Decay Curve

The gridded HELITEM EM Z dB/dt AdTau (0.5 nT/s noise limit) for the Dixie Lake block is presented in Figure 14.

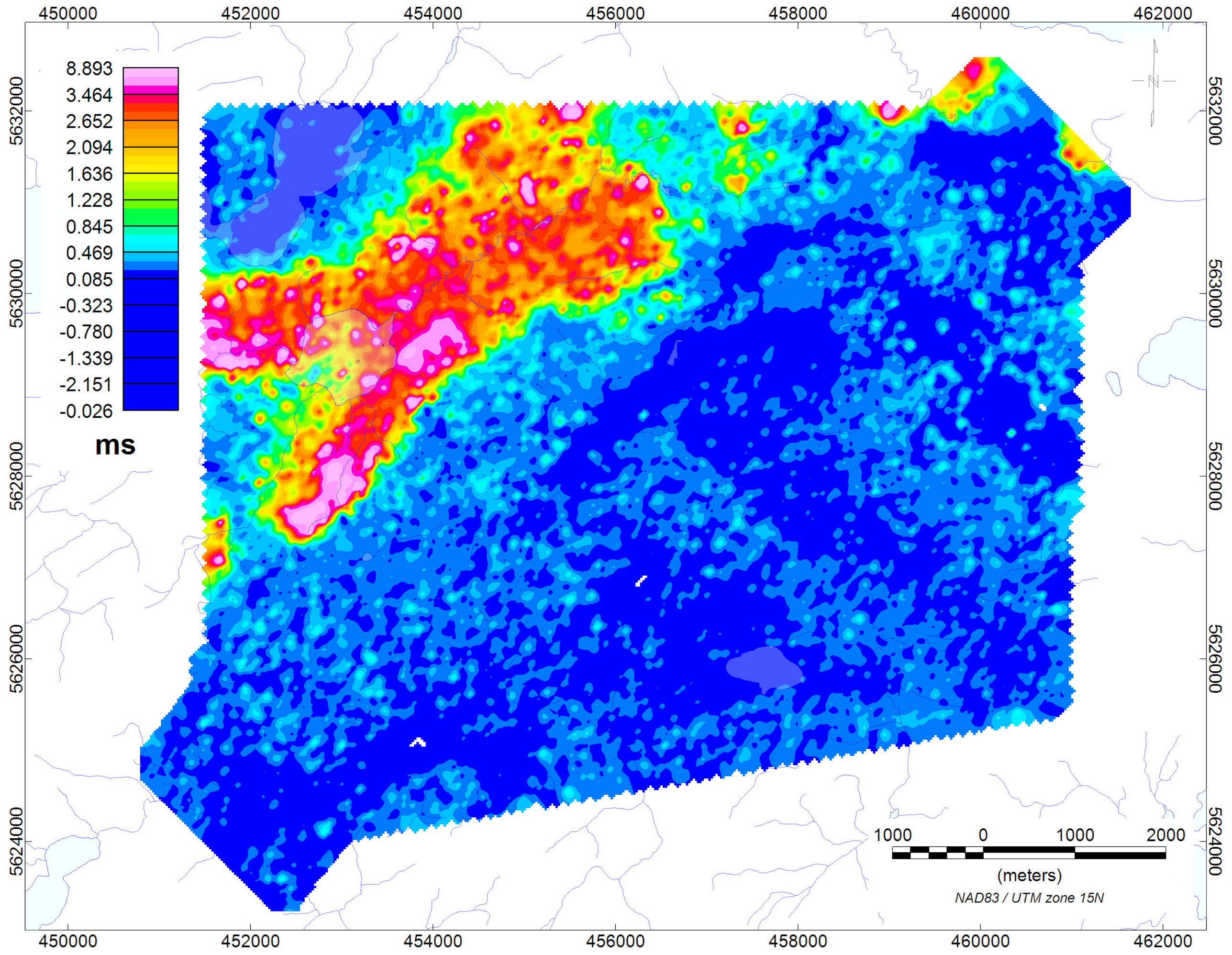

Figure 14: HELITEM EM Z dB/dt AdTau grid (normal color distribution with negative values dark blue).

Layered-Earth Inversion

The layered-earth inversion (LEI) algorithm models the EM data with a 28-layered earth model (Farquharson and Oldenburg, 1993, Ellis 1998), increasing in thickness from the surface to depth in an approximately logarithmic fashion. The first layer is 5 m thick while the deepest is 232 m thick. A starting model of 2,000 ohm-m (0.0005 S/m) was used, with a reference model of 10,000 ohm-m (0.0001 S/m). The reference model is what the program defaults to (at depth) when there is no longer enough information to further refine the inversion outcome. The results of the inversion are presented in the form of conductivity depth sections (CDS).

The HELITEM waveform files provided in the original airborne survey data archive from Fugro are provided in a single set of X, Y, Z channels in volts rather than the expected units of nT/s for dB/dt channels and pT for B-field channels. The waveform files used to complete the LEI were regenerated by CGG at Condor's request and are included with the survey data in Appendix C.

Conductivity Depth Sections

The CDS generated from the LEI, and shown on the MultiPlots™, are potentially the most valuable interpretation tools in this dataset as they provide a rapid assessment of depth to top of conductor. Unlike the amplitude shown in the profiles, the depth and strength of the conductors in the CDS are relatively independent of variations in the EM receiver terrain clearance. An example is shown in Figure 15. Conductors are shown in "warm" colors (red-yellow) and resistors in "cold" colors (cyan-blue).

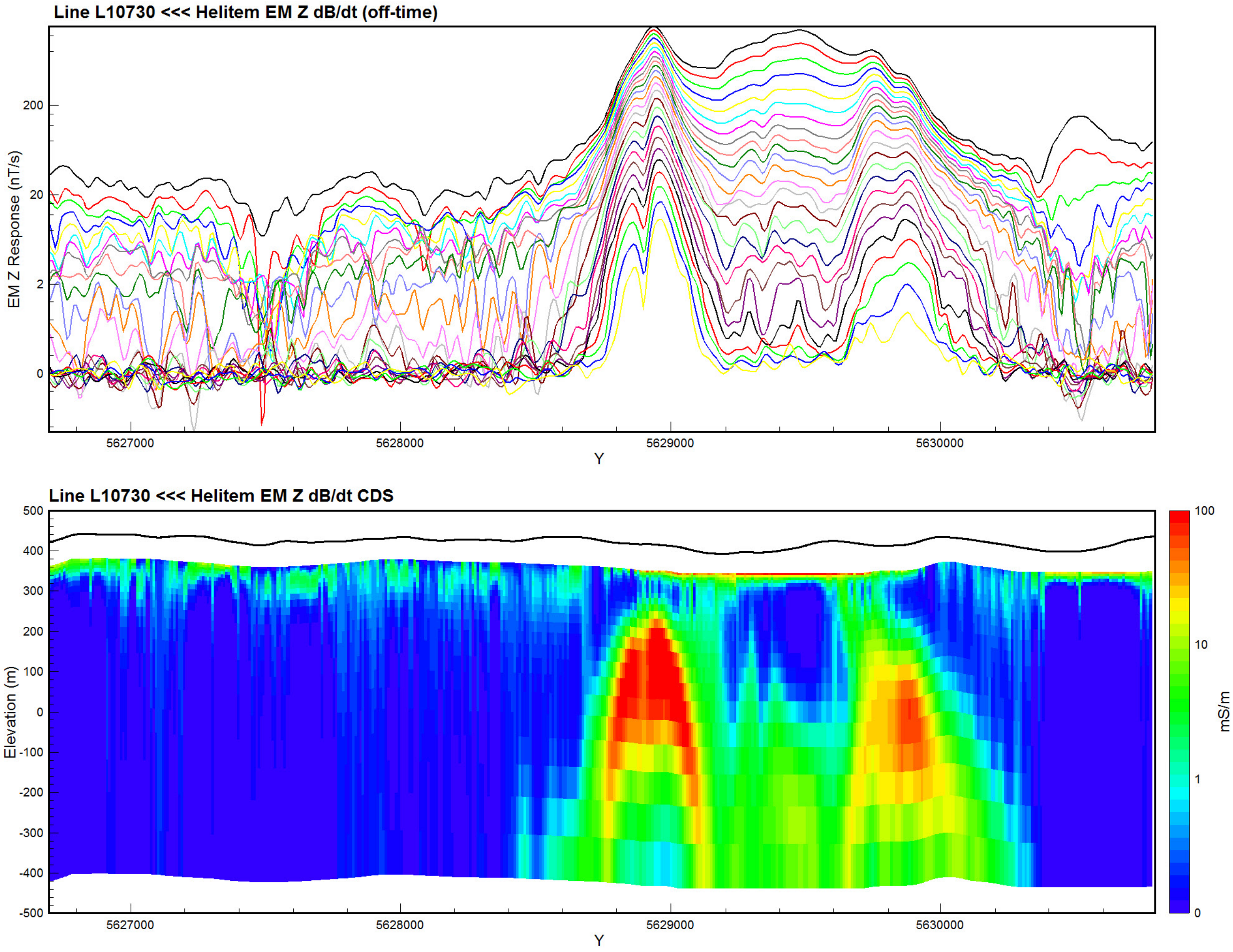

Figure 15: EM Z dB/dt off-time profiles with corresponding conductivity depth section (CDS). The survey sensor altitude is shown as the black trace above the CDS.

Magnetic Enhancements

The final gridded magnetic data provided by Fugro (mag.grd) was created from the MAG_RMI channel in the final Geosoft database. The MAG_RMI channel appears to be a statistically levelled and micro-levelled residual after IGRF correction (mean value of 57,949 nT) and is considered the final product as there is no final levelled TMI channel in the database. A DC shift of 57,949 nT (mean value of the IGRF channel) should properly be applied to the TMI data presented in this document to recover true total field values.

The final micro-levelled grid contained some undesirable noise which negatively affected the quality of high-pass filtered products. A second micro-levelling pass was completed on the final Fugro magnetic grid using a Condor algorithm and the final product was carefully checked to ensure no artifacts were introduced. The Condor micro-levelled TMI is the input for the reduced-to-pole (RTP) transformation completed using Discover PA[3] software (magnetic field intensity, inclination, declination 57834 nT, 75.9°, -0.1° respectively).

Additional grid enhancements were carried out using software and the algorithms described by Shi and Butt (2004). The Condor versions of the TMI and TMI-RTP grids are used as inputs for generating enhanced magnetic grid products. The TMI, RTP, Tilt Angle derivative, and Block enhancement are shown in Figures 16 to 19. The TMI, RTP, and Tilt Angle derivative are provided as Target Maps (see Table 5: Products) and grid enhancements used in the interpretation are included in the data compilation (Appendix C).

3D Magnetic Inversion

The University of British Columbia (UBC) 3D magnetic inversion program Mag3D, version 4.0, was used for the magnetic susceptibility inversion (Li, Y., and D. W. Oldenburg, 1996).

The MAG3D inversion was constrained only by the Canadian Digital Elevation Data (CDED) topography surface along with the normal UBC style objective function. The inversion parameters are summarized in Table 4, below.

Isosurfaces and depth slices were generated from voxel inversion product (Figure 20) and are included along with the UBC format inversion voxel in Appendix C.

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[3] Discover PA is a product of PbEncom, a unit of Pitney Bowes Software

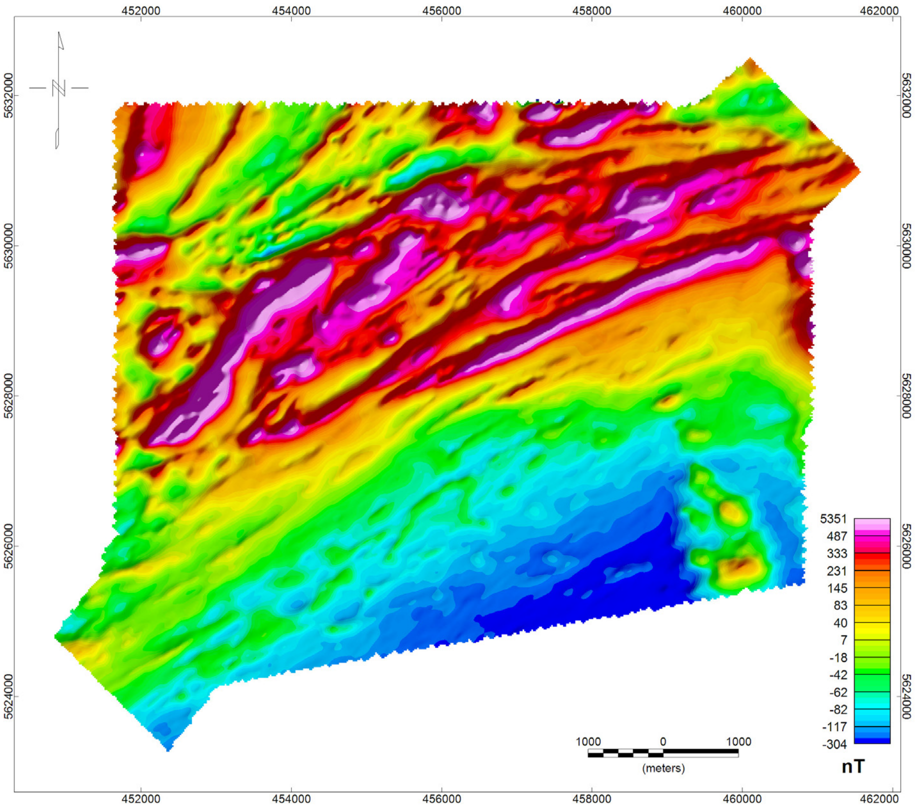

Figure 16: Micro-levelled Total Magnetic Intensity (135° sun shade).

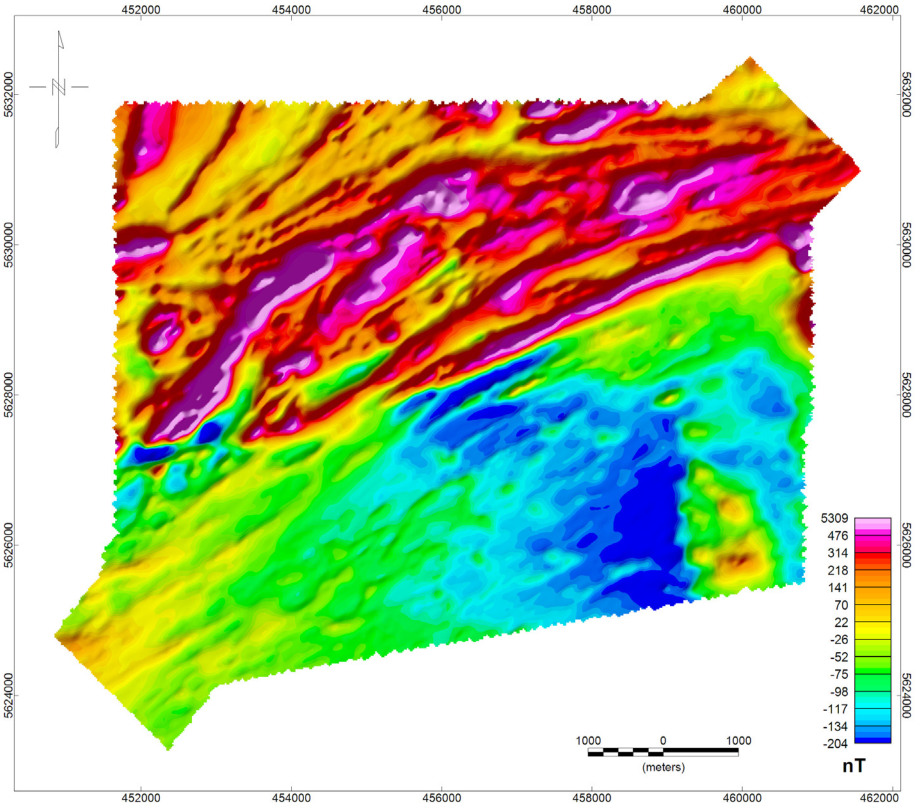

Figure 17: Micro-levelled Total Magnetic Intensity Reduced-to-Pole (histogram equalization color scale, 135° sun shade).

