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Report

to

Macquarie Harbour Mining Ltd

on

Interpretation of VTEM Survey, Sorell Peninsula and Macquarie Harbour, Western Tasmania

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Summary

This report contains anomaly picks from the VTEM surveys flown in the Macquarie Harbour region between 1 – 16 March 2010, on behalf of Macquarie Harbour Mining Ltd. (MHM).

Preliminary anomaly picks based on preliminary VTEM data were delivered to MHM on 19th April 2010.

Following receipt of the final VTEM data from Geotech Ltd on 23rd April 2010, the preliminary anomaly picks were reviewed, and final anomaly picks are included with this report in digital format (MapInfo TAB files). A number of preliminary anomaly picks were discarded as they were clearly due to non-geological sources (seawater, Abt railway etc)

VTEM anomalies have been prioritised according to the strength of the EM response (time constant), and the likelihood of the anomaly being due to a localised bedrock conductor (as opposed to an extensive 'stratigraphic' conductor). Anomalies have been ranked from 3 (best) to 1 (worst). Anomaly rankings should be reviewed on the basis of any additional geological or geochemical information. Generally, those anomalies ranked 2 or 3 are due to bedrock conductors and may be worthy of follow-up. However, even the lowest-ranked conductors could be significant if there are additional geological critera which make them of interest.

Given the large number of anomalies detected, quantitative modelling has not been conducted as this would be prohibitively time-consuming. It is recommended that modelling be conducted on those VTEM anomalies considered to be of most interest to MHM based on all available geophysical, geological and geochemical datasets.

Table of Contents

1 Introduction

The survey areas are shown in Figure 1.1. Time-domain helicopter electromagnetic and magnetic data were acquired over all areas using the VTEM system operated by Geotech Airborne Ltd. A total of 1437 line km of data were acquired over the period 1 – 16 March, 2010. Flight line spacings ranged from 100 – 200 m.

The major datasets supplied include:

- Vertical component of voltage response (dB/dt).
- Vertical component of magnetic induction, obtained via integration of the voltage response (B-field). B-field data emphasises the response of very good conductors in comparison with the voltage response.
- Total magnetic intensity (TMI).
- Digital terrain model (DTM), obtained by subtracting the radar altitude from the GPS elevation.

The Cape Sorell survey areas have been previously explored using a variety of airborne and surface geophysical methods by a number of companies. Previous electromagnetic surveys at Cape Sorell have included frequency-domain helicopter EM (DIGHEM, Jones, 1986), fixed-wing time-domain GEOTEM (Reid and Close, 1997), and ground IP (Morritt, 1999; Newnham, 2001). None of these surveys identified any very strong anomalies. The 1996 GEOTEM survey conducted by Plutonic Operations Ltd 'did not define any high-priority targets considered to be related to VHMS mineralisation' (Reid and Close, 1997). The 1986 DIGHEM survey of Muddy Cove identified 'no first class anomalies' but did map a number of isolated conductors, mostly of 'intermediate' quality (Jones, 1986). Ground IP surveys by Pacific-Nevada Ltd identified a number of chargeable and/or conductive zones, but drilling did not intersect any significant mineralisation (Morritt, 1999; Newnham, 2001).

The King River survey area (Area 6 of the VTEM survey) was previously flown by GEOTEM in 1990 (Read, 1990). The survey did not identify any bedrock conductor responses.

The VTEM system is capable of mineral exploration to depths of hundreds of metres in resistive environments. The high power, low flight height and low noise levels of the VTEM system should provide improved depth of investigation and spatial resolution to those obtained in earlier fixed-wing TEM and helicopter frequency-domain EM surveys conducted in the Cape-Sorell – Macquarie Harbour region.

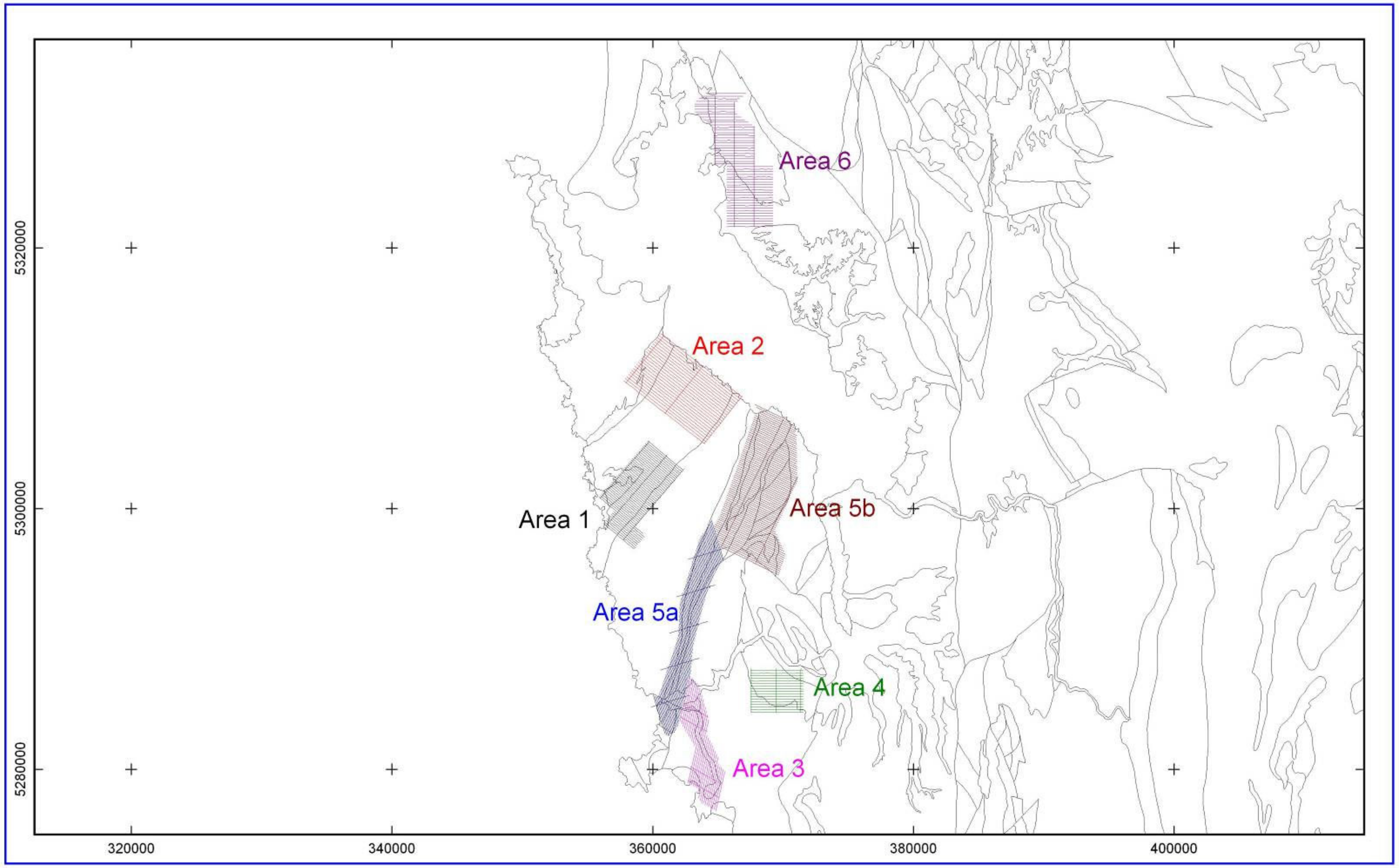

Figure 1.1 *– Macquarie Harbour VTEM survey areas. Coordinates are MGA Zone 55.*

2 Methodology

The steps used in the interpretation were as follows:

A brief QC was carried out on the final VTEM data. All essential system parameters are adequately described in the acquisition report by Geotech Airborne Ltd, included as Appendix D of this report. Noise levels for dB/dt and B-field data are considered to be within the ranges quoted by the contractor, and the dB/dt noise levels are comparable to those in other VTEM surveys commissioned by Geoforce or available in the public domain.

2.1 Bedrock conductors

Profiles of the VTEM dB/dt and B-field response were examined for anomalies due to bedrock conductors. Both local bedrock conductors and larger stratigraphic conductors were picked. Although the latter are not of direct economic interest, they may reveal structure such as faults via discontinuities in extensive conductor trends.

Qualitative properties of each conductor were recorded, including

- **Estimated dip**. For double-peaked anomalies, this estimate is based on the asymmetry of the two peaks (the larger peak is on the down-dip side). It is not possible to easily estimate a dip for single-peaked anomalies, although the dip direction can sometimes be inferred from the direction of migration of the anomaly peak with time.
- **Dip direction**. This is a rough dip direction only, and indicates which end of the survey line the conductor dips towards.
- **Time constant**. This is a measure of conductor quality, and depends on both the conductance (conductivity-thickness product) of the conductor and on its physical dimensions. A conductor with a high time constant will exhibit a slow decay, with high signal level at the latest delay times. Economic mineralisation typically has time constants greater than 0.5 ms. The longest time constants that can be detected with the VTEM system at 25 Hz base frequency are ~6.5 milliseconds. A high time constant does not necessarily indicate mineralisation – graphitic ‘stratigraphic’ conductors often have large time constants as a result of their high conductivity and large strike and dip extents. However, the time-constant does provide some means of discriminating between conductors.
- **Ranking**. Anomalies have been ranked from 1 (worst) to 3 (best), based on their time constant and on anomaly character. For example, very wide double-peaked anomalies which are continuous from line to line over distances of kilometres were considered most likely to be of stratigraphic origin, and have generally been assigned a low ranking.
- **Anomaly type** (single or double-peaked). The anomaly type sometimes also includes a comment on anomaly quality (e.g., Doubtful), or the likely source

(e.g., Strat = likely stratigraphic conductor). Some examples of the main anomaly types are given in Appendix A.

- Presence of **induced polarisation** (IP) effects (see comments on IP effects below)
- Whether the anomaly is present in **dB/dt or B-field data**, or both. Apparent anomalies in B-field data with no expression in dB/dt data are considered to be doubtful and have been assigned a low rank.

2.2 Induced polarisation anomalies

A large number of IP anomalies were observed in the VTEM data. These IP anomalies are characterised by EM decays which change sign from positive to negative at late delay times, whereas the response from purely-conductive targets should be positive at all delay times. IP effects in EM data may arise due to the presence of polarisable material in the near-surface (e.g., clays) or from disseminated sulphide mineralisation or graphite. Examples of some IP anomalies from the Macquarie Harbour survey are shown in Appendix B.

Strong IP anomalies have been picked and are supplied as a separate MapInfo layer to the EM bedrock conductors. It is unknown whether the IP anomalies are due to clays, graphite or disseminated sulphides. However, there is evidence that some of the IP anomalies may be due to bedrock sources rather than clays, as many of the IP anomalies clearly lie on the same trends as stronger bedrock conductors (e.g., Area 2), and the IP anomalies are sometimes closely associated with magnetic trends (e.g., Area 5a).

3 Interpretation

Anomaly picks for the seven VTEM survey areas are discussed in this section, with reference to anomalies identified by previous work in the area. **All maps and figures in this report use MGA55 coordinates**. Appendix C contains images showing the VTEM anomaly picks, annotated with Ranking, superimposed on images of the dB/dt response at Channel 40 (30 for Area 4), and on the total magnetic intensity.

3.1 Area 1

Flight line spacing in this area was 150 m. A large number of bedrock conductors were identified (Figures 1, C1 and C2). However, most of these appear to be either stratigraphic trends or of relatively poor quality. Conductors and conductor trends which are of most interest are those which do not appear to be of stratigraphic origin.

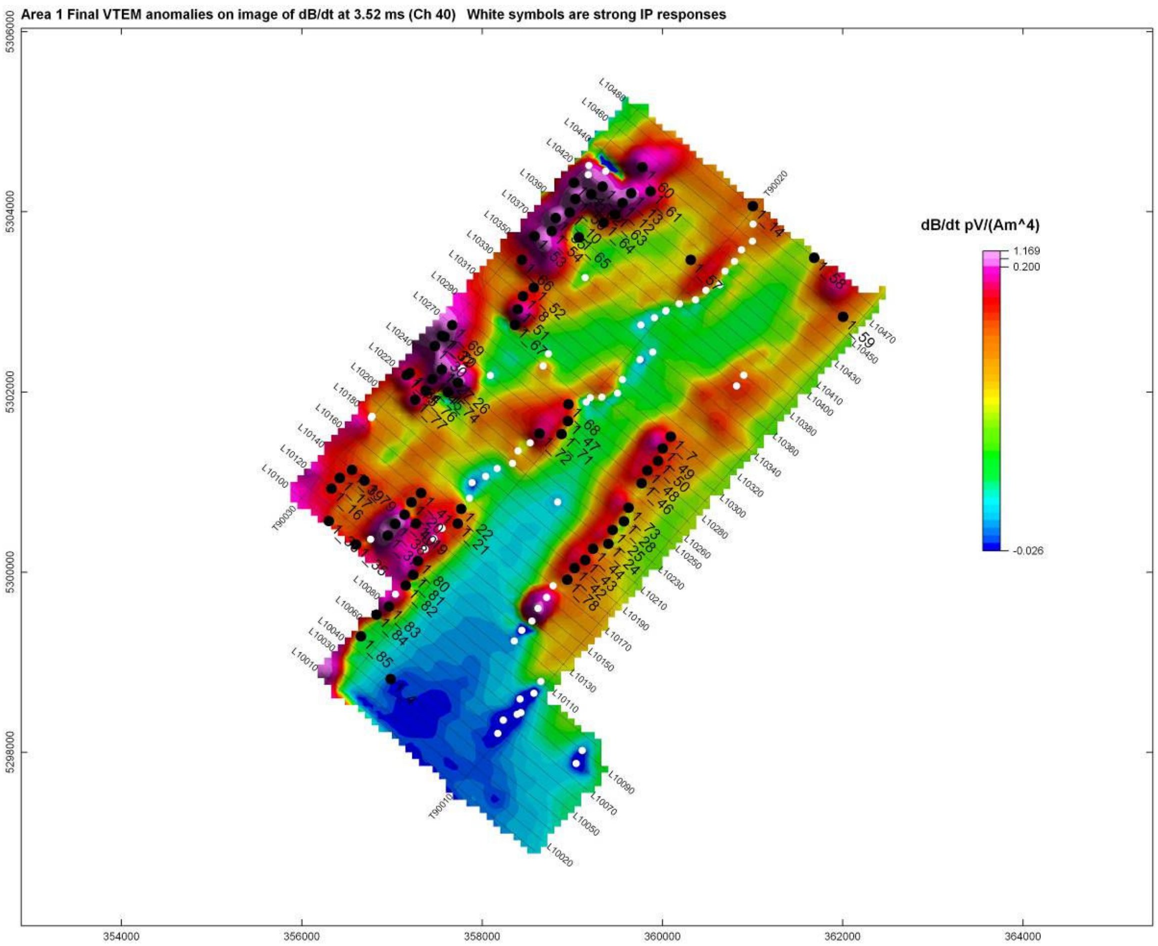

Figure 1 Area 1 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies. MGA55 coordinates.

Anomalies 1_67, 1_51, 1_8 and 1_52 (Lines 10300 – 10330). The anomalies at the northern end of this 600 m long trend are double-peaked. The conductor appears to dip at ~ 60 degrees to the SE at its northern end, with the dip shallowing to ~45 degrees SE on Line 10310.

Anomaly	Line	East_MGA55	North_MGA55
1_52	10330	358574	5303158
1_8	10320	358457	5303062
1_51	10310	358399	5302917
1_67	10300	358366	5302745

Anomalies 1_26 and 1_74 (Lines 10240 – 10230) are strong single-peaked anomalies. There is no indication of dip direction from the anomaly shape. Anomaly 1_27 on Line 10240 has similar character, but appears to be part of a parallel line of weaker anomalies.

