

EXPLORATION LICENCE EL 11/2012,  
GLADSTONE, NE TASMANIA

ANNUAL REPORT  
FOR THE YEAR ENDED  
01 NOVEMBER 2013

LICENSEE: S. Westbrook  
2/5 Seaview Tce  
Caloundra, QLD, 4551  
Australia

Prepared by:  
Sean Westbrook

## ABSTRACT

Exploration License (EL) 11/2012 covers 47 square kilometers of ground over historical goldfields at Cape Portland, near the township of Gladstone in northeast Tasmania. It is currently held 100% by Mr S. Westbrook who is a professional geologist with some 16 years experience in the exploration and mining industry. The EL has been given the name of "Cape Portland Gold Project" by the tenement holder.

The exploration model for Cape Portland Gold Project at EL11/2012 is for low tonnage, high grade, structurally controlled, orogenic style quartz-sulphide-gold vein and associated stockwork and disseminated gold mineralisation. The type model is Victorian- (Bendigo) and New Golden Gate- (Tasmania) style turbidite-hosted orogenic gold deposits. Near-surface mineralisation exists in the project area and it is considered that there is potential for small open pit-able operations with later underground development on high-grade lodes. These styles of gold deposits are high grade, and offer potential for clustered, small-footprint, short-start up, economically attractive mines. Capital costs are low relative to reward.

Recent studies indicate that based on geological, structural, tectonic and metallogenic similarities, northeastern Tasmania can be interpreted to represent a lateral equivalent of the turbidite-dominated fold-thrust belt of the western Lachlan Orogen in central Victoria that is host to one of the largest orogenic gold provinces in the world with a total of 80 million ounces (Moz) mined since 1851. The turbidite belts in northeastern Tasmania are host to extensive orogenic style gold mineralisation and numerous historical goldfields, however, unlike central Victoria, the goldfields of northeastern Tasmania are significantly under-explored with very little modern gold exploration and limited deep drilling below near surface lodes.

The Gladstone-Cape Portland district is probably one of the least explored and forgotten goldfields of Tasmania and until recently had never been drill-tested. A new structural interpretation of the area developed by the Licensee (see Chapter 4) suggests that known historical gold mines in the Gladstone-Portland goldfield are situated on or adjacent to district-scale NNE-trending axial planar structures and intersections with NW trending structures. These structures have never been explored beyond the immediate historical mine areas and represent a significant opportunity for discovery of new gold deposits across the goldfield.

Exploration work carried out this reporting period has involved the compilation of historical mining information and modern exploration activity data, combined with new structural interpretations that have generated numerous Greenfield exploration target zones over the Cape Portland goldfield covered by EL 11/2012 with significant opportunity to discover new gold deposits. At least 16 new, highly prospective exploration targets have been identified occurring at the favourable intersection of NNE- and NW-trending structures. These areas will be priority targets for exploration activities planned to be carried out over EL11/2012 during 2014.

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## 1.0 INTRODUCTION

This report is the first Annual Report for EL 11/2012 located near Gladstone in northeast Tasmania. It documents exploration activities carried out between the dates 02 November 2012 and 01 November 2013 (the Reporting Period). All maps and location coordinates contained within this report are presented in GDA94 datum format.

### 1.1 LOCATION, ACCESS & TENURE

Exploration License (EL) 11/2012 covers 47 square kilometers of ground over historical goldfields at Cape Portland, near the township of Gladstone in northeast Tasmania, Australia (Figure 1). It covers ground between Gladstone, Rushy Lagoon, Musselroe Bay and Cape Portland (Figure 2). The area comprises topographically low-lying, undulating coastal plains and grazing land with sparse vegetation cover allowing for relatively easy application of modern exploration techniques. Access to the area is via all-weather sealed roads to Gladstone and then public and private gravel roads inside the EL.

Land tenure of EL11/2012 is predominantly (<90%) Private Land over the Rushy Lagoon Station, with minor areas of Public Reserve, one small mining lease at the Cinderella Hill quarry and minor Conservation Area zones bordering the Musselroe River in the east part of the EL. EL11/2012 is situated within the legislated North East Strategic Prospectivity Zone (Tasmanian Mining (Strategic Prospectivity Zones) Act 1993).

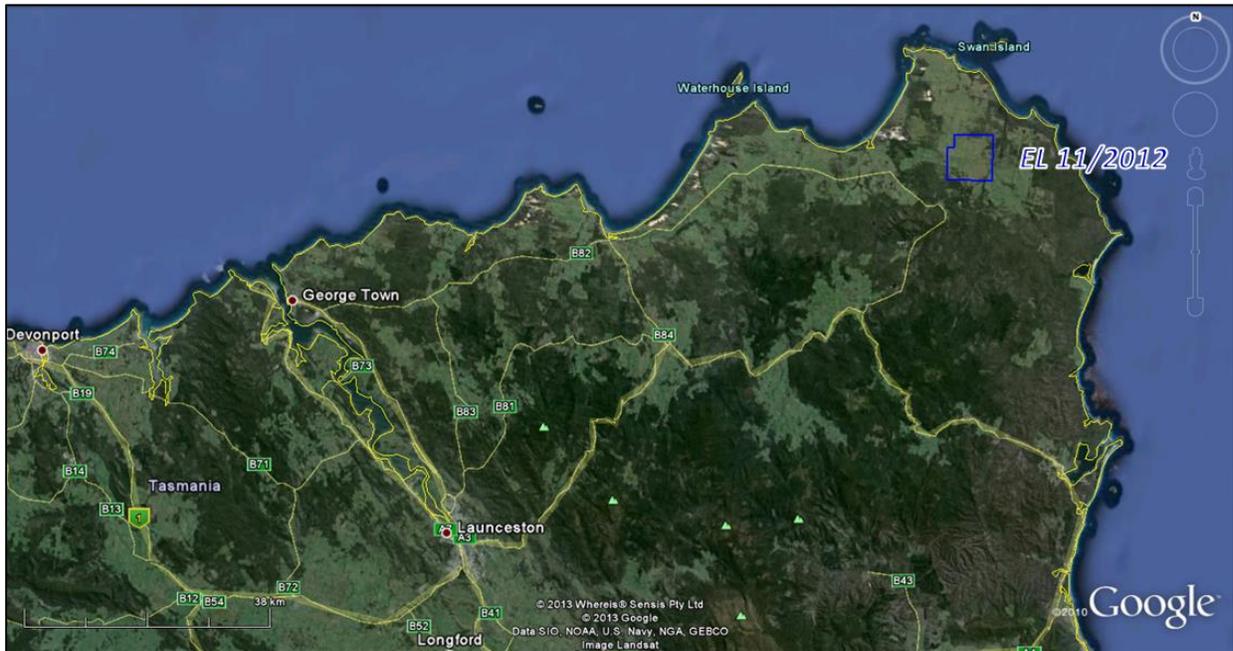
EL 11/2012 is currently held 100% by Mr S. Westbrook who is a professional geologist with some 16 years' experience in the exploration and mining industry. License details are listed in Table 1. The EL has been given the name of "Cape Portland Gold Project" by the tenement holder.

