



Diversified Minerals Pty. Ltd. Henty Gold  
Mine ABN 61 005 674 073 Postal  
Address: PO Box 231 Queenstown TAS  
7467 Site Office: Howards Road  
Queenstown TAS 7467 Phone: (03) 6473  
2444 Facsimile: (03) 6473 1857

Diversified Minerals Pty. Ltd.  
EL 8-2009 Red Hills  
Annual Report for Period  
12 November 2016 to 11  
November 2017  
Vol. 1 of 1  
December 2017

**Held by:** Unity Mining Limited

**Manager & Operator:** Diversified Minerals Pty Ltd

**Author:** Angela Lorrigan

**Date:** December 2017

**Map Sheets:** Tasmania 1:25,000 Series Selina  
(3836)  
Tasmania 1:100,000 Series  
Sophia (8014)

**Geographic Co-ord (GDA94):** Min East: 380,900m  
Max East: 387,100m  
Min North: 5,362,900m  
Max North: 5,376,100m

**Commodity(s):** Base metals, gold, silver

## ABSTRACT

The tenement was recently consolidated with EL11/2010. 15 soil samples failed to return anomalous results. There was no other activity on the tenement in the reporting period due to financial and time constraints.

## Contents

List of files .....	2
INTRODUCTION .....	3
Location & Access.....	3
Tenure.....	3
GEOLOGY .....	4
Regional geology.....	4
Local geology .....	5
Alteration and mineralisation .....	5
PREVIOUS EXPLORATION .....	7
WORK COMPLETED (NOVEMBER 2016 TO NOVEMBER 2017).....	9
RESULTS .....	9
CONCLUSIONS.....	9
EXPENDITURE FOR THE PERIOD 12 NOVEMBER 2016 - 11 NOVEMBER 2017 .....	9
PLANNED WORK AND EXPENDITURE .....	9
REFERENCES.....	10
Reports.....	10

## List of Figures

Figure 1: EL8/2009 Tullah location map. Other DMPL tenements are also shown. Projection is UTM Zone 55 MGA94 co-ordinate system.....	4
Figure 2. Geological map showing the location of EL8/2009.....	6
Figure 3. Legend for geological Map. ....	7

## List of files

EL8\_2009\_201711\_A\_Maintext.pdf

EL8\_2009\_201711\_A\_Geochem.csv

## **INTRODUCTION**

This report is an account of work carried out on Tenement EL 08/2009 (Red Hills) during the tenement year November 2016 – November 2017.

### **Location & Access**

EL 8/2009 Red Hills is centred approximately 25 km north of Queenstown in western Tasmania. The western boundary of the EL abuts UML's Henty Gold Mine Lease 7M-1991 (Figure 1).