Anomaly	Line	East_MGA55	North_MGA55
1_26	10240	357736	5302103
1_27	10240	357557	5302250
1_74	10230	357623	5301998

Anomaly 1_34 (Line T90030) is an early to mid-time double-peaked anomaly. The conductor appears to dip toward the SW end of the line.

Anomaly	Line	East_MGA55	North_MGA55
1_34	T90030	357199	5302209

A comparison of VTEM anomalies from Area 1 with anomalies and or targets identified by previous surveys is shown in Figure 2. None of the VTEM anomalies discussed above was identified by previous surveys. The previous target on Line 10140 (green square on Figure 2) was a magnetic anomaly considered prospective for tin. The target is closely associated with a group of low-ranked VTEM anomalies of variable intensity (1_39, 1_79, 1_17, 1_16).

3.2 Area 2

Flight line spacing in this area was 200 m.

A large number of bedrock conductor responses were identified in Area 2 (Figures 3, C3 and C4). Most of these are situated on a series of roughly NE-oriented stratigraphic trends. None of the VTEM conductors appear to have been identified as targets by previous airborne frequency domain (DIGHEM) and ground-based geophysical surveys conducted in the area.

The VTEM anomalies likely to be of most exploration interest are those which do not lie on these extensive trends, and are discussed below.

Anomalies 2_104, 2_11 and 2_12 (lines 20090 – 20110). This anomaly trend cross-cuts the strike of a stratigraphic conductor and a magnetic trend. The anomaly is best-defined on Line 20110, where it appears the conductor dips to the east at around 45 degrees. The conductor dip appears to progressively shallow towards the south and is approximately 30 degrees on Line 20090.

Anomaly	Line	East_MGA55	North_MGA55
2_12	20110	363588	5307819
2_11	20100	363511	5307630
2_104	20090	363462	5307417

Anomaly 2_20, Line 20190. This is a mid-late time double-peaked anomaly. The conductor dips at approximately 45 degrees towards the NW end of the survey line. A single peaked anomaly on T92020 (Anomaly 2_30) appears to be due to the same conductor.

Anomaly	Line	East_MGA55	North_MGA55
2_20	20190	363137	5310200
2_30	T92020	363179	5310108

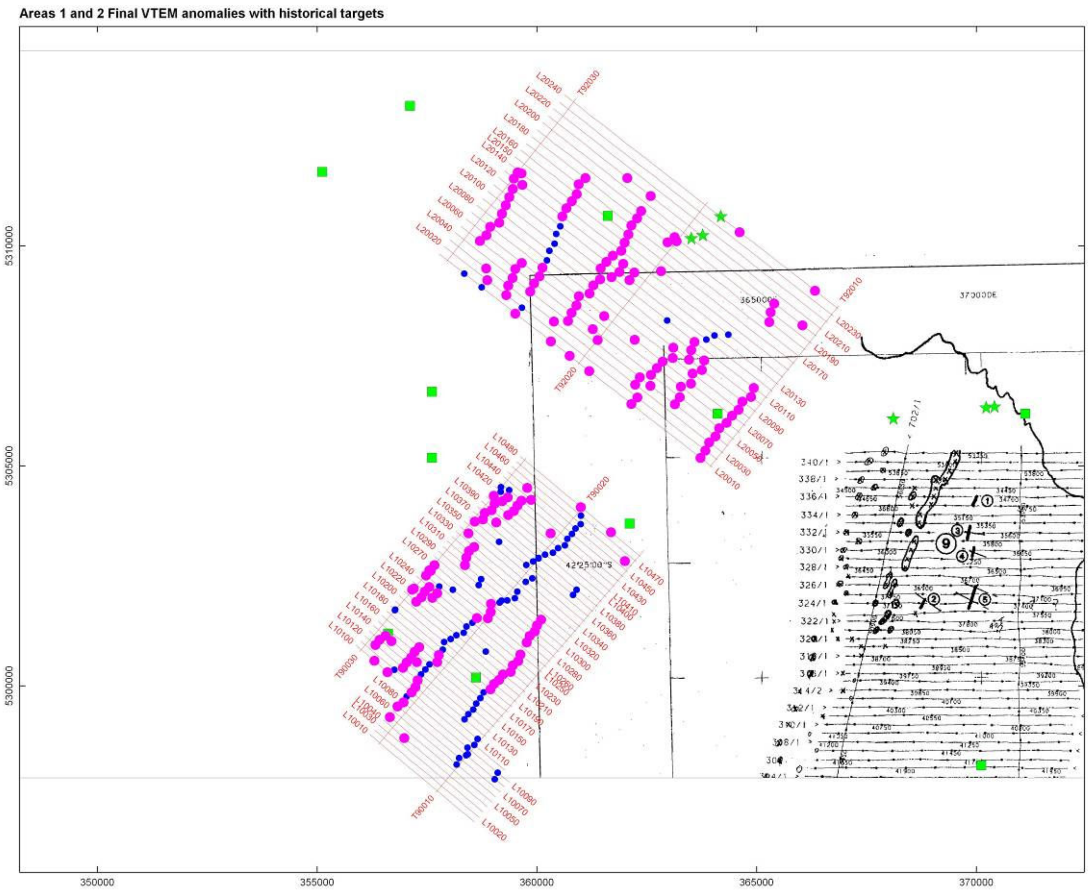

Figure 2 Area 1 and 2 VTEM anomalies (pink dots) with anomalies and targets from previous work in the area. Blue dots are VTEM IP anomalies. Green squares are targets identified by Mitre Geophysics for Cyprus Minerals Australia. Green stars in the northeast of Area 2 are Pelias Cove ground IP anomalies identified by Pacific Nevada (Morritt, 1999). MGA55 coordinates.

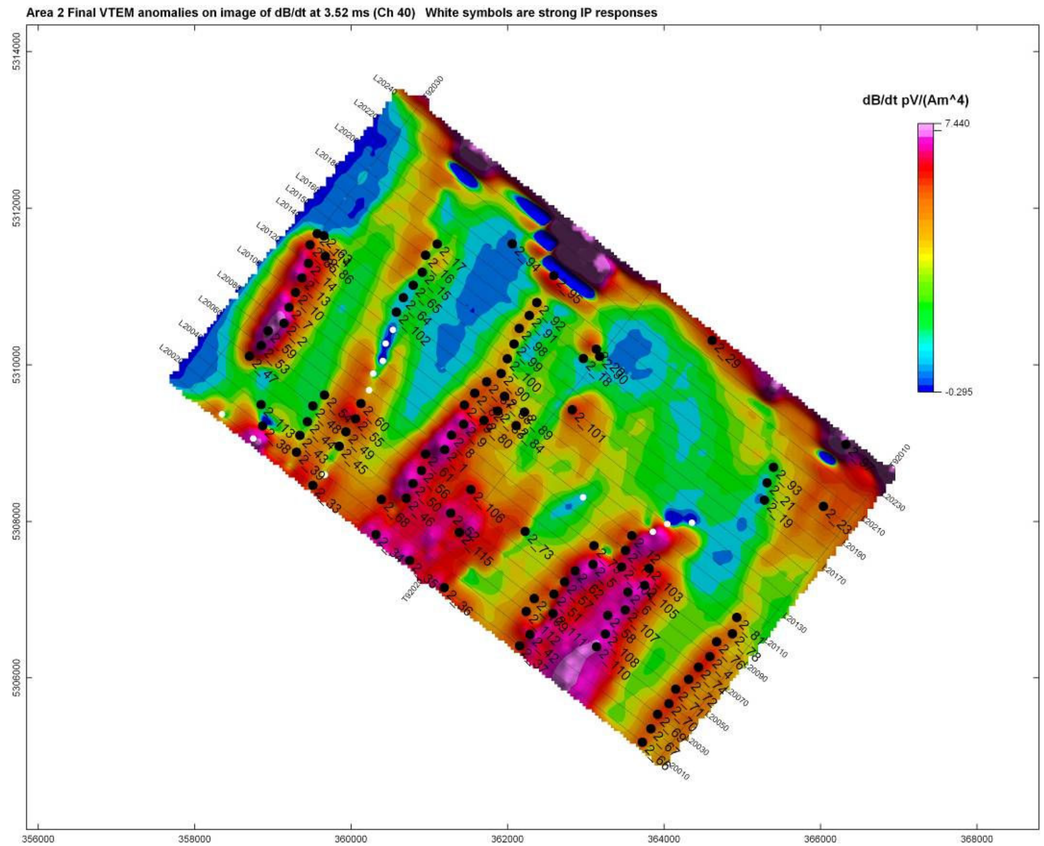

Figure 3 Area 2 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

Anomaly 2_38, Line 20020. This is an early-mid-time double peaked anomaly. The conductor dips to the west. Given that the anomaly lies close to the SW boundary of the survey area, it is uncertain whether it forms part of a larger stratigraphic conductor. A possible weak conductor on Line 20030 (Anomaly 2_113) and and IP anomaly on Line 20010 appear to be part of the same conductive trend.

Anomaly	Line	East_MGA55	North_MGA55
2_38	20020	358869	5309222
2_113	20030	358850	5309491

Anomaly 2_35, Line 20010. This is a double-peaked anomaly. Dip direction of difficult to determine without modelling due to interaction of the response with another conductor 500 m to the NW on the same line. The anomaly lies at the SW boundary of the survey and it is uncertain whether it forms part of a larger stratigraphic conductor extending to the SW.

Anomaly	Line	East_MGA55	North_MGA55
2_35	20010	360749	5307502

Anomaly 2_93, Line 20200. This is a mid-time double-peaked anomaly. The conductor appears to dip shallowly to the west. Anomalies 2_21 and 2_19 on Lines 20190 and 20180 are very weak, but are possible southern extensions of the same conductor. The trend formed by these three anomalies parallels a weak magnetic anomaly just to the east.

Anomaly	Line	East_MGA55	North_MGA55
2_93	20200	365402	5308693

A number of anomalies on Line 20240 are over seawater, and were not included in the final anomaly picks. Anomaly 2_97 on this line is also over seawater, but has a double-peaked shape characteristic of a steeply-dipping conductor, so has been included. Anomaly 2_29 on Line 20240 is located on the shoreline, and is most likely to be due to seawater.

Anomaly 2_95 on Line 20210 is located quite close to the edge of an inlet on the coastline and is most likely to be an edge effect associated with conductive seawater.

None of the VTEM conductors discussed above were identified as targets by previous workers (see Figure 2), although VTEM anomalies 2_20 and 2_30 occur quite close to ground IP anomalies identified by Pacific Nevada Ltd at Pelias Cove (Morritt, 1999).

3.3 Area 3

Flight line spacing in this area was 150 m.

No very strong bedrock conductors were identified by the VTEM survey – all conductors in Area 3 have been given the lowest ranking (Figures 4, C5 and C6). The strongest anomaly detected (Anomaly 3_2) is situated on the coastline in the southern part of the area at the mouth of the Spero River, and is most likely due to conductive seawater. Two other weak conductors in the south of the area (3_1 and 3_11) are coincident with the Spero River, and may be due to brackish estuarine waters.

The remaining anomaly (3_10) lies in the northern part of the area, and is a weak mid-time single peaked anomaly. This conductor was also detected by the 1996 Plutonic GEOTEM survey (Figure 5), but was not considered to be of high priority.

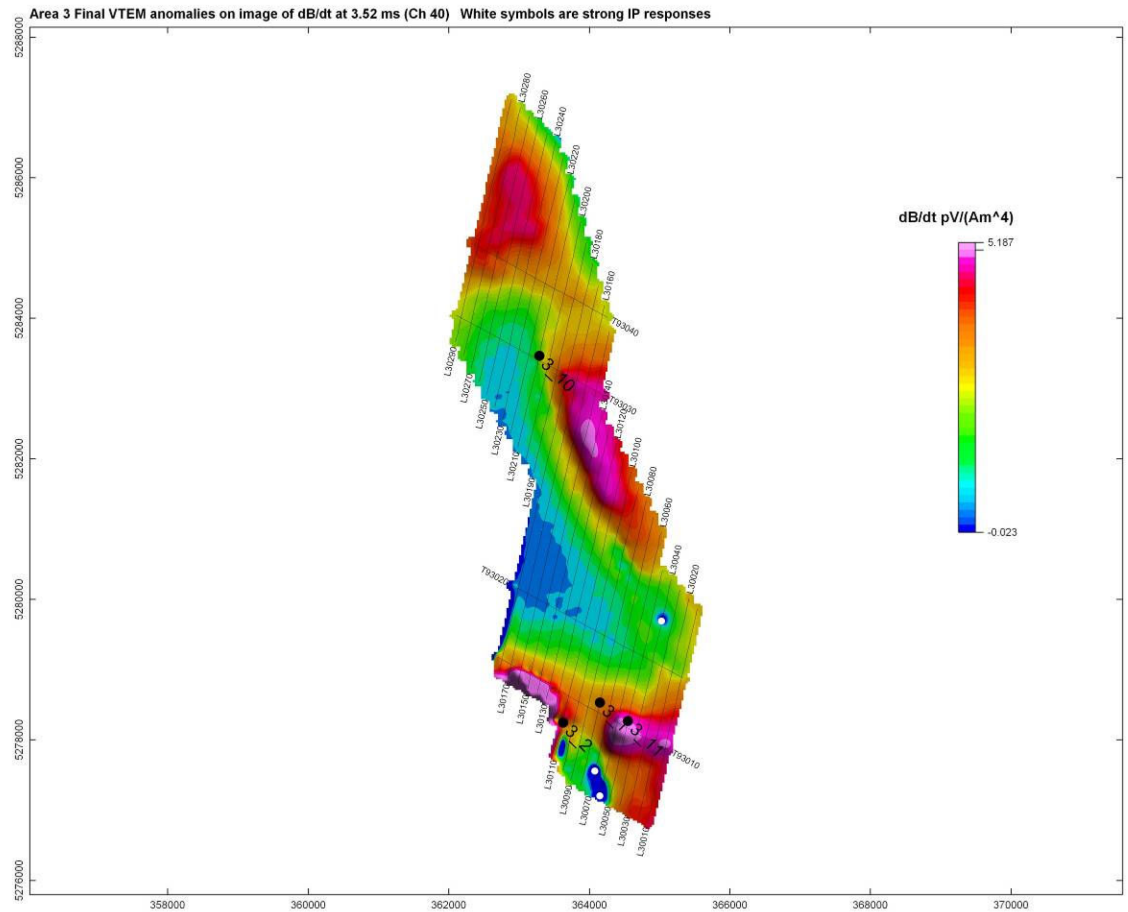

Figure 4 Area 3 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

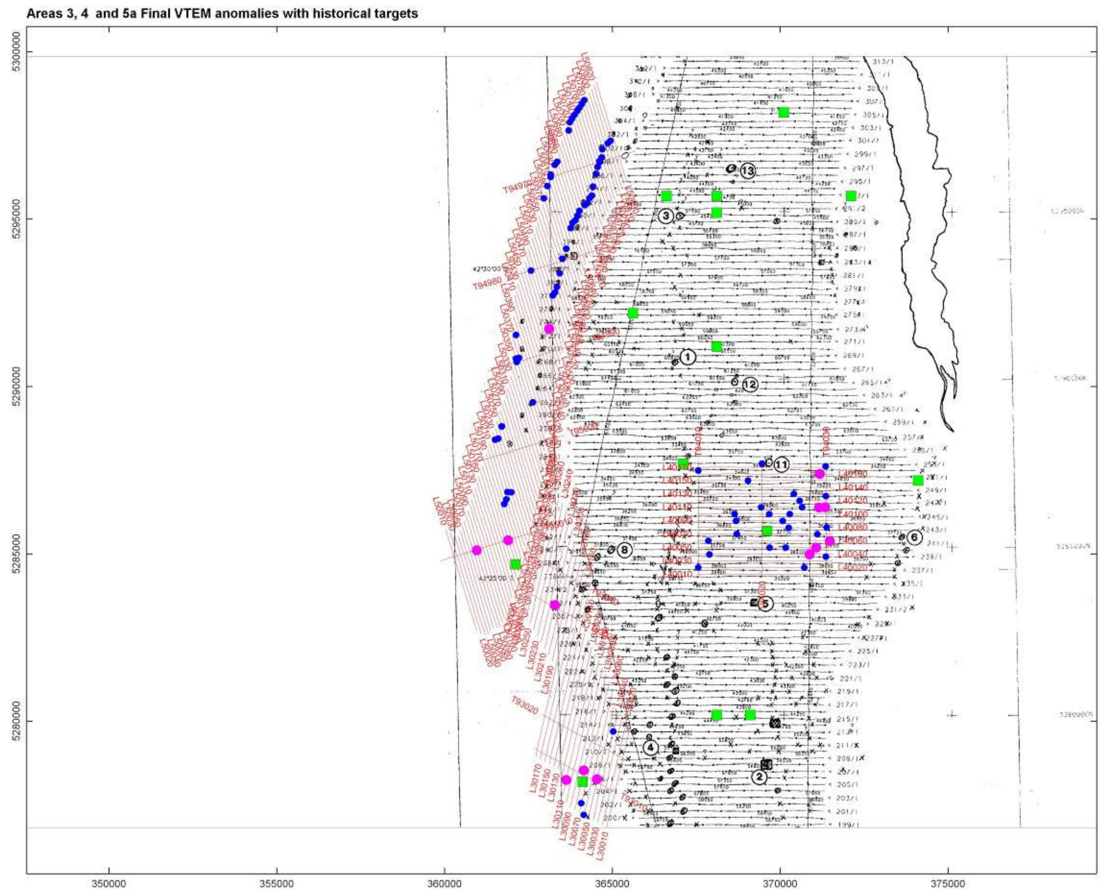

Figure 5 Area 3, 4 and 5a VTEM anomalies (pink dots) with anomalies and targets from previous work in the area. Blue dots are VTEM IP anomalies. Green squares are targets identified by Mitre Geophysics for Cyprus Minerals Australia. Numbered circles are highest-ranked GEOTEM anomalies (Reid and Close, 1997).

