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Mitre Geophysics Pty Ltd

MANASIA

Investigation of EL33/2005 and EL9/2006 Geophysics

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DRAFT

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Table of Contents

Priority 1: EL 33/2005 Vale River EL Prospects	3
Mariner 5 Prospect	3
Mariner 7.....	4
Back Peak Run	5
Southern Portion of Vale River EL.	5
Priority 2: EL 9/2006 Whyte River.....	8
Whyte River Iron Occurrence	8
Mt YoungBuck.....	8

List of Figures

Figure 1: Geology and prospects over EL33/2005

Figure 2: Total magnetic intensity and prospects over EL33/2005

Figure 3: Total magnetic intensity of the EL9/2006 area with prospect shown as stars

Figure 4: 1VD of TMI with colour drape of TMI over EL9/2006 and prospects labeled.

Priority 1: EL 33/2005 Vale River EL Prospects

Block Sheet

Dighem anomalies

Iris River

Lea Sheet

Mariner 5 and 7

Back Peak Run: Speeler Creek Pb-Zn
Carter's Cu-Pb-Zn Back Peak District
Heap of Rocks Cu-Pb-Zn. All in Cambrian volcanics and volcanics

Mariner 5 Prospect

Existing exploration includes 20.6km of gridding, C horizon geochemistry over inliers in basalt and panned concentrate geochemistry, Dighem, an excellent SP anomaly, VLFEM anomalies, and ground magnetics. There is strong results for tin and gold in Elgar Ck. There is one moderately interesting Dighem anomaly within this zone – anomaly 219B. The remainder of the EM anomalies are low amplitude/low conductivity and very near surface so therefore uninteresting. 219B has a real component of 2ppm and a quadrature component of 1ppm, conductivity (MHOs) of 10, depths of 250ft. This is not an interesting Dighem anomaly, and should only be chased if there is some very good geological evidence for further mineralisation. Having said that, the depth indicates that this is a bedrock conductor rather than something associated with the basalt overburden.

Mariner 5 could be usefully targeted with ground geophysics to delineate a potential (hopefully pyritic) halo surrounding possible Sn-W veins/disseminations. One concern was that the thickness of overlying basalt would significantly degrade the effectiveness of any geophysical surveys applied in this area. It was suggested that shallow seismic could be used to test the thickness of basalt prior to any geophysical testing. Unfortunately, the basalt is too fractured for this to be effective – it refracts all the sound energy rather than reflecting it – so shallow seismics is not a good option. However, MRT did do a study on basalt thickness in the Warratah area in 1987 including a lot of test drill holes. The results and report from this study would be relevant to this basalt thickness.

A better geophysical option may be surface IP. The developments in IP technique over the past two decades are very significant. There has been an approximately quadrupling of transmitter power/receiver sensitivity with the consequent increase in depth of penetration and resolution from a mere 200m to over 500m. A conductive surface layer such as tertiary basalt would reduce the effective penetration of the IP up to 20%, though IP has been successfully applied Australia-wide where the surface layer conductances get up to 100S. The maximum conductance of Tertiary Basalt is estimated to be 10S (pers. comm.. J. Reid).

The IP technique is often applied in three dimensions as well in the configuration called 3D-Pole offset dipole IP. 3DIP effectively gives a three-dimensional picture of the subsurface chargeability and resistivity structure. That we resurvey lines 11000E up to 12200E with 100m spaced 3D-dipole IP. We should extend the length of the lines to 1600m (with a distant pole) to ensure complete coverage. The results from this survey would be much better than the old frequency domain IP with greatly increased resolution and depth of investigation.

Mariner 7

Mariner 7 is a possible tin-tungsten-gold prospect with lesser possibility of Pb-Zn. There are three Dighem anomalies within the Mariner 7 zone. The most interesting of the three designated 220B (i.e. Mariner & proper) is east of the Lea River on the western slope of the Bond Range. The two to the west of Lea River are both weak with 223B being slightly the strong. 220B has a real component of 3 ppm, quadrature component of 0ppm, conductance 38MHOS, and apparent depth of 252 m. 223B had a real component of 3, and quadrature component of 1ppm, conductance MHOS of 16, and an apparent depth of 223m.

