WHYTE RIVER TASMANIA

Venture Minerals Ltd – Bass Metals Ltd Joint Venture

Exploration Licence 36/2003

Annual Report for the period 16/08/2013 to 30/07/2014

S Joughin
March 2014

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1. Summary

Prospecting of the Bounds Sn stream sediment anomaly within EL36/2003 by Venture Minerals personnel during the 2013-2014 reporting period failed to find a source for the Sn anomalism, but the strong correlation with chromium suggests a reworked alluvial source.

Venture significantly reduced its exploration budget in 2013-2014 and is now focused only on targets within a few kilometres of and/or with clear logistical synergies with its Mt Lindsay Sn-W-magnetite resources. Venture has chosen to withdraw from the joint venture on EL36/2003 and responsibility for EL36/2003 has now reverted to 100% Bass Metals. Bass Metals is currently in discussion with a company, active in Tasmania, which is interested in entering into a Farm-in Joint Venture Agreement with Bass on Whyte River EL 36/2003. The interested company would take over funding and management of exploration on this licence.

2. Introduction

The Whyte River licence was acquired by Bass through a joint venture arrangement because of the perceived gold, iron-ore and nickel potential within the tenement. Early works on EL36/2003 by Bass were focussed on gold exploration at Lucy Spur and Rocky River. A review of historic drilling, geochemical sampling and geophysical data was conducted. Modern sampling conducted by the Goldstream - Titan JV showed the gold mineralisation at the Rocky River and Lucy Spur Mines to be low grade. The Lucy Spur area has since been relinquished.

EL36/2003 covers a c. 8 km long magnetic high within the Bowry Formation c. 15 kilometres south of the Savage River magnetite deposit. Historic exploration work including reconnaissance drilling indicates the presence of Savage River type magnetite mineralisation within EL36/2003. Venture Minerals undertook mapping and sampling of the entire magnetic ridge within EL36/2003 to further assess the economic potential for magnetite and more specifically supergene or residual hematite mineralisation of DSO (Direct Shipping Ore) grade. On the basis of this work Venture drill tested the Doctors Creek iron prospect but the thickness and continuity of the mineralization was poor and fresh sulphides were encountered very close (<40m) to surface rendering the target unsuitable for DSO. The Doctors Creek area was relinquished from EL36/2003 in June 2013.

EL36/2003 is situated close (c. 1km) to the western margin of the Meredith Granite which is part of a suite of Devonian granites which are very important to tin-tungsten mineralization in western Tasmania. Deposits associated with the western Tasmanian Devonian granites include the Renison Bell tin mine (26 Mt at 1.46% Sn), Mount Bischoff (10.54 Mt at 1.1% Sn), Cleveland (12.4 Mt at 0.62% Sn, 0.25% Cu) and King Island (17 Mt at 0.85% WO₃). After a review of historic stream sediment sampling identified samples up to 2.4% Sn in tributaries draining the ridges between the Rocky and Paradise Rivers Venture have been investigating the southeastern part of EL36/2003 for skarn or carbonate replacement Sn and/or W mineralization.
Figure 1: Location Plan.
3. Location and Access

Exploration Licence 36/2003 currently covers c. 23 km² and is situated 9 km east of Corinna and 10 km southwest of the Savage River Township in western Tasmania (Figure 1). Topography is deeply incised by the Rocky, Whyte and Paradise Rivers and their tributaries. Elevation within the licence ranges from 30 m above sea level in the Whyte River gorge to c. 280 m in the north western part of the licence along the Brown Plains. Average annual rainfall is c. 1900 mm and is dominated by temperate rainforest and button grass plains with dense tea tree scrub after areas affected by forest fires. The Meredith (3439) and Livingstone (3438) 1:25,000 topographic map sheets cover the Whyte River exploration Licence.