Project	Tenement	Holder	Status	License Expiry Date	Area (Ha)	Area (km2)
Portland	EL 11/2012	S. Westbrook	Granted	02 Nov 2017	4700	47.0

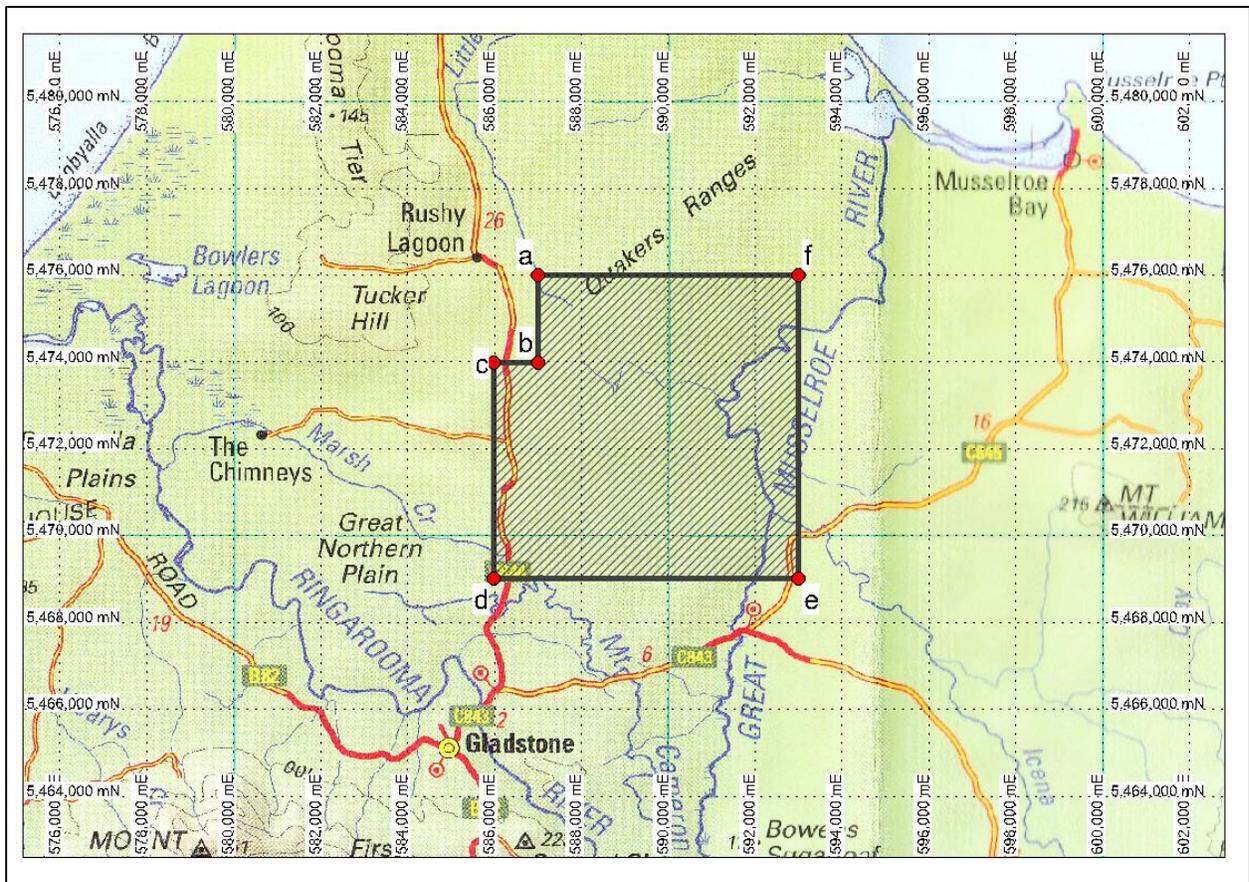
**Table 1.** EL 11/2012 license details.

Point ID	Easting	Northing
a	587000	5476000
b	587000	5474000
c	586000	5474000
d	586000	5469000
e	593000	5476000
f	593000	5476000

**Table 2.** Coordinates defining the EL 11/2012 tenement boundary as shown in Figure 2. Datum used is Map Grid of Australia 1994 (MGA94), Zone 55, GDA94.



**Figure 1.** Satellite image showing the location of EL 11/2012 in northeast Tasmania. Source: Google Earth.



**Figure 2.** Location plan showing EL 11/2012 area. Datum used is Map Grid of Australia 1994 (MGA94), Zone 55, GDA94.

## 1.2 REGIONAL GEOLOGY

The Paleozoic geology of northeastern Tasmania comprises a 5 to 7 km thick, deformed sequence of Cambrian or Ordovician-Silurian (to early Devonian) aged turbidites known as the Mathinna Supergroup (or “Mathinna Beds”). Rocks of the Mathinna Supergroup were folded and metamorphosed to sub- to mid-greenschist facies during the Early to Middle Devonian. Several extensive S- and I-type granitoid batholiths (namely the Scottsdale, Blue Tier and Eddystone Batholiths) intruded the Mathinna Supergroup during Late Devonian times (around 400 Ma to 375 Ma). The granitoids area surrounded by narrow metamorphic aureoles indicative of intrusion at a high crustal level. The Mathinna Supergroup and granitoid rocks are unconformably overlain by flat-lying Permo-Triassic rocks of the Parmeener Supergroup which are intruded by sills of Jurassic dolerite. The Parmeener Supergroup rocks are typically unmineralised. Exhumation and weathering during the Tertiary was accompanied by widespread basaltic volcanism.

The Mathinna Supergroup rocks in northeastern Tasmania are host to over 600 gold prospects and deposits, the most significant of which are Beaconsfield (3.25 Mt @ 19.0 g/t Au), the New Golden Gate mine (0.51 Mt @ 15.6 g/t Au) and Pinafore Reef, Lefroy (0.97 Mt @ 10.1 g/t Au). Most of the deposits are orogenic-mesothermal vein-style and occur in clusters along regional NNW trends (see Figure 5). Intrusion-related gold is noted to occur in the Lisle-Golconda goldfields area and is currently of exploration interest. Significant Sn-W deposits are associated with S-type granites and northeastern Tasmania was also a historical tin mining region.

Orogenic style gold mineralisation in northeastern Tasmania is attributed to deformation, folding and peak orogeny in the Early to Middle Devonian, at about 390 Ma, with most of the vein deposits formed between 385 Ma and 395 Ma (Bierlein et al. 2005). An earlier phase (420-430 Ma) of gold mineralisation during the Silurian has also been noted in some deposits.

Based on geological, structural, tectonic and metallogenetic similarities, northeastern Tasmania has been interpreted as a lateral correlate of the turbidite-dominated fold-thrust belt of the western Lachlan Orogen in central Victoria that is host to the World-Class Stawell, Bendigo and Melbourne Zone goldfield districts (Bierlein et al. 2005).

## 1.3 LOCAL GEOLOGY

Historical gold workings in the Gladstone-Portland district comprise gold-bearing quartz-sulphide vein lodes hosted within deformed and metamorphosed turbidite slates and quartzite of the Mathinna Supergroup sediments (Figure 3). Devonian granitoids enclose the Mathinna Group rocks to the south and west (Blue Tier Batholith), and north and east (Eddystone Batholith). Jurassic dolerite dominates the northwest part of the coastline outside of the EL. The Mathinna Beds are steeply dipping, striking approximately NNE and consists of interbedded lithic arenite and quartzite, siltstone and pelite, with hornfelsing in metamorphic aureoles around granitoid bodies.

Aeromagnetic and radiometric surveys flown over the Gladstone-Portland district have been quite successful in resolving local- and district-scale structural trends within the Mathinna Beds and boundaries with the Devonian granitoids and associated hornfelsing. Significant variation in the magnetic properties of the Mathinna sediments has allowed for magnetite-bearing sandstone-rich units to be delineated as magnetic-high rocks. The magnetic images clearly show different stratigraphic units in the Mathinna Beds and indicate close to tight folding of the turbidite sequences along a NNE axial planar trend and slight plunge towards the north. District scale NNE to N-S trending axial plane shear and cross-cutting NW-SW trending faults are apparent in the magnetics and appear to be major structural controls on the location of the known historical gold mines.

The structural resolution in the geophysical images has allowed a new structural interpretation for the Gladstone-Portland goldfield district. The new interpretation indicates that known historical gold mines in the goldfield are situated on or adjacent to major district-scale structures. Most of these structures have not been explored beyond the historical prospects.

## 1.5 EXPLORATION RATIONALE

The exploration model for Cape Portland Gold Project (EL11/2012) is for low tonnage, high grade, structurally controlled, orogenic style quartz-sulphide-gold vein and associated stockwork and disseminated gold mineralisation. The type model is Victorian- (Bendigo) and New Golden Gate- (Tasmania) style turbidite-hosted orogenic gold deposits. Near-surface mineralisation exists in the project area and it is considered that there is potential for small open pit-able operations with later underground development on high-grade lodes. These styles of gold deposits are high grade, and offer potential for clustered, small-footprint, short-start up, economically attractive mines. Capital costs are low relative to reward.