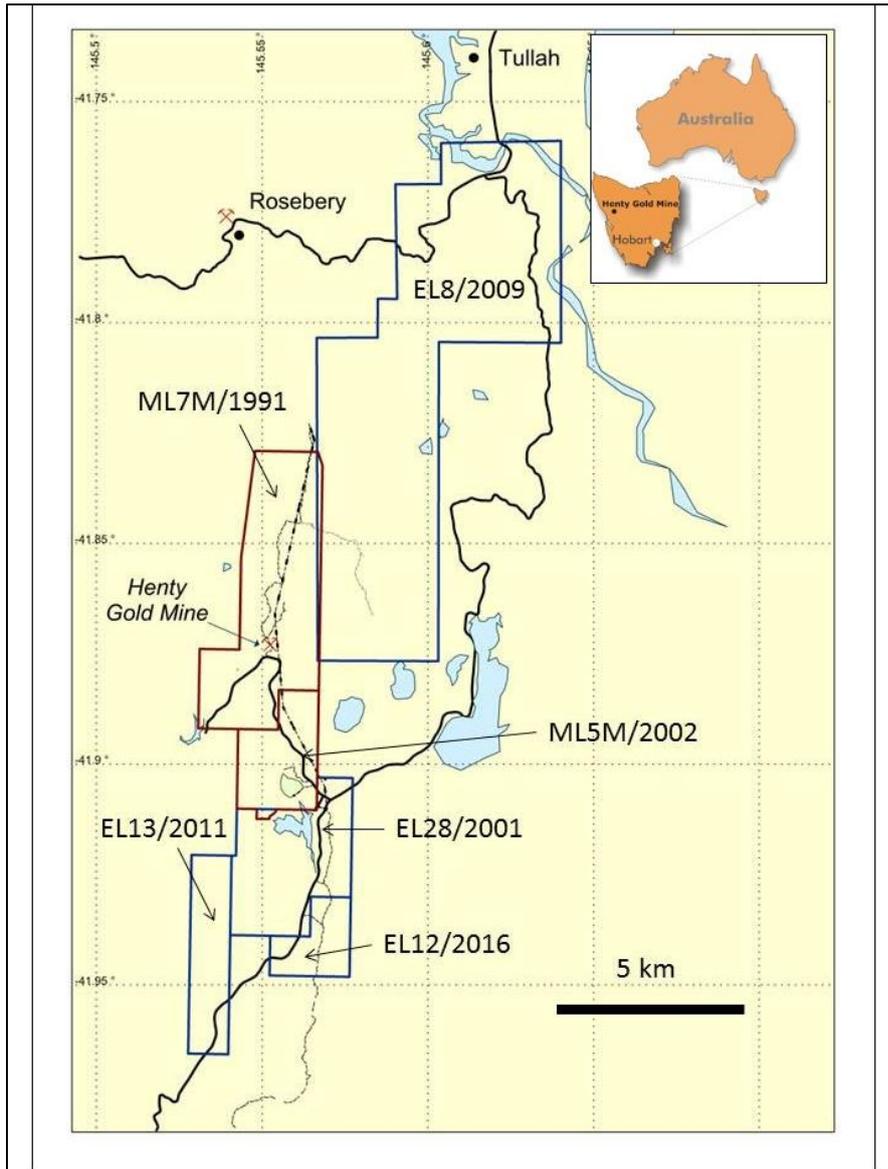
Access to the EL 8/2009 area from the south is via the Anthony Road (B28), the unsealed Howards Road to the Henty mine site, then by mine service road and formed 4WD tracks. The main 4WD track from the Henty mine crosses from the west over Moxon Saddle into the central section of the EL. The northern part of the EL is accessed by 4WD tracks from the Murchison Highway (A10), between Tullah and Rosebery and from the northern section of the Anthony Rd.

### **Tenure**

The current tenement is the product of the consolidation of EL8/2009 (Red Hills) and EL11/2010 (Tullah-Moxon). The latter tenement was itself the result of consolidation of EL34/2010 (Tullah) with EL11/2010 (Moxon Saddle).

These tenements were initially held by Bendigo Mining Ltd. In 2011 the name of the company was changed to Unity Mining Ltd but ownership remained the same. In 2016 Unity Mining Ltd was purchased by Diversified Minerals Pty Ltd, a private (non-listed) company based in Orange, NSW.

The entire EL area is located within the Mount Murchison and Lukes Knob Regional Reserves.



**Figure 1: EL8/2009 Tullah location map. Other DMPL tenements are also shown. Projection is UTM Zone 55 MGA94 co-ordinate system.**

## GEOLOGY

### Regional geology

A major portion of the EL 8/2009 Red Hills area is underlain by the Cambrian Mount Read Volcanics (MRV), apart from the eastern section of the tenement which covers a thin strip of Late Cambrian - Ordovician Owen Group.

The MRV comprise a package of massive, feldspar-phyric lavas and volcanics, which passes upwards into a mixed sequence of basaltic to rhyolitic lavas, intrusives and volcanics, with intercalated shale and siltstone. In general, there is a transition from feldspar-phyric to strongly quartz-phyric lithologies from the bottom to the top of the sequence. On a regional scale the MRV is divided by the north-northeast – trending Henty Fault. Red Hills EL 8/2009 is located to the east of this major structural feature (Ref. Figure 2).

The Owen Conglomerate consists of siliciclastic sediments, including large volumes of very coarse siliciclastic conglomerate, which unconformably overlie the MRV. Clasts within the conglomerate are dominantly metaquartzite, derived from the Proterozoic Tyennan basement further to the east, with little or no material from the MRV.

Rocks in the region have been subjected to at least two major polyphase deformations, one in the Cambrian and the other in the Devonian (the latter probably equivalent to the Tabberabberan Orogeny). Evidence of the Devonian deformation is apparent in a regional NNE- striking cleavage and development of west-over-east thrusting on pre-existing, NNE structures and synchronous NW striking structures.

### **Local geology**

The oldest rocks in the EL 8/2009 Red Hills area are rhyodacitic lavas of the MRV, with intercalated black siltstone and shale (correlated with the Central Volcanic Sequence). These volcanic and volcanoclastic sequences are exposed on the eastern limb of an interpreted south - plunging syncline. Massive, quartz-phyric lavas (Mt Julia Rhyolite) and quartz-phyric volcanoclastic sediments, correlated with the Tyndall Group, occur stratigraphically above the CVC rocks in the keel of the interpreted synclinal structure. These younger rocks are also exposed along the overturned western limb of the syncline, truncated by the Henty Fault in proximity to the Henty mine.

