

**EL 11/2011 – “Mangana”**

**Annual Report on Exploration Activity**

**July 2015 to July 2016**

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**Abstract**

The tenement area has been reduced with the relinquishment of ~97km's (96.6skm) of the original licence and retention of ~85km's (85.3skm).

Work in the 2015/16 reporting period focussed on the "500 Acres" Reef prospect on the south side of Grant's Creek in the Fingal Gully.

A 67m trench and smaller cross trench exposed a reef fault containing lenses of quartz up to 8m x 0.45m with the reef approximately 1.5m wide at its northernmost end.

25 samples were collected and assayed with best results 0.14g/t Au. A sample of sulphide concentrate assayed 5.19g/t Au.

No further work is proposed on this prospect at this point though the reef remains open at the north-northwestern and southern ends.

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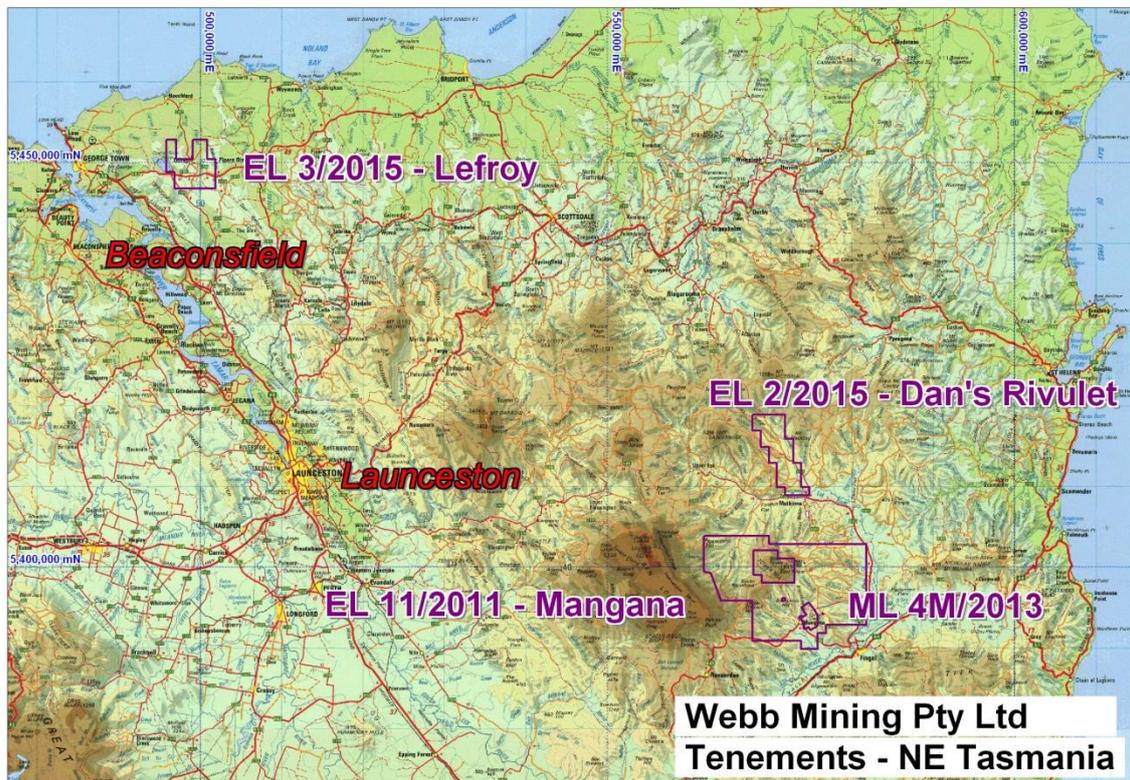
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## 1.0 Introduction

