

REYNARD AUSTRALIA PTY LTD

ABN 64 058 856 796

FINAL REPORT

EL 54-2007, WESTERN TASMANIA

MARCH 2009.

prepared for

PLANET MINERALS LTD

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March 2009

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2 MAJOR MINING OPERATIONS IN THE AREA

Rosebery Mine, (Zinc, Lead, Copper, Silver, Gold), Zinifex.

The Rosebery orebody is a massive stratabound sulphide deposit occurring in lenses over a strike length of 1,700 metres dipping at 45 degrees.

Mt Lyell (Copper), Copper Mines of Tasmania

The copper concentrates that are produced from the processing of the ore that is mined at CMT are all exported to Sterlite's copper smelter in southern India

Henty Gold Project - Goldfields Ltd-RGC (Tasmania) Ltd (Gold)

The Henty Gold mine is one of six major mines in a 200km zone of mineralised rock known as the Mt Read Volcanic Belt. Four orebodies are defined at Henty.

Renison Bell (Tin), Metals X

Renison Bell near Zeehan is one of the largest underground tin mines in the world. The Renison Bell deposit occurs in a sequence of interbedded dolomites and siltstones intruded by the Pine Hill granite that uplifted the beds creating the Federal Basset fault structure. The reserves occur over a strike length of 1.8 kilometres and to a depth of 900 metres. Renison Bell is the largest of three major, stratabound, carbonate replacement, pyrrhotite-cassiterite deposits in western Tasmania. It is located within the Dundas Trough, which is a structural domain underlain by a thick sequence of siliciclastic and volcanoclastic rocks. Three shallowly dipping dolomite horizons located within the sub-aerial to shallow marine Neoproterozoic Success Creek Group and the overlying shallow marine Early Cambrian Crimson Creek Formation host the mineralisation

Zeehan (Tin), Western Metals

The Zeehan deposit is located approximately 15km to the southwest of the Renison mine. Significant tin mineralisation occurs in volcanics, clastic sediments and dolomite. At Zeehan the tin mineralization occurs as cassiterite in four ore bodies of which the Queen Hill and Severn are the most significant. The resource is 7.3 Mt @ 0.69% Sn

Zeehan (Zinc, Lead, Silver), Zeehan Zinc.

Geological features in the area include 'Allison's Lode', 'Main Lode' and 'Bendall's Fault'. Recent drilling on the mine site has allowed us to define a 4.7 million tonne JORC compliant resource. A flotation plant will allow Zeehan Zinc to produce zinc and lead metal concentrates for the smelter markets. A large portion of the flotation plant components has already been delivered to Comstock Mine.

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Some of the more significant Devonian granite-related deposits are tabled below:

Deposit	Size (tonnes)	Grade
Renison	26,000,000	1.5% Sn
Mt Bischoff	10,500,000	1.1% Sn
Cleveland	12,400,000	0.6% Sn, 0.25% Cu
Avebury	16,000,000	1.0% Ni

3 **WORK CARRIED OUT**

Planet minerals undertook a literature review during the initial 12 months of the licence with the aim of identifying likely mineralisation styles within EL54-2007 and formulating a suitable exploration strategy. This review concluded that the licence area lies immediately adjacent to prospective non-outcropping granites and covers major offshoots of the Rosebery Fault System. Possible mineralisation styles within the licence may include;

- Quartz vein and greisen type deposits in or immediately above the main granite body and associated cupola – like bodies in the country rock up to about 1 km from the granite body.
- Replacement type mineralisation bodies in rocks capable of neutralising highly acidic mineralising fluids.
- Skarn type deposits where granites have intruded carbonate rocks
- Massive stratabound sulphide (Zinc-Lead-Silver-Gold-Copper) deposits of the Rosebery type.