3.4 Area 4

Flight line spacing in this area was 200 m. The survey area is generally characterised by very low EM responses. dB/dt data is generally below the system noise level by Channel 40 (3.52 ms), whereas strong responses out to delay times of 10.7 ms were observed in many of the other survey areas.

Very few EM anomalies were detected. There are a large number of apparent conductors in the B-field response at late time, but these appear to be spurious, ie they are due to B-field decays which either do not decay (plateau) at late time, or have no corresponding expression in the dB/dt data. These spurious B-field conductors appear to be artifacts of the method used to calculate the B-field, likely as a result of the very low signal strengths at late time.

All six of the final picked anomalies (Figures 6, C7 and C8) are single peaked and it was not possible to estimate dip or dip direction. All anomalies are weak have been assigned the lowest ranking (1). None of the anomalies were identified by the Plutonic GEOTEM survey which overflew the same area (with the same line direction) in 1996 (Figure 5). Anomalies 4_10 and 4_14 are visible as a weak ridge in the Channel 30 EM image (Figure 6)

A number of strong IP responses were observed in the survey area. Some of these appear to be spatially associated with a roughly circular magnetic trend in the central and northern part of the survey area. There is no correlation between the VTEM IP anomalies and chargeability highs identified by a previous ground IP survey at Thomas Creek by Plutonic Operations Ltd. Likewise, the VTEM IP anomalies show no correlation with Cu geochemistry (Figure 7).

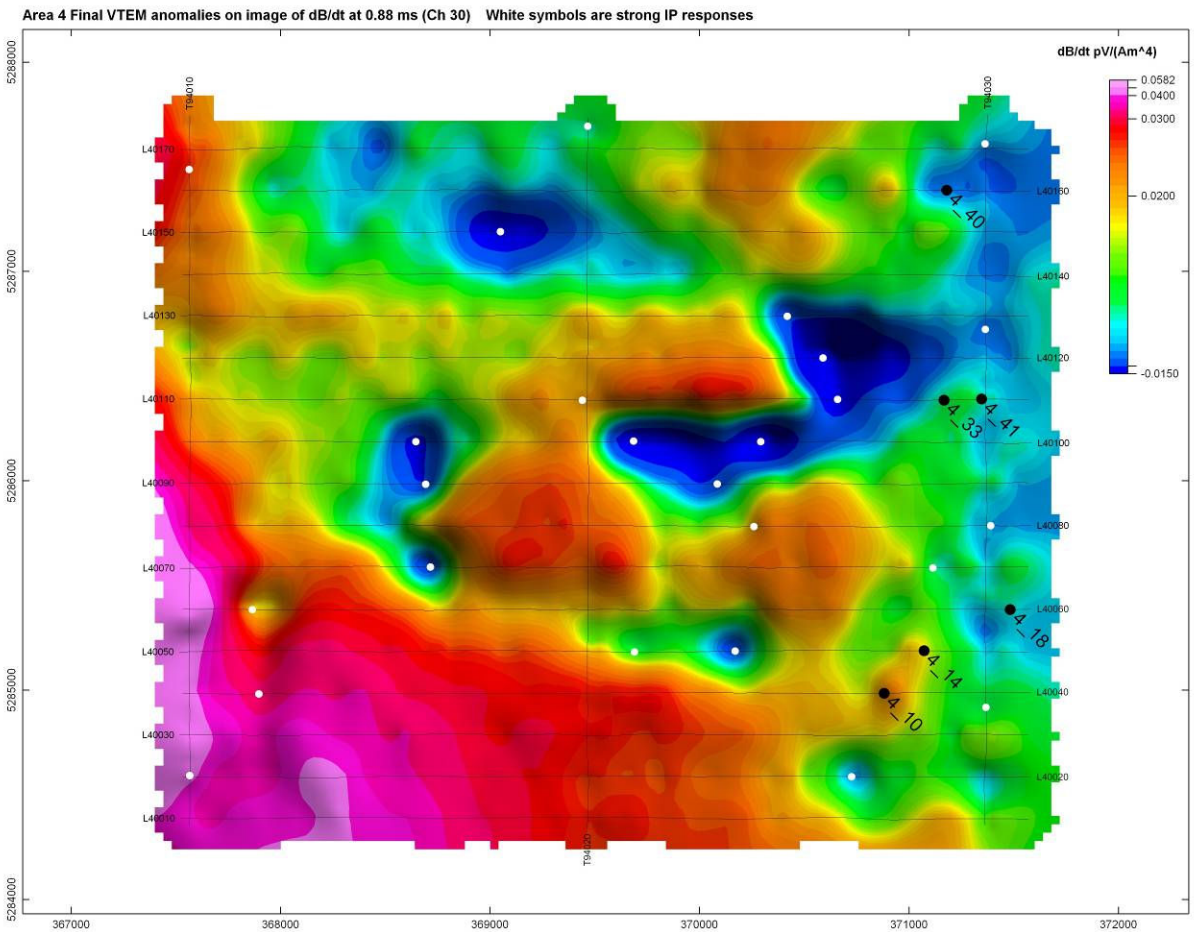

Figure 6 Area 4 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

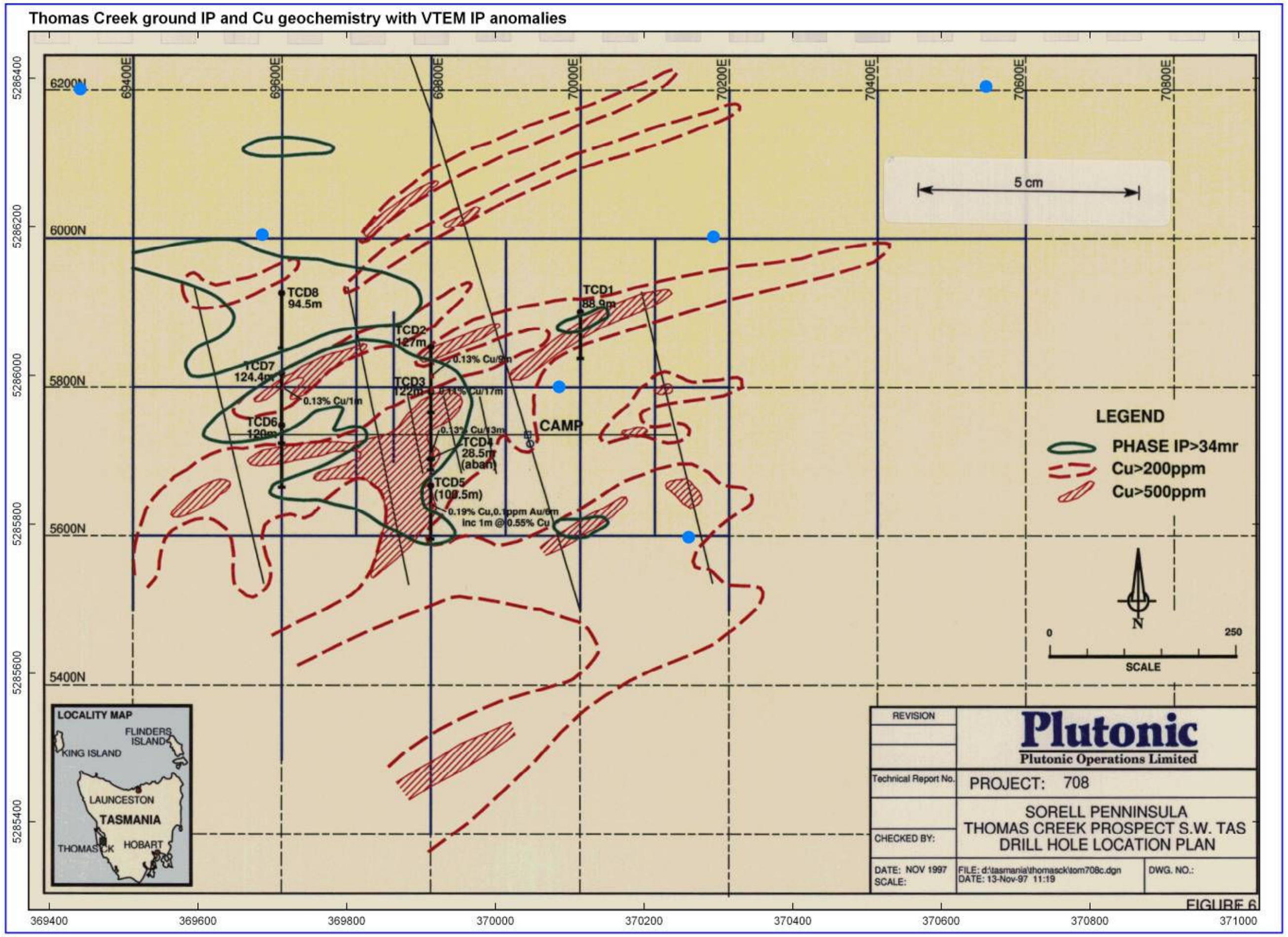

Figure 7 Comparison of Plutonic Operations Ltd ground IP and Cu geochemistry at Thomas Ck with VTEM IP anomalies from Area 4 (blue dots). There were no VTEM bedrock conductors within the area shown. MGA55 coordinates.

3.5 Area 5A

Flight line spacing in this area was 100 m.

No strong bedrock conductors were detected. Most preliminary conductors picked in this area were due to seawater, and anomalies located over open water have been excluded from the final picks (Figures 8, C9 and C10). The two EM anomalies in the extreme south of the survey area (5A_7 and 5A_8) are located on the coastline, or within a lagoon, and are unlikely to be due to bedrock sources.

Anomaly 5A_10 on Line 50480 in the centre of the area is quite broad and weak, and is coincident with a creek. This anomaly lies at the southern end of an extensive NNE-trending stratigraphic conductor (see Figure 8) and has thus been assigned a low ranking (1). The same stratigraphic trend was mapped by the 1996 Plutonic GEOTEM survey, and was not identified as a priority anomaly (Figure 5).

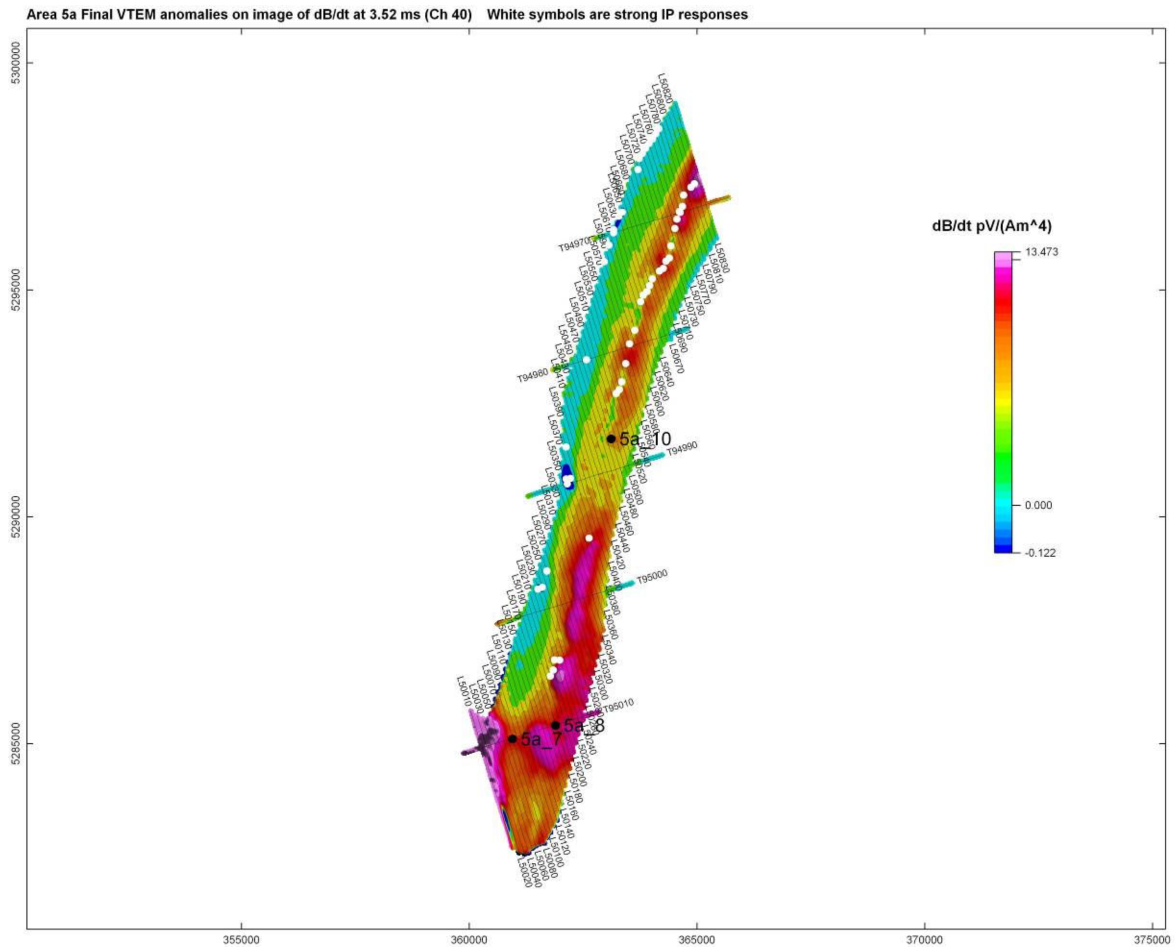

Figure 8 Area 5A VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

3.6 Area 5B

Flight line spacing in this area was 150 m. A large number of bedrock conductors were identified in the survey area (Figures 9, C11 and C12). However, most of these are part of two roughly-NNE oriented stratigraphic trends, 6 – 8 km in strike extent. The stratigraphic trends are composed of both bedrock conductor and IP anomalies. Two shorter stratigraphic tends in the NW and NE corners of the area are composed solely of IP responses. Previous DIGHEM and GEOTEM AEM surveys over this area identified the same major stratigraphic conductors, but also a number of anomalies to the SE of the easternmost stratigraphic conductor identified by the VTEM survey (e.g. GEOTEM anomaly #9, located at 369300E, 5303300N, MGA55 coordinates and DIGHEM anomalies 1 - 5). None of these GEOTEM and DIGHEM anomalies were detected by the VTEM survey (Figures 10 and 11).