### 1.1 Location

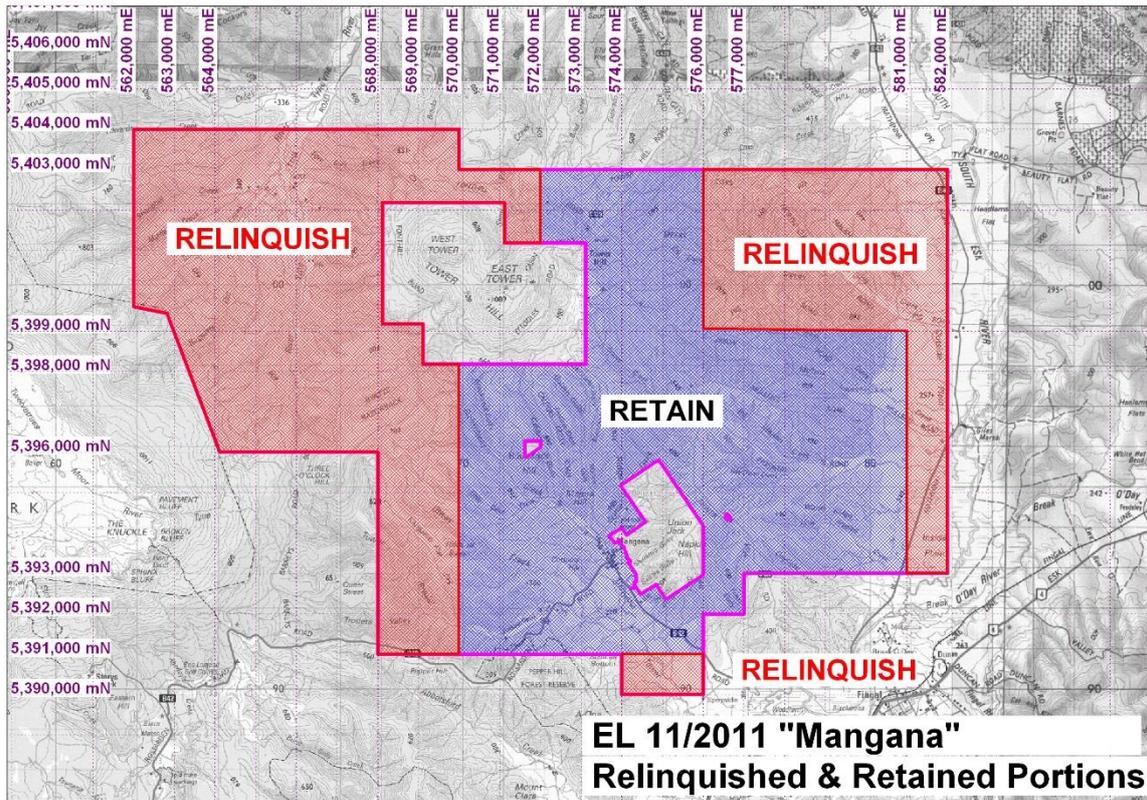
EL 11/2011 is located in Tasmania's northeastern goldfields, just to the north of the Fingal Valley. Together with ML 4M/2013 the tenement covers the Mangana (except for a 1skm exclusion) and Tower Hill goldfields at the southern end of the Mangana-Lyndhurst trend.



**Figure 1.1: Location of EL 11/2011 “Mangana” in Tasmania’s northeast. Tenement shape is as per prior to the partial relinquishment.**

### 1.2 Tenure

EL 11/2011 was granted to Webb Mining Pty Ltd on 11<sup>th</sup> July, 2011. A decision has been made to relinquish ~97km’s (96.6skm) of the original license and retain ~85km’s (85.3skm) (see figure 1.2).



**Figure 1.2: Retained and relinquished portions of EL 11/2011**

### **1.3 Access**

Access to the area is by bitumen road via Fingal. Access within the area is generally moderate with steep hills but commonly bush tracks along ridge lines.

### **1.4 Exploration Philosophy**

Webb Mining Pty Ltd holds ML 4M//2013 with the Sailors Gully mill at Mangana. EL 11/2011 surrounds ML 4M/2013 (see figure 1.1).

Webb Mining Pty Ltd is focused on discovering and mining gold ore for the Sailors Gully mill.

To date mining has focused on underground development in the Argyle and Mangana Gold reefs mines and some surface alluvial testwork.

Webb Mining Pty Ltd has had considerable experience in mining and exploring for high grade gold bearing quartz reefs.

Webb Mining Pty Ltd is aware of the utility of soil sampling with arsenic a strong pathfinder. Webb Mining Pty Ltd is also aware of the commonly short strike length of high grade shoots within these reefs and the need for close spaced surface trenching and drilling.

## **2.0 Geology**

### **2.1 Regional Geology**

The oldest rocks in EL 11/2011 are the folded quartzwacke turbidite sandstones, siltstones and shales of the Siluro-Devonian Panama Group of the Mathinna Supergroup ("Mathinna Beds"). These are moderately tightly folded on north-west striking sub-vertical fold axis with well developed axial planar cleavage. Deformation is attributed to the Middle Devonian Tabberrabberan Orogeny.

These folded basement rocks are unconformably overlain by a sequence of essentially undeformed (other than slight tilting and normal faulting) sediments of the Permo-Triassic Parmeener Supergroup. The sediments vary from glacial-marine at the base through marine to freshwater sediments in the Triassic.