Recent studies indicate that based on geological, structural, tectonic and metallogenetic similarities, northeastern Tasmania can be interpreted to represent a lateral equivalent of the turbidite-dominated fold-thrust belt of the western Lachlan Orogen in central Victoria (e.g. Bierlein et al, 2005) that is host to one of the largest orogenic gold provinces in the world with a total of 80 million ounces (Moz) mined since 1851 (Figure 4). The turbidite belts in northeastern Tasmania are host to extensive orogenic style gold mineralisation and numerous historical goldfields (Figure 5). However, unlike central Victoria, the goldfields of northeastern Tasmania are significantly under-explored with very little modern gold exploration and limited deep drilling below near surface lodes.

The Gladstone-Portland district is probably one of the least explored and forgotten goldfields of Tasmania and until recently had never been drill-tested. A new structural interpretation of the area developed by the Licensee (see Chapter 4) suggests that known historical gold mines in the Gladstone-Portland goldfield are situated on or adjacent to district-scale NNE-trending axial planar structures and intersections with NW trending structures. These structures have never been explored beyond the immediate historical mine areas and represent a significant opportunity for discovery of new gold deposits across the goldfield.

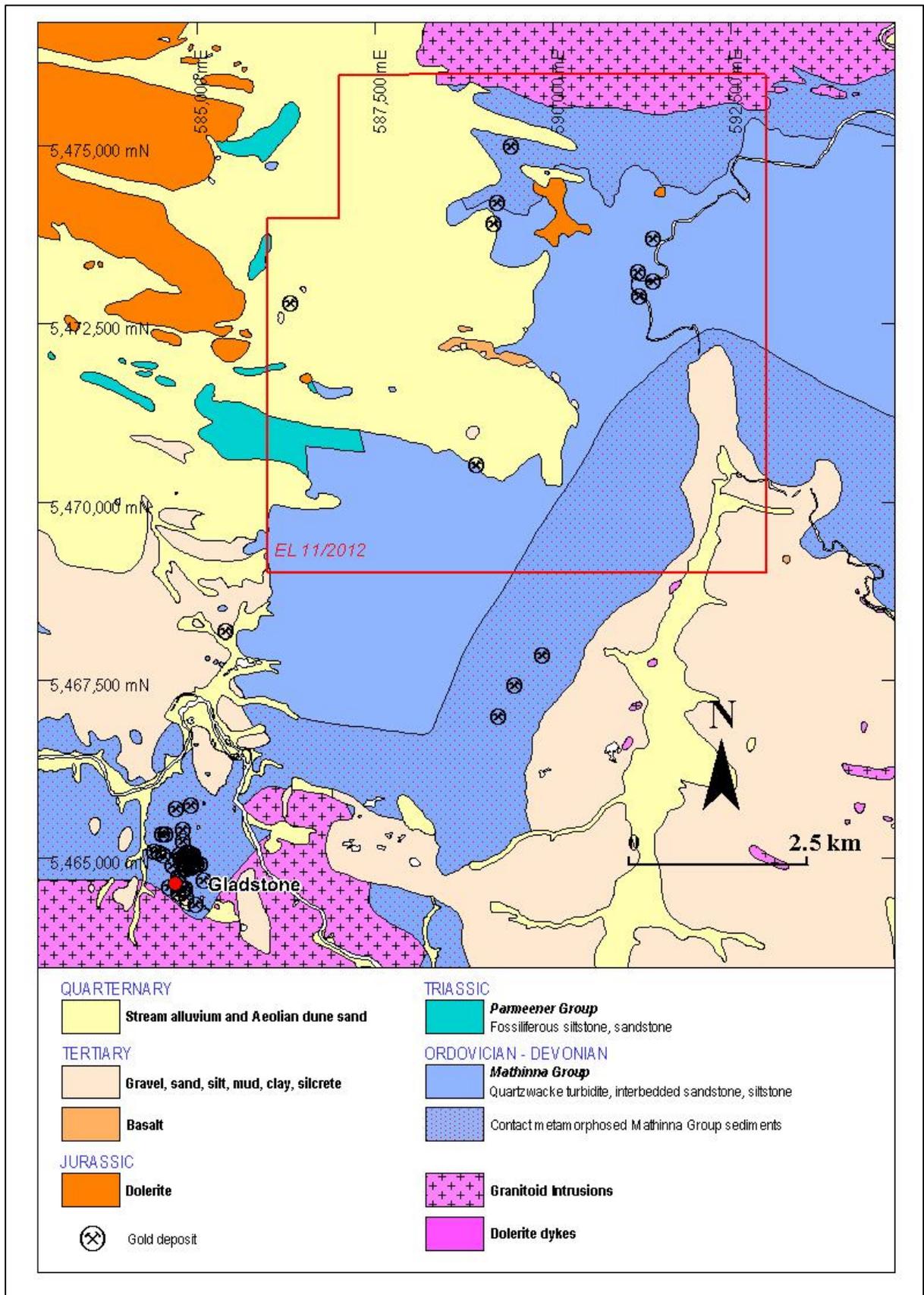
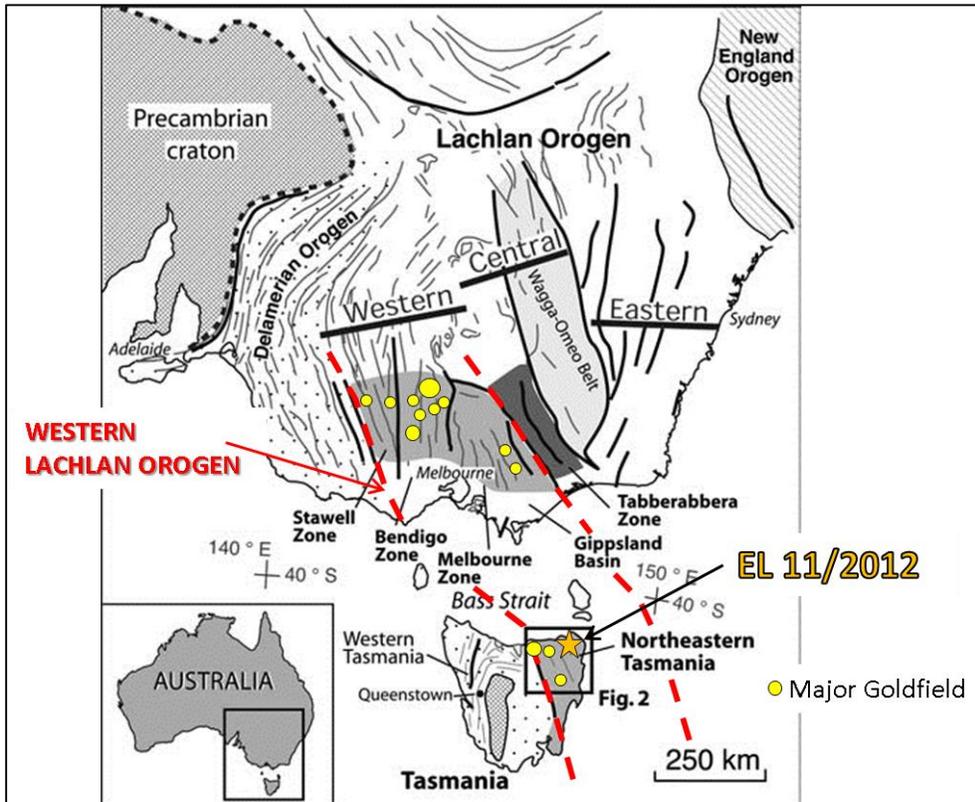
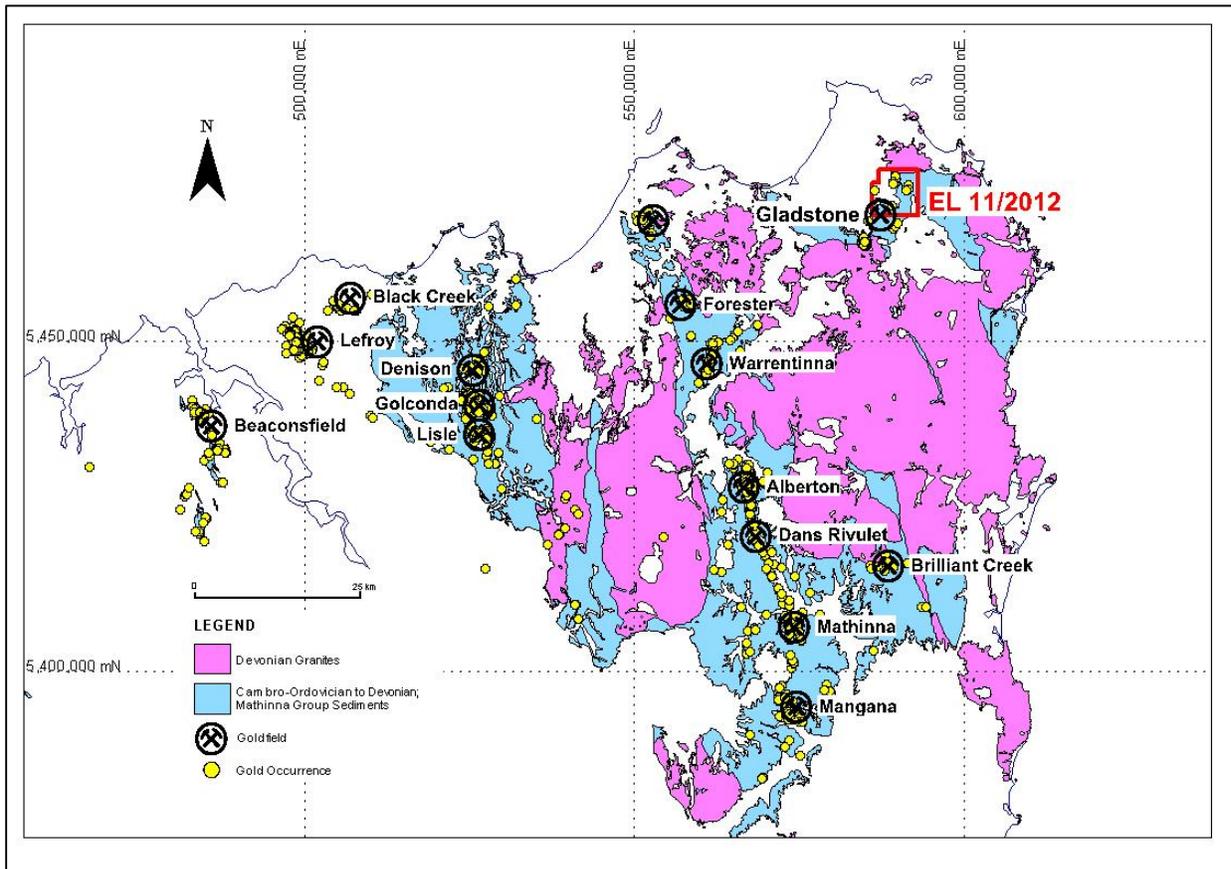


