



**LONE STAR CREEK- TASMANIA  
EL13/2006**

**FINAL REPORT  
14<sup>th</sup> February 2013**

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## **ABSTRACT**

EL 13/2006, Lone Star Creek, was granted on the 21/07/2006 and covers 8 sq km. Over the life of the licence seven trenches totalling 778m were excavated and 6 RC percussion holes were drilled (626m total) at the East Denison prospect.

After a management change and a review of the Tamar Gold tenements it was recommended that this licence should be surrendered. It was concluded that the East Denison mineralisation was supergene enrichment, depth limited and had been adequately tested. The review did recognise that there could be granite at depth and that this could potentially be a source of the mineralisation. Unfortunately its likely depth of 1 to 1.5km did not provide encouragement to pursue this target.

<b>CONTENTS</b>	pg
INTRODUCTION	4
Location	4
Recent Tenement History	6
Geology Overview	6
Historical Production	7
WORK COMPLETED	9
Lefroy Resources Ltd	9
Beaconsfield Gold NL and BCD Resources NL	9
Tamar Gold Ltd	12
ENVIRONMENT	13
EXPENDITURE	14
REFERENCE	15

<b>LIST OF FIGURES</b>	<b>pg</b>
Figure 1. EL13/2006 Lone Star Creek is located in north eastern Tasmania	4
Figure 2. Detailed locality map from MRT	5
Figure 3. Regional geology from MRT 1:250 000 map	6
Figure 4. Historic mines in the Denison Goldfield (from Komysan & Turner, 2003)	8
Figure 5. Compilation map of work at East Denison (from Morrison, 2008)	11

## INTRODUCTION

This report is a summary of the exploration activities conducted on EL13/2006 from the 21/07/2006 to 14/2/2013. The area of the licence is 8 sq kms.

## Location

The tenement is east of Launceston and immediately north of Golconda in eastern Tasmania (Figure 1 and 2). Access to the licence is via the Lilydale – Scottsdale Highway and gravel forestry roads.