The bedrock conductors potentially of most exploration interest for a small cluster of anomalies just to the NW of the stratigraphic trend running NNE through the centre of the northern part of the survey area. These are coincident with the northernmost extent of a NNE-trending magnetic anomaly which parallels the main stratigraphic conductor. These anomalies are:

Anomaly	Line	East_MGA55	North_MGA55
5B_38	55540	368566	5304310
5B_36	55530	368402	5304220
5B_34	55520	368412	5304054

Anomalies 5B_38 and 5B_36 are both strong conductors wheras 5B_34 is slightly weaker. 5B_38 is a sharp double peaked anomaly which is superimposed on the flank of the stratigraphic anomaly to its ESE. When the contribution from the neighbouring stratigraphic conductor is removed, 5B_38 appears to dip steeply to the WNW. Both 5B_36 and 5B_34 are single-peaked anomalies. In both cases, the anomaly peak migrates towards the NW end of the survey line with increasing delay time, supporting the dip direction inferred for 5B_38. Anomaly 5B_38 was also detected by the 1996 Plutonic GEOTEM survey, but was not considered to be high priority (Figure 11).

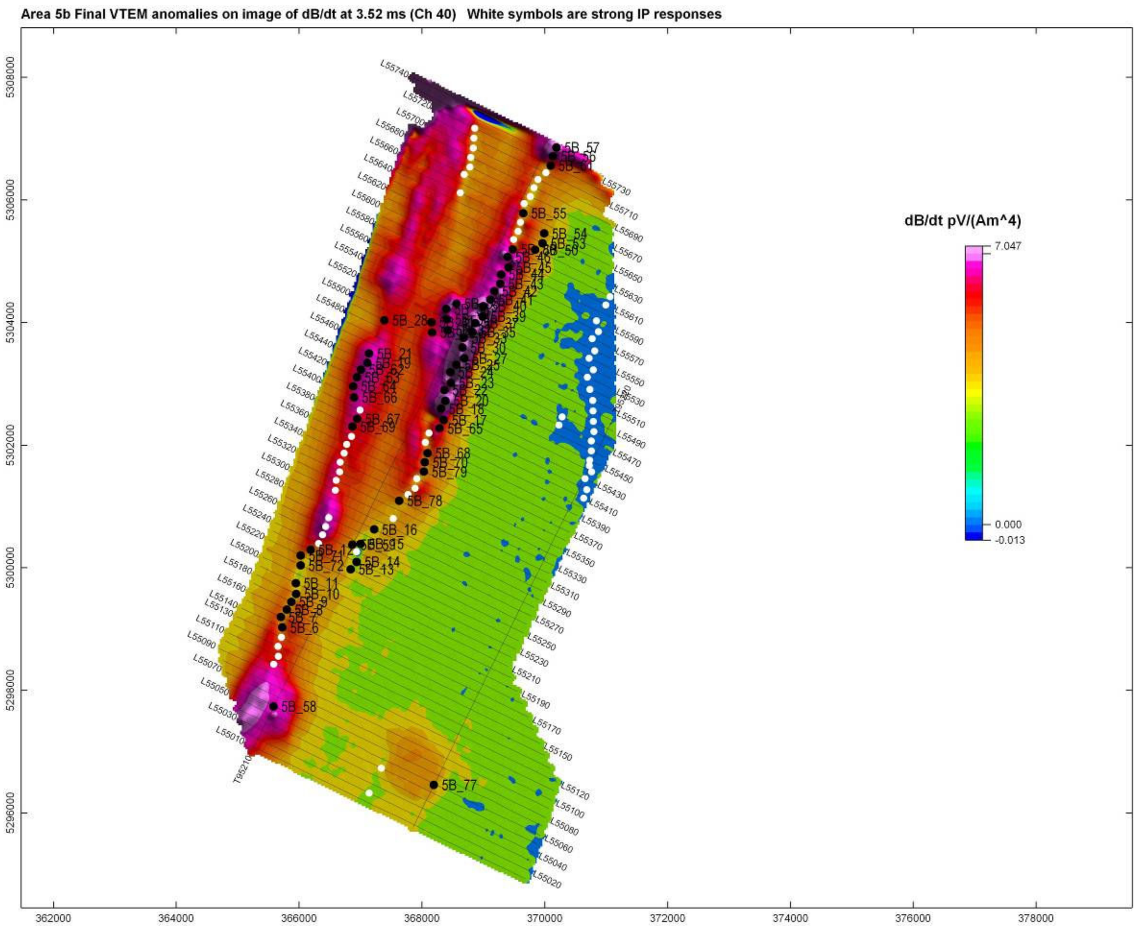

Figure 9 Area 5B VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

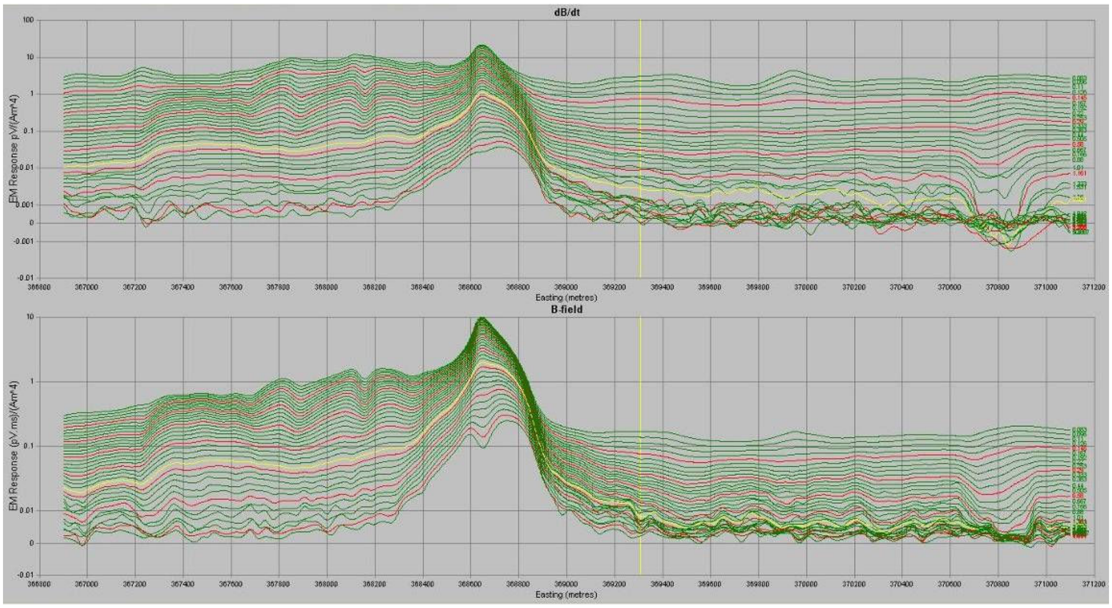

Figure 10 VTEM dB/dt and B-field profiles from Line 55500, Area 5B. The vertical yellow line shows the approximate location of Anomaly #9 detected by the 1996 Plutonic GEOTEM survey (MGA55 coordinates). The large anomaly at 368700E is a stratigraphic conductor which was also detected by the 1996 GEOTEM survey. An IP anomaly is evident at 370800E.

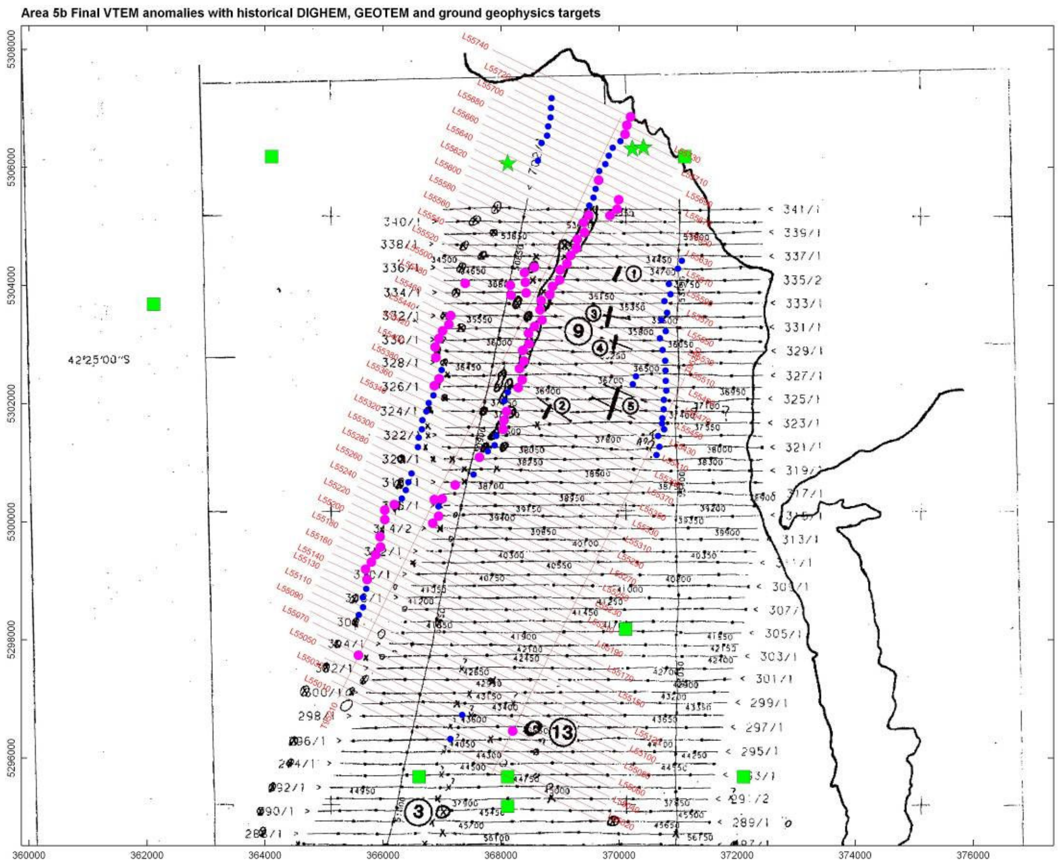

Figure 11 Area 5B VTEM anomalies (pink dots) with anomalies and targets from previous work in the area. Blue dots are VTEM IP anomalies. Green squares are targets identified by Mitre Geophysics for Cyprus Minerals Australia. Green stars in the north are Hill 99 and West Baylee anomalies identified by Pacific Nevada (Newnham, 2001). Large numbered circles are highest-ranked GEOTEM anomalies (Reid and Close, 1997), and small numbered circles are DIGHEM frequency-domain EM anomalies.

3.7 Area 6

Flight line spacing in this area was 200 m. Most of the preliminary anomalies picked in this area were spatially associated with the Abt railway track, and have been excluded from the final anomaly picks (Figures 12, C13 and C14).

Only one of the final picked anomalies (Anomaly 6_20) is considered likely to be due to a bedrock source. Anomaly 6_20 is a narrow, single-peaked mid-time response visible in both dB/dt and B-field profiles on Line 60120. The anomaly is very narrow and has no expression on adjacent profiles, and has been assigned a low ranking. This anomaly was also detected by the 1990 BHP-Utah GEOTEM survey (Anomaly MH15, Read, 1990). Geological reconnaissance by BHP-Utah suggested that this anomaly was due to the contact between conductive Tertiary sediments and resistive Cambrian andesites. However, the weak VTEM anomaly does not appear to be a contact-style response.

Anomaly	Line	East_MGA55	North_MGA55
6_20	60120	367395	5323844

Two of the final anomaly picks (6_6 and 6_8) are not directly coincident with the railway line, but are very close to it. These anomalies are considered most likely to be due to infrastructure (sheds, houses, rail infrastructure etc), and have been assigned the lowest ranking (1).

Anomaly 6_9 on tie line 96010 is located at the shoreline of Macquarie Harbour and is likely to be due to conductive seawater. The anomaly does not occur on flight line 60290, which crosses directly over the same location. This discrepancy is likely because the tie line crosses perpendicular to the shoreline, whereas the flight line was parallel to it. The former geometry will give rise to a stronger response.

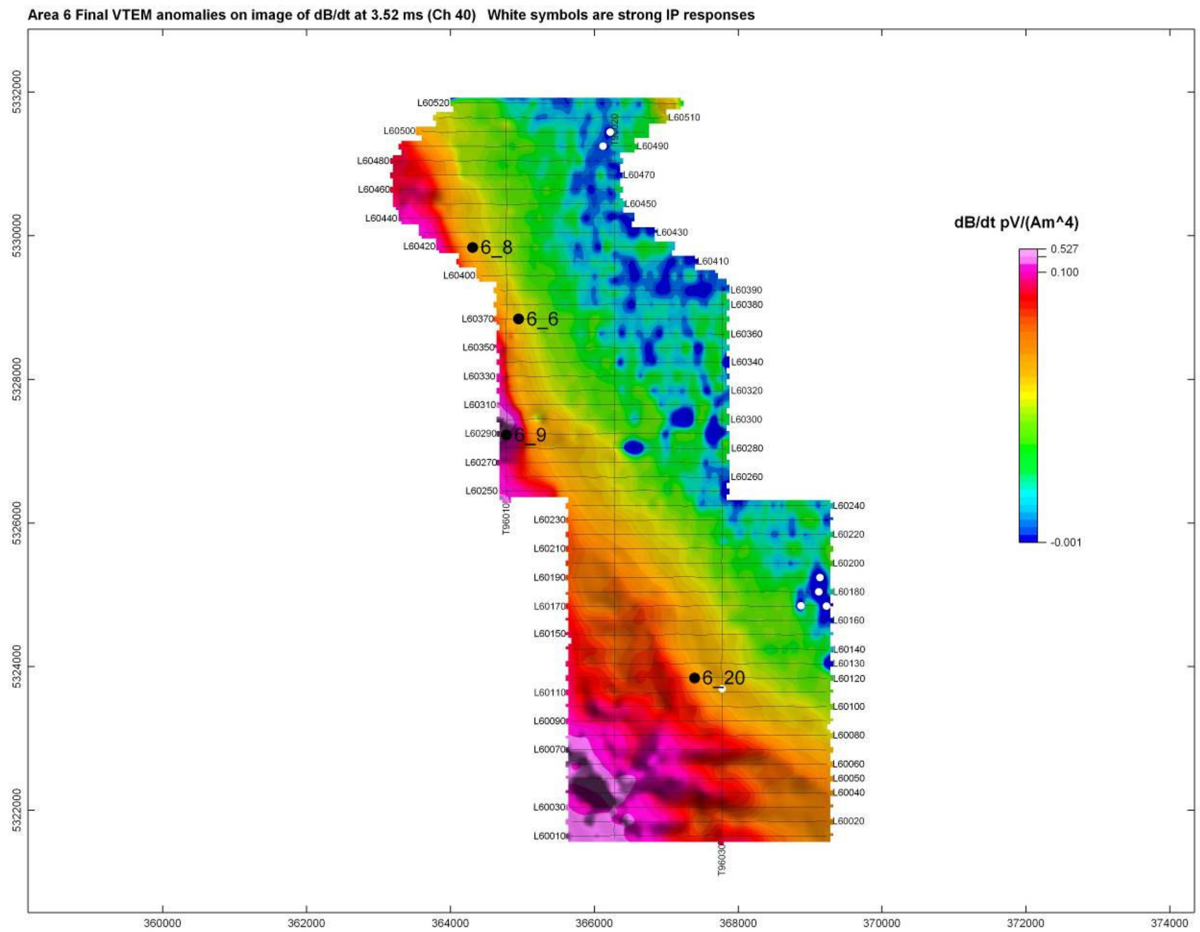

Figure 12 Area 6 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. White dots are VTEM IP anomalies.