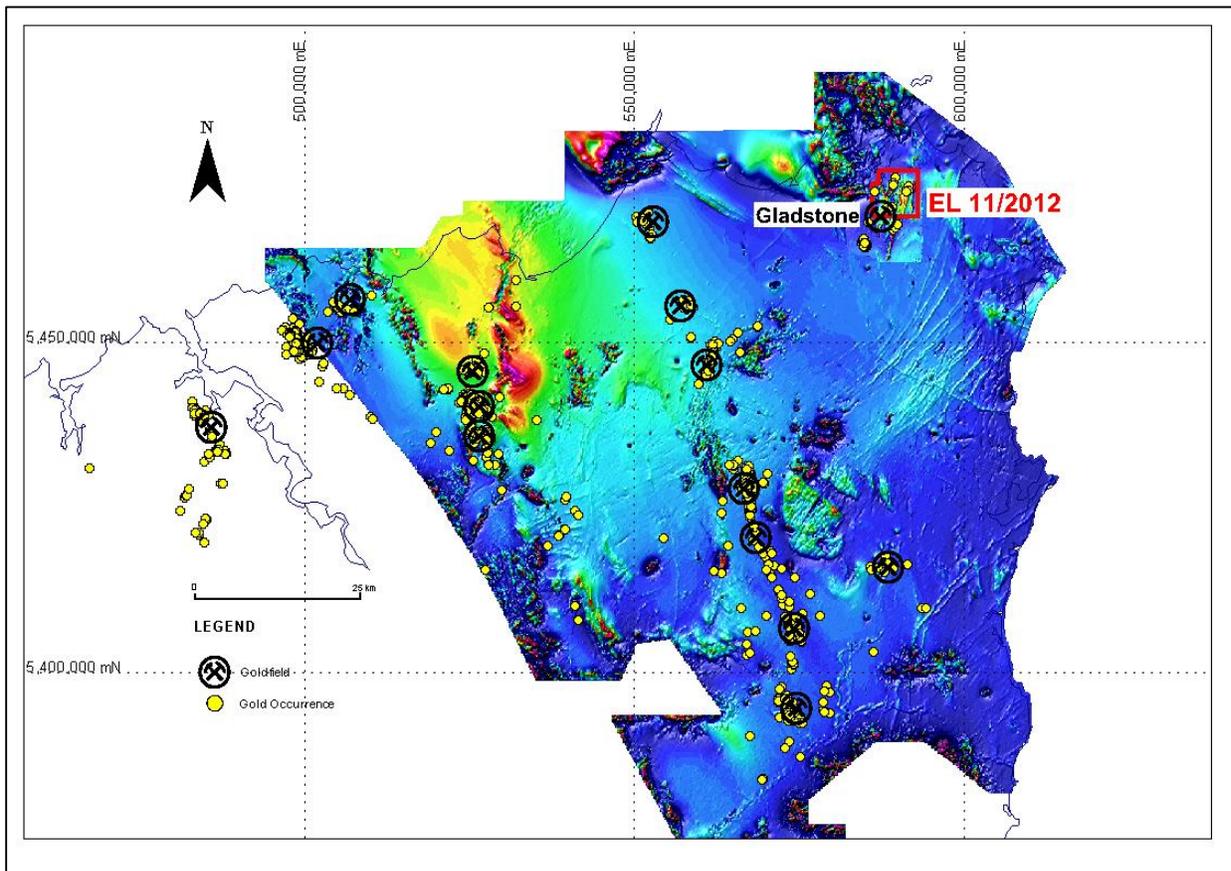
Figure 3. Geology map of the Gladstone-Portland goldfields area.



**Figure 4.** Map illustrating the inferred tectonic correlation between northeastern Tasmania and the western zone of the Lachlan Orogen in Victoria (modified after Bierlein et al, 2005).



**Figure 5.** Map showing the goldfields of northeastern Tasmania with simplified Ordovician to Devonian geology.



**Figure 6.** Regional magnetics image (TMI) and goldfields of northeastern Tasmania. Geophysics Data Source: 2007 Northeast Tasmania survey (MRT Survey ID: netas2007, Tasmanian Geological Survey).

## 2.0 REVIEW OF PREVIOUS EXPLORATION AND MINING

Gold mining activity in the Gladstone-Portland goldfield dates back to 1870 and was mostly concluded by about 1917. The gold mines were located on narrow, high-grade quartz vein lodes. Stockwork and disseminated style mineralisation is also described in some historical reports (Thureau, 1881 and Twelvetrees, 1916). The historical mining grades were high with commonly reported grades ranging from 15 to 30 g/t Au. Unfortunately, historical grades and production is poorly documented. Mining ceased at most workings due to increasing refractory gold contained in sulphides at depth. The miners were unable to treat the sulphide ore at the time.

The goldfield is divided into two parts – the southern Gladstone goldfield, located close to the Gladstone Township, and the northern Portland goldfield located approximately 6 km northeast of Gladstone. EL 11/2012 is centered over the Portland goldfield.