Mariner VHMS Cu-Pb-Zn

Sumpton commented on the Dighem II anomaly as follows: "Mariner 7 is a low amplitude airborne EM anomaly detected during the 1980 DIGHEM II survey. A copy of the multiplot from that survey showing the anomaly (220B) is present in plan 10. The high inphase to quadrature ration implies that if the anomaly is "real" and not the result of system noise, that it has a high conductance and is therefore an attractive target." Pole-dipole IP surveying on lines 10250N, 10300N and 10350N failed to detect any anomalous response."....."Given the small amount of coverage thus far and the imprecision of the flight path recovery of the survey aircraft it cannot be confidently stated that the survey has covered the position of the EM anomaly. Nevertheless the failure to locate a conductor on this survey may point to the fact that the weak airborne response is attributable to instrumental noise."

Realistically the indicated Mariner 7 Dighem II anomaly 220B has not been satisfactorily confirmed and tested. It is a questionable response tested with possibly three lines of IP, which did not find the source. This follow up is inadequate; an EM technique must be used to determine whether a response is genuine (and if so to properly locate it on the ground). Since the rocks in the area were considered prospective (acidic, altered pyritic tuffs) and stream and rock sampling returned anomalous lead values, further investigation is required.

It would be of exploration significance to know whether the indicated anomaly 220B were repeated and better resolved by a modern airborne EM survey such as VTEM time domain. The precise GPS survey control would mean that ground location of a confirmed anomaly would not be necessary. A second appraisal of the nearby anomaly 223B would also be possible.

Central Portion of Vale River EL (Back Peak Sector)

The past 2 decades have seen significant advances in the airborne EM techniques. The depth of penetration and ability to resolve targets have at least doubled if not trebled. The Back Peak sector has been shown in earlier exploration to be geophysically responsive and to have considerable geological and anomalous geochemical interest over an extent of some 6 km. Therefore an excellent exploration technique for the Back Peak sector would be to re-fly the airborne *EM* employing a more powerful and penetrative system that did not exist in 1981. This could reasonable be expected to detect a smaller/deeper massive sulphide Cu-Pb-Zn deposit in this prospective Middle Cambrian geology than was possible with the 1980 vintage Dighem II.

Other Tasmanian companies are running airborne EM surveys in the 2008-2009 summer season. This provides an opportunity for Manasia to piggy-back and cost share on the AEM, hopefully significantly reducing expenses.

Southern Portion of Vale River EL.

There are several 1981 Dighem II anomalies (from Shell survey) within the southern part of the Vale River EL. These are designated anomalies 2, 3, 13, 14, 15, 16, 17, and 18. There was insufficient time available to re-assess these anomalies, however, after a cursory inspection they do not appear to be as favorable in general as the Back Peak and Mariner sectors. The anomalies are comprehensively described in Speijers 1982 report.