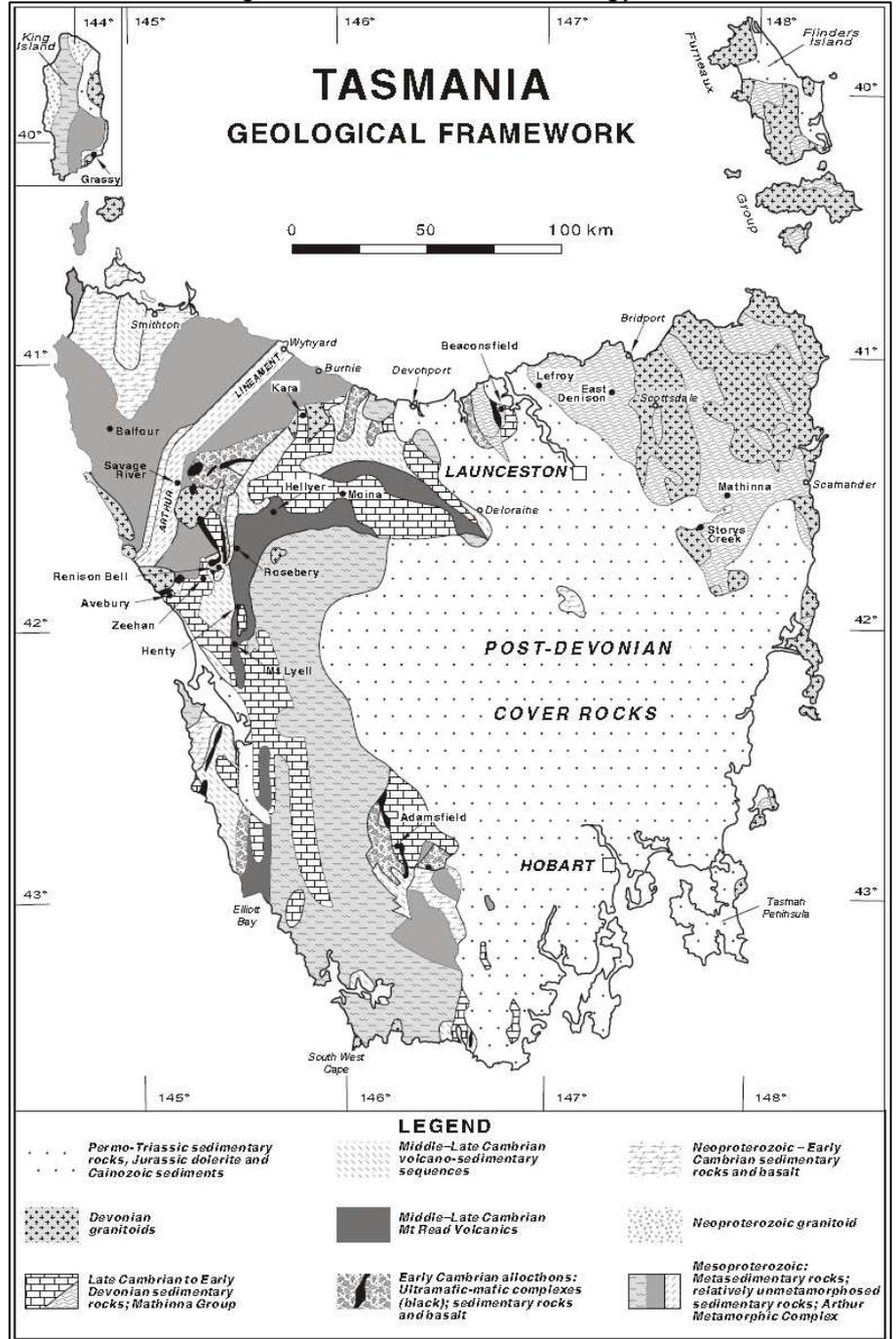
4 **EXPENDITURE**

The expenditure commitment for EL54-2007 for the first 12 months is \$20,000. Actual expenditure was \$10,320 as reported previously. Expenditure in the second 12 months is approximately \$5000, mainly as administrative costs and reporting.

Figure 2: Tasmanian Geology

5 REGIONAL GEOLOGY

The geologically complex Dundas area is characterised by the interleaving of lithologies and overturned beds, with the distribution of units largely controlled by faulted boundaries. In the Dundas area, The Mount Read Volcanics (MRV) are divided into three provinces which are separated from west to east by the Marionoak and Rosebery Fault zones. The volcanic sequences, to the east of the Rosebery Fault, are grouped together into the central MRV (including the Que-Hellyer Volcanics and the Tyndall Group) which are host to all the major VMS deposits in Western Tasmania. Between the Rosebery and Marionoak Faults are the Dundas group rocks, including the mixed epiclastic-volcaniclastic White Spur Formation. West of the Marionoak fault are the Pre-Cambrian sequences of the Oonah and Crimson Creek Formations. These Pre-Cambrian rocks are interpreted to underlie both the Dundas Group and the MRV. The Mt Read Volcanics structurally overlie the Dundas group along the east dipping Rosebery Fault - a major east dipping thrust. Stratigraphic and fossil evidence suggests, however, that the Dundas group is at least in part stratigraphically younger than the MRV.



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Oonah Formation

The oldest basal rocks observed in the Dundas area have been correlated with the precambrian Oonah Formation. These rocks outcrop in a fault bounded block north west of Mt Dundas. The formation is comprised of both metamorphosed and relatively un-metamorphosed lithologies. The lower most unit, the Concert Schist, consists predominantly of mica phyllite with subordinate micaceous quartzite. This unit is transitionally overlain by relatively unmetamorphosed thinly bedded mudstones and siltstones containing rare interbeds of medium-grained poorly sorted sandstone, fine-grained poorly sorted micaceous sandstone and black shales.

The preservation of these Precambrian rocks is thought to have occurred in a down-faulted graben and thus the contact with overlying groups is either faulted or an unconformity. A conflicting view was presented in a PhD Thesis, by D. Selley, who concluded that the Oonah Formation was acting as a horst block, ie., basement high, during the Cambrian.

Success Creek Group

The Success Creek Group outcrops to the north west of the Dundas area just west of Renison Bell. This package is comprised of metasedimentary rocks including shallow water laminated siltstone and shale, with interbedded sandstone and conglomerate. At Renison Bell, this sequence contains three persistent dolomite horizons which host virtually all the economic stratabound tin orebodies at the Renison Tin mine.

The relationship between the Success Creek Group and the Oonah Formation is characterised by a structural hiatus. The unconformable Success Creek Group is interpreted as having been folded and deformed in a predominantly north-west trending direction where as the Oonah Formation has been affected by multiple phases of deformation.

Crimson Creek Formation

This Formation was defined near the Renison Bell Mine where it consists of 3500m of turbiditic volcanoclastic epiclastic lithic wackes, massive siltstones, mudstones and basaltic lava flows. Numerous gabbros intrude this sequence in the vicinity of Renison Bell and occasional impure dolomite horizons have been recorded.

This formation has been mapped as a north-south trending unit at Colebrook Hill, however there remains some dispute whether this outcrop is in fact Crimson Creek Formation, as the sediments contain acid to intermediate volcanic detritus rather than the mafic detritus observed at the Renison Bell type section.

