

Unity Mining Limited

**Henty Gold Mine**

**EL11/2010 Annual Report**

**"Moxon Saddle"**

**EL11/2010**

**Vol. 1 of 1**

**August 2011**

**All maps in this report are MGA 94 Zone 55**

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<b>Date:</b>	August 2011
<b>Map Sheets:</b>	1:25k Selina (3836) 1:100k Sophia
<b>Geographic Co-ord (MGA 94):</b>	Min East: 380 992mE Max East: 382 500mE Min North: 5 366 000mN Max North: 5 368 183mN
<b>Commodity(s):</b>	Au, Basemetals

**ABSTRACT**

EL 11/2010 (Moxon Saddle) was acquired by Unity Mining Ltd. (UML) in August 2010, after the exploration licence was relinquished by Bass Metals in August 2009.

During the reporting period, an airborne LIDAR digital elevation model was flown over Unity's tenements in west Tasmania, including Moxon Saddle, and a contract geologist commissioned to provide geophysical imagery interpretation. A review of existing geology, geochemistry and drilling data is ongoing, and field work is surveying historic cut lines across the EL to determine their suitability for ground access to the lease, as navigable roads are limited.

Expenditure on the tenement for the 12 months since the tenement anniversary has been \$23500, which exceeds the 2 year commitment of \$20000.

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## **1.0 INTRODUCTION**

EL11/2010 expires on 15<sup>th</sup> of September 2015, with renewal due on the 12<sup>th</sup> of August 2012. This report details work completed by Unity Mining Limited (UML) on EL 11/2010 over the past year.

The licence area consists of non-allocated crown land in the southwest, and land classed as Crown and Regional Reserve, Nature, Recreation and Conservation Area in the northeast. Vegetation in the area contains wet sclerophyll, rainforest and alpine communities. The exploration lease abuts the UML mining lease 7M/1991 along its western border. Conditions of exploration are outlined in the Exploration Code of Practice (produced by Mineral Resources of Tasmania (MRT)).

### **1.1 Location and Access**

The tenement is located 2km north-east of the Henty Mine and 6km west of Rosebery, in western Tasmania (See Figure 1), and is centered on a 2km long section of the Henty Fault with units of the Cambrian Mt Read Volcanics (MRV) on either side. Several sub-economic deposits of base and precious metals have been reported. Vehicle access is via the 4WD Red Hills track and gridlines were cut in 2001-02 across the tenement.

### **1.2 Regional Geology**

#### **Mt Read Volcanics**

The MRV are a belt of volcanic, volcanoclastic and sedimentary rocks of Mid-Cambrian age that host world-class polymetallic VHMS deposits (e.g. Rosebery, Hellyer), volcanogenic Cu-Au deposits (e.g. Mt Lyell) and high grade volcanogenic Au deposits (e.g. Henty).

### **1.3 Local Geology**

#### **Moxon Saddle Geology**

The Moxon Saddle EL covers a 2km section of a 50km north-south trending exposure of Mount Read Volcanics (MRV) from Slate Spur to the South Stitt River, and is mapped as containing lavas, intrusives, volcanoclastics, minor pyroclastics and epiclastic sediments (see Figures 2 and 3). The Henty fault traces NNE-SSW across the northwest corner of the licence and is defined by poorly outcropping chloritic schist. To the west of the fault, the geology is dominated by rocks of the Central Volcanic Complex, principally feldspar-phyric pyroclastic rocks, including pumice-bearing, crystal vitric and vitric tuff, breccia and minor shale and sandstone. These have been intruded by the basaltic/andesitic Henty Dyke Swarm, and other mafic intrusives.

East of the Henty Fault the immediate footwall contains massive quartz-phyric rhyolite lava and quartz-bearing volcanoclastic sandstone and conglomerate of the Tyndall Group. It also contains minor volcanic, intrusive and ignimbritic rocks of mixed felsic and andesitic provenance (Seymour *et al*, 2006). Minor alteration, with pervasive silica, hematite, pyrite cubes and quartz- hematite veins are present. The licence to the east of the Tyndall Group rocks is dominated by Central Volcanic Complex rocks, principally feldspar-phyric lavas, pyroclastics and volcanoclastics. These are north along strike from the Red Hills Prospect, where an uneconomic resource of 1 million tonnes @ 5.9% Pb + Zn and 2 g/t Au has been delineated by previous exploration (Purvis *et al*, 1983).