### 2.1 GLADSTONE GOLDFIELD

The Gladstone goldfield is characterised by gold bearing quartz lodes that commonly have a close spatial association with Sn-W deposits occurring within hornfelsed Mathinna Group sediments in the contact metamorphic zone with granitic rocks. The main lodes of the Gladstone area are the Royal Standard, Wolfram Reef, North Tasman, Royal Tasman No 1, Flemings Reef and the Royal Mint. These mines were worked to shallow depths of up to 30 m and along strike lengths up to 300 m. Average widths of the quartz lodes varied between 0.3 and 4.5 m. The Royal Tasman mine has a reported production of 1,672 ounces of gold for 2,958 tonnes ore mined over a two year period, with an average grade of 17.3 g/t Au. Bonanza gold grades

were commonly reported - a 10-pound sample of picked stone sent to be treated at the Sandhurst School of Mines yielded grade of 146 oz/ton (Twelvetrees, 1916). A ton of quartz sent to Ballarat for sampling in 1880 yielded 20 oz. 9 dwt. 12 gr. of smelted gold with traces of platinum and 3.5 % pyrite (Twelvetrees, 1912).

## 2.2 PORTLAND GOLDFIELD

The Portland goldfield area is here defined as occurring in a 9 km long, 5 km wide NNE trending belt starting from the McGowan's mine in the south and extending northwards through the Portland, Blue Bell, Prince Imperial, Grand Flaneur and Musselroe mines. Mineralisation in the Portland goldfield occurs as high-grade gold quartz vein lodes and stockwork hosted in folded turbidite succession host rocks of the Mathinna Group, generally at distance from the contact zones with granite intrusives. It contains some 13 known historical gold mines or prospects that were most active between 1870 and 1917. It was a characteristic of the reefs to pass very rapidly into sulphide-rich zones at shallow depths and as this ore could not be treated at the time, most mines were abandoned when the sulphide-rich ore was encountered below the base of oxidation.

Modern exploration in the Portland goldfield area has been limited and sporadic with only three companies conducting exploration activities in the last 25 years. The most recent was during 2007 to 2010 when Macquarie Harbour Mining Company (MHMC) conducted reconnaissance and rock chip sampling at the historical mine sites which was followed up by gridding, trenching and a shallow RC drilling program. MHML drilled 48 RC holes for a total of 1865 m across the Big Musselroe, Grand Flaneur, Bluebell, Prince Imperial and Portland prospects. The RC holes were only shallow with depth ranging from 22 to 52 m. Many of the drillholes are considered to have not adequately tested the mineralisation and many were vertical drillholes which would not have been effective in testing the steeply dipping structures.

### 2.2.1 PORTLAND MINE

The old Portland mine is located 6.4 km NE of Gladstone and 4.8 km south of the Blue Bell mine. It was the deepest mine in the Gladstone-Portland goldfield, with workings to a depth of 64 m. The NW-trending reef was high grade, averaging 32.5 g/t Au throughout the mine life. Significant silver grades of 3 to 5 times that of gold made the Portland mine distinctive in the goldfield. The mine occurs within or adjacent to an anticlinal fold axis. Regional and district scale magnetic survey images indicate the Portland mine lies within the NW trending Portland fault zone.

Results from detailed ground magnetic and SP surveys carried out by Placeco in 1987 imply a NW strike of structures and fracture systems in the Portland mine area. Mineralisation is associated with a magnetite-destructive alteration zone with a distinctively magnetic Mathinna Group unit.

Historical mining reports from the Portland mine indicate gold is associated with arsenopyrite, galena and sphalerite in quartz veins down to about the 45 m level, averaging 1 to 2 oz/t in grade. Below this level, gold values decreased and at 60 m depth the vein ran 6 g/t Au. Production values recorded in 1902 show 94 ounces of gold was recovered from 90 tonne of ore. Historical assays from surface samples returned gold grades of 1 oz/t to 3 oz/t Au.

Anglo Australia sampled quartz veining in the reef vicinity in 1997 with a high of 125.7 g/t Au. In 2008 Macquarie Harbour Mining Limited (MHML) sampled quartz-sulphide vein material from the Portland mullock heap that returned assays of 15.7 g/t Au and 9.3 g/t Ag with very high lead and arsenic. Attempts to follow the Portland lode along strike have so far been unsuccessful.

## 2.2.2 BLUE BELL MINE

Discovered in 1870, the Blue Bell mine was the first gold lode found in the Gladstone area. It was prospected until 1881 when Blue Bell G.M.Co sank a shaft to 30 m. Work ceased in 1884 due to high sulphide vein contents at depth. Mineralisation at Blue Bell occurred on two reefs, up to 1 m wide, 39 m apart. Strike of the reefs was reported as approximately east-west, dipping steep (87°) to the south. Gold is also reported as occurring within silicified wall rock at Blue Bell. Interestingly, Scott (1930) noted a large body of silicified sandstone in the Blue Bell area which, although traced for a considerable distance, carried no gold. Historical gold production from the Blue Bell mine is unknown.

Shallow scout RC drilling by MHML in the Blue Bell area was poorly targeted and yielded mainly disappointing results although there was widespread anomalous gold (>0.1 g/t Au) in most drillholes. The best result was:

- **BBRC7: 2 m grading 1.6 g/t Au from 11 m, including;**
  - 1 m grading 2.54 g/t Au from 11 m.

Drillholes in the Blue Bell area were either vertical or drilled to the south and it is considered that these hole would not have effectively tested a steeply dipping, N-S trending vein lode system.

## 2.2.3 PRINCE IMPERIAL MINE

The Prince Imperial mine is located 300 m north of the Blue Bell mine. It was discovered in 1870 with various prospecting and mining carried out until 1907 when it was known as the New Imperial. Prospecting pits and shaft activities continued until at least 1933. Nye (1933) notes numerous closely spaced and narrow quartz veins present throughout quartzites and slates in the ground between Prince Imperial and Blue Bell mines.

Mineralisation at Prince Imperial occurs as fissure quartz veining with arsenopyrite, galena, pyrite and cassiterite sulphides. The veining is recorded as striking northwest across north striking slates and sandstones which are probably folded in the vicinity. A part of the reef is noted as consisting of numerous, heavily sulphide mineralised veins hosted in meta-sandstone. The sandstone between the zones is also noted as being gold mineralised – Twelvetrees (1916) notes a body of indurated sandstone veined with quartz and which has the aspect of an irregular silicification of the sandstone that returned 2 g/t Au and 1.2 g/t Ag. A separate quartz vein located nearby carried values up to 20 g/t Au.

Work by MHML over the Blue Bell – Prince Imperial area included digging of 3 costeans which identified a silicified anticline with quartz stockwork striking N-S through the prospects. MHML interpreted that the historical workings lie on or adjacent to interpreted fault structures within the zone. Of significant exploration importance here is the recognition that the silicified and quartz veined anticline zone is coincident with a narrow NNE trending demagnetized zone delineated from a ground magnetic survey carried out by the University of Tasmania.

Results from RC drilling by MHML at Prince Imperial included:

- **BBRC16: 4 m @ 4.0 g/t Au from 46 m, including;**
  - 1 m @ 11.3 g/t Au from 46 m.
- **BBRC18: 17 m @ 0.5 g/t Au (no cut-off) from 25 m, including;**
  - 1 m @ 0.9 g/t Au from 28 m;
  - 1 m @ 2.2 g/t Au from 32 m;
  - 4 m @ 1.0 g/t Au from 36 m.

## 2.2.4 GRAND FLANEUR MINE

The Grand Flaneur Mine is located 1.4 km NNE of the Blue Bell mine and is interpreted to occur along the same NNE trending axial planar structure and the Blue Bell and Prince Imperial mines. As with the other mines, it was discovered in 1870 and then worked until around 1883. The main shaft was sunk to 19 m but results of the work are unknown. Mineralisation at Grand Flaneur comprises arsenopyrite-pyrite, gold-bearing fissure quartz veins. The main reef is 1 m thick and is described as having vertical veins rising from it. Gold grades varied from 6 g/t Au to 1.5 oz/t. Samples containing high sulphide content carried 7.6 g/t Au and 1.2 g/t Au.

Costeaning efforts at Grand Flaneur exposed promising stockwork within steep to sub-vertical, east dipping grey siltstone beds plus larger vein sets with a similar dip and trend to the originally mined reef. RC drilling by MHML that targeted these veins returned encouraging results including:

- **GF03:**
  - 1m @ 17.7 g/t Au from 27 m (end of hole interval);
  - 1m @ 0.77 g/t Au from 6 m;
  - 1 m @ 0.68 g/t Au from 1m.
- **GF01: 5m @ 0.55 g/t Au from 19 m.**
- **GF09: 1m @ 1.6 g/t Au from 17 m.**

No follow-up deep drilling has been carried out at Grand Flaneur prospect.