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Dundas Group

The Dundas Group occupies a trough in the central portion of the area and consists of mixed epiclastic and minor volcanoclastic sediments. This volcanosedimentary sequence is dominantly comprised of turbiditic to shallow water sediments containing immature conglomerates, monotonous siltstones and shales containing some sandstone and grit interbeds. Towards the top of the sequence felsic to intermediate tuffs, related volcanoclastic sediments and minor lava flows (or intrusions) occur. These volcanic units generally show marked variations in facies and thickness over short distances and often appear to interfinger with one another making boundary correlations very difficult. In general the Dundas Group is comprised of abundant felsic volcanic material derived from the Mt Read Belt which constitutes an extensive conglomeritic flysch sequence of at least 3km in thickness.

With further detailed mapping in the Pieman River area the Dundas Group has been further divided into formation such as the Westcott Argillite, Salisbury Conglomerate, Natone Volcanics, Stitt Quartzite and Chamberlain Shale which outcrop east and south of Colebrook Hill and in the vicinity of Westcott Hill.

Ultramafic Complexes

These outcrop at a number of locations throughout the licence area and have also been intersected by drilling at depth. They typically show strong serpentinite alteration and exhibit a high degree of internal deformation, which is expected considering their alteration mineralogy. The only exception to this is in the Serpentinite Hill area where pockets of unserpentinised dunite and pyroxenite have been intruded by gabbro dykes.

The current tectonic theory has these ultramafic complexes as allochthonous thrust sheets emplaced during the middle Cambrian .

Gabbroic Bodies

These units occur as irregular intrusions throughout the Crimson Creek Formation and Dundas Group sediments. Their age relationships and intrusion history have yet to be accurately determined.

Devonian Pine Hill Granite

The south-eastern 'tail' of this intrusion occurs on the mid-western side of the Dundas licence. The intrusion is described as a porphyritic adamellite and is thought to consist of a series of intrusions. Locally it exhibits early silica and sericite alteration of the both the granite and country rocks, followed by later boron metasomatism. The granite has extensively altered

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carbonate bearing units along its contact and is responsible for the metasomatic replacement of the three dolomitic units of the Success Creek Group which are host to the Renison Bell tin lodes. Not surprisingly areas surrounding this intrusive body have been extensively explored for replacement style tin mineralisation.

Structure

The Dundas licence area is one of structural complexity, making the determination of age relationships between the various stratigraphic units difficult. Shearing and faulting is often preferentially taken up by the more mafic and shale dominated units, thereby complicating stratigraphic relationships. Several tectonic melange zones occur in the Ring River area west of Hercules, at Williamsford and Moores Pimple. The zones contain small to very large (>30m) irregular blocks of siltstone and sandstone in a highly contorted fluidised matrix of siltstone and shale. These tectonic melange's exhibit some soft sediment deformation characteristics suggesting possible synsedimentary to early diagenetic deformation and tectonic instability during Dundas Group deposition.

The Oonah Formation contains strong isoclinal folding which is notably absent from the younger Palaeozoic rocks. This deformation may have occurred during the Precambrian Penguin Orogeny.

The main structural and stratigraphic features of the Dundas Trough are:

- 1) The thick MRV belt occurs along the eastern margin of the trough with no obvious correlates on the western side. Such felsic successions have modern analogues in Andean style subduction zones.
- 2) The basin has been infill by early shallow water deposits (eg Success Creek Group), followed by greywackes and tholeiitic lavas and intrusions (Crimson Creek Formation) and finally a series of epiclastic and volcanoclastic sediments (Dundas Group). The sediment-volcanic deposition rates were rapid which is supported by modern dating techniques which show the basin filled in about 5 million years .
- 3) Mafic and ultramafic complexes with ophiolite characteristics are present as fault bounded slices. Modern analogues to this occur in mid-oceanic ridge and oceanic island arc settings.
- 4) The Dundas Group metasediments are partially derived from the MRV, partly from the Precambrian and partly from intra trough sources including basement highs of ultramafic and gabbroic material. This shows the structural history to be very complicated and difficulty arises when trying to compare the MRV Province with

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modern analogues. Rifting is not particularly evident in the belt, however, thrusting is thought to have occurred especially associated with the ultramafic bodies (most of which are strongly deformed and dismembered). The Dundas Group may in part post-date the main thrusting event because of conformable relationships observed at Green Prospect where sheared ultramafics are unconformably overlain, not sheared against east dipping Dundas Group metasediments.

It is believed that the Rosebery Fault has a major Cambrian thrust history, but which is not associated with emplacement of the mafic-ultramafic complexes (Crossing & Halley 1990). In the Devonian, the Tabberabberan Orogeny produced most of the observable folding, cleavage and faulting that has been mapped in the Dundas area. This Orogeny most probably influenced some degree of control on the shape of the syn-to-post orogenic Devonian granite intrusions. The main folds generated during the Devonian include the Huskisson Syncline north west of the Dundas licence. The Renison Anticline (to the west of the Dundas licence) and the Dundas Anticline, where the Oonah Formation has been folded, NW of Mount Dundas. Faulting appears to be closely associated with most of the mineralised systems. Generally there are two prominent groups of faults, a NNW trending steeply dipping group with limited dip slip to oblique slip movement and a steeply dipping NE trending set which show larger orders of displacement.

An true estimate of the amount of displacement along these NE trending structures is difficult to quantify mainly due to a lack of recognisable marker beds. The NE faults often occur along margins of the mafic-ultramafic complexes, whereas the NNW faults are more generally confined. These faults and the Cambrian thrusts (including the Rosebery Fault) also acted as zones of structural weakness during the Devonian which resulted in a secondary period of mineralisation and partial remobilisation of Cambrian ore.