Bounds Creek was initially accessed by helicopter; in 2009 a helipad was created on the central ridge close to historic mine workings and the Lucy Spur water race. Reasonable dryer weather access is also possible on quad bikes and foot via an old 4WD track starting from the Pieman Rd around 355610mE 5381030mN (MGA Zone55 GDA94) traveling along a ridge to the east of Whaleback Ridge, across the Paradise River and then along another ridge around to Bounds Creek (total 11.5 km). The Bounds Creek area is deeply incised and vegetation is dominated by thick tea tree scrub, travel on foot is very slow.

Access to the Rocky River Fe Prospect in the northern part of EL36/2003 is via a well-maintained 4WD drive track, using quad bikes from the Brown Plains gravel pit, crossing the Whyte River, which is possible only following a period of dry weather. The terrain in this area is also generally steep and causes access difficulties in places. Waterfalls and large cliffs are common, often causing significant delays in accessing outcrops. Some waterfalls and cliffs proved impassable to the Venture field crews.

4. Regional Geology

EL36/2003 is located in an area generally referred to as the Corinna Goldfields, an area of historically significant alluvial gold production in north-western Tasmania. Quartz-rich Tertiary gravels are widespread as remnant deposits on ridge tops throughout the tenement, and immediately underlain by a sequence of north striking, strongly deformed Neoproterozoic meta-sedimentary and meta-igneous rocks of the Arthur Metamorphic Complex, Keith Schist and Oonah Formation. The western part of the licence is underlain by chloritic schists with lesser amphibolite, and minor phyllite, dolomite, magnesite, and ultramafic schists (Arthur Metamorphic Complex), and the eastern part by quartz-mica schist, quartzite, phyllite and rare dolomite (Keith Schist and Oonah Formation). A distinctive belt of strongly deformed serpentinite, amphibolite, albitic schist (albitite), magnesite, talc schist, magnetite-chlorite schist, and massive magnetite rock loosely referred to the Bowry Formation runs approximately north-south through the centre of the licence. The very distinctive magnetic ridge associated with this unit no doubt reflects the presence of magnetite-rich schists and massive magnetite bodies. A mixture of quartz-rich sedimentary and mafic igneous protoliths has been widely recognised with the Bowry Formation, and recent work by Bottrill & Taheri (2007) suggests the unit also includes dismembered and highly metamorphosed iron skarns.
Figure 2: Geological interpretation of the Whyte and Rocky River area
5. Exploration and Mining History

There are no accurate historical records for the Corinna Goldfield as it is thought that most of the gold found was taken directly to Victoria. The first known gold discovery from the area was in 1879 with alluvial gold found at Middleton’s Creek to the west of the current Whyte River tenement. By 1881 workings at Nancy Creek, Lucy Creek and Paradise River were all reporting the discovery of coarse gold. In 1882 a 7.5kg gold nugget was recovered from 5-6 feet of gravel from Rocky River. This area produced further finds of coarse gold until 1900 with notable nuggets of 130 and 39 ounces being unearthed. After the turn of the century (1900) small scale alluvial mining has been on-going in the area until the present day. Historic hard-rock mining has been small scale with the largest mine being the Rocky River Mine which operated between 1895 and 1900.

The iron ore bodies in the Whyte River area have long been recognised, and government geologist Reid (1924) identified and describes many of the massive magnetite-hematite bodies in the Whyte River area, including “a body of iron ore 300 feet in width... exposed to a depth of 100 feet” in the Doctors Creek - Duffer Creek area. The most significant identified prospect is the Rocky River magnetite deposit, tested with surface sampling (gossanous material), an adit, several trenches and test pits, and 2 drill holes. Most of the old workings at Rocky River are associated with a thin (approx. 4 m wide) high grade Savage River-type talcose magnetite rock flanked by a broad (estimated 60 m) low grade banded magnetite-pyrite-quartz-chlorite schist which locally has some potentially medium grade magnetite lenses. Historic channel sampling returned up to 6 m at 65.6% Fe, grab samples 63.0% Fe, 66.3% Fe, 69.6% Fe.