This unconformity surface defines a clear erosional break with the development of plains around the flanks of Tower Hill and along the lobe like ridges which extend from it such as Buckland Hill, Blackboy Ridge, Daylight Spur and Fonthill Farm.

Jurassic dolerite dykes intrude Byatts Razorback in the west of the licence.

### **2.2 500 Acre Reef Geology**

The 500 Acre Reef is so named because it lies on the freehold title owned by Mr Nigel Webb known colloquially as the "500 Acres".

The reef outcrops on the southern bank of Grants Creek at approximately 574,870mE 5,396,010mN where it appears as >1m thick quartz with a brecciated texture infilled with pyrite and lesser arsenopyrite.

Where exposed in the trench the reef strikes 325° for the northern part swinging to 355° in the southern part and dips around 80° to the southwest.

The reef for the most part consists of a central puggy black shear jogging and stepping to the right midway along the trench with quartz only developed over short sections of its strike and with the thickest part only at its very northern end in the creek where it appears to make to about 1.5m in width.

The best developed quartz lens is 8m long and 0.45m wide.

The reef/fault transects siltstones which have a background regional metamorphic sericite alteration. Between the reef shears this sericite has been altered to a dark green chlorite as a distal facies with almost black chlorite, associated carbonaceous material and disseminated pyrite (in parts) immediately adjacent to the shear as a proximal alteration facies. Both the almost black chlorite proximal facies and the distal dark green chlorite alteration facies occur on the southwest, hangingwall, side of the main shear at that point. The distal dark green chlorite facies is bound on its southwest margin by a thin shear hosting a 10-20mm wide quartz vein.

The right stepping/splaying geometry exposed in the centre of the trench has been generated by dextral strike-slip movement. The clockwise rotation/drag of the earlier cleavage in the apex of the splay and along the northeast, footwall, edge of the shear are consistent with dextral movement on the fault.

Tension veins give an ambiguous story. Veins on the northeast side at the northern end of the exposed reef and on the southwestern side in the middle, at the point of flexure, strike northeasterly consistent with a northeast/southwest directed  $\sigma_1$ . Conversely tension veins along the northeastern side of the shear to the south of the flexure strike east-southeasterly, the product of a  $\sigma_1$  oriented east-southeast/west-northwest which would produce sinistral movement on the fault.

A possible explanation for this latter set of tension veins is suggested by the orientation of the main vein, and associated structures, in the Underlay, Union Jack and Fingal line or workings. These small

workings were all on a north to north-northeast striking, shallowly east to east-northeasterly dipping (commonly  $\sim 30^\circ$ ) vein (or possibly similarly oriented veins as continuity has not been unequivocally demonstrated) with slickenlines and fibres on the hangingwall surface of the vein oriented towards the east to east-southeast and indicative of reverse movement.

Generation of these structures requires a  $\sigma_1$  oriented east-southeast/west-northwest consistent with the second set of tension veins. However, in the case of the Underlay/Union Jack/Fingal reef(s) the reverse movement requires  $\sigma_3$  to be sub-vertical and  $\sigma_2$  to be sub-horizontal which is inconsistent with the sub-vertical orientation of the second set of tension veins, which indicate  $\sigma_3$  to be sub-horizontal and  $\sigma_2$  to be sub-vertical.

It is suggested that relative magnitudes of  $\sigma_2$  and  $\sigma_3$  are not that different that flipping between  $\sigma_2$  and  $\sigma_3$  occurs on a local scale at least.