In the very northeast of the licence are epiclastic sediments of the Newton Creek sandstone and the Owen Conglomerate Formations.

### **1.4 Exploration Rationale**

The MRV hosts world-class Cambrian VHMS deposits such as Rosebery (32.7Mt @14.5%Zn, 4.4% Pb, 0.58% Cu, 145g/t Ag, 2.2g/t Au), Hellyer (16.5Mt @13.9% Zn, 7.2% Pb, 0.38% Cu, 169g/t Ag, 2.55g/t Au) and Mt Lyell (311Mt @ 0.97% Cu, 0.31g/t Au). To the

south-west of the licence is the Henty Gold mine (2.83Mt @12.5g/t Au). Hosted in MRV, the Henty mineralisation is considered to represent a hybrid deposit related to Cambrian VHMS mineralisation and possible Cambrian granite-related mineralization (Bates, 2009). As holder of the neighbouring mining lease 7M/1991, and exploration leases Red Hills EL8/2009 and Tullah ERA831, it made sense for Unity Mining to acquire the Moxon Saddle exploration lease for operational and geology synergy. The lease is host to MRV stratigraphy and the Henty Fault, and is considered prospective for both Henty-style Au mineralization and base-metal VHMS deposits.

**Figure 1: Location of EL11/2010.**

**Figure 2: Barrick Gold 2008 Moxon Saddle Geology Interpretation.**

**Figure 3: Geology Legend.**

## **Structure**

CVC rocks in the northwest of the licence are divided from Tyndall Group and CVC rocks to the southeast by the Henty Fault, a major structure spatially associated with gold mineralisation at the Henty Gold Mine. A number of other structures have been inferred from magnetic imagery in conjunction with LIDAR/aerial photography (see Figure 4).

## **2.0 REVIEW OF PREVIOUS WORK**

### **1973: The Consolidated Syndicate**

The Consolidated Syndicate carried out drill hole HFZ2 west of the Henty Fault on EL9/66, testing the area north of the old Moxon copper shaft. Results were discouraging. This collar now lies within the Moxon Saddle tenement.

### **1988-1991: BHP Minerals Ltd**

The tenement was held as part of EL102/87, which covered 95 sq km in three separate parts at Queenstown (74 sq km), Sterling (19 sq km) and Moxon Saddle (2 sq km). Blanket TEM surveys were completed. In 1990 GEOTERREX carried out an induced polarisation survey over the prospect.

### **1992-1997 BHP Minerals Ltd, with exploration carried out by RGC Exploration Ltd**

Work carried out included a review of previous exploration, detailed geological mapping, reprocessing of the 1990 IP survey, limited soil sampling over IP anomaly, re-assaying of HFZ1 drillhole for Au, and the drilling of MX001 and MX002. MX001 confirmed the source of the IP anomaly to be the contact between a thin black shale unit and volcanoclastic sediment containing visible sphalerite and galena microveins, which assayed 14.1 metres at 0.26% Pb. BHP concluded that exploration potential was low and the tenement was relinquished.

### **1998- 2002 Pasminco Exploration**

Pasminco Exploration acquired Moxon Saddle as part of EL6/1998, which comprised 31 sq km at Beatrice/West Sedgwick, and 2 sq km at Moxon Saddle. Exploration efforts were centred on Beatrice, with no work carried out at Moxon Saddle. The tenement was relinquished.

### **2002 Goldfields Exploration**

Goldfields Exploration acquired EL6/1998 and completed further geological mapping and C horizon soil sampling. The results of the sampling program were described as disappointing and no further work was planned in this area (Vicary and Callaghan, 2002). At Red Hills drill hole RH23 tested a shallow target with no significant results. This hole, although then on Red Hills EL19/94, now falls within the Moxon Saddle tenement. The tenement was relinquished in late 2002.

### **2002-2004 Unknown**

No reporting found for this period.

### **2004 Saracen Metals**

Main exploration focus was Mt Block.

