

**Frontier Resources Ltd.  
(Tasmania)**



**Relinquishment Report EL 29/2003  
Gowrie Park**

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## **Introduction**

This report details the relinquishment of EL29/2003 in favour of two RL's covering defined resources at Narrawa Creek (RL3/2005) and Stormont (RL4/2005). Conversion to RL was required since Frontier Resources Ltd. (formerly TasGold Ltd.) failed to meet expenditure requirements for EL29/2003.

During 2003-5, Frontier Resources Limited (Formerly TasGold Ltd.) targeted gold and base metal mineralisation in the Narrawa Creek area (now RL3/2005), within part of the intrusion-related gold prospective Dolcoath Granite aureole. Frontier drilled 22 diamond drill holes for 1149.3m, these were accompanied by a ground magnetic survey, limited soil sampling and geological mapping. No work was undertaken within the surrounding EL29/2003.

Excerpts of the original 2003 proposed work program for EL29/2003 are included below following an outline of work completed to date.

## **Location, Access and Land Use**

EL 29/2003 is located in the central north of Tasmania (see Figure 1), south of Sheffield. Access to the area is via a network of all weather roads and 4WD tracks. The terrain is rugged and forested.

The western portion of EL29/2003 is predominantly Crown Land. It includes State Forest, Multiple Use Forest Land, RFA – Informal Reserves, Land Vested in the HEC and a small amount of private property. The latter is more common in the eastern portion of the EL.

Drilling equipment was mobilized using a low loader and 4WD truck to the start of the unsealed Narrawa Creek access road. Exploration tracks were constructed with an excavator, following approval granted by the MEWG (Mineral Exploration Working Group). The excavator was also utilized for drill rig shifts, drill pad and sump construction, as well as ongoing drill site rehabilitation and track drainage maintenance. A quad bike and trailer was also used for moving equipment short distances. These methods proved effective in the steep terrain.

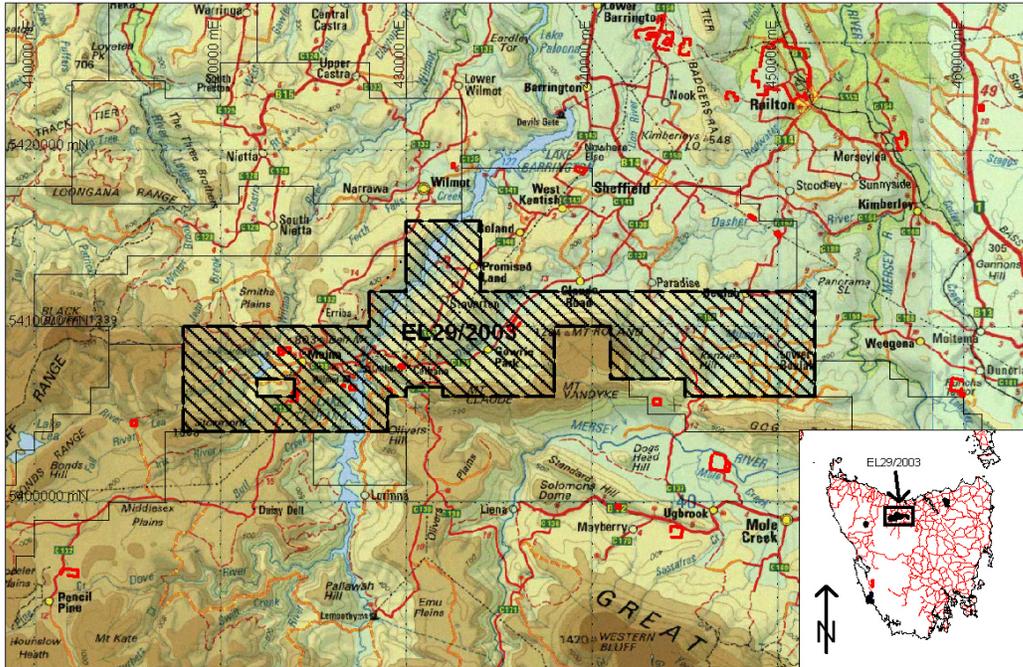


Figure 1: Location of EL29/2003 (Datum AGD66/Zone 55)