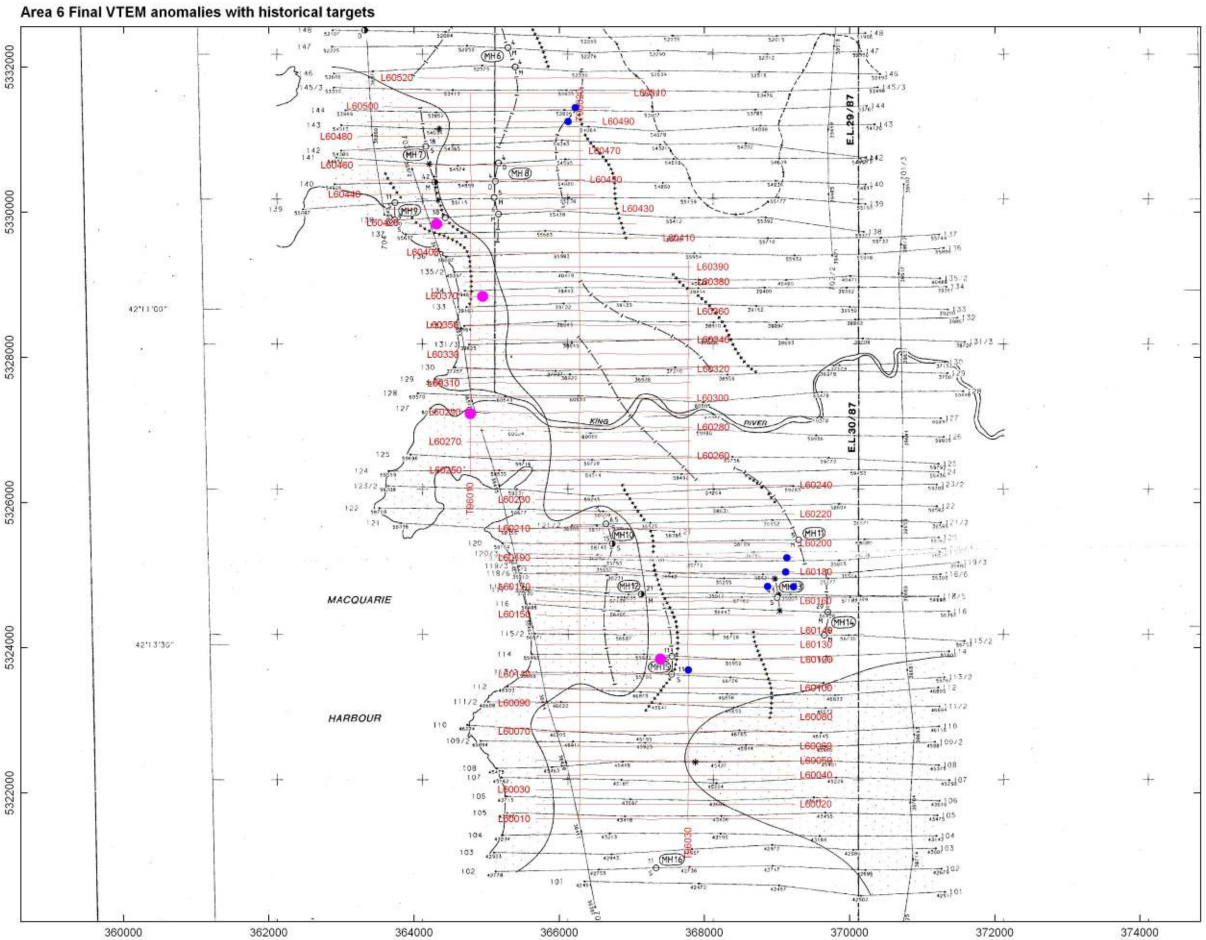

Figure 12 Area 6 VTEM anomalies (pink dots) with anomalies and targets from previous work in the area. Blue dots are VTEM IP anomalies. Numbered ovals are GEOTEM anomalies from the 1990 BHP-Utah Minerals GEOTEM survey (Read, 1990).

4 Conclusions

The VTEM survey identified a large number of bedrock conductors. Most of these appear to be of stratigraphic origin. The conductors of most immediate exploration interest are those which do not lie on stratigraphic trends. These include:

Area 1:

- 1_52, 1_8, 1_51 and 1_67
- 1_26, 1_27 and 1_74
- 1_34

Area 2:

- 2_12, 2_11 and 2_104
- 2_20 and 2_30
- 2_38 and 2_113
- 2_35
- 2_93

Area 5B:

- 5B_38, 5B_36 and 5B_34

Many of the anomalies listed above were not identified by previous airborne or ground geophysical surveys.

Areas 3, 4 and 5a contained few if any bedrock conductors. A single weak VTEM bedrock conductor (6_20) was identified in Area 6. This anomaly had been identified and ground truthed by BHP-Utah minerals following an earlier GEOTEM EM survey, and was considered to be the response due to a geological contact.

A number of conductors within the survey area were due to seawater, or to obvious metallic infrastructure such as the Abt railway. These were not included in the final anomaly picks.

5 Recommendations

The bedrock conductors of most immediate interest are listed in Section 4 of this report, and are discussed in more detail in Section 3. All bedrock conductors identified by the survey have been assigned a ranking, based both on the apparent quality of the conductor (time constant) and also on the character of the response. Those anomalies considered to be due to stratigraphic conductors have generally been assigned a low ranking (1).

It should be noted that mineralisation with significant sphalerite content can be only weakly conductive, or even non-conductive. Anomalies with low-moderate time constants (ie anomalies which do not persist until very late delay times) may therefore still be of exploration interest. Likewise the very strong anomalies due to graphitic stratigraphic conductors could easily mask the response of closely-associated massive sulphide mineralisation. Although the stratigraphic conductors have been assigned a low ranking, they could be worth testing if there are other factors which increase the anomaly priority.

Given the large number of anomalies identified by the VTEM survey, quantitative modelling has not been conducted. A qualitative indication of conductor dip has been given with the digital anomaly picks. It is strongly recommended that those anomalies given highest priority for follow-up be modelled in order that more accurate extimates of size, depth of burial and dip can be obtained prior to drilling.

All isolated conductors should be ground truthed to verify that they are not of cultural origin.

6 References

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7 Disclaimer

The interpretations contained in this report are based on the training and experience of the author and information passed on during the course of the investigation. As with all geophysical data, multiple interpretations are possible. The client is advised to consider information from all available sources prior to making a decision on how to proceed.

James Reid

Geophysicist

Appendix A

Bedrock conductor examples

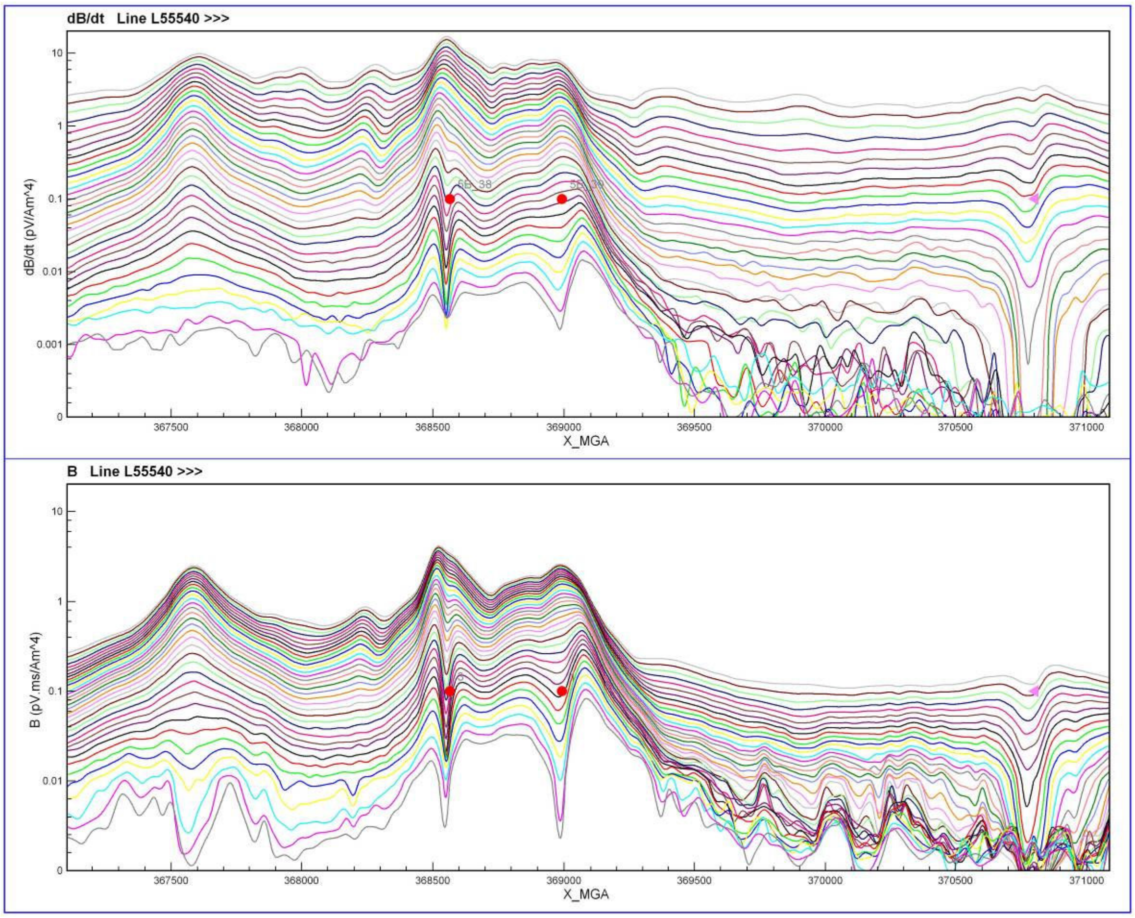

Figure A1 Profiles of VTEM dB/dt (top) and B-field (bottom) from Line 55540 (Area 5B), showing a local double-peaked bedrock conductor response (5B_38) superimposed on the flank of a much broader double-peaked anomaly due to a stratigraphic conductor (5B_39).

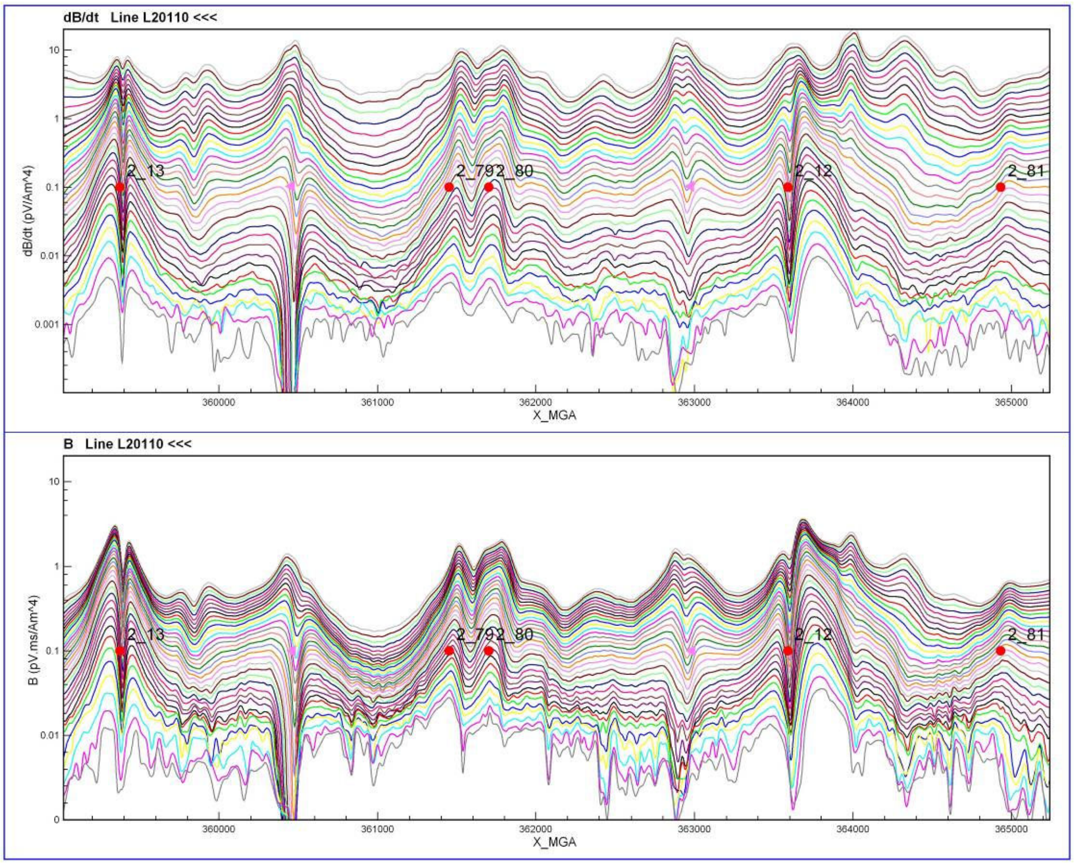

Figure A2 Profiles of VTEM dB/dt and B-field data from Line 20110 (Area 2), showing a double-peaked bedrock conductor dipping at around 45 degees towards the eastern end of the line (2_12). Conductor 2_13 dips steeply to the western end.

Appendix B

IP response examples

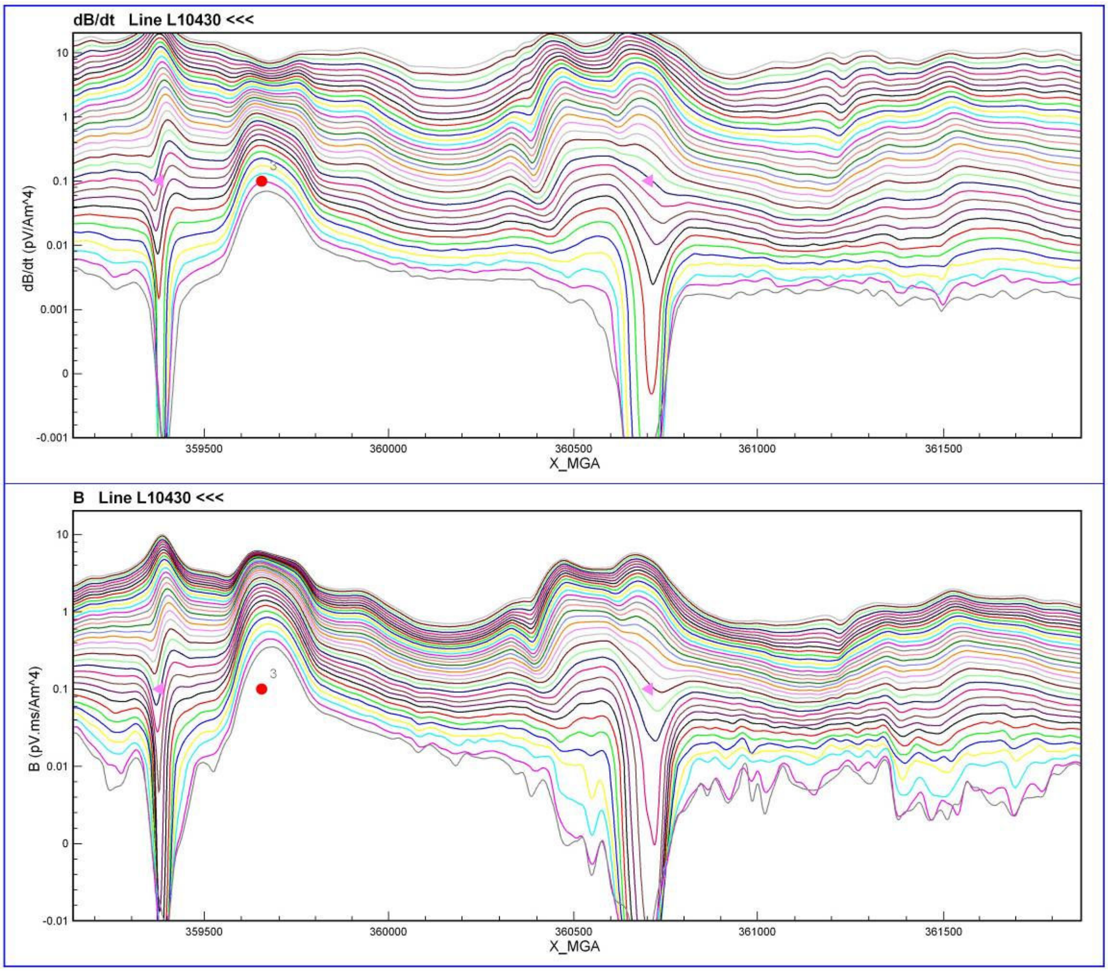

Figure B1 Profiles of VTEM dB/dt and B-field data from Line 10430 (Area 1), showing two strong IP anomalies (pink triangles) characterised by negative responses at late delay times.