(Modified after Parfery & Simpson (1999)).

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6 LOCAL GEOLOGY EL54-2007

EL54-2007 is strategically placed between the Renison Bell tin deposit and the Roseberry Zinc-Lead mine in Western Tasmania (figure 3). The licence covers late Cambrian, Ordovician and Siluro-Devonian volcanic and sedimentary rocks of the Tyndall Group, Tyennan Group, Upper Dundas Group, Rosebery Group and the Cleveland-Waratah association as well as a major offshoot of the Rosebery Fault. Included is part of the early Cambrian Crimson Creek Formation, which also hosts mineralisation at Renison Bell. Figure 7 also shows the numerous mineral deposits in the area.

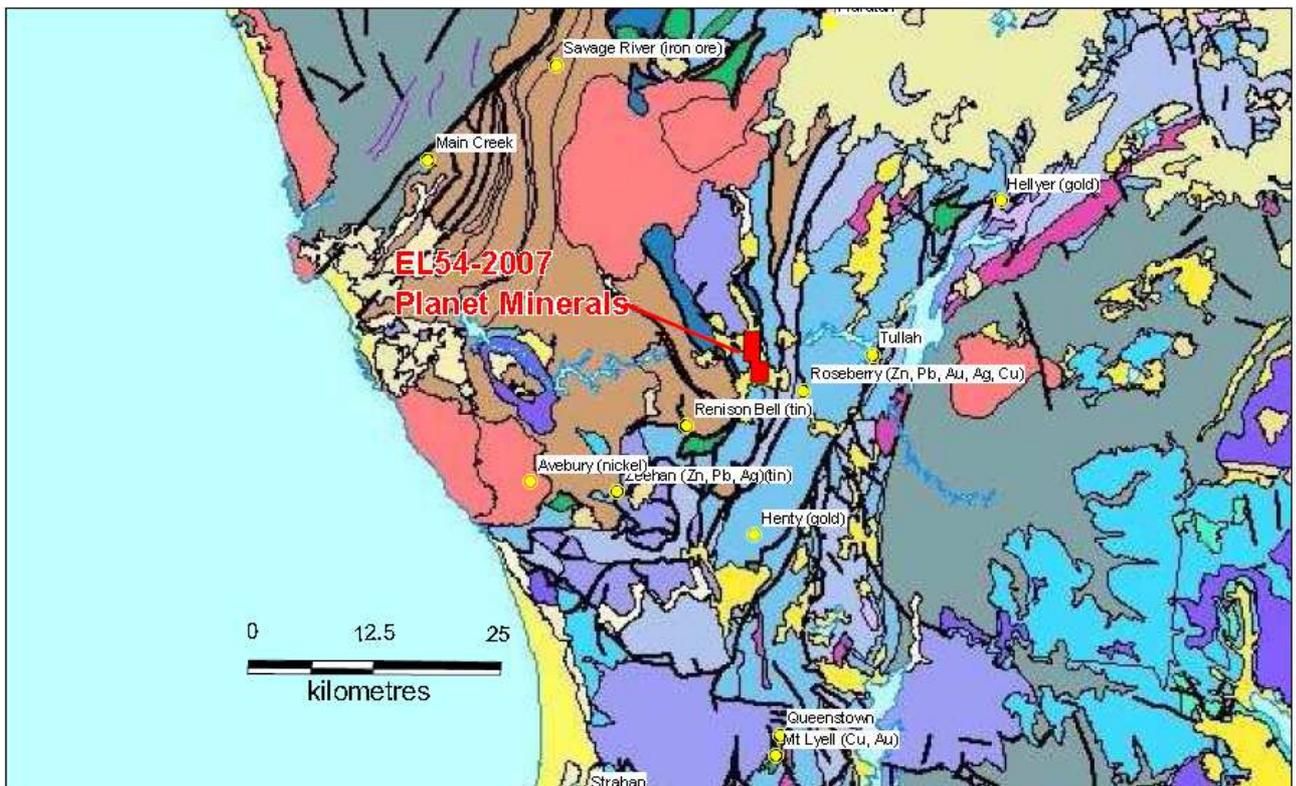


Figure 3: EL54-2007 showing the location of nearby mines in this highly mineralised region.

The Residual Bouguer Anomaly map (Figure 4) shows a major trend or discontinuity arcing around the Great Western Tiers towards north west Tasmania. This intersects the major thrust zone south-south-west of Burnie-Ulverstone which extends into central western Tasmania on the southern side of the Housetop Granite. The age of the granites relative to this structure is an issue for exploration. There is evidence that the Housetop Granite (and perhaps others) predates at least one generation of thrusting (Leeman & Richardson 2003).