**Figure 1. EL13/2006 Lone Star Creek is located in north eastern Tasmania**

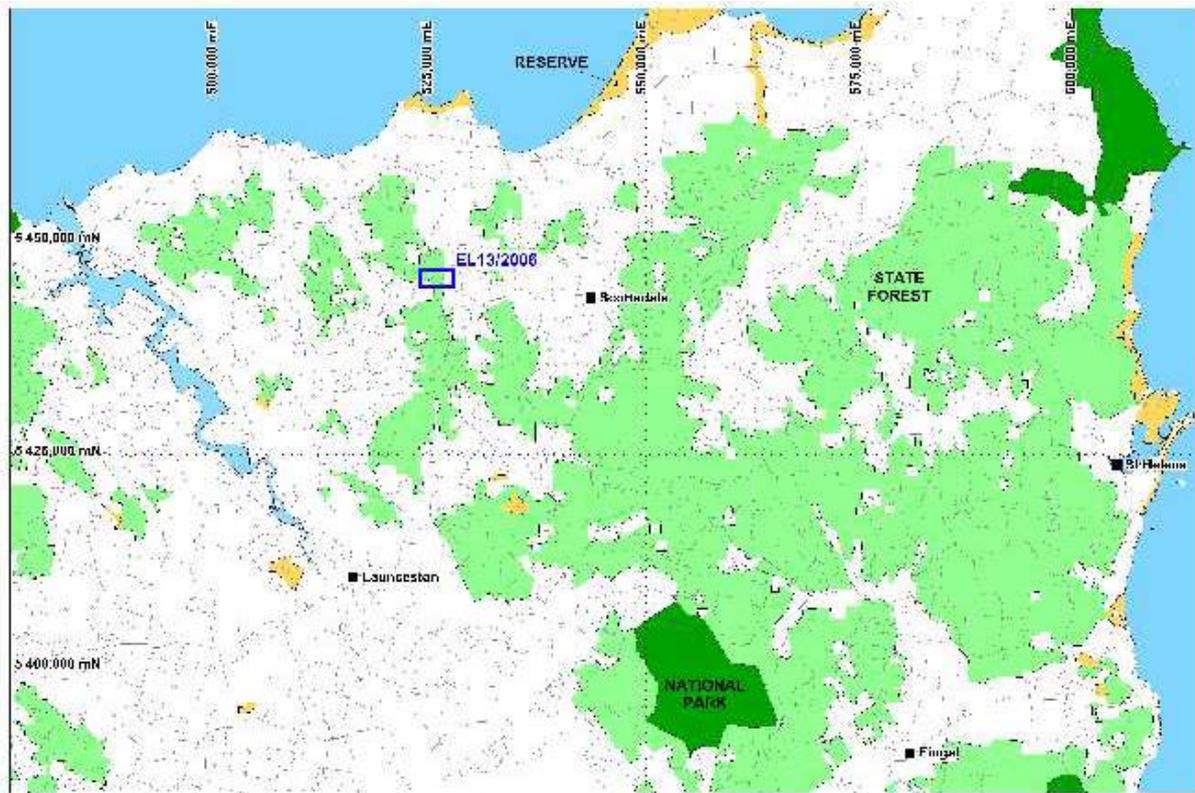
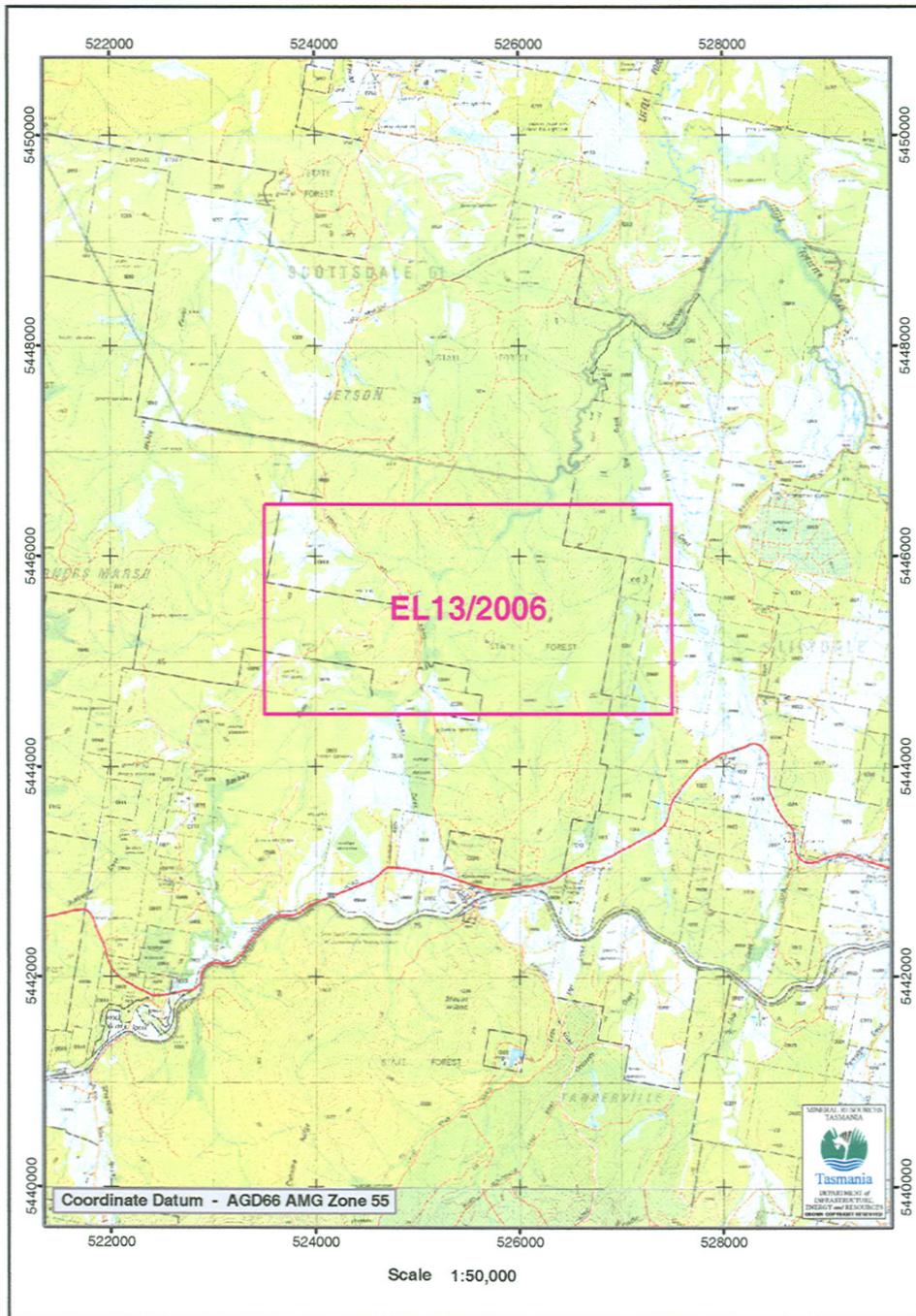