### **2005-2009 Bass Metals**

Bass Metals acquired the Moxon Saddle Prospect as part of EL55/2004 (Lake Macintosh Group). They completed a review of historic data and field checking program, and a review in context of Sterling Valley- and Henty-style exploration models. During 2008 Henty Gold commissioned an IP survey over ground adjacent to the Moxon Saddle Prospect on Mining Lease 7M/1991, with 2 lines overlapping onto Moxon Saddle. This data was shared with Bass Metals. Bass relinquished the lease in 2009 due to its lack of targets for Henty-style gold mineralisation.

## **2010-2011 Unity Mining Limited**

Unity Mining is the current lease holder.

### **3.0 EXPLORATION COMPLETED DURING THE REPORTING PERIOD**

In early 2011, UML commissioned Fugro Spatial Solutions to carry out an airborne Lidar 2m-resolution Digital Elevation Model (DEM) over its tenements in west Tasmania, including Moxon Saddle. A contract geologist was commissioned to give a structural interpretation of the regional-scale aerial magnetic imagery in conjunction with the DEM data. This report interprets a fault-wedge dilation zone favourable for mineral deposition within the boundaries of EL11/2010. A review of existing geology, geochemistry and drilling data was carried out, and field work is surveying the historic cut lines across the EL to determine their condition and suitability for ground access to the lease, as navigable roads are limited.

**Figure 4: High Resolution magnetic image interpretation, showing the interpreted fault-wedge dilation zone in pink hatching.**

### **4.0 DISCUSSION OF RESULTS**

Interpretation of Lidar DEM and aerial magnetic imagery has identified Moxon Saddle among others as a possible fault-wedge dilation zone favourable for mineral deposition.

### **5.0 CONCLUSION**

Upcoming geological mapping and geochemistry on neighbouring mining lease 7M/1991 is focussing on a zone in the northeast corner of the lease ('Platter Zone'), immediately west of the North Henty Fault and the Moxon Saddle lease. This zone trends NNE into EL11/2010, and so Unity is looking to re-establish historic gridding on the lease to aid exploration. Geochemical soil sampling and a probable induced polarisation survey planned for this area are likely to overlap the Moxon EL, in order to adequately cover the zone of interest either side of the Henty Fault.



**Figure 5: LIDAR 1km tiles over EL11/2010.**

**Figure 6: Coloured and sun-shaded image of the LIDAR data over EL11/2010.**

## 6.0 ENVIRONMENT

Unity Mining understands that EL11/2010 contains environmentally sensitive areas, including part of the Mount Murchison Regional Reserve, and has policies in place to minimise the impact of exploration activities to the environment. All work is carried out in accordance with the Mineral Exploration Code of Practice. When required, track cutters and earthmoving contractors experienced in western Tasmania with a thorough knowledge of the local flora are employed.

As activity within the tenement was limited to an aerial DEM survey, environment impact on the tenement has been minimal during the reporting period. Unity is now looking to re-establish access to the tenement during the coming year, and where possible existing tracks will be used and re-cut.

## 7.0 EXPENDITURE 2010/2011 REPORTING PERIOD

Total Expenditure for the 2010/2011 Reporting Period was:

<b>Expenditure EL 11/2010 August 2010-August 2011</b>	<b>\$</b>
Personnel (1/40 expenditure)	19000
LIDAR	3000
Aerial Photography	1000
Tenement	500
<b>TOTAL</b>	<b>23500</b>

**Table 1:** E11/2010 'Moxon Saddle' Exploration Expenditure 2010-2011

## 8.0 FORECAST EXPENDITURE 2011/12 REPORTING PERIOD

Upcoming exploration work:

<b>Forecast Expenditure August 2011-August 2012</b>	<b>\$</b>
Personnel	21000
Track Cutting	2000
Geochemistry	3000
IP survey	30000
Tenement	500
Probable drillhole	80000
<b>TOTAL</b>	<b>136500</b>

**Table 2:** E28/2001 'Moxon Saddle' Exploration Budget Forecast 2011/2012

## 9.0 REFERENCES

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**KEYWORDS**

Unity Mining, Moxon Saddle, EL11/2010, exploration, Henty Fault, VHMS deposit, Henty-style