

Rockwell Minerals Limited

EL9/2006

Whyte River

Annual Report for the period 20 September 2012  
to 20 September 2013.

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## 1.0 Introduction

This report details all development work undertaken on Exploration License 9/2006, "Whyte River" during the Annual Period 20<sup>th</sup> September 2012 to 20<sup>th</sup> September 2013.

Exploration License 9/2006, "Whyte River" covering an area of 42km<sup>2</sup> lies in Western Tasmania and is situated to the west of Waratah and in the immediate vicinity of and to the south and west of Luina. The license areas in forest are currently only partly accessible. All future access will be via the sealed Waratah-Savage River road and then via a series of old sealed and unsealed mine access and forestry roads/tracks.

The terrain is dominated by steep shrub and tree covered slopes

There has been minimal work on the tenement during the last 12 months. Rockwell Minerals received the license in early 2013 after it was transferred from Manasia Mining Pty Ltd (in receivership).

## 2.0 Tenure

Exploration license 06/2009 (Whyte River) covering an area of 42km<sup>2</sup> was granted to Rockwell Minerals Ltd in early 2013, after the title was transferred from Manasia Mining Pty Ltd. Rockwell Minerals has now extended the tenement until 20<sup>th</sup> September 2014.

## 3.0 Previous Exploration

### *Whyte River Magnetite Skarn Prospect*

This prospect was generated by RGC Exploration Pty Ltd explorers who recognised an airborne magnetic anomaly in a setting interpreted from regional geology to be at the contact between Ordovician Limestone and an intrusion of Meredith Granite. It was therefore an attractive target for a magnetite-tin and/or -tungsten skarn deposit, despite its remote location in heavily forested rugged country. In 1992 RGC developed a cut line grid over the target and conducted a program of mapping, ground magnetics, rock chip and -80# stream sediment sampling with a clear focus on tin and tungsten. The mapping was largely ineffective due to poor outcrop exposure and the magnetics did not reproduce the coherent aeromagnetic high, suggesting either a patchy distribution of magnetite or possibly a near surface conversion of magnetite to hematite. RGC did not assay their rock chip samples for iron and it is not clear whether this was because of low visible iron oxide content or that they were not interested in an iron ore target. The rock chip sampling did not detect an anomalous area of tin or tungsten. Similarly, the stream sediment samples, which came mainly from the creeks bounding the margins of the magnetite skarn, returned modest tin and tungsten values. However they produced strong rare earth element anomalies which have not yet been followed up.

### *Godkin Trend Prospect*

A series of small underground mines produced high grade narrow vein galena-carbonate-quartz ore along a northwest trending linear structural belt during the late 1800s-early 1900s. The mineralised

trend extends for at least 2 km from the Whyte River workings in the north to the Godkin in the south, and the current review concludes that two characteristics of the trend make it an attractive prospect for further exploration:

1) The Godkin, Godkin Extended and Discoverer workings all occur at the base of sandstone slopes, where the slopes meet flat valley floor topography hosting near surface water tables and creeks. The flat valley floor country shows subtle karst-like morphology. At the Godkin workings, a sink hole has developed due to the collapse of the soil and regolith surface cover and lumps of limestone are visible on some of the mullock dumps. This raises the potential for carbonate replacement mineralization as well as the established structurally controlled lodes, and also the potential for more limestone host rock occurrences along the Godkin trend to be discovered by remote sensing/geophysical methods, including LIRDAR imagery, and targeted for prospect scale exploration.

2) Previous mining recovered only high grade galena from mainly shallow underground workings. Prior to galvanized steel creating a major market for zinc, ore from these types of deposits was determined by the silver and lead content of galena. However, if samples recovered from mullock dumps at Godkin are representative of mineralization along the trend, then sphalerite is as common as galena and low grade mineralization sent to waste by the early miners may become ore under current economics, if small open cut mines could produce zinc-silver-lead ore suitable for milling at either Hellyer or Rosebery.

#### 4.0 Regional and Local Geology

This tenement is directly to the west and south west of the previous Cleveland mine. The Cleveland ore bodies occur in a steeply dipping northeast trending succession of arenaceous, argillaceous, and chemical sediments and mafic volcanic rocks and ultramafic/mafic complexes. The sequence is unfossiliferous but has been correlated by rock type with the Cambrian Crimson Creek Formation of the Zeehan-Rosebery area. The Meredith Granite, a high level, late tectonic Late Devonian to Early Carboniferous granitic pluton believed to be genetically associated with the mineralisation, intrudes the sequence east and south of the mine. The Cleveland ore bodies are located in a dominantly fine grained sedimentary sequence that is thought to lie in an embayment on the margin of a basaltic eruptive centre.