Figure 2. Detailed locality map from MRT



## Recent Tenement History

EL 38/1994 was granted to Silverthorne Resources in November 1994. Anglo Australian Resources NL joint ventured into the licence in 1996. The EL was relinquished in 2004.

EL 39/2004 was granted to Lefroy Resources on the 17<sup>th</sup> September 2004. The area covering East Denison was relinquished in 2006 and then granted again to Lefroy Resources as EL 13/2006.

Beaconsfield Gold NL joint ventured into the Lefroy group of licences in 2007/2008.

Tamar Gold entered a purchase agreement for six licences held by BCD Resources in May 2011 which included EL 13/2006.

## Geology Overview

The Eastern Tasmanian Terrane is the southernmost Australian expression of the Lachlan Fold Belt, and in north eastern Tasmania it is comprised of an early Ordovician to early Devonian folded succession of turbiditic quartzwackes and pelites (the Mathinna Group) which have been correlated with rocks of the Melbourne Trough in Victoria. The regional geology (Figure 3) is dominated by Mathinna Supergroup rocks and granitoids.

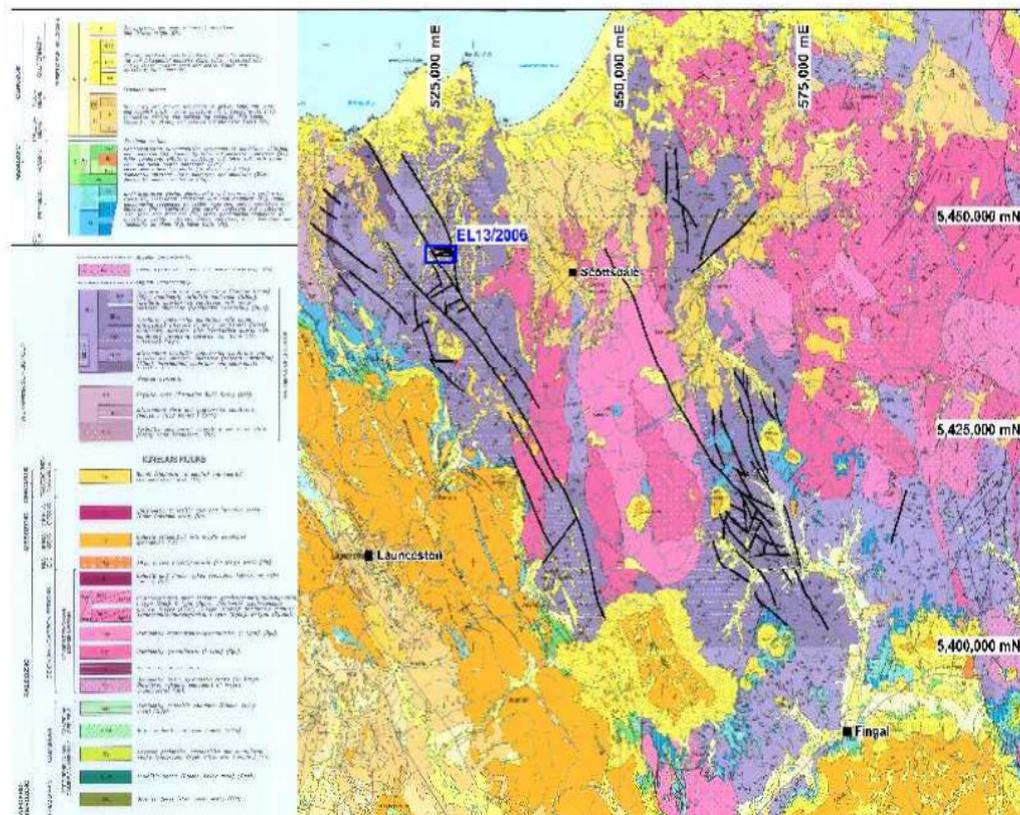


Figure 3. Regional geology from MRT 1:250 000 map

Mathinna Group rocks have undergone regional low-grade metamorphism and thermal metamorphism where they have been intruded by calc-alkaline granitoid batholiths of Devonian age. Thermal aureoles are commonly sharply defined and vary in width from about 800m to 5,000m.