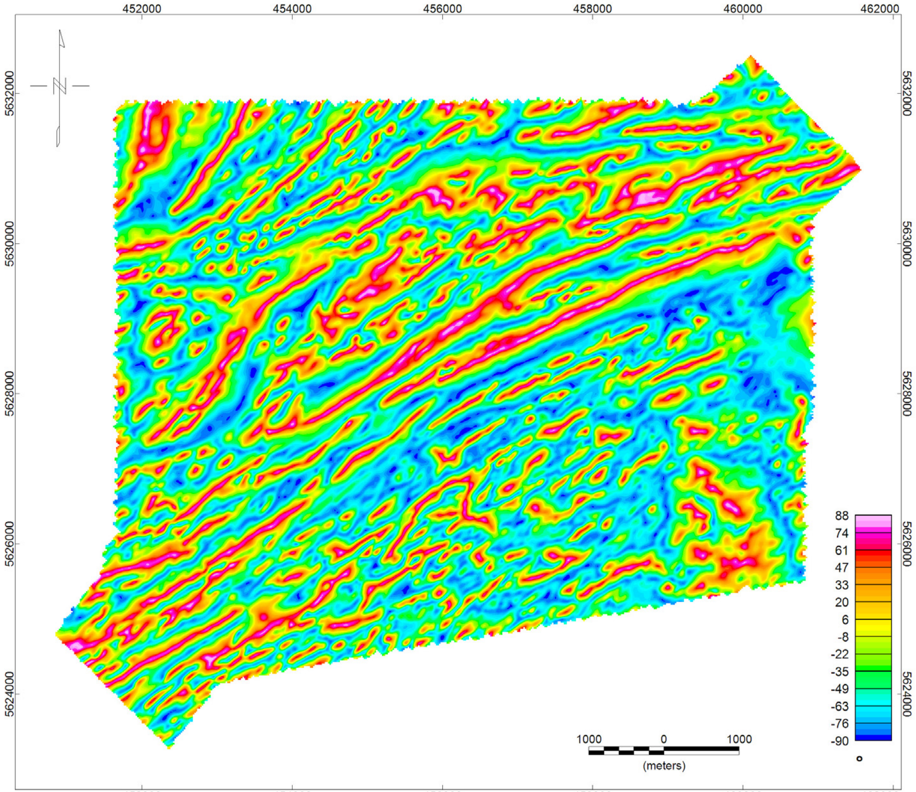

Figure 18: Tilt Angle derivative of the micro-levelled TMI (linear color scale).

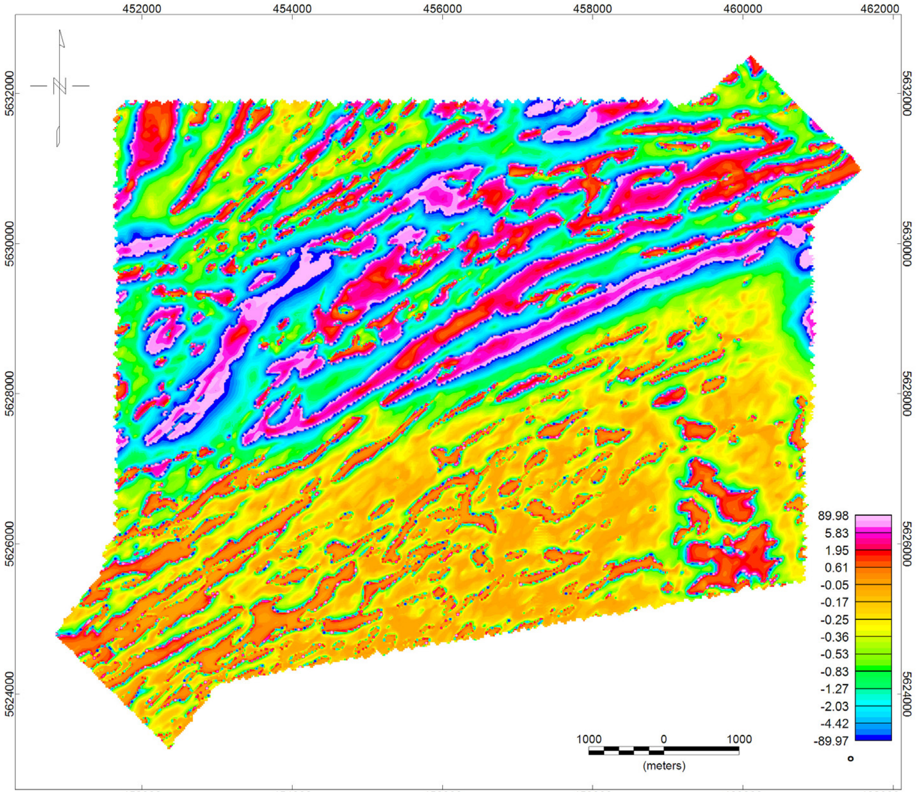

Figure 19: ZS Block enhancement filter of TMI-RTP (histogram equalization color distribution).

Table 4: Parameters used in MAG3D 3-D Magnetic Inversion

Parameter	**Value**
TMI grid name	RL_Dixie_HeliTEM_2012_MAG_TMI_mlev.grd
TMI grid cell size	25 m
DEM grid name	RL_Dixie_CDED_DEM
DEM grid cell size	18.5 m
Total Depth	1500 m
Observation Decimation	2
Bias	-57724.5 nT
IGRF Intensity	57,834 nT
IGRF Inc.	75.9°
IGRF Decl.	-0.1°
Terrain Clearance (constant)	35 m
Length Scales (Le, Ln, Lz)	100, 100, 25
Sensitivity	0.02 nT

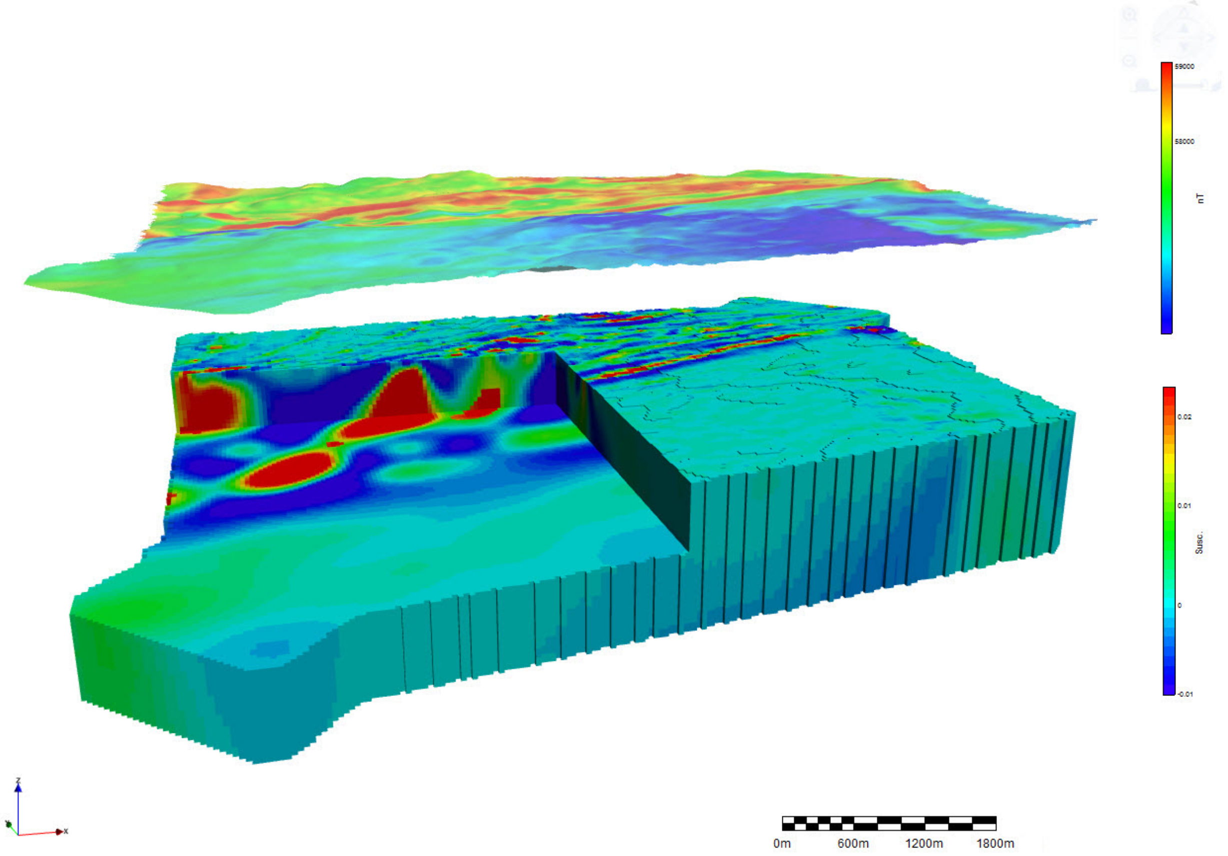

Figure 20: Input magnetic grid draped on topography and offset vertically from the MAG3D inversion result. The inversion is shown with a "chair" cut-out. Perspective is looking north-northeast from the south-west corner of the survey area.

Analysis Techniques and Issues

Anomaly Shapes

For discrete plate-like targets, the HELITEM system produces two main types of responses; those termed inductively thin or double-peaked responses (DPR) and those termed inductively thick or single-peak responses (SPR). No specific economic significance is attached to whether a specific anomaly responds as either one style or another. However, with DPRs, it is possible to estimate the dip of the conductor.

In the HELITEM system there is a vertical and horizontal offset between the TX loop and the RX platform. The HELITEM system used for this survey was capable of recording the X, Y, and Z components of the EM response. Forward modelled response profiles for the X and Z components given variable conductor plate orientation and flight line direction are presented on pages 54 and 55 of the Fugro survey report (Fugro Airborne Surveys, 2012) included in Appendix B of this report. The basic character of the EM response for the HELITEM system remains very similar to those for more common heliborne concentric TX and RX loop EM systems. (Figure 21).

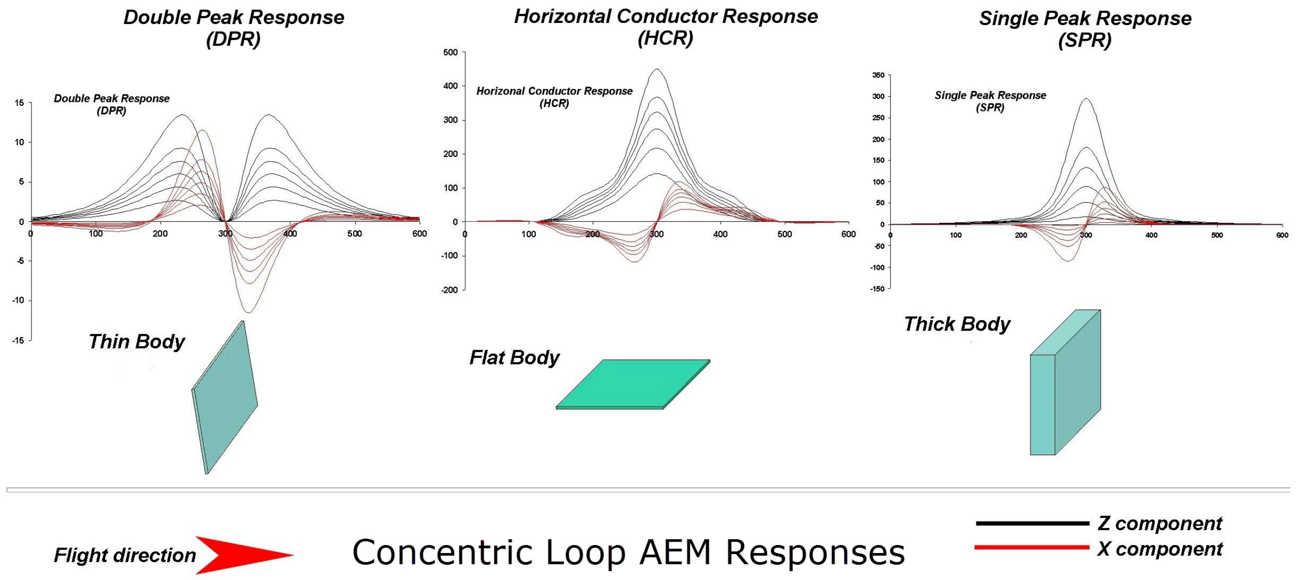

Figure 21: Modelled responses for a concentric loop airborne EM (AEM) system.

Picking

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

Target Zones

Groupings of conductors are termed Target Zones or TZ. A TZ is deemed to be a logical grouping of conductors within a data set and is based on an assessment of the distribution of individual conductor picks, along with its magnetic association, and any other available geoscience data. The TZs are then prioritized for follow up work based on their overall geophysical character.

Products

Base Maps

All maps are created using the following parameters:

Projection Description:

Datum: NAD83
Ellipsoid: GRS 1980
Projection: UTM (Zone: 15N)
Central Meridian: 93º W
False Northing: 0
False Easting: 500 000
Scale Factor: 0.9996
Magnetic Declination: -0.1°
Magnetic Inclination: 75.9°

The maps and products provided with this report are listed below:

TargetMaps @ 1:20 000

Each of the following maps include picked anomalies and TZs

- RTP TMI (Total magnetic intensity)
- Tilt Angle Derivative of RTP TMI
- EM dB/dt Channel 15 (700 us)
- AdTau (dB/dt, threshold 0.5 nT/s)
- DTM (SRTM 90m)

MultiPlots™ @ 1:20 000 (as PDFs)

Mini-Plates™ (located at the top of each MultiPlots™) –TMI-RTP, Tilt Angle, EM dB/dt Z Channel 15 (700 us), AdTau (dB/dt, threshold 0.5 nT/s), DTM (SRTM).

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

- HELITEM EM Z dB/dt channels 5-30 (off-time channels 131-11,516 µs) – Linear Scale
- HELITEM EM Z dB/dt channels 5-30 (off-time channels 131-11,516 µs) – Log/Linear Scale
- HELITEM EM X dB/dt channels 5-30 (off-time channels 131-11,516 µs) – Log/Linear Scale
- Profiles of AdTau dB/dt and B-field (threshold 0.5 nT/s for dB/dt and 2 pT for B-field – sub-sampled by factor of 6, smoothed with 26 pt. (Gaussian moving window filter
- LEI CDS from EM Z dB/dt + bird height
- Profiles of RTP TMI, 1st Vertical derivative of TMI and Tilt Angle derivative
- MAG3D inversion with DDH
- TrackMap: Satellite image + flight line path + TZ + EM discrete picks

Processing and Analysis Report (1 copy)

Archive CD-ROM/DVD contains the following files:

-Databases of primary and derived geophysical data
-Digital grid archives in Geosoft format
-MultiPlots™ - Discover PA session files and PDFs
-TargetMaps – Geosoft maps files (also provided in JPEG and PDF formats)
-DXF files of picked anomalies
-Processing and analysis report (PDF)
-Fugro Field report
-Public digital data used in the data interpretation
-Assessment files and public documents related to report

7. INTERPRETATION

Magnetic Interpretation

Due to the relatively high magnetic field inclination at the project area (approximately 76°) there is very little difference between the TMI and TMI-RTP products (Figures 16 and 17). However, the TMI-RTP is preferred as it places the magnetic anomalies directly above sources for steeply-dipping bodies.

A simple interpretation of the magnetics is shown overlain on the TMI-RTP and project geology in Figures 22 and 23, respectively. The interpretation line-work includes areas of extreme high and low susceptibility from the MAG3D inversion (high and low contour areas). The high contour outline areas with an increased probability of containing significant IF and/or sulphide alteration. The low contour outline areas have an increased probability of containing intrusive rocks.

The local maxima and minima of the Tilt Angle provide an estimate of axes location and orientation of underlying magnetic units. The magnetic high and low linear features shown on various interpretation maps are digitized from the local maxima and minima of the Tilt and the TMI-RTP 1VD (and from the first vertical derivative of the TMI alone in assessment images for areas shown outside the area of the HELITEM survey). These digitized high and low magnetic linear features are referred to as the magnetic “fabric”. The orientation of the magnetic fabric was consistent with the geological bedding orientations where defined on bedrock maps.

Domain boundaries have been traced on the basis of the digitized magnetic fabric, the TMI-RTP, the Tilt Angle, and the block enhancement of the TMI-RTP. The 0° contour of the Tilt Angle provides an estimate of the edge of underlying magnetic units while the TMI-RTP provides an estimate of the magnetic “character” of the domain; the block enhancement is a single product with features of both the Tilt Angle derivative and the TMI.