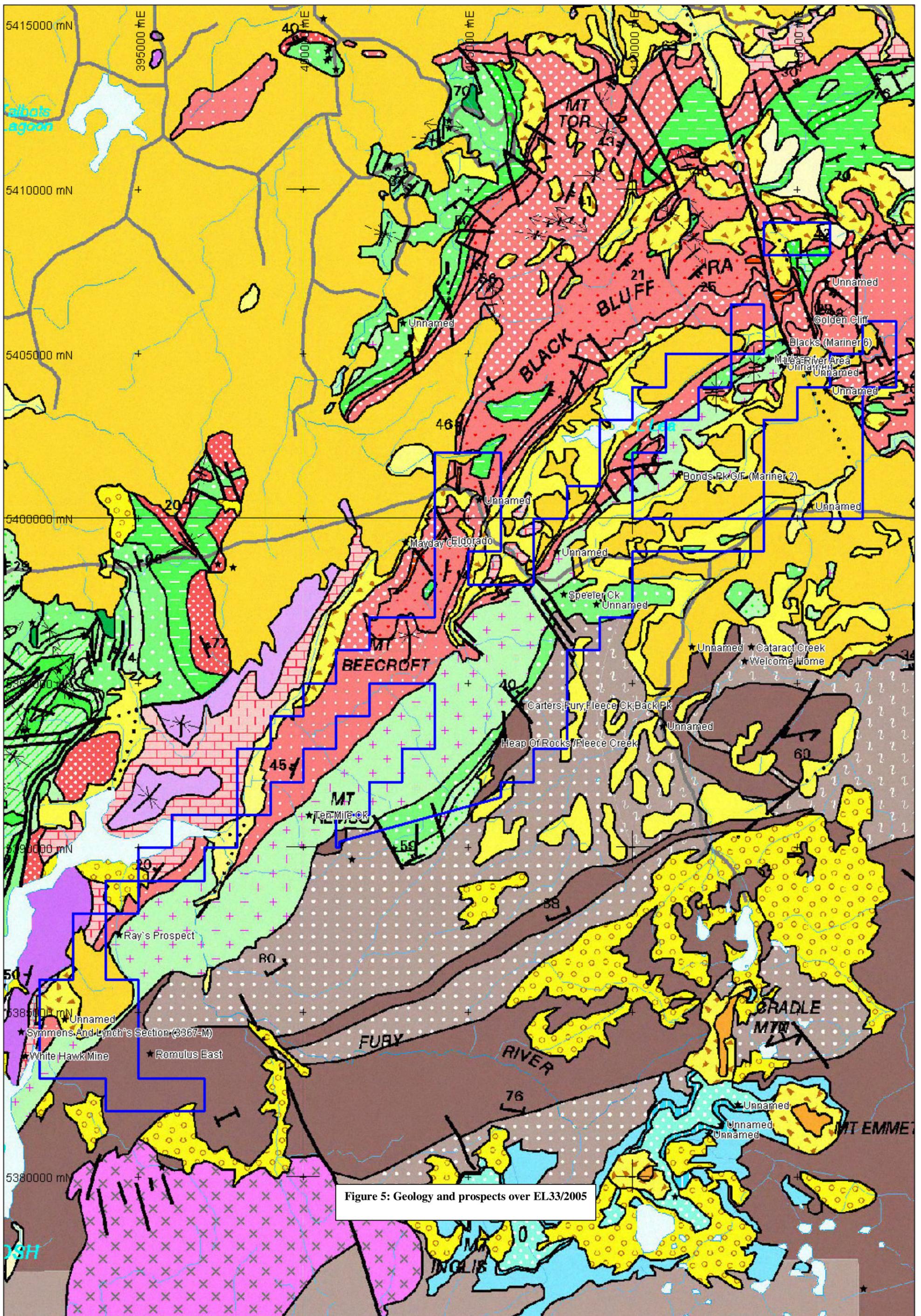
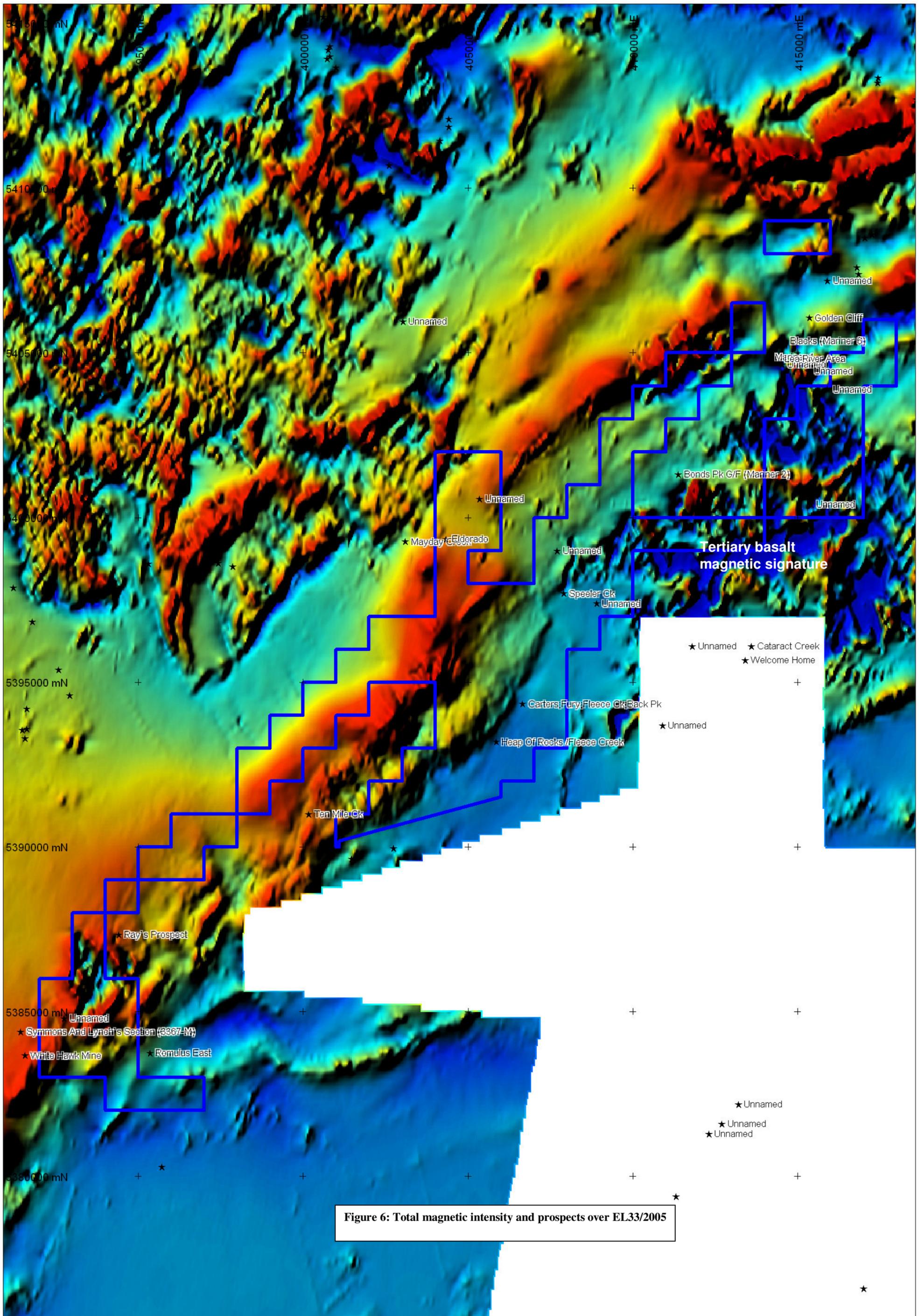