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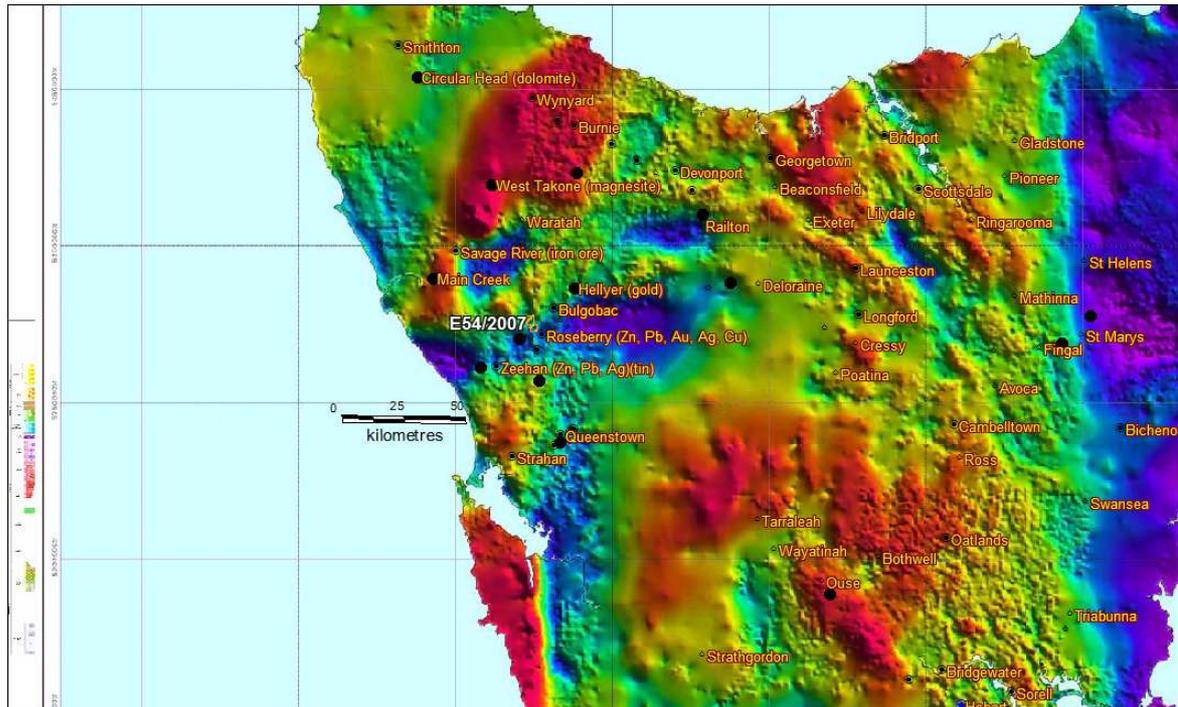


Figure 4: Residual Bouguer Anomaly Map (Leeman & Richardson 2003)

Interpretation of the regional gravity by Leeman & Richardson (2003) has identified possible areas of non-outcropping granites extending south-west through the Roseberry area and paralleling a zone of complex thrusting which includes the Housetop and Meredith Granites (Figures 5, 6 and 7). EL54-2007 sits immediately adjacent to the western margin of the zone of non-outcropping granites and is bounded and crossed by various faults including the Roseberry Fault and it's offshoots.

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Figure 5: Interpreted Granitoid intrusions near to EL54-2007, with fault zones shown.

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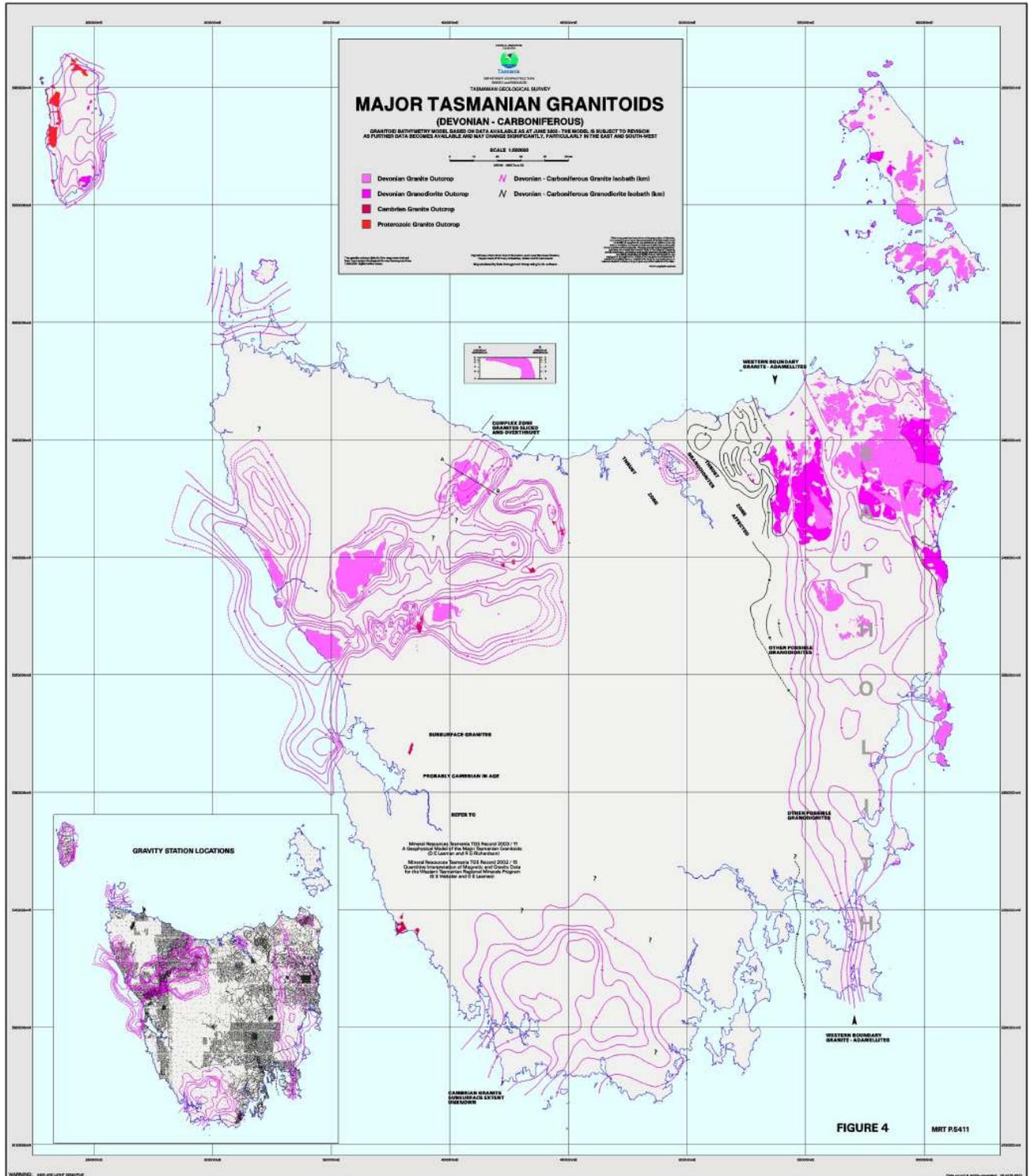