## 2.2.5 BIG MUSSELROE MINE

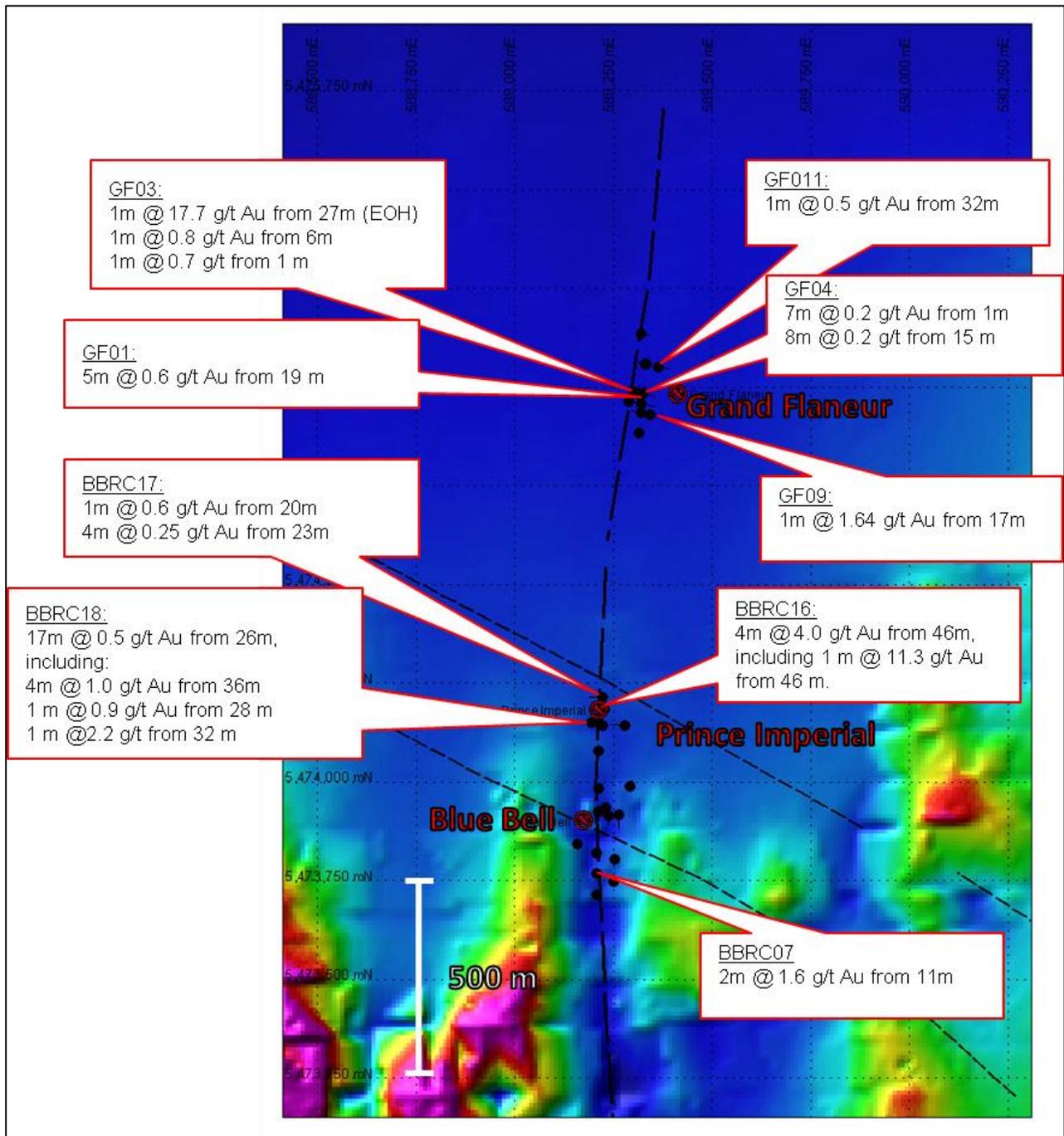
The Big Musselroe mine occurs 2.2 km east of the Blue Bell mine, next to the Musselroe River. The area is notable for a series of wide quartz reefs which occur in north-south striking zones up to 15 m wide. The Big Musselroe reef contains gold-bearing sulphides including pyrite, arsenopyrite and galena. Twelvetrees (1916) reported values of 3 g/t Au and 4.2 g/t Ag and 5 g/t Au and 7.2 g/t Au from two locations in the reef. Numerous small reefs and outcrops are reported in the Musselroe mine area but were historically considered low grade.

Thureau (1881) reported large vein lodes as well as stockwork style veining as “intricate systems of quartz veins interlacing each other at all angles and in all directions”. Thureau also noted some areas with wall rock adjacent to quartz lodes being “considerably impregnated with sulphides....indicating strata favourable for gold deposition.”

The district scale magnetics imply that the trend of quartz veining and gold mineralisation in the Big Musselroe mine occurs along a NNE trending axial planar fault structure.

## 2.2.6 JOHN FOSTER'S PROSPECT

This historical prospect, located close to the western tenement boundary, occurs over a body of quartz veined, irregularly silicified sandstone. The only recorded assay sample from this prospect returned 1.7 g/t Au and 0.5 g/t Ag (Twelvetrees, 1916). The prospect is situated adjacent to the NW trending Icena fault. No modern exploration has been carried out over the John Fosters area.



**Figure 7.** Significant RC drillhole intercepts in the Blue Bell-Prince Imperial-Grand Flaneur trend. Underlay image is of magnetics (TMI). Geophysics Data Source: 1987 Gladstone survey (MRT Survey ID: gladstone1987, Placeco, 125 m line spacing).

### 3.0 EXPLORATION COMPLETED THIS REPORTING PERIOD

Work carried out during the reporting period mainly involved desktop studies and target generation for planned field work anticipated to commence during 2014. The completed work includes:

- Compilation and review of all previous mining and exploration activities in the immediate and surrounding EL 11/2012 areas;
- Acquisition, enhancement and review of existing airborne geophysical data;

- Combination of all existing data to develop a new structural interpretation and geological / exploration model for the Gladstone-Portland Goldfield area;
- Reconnaissance visit to the EL area during November 2012 to assess logistical issues such as access, introductions with landowners and brief inspection of historical workings where possible.
- Target generation project to define and prioritise exploration targets for follow-up field work (to commence in 2014);