Flat-lying sediments of the late Carboniferous to Triassic Parmeener Supergroup unconformably overlie both the Mathinna Group and the Devonian granitoids. The Parmeener Supergroup rocks are intruded by thick sheets of Jurassic dolerite.

Areas of Tertiary basalt and associated Tertiary sediments occur in this area and in some places have filled pre-existing drainage systems to form deep leads, some of which contain alluvial gold. Quaternary alluvium occurs in river valley.

The Denison Goldfield vein deposits are hosted within the Lone Star Siltstone formation, comprising basal bioturbated marine siltstone/shale/mudstone which is laminated to thinly bedded (Seymour et al., 2011). Minor black shale occurs and is commonly pyritic. The Lone Star Siltstone Formation grades upward with quartz-rich thick-bedded sandstone becoming more common toward the boundary with the overlying Sideling Sandstone Formation. The Denison Goldfield is located proximal to the contact of the Lone Star Siltstone Formation and underlying Retreat Formation.

Roach (1992) recognised a gravity low in the area of the Denison goldfield and ascribed it to the presence of a sub-surface granitic intrusion. This would agree with the hornfelsed nature of sediments found on the dump of the Sir William Denison mine. The granites are interpreted to be at depths of approximately 1-1.5km below the Denison Goldfield by Leaman & Richardson (1992).

### **Historical Production**

The Alacrity mine produced 10.3 kg of gold at an average grade of 48 g/t Au (Bottrill, 1994). It worked a 0.3 to 0.45m vein to a depth of 60m with levels at 32m, 46m and 60m.

Two narrow veins were mined at the Sir William Denison to a depth of 30m. Reports of three crushing's averaged 45.5 g/t, 46.7 g/t and 243 g/t Au.

At the Wiangatta mine a narrow vein was mined to a depth of about 80m and averaged 68.4 g/t Au.

Other mines in the area include;

1. The Royal Treasury which produced 32 tonne at an average grade of 6 g/t Au
2. The Brooklyn averaged 6 g/t Au
3. The Star averaged 7.5 g/t Au

These mines reported vein orientations trending east north east and dipping steeply, predominantly to the north west, except for Wiangatta which dipped to the south east.