The tin-copper ore bodies occur as a series of sub parallel, near vertical sulphide lenses within the Halls Formation. The mineralisation is composed largely of fine to medium grained quartz, tourmaline, fluorite, chlorite, and pyrrhotite plus chalcopyrite, cassiterite and stannites.

The area surrounding the Cleveland Mine site is known to host other occurrences of Sn, and base metal mineralisation related to Devonian-aged granite intrusive activity within surrounding host rocks. Identification of repetitions of this style of mineralization will be the primary focus of the proposed exploration program.

As discussed above in Section 3, previous exploration work has recognised an airborne magnetic anomaly in a setting interpreted from the regional geology to be at the contact between Ordovician Limestone and an intrusion of Meredith Granite.

Also, a series of small underground mines produced high grade narrow vein galena-carbonate-quartz ore along a northwest trending linear structural belt during the late 1800s-early 1900s. The Godkin, Godkin Extended and Discoverer workings all occur at the base of sandstone slopes, where the slopes meet flat valley floor topography hosting near surface water tables and creeks. The flat valley floor country shows subtle karst-like morphology.

#### 5.0 Developmental Activities

The Rockwell Minerals team has recently received final LiDAR data from the Forestry Department and therefore development work on this EL is now underway.

This data was expected to be received in May 2013 after considerable discussion and agreement with Forestry Tasmania regarding acquiring the data during a LiDAR programme they were undertaking, but was received in July 2013.

#### 6.0 Expenditure

Expenditure over the license area totalled \$6,112.50 during the reporting period to 13<sup>th</sup> September 2013, and is broken down by expense in the table below:

LIDAR Data gathering by Forestry Tasmania	6,112.50
Total	6,112.50

#### 7.0 Conclusions and Recommendations

To progress the ideas discussed above to the drill target or sterilization stage for both prospects, the following exploration work, in order of priority, is recommended.

- Review all available geophysical information, in particular aeromagnetic and gravity data
- All previous geochemical survey data (stream sediment and soil/rock chip surveys) will be collated and reviewed to identify any tin or other pathfinder anomalies that require follow-up work.
- Generate terrain maps over the magnetite skarn and the Godkin trend using the LiDAR.
- Locate and map all abandoned workings and potential undiscovered sites on the Godkin trend, using the LIDAR survey.
- Apply to ranked targets, the most successful combination of grid based prospect scale methods determined from the Godkin Extended trial.
- Cut a 25x25 metre grid over the Godkin Extended prospect and conduct a program of mapping, soil geochemistry, IP and close spaced gravity to determine the best methods for generating drill targets.
- Potentially extend the cut line track for 500 metres across the magnetite skarn and conduct a camp based campaign of soil, pan concentrate and rock chip sampling on the rare earth target either side of and within the skarn.
- Review results and drill best targets.

Forecast expenditure will be the following:

Item	Forecast Cost
Review of historical documentation	\$12,000
Review all publicly available documentation on Geology, Geophysics, Aeromagnetic and Gravity data	\$12,000
Ground survey of targets including geochemical fieldwork programme and assays	\$30,000
EL Reporting, Admin and Supervision including engaging a part-time Exploration Manager	\$18,000
Total	\$72,000

In mid-September 2013 Rockwell Minerals has approved a 3<sup>rd</sup> party team (Ron Gregory and associated team) to begin work on LiDAR mapping and generation of existing data.

Attachment: Maps of the Exploration License area

**Map: Tenements**

- Lease
- Mining Leases
- Licence
  - Licence Category 1 (Metallic)
  - Licence Category 2 (Fuel)
  - Licence Category 3 (Construction)
  - Licence Category 4 (Petroleum)
  - Licence Category 5 (Non-Metallic)
  - Licence Category 6 (Geothermal)
  - Exploration Release

Click to Refresh Map  
Click to Manage Layers

GDA 1994 - MGA Zone 55 (E, N): 369345, 5403442 (1:83,200)

Overview Results

Details for Exploration Licences 1 feature(s) displayed [Clear Selection](#)

Zoom / Pan	ID	Ten. Ref.	Details	Area	Holder	Product
	33384	EL15/2011	<a href="#">Details</a>	34 sq km/blocks	Bright Phase Pty Ltd.	Category 1 - Metallic Minerals, Atomic Substances

Click on column heading to sort

Tasmania  
Explore the possibilities  
DEPARTMENT OF INFRASTRUCTURE, ENERGY and RESOURCES  
Mineral Resources Tasmania

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