## 4.0 DISCUSSION OF RESULTS

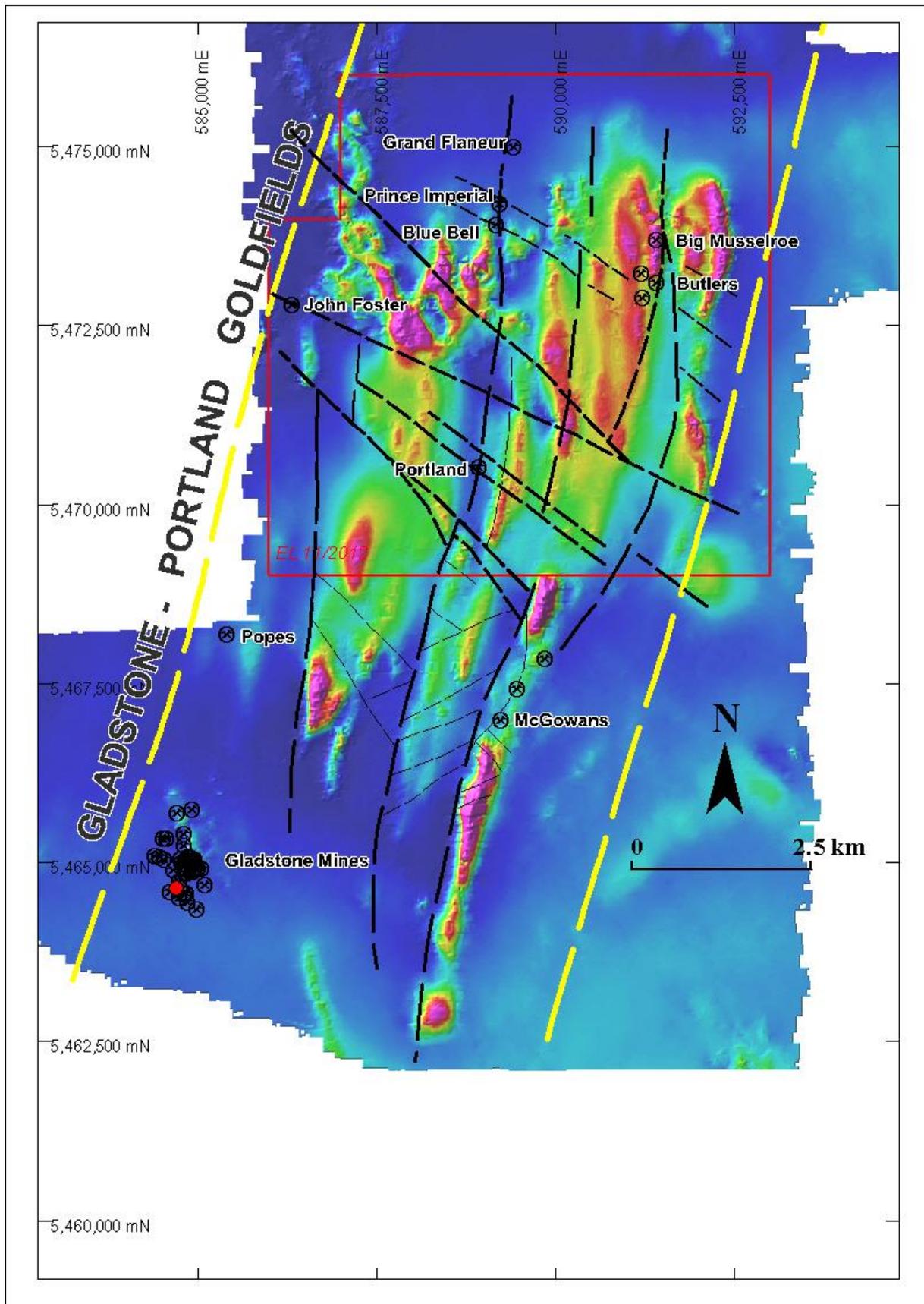
The compilation of historical mining information and modern exploration activity data, combined with a new structural interpretation has generated numerous greenfield exploration target zones over the Portland goldfield covered by EL 11/2012 with significant opportunity to discover new gold deposits. Figures 8 and 9 show the new structural interpretation and Figure 10 shows key target structural trends and intersections.

Based on recognition that anticlinal hinge zones and axial planar faults are likely to be the best exploration targets, the NNE-trending Rushy, Quakers, Mexican and King Johnny fault zones are considered highly prospective structural trends (Figure 9). In particular, the Rushy and Mexican structures have historical gold mines along their trends and are documented as occurring in or adjacent to anticlinal zones. Areas of mag-destructive alteration associated with the structures should be priority targets.

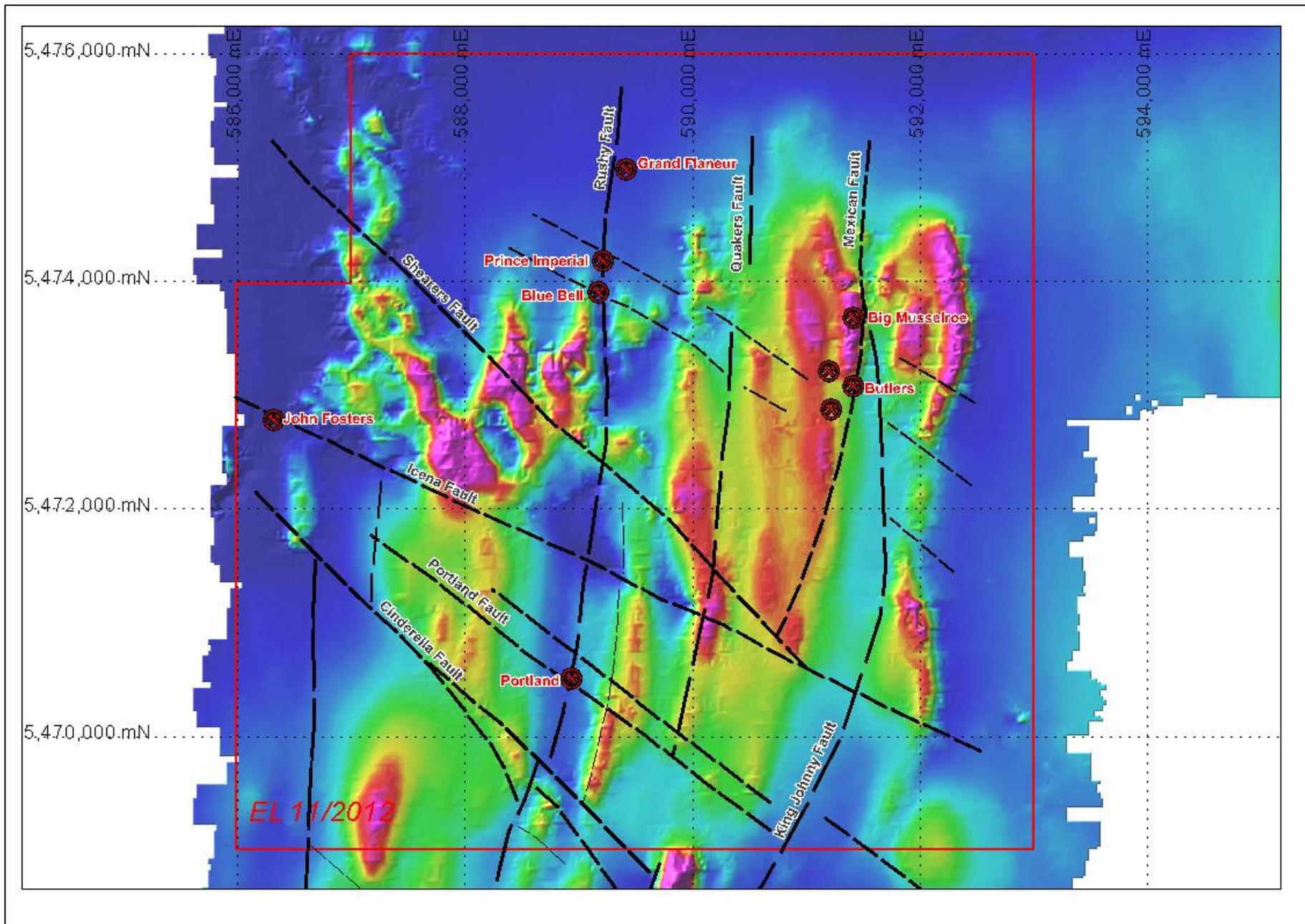
The northwest trending structures (Cinderella, Portland, shears and Imperial fault zones, Figure 9) are also considered prospective, particularly where they intersect with the NNE trending axial planar structures. Many of the historically mined quartz lodes have a NW strike component which is consistent with there being some influence from these cross-cutting structures. Figure 10 shows target zones at key structural intersections which are highlighted as priority exploration targets.

Of significant exploration importance is recognition of results from previous trenching in the Blue Bell – Prince Imperial – Grand Flaneur area that indicate the historical workings lie on or adjacent to fault structures within a N-S to NNE trending anticline zone. The silicified and quartz veined anticline zone is coincident with a narrow NNE trending demagnetized zone identified from ground magnetic surveys. Shallow RC drilling intercepted anomalous and high-grade gold zones throughout this zone. None of the high-grade intercepts have been followed up and no deep drilling has tested the structure. Many kilometers of strike length along these structures remain untested.