Figure 5: Geology and prospects over EL33/2005



Priority 2: EL 9/2006 Whyte River

Allegiance Mining held these tenements but then decided relinquish them and concentrate on Avebury. It is noteworthy that the eastern half of the Whyte River EL is next door to and due south from the recently discovered Bass Metals Pitt, Wilson and Stone Nickel Prospect. Bass Metals did an extensive VTEM AEM survey in 2008 and delineated several anomalies associated with Ni sulfides. However, the magnetic character over the Manasia tenements is very different from that over the Bass Tenements. It does not express a characteristic ultrabasic rock signature, which is considered a prerequisite for Avebury Style Nickel. Therefore I do not suggest a high priority for Avebury Ni in the Whyte River EL.

Whyte River Iron Occurrence

The Whyte River magnetite iron is found on the edge of the Meredith granite. The magnetic survey shows a very distinct 700nT peak on the margin of the Meredith Granite in the Ordovician limestone. This peak is very similar to a number of isolated magnetic highs all around the margins of the Meredith granite, probably related to alteration/skarn development around the granite margins. The source of the Iron Occurrence anomaly is highly magnetic and seems to have some strike length. The magnetic map indicates that the magnetic rocks extend northeast, but in much lower concentrations, and eventually peter out into non-magnetic background.

The best way to determine the nature of the Whyte River Iron Occurrence would be to do some ground magnetics and model the response to give some indications of the source size and depth. A hand magnetic susceptibility meter would be required to measure the rock magnetic susceptibilities around the area during the survey.

Mt YoungBuck has a similar magnetic expression to the Whyte River Iron Occurrence. It is hosted in PreCambrian sediments (quartzwacke interbedded with mudstones, siltstones and minor dolomites). This downgrades the prospectivity. Mt YoungBuck is a scheelite prospect first explored by Aberfoyle and drill tested with two diamond drill holes. The prospect shows as a magnetic anomaly on the boundary of the Meredith Granite. The anomaly fits within an area 600m long by 250m wide. Of course, the source of the magnetic anomaly is much smaller and probably very close to the surface. The existing geophysical datasets do not give any more information due to the coarse line spacing (200m) and the expected small anomaly size. If the existing geochemical information is sufficiently encouraging, I suggest ground magnetics to better delineate the source of the Mt YoungBuck magnetic anomaly.