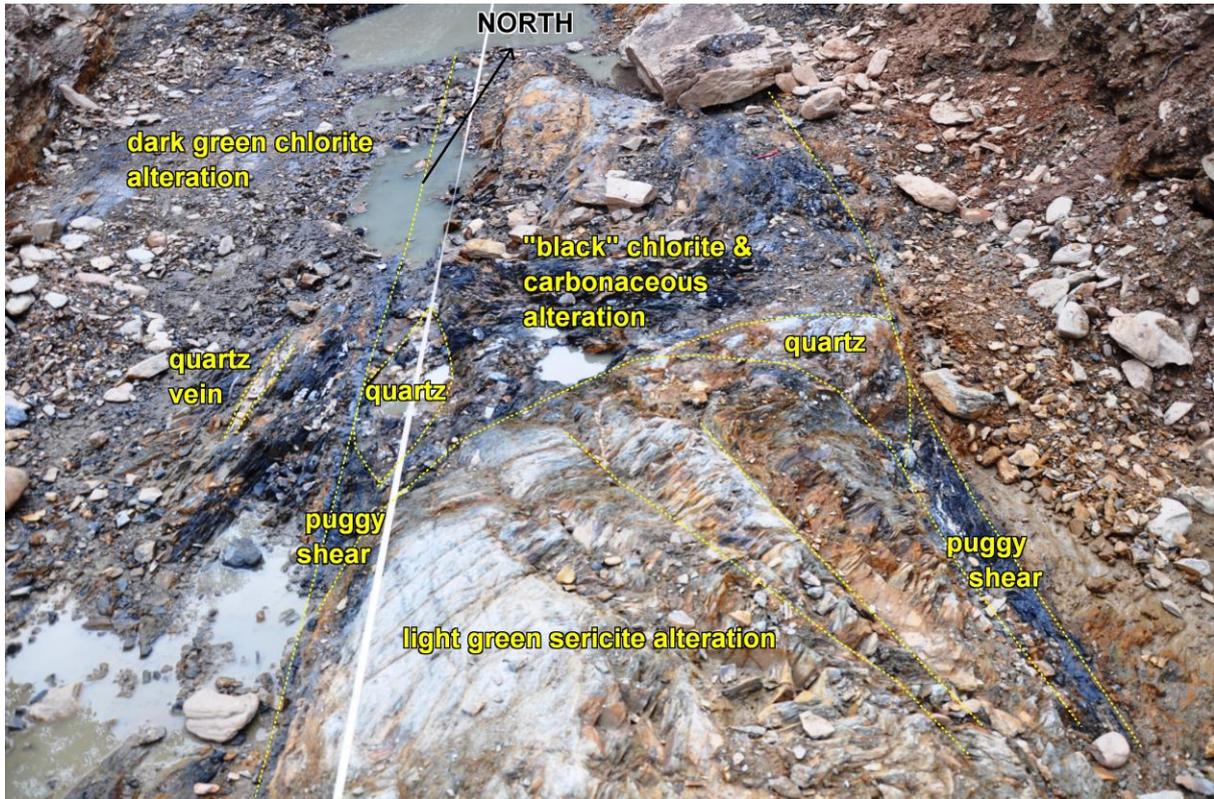
The lack of deformation in this latter set suggests they post-date the dextral strike-slip movement which doesn't sit well with the general structural model which sees reverse movement as early and accompanying folding, followed by strike slip faulting along reactivated planes of weakness.



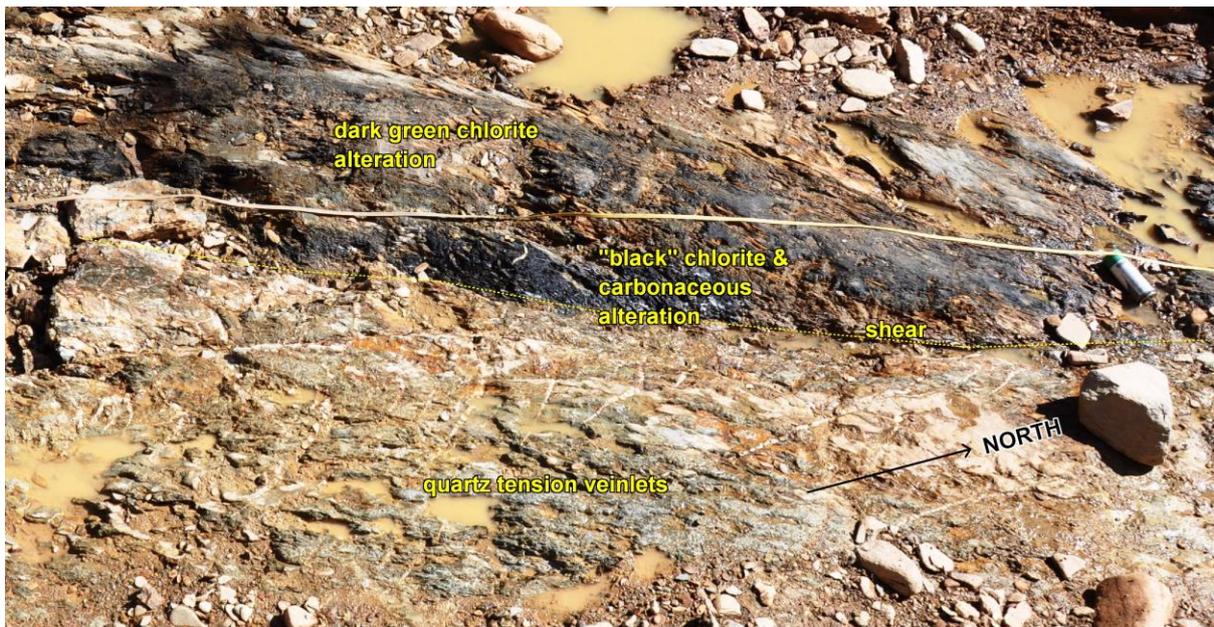
**Figure 2.1: "500 Acres" reef looking south along strike just past the splay junction**