Two major magnetic domains are recognized; a relative low magnetic intensity domain (mean -81 nT) in the south with low variation (standard deviation 92 nT), and a relative high magnetic intensity domain in the north (mean 266 nT) with high variation (standard deviation 337 nT). The southern and northern domains are consistent with the Archean granodiorite and Archean mafic volcanics in the 2004 regional Precambrian geology map. The contact between the two domains appears to be faulted along a magnetic low which runs the length of the survey block, only becoming poorly defined on the west side. The granodiorite is noted to be sheared proximal to this contact in the project geology map by Pryslak (2014). The magnetic fabric orientation is broadly consistent on either side of the contact, indicating a possible common metamorphic strain regime.

Both the north and south domains can be divided into additional sub-domains:

Table 5: Description of interpreted magnetic sub-domains

Sub-domain name	Description
N1	General low magnetic intensity. Alternating magnetic highs and lows and little variation in magnetic intensity. Probable mafic volcanics.
N2	General low magnetic intensity. A series of narrow, arcuate linear magnetic highs trending from 35° to 55° (similar to N1 but narrower bands). Probable mafic volcanics.
N3	Arcuate strong magnetic highs surrounding central low. The low is interrupted by highs and there is a break in the magnetic high. Possible mafic volcanics surrounding intrusion.
N4	General low magnetic intensity. Fabric 40° in the south turning to 90° in the north. Contains possibly folded or faulted central magnetic high. Adjacent beds appear to wrap around sub-domain. Possible intrusive underlying mafic volcanics.
N5	High magnetic intensity. Sinusoidal curvature with variations in intensity along strike. Possibly faulted/altered IF.
N6	Low magnetic intensity. Similar curvature to N5, very low with little magnetic fabric in the south and north. Possible instrusive overlain by mafic volcanics in central area.
N7	General high magnetic intensity. Magnetic fabric at 45° appears truncated on north by east-northeast fabric. Area of interference between magnetic fabrics noted for potential increased structural complexity.
N8	General low magnetic intensity. Magnetic fabric at 60° (sub-parallel to N7). Possible intrusive overlain by mafic volcanics.
N9	Long-strike length magnetic highs (up to 5 km) with a dominant trend of 40° to 90° (sub-parallel to the contact between the major north and south domains). The southern magnetic high likely contains IF. Northern contact with N8 likely sheared.
N10	Moderate magnetic intensity. Magnetic fabric appears variable with dominant 70° orientation occasional interrupted by features along 30°. Southern contact with N8 and N9 is not clear. Contact on west with N7 is in area noted for potential increased structural complexity.
N11	Variable magnetic intensity and strong 90° magnetic fabric. Magnetic lows more extensive than highs. Magnetic low continuous into N2.
S1	Relative low magnetic intensity and poorly developed magnetic fabric.
S2	Well-developed magnetic fabric along approximately 60°.
S3	Relative high-magnetic intensity with the sharp boundary on the west side which may be an intrusion bounded by a fault trending 175°.

There is evidence of numerous shears, faults and folds based on the magnetic data. Where there are clear breaks in the magnetic fabric defining discordant shears or faults they have been drawn in as possible structural features. Most shears appear to be parallel to bedding (as is the case in the N9 sub-domain); however, there may be a roughly east-northeast trending fault separating the N2 and N4 sub-domains in the west and the N8 and N10 sub-domains in the east.

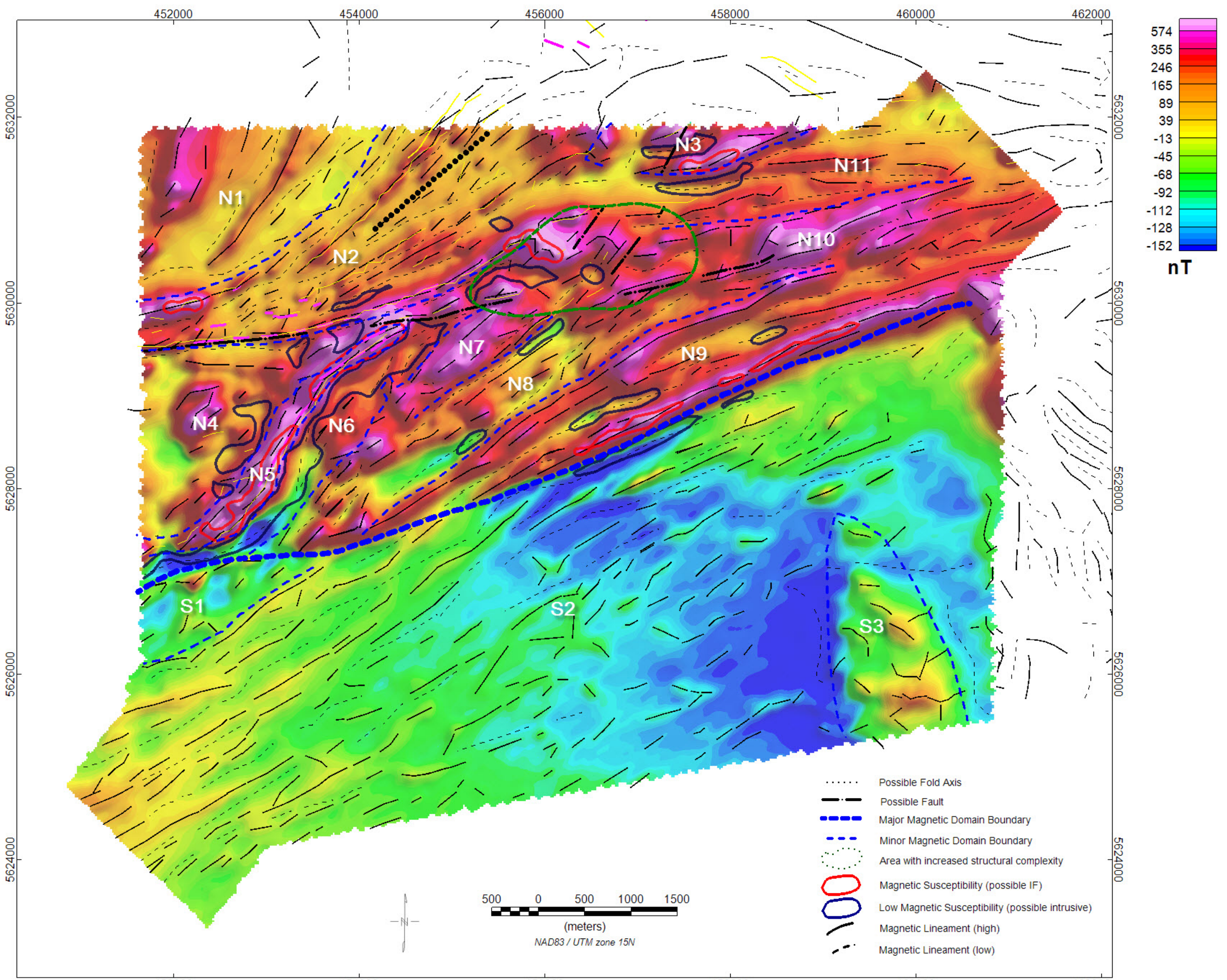

Figure 22: Interpretation overlain on RTP magnetics.

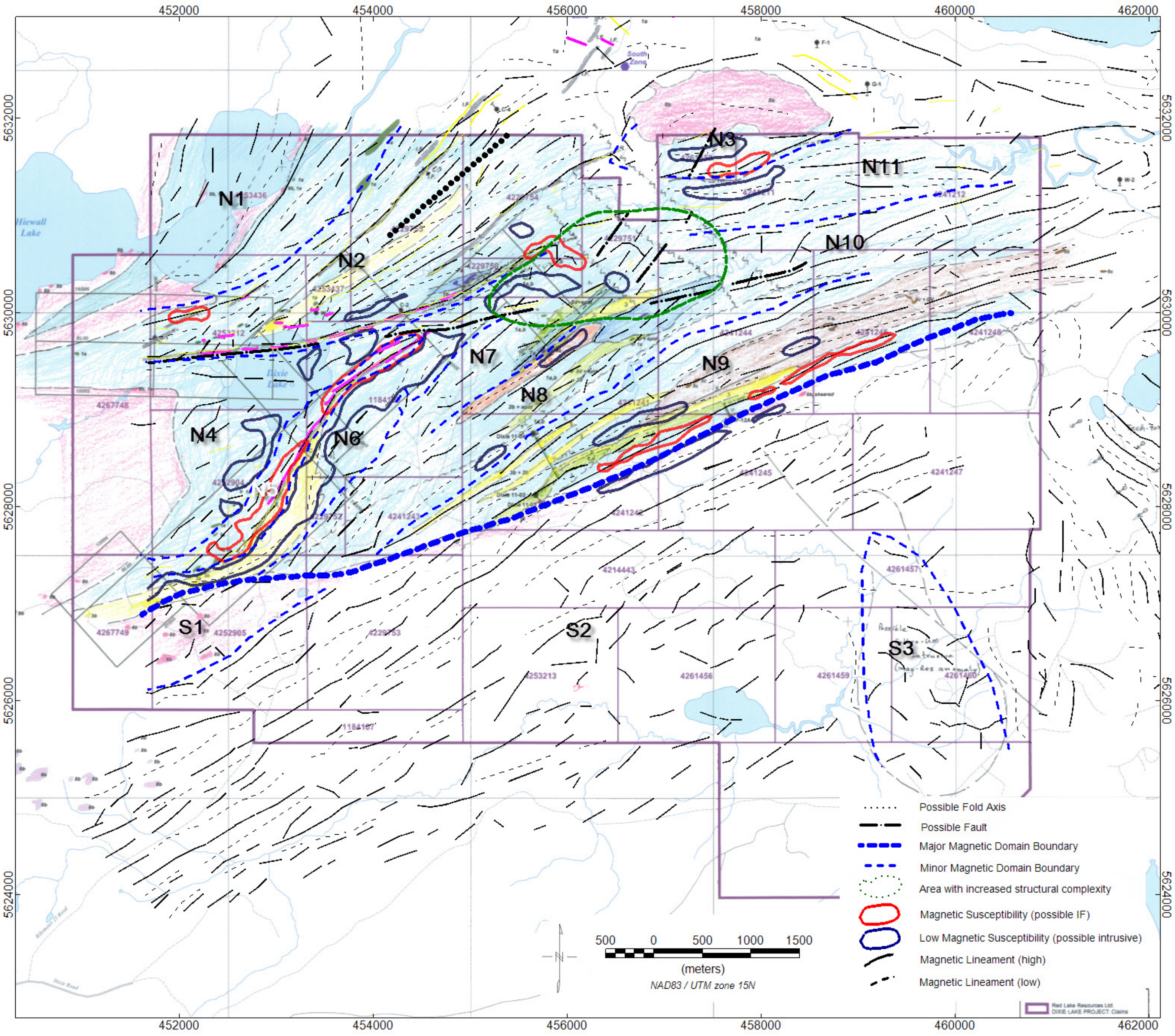

Figure 23: Interpretation overlain on project geology

EM Outcomes

Conductors were classified based on manual review of the EM profiles and CDS, as depicted on the accompanying HELITEM MultiPlots™.

HELITEM Discrete Conductor Picks

The discrete conductor picks are classified as DPR or SPR responses with variable response character; the strong, moderate, and weak descriptions are qualitative based on the last channel showing a coherent response. The discrete conductor picks are typically characterized by mid- to late-anomalies on the off-time EM Z profile data and appear to be related to basement conductors. Although some early-time responses are selected, the majority are found to correlate well with surficial hydrology (indicated saturated surface, streams, and lakes), and/or sensor terrain clearance, and are disregarded. The difference between early-time responses and the responses selected as discrete picks is shown in Figure 24. Where discrete conductor picks are clearly related across multiple lines, the points are connected with a solid line defining the conductor axis.

The depth to the top of the two strong DPR picks as indicated by the CDS appears to be approximately 100 – 150 m below ground surface (rigorous determination of the depth to conductor top would require a conductive plate modelling exercise).

The HELITEM discrete conductor picks are limited to the Northern magnetic domain as defined in the previous section. Additionally, the majority of the strong discrete picks are located in the north-west of the domain, in the area of magnetic sub-domains N2, N3, N5, N7, and N10 (Figure 25). The discrete picks and combined conductor axes from historic airborne and ground surveys are shown overlain on the project geology and the interpreted magnetic domains and structures in Figure 25.

The historic ground HLEM conductors (and to a lesser degree the historic ground VLF-EM conductors) were found to correlate well with the AEM conductor axes. Although there is limited overlap between the HELITEM survey and historic AEM surveys, it appears that these conductor axes also have a good correlation.

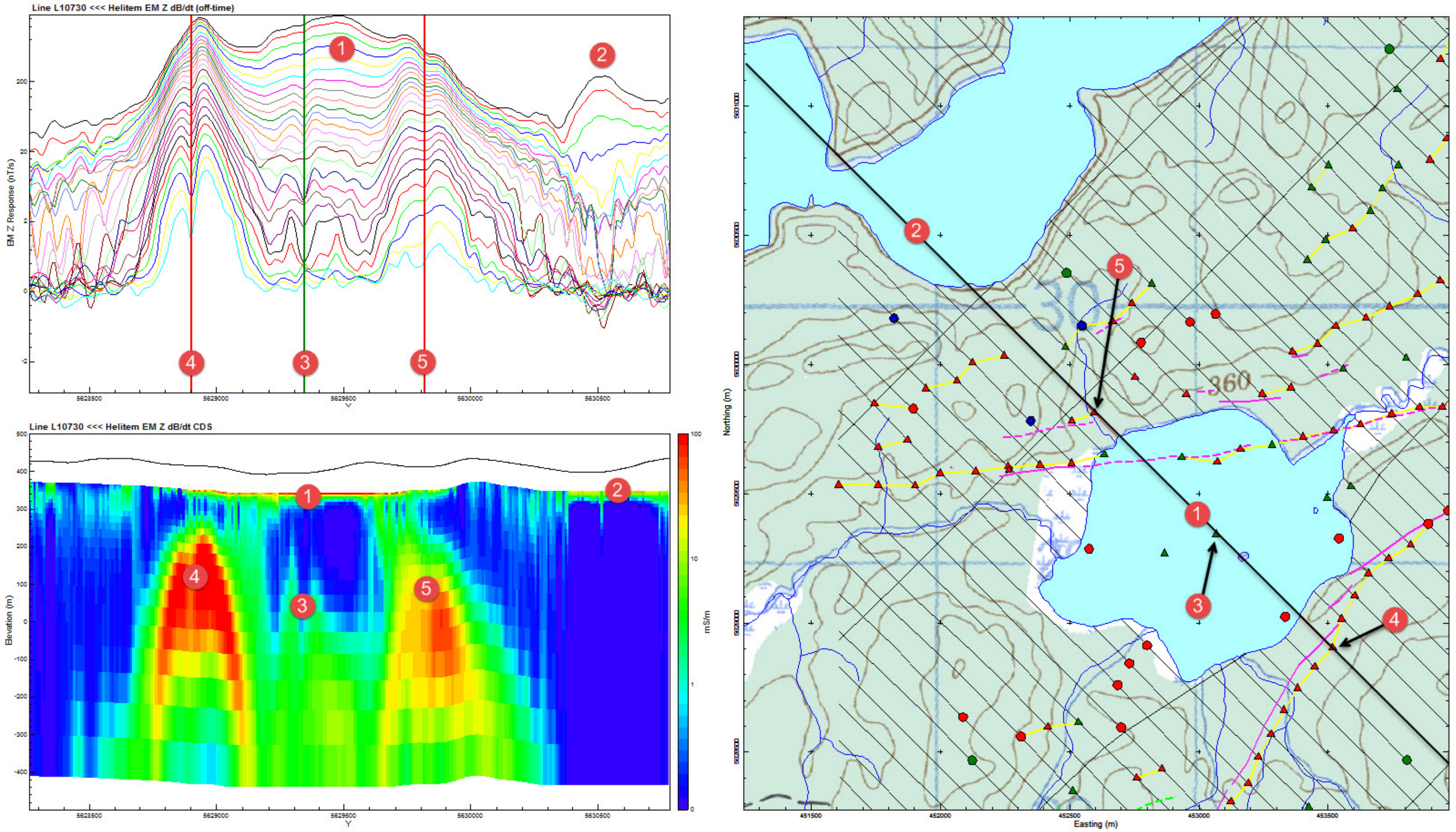

Figure 24: Comparison of surficial responses and picked bedrock responses. Surficial responses related to lakes (1 and 2) and late-time DPR's (3, 4, and 5). The EM Z dB/dt response profile is show in the upper left with the CDS on the lower left. The local 1:50,000 topographic base map is shown with conductor axes and discrete picks on the right. DPR's are triangles and SPR's are circles with the pick strength shown identified by color (red, green, blue corresponding to strong, moderate, and weak respectively). Conductor axes from historical HLEM surveys (pink lines) are shown with axes from HELITEM AEM survey (yellow lines) for comparison.