Also in the western half of EL9/2006 is a platinum prospect called Ramsay's Mine. It is an alluvial prospect hosted within the Cambrian Dunite/Harzburgites. The rocks are prospective for platinum (e.g. Tunbridge, Kelly's, Stanton Loughnan platinum prospects are all nearby) and there is a broad extent of them included the western half of EL9/2006. They have moderate to low variable magnetic signature probably enhanced in areas of alteration like along the granite margin contact.

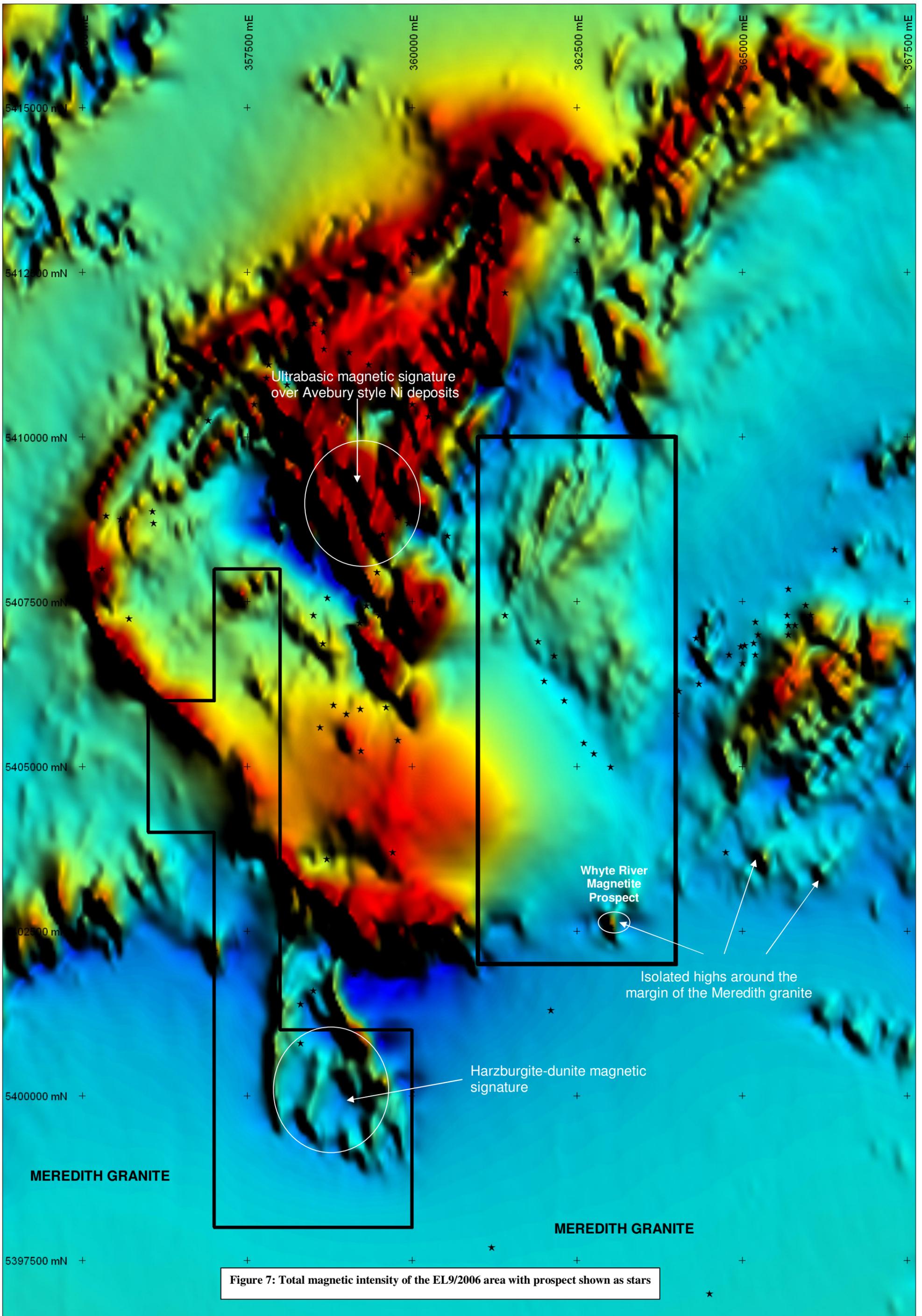


Figure 7: Total magnetic intensity of the EL9/2006 area with prospect shown as stars