### **Alteration and mineralisation**

Three principal styles of mineralisation have been identified in the Red Hills area:

- Stratabound base metal sulphides+gold+silver VMS mineralisation hosted by CVC mass flow units (Lower Mineralised Horizon). Modern exploration has mainly focused on testing for this style of mineralisation following the discovery intersection in hole RH5. Based on isotopic data, metal ratios and analysis of the alteration assemblages this mineralisation has strong similarities to the Rosebery VHMS system (Purvis, 2010).
- Vein and disseminated copper+gold+magnetite mineralisation associated with chlorite+feldspar alteration of the Red Hills lava. Earliest prospecting and small scale mining activity was concentrated on this type of mineralisation, as at the Northern Adits area. Thin zones of base metal sulphides+gold mineralisation hosted within black shale and siltstone units in the CVC comprise the Upper Mineralised Horizon (UMH). Recent drilling has also intersected gold mineralisation associated with pyrite veining in CVC dacitic volcanics, located between the LMH and UMH.
- Structurally-controlled gold mineralisation along the Henty Fault at Sterling Valley and Lakeside. This mineralisation has a very strong association with arsenopyrite, with arsenic concentrations above 1% in some instances. It also exhibits a strong correlation with pyrrhotite. Fluids related to an underlying Devonian granite appears to have more influence on the style of mineralisation than at Henty Gold Mine.