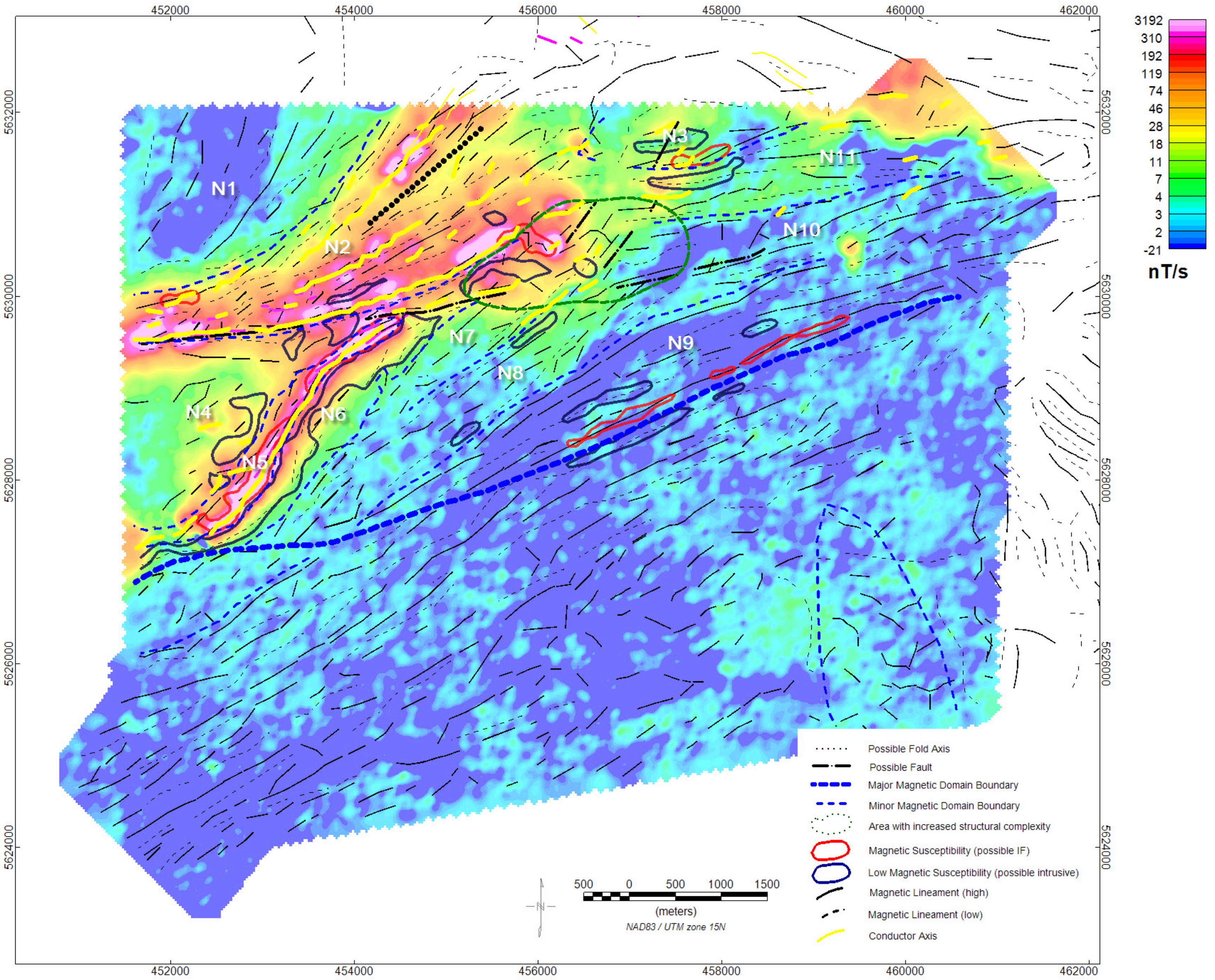

Figure 25: Interpretation overlain on EM Z dB/dt Channel 15

Target Zones

Based on examination of the background information on the project the best prospect for economic mineralization in the project area was determined to be gold mineralization analogous to the known 88-04 deposit. The geophysical data were reviewed for Target Zones (TZ) based on the geophysical characteristics of the 88-04 Au deposit as well as those of generic quartz-carbonate-hosted gold, BIF-hosted gold, and VMS-style base metal mineralization.

The TZ for both Au and VMS mineralization were driven primarily by the presence of conductors as determined by the discrete picks from the EM data. In some cases, there may be no EM response, no interpreted IF, and no deposit scale decrease in magnetic intensity associated with the mineralization; in these cases the mineralization would not be identified as a TZ as part of this review.

Twenty-three VMS TZ and seven Au TZ have been selected; of the total number, twenty-seven are fully or partially on the client tenure. The TZ ranking is classified from low priority (3) to high priority (1) based on similarity to characteristics of the target models outlined earlier in this document. The TZ are summarized in Tables 6 (VMS) and 7 (Au) and overlain on relevant EM and magnetic grids in Figures 26 to 37.

Table 6: VMS Target Zones

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
A	3	500	Strong DPR	Vertical to steeply dipping NW.	Local weak magnetic high. Fabric E-NE, possible shear where fabric changes orientation to NE at E end of TZ.	Possible IF, massive mafic volcanics.	DDH B-1 (targeting EM + mag.) located approx. 200 m to the N. Gold showing noted in mineral occurrences compilation map. Located at W edge of airborne grid. Possible felsic intrusive plug to the S. Partially on tenure (4253212).
B	2	400	Strong DPR	Possibly steeply dipping SE.	Local moderate-strong magnetic high. Fabric E-NE appears to be discontinuous (possibly faulted) becoming NE trending to the E of the TZ.	Possible IF, massive mafic volcanics. Interpreted contact with felsic intrusive to the N. Amphibolised mafic volcanics (foliated to gneissic) noted 150 m E (Breaks et al., 1975).	DDH B-1 located approx. 400 m to the SW. TZ is a segment of longer conductor correlated with locally strong magnetic response. Possible felsic intrusive plug to the S of TZ A. On tenure (4253212).
C	3	300	Weak to Strong DPR	Steeply dipping, possibly NW (poorly resolved).	No significant correlation. Possible contact to the W implied by change in fabric orientation from E-NE to NE.	Probable massive mafic volcanics. Contact with probable felsic volcanics just north of Hiewall lake located approx. 400 m to the E.	DDH B-1 located approx. 750 m to the W. DDH W-4 located 900 m to the E-NE. Possible felsic intrusive plug to the S of TZ A. On tenure (4253212).

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[4] The conductor dip provided is based on a visual assessment of the EM response profile character and is not considered a rigourous evaluation (pertains to both Tables 6 and 7).

[5] All comments regarding correlation of the TZ and geology are based on the complilation map by Pryslak (2014) unless otherwise noted. The terms “possible” and “probable” used in the TZ descriptions are intended to differentiate areas of interpreted bedrock lithology or structure under cover (pale shaded areas, dotted lines) and areas of outcrop (dark shaded), or known geology through drilling, respectively (pertains to both Tables 6 and 7).

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
D	2	350	Moderate to Strong DPR	Near vertical, NW.	Local weak to moderate magnetic high. Fabric NE appears truncated by E-W magnetic low to the S.	Possible massive mafic volcanics. Probable contact with felsic volcanics (layered, tuff) to the S.	Possible felsic intrusive plug to the N. On tenure (4252905, 4252904).
E	2	850	Strong SPR and DPR.	N/A	Series of strong magnetic highs. Fabric N-NE appears to be discontinuous (possibly faulted). Most interesting portion of TZ is local increase in amplitude of magnetic response in the NE.	Probable IF, massive mafic volcanics. Probable felsic volcanic (layered, tuff) in contact on E side of TZ. Central-east side of TZ was stripped of overburden showing bands of oxide-facies IF in massive pillowed basalt in the NE, felsic volcanic tuffs intruded by gabbro dykes as well as IF in felsic and mafic volcanics in the S (Fig. 11-I in Herbert et al, 2012).	Magnetic character suggests multiple bedding planes disrupted by faulting (conductor picks follow offsets in mag. highs). Possible felsic intrusive plug to the N. Samples from southern exposure of IF did not return significant values for Au or base metals (Herbert et al., 2012). On tenure (4252905, 4252904).
F	2	300	Strong DPR	Steep, NW (poorly resolved).	Discordant to local N-NE magnetic fabric. Parallel to trend weak magnetic low.	Possible massive mafic volcanics.	Possible conductor located in fault trending NE (sub-parallel to bedding defined by N-NE magnetic fabric). Historic Teck VLF-EM survey indicated coincident possible bedrock conductor. Possible felsic intrusive plug to the N. On tenure (4252904). Possible Au target.
G	3	400	Moderate and Strong DPR and SPR	Possible vertical (poorly resolved).	Local magnetic low. Conductor appears discordant to poorly defined E-NE magnetic fabric.	Possible mafic volcanics (nearest outcrop indicated 250 m to the S).	Conductor approximately perpendicular to trace of stream at surface (unrelated to surface feature). Possible felsic intrusive plug. On tenure (4252904).

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
H	2	700	Strong DPR.	Near vertical, NW.	Local moderate magnetic high coincident with conductor. Magnetic fabric is N-NE. Magnetic feature is interrupted possibly by a sub-parallel fault (offsets in conductor picks and magnetic lineaments are identical).	Possible IF hosted in intermediate volcanics (based on lithology described in DDH C-3 drill log).	The TZ isolates an area of increased magnetic intensity along a much longer conductive horizon. Target may have been tested by Newmont DDH C-3 which encountered IF, pyrrhotiferous sediments, intermediate volcanics, and trace chalcopyrite. 88-04 gold deposit located on same trend approximately 2.5 km to the NE. On tenure (4229755).
I	3	200	Moderate and Strong DPR (two picks)	Vertical.	Poorly defined (edge of survey) magnetic high. Magnetic intensity appears to increase to the NE based on historical airborne survey. Magnetic fabric NE.	Possible IF and argillite hosted in possible intermediate volcanics.	Located at N edge of survey grid. Coincident with historic AEM, VLF-EM conductors as well as a mag. high lineament continuing on trend to the N-NE. May have been tested by Newmont DDH C-4 located 550 m NNE. DDH C-4 encountered andesite tuff, siliceous and sulphide-rich argillite, IF. 88-04 gold deposit located on same trend approximately 2.5 km to the NE. Partially on tenure (4229754).
J	2	350	Moderate and strong DPR (three picks)	Steep, NW.	Moderate magnetic high of similar dimension to conductor area. Anomaly is concordant with NE magnetic fabric. Anomaly sits immediately N or weak, discordant mag. low trending E-W (possible shear).	Possible mafic volcanics (no nearby outcrop). Mafic intrusives sulphide or oxide facies IF mapped to the N. Area of overburden stripping located approx. 150 m to the NW.	DDH C-2 located approximately 500 m to the W-NW. On tenure (4229755, 1184106, 4241241).

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
K	1	500	Moderate and strong DPR.	Steep, NW.	Moderate high magnetic anomaly appears to be elongated ENE discordant to NE magnetic fabric. Anomaly sits immediately N or weak, discordant mag. low trending E-W (possible shear).	Possible mafic volcanics (nearest outcrop 100 m to the SE).	On tenure (4241241, 4229750).
L	3	250	Strong DPR	Mod. Steep, NW.	Weak magnetic high conformable with local NE magnetic fabric.	Possible IF hosted in possible mafic volcanics.	Short magnetic high and conductor parallel and offset from linear magnetic feature to the N. DDH C-2 located approximately 600 m to the SW. On tenure (4229755).
M	3	400	Moderate and strong DPR	Vertical to steeply dipping NW.	Weak magnetic high conformable with local NE magnetic fabric.	Possible IF hosted in possible mafic volcanics.	Possibly continuous through to TZ_O. On tenure (4229754).
N	3	100	Strong DPR (two picks)	Vertical to steeply dipping NW.	NNE trending conductor discordant to NE magnetic fabric. Located in weak magnetic low.	Possible mafic volcanics.	On tenure (4229754).
O	1	400	Weak and moderate DPR	Vertical to steeply dipping NW.	NE trending conductor concordant with local magnetic fabric. Coincident with weak magnetic high.	Possible IF hosted in mafic volcanics. Felsic intrusive rocks mapped 400 m to the NE.	Possible Au target. 88-04 gold deposit located approximately 1.5 km to the N. DDH CG-97-27 located on trend approximately 400 m ENE (mag. low). Off tenure.

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
P	1	300	Strong SPR	N/A	Very strong magnetic high elongate to the ENE. Located in relatively broad low surrounded by annual high. Local magnetic fabric poorly defined. NNE trending mag. lows may indicate faults bounding E and W sides of TZ.	Mafic volcanics and/or felsic intrusive.	On N edge of survey grid. Appears to be an isolated high in a broad low in historical Fugro survey image. DDH CG-97-27 located roughly on trend approximately 500 m WSW (mag. low). Possible partial coverage by Grandcru ground mag., IP survey (Patrie, 2005). Partially on tenure (4261458).
Q	1	400	Strong DPR, SPR	Steep, NW (poorly resolved).	Concordant with NE mag. fabric; coincident with SE edge of relatively broad, strong magnetic high elongated along SE trend.	Possible mafic volcanics.	EM response appears to be due to multiple poorly resolved conductors. On tenure (4229751, 4229750).
R	2	400	Strong DPR	Steeply dipping NW (dip becoming shallower along strike to the NE).	Concordant with local ENE magnetic fabric. Magnetic fabric becomes oriented to E progressively. Conductor coincident with moderate magnetic high.	Possible mafic volcanics.	On tenure (4229751).
S	3	500	Moderate DPR	Vertical on W becoming steeply dipping the NW on E side.	Concordant with E magnetic fabric. Prominent magnetic low to the N. No significant magnetic association.	Possible mafic volcanics.	On tenure (4241211). Coincident with stream channel. Possible gold target.

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
T	2	300	Strong SPR and DPR (two picks)	N/A	Concordant with local magnetic fabric. Coincident with magnetic high continuous at lower amplitude to the W and higher amplitude to the E. N to NNE trending mag. lows may indicate faults bounding E and W sides of TZ.	Possible mafic volcanics.	Possible partial coverage by Grandcru ground mag., IP survey (Patrie, 2005). On tenure (4261458).
U	1	300	Moderate and Strong DPR (three picks)	Mod. Steep, NW.	Concordant with local magnetic fabric. Located on apparent contact between relative low to the south and high to the north.	Possible mafic volcanics in the north with sedimentary unit (conglomerate) to the south. Clastic metasediments with quartz veining indicated approximately 350 m to SE.	On tenure (4241246).
V	2		Strong SPR (two picks)	N/A	Poorly resolved (edge of grid) relative mag. high. Historic airborne magnetic survey image (Terraquest) shows broad magnetic high with E-SE trend.	No data.	Located on E side of river. Located on edge of the survey grid. DDH W-2 located approximately 700 m to the E-SE. Off tenure.

TZ	Priority	Strike Length (m)	Conductors	General Dip[4]	Magnetic Correlation	Geology[5]	Comments
W	3	450	Moderate DPR	Mod. Steep, NW.	Poorly resolved mag. low (edge of grid). Conformable with E magnetic fabric. Historic geophysical survey data shows AEM conductors with common trend to the W. Located just south of SE trending fabric which is observed at 88-04 deposit.	No data.	DDH G-1 located approx. 900 m to the W-NW. Located in high-strain zone interpreted by SRQ. DDH G-1 and P-94-4 located on trend approximately 600 m WNW. Possible Au target. Off tenure.