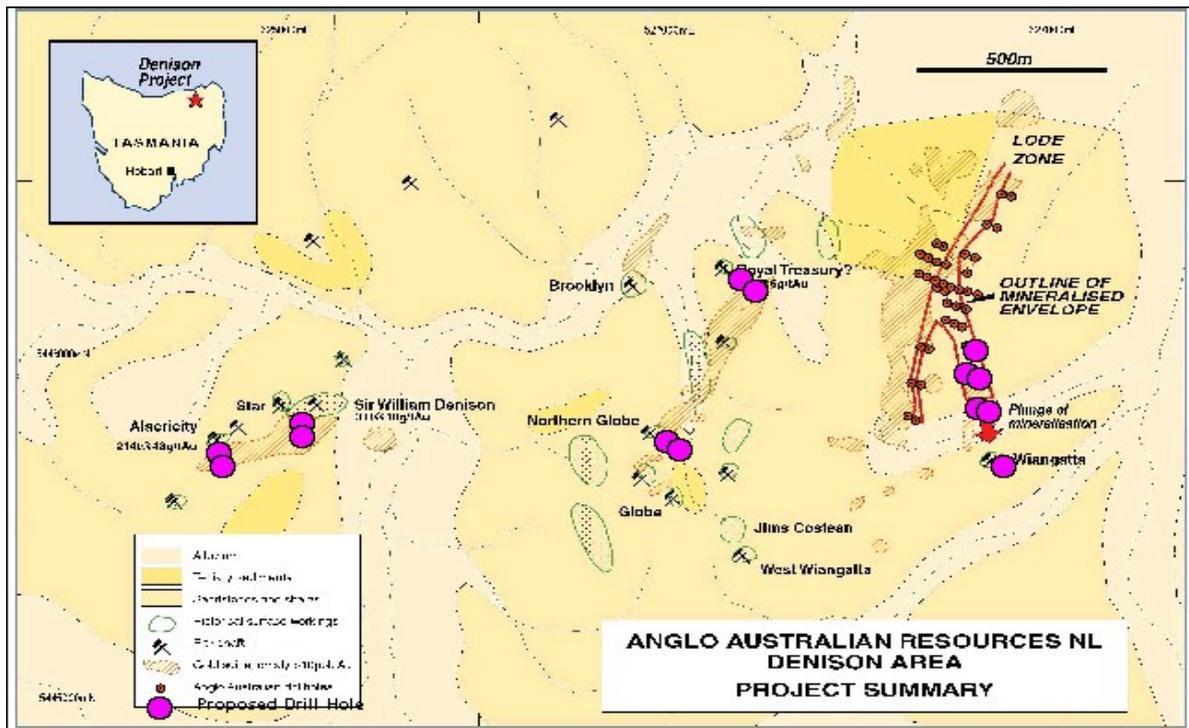


Figure 4. Historic mines in the Denison Goldfield (from Komysan & Turner, 2003)

## **WORK COMPLETED**

### **Lefroy Resources Ltd**

During the life of the current licence Lefroy Resources Ltd dug a series of 7 trenches 2007 (see Lloyd, 2007) with a combined length of 788m in order to obtain a better understanding of the controls of mineralisation at the East Denison prospect.

Assay results from this trenching program returned promising results including:

DTR001	6m @ 2.13 g/t Au
DTR004	42m @ 2.10 g/t Au
DTR006	46m @ 1.36 g/t Au

### **Beaconsfield Gold NL and BCD Resources NL**

Beaconsfield Gold NL entered a JV with Lefroy Resources Ltd in 2007 and undertook a six hole RC drilling program in 2008.

Morrison (2008) reported that the mineralisation occurred in two areas; the larger area located about 300m north of the smaller area (see compilation map figure 5 below). Previous trenching and drilling was orientated parallel to the original soil grid at 110<sup>0</sup>-290<sup>0</sup> MGA but the best results align on separated 160<sup>0</sup>-340<sup>0</sup> MGA trends, suggesting that the separation between the northern and southern areas of mineralisation could be due to an echelon dilation in a shear environment and that a more effective drilling azimuth would be on a 070<sup>0</sup>-250<sup>0</sup> MGA.

6 RC percussion holes (626m) were drilled to test the predicted 160<sup>0</sup>-340<sup>0</sup> MGA trend underneath the established low grade near surface mineralisation.

Three holes (EDRC 55, 56 and 58) were in the northern area and intersected intervals of near surface weak gold mineralisation. The best intercept was 20m @ 0.51 g/t Au from surface in EDRC 55. EDRC 58, which was drilled under the main zone of pervasive silicification, including the best values from previous trenching and drilling, returned an intercept of 22m @ 0.16 g/t Au from surface. The two step out holes along strike to the northwest (EDRC 56 and 57) achieved contrasting results. An intercept in EDRC 56 of 22m @ 0.19 g/t Au from 2m is consistent in tenor with the mineralisation in EDRC 58 and 55 directly along strike on the trend predicted to control mineralisation. EDRC 57 however failed to intersect a mineralised interval, indicating that mineralisation is discontinuous and perhaps restricted to multiple plunging shoots, each with a short strike length.

In the southern area the only significant intercept was in EDRC 53 with 3m @ 0.21 g/t Au from 32m. This intercept was within the oxide zone (base oxidation at 55m) and was the weakest of the four intersections considered significant.

The four significant intersections were all associated with elevated abundances of vein quartz but in each hole there were additional quartz enriched intervals at greater depth, which were barren. No sulphide was observed in the mineralised intervals but in the fresh rocks below base oxidation, minor accessory, commonly coarse and euhedral, pyrite is disseminated in sandstone and occasionally occurs with dark green chlorite in vein quartz. The evidence points towards supergene enrichment in the oxide zone being a major contributor to the gold anomalism.