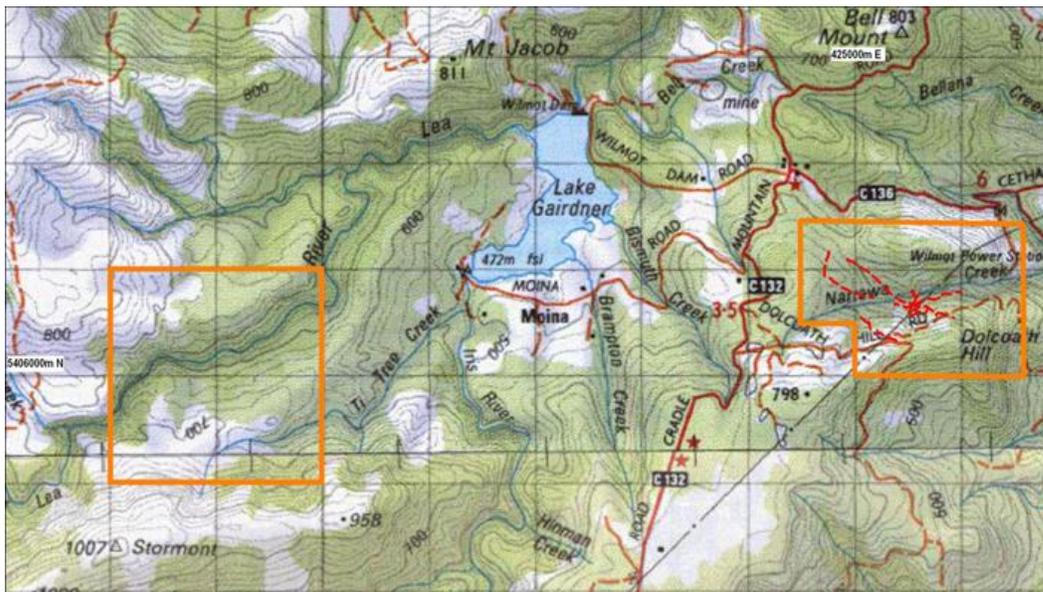


Figure 2: Location of retained blocks (RL3/2005, RL4/2005; Datum AGD66/Zone 55)

### Tenure

EL29/2003 was granted to TasGold Ltd. following a successful ERA tender in 2003. The Retention Licence 8810, held by AngloGold and Rio Tinto over the Moina fluorite deposit, is excluded near the centre of the western portion of the EL.

## **Regional Geology**

A good summary of the regional geology is given in Purvis (2000) and an early comprehensive account is provided by Jennings' (1963) report on the Middlesex inch to a mile map sheet. More recently the WTRMP report (Western Tasmanian Minerals Program; Morrison et. al., 2003) highlights the exploration potential for intrusion related gold related to the Devonian aged Dolcoath Granite, intruding Cambrian Mount Read Volcanics and Denison Group correlates.

The Bond Range Porphyry equivalents and the undifferentiated Bull Creek Volcanics, form limited outcrop within the EL boundaries. These rock types are equivalent to the Cambrian Mt Read Volcanics and probably underlie the Ordovician sequence over much of the EL.

EL29/2003 encompasses large areas of Late Cambrian to Ordovician age sedimentary rocks (Denison Group) which Jennings (1963) defined as Roland Conglomerate overlain by Moina Sandstone, both having a true thicknesses of approximately 270m. These in turn are overlain by Gordon Limestone of 1000m thickness. The contacts between these units are believed to be transitional and conformable.

The Late Cambrian Roland Conglomerate is the basal unit, comprising dense recrystallised quartzite-schist bearing clast supported conglomerate and sandstone. The Roland Conglomerate is usually pink (haematitic) or white and whilst predominantly coarse, some sandy lenses are evident. Basal beds commonly contain Cambrian volcanic clasts and the unit thins to the south, possibly indicating the basin received much of its input from the Pre-Cambrian (Tyennan) craton. Fining upwards is relatively common and repeats of similar strata probably indicate repeated uplift at the time of deposition (Reid and McDougall 2005 - closed file).

In the vicinity of the Dolcoath Granite, the Roland Conglomerate is almost wholly recrystallised and forms a dense silicified quartzite appearing rock with ghosted clast outlines (Jennings, 1963). The overlying upward continuation of the Roland Conglomerate is the Moina Sandstone, typically comprising fine grained marine sandstone, quartzite, shale and conglomerate.

Lithologies in the Higgs - Narrawa Reward area are considered to represent the upper transitional units, located beneath the Gordon Group Limestone and host to the Narrawa Reward and Higgs prospects (Purvis 2000). Gordon Limestone, overlying the Moina Sandstone, comprises stylolitic limestones with limited shale beds.