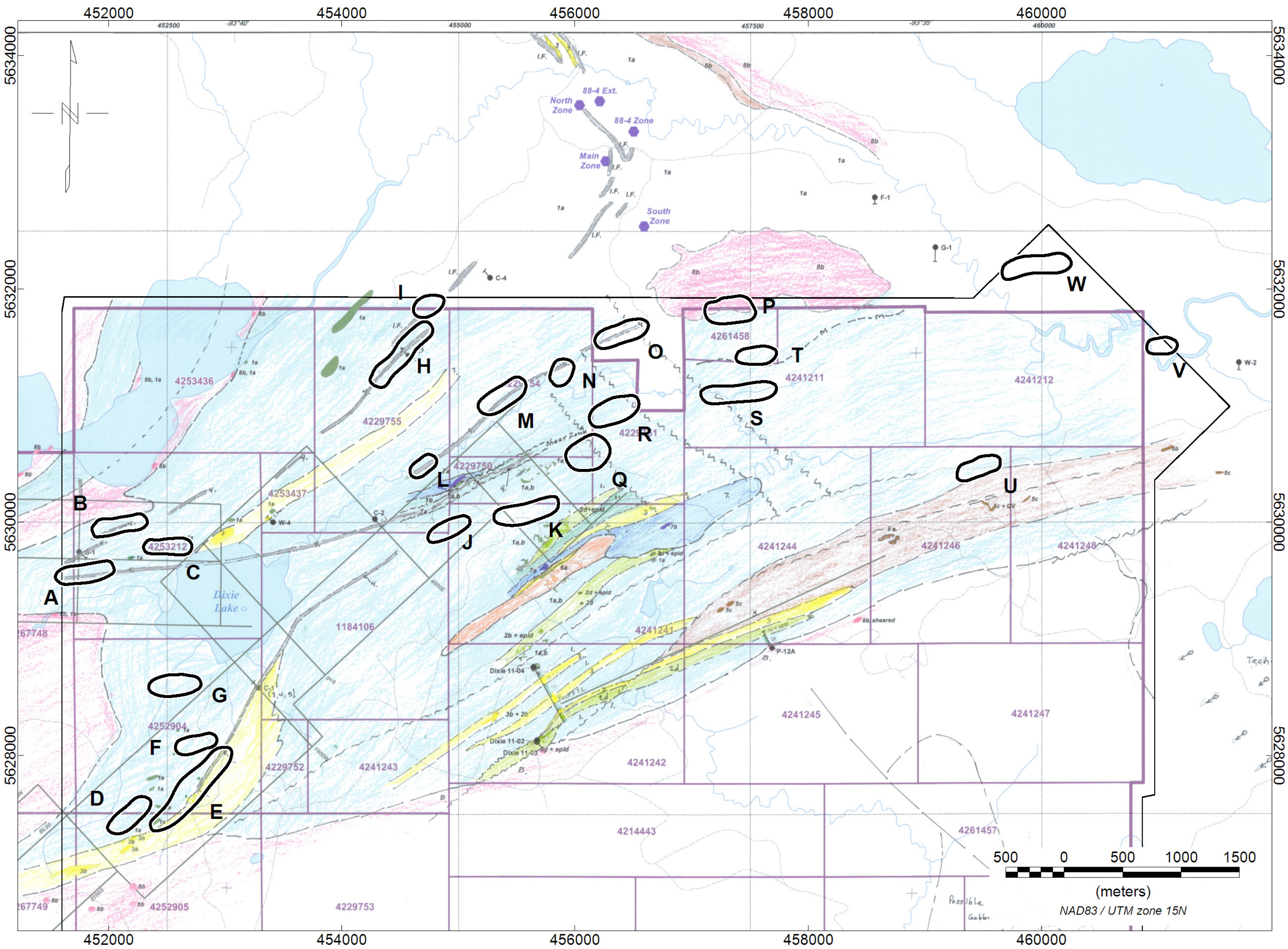

Figure 26: VMS TZ with project geology compilation (after Pryslak, 2014).

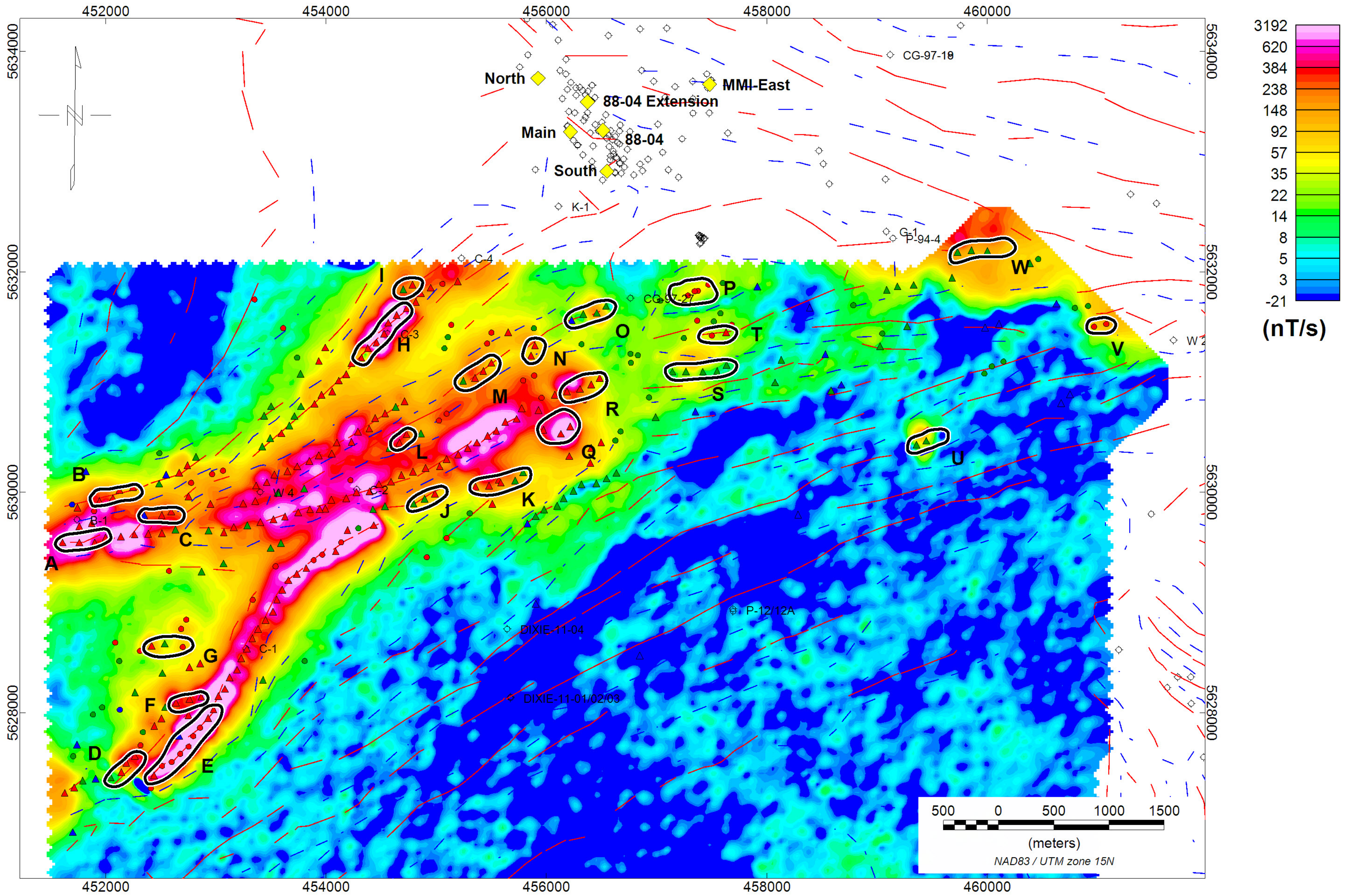

Figure 27: VMS TZ with EM Z dB/dt channel 15 response amplitude (logarithmic color distribution). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

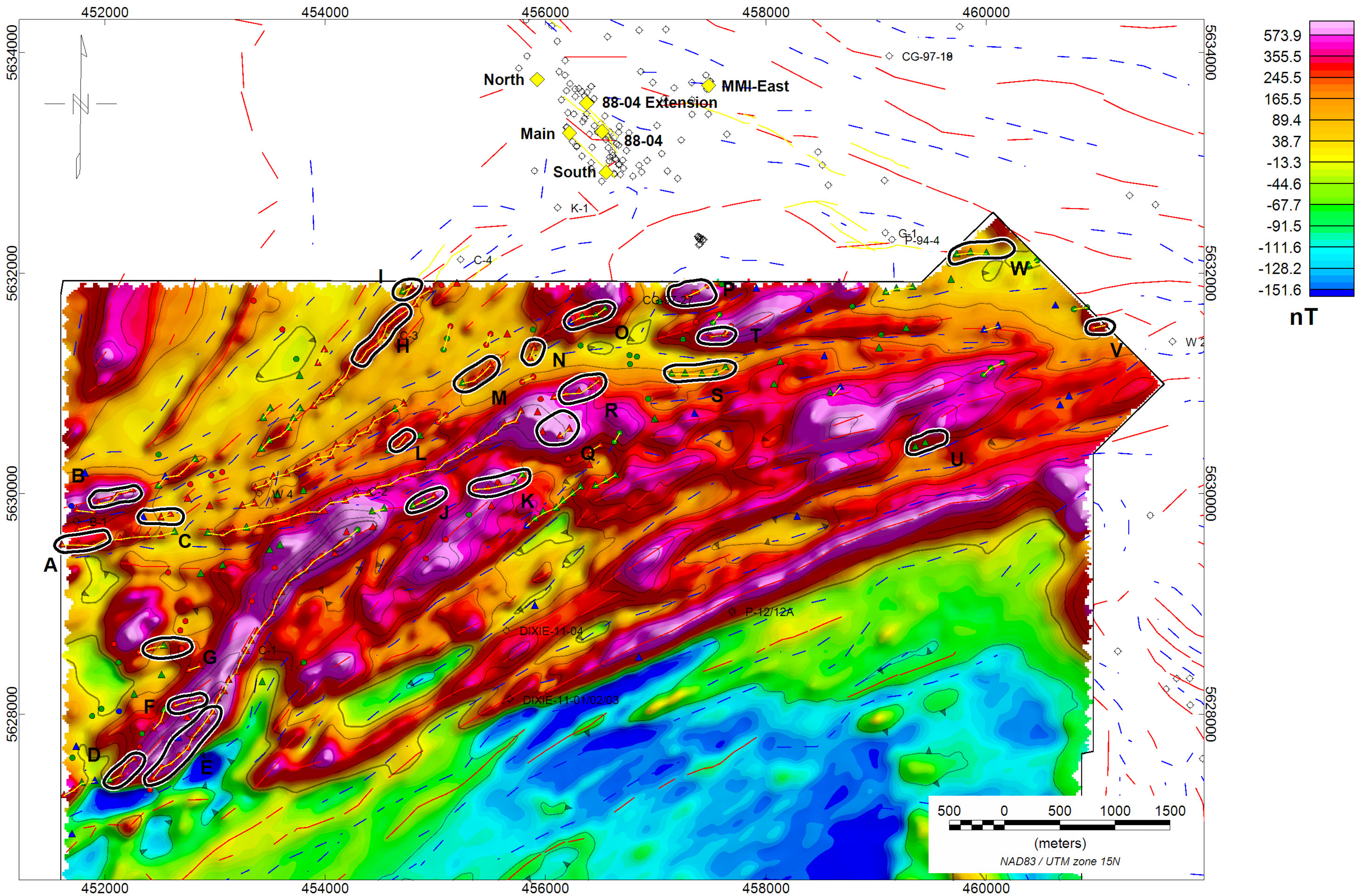

Figure 28 VMS TZ with TMI-RTP (histogram equalization color distribution, contours at 100, 500, 2000 nT, shaded at 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

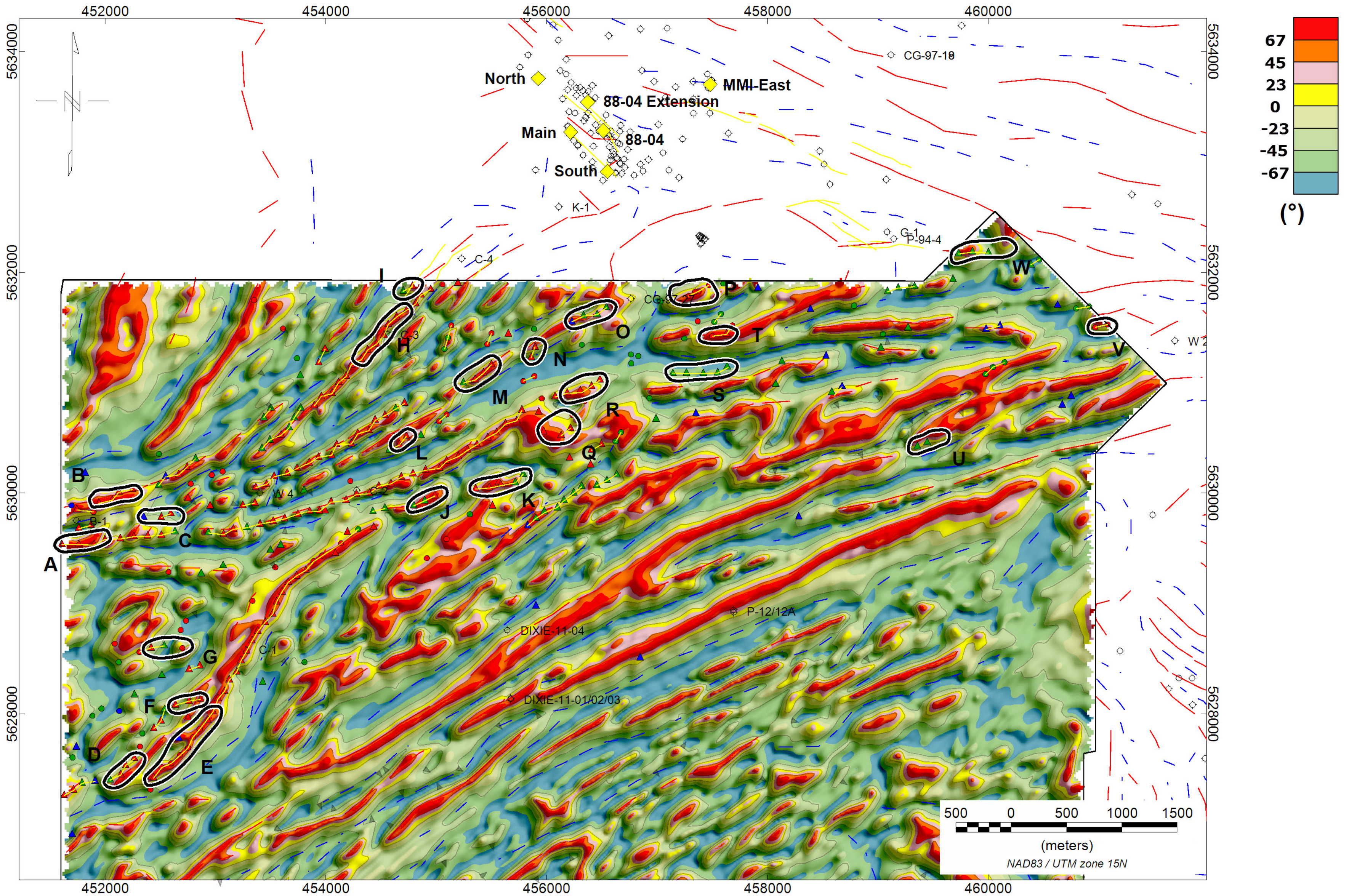

Figure 29: VMS TZ with TMI-RTP Tilt Angle derivative (linear distribution, 22.5° color contours, shaded 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