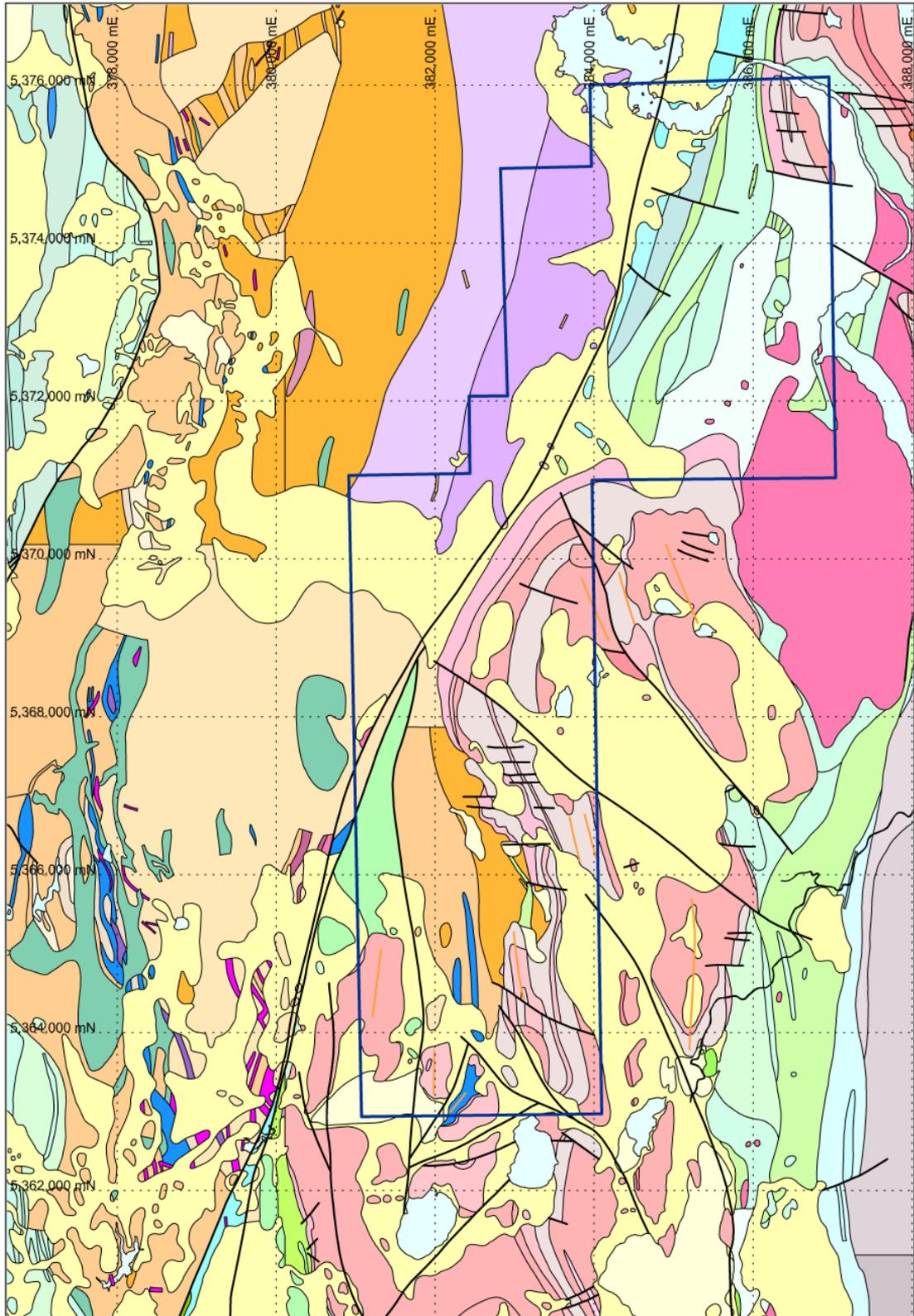


Figure 2. Geological map showing the location of EL8/2009. MGA94, Zone 55.

# LEGEND FOR GEOLOGICAL MAPS

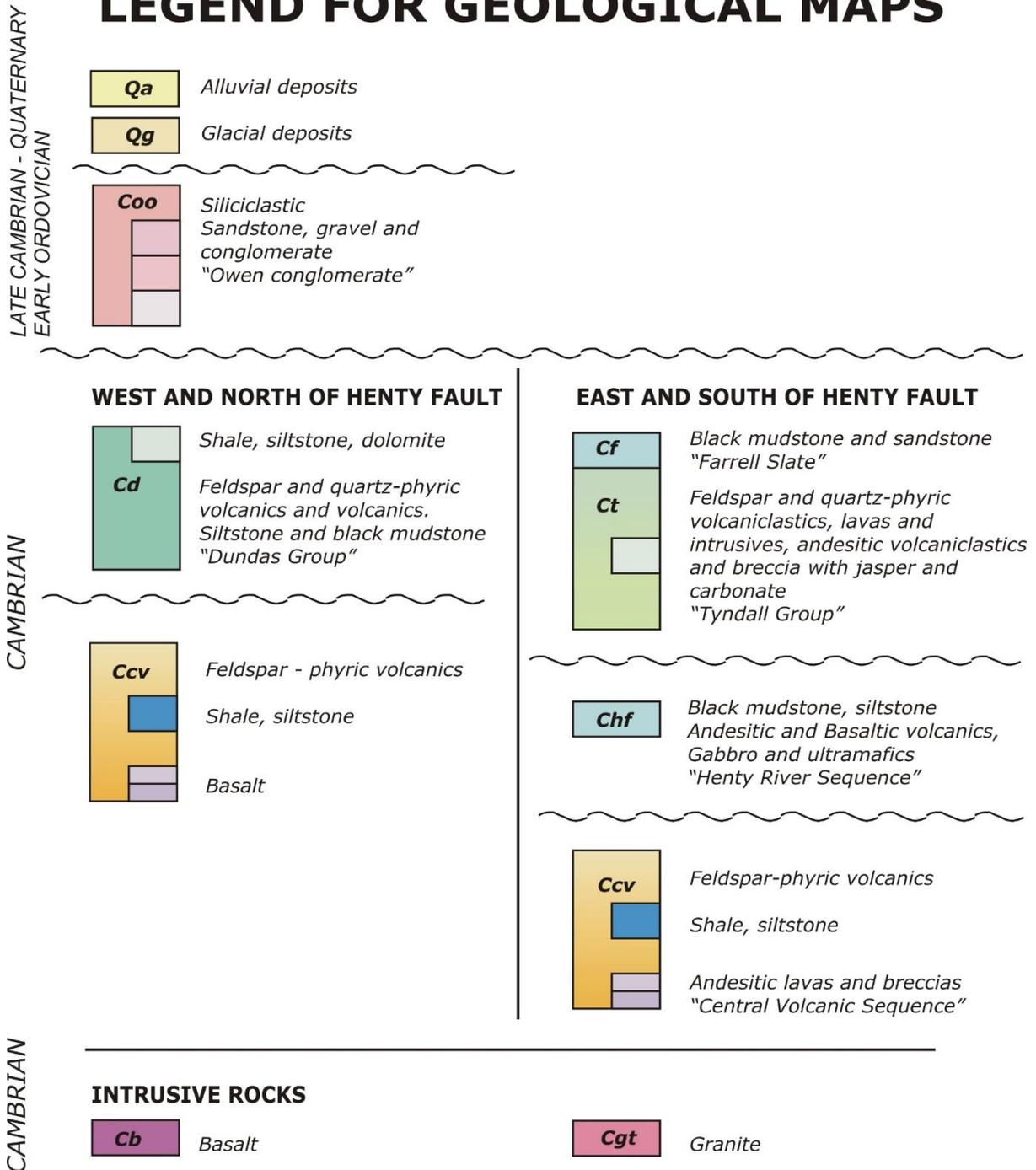


Figure 3. Legend for geological Map.