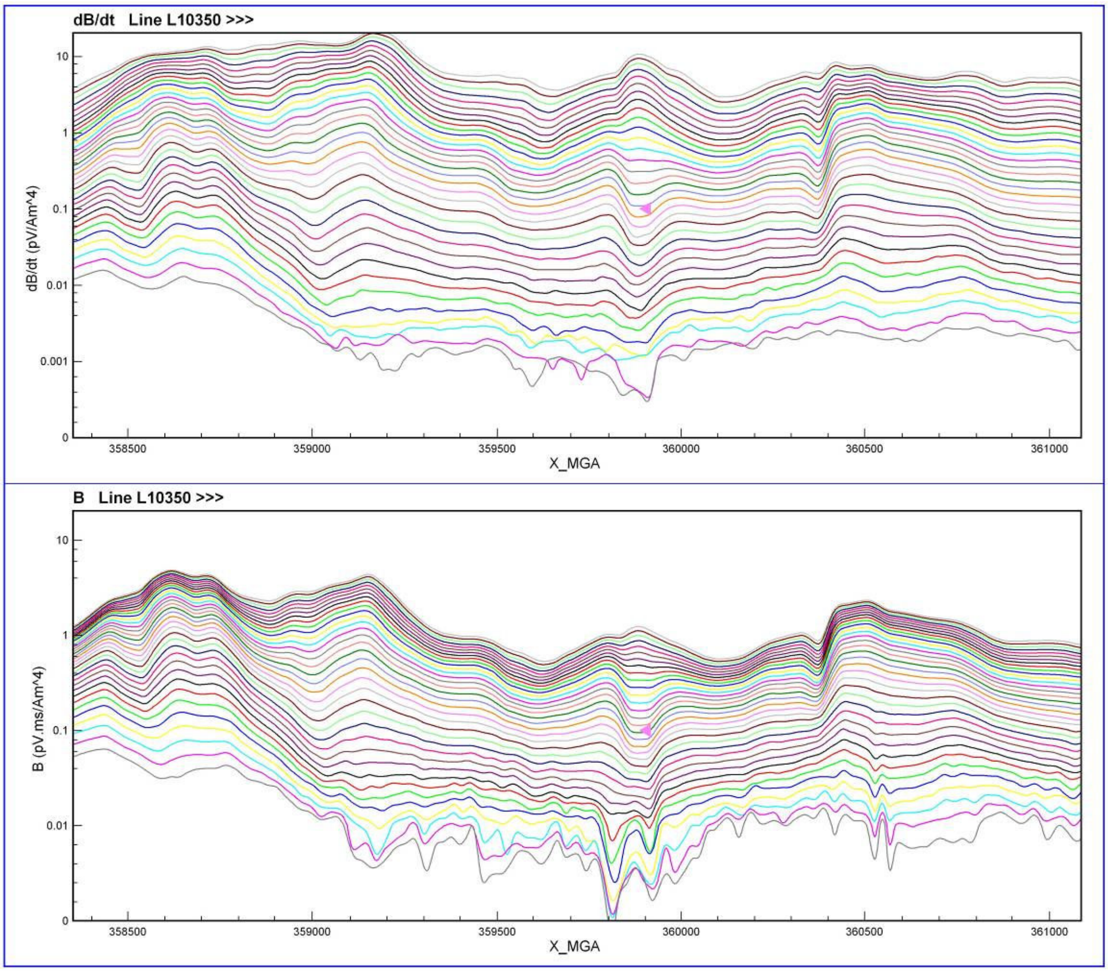

Figure B2 Profiles of VTEM dB/dt and B-field data from Line 10350 (Area 1), showing a probable weak IP response (pink triangle), where the response is depressed at late delay times, but does not actually become negative.