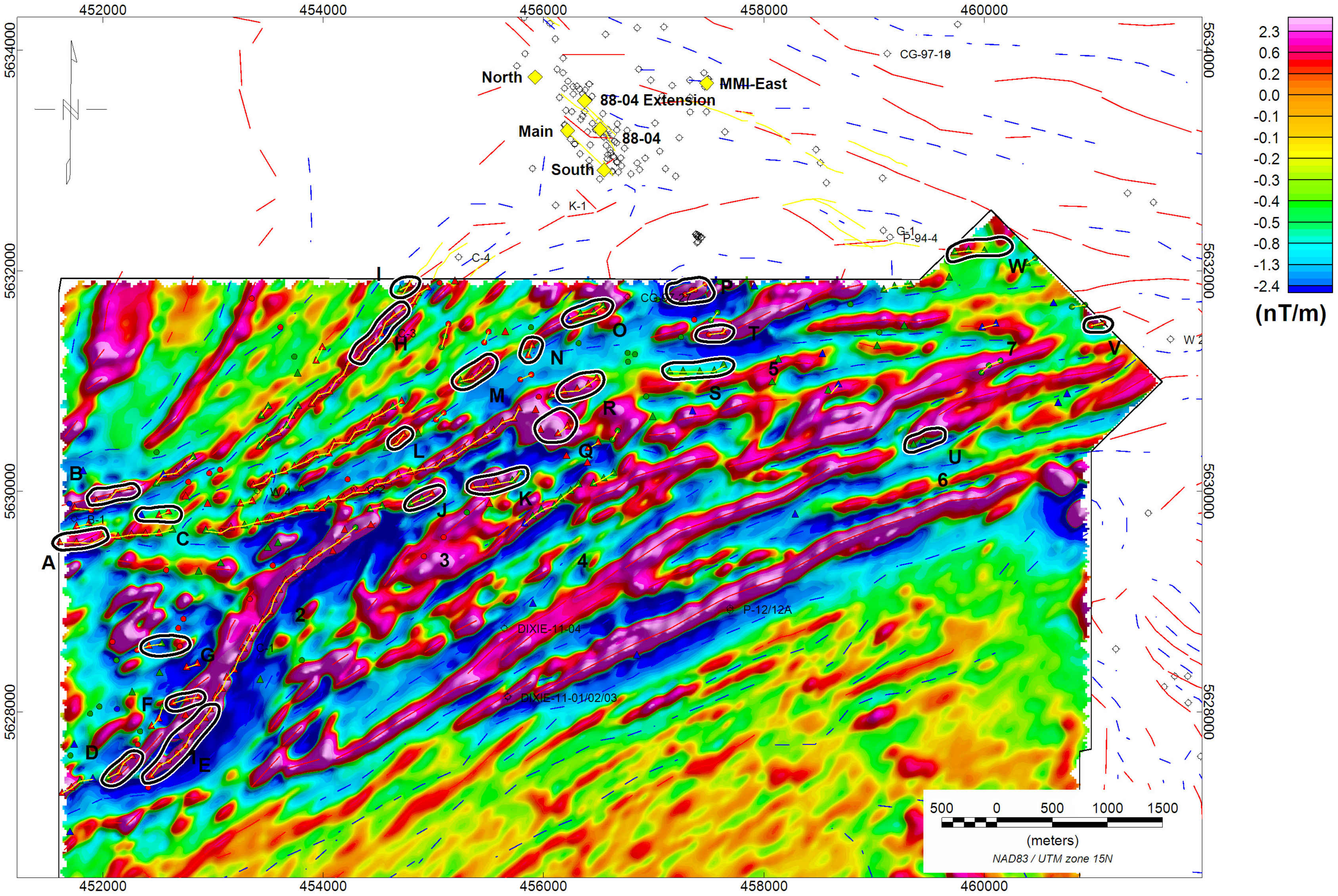

Figure 30: VMS TZ with TMI-RTP 1VD (histogram equalization distribution, shaded 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

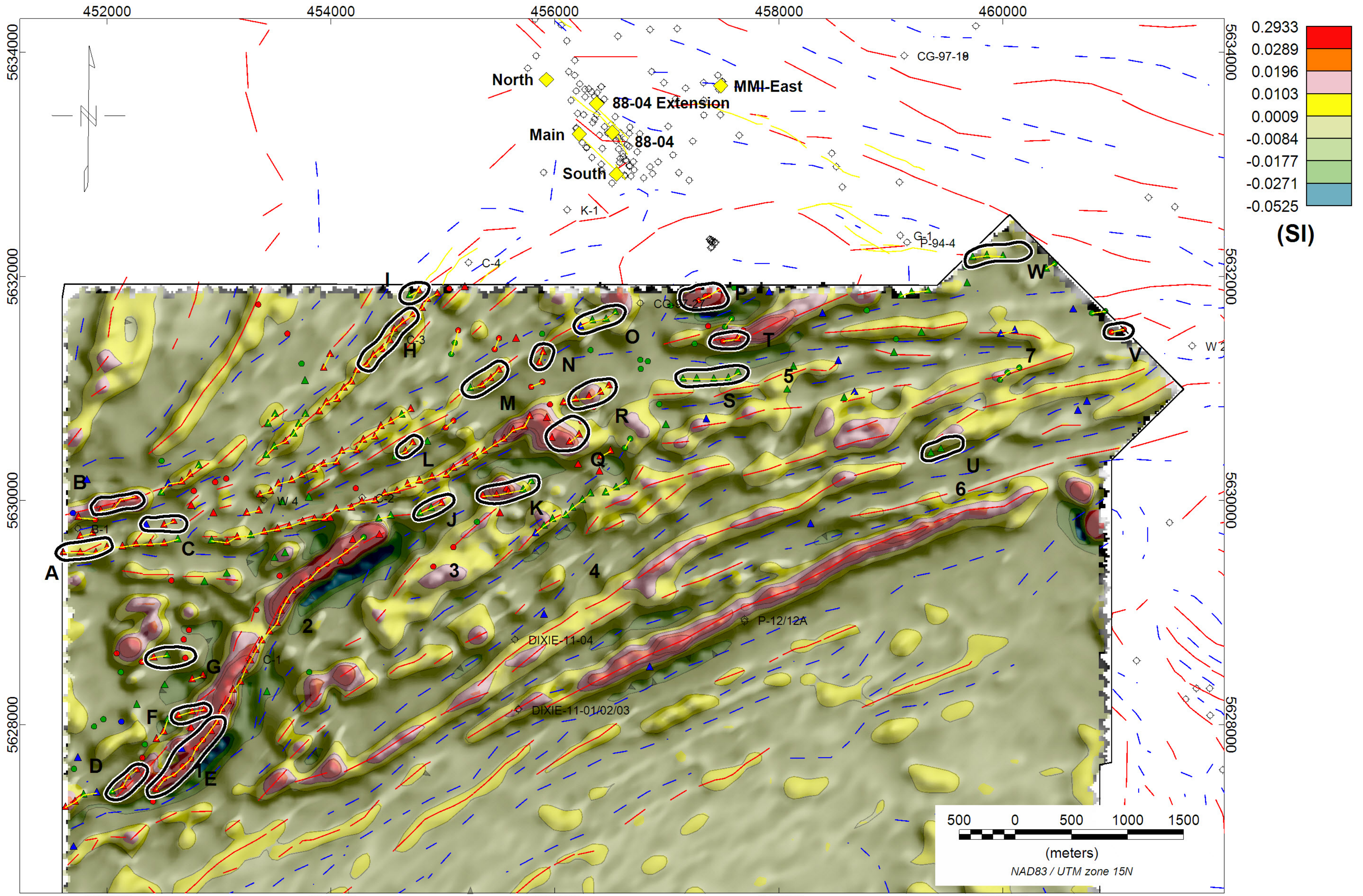

Figure 31: VMS TZ with TMI MAG3D inversion susceptibility depth slice at 50m below surface (each color level is 1 standard deviation level based on mean of approx. 0, grey shading is TMI-RTP 1VD shaded at 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

Table 7: Gold Target Zones

Target Zone Name	**Priority**	**Conductors**	**Magnetic Correlation**	**Geology**	**Comments**
1	3	Strong SPR and DPR (VMS TZ “D”, “F”) located NW of VMS TZ “E”.	Sequence of discontinuous and relatively weak linear magnetic highs (in order of 100 nT) on NW of strong (> 2000 nT) linear magnetic high associated with main DPR conductor.	Significant massive mafic volcanics outcropping. Area of magnetic low in the SE of the TZ mapped as felsic volcanics.	Area to the SE of TZ including IF associated with VMS TZ “E” conductor stripped of overburden and mapped in detail. Samples from southern exposure of IF did not return significant values for Au or base metals (Herbert et al., 2012).
2	3	Strong DPR (formational)	Decrease in amplitude of very strong magnetic high associated with formational conductor. Amplitude variation approximately - 2,000 nT across TZ. Change in orientation of magnetic high from NNE to NE at N of TZ.	No point data aside from DDH C-1. DDH C-1 intercepted felsic to intermediate volcanics and siliceous metasediments. Mapped as IF coincident with conductor/mag. high with mafic volcanics on the NW and felsic volcanics on the SE.	DDH C-1 located at S edge of TZ on conductor axis and oriented NW at -45° inclination. May have drilled over and along dip of dominant conductor. Significant po and py vein encountered including massive veining. Assays from DDH C-1 indicate “nil” Au and low to trace Cu, Ni, Zn. Located on edge of Hiewall Lake. On tenure (1184106, 4252904, 4253212).
3	3	Moderate to strong DPR (VMS TZ “J”).	Decrease in intensity of magnetic anomaly associated flexure in long formational conductor. Possible E-W magnetic low best defined in TMI RTP 1VD and tilt derivatives.	No point data. Interpreted as mafic volcanics. IF interpreted coincident with long formation conductor on the SW.	Decrease in magnetic intensity possibly related to alteration at intersection of E-W and NE trending shear zones. DDH C-2 located 250 m NW of N edge of TZ.

4	2	Strong DPR associated with VMS TZ “Q”. Moderate, NE trending DPR with at least 600 m strike in SW. Numerous short strike length strong DPR and moderate SPR.	Strong magnetic high in the NW of the TZ is elongate to the ESE. NE trending magnetic fabric continuous through TZ. Weak, E-W trending low appears to be a through-going feature. At the E and SE of the TZ the NE fabric is replaced with an ENE fabric.	Units identified in detail in the S of the TZ with little point data in the N. N is mapped as massive and pillowed mafic flows. The S is a succession of intermediate through felsic volcanics and intrusives. The moderate DPR conductor is correlated with the interpreted contact of the felsic and mafic volcanics.	Magnetic low may be related to a discordant shear. Overburden stripping has been conducted in the SE of the TZ (figure 11-D in Herbert et al, 2012). DDH CG-97-27 located approximately 800 m NW. Moderate DPR conductor may represent a bedding parallel fault plane. Strong magnetic lobe may be due to folding of sulphide-rich unit.
5	3	Moderate DPR conductor at VMS TZ “S”.	Conductor located on N edge of weak, E-W trending magnetic high. TZ sits S of broad, E-W trending magnetic low which appears to carry through to the E end of the survey area. Possible NNE trending faults based on magnetic fabric to the SW and breaks in the strong magnetic highs to the N.	No data. Interpreted as massive mafic volcanics in compilation map. Interpreted felsic intrusive defined by relative magnetic low surrounded by strong magnetic high is located approximately 500 m N.	Possible alteration indicated by relative low magnetic intensity. Similar proximity to intrusive as South Zone on Granview Gold project located approximately 1.5 km to the NNW. On tenure (4241211)
6	2	Moderate to strong DPR conductor at VMS TZ “U”.	Conductor located on S edge of moderate, ENE trending magnetic linear high. Break in high at the SW end of conductor.	No point geology data in the TZ. Possible mafic volcanics in the north with sedimentary unit (conglomerate) to the south. Interpreted unconformity between mafic volcanics and conglomerate. Clastic metasediments with quartz veining indicated approximately to SE. Interpreted bedding parallel shear faults to W and SE.	On tenure (4241246, 4241212, 4241248). Magnetic low to the W of conductor may indicate structural complexity or alteration.

7	3	Moderate DPR conductor at VMS TZ W and strong SPR conductor at VMS TZ V.	Relative low magnetic intensity in the NW with poorly defined ENE trending magnetic fabric. Well defined E-W magnetic fabric in the S. Possible E-W discordant shear based on intersection of fabrics just south of VMS TZ “V”.	No point geology data in TZ. Approximately 500 m E massive to foliated intermediate to mafic volcanics and metavolcanics, pyrrhotite and chalcopyrite indicated (Breaks et. al, 1975).	Sub-parallel to SE trending high strain zone associated with 88-04 gold deposit. Areas of VMZ TZ “W” and “V” are proximal to breaks in magnetic fabric possibly identifying shear zones. DDH W-2 located approximately 400 m E of edge of the grid. Partially on tenure (4241212).

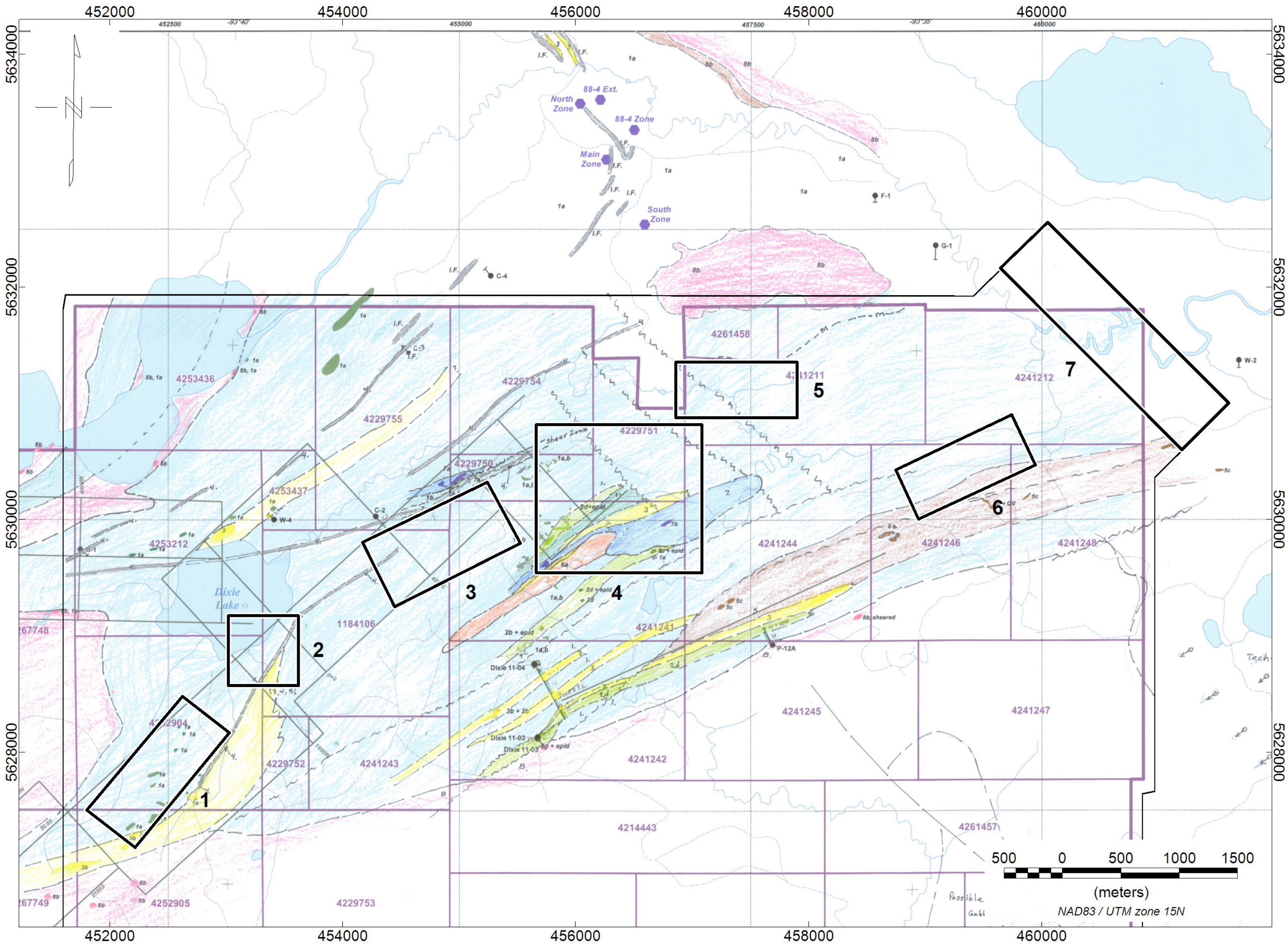

Figure 32: AU TZ with project geology compilation (after Pryslak, 2014).