The most notable exploration activity in the Whyte River area covered by EL36/2003 has been:

**Rio Tinto Exploration – Pre 1961**

Conducted regional airborne magnetic surveys. Examined regional airborne magnetic anomalies identified as massive magnetite-pyrite mineralisation within the Bowry Member. Drilling of these targets resulted in the conclusion that the targets were of no further interest.

**Savage Resources – 1961 to 1988 (formerly Industrial and Mining Investigation)**

Continued to examine the magnetic anomalies identified by Rio Tinto. Following the discovery of the Savage River magnetite mine exploration focused on similar deposits which resulted in the generation of some possible Fe resources (non-JORC compliant) in the area. The first being 30 Mt grading 28% Fe at Long Plains South and the other being the Rocky River Deposit of 4 Mt at 10-15% Fe. Only the Rocky River prospect is located on the Whyte River tenement. The two diamond drill holes, RR1 and RR2, were drilled in 1966 to test a banded chlorite-quartz-magnetite-pyrite schist and chlorite schist approximately 400m east of the main magnetite bodies subject to most of the old workings. Small bands up to 80% magnetite are evident at the surface and returned up to 4.6m at 32.8% Fe & 1.2m at 52% Fe. Similar bands of massive magnetite and extensive disseminated magnetite were encountered in the drill holes. A 100 m interval from 50 m down hole in RR1 returned approx. 15% HCl soluble Fe, and RR2 c. 80m from approx. 25 m down hole c. 11% HCl soluble Fe. As Savage Resources the company continued to explore the area for a wide range of commodities including gold, diamonds and base metals.
**Outokumpu Exploration – 1991**

Conducted exploration over the southern half of the current Whyte River tenement. Work carried out included geological mapping, soil and rock chip sampling and limited amounts of stream sediment sampling. Minor anomalous gold and copper results were identified on the eastern boundary of the Bowry formation; whilst on the western boundary of the same formation magnetite-pyrite lenses return low values for gold and copper but up to 70% Fe.

**Fodina – 1993**

Conducted eight profile traverses detailing geology between Rocky River and the Owen Meredith River. Information collected during these traverses included mapping geology, sampling rock chips and the B/C soil horizon and recording ground magnetic of gold through the surveyed area. The grain morphology studies indicated a proximal source for the alluvial gold. Some coarser gold grains were used in polished section studies to investigate inclusions in the grains. The inclusion and fineness studies both confirm the morphology studies results for a localized source for the alluvial gold. Helimag surveys at 50m line intervals were conducted, however the results of these surveys have only had minor initial processing. Later close-spaced (50m spacing) stream sediment sampling was conducted to determine prospect boundaries. Reconnaissance diamond drilling, C horizon soil sampling and rock chip sampling from the southern adits and hydraulic workings from Lucy Spur were also completed by Goldstream/Titan. From stream sediment sampling south of the Owen Meredith River it was determined that this area of the Bowry Formation is not prospective for gold.


Search primarily for gold mineralisation within the Neoproterozoic basement. Conducted aeromagnetic surveying, several campaigns of stream sediment sampling, rock chip sampling and geological mapping, and drilled 8 diamond core holes including 3 into the magnetite-rich Bowry Fm rocks near the confluence of Rocky River and Whyte River. The gold results were disappointing and the tenure was ultimately relinquished. None of the drill holes were assayed for Fe, but are all held at the MRT core library in Mornington and have been partly resampled by both Bass Metals and Venture Minerals.