Appendix C

VTEM anomaly maps

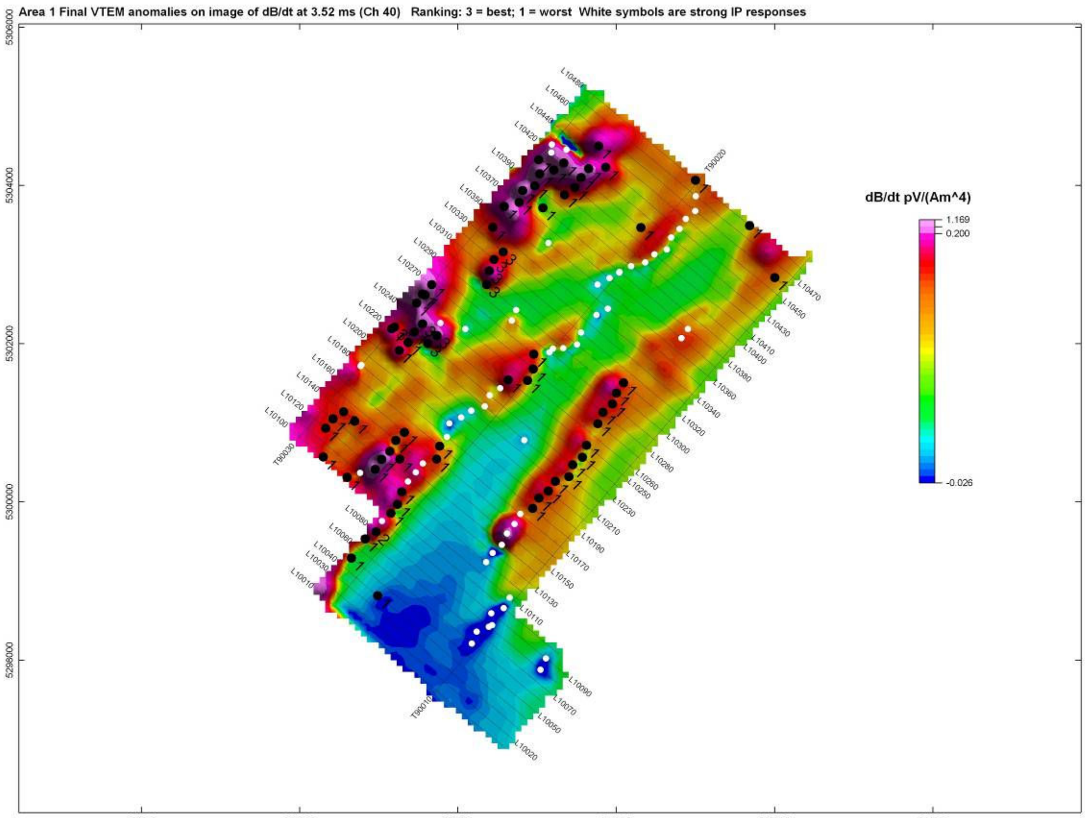

Figure C1 Area 1 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

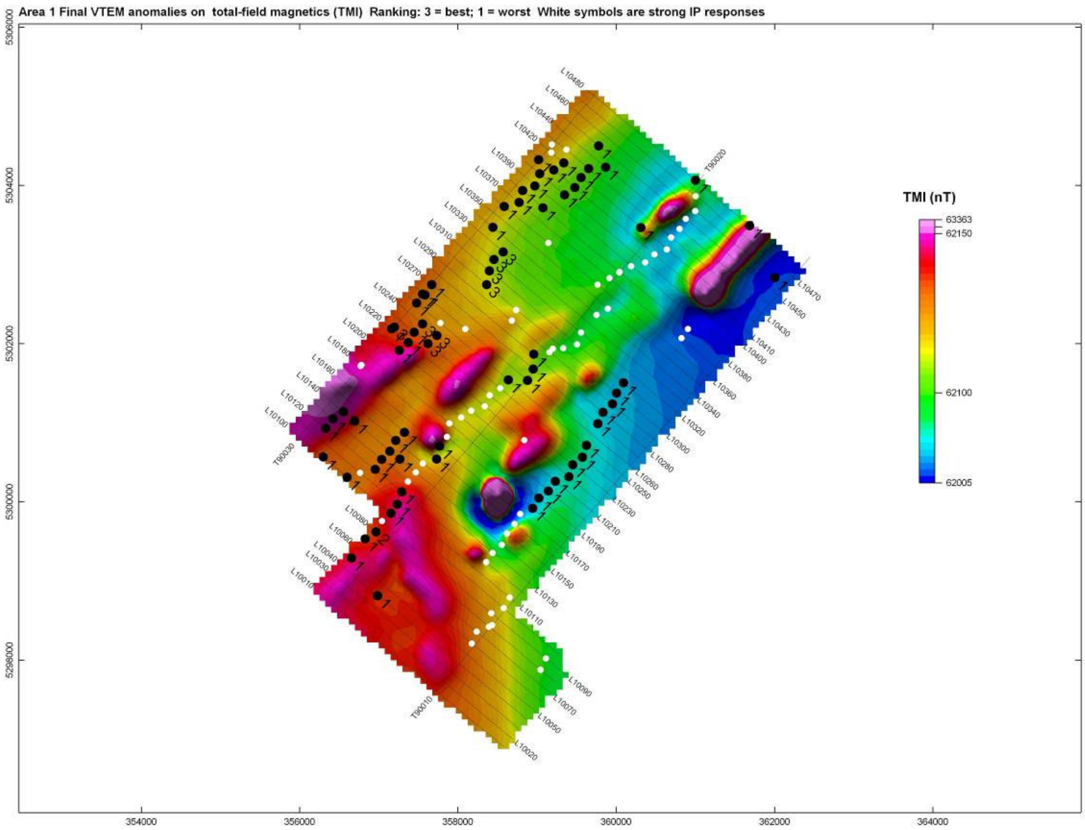

Figure C2 Area 1 VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

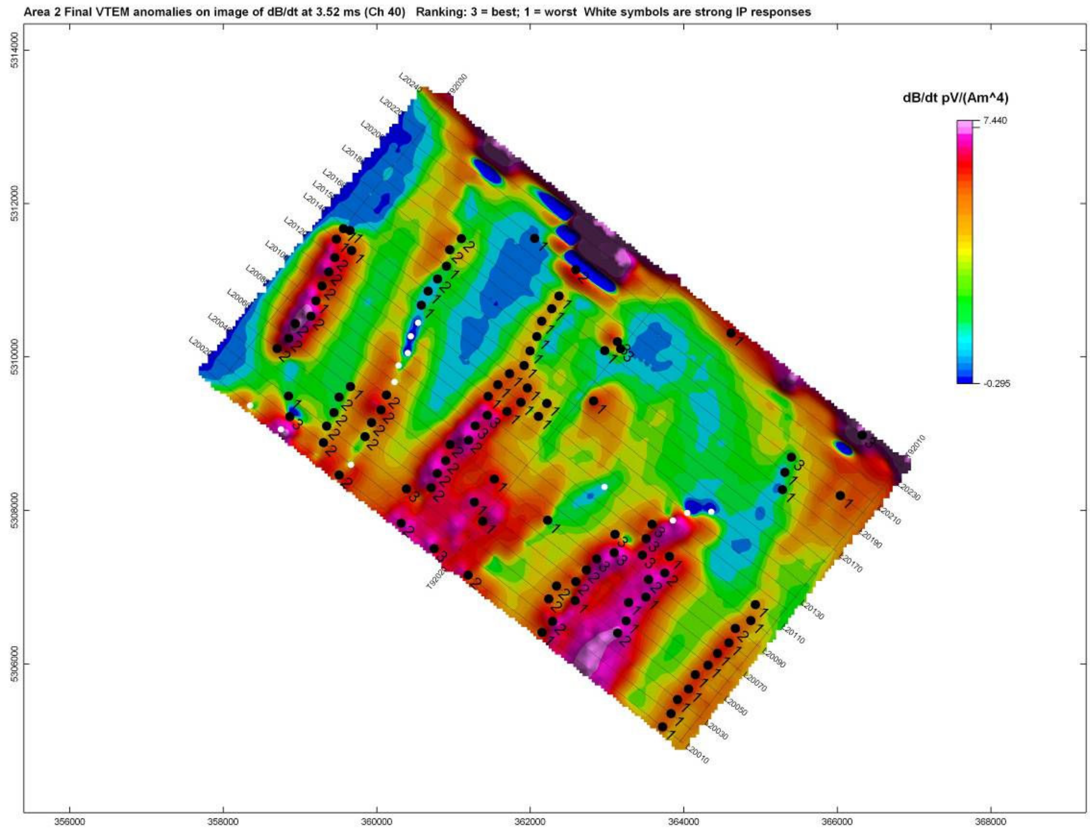

Figure C3 Area 2 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

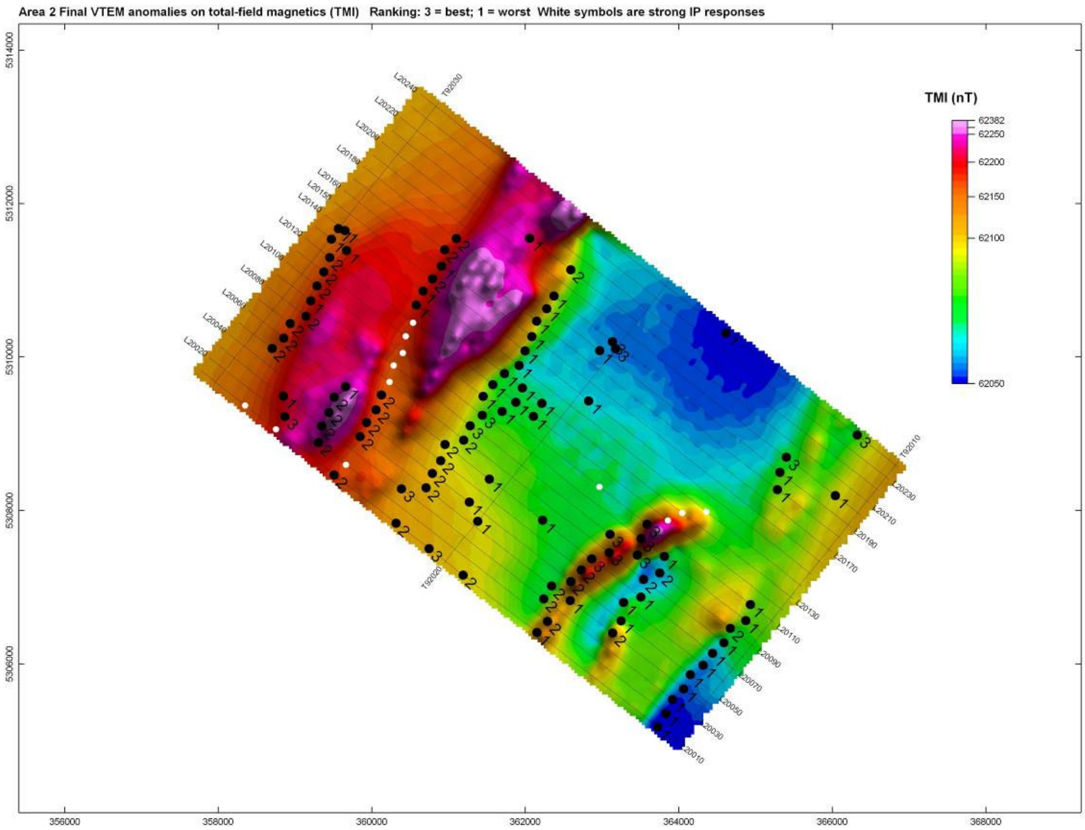

Figure C4 Area 2 VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

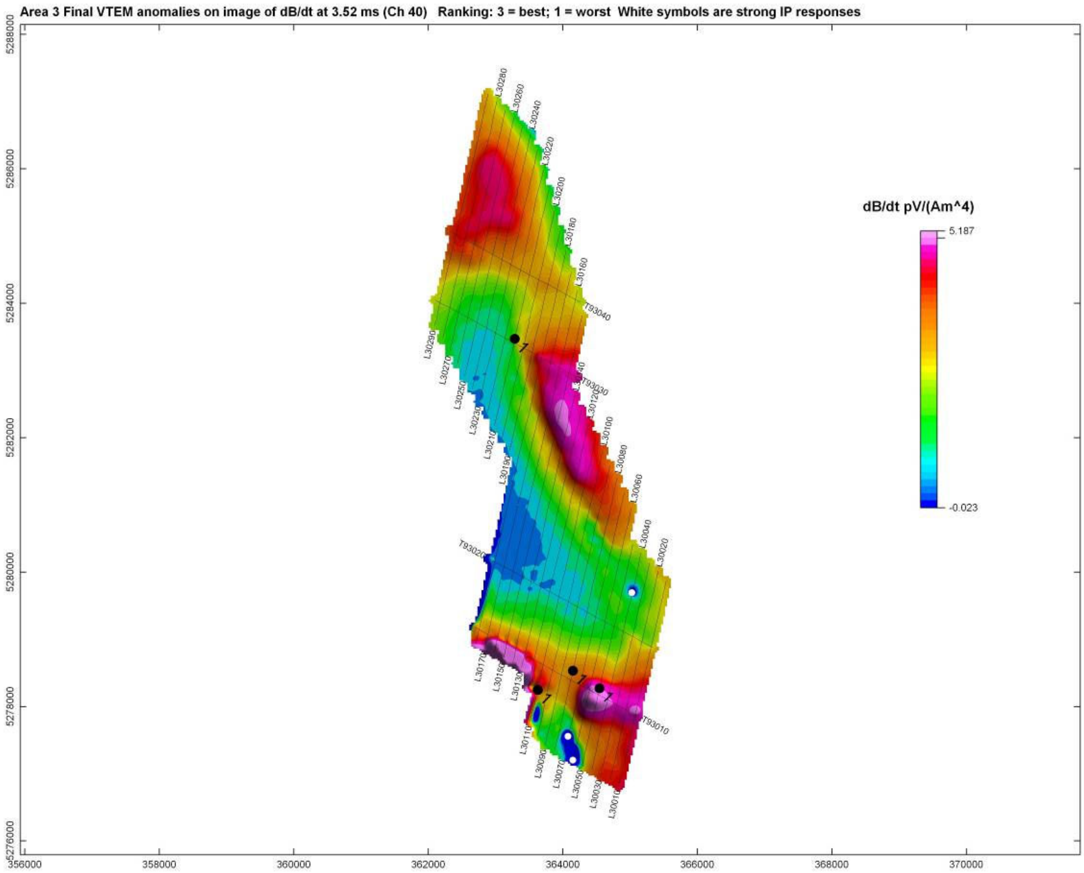

Figure C5 Area 3 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

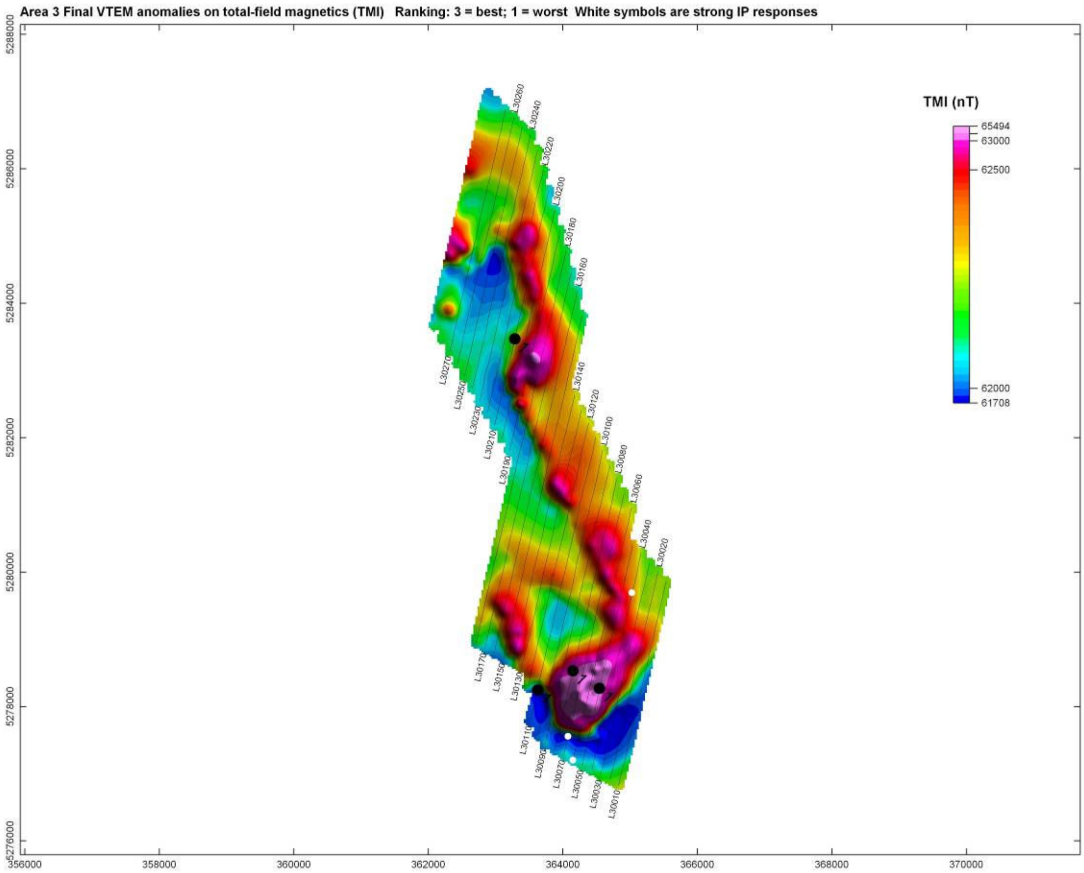

Figure C6 Area 3 VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

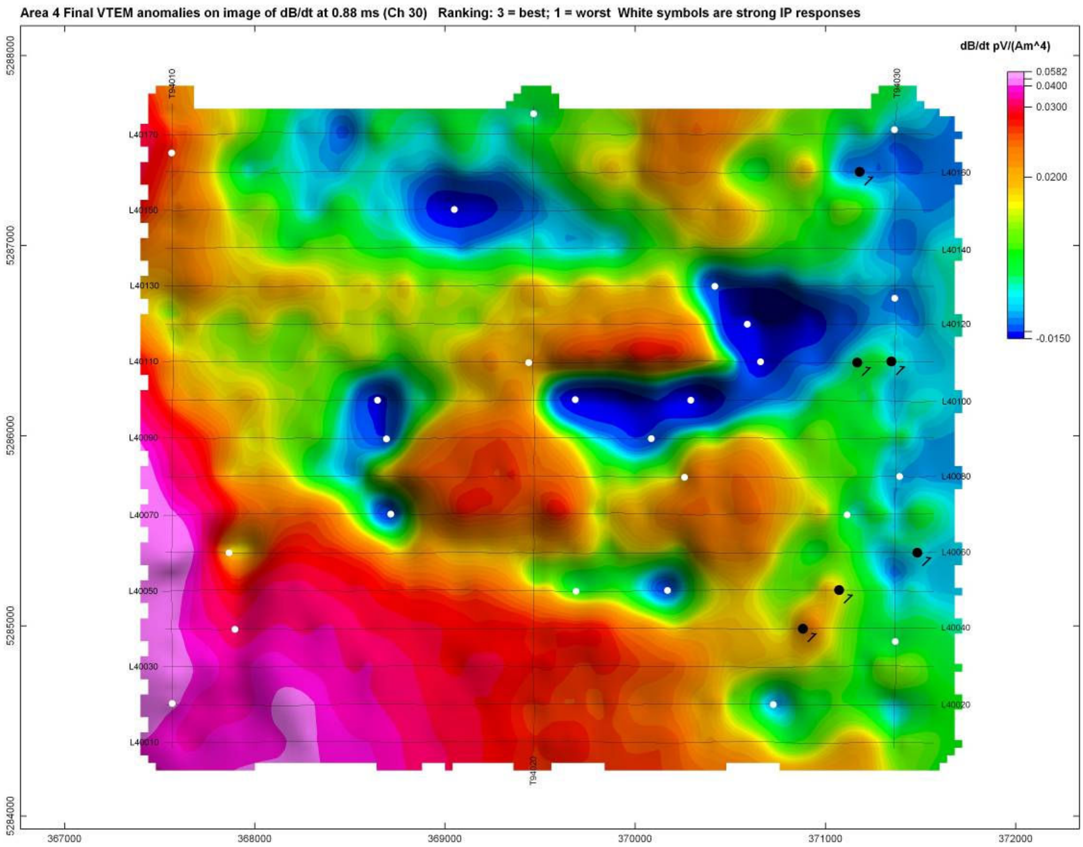

Figure C7 Area 4 VTEM anomalies (black dots) superimposed on an image of the Channel 30 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