It was concluded that all the gold encountered to date was supergene enriched and dispersed oxide zone secondary mineralisation occurring in small discontinuous zones along structures trending about 160°-340° MGA. The controlling structures display an en echelon arrangement and that the interpreted tight fold axes may actually be strike slip faults with oblique compressional tilting along the fault contacts. There is no evidence of significant mineralisation down plunge below the oxide zone.

The prospect was considered to be adequately tested and the ground was purchased by Tamar Gold in 2011.

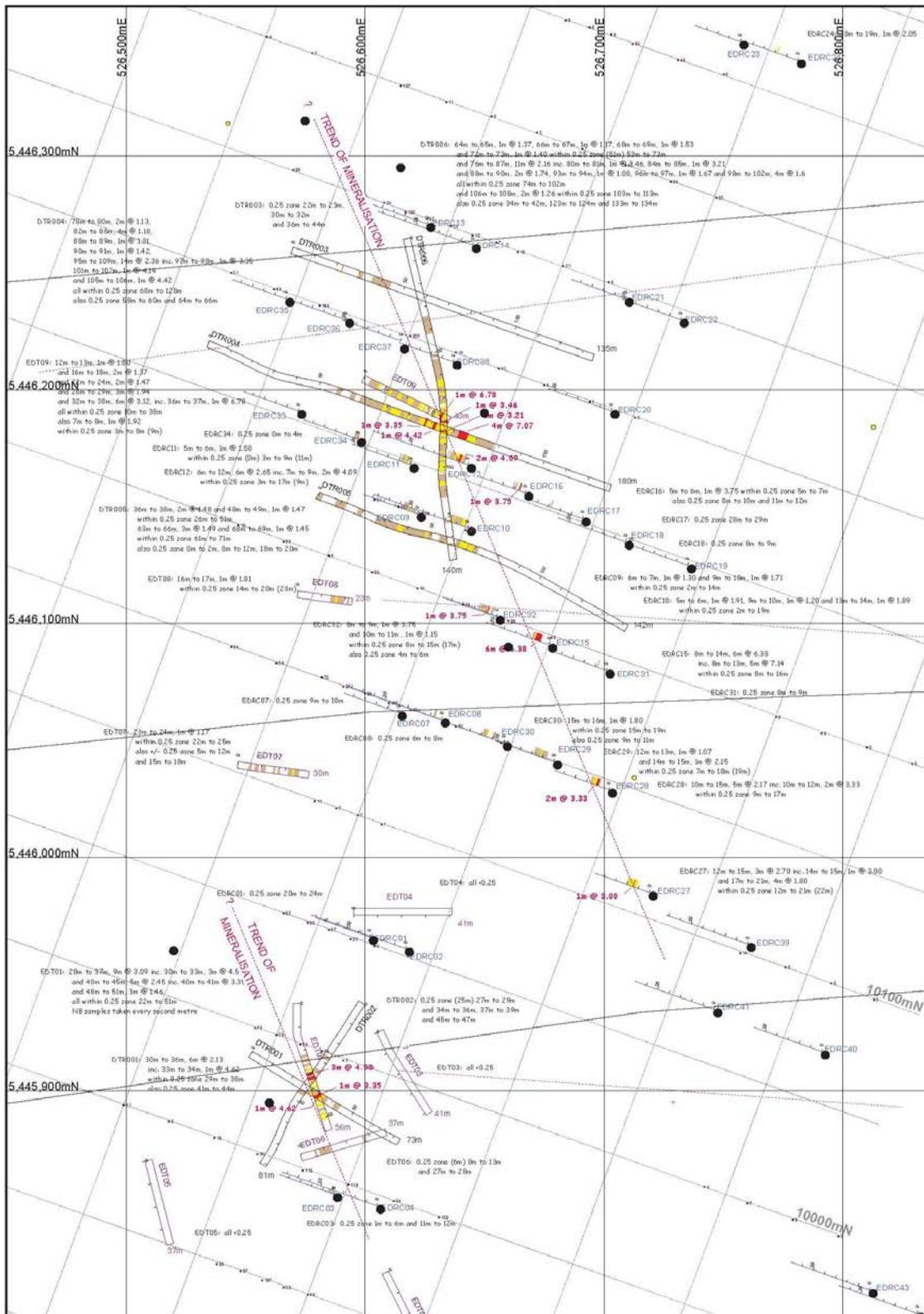


Figure 5. Compilation map of work at East Denison (from Morrison, 2008)

## Tamar Gold Ltd

The past work was reviewed and Holden (2012) concluded that a lack of continuity of mineralisation between sections had downgraded the potential of the East Denison prospect. It was interpreted that the drilling orientation was very acute to sub-parallel to the historic vein orientations in the Denison Goldfield.