6. Previous Exploration within EL36/2003

**Bass Metals**

Bass Metals exploration activities within the retained area of EL36/2003 consisted of logistical assessment, geological mapping and rock chip sampling focusing on iron replacement at the Rocky River target. Exposure was found to be poor and chip sampling identified float with up to 37.8% Fe. Additionally historic reports of the diamond drilling at Rocky River completed by Goldstream were reviewed and it was recognised that Goldstream had only assayed drill core samples for Au, Ag, As, Cu, Zn and Pb, but not for Fe. Intervals from 68.45m to 81m (12.51 m) and 247.65m to 254m (6.35 m) of drill hole RRDDH3 (stored in the MRT core library, Hobart) were selected for Fe assay. An average value of 44.1% of Fe for 5.6 meters (75.4m – 81m) with a max Fe value of 54.3% was observed in the massive magnetite body. A low average value of 17.8% of Fe (with the maximum Fe value of 32% was returned from the same core in the hematite schist interval between 251.2m – 254m (2.8m).
Venture Minerals

Venture’s activities within EL36/2003 during the 2008-2011 period were focused on the DSO and magnetite potential. At least eight lenses of massive magnetite-hematite bodies greater than >400 m strike extent each were identified within the Bowry Formation within EL36/2003. Sampling of weathered surface outcrops returned DSO quality iron ore grades although textural observations and previous drilling indicated that most or all of the massive hematite-magnetite bodies would contain sulphides beneath the weathered zone estimated to extend up to 50 from surface. The most extensive exposures at Rocky River and Doctors Creek suggested some lenses may reach 10-20 m true thickness. Three diamond core holes for c. 393 m were drilled into Doctors Creek iron ore target in 2010. All three holes intersected southeast dipping magnetite-hematite mineralization, but thickness and continuity was poor and the mineralization appears to comprise dismembered blocks of massive hematite-magnetite within a serpentinite fault zone. The iron occurrences between Doctors Creek and Rocky River appear to be even less significant at surface and no further iron prospecting work is planned, although the Paradise Creek copper occurrences may worthy of further attention. Davis Tube Recovery (DTR) analyses using historic Goldstream drill core suggested the grade and thickness of the magnetite mineralisation at the Rocky River Prospect is too poor to allow economic exploitation.

7. 2013-2014 Anniversary Year Exploration Activities

Stream sediment sampling by Venture Minerals and previous explorers shows tin anomalism in streams draining the ridge between Rocky and Paradise rivers (up to 2.4% Sn in panned stream sediment concentrates). Anomalous (>100 ppm Sn) results were obtained from several creeks including Bounds, Coundon, Cataract and Breakneck over a radius of c. 1 km and both primary (vein, greisen or skarn) or secondary (alluvial gravels) sources have been considered by Venture personnel. The area is collectively referred to as the Bounds Sn anomaly. The tin-bearing Meredith Granite is located c. 1 km east of the Bounds Sn anomaly and veins or metasomatic zones associated with the granite could represent the primary source. Alternatively, granite-derived alluvial gravels within the catchments of the Bounds Sn anomaly could represent the source. While there are numerous placer workings (mainly Au) in the Rocky River area there are no obvious alluvial workings in the Bounds Sn anomaly catchments. However, the Bounds Sn anomaly samples also contain high levels of Cr (locally >1%) which has implications as to the source of the cassiterite. Chromite was observed in some stream sediment samples.