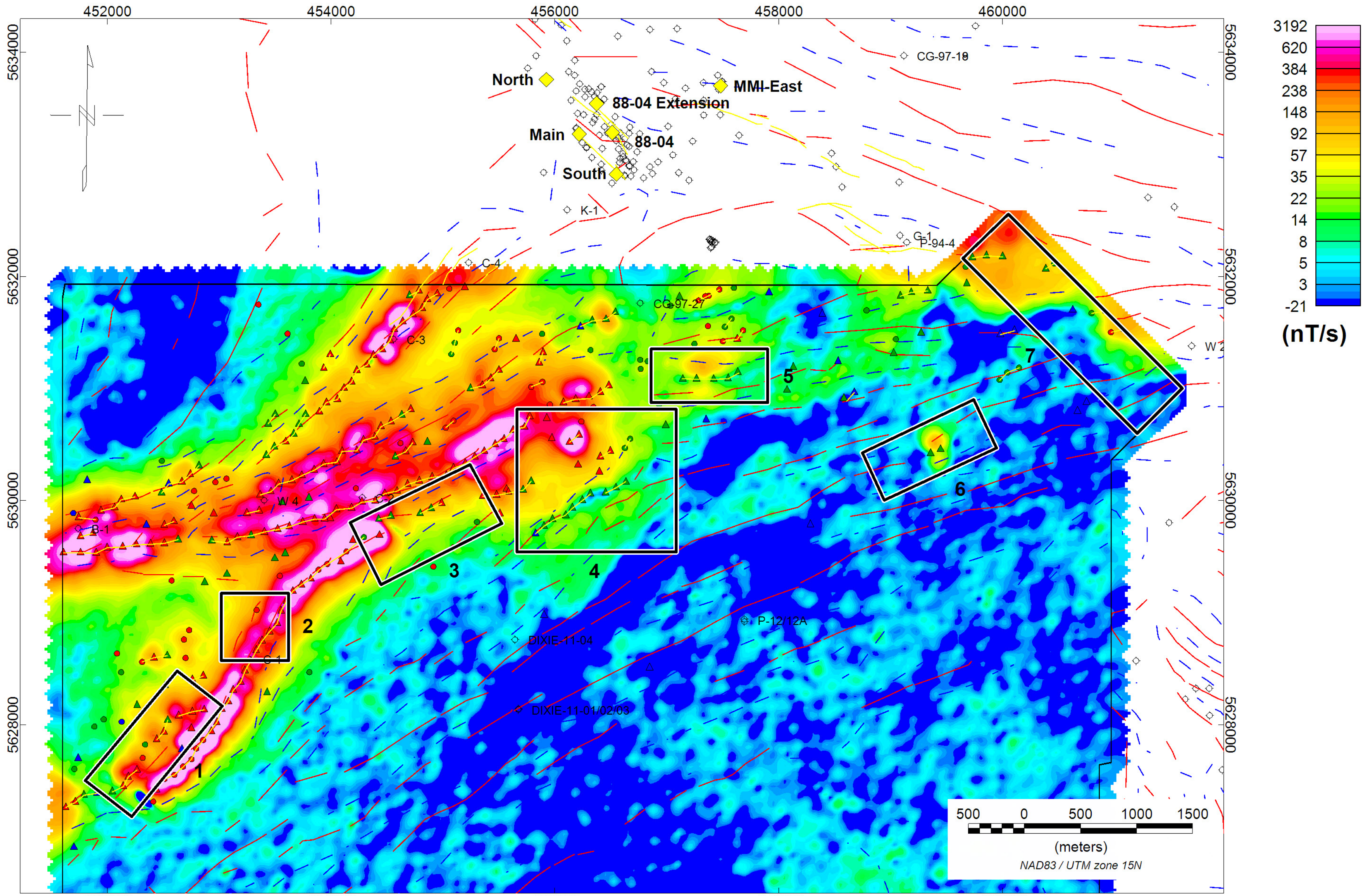

Figure 33: Au TZ with EM Z dB/dt channel 15 response amplitude (logarithmic color distribution). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

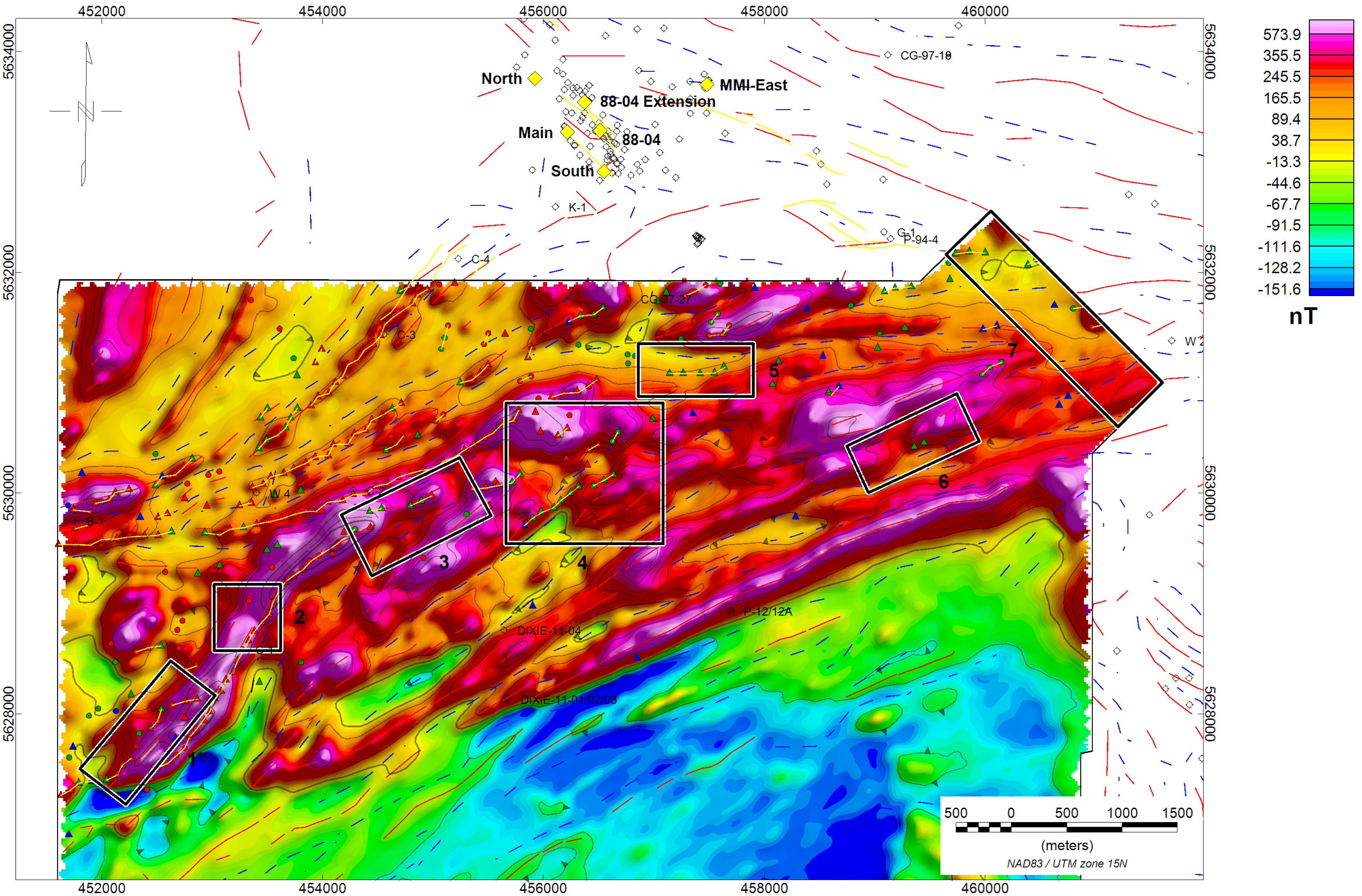

Figure 34: Au TZ with TMI-RTP (histogram equalization color distribution, contours at 100, 500, 2000 nT, shaded at 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

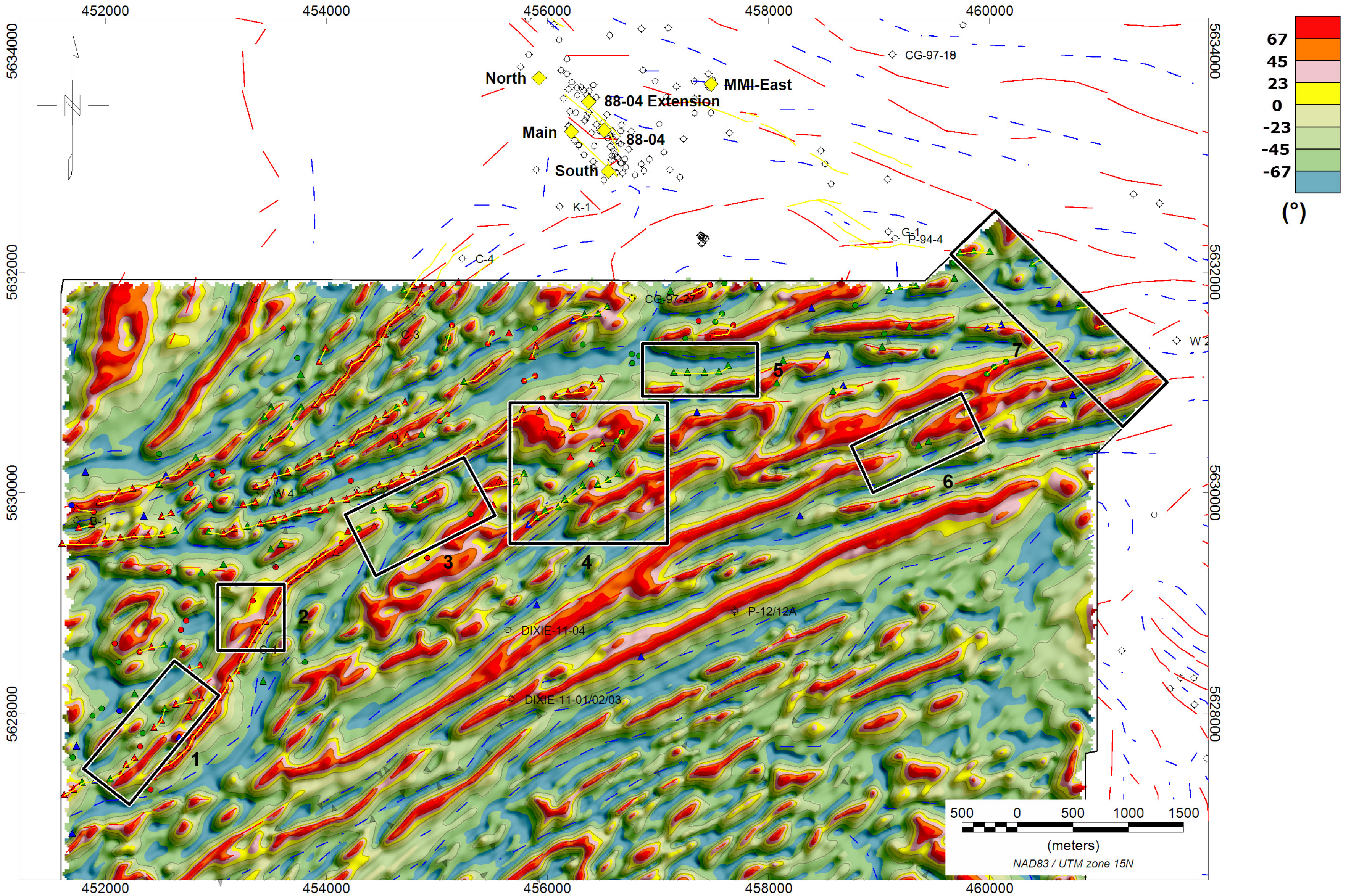

Figure 35: Au TZ with TMI-RTP Tilt Angle derivative (linear distribution, yellow-green contact is 0° contour representing source edges, 22.5° color contours, shaded 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

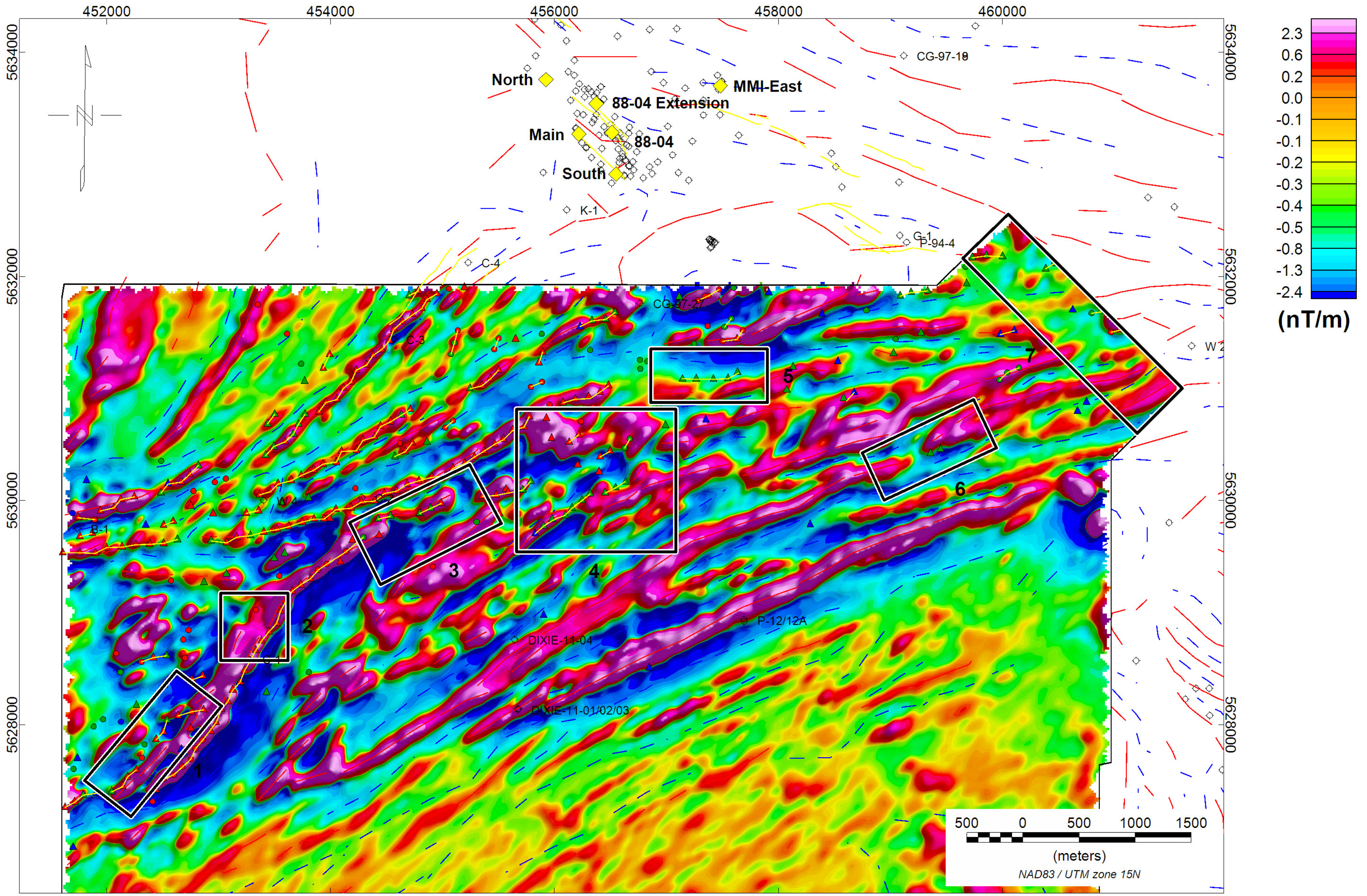

Figure 36: Au TZ with TMI-RTP 1VD (histogram equalization distribution, shaded 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