Figure 2.2: "500 Acres" reef geology



**Figure 2.3: Splay looking towards north-northwest (see north arrow)**



**Figure 2.4: East-northeast striking tension veinlets in footwall (east side) to main shear at southern end of exposed reef**

### 3.0 Exploration Completed July 2015 to July 2016

Work on EL 11/2011 in the reporting year has consisted of trenching the 500 Acre Reef in Grant's Gully. Proposed trenching on Buckland and Alpine Hill did not eventuate due to initial success with the 500 Acre Reef and prioritization on this prospect and prospects within ML 4M/2013.

Some early bulk sample put through the ball mill circuit appeared to contain gold amongst the sulphides. This was not confirmed in a subsequent second sample leaving open the question of contamination of the first sample by the ball mill circuit a real possibility.

The reef was traced along the valley floor for a distance of 67m and a small cross trench at the base of the hill extended its exposed length to over 80m.

The reef was mapped and sampled with 43 samples collected but only 24 assayed. A sample of sulphide concentrate (5039) generated by pulverizing and panning off samples of the reef outcropping in Grant's Creek was also assayed.

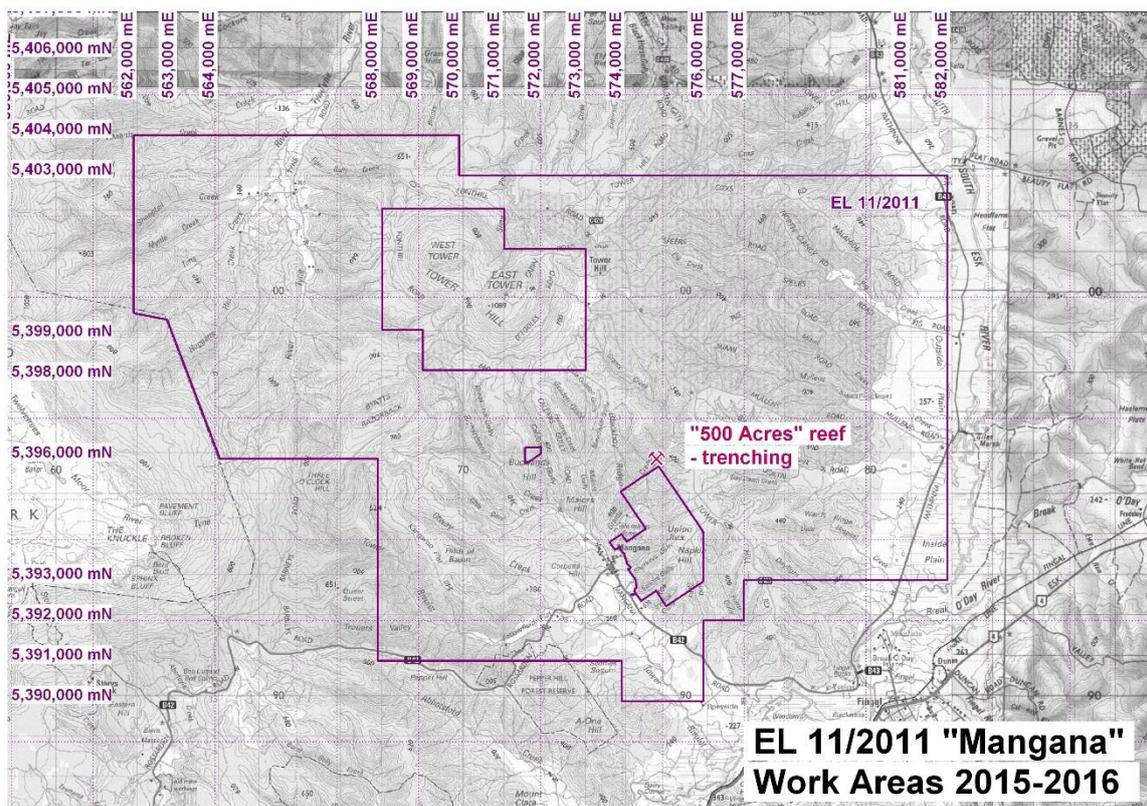


Figure 3.1: EL 11/2011 Work Areas July 2014 to July 2015



**Figure 3.2: Trench on 500 Acres reef looking north-northwest**



**Figure 3.3: Trench on 500 Acres reef looking north-northwest**

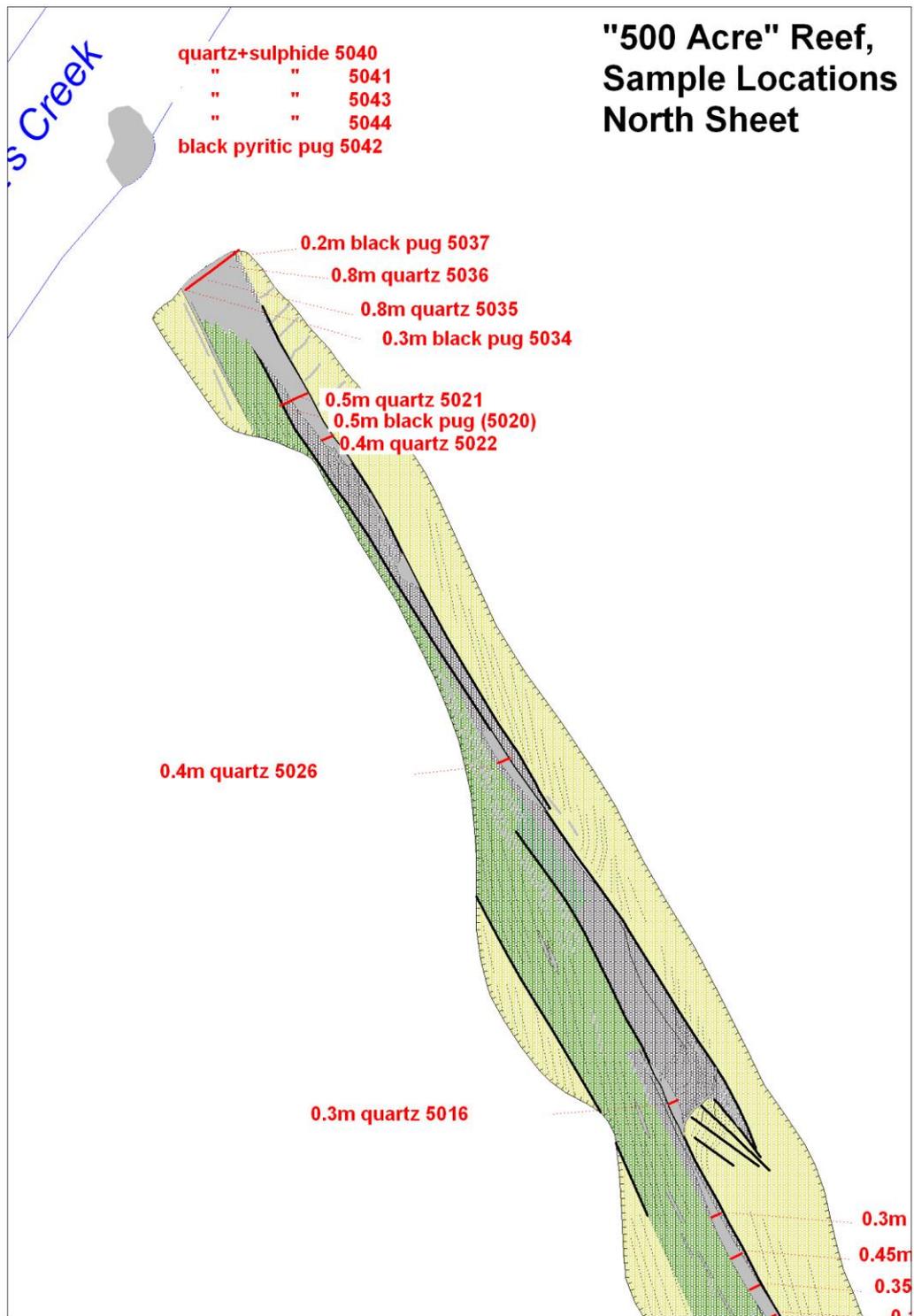


Figure 3.4: 500 Acre Reef sample locations – north sheet

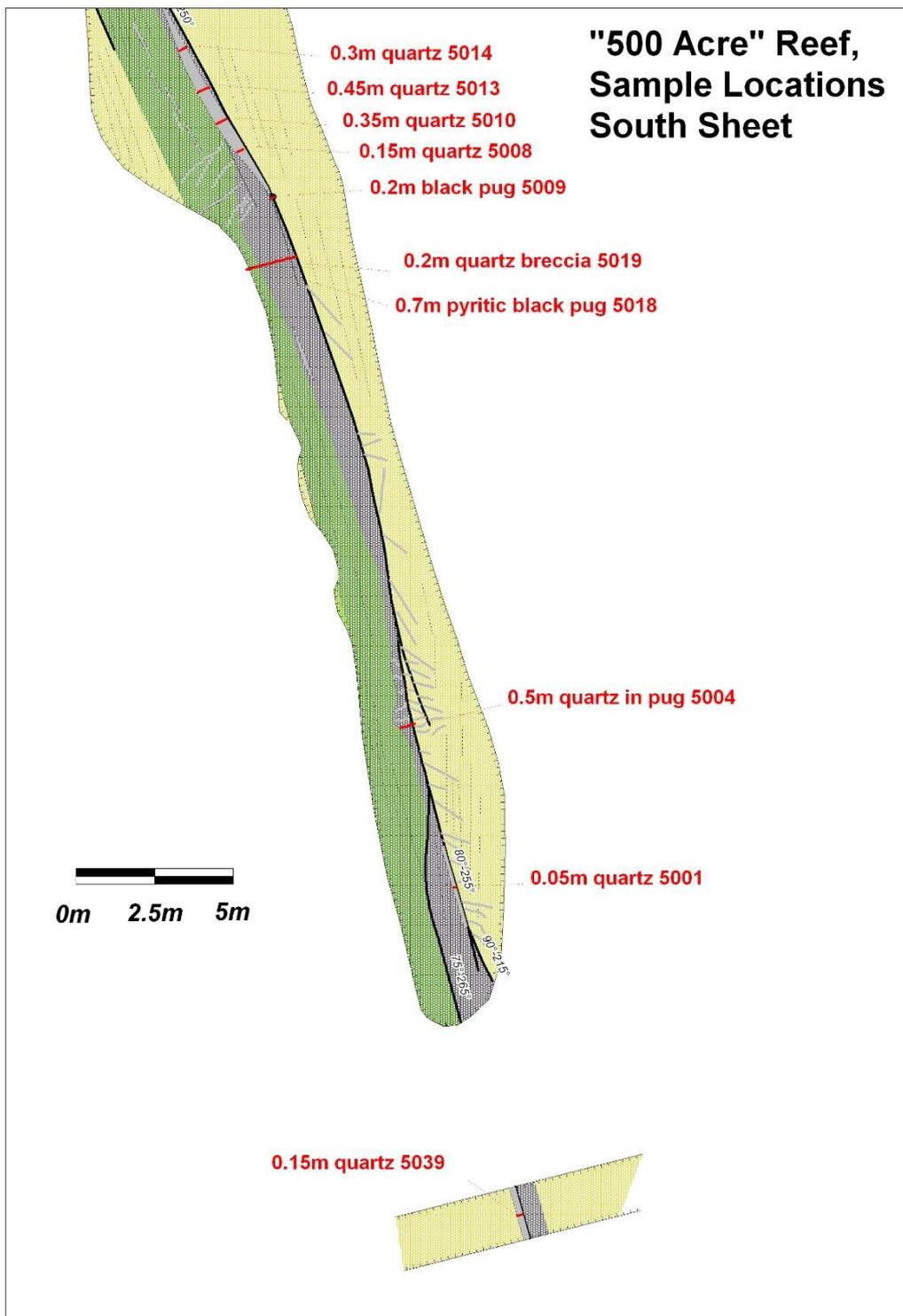
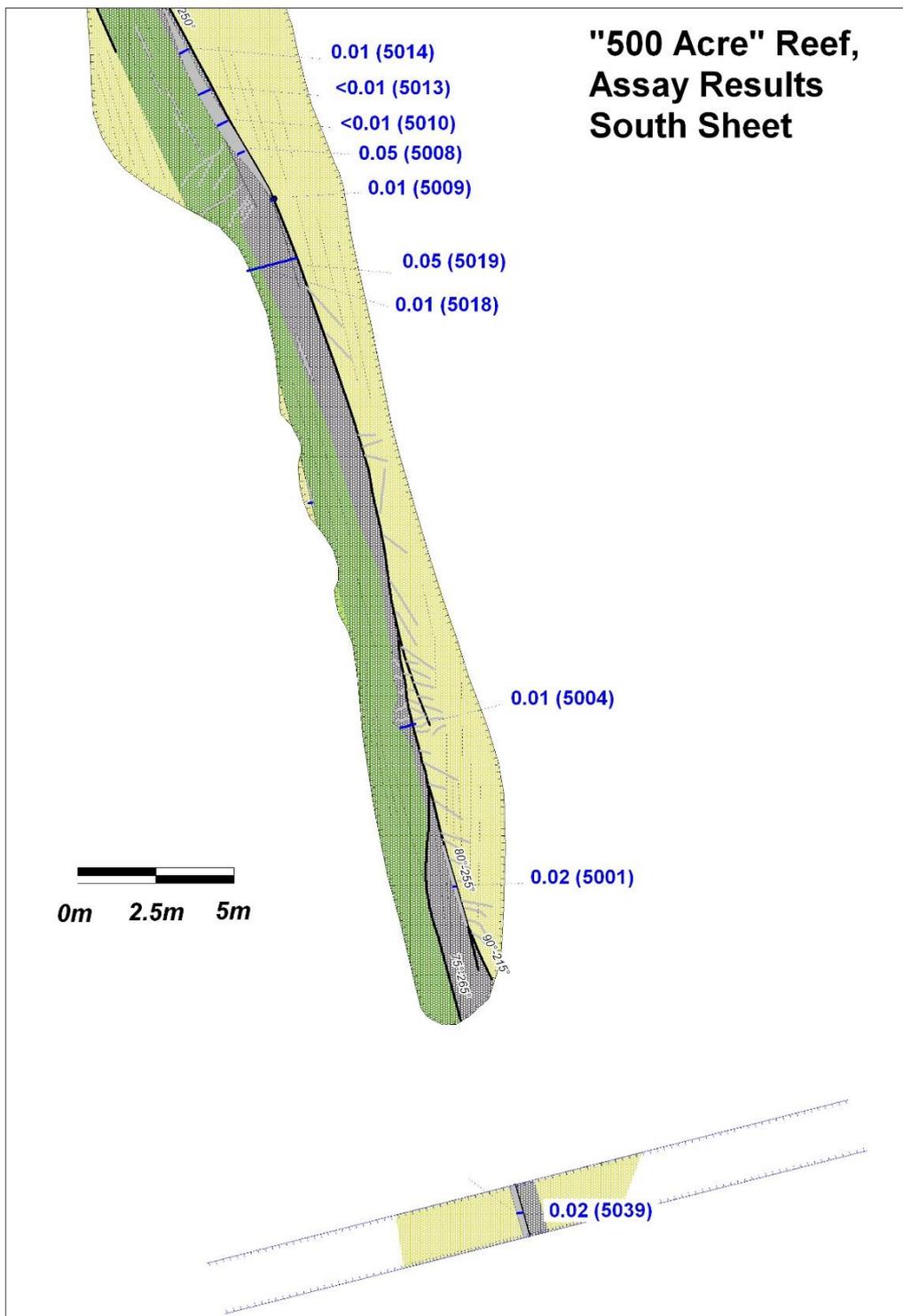