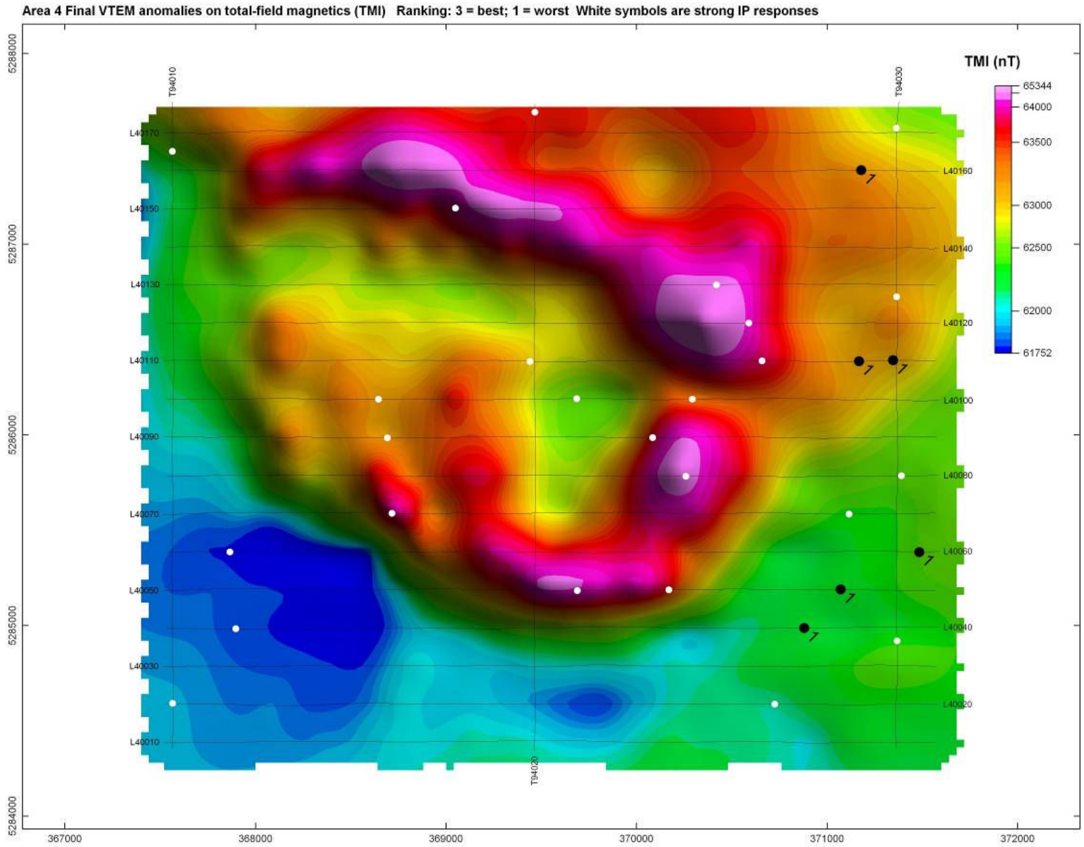

Figure C8 Area 4 VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

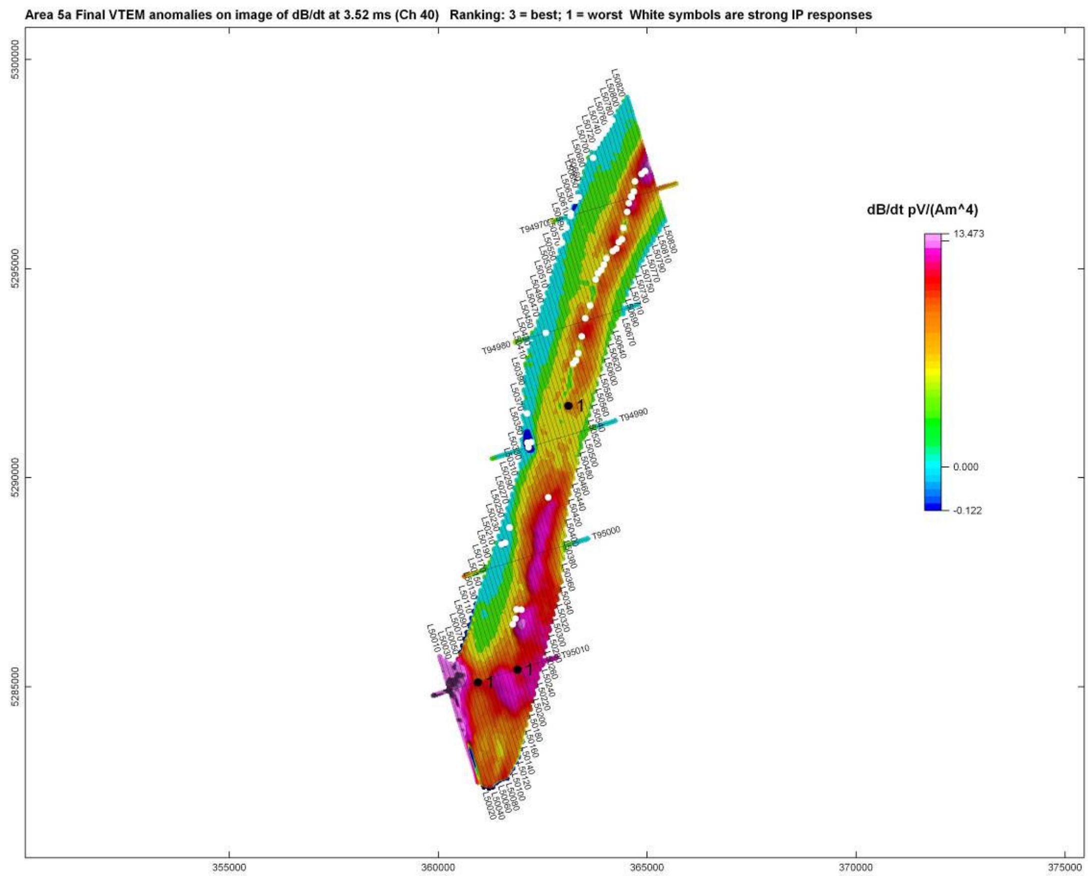

Figure C9 Area 5A VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

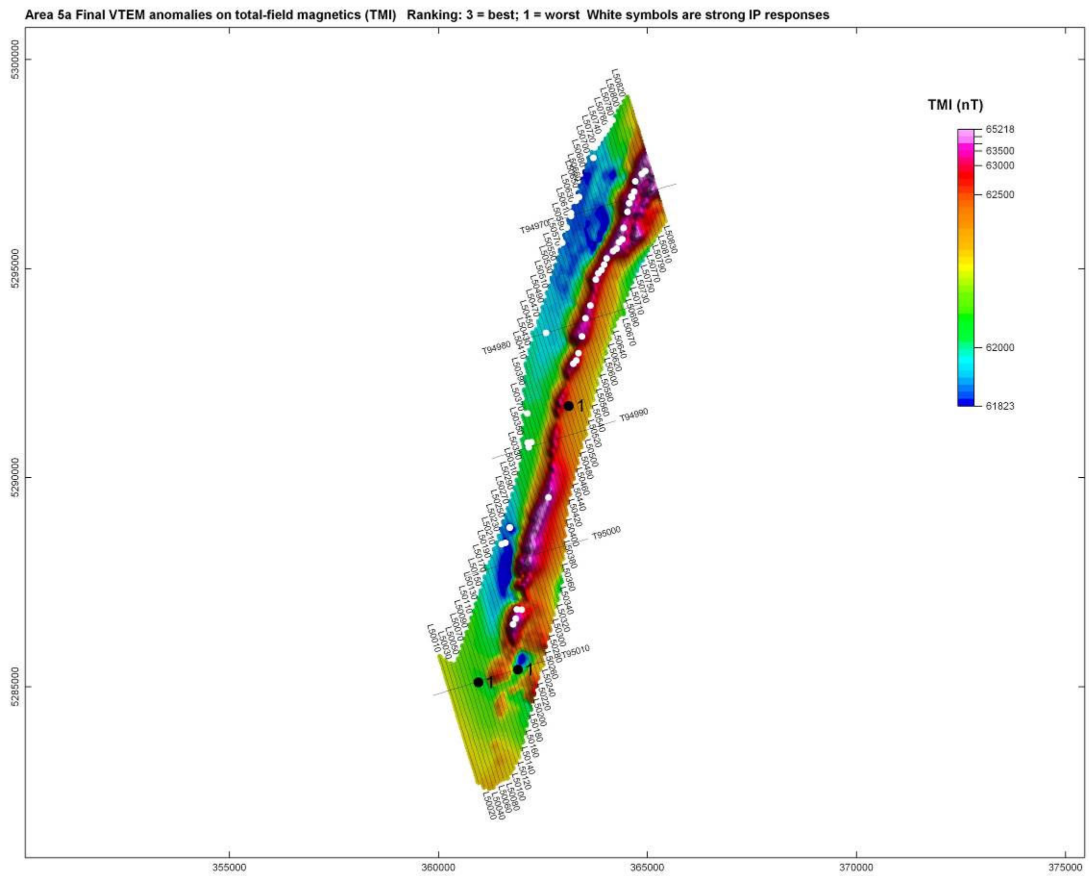

Figure C10 Area 5A VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

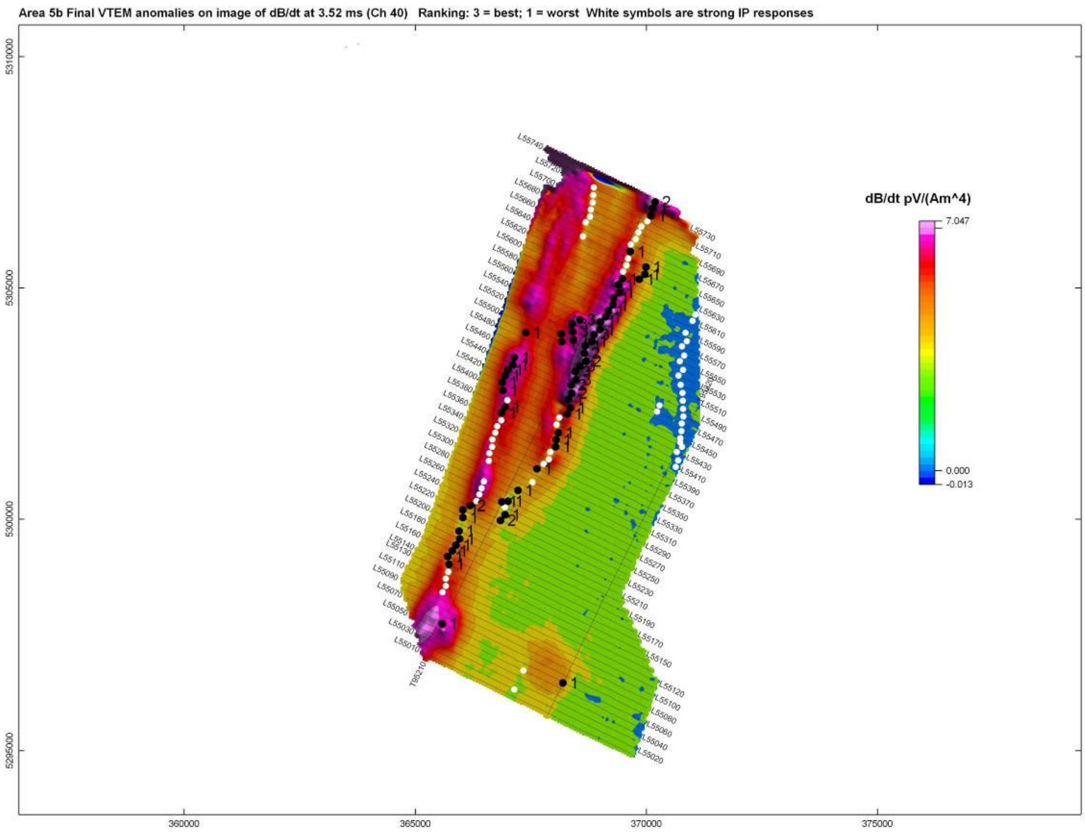

Figure C11 Area 5B VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

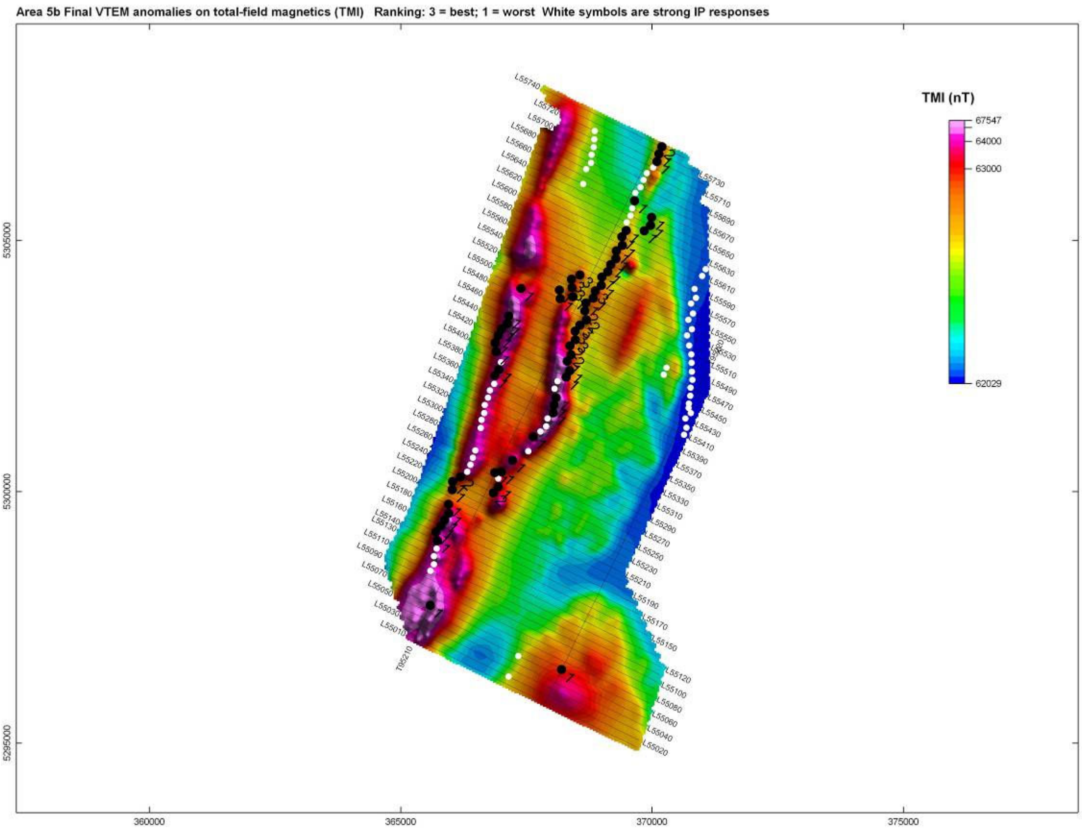

Figure C12 Area 5B VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

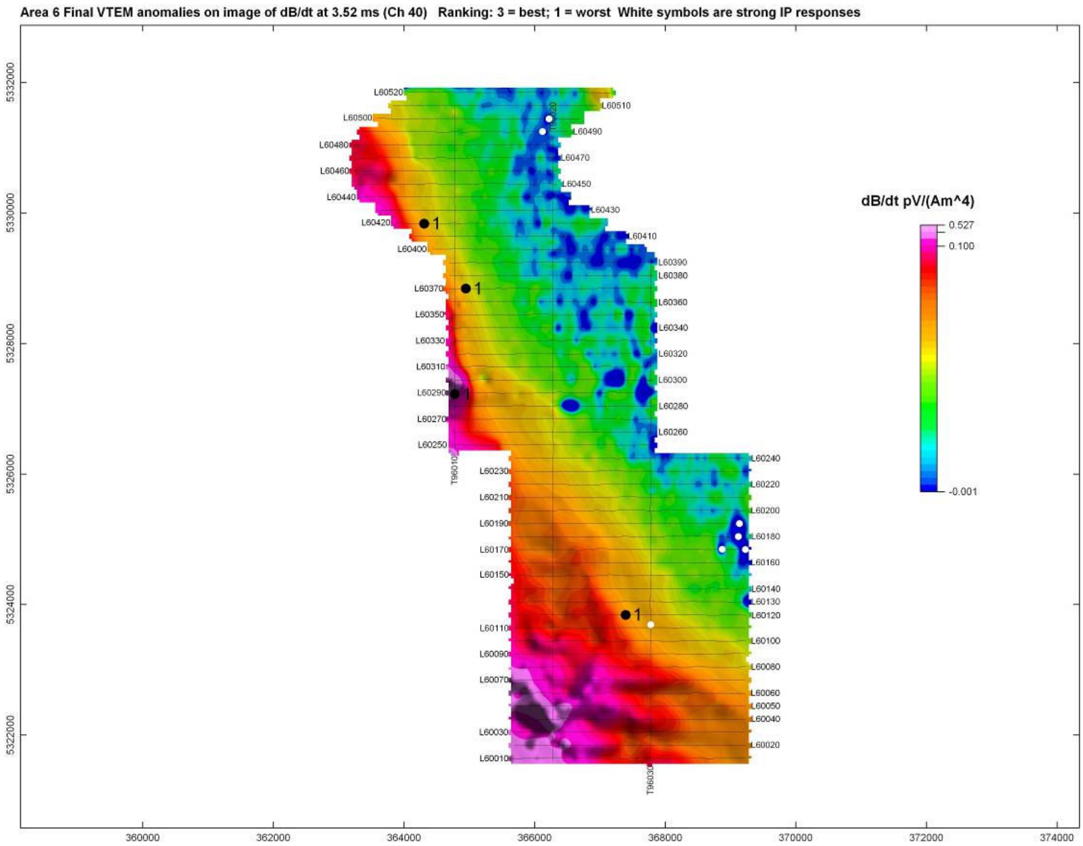

Figure C13 Area 6 VTEM anomalies (black dots) superimposed on an image of the Channel 40 dB/dt response. The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

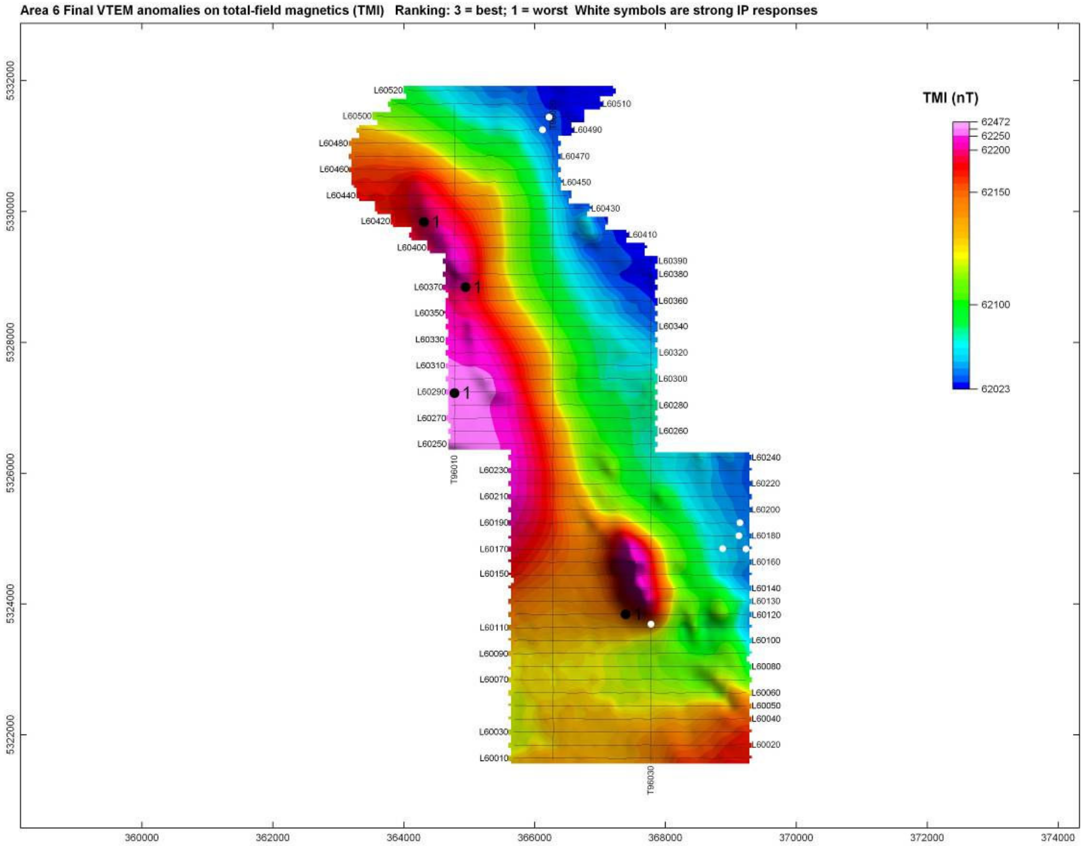

Figure C14 Area 6 VTEM anomalies (black dots) superimposed on an image of the total magnetic intensity (TMI). The numbers indicate the anomaly ranking (3 = best, 1 = worst). White dots are VTEM IP anomalies. MGA55 coordinates.

Appendix D

VTEM Data Acquisition Report
(Geotech Airborne Ltd.)