Surrender Report

EL26778

Calvert Project (GR237)

For the period

24th December 2008 to 14th July 2015

Distribution:

Department of Mines and Energy NT

Redbank Copper Limited

October 2015
# Bibliographic data sheet

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<tr>
<td><strong>Author</strong></td>
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SUMMARY

The Tenements form part of the Calvert Group tenements (GR237), part of Redbank Copper Limited’s (“Redbank”), Redbank Copper Project located 300km south-east of the township of Borroloola near the Northern Territory-Queensland border. The Tenements cover a sequence of sediments and volcanics of the Tawallah Formation and are prospective for breccia pipe hosted copper mineralisation.

Redbank completed a regional review of past exploration and identified seven advanced targets for follow up exploration.

The four Tenements subject to this report were surrendered on the basis that they do not fit the Redbank’s current exploration strategy.

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1. **INTRODUCTION**

This report details activities on EL26778 to EL26781 inclusive (the “Tenements”) between 24\textsuperscript{th} December 2008 and 14\textsuperscript{th} July 2015.

The Tenements are owned by Redbank Operations Pty Ltd a wholly owned subsidiary of Redbank Copper Limited (“Redbank”), and forms part of the Redbank Copper Project.

The project is centred on the mining operation at Redbank (figure 1) where the company has infrastructure including mine camp, offices, and airstrip that support the company’s activities in the district. The mine site has been on care and maintenance for a number of years, and is currently staffed by full time caretakers.

Redbank Copper Limited was suspended from the ASX between the period 24\textsuperscript{th} November 2011 and 10\textsuperscript{th} May 2013, whilst the company was restructured and raised funds. Since relisting the company has commenced regional compilation work, but has not undertaken any on ground field exploration.

2. **Location and Access**

The Tenement are located approximately 300 km south-east of the township of Boorooloo, and immediately west of the Northern Territory – Queensland border. Wollogorang Station in the center of the project area is the closest habitation.

Vehicle access is restricted to the main Borroloola – Wollogorang road and local station tracks. There is a 1200m airstrip at Redbank which can be used to access the project.

Topography is dominated by escarpment country with a maximum elevation of 226m. The well-developed dendritic drainage network is dominated by Settlement Creek, which drains to the north-east into the Gulf of Carpentaria. Vegetation consists mostly of open woodland and native grasses that support cattle grazing.

The Tenements are on the Wollogorang, and Calvert Hills Pastoral Stations.

The area has a tropical climate with a wet season between November - March during which time access to and around the project can be blocked by flooding creeks and a dry season between March and October during which time the majority of field operations occur.
Figure 1 - Location Plan.
3. **Tenure**

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**Table 1 - Tenement details**

4. **GEOLOGY AND MINERALISATION**

4.1 **Regional Geology**

The Tenements are situated in the south-eastern portion of the Proterozoic McArthur Basin in the Northern Territory (Figure 2). The tenements are located on the Wearyan Shelf tectonic unit within basin. The geological sequence comprises a mix of shallow water and continental sedimentary units intercalated with volcanics of the Tawallah Group which is the lower most sequence within the Macarthur Basin sequence. The sequence has been intruded by various granitic bodies.

The McArthur Basin sequence contains the world class McArthur River lead-zinc deposit (227 Mt grading 9.2% zinc, 4% lead, 0.2% copper, and 41g/t silver) approximately 200 km north of the tenement. Within the region copper mineralisation associated with trachyte breccia pipes is mined at Sandy Flat and Redbank, and copper uranium mineralisation is recognized within the Westmorland Conglomerate Formation to the south of the tenement. The Merlin Diamond field is approximately 250 km to the west of the Tenements.
4.2 Tenement Geology

The project area overlies Tawallah Group stratigraphy. The southern parts of the project area overly lower member of the group including the McDermott and Aquarium Formation’s. The northern parts of the project cover Wollogorang, Masterton, and Gold Creek Volcanic Formations intruded by the Packsaddle granite to the east.

Structural geology of the area is not well known, however the Calvert Hills Shear zone is a regional structure that can be trace over a distance of 200km and has a 100m wide zone of alteration associate with it strikes NNW through the central part of the main tenement group. The fault has
vertical displacements in the order of several kilometres and vertical displacement in the 100’s of metres (Ahmad and Wygralak 1989).

The project area is considered prospective for strataform and breccia pipe hosted copper mineralisation within the Wollogorang, Gold Creek Volcanics and Masterton Formation of the Tawallah Group. Regional work by MIM in the vicinity of EL 28487 intersected stratigraphy associated with the McArthur Lead Zinc Deposit at depths of between 300 -500m below surface. The Upper Proterozoic Karns Dolomite hosts a number of small manganese occurrences in the Calvert Hills area.

The area has been subject to extensive exploration for Uranium and diamond but the current project area is outside areas considered prospective for these commodities.
Figure 3 – Calvert Hills Project Geology
5. PREVIOUS EXPLORATION

The Tenements have had several phases of exploration for base metals as well as gold, uranium and diamonds since the 1940s. Programs have included regional stream sediment surveying, field mapping aeromagnetic surveying, drilling and interpretation. No significant anomalism was identified by this work.

6. EXPLORATION COMPLETED

Redbank relisted on the Australian Stock Exchange in March 2013 and exploration work has focused on advanced copper target within the immediate Redbank area.

Despite material challenges faced by new management during the period of being delisted, a detailed low level aeromagnetic survey was flown during 2012/2013 followed by a comprehensive review of historical exploration data.

In 2014, a desk top regional targeting and evaluation study was undertaken over the Calvert Group tenements as well as other regional tenements holding held by Redbank, and included generating a number of regional targets identified by NTGS regional stream sediment geochemistry (figure 4). Targets 1 to 6 are associated with prospective stratigraphy in the vicinity of the Calvert Hills Shear, whilst target 7 is associated with a small historical copper occurrences at Mountain Home to the south of the current tenure.

The Tenements were surrendered in July 2015 as they did not fit the company’s exploration strategy.
Figure 4 - Calvert Group Tenure and Regional Stream Sediment data
Figure 5 - Calvert Group Tenure and Regional Targets
Figure 6. Map of area flown for the Calvert Geophysical Survey.
7. REFERENCES


Giles A, Redbank Area NT, Summary of Geology, Past Production and Reserves, Redbank Copper Pty Ltd (unpublished)

Redbank Copper Limited, Annual Exploration Report GR237 - EL 26778, EL 26779, EL 26780, EL 26781, EL 27240, EL 27241, EL 27737, EL 28003, EL 28487 & EL 28535, Calvert Project, For the period 1st April 2014 to 31 March 2015