Figure 3.5: 500 Acre Reef sample locations – south sheet





**Figure 4.2: 500 Acre Reef geology and gold assays**

**Table 4.1: 500 Acres Reef sample locations and assays**

Sample ID	MGA94North	MGA94East	RL	Au (g/t)
5001	574896	5395948	315	0.02
5004	574894	5395953	315	0.01
5008	574889	5395971	315	0.05
5009	574890	5395970	315	0.01
5010	574888	5395972	315	<0.01
5013	574888	5395973	315	<0.01
5014	574887	5395975	315	0.01
5016	574886	5395978	315	0.07
5018	574889	5395968	315	0.01
5019	574890	5395968	315	0.05
5020	574873	5396001	315	0.08
5021	574874	5396001	315	0.02
5022	574875	5396000	315	0.07
5026	574880	5395989	315	0.02
5034	574870	5396004	315	0.03
5035	574870	5396005	315	<0.01
5036	574871	5396005	315	0.02
5037	574872	5396006	315	<0.01
5038	574868	5396011	315	5.19
5039	574898	5395937	315	0.02
5040	574868	5396011	315	0.03
5041	574868	5396011	315	0.14
5042	574868	5396011	315	0.07
5043	574868	5396011	315	0.08
5044	574868	5396011	315	<0.01

## **5.0 Environmental**

Trenching of the 500 Acre Reef involved the removal of ~2.0 to 2.5m thick layer of alluvium off the bedrock. Upon completion of mapping and sampling the alluvium was replaced in the trench and topsoil and vegetation dragged back over it.

No further rehabilitation is considered necessary.

## **6.0 References**

Corbett *et. al.* (2014). Geological Evolution of Tasmania. GSA.

MacDonald, G. (1996). EL 18/91 "Mangana". Annual Report to Mineral Resources Tasmania for Resolute Samantha Limited. unpub.

## Appendix A – Assays, ALS Burnie