## PREVIOUS EXPLORATION

Previous exploration on the Red Hills tenement is summarised in Lorrigan (2016).

A detailed account of exploration of the pre-existing Tullah tenement prior to 2011 was given by Purvis, in Lorrigan (2012). For Moxon Saddle previous exploration is summarised in Stonestreet (2013).

Exploration completed by Unity Mining is summarised in the table below.

<b>Year</b>	<b>Areas</b>	<b>Work conducted</b>
2010-2011	Red Hills	Drill holes RHD24-29 testing the area of known massive sulphide mineralisation for extensions and for a Au-rich zone.
2011-2012	All tenement	Airborne LIDAR survey and structural interpretation by consulting geologist.
	Lakeside	Drillholes LSUD01-LSUD05, testing deep extensions of the Lakeside mineralisation.
	Red Hills	Down-hole EM on RHD24-25 and 27-29
2012-2013	Moxon Saddle	Drillhole MX05 to test interpreted fault wedge extension zone.
	Lakeside, Upper Sterling, Murchison Mine,	Drillholes LSUD06, LSUD06A, MUD01, MUD02, MXUD01-03. Lakeside Mineragraphy study. Reprocessing of IP data.
	Red Hills	Rock chip sampling, northern adits and RHD 30 drilled to test for an eastern off-set of the Red Hills Lower Mineralised Horizon.
2013-2014	Upper Sterling/South Stitt Valley	Drillholes MXUD02 and MXUD03, testing Henty position on west side of Henty Fault, petrography on drillholes, Farrell Mining Desktop Study, drill proposal for 2 holes at Bruce Creek in the Sterling Valley.
	Red Hills	Additional rock chip samples at Northern Adits.
2014-2015	Red Hills	Access track restored to direct drainage away from the track.
2015-2016	Tullah-Moxon	Access lines cut into the Tullah Bluffs area and grid lines extended at Moxon Saddle.
	Red Hills	Detailed review of past work on Northern Adits.

## WORK COMPLETED (NOVEMBER 2016 TO NOVEMBER 2017)

15 soil samples were taken in the Moxon Saddle area.

### RESULTS

The results of soil sampling taken in the Moxon Saddle area are contained in Appendix 1. No anomalous geochemistry was detected.

### CONCLUSIONS

Henty-style targets remain untested in the Moxon Saddle, Red Hills and Tullah Bluffs areas. There is also an untested Au-Cu target north of Red Hills.

## EXPENDITURE FOR THE PERIOD 12 NOVEMBER 2016 - 11 NOVEMBER 2017

Expenditure by UML on EL 08/2009 for the 12 months ended November 2016 was \$5,450 as follows:

<b>Expenditure for 12 months ending September 2016</b>	<b>\$</b>
<b>Personnel</b>	5,000
<b>Geochemistry</b>	450
<b>Geophysics</b>	
<b>Remote Sensing</b>	
<b>Gridding</b>	
<b>Drilling</b>	
<b>Access</b>	
<b>Rehab</b>	
<b>Feasibility</b>	
<b>Roads and tracks</b>	
<b>Other</b>	
<b>Admin</b>	
<b>TOTAL</b>	<b>5,450</b>

## PLANNED WORK AND EXPENDITURE

The proposed work plan is as follows:

1-3 Drill holes, Moxon and Northern Adits area	\$115,000
Grid cutting	\$ 25,000
Laser ablation, pyrite scanning	\$ 20,000
<b>Total</b>	<b>\$160,000</b>

## REFERENCES

### Reports

Lorrigan, A., 2012, EL 34-2010 Tullah Annual report for period 3 April 2011 to 2 April 2012, unpublished Unity Mining report to Mineral Resources Tasmania.

Lorrigan, A., 2016, EL 8-2009 Red Hills Annual report for period 12 November 2015 to 11 November 2016, unpublished Unity Mining report to Mineral Resources Tasmania.

Stonestreet, P.G., 2013, EL11/2010 Moxon Saddle Annual Report for period 12<sup>th</sup> September 2011 to 12<sup>th</sup> September 2013, unpublished Unity Mining report to Mineral Resources Tasmania.