The Bounds Sn anomaly area is largely underlain by rocks of the Arthur Metamorphic Complex which includes ultramafic rocks (Thornett, 1999) and potentially the source of the Cr stream sediment anomalism. However, Bottrill and Taheri (2007) show that the “ultramafic” units of the Arthur Metamorphic Complex are Al, Ti, Ni and Cr-poor and probably formed by replacement of Mg-rich carbonate (i.e. skarn): It seems unlikely that the Arthur Metamorphic Complex is the source of the Cr in the Bounds Sn anomaly and a more distal source should be considered. Obvious distal candidates for the Cr anomalism are the Wilson River and Heazlewood ultramafic complexes immediately to the east of the Meredith Granite.
Figure 3: Historic and Venture stream sediment sample locations
Figure 4: Aeromagnetic survey with mineral occurrences and Venture stream sediment sample locations
During the winter months of 2013 Venture personnel continued prospecting the Bounds Sn anomaly focussing on identifying alluvial terraces or granitic detritus (i.e. placer source for stream sediment anomalism) or in situ primary mineralisation. Exposure in the area is generally poor and restricted to stream beds where the observed exposures are dominantly composed of foliated mica-schist, strongly foliated chloritic-schist and lesser quartz-rich phyllite of the Arthur Metamorphic Complex. Alluvial gravels in the Bounds Creek area are composed of locally derived angular to sub-rounded clasts to boulder size of quartz sandstone and argillite attributable to the Oonah Formation, sub-rounded pebbles and cobbles of schist and subrounded pebbles with fine attributable to the Arthur Metamorphic Complex and cobbles of quartz vein. Granitic clasts were not identified in Bounds Creek. Thin quartz veins are widespread throughout the Arthur Metamorphic Complex. Outcrops are often weakly weathered with iron-hydroxide crusts. Some quartz veins -grained pyrite and trace chalcopryite were observed in the Bounds Creek area but no significant mineralisation has been encountered (Table 1).

Table 1: Bounds Creek Rock Chip Assay Results

<table>
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<tr>
<th>Sample No.</th>
<th>Fe %</th>
<th>S %</th>
<th>Si %</th>
<th>As ppm</th>
<th>Cu ppm</th>
<th>Pb ppm</th>
<th>Sn %</th>
<th>W %</th>
<th>Zn ppm</th>
<th>Au ppm</th>
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<td>0.01</td>
<td>43.4</td>
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<td>5</td>
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<td>0.01</td>
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<td>10</td>
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<td>32.4</td>
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<td>20</td>
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<td>0.001</td>
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While the source of the Sn anomalism in the Bounds Creek area remains elusive the strong correlation between Sn and Cr suggests a reworked alluvial source is most likely.
8. Expenditure

Table 2. Expenditure for the Current Reporting Period
*Includes expenditure figures up to 30th June 2014

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<td>Geochemistry</td>
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<td>Geophysics</td>
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<td>Admin Costs</td>
<td>1,965</td>
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<tr>
<td>Total - eligible</td>
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Bass is currently in discussion with a mining company, active in Tasmania, which is interested in entering into a Farm-in Joint Venture Agreement with Bass Metals on Whyte River EL 36/2003. Upon entering the agreement the interested company would take over funding and management of exploration on this licence. They have indicated the focus of their interest is the potential of magnetite mineralisation hosted by the Bowry Formation and in particular the Rocky River Prospect magnetite mineralisation. Initial work would involve detailed mapping and sampling of outcrop, historic workings and existing drill core in the area of the Rocky River magnetic anomaly, including more extensive Davis Tube Recovery test work than has been completed to date. This work would form part of the lead up to drill testing.
10. **Conclusions and Recommendations**

Stream sediment samples from Bounds Creek have distinctly anomalous Sn and Cr levels. Low soluble Sn indicates cassiterite is the main Sn phase and Venture personnel have identified chromite as the main Cr phase. Prospecting of the area in 2013 failed to identify a primary source for the cassiterite but the elevated levels of chromium strongly suggest a reworked alluvial source, ultimately derived from the Meredith Granite and a more extensive Wilson River – Heazlewood ultramafic complex.

Venture significantly reduced its exploration budget in 2013-2014 and is now focused only on targets within a few kilometres of and/or with clear logistical synergies with its Mt Lindsay Sn-W-magnetite resources. Venture has chosen to withdraw from the joint venture with Bass Metals on EL36/2003. Bass is currently in discussion with another mining company, active in Tasmania, which is interested in entering into a Farm-in Joint Venture Agreement with Bass on Whyte River EL 36/2003. Upon entering the agreement the interested company would take over funding and management of exploration on this licence.
11. Bibliography


Bottrill & Taheri, 2008/05. Savage River mine by Bottrill & Taheri in Tas Geol Survey Record 2007/05.