It was recommended that as East Denison was a complex drill target it requires drilling in a broadly N-S direction to determine how much of the East Denison prospect mineralisation is associated with the east west Lefroy-style veins.

It was also concluded that although six holes were drilled grid north testing historic mines such as the Alacrity, Sir William Denison, and the Globe the drilling at East Denison is overwhelmingly drilled on the 288<sup>o</sup> MGA azimuth and it is probable that the drilling to date has not adequately tested the mineralisation.

After a management restructure in mid 2012 all Tamar Gold tenements were reviewed. The following conclusions were drawn for EL 13/2006:

- The historic mines at Denison appear to be similar in style to those at Lefroy with high grade gold mineralisation associated with east west trending quartz veins.
- Historic production is small although the Alacrity was worked on three levels.
- Seven RC holes on the historic mines did not have any noteworthy intersections. Trenching did discover some gold mineralisation.
- The recently discovered East Denison prospect has lower grade gold in a mica bearing sandstone which has thin quartz veins and ferruginous staining in the weathered zone.
- Bessells Reward Prospect between the Lisle and Golconda gold areas to the south of East Denison has similar “gold-impregnated sandstones” with iron oxide discolouration and secondary mica.
- The East Denison mineralisation is confined to the upper weathered zone and is interpreted by both Komyschan (2004) and Morrison (2008) as supergene enrichment associated with low level mineralisation in sulphide (pyrite) bearing thin quartz veins.

- The indication of relatively shallow granite (1 to 1.5km) suggests potential for intrusive–related gold systems with mineralisation at depth similar to that seen at the Potoroo prospect at Golconda.
- Komyschan (2004) recommended further shallow drilling to better define the east Denison supergene deposit while Holden (2012) suggests that the East Denison drilling was sub-parallel to the mineralisation and that further drilling should be in the north south direction.
- An area of soil anomalism to the west and south west of the known mineralisation at East Denison is untested according to Komyschan & Turner (2003).
- The cream coloured clays at the Northern Globe and in the zone of mineralisation at East Denison suggested acid leaching. Komyschan & Turner (2003) postulated that a sulfide-bearing lode structure could underlie the East Denison mineralisation. Diamond drilling would be required to test this deeper target.

Tamar Gold concluded that the East Denison mineralisation was supergene enrichment and that there was little potential to increase the currently well explored resource.

The potential of intrusive-related gold systems has been recognized by Tamar Gold as having potential in North East Tasmania and will be explored for in the Lisle – Golconda and Golden Ridge tenements. The indication of granite at depth at East Denison would require very deep drilling for this style of mineralisation.

It was concluded that this ground should be surrendered to allow Tamar Gold to focus on Lisle and Golden Ridge.

## **ENVIRONMENT**

At the conclusion of the BCD Resources NL drilling program the seven trenches remaining open from the Lefroy Resources Ltd work were backfilled and the six BCD drill pads were rehabilitated. The work was completed in late September 2008.

No further on ground work was undertaken at East Denison by Tamar Gold.

## EXPENDITURE

<b>7/2012 – 2/2013</b>		
<b>Geoscientific Costs</b>	<b>Prospectivity Review</b>	
	<b>Geochemistry</b>	
	<b>Geophysics</b>	
	<b>Remote Sensing</b>	
<b>Drilling &amp; Gridding Costs</b>	<b>Gridding</b>	
	<b>Drilling</b>	
	<b>Land Access Costs</b>	
	<b>Rehabilitation Costs</b>	
	<b>Feasibility Study Costs</b>	
	<b>Other Costs</b>	9900
	<b>Admin Costs</b>	114
	<b>Total</b>	<b>10014</b>

**Expenditure 7/2012 to 2/2013.**

Expenditure over the life of EL 13/2006 was \$256 549.

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