Figure 4

Granitoid bathymetry and current gravity station distribution
(Note: this is a reduced-size image of this map, full-size maps are available from Mineral Resources Tasmania)

Figure 6: Major Tasmanian Granitiods (Leeman & Richardson 2003)

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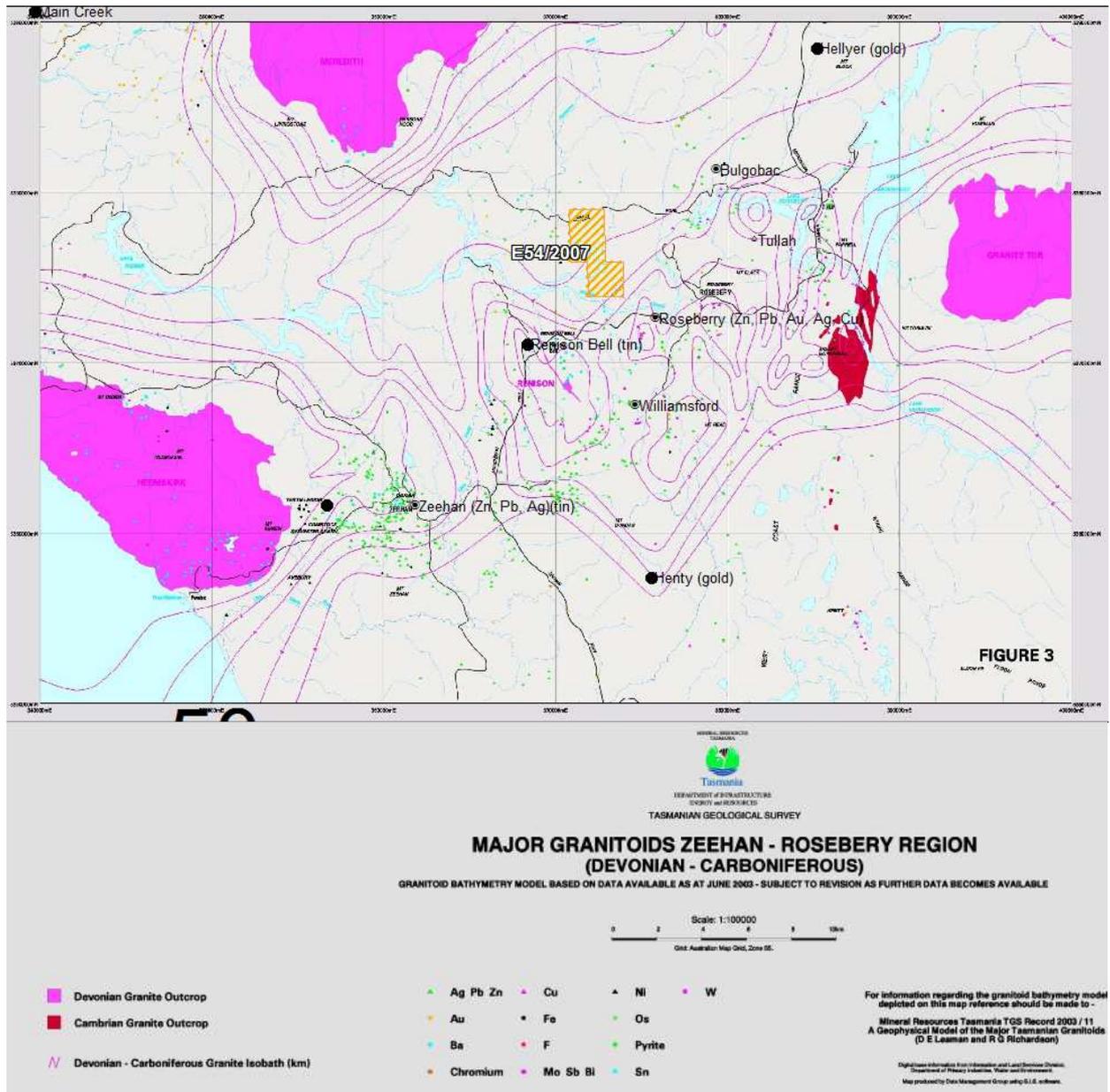


Figure 7: Granitoid Intrusions, outcroppings and interpreted (Leeman & Richardson 2003)

The regional magnetic plan (Figure 8) also supports the granite trends evident in the gravity interpretation, with the major outcropping granitoids showing as areas of reduced magnetism. Closer to EL54-2007, where the granites are hidden, the low magnetic response is more subdued but still evident. The radiometric map (Figure 9) shows the granitoids as areas of higher response (light coloured areas) as a result of the increased U, Th and other radiometric elements in granites.