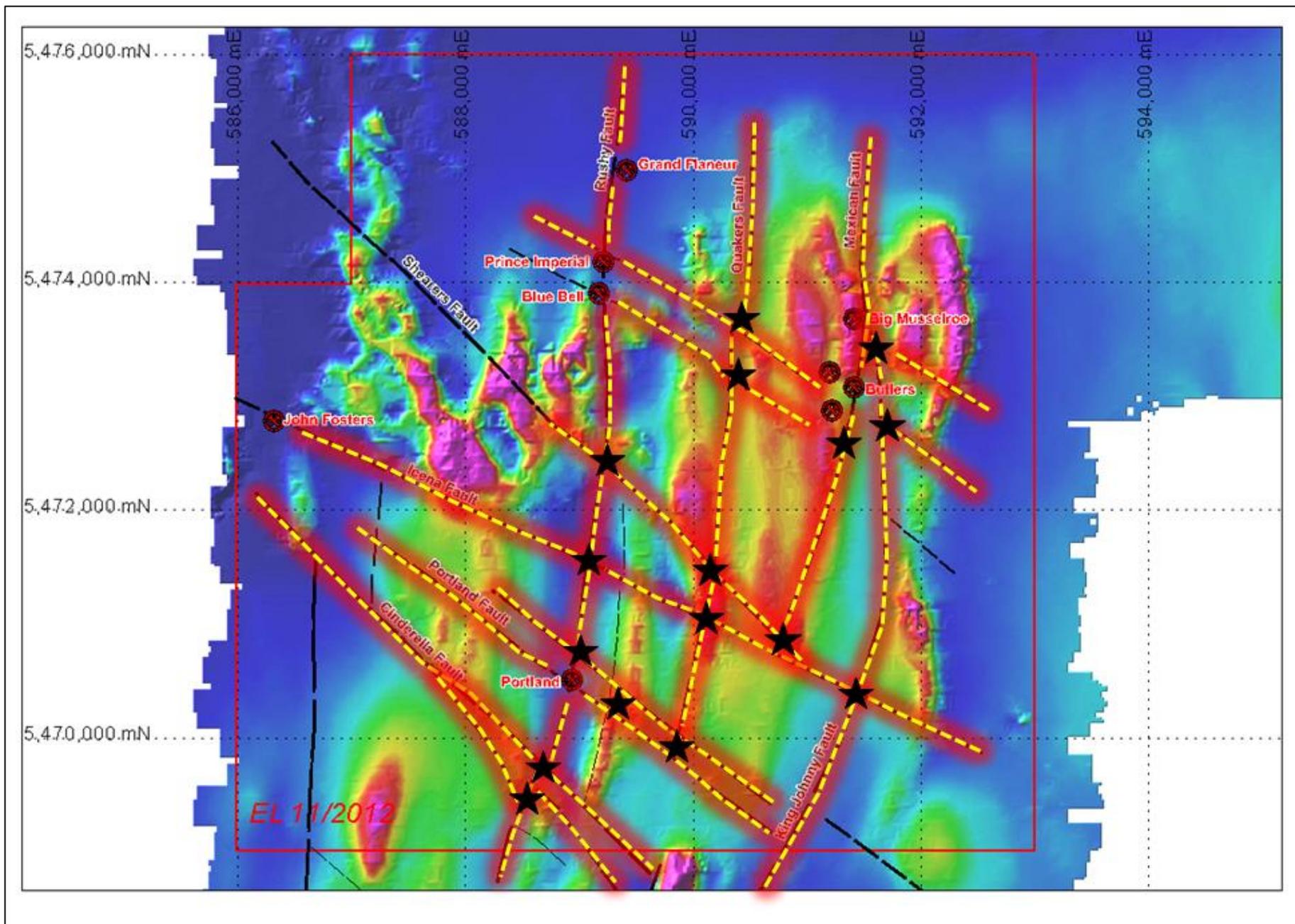
At least 16 new, highly prospective exploration targets have been identified occurring at the favourable intersection of NNE- and NW-trending structures (Figure 10). Areas along strike near historical mines are also favourable targets. These areas will be priority targets for exploration activities over EL11/2012 during 2014.



**Figure 8.** District-scale magnetics image (TMI) with historical gold mines and interpreted structures. Geophysics Data Source: 1987 Gladstone survey (MRT Survey ID: gladstone1987, Placeco, 125 m line spacing).



**Figure 9.** Map showing district-scale magnetics (TMI), historical gold mines and new structural interpretation over the Portland goldfields area. Geophysics Data Source: 1987 Gladstone survey (MRT Survey ID: gladstone1987, Placeco, 125 m line spacing).



**Figure 10.** Map showing district-scale magnetics (TMI), historical gold mines, key structural trends and priority exploration targets (stars) at intersections of NNE- and NW-trending structures. Geophysics Data Source: 1987 Gladstone survey (MRT Survey ID: gladstone1987, Placeco, 125 m line spacing)

## 5.0 EXPENDITURE

Exploration expenditure over the reporting period for EL11/2012 is summarized in Table 3.

	ITEM	EXPENDITURE (AUD)
1.	GEOSCIENTIFIC COSTS:  <div style="text-align: right;">             Geology \$ 21,000              Geochemistry \$ 0              Geophysics \$ 0              Remote Sensing \$ 0           </div>	
2.	DRILLING AND GRIDDING COSTS  <div style="text-align: right;">             Gridding \$ 0              Drilling \$ 0           </div>	
3.	LAND ACCESS COSTS	\$ 0
4.	REHABILITATION COSTS	\$ 0
5.	FEASIBILITY STUDY COSTS	\$ 0
6.	OTHER COSTS  <div style="text-align: right;">             Rental Fees \$ 1,257           </div>	
7.	ADMINISTRATION COSTS  <div style="text-align: right;">             Legal \$ 0              Administration \$ 3,000           </div>	
	<b>Total Expenditure</b>	<b>\$ 25,257</b>

**Table 3.** Exploration expenditure during the period 01/11/2012 to 01/11/2013.

## 6.0 REFERENCES

Anglo Australian Resources N.L (1997). Exploration Licence 15/95. Annual Report for the period 09/11/96 to 10/11/97.

Bierlein, F.P., Foster, D. A., Gray, D. R., Davidson, G. J. (2005). Timing of orogenic gold mineralisation in northeastern Tasmania: implications for the tectonic and metallogenetic evolution of Palaeozoic SE Australia. *Mineralium Deposita* 39: 890-903.

Leaman, D. 1987. Report on trial survey, Portland mine, for Placeco Australia Pty Ltd. Leaman Geophysics.

Leaman, D. 1992. Gold exploration and the use of Magnetic Methods in Northeast Tasmania. Paper presented at a symposium "Tasmania: An Island of Potential – New Perspectives on Mineral Exploration" Hobart 1992. [GSB70\_149\_160].

McClenaghan, M.P. 1994. A summary of the Beaconsfield, Lefroy, Back Creek and Gladstone goldfields. *Mineral Resources Tasmania Report* 1994/03.

McOnie, A. 1983. A review of gold potential of north eastern Tasmania. Gold Fields Exploration Pty Ltd. [TCR 88-2762].

Morrison, K. and Davidson. 1987. Exploration licence 34/86. Gladstone. Annual report year 1. Placeco Australia Pty Ltd. [TCR 88-2762].

Nye, P.B. 1933. The Gladstone Goldfield. Report by the Government Geologist. Mines Department Tasmania. [UR1933\_017\_30].

Richardson, J. 2009. Exploration Licence EL2/2007. Gladstone, north east Tasmania. Annual and Partial Relinquishment Report.

Roach, M.J. 1997. Detailed Ground Magnetic Surveys in the Gladstone and Denison Areas, N.E. Tasmania, EL 15/95. Unpublished report Anglo Australian Resources NL, University of Tasmania. [98\_4245A].

Simmons, H. 2010. Exploration Licence EL2/2007. Gladstone, north east Tasmania. Final Report.

Scott, J. 1930. Report on gold areas Portland and Gladstone. Unpublished report, Department of Mines, Tasmania. [UR1930\_68-70].

Thureau, G. 1881. Report on Gladstone, Mussel Roe and Waterhouse. Lands and Works Office, Hobart.

Twelvetrees, w. 1916. The Gladstone mineral district. Geological Survey of Tasmania, Bulletin 25.

Whitehouse, L. 1983. Gladstone/Fly-By-Night leases. Progress report. Santos Ltd.

**APPENDIX 1**  
**CAPE PORTLAND GOLD PROJECT PRESENTATION**