The Devonian-aged Dolcoath Granite is an oxidised crystal fractionated I-type granite intruding the Mount Read Volcanics and Ordovician Denison Group as a small 4km<sup>2</sup> wide stock with significant sub surface extent, described by Morrison (et. al., 2003) as covering an area of ~50km<sup>2</sup> where the granite is <500m below the surface. This granite spine forms an east-west elongate body, extending west of the main granite outcrop in the Forth River Valley. The granite is mostly a medium to coarse grained alkali-feldspar I-type granite with extensively greisenised margins. Devonian porphyry dykes are evident

in drill core as medium grained quartz-biotite porphyry with a fine yellowish groundmass.

The granite has a zoned aureole with probable magnetite destruction proximal to the intrusion. The outer halo is, however quite magnetic. The granite may have been forcefully intruded and could be responsible for shallow tilting of hinge lines and bedding away from the stock. There is local contact metamorphism evident in the form of calc-silicate skarns and biotisation of reactive lithologies.

The Moina Sandstone and enclosing stratigraphy was faulted during the Devonian Tabberabberan Orogeny. Within the EL, Jennings (1963) notes a minimum of two fold trends (E-W and NW-SE) and another NNE trend that is generally confined to the western EL extremity. Castro and Fleming (1989) considered the major east –west trending structures with folds to be large scale, symmetrical and open. They were later overprinted by a prominent north-west trending pattern of smaller asymmetrical folds, often accompanied by drag folding and deep seated faults on the limbs of the major folds. The NW orientated faults are apparent in the regional magnetics (eg. Bismuth Creek Fault) and may have been synchronous with granite intrusion.

### **Work Conducted**

All of Frontier's work during the tenure of EL29/2003 was focused in the Narrawa Creek area (predominantly the Higgs Gold Mine), with no regional work being undertaken. 22 diamond drill holes were completed for a total of 1149.3m over three field seasons from 2003-2005. The known Higgs Gold Mine mineralization was extended along strike 50m to the southeast and a small satellite lode termed the 666 lode was discovered proximal to Higgs via trenching and drill testing. The area covering the Higgs and 666 lodes has been converted to RL3/2005. Detail on this work is included in past annual reports (Reid and McDougall 2004, Reid and McDougall 2005).

Data collection and evaluation was conducted for the Stormont Deposit which has since been converted to RL4/2005.

No other regional work was completed on EL29/2003.

### **Summary of Intended Exploration:**

Following is an outline of proposed regional work from Callaghan (2003) that Frontier initially intended to undertake.

Regional work proposed including gridding, soil sampling and rock chip sampling at the Star of the West and West Gog, with Airborne EM anomaly ground follow-up, possibly with ground EM to accurately locate them on the ground prior to drilling. No part of this regional work program was completed.

Proposed regional exploration in year 1 of tenure was:

1. Stonebridge Prospect with mapping and sampling of the Mount Read volcanics down to the West Gog Prospect.
2. Star of the West, with a program of gridding, soil sampling and rock chip sampling.

Prospects to follow up in year 2 consisted of the following list:

#### West Gog

- The West Gog soil anomalies should be extended by soil gridding and evaluated with geological mapping and opportunistic rock chip sampling.

#### Stonebridge

- Evaluation of the southern gossan and veined diorite with reconnaissance mapping /rock chip sampling was planned. Low order stream sediment anomalies are present from limited sampling. Outcrop appears minor, with much of the Cambrian sequence covered by Quaternary talus. Regional reconnaissance mapping of intrusives between the Stonebridge and West Gog Prospects is suggested as no previous work has been completed in this area of the MRV.

#### Star of the West

- Initially a program of systematic gridding, soil sampling and rock chip sampling.

#### Gregory's Road

- Further reconnaissance sampling over the intrusive and surrounding host rocks.

#### Beulah Barite

- Gold analyses are incomplete, but the work completed suggests that the area is unlikely to host significant gold/base metal mineralisation. No work is recommended at this time.

#### Cethana Pyrite Zone

- The intensity of previous exploration programs suggests there is little potential for economic mineralisation near surface. No further work is recommended for this area at this point in time other than compilation of open file drilling, geophysical and geochemical data.

#### Staverton

- Due to its limited size and apparent lack of gold mineralisation this does not appear to be an attractive target. Work will consist of data acquisition and review.

#### Lake Barrington

- Digital data capture and assessment is recommended to see if there is any potential for larger areas of mineralisation. Regional reconnaissance mapping and rock chip sampling is recommended although outcrop appears to be limited by later cover sequences.

Mt Roland Prospect

- No further work is recommended apart from data capture.

Ireland Prospect

- No work is recommended for this prospect.

## References

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