Leeman & Webster (2002) noted that many of the major rock boundaries in central northern Tasmania may be faulted, with slivers of ultramafic rock

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occurring on the fault surfaces. There is also evidence of rejuvenation of structures, with a likely affect on mineralisation.

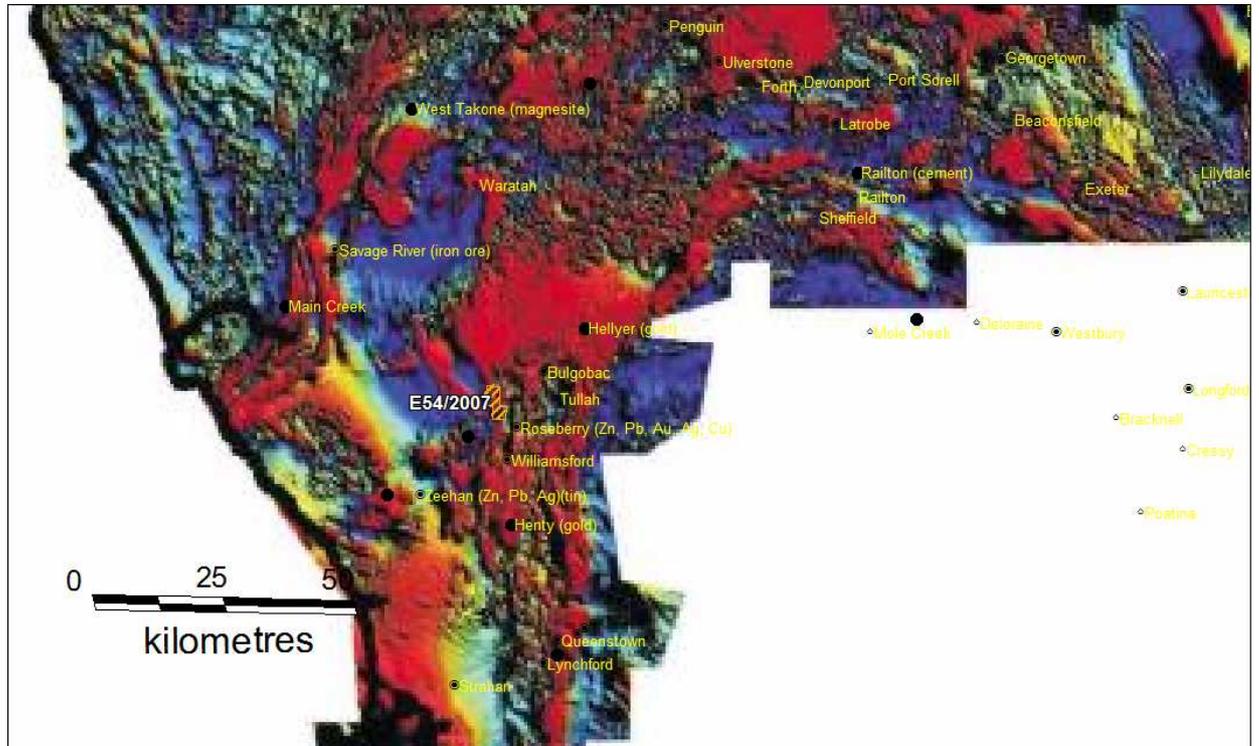


Figure 8: Regional Magnetics (Leeman & Webster 2002)