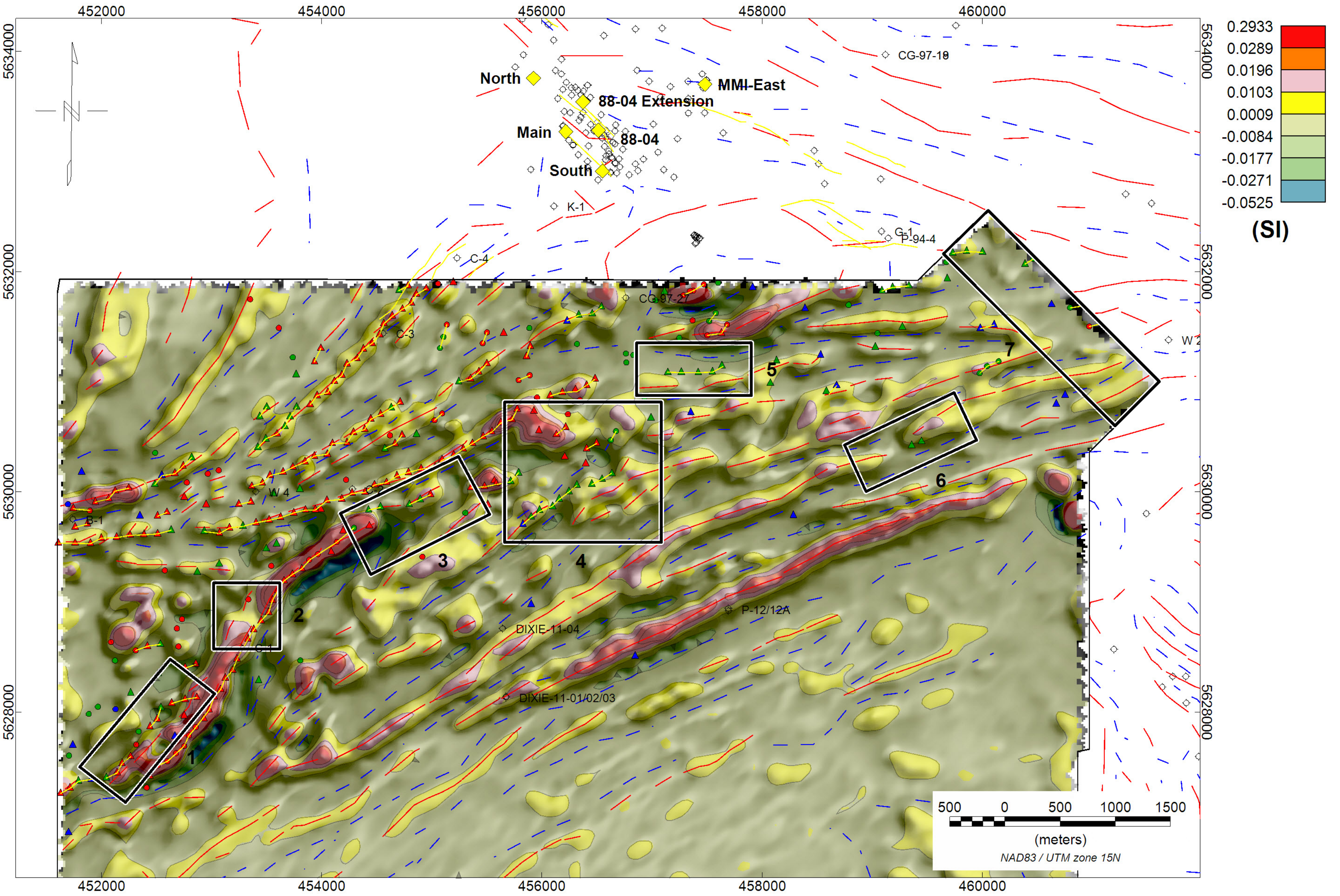

Figure 37: Au TZ with TMI MAG3D susceptibility inversion depth slice at 50m below surface (each color level is 1 standard deviation level based on mean of approx. 0, grey shading is TMI-RTP 1VD shaded at 45°). Magnetic high and low lineaments are red and blue lines respectively, airborne EM conductor axes are yellow lines (features outside the survey boundary were digitized from assessment report images).

8. CONCLUSIONS

This report provides a description of the processing and analysis of a HELITEM EM and magnetic survey performed over the Red Lake Resoures Dixie Lake project area located approximately 30 km south-southeast of Red Lake, Ontario.

Condor was commissioned by Red Lake Resources to carry out processing, analysis and interpretation of the 2012 survey and to identify areas prospective for gold and VMS mineralization.

Geophysical target models were generated based on generalized greenstone hosted quartz-carbonate gold mineralization, BIF-hosted gold mineralization, and VMS. The geophysical response of the nearby 88-04 gold deposit and proximal occurrences was reviewed; while there was no clear direct magnetic anomaly associated with the deposit there was a direct correlation with both ground and airborne EM conductors.

Based on the magnetic data the project area was divided into two domains. The EM discrete picks were confined entirely to the nothern magnetic domain. The majority of EM picks appear to be along formational conductors associated with moderate to strong magnetic responses. There are rare discrete picks in the eastern half of the project area.

The assessment identified twenty-three VMS TZ and seven gold TZ that are deemed worthy of follow-up work. Four of the five of the VMS TZ which were assigned a high priority are partially or fully on the client's tenure.

Based on the apparent success of the review by Lee (2004) in identifying structural controls for the 88-04 deposit, structural review of available outcrop in the Dixie Lake project area may allow identification of the local strain zones proximal to the TZ.

Given the relatively high cost of overburden stripping and drilling to investigate a large number of targets and (relatively large area targets in the case of the gold TZ), it is recommended that additional geochemical and ground geophysical methods be applied to assist in prioritizing the targets for further work.

Fedikow (2014) recommended mobile metal ion (MMI) geochemistry as a potential method to discriminate mineralised magnetic and EM targets from those due to pyrrhotite only. A significant portion of conductors drilled in the project area have been explained as pyrrhotite bearing IF.

The HELITEM data were found to be an effective alternative to historical HLEM surveys in the project areas. There was a direct relationship between the gold mineralisation at the 88-04 deposits, HLEM conductors, and AEM conductors. Historic HLEM conductors were found to correlate well with the HELITEM conductors in the survey area. There is merit for ground EM surveying (either HLEM or TEM) only where a conductive target is considered prospective but is not well resolved in the HELITEM data.

A number of DC IP/Resistivity surveys have been conducted in the project area; however, there is no direct relationship between the gold mineralisation at the 88-04 deposit and chargeability (and no resistivity data available). It is expected that a DC IP/Resistivity survey will produce a chargeability anomaly where there is disseminated sulphide mineralisation (primarly due to pyrite) and may produce either high or low resistivity anomalies (low resistivity due to massive sulphides, high resistivity due to silicification). If any of the VMS TZ “S”, “T”, “P” or the gold TZ “5” are of interest for follow-up it is recommended that the position be determined for the claim post defining the local grid for the 2005 Grandcru Resources DC IP survey (Ontario AFRI 20001419) so that the apparent chargeability and resistivity data from this survey may be georeferenced.

There is merit in small, high-resolution ground magnetic surveys over TZ particularly where there is a HELITEM magnetic response consisting of multiple interferring anomalies in the profile data (the result of poorly resolved magnetic anomalies due to the relatively small separation between sources when compared to the separation between the survey platform and the source). Lee (2004) indicates that the magnetic data were useful in the structural interpretation of the 88-04 deposit. The ground “magnetic gradient” image presented in Hughes (2006) shows improved resolution of narrow features on strike with the 88-04 ore shoot over the airborne survey images in the airborne survey assessment report (Valenta, 2004).

The relatively large gold TZ could be prioritized based on soil geochemistry and ground DC IP/Restivity (a gradient array survey could be tested for efficacy), and ground magnetics. If conductive targets are selected for drilling, it is recommended that conductive plate models (using software such as EMIT’s MAXWELL EM modelling package) be generated from the AEM profile data in order to ensure the conductor is intersected.

Respectfully submitted,

Francis Moul
Senior Geophysicist,
Condor North Consulting ULC.
June 18, 2015

Ken E. Witherly
President,
Condor Consulting Inc.
June 18, 2015

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APPENDIX A: Statements of Qualifications

Statement of Qualifications – Ken E. Witherly

I have graduated from University of British Colombia with the degree of Bachelor of Science in Geophysics/Physics, in 1971.

I have practiced my profession continuously since 1971;

I am employed as an exploration geophysicist by Condor Consulting, Inc.;

I have no interest, direct or indirect, in the mineral exploration dispositions comprising the areas described in this report nor do I expect to receive any;

I am registered with the American Institute of Professional Geologists as a Certified Professional Geologist; # 11536

Dated this 17th day of June, 2015.
Lakewood, Colorado.

Ken E. Witherly
President
Condor Consulting, Inc.

Statement of Qualifications – Francis Moul

I have graduated from University of Waterloo in Waterloo, Ontario, Canada with an Honors Bachelor of Science degree in Earth Science, in 2001.

I have practiced my profession continuously since 2001;

I am employed as an exploration geophysicist by Condor North Consulting, ULC.;

I have no interest, direct or indirect, in the mineral exploration dispositions comprising the areas described in this report nor do I expect to receive any;

Dated this 17th day of June, 2015.
Vancouver, British Columbia

Francis Moul
Senior Geophysicist
Condor North Consulting, ULC

APPENDIX B: FUGRO HELITEM INTERPRETATION FIGURES

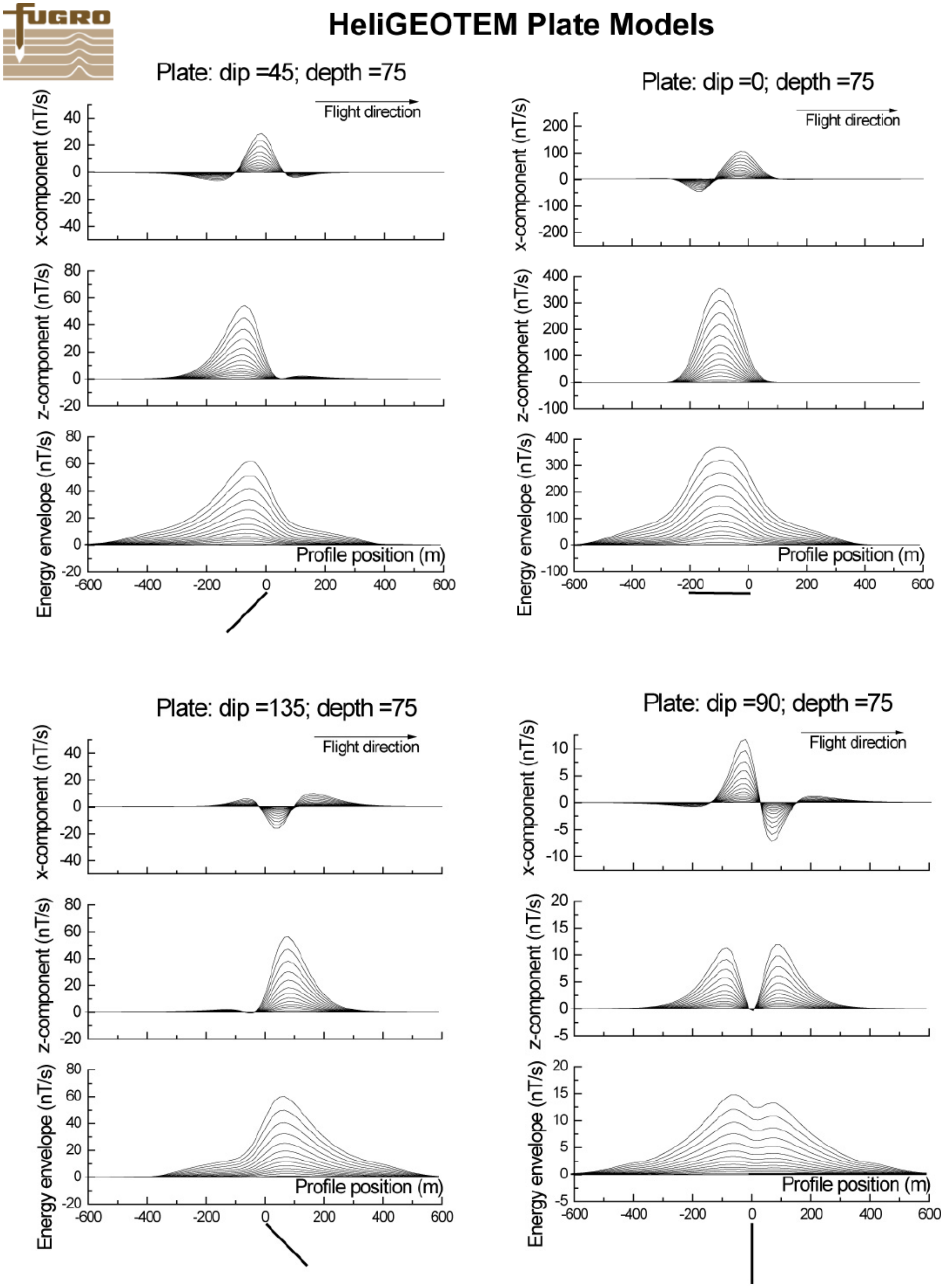

Figure 13 Plate model with a flying direction of left to right

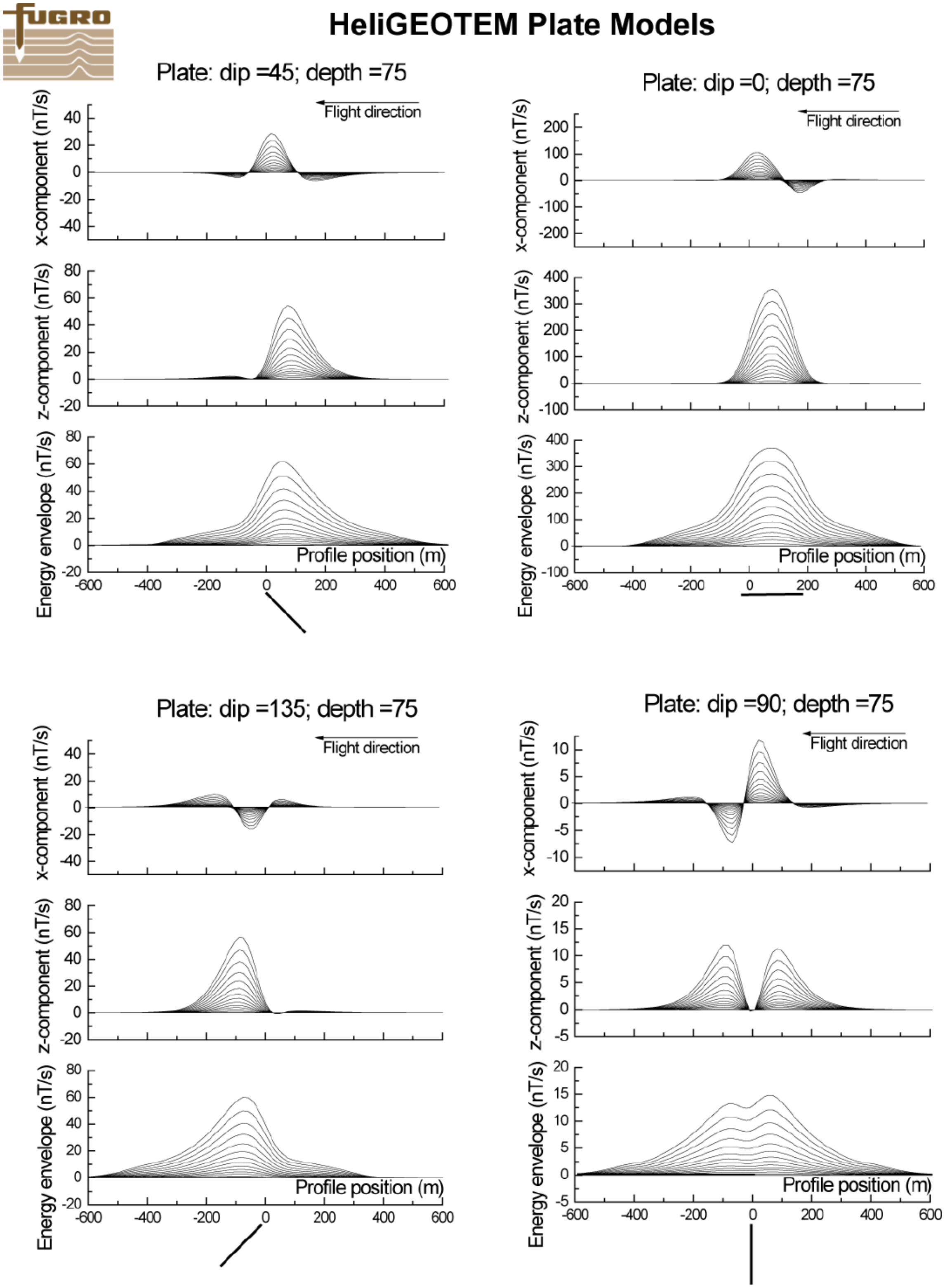

Figure 14 Plate model with flying direction from right to left

APPENDIX C: ARCHIVE DVD