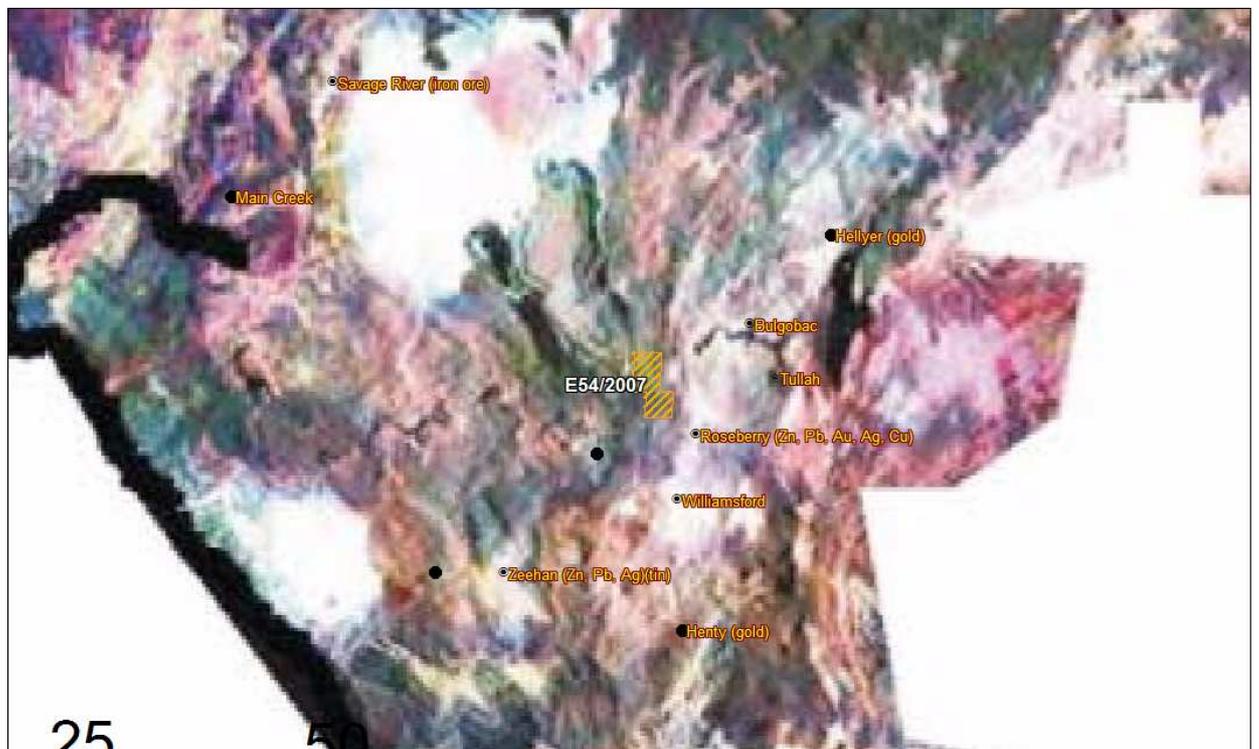


Figure 9: Radiometrics (Leeman & Webster 2002)

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In their work on the Granite Tor to the east of Rosebery, McClenaghan (2003) characterised this intrusion as a crystal fractionated S-Type intrusion belonging to the Pieman Suite (includes the Pieman Granite, White Heemskirk Granite and the Granite Tor). The Granite Tor is considered prospective for Sn and W. It is probable that the hidden granites in the Rosebery area adjacent to EL54-2007 are also part of the Pieman Suite, and are likewise prospective. The presence of the Rosebery Mine and numerous others supports this conclusion.

Massive stratabound sulphide (Zinc-Lead-Silver-Gold-Copper) deposits occur at Rosebery immediately east of EL54-2007. Quartz, sericite, chlorite, carbonate, etc., are the principal alteration products and relate to both VHMS mineralisation and to metamorphism and deformation in the region. There are no significant differences between the VHMS related and unrelated mineralogical alteration. There are two types of geochemical halos in the Rosebery area. The type-1 halo trends NE–SW, is related to wall-rock alteration, and is defined by enrichment in Cl, and possibly K and Rb, and depletion in Al, Ca, Na, Ti and Sr. It passes discordantly from the west to east across the White Spur Formation, the altered footwall, the host rock of the Rosebery deposit, the hanging wall and the Mount Black Volcanics. The type-2 halo, trending N–S (largely stratabound), is related to massive sulphide mineralisation and is characterised by enrichment in Fe, Mn, Ba, Zn, Pb and possibly K, Rb and F. It outlines the mineralised host rock and footwall alteration zone, and also extends toward the south into the unaltered footwall and hanging wall rocks. Both halos intersect at Rosebery in zones of mineralisation and associated footwall alteration. Recognition of geochemical halos has led to formulation of geochemical indices for identification of alteration related to VHMS mineralisation. Binary relations between $(Mn \times Ba \times F)$ and $(Ca \times Na \times Sr)$, and $(Mn \times Ba)$ and $(Na \times Sr)$, and their ratios $(Mn \times Ba \times F)/(Ca \times Na \times Sr)$ and $(Mn \times Ba)/(Na \times Sr)$ identify the alteration related to massive sulphide mineralisation and distinguish it from alteration unrelated to the mineralisation in the Rosebery area. These geochemical indices are also used for the other deposits which all display similar geochemical alteration signatures. The alteration related to VHMS mineralisation can be distinguished from alteration unrelated to mineralisation by higher values of the geochemical indices of $(K \times Mn \times Ba \times Rb)$, $(Mn \times Ba \times F)$ and $(Mn \times Ba)$. (Aung & van Moort, 1999)

The likely deposit types to be targeted for exploration include;

- Quartz vein and greisen type deposits in or immediately above the main granite body and associated cupola – like bodies in the country rock up to about 1 km from the granite body.
- Replacement bodies in rocks capable of neutralising highly acidic mineralising fluids. These could be some distance from the granite

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but connected to it by conduit fractures. Commonly an association of magnetic minerals (pyrrhotite, magnetite) occurs providing good magnetic target features.

- Skarn type deposits where granites have intruded carbonate rocks. Mineral associations include significant quantities of magnetite, plus garnet and fluorite. Leeman & Webster (2002) note that the skarn immediately above the granite at the nearby Renison Bell minesite shows negative anomalism (ie the direction of permanent magnetisation of the skarn differs from the present direction of the Earth's magnetic field), but more distant shallower skarns have positive anomalies. This characteristic pattern may be useful for exploration.
- Massive stratabound sulphide (Zinc-Lead-Silver-Gold-Copper) deposits of the Rosebery type.

EL54-2007 is considered prospective for stratabound, carbonate replacement, pyrrhotite-cassiterite (tin) deposits of the Renison Bell type or massive stratabound sulphide (Zinc-Lead-Silver-Gold-Copper) deposits of the Rosebery type. Planet Minerals intends to explore the licence for these metals.

7 PROPOSED EXPLORATION – SURRENDER OF LICENCE

EL54/2007 is located in a well treed and relatively rugged area of Tasmania (see Figure 10). Ground based exploration would be relatively ineffective as a first pass exploration method. Close spaced aeromagnetics and radiometrics over the licence area followed by appropriate processing to generate specific target areas which could be further investigated by ground based methods including drilling would be the recommended approach. However as the expected cost of this work is in excess of of \$100,000 and given the current economic climate, no further work is recommended at this stage and the licence will be surrendered.



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Figure 10: Satellite photo of EL54-2007 and the surrounding area.

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