

## ANNUAL TECHNICAL REPORT

### ML 29913 - EMERALD HILL

### PERIOD ENDING 21/4/16

Title holder	Outback Metals Pty Ltd
Operator (if different from above)	Outback Metals Pty Ltd
Titles/Tenement	ML 29913
Mine/Project Name	EMERALD HILL
Report Title including type of report and reporting period including date	Annual Technical Report for ML 29913 from 22/4/15 to 21/4/16
Corporate Authors	Outback Metals Pty Ltd
Company Reference No:	ATR – ML 29913 - 2016
Target Commodity or Commodities	Tin & Rare Earths
Date of Report	April 2016
Datum/Zone	Zone 53
250 000K mapsheet	Katherine
100 000K mapsheet	Katherine
Postal Address	46 The Broadway, South Brighton SA
Phone	08 8296 0707
Email:	tapearce@bigpond.net.au

#### COPYRIGHT

##### © OUTBACK METALS PTY LTD 2016

This work is copyright. You may display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. Apart from any use as permitted under the Copyright Act 1968 and as stated above, no part may be reproduced by any process without prior written permission from Outback Metals Pty Ltd. Outback Metals Pty Ltd authorises the Northern Territory Department of Mines and Energy to copy and distribute the report and associated data.

Requests and inquiries concerning reproduction and rights should be addressed to [tapearce@bigpond.net.au](mailto:tapearce@bigpond.net.au).

**EXECUTIVE SUMMARY:**

Exploration and mining activity at Emerald Hill is reliant upon further development of the processing plant at Mt Wells. The deposit at Emerald Hill is too small to be a stand alone project.

**PROPERTY DESCRIPTION, LOCATION AND TENURE OF MCNs 1366 and 1369**

The Emerald Hill Prospect is part of the Edith River tin district and is located 15km north of the Mt Todd tin field in the southeast quadrant of the Pine Creek Geosyncline in close proximity to the Middle Proterozoic sandstones which form the escarpment and plateau country of the Katherine River National Park.

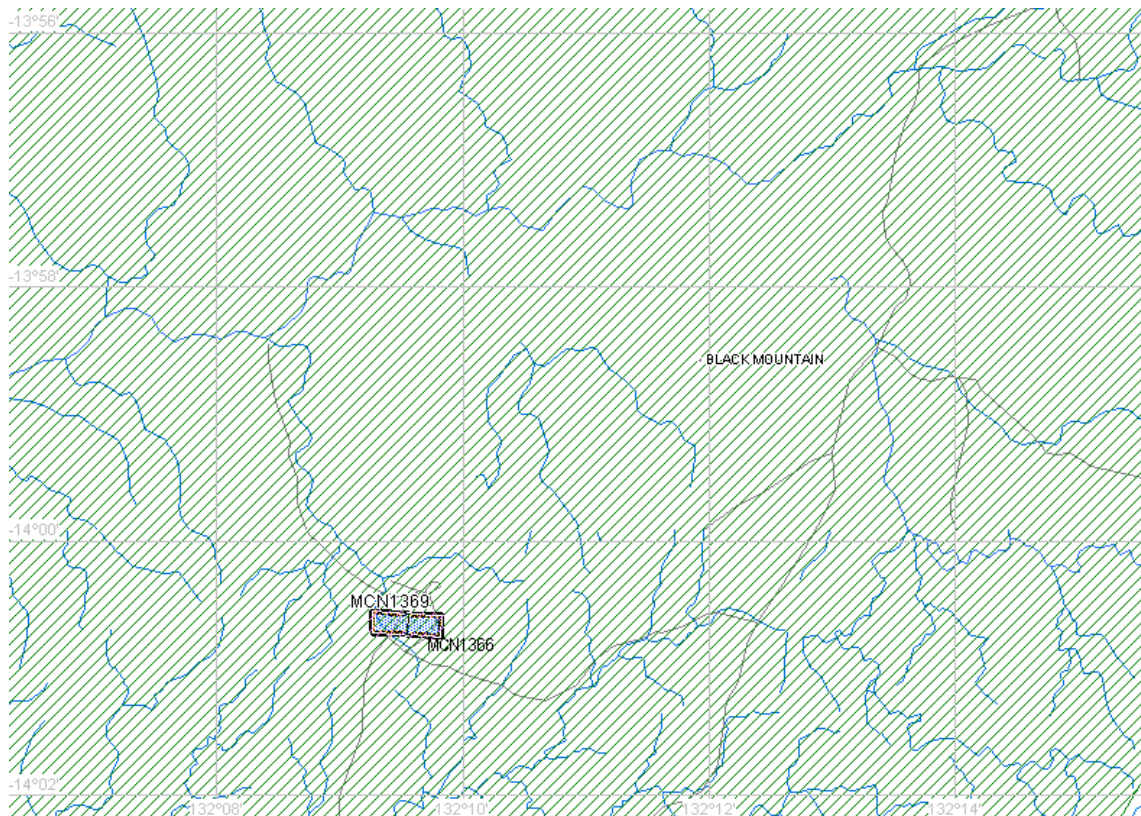
**Table 1: Tenement Details**

MCN	Hectares	Grant Date	Expiry Date	Easting (approx)	Northing (approx)
1366	16.0	24 <sup>th</sup> Aug 1987	31/12/2016	132 <sup>0</sup> 09' 40"	-14 <sup>0</sup> 00' 30"
1369	16.0	24 <sup>th</sup> Aug 1987	31/12/2016	132 <sup>0</sup> 09' 20"	-14 <sup>0</sup> 00' 30"

MCN 1366 & 1369 were first transferred to Corporate Developments Limited (CDL) in 1995 (who purchased the tenements from Denehurst Limited).

At that time of the transfer the MCN's had been granted until 31/12/2001. Corporate Development Limited reapplied and was given a 5 year renewal which ended on 31st December, 2006. In 2006 the MCN were reapplied for and renewal was given until 31/12/2016.

**MCN 1369 & MCN 1366 ceased (section 204) on the 22<sup>nd</sup> April, 2013 upon the issue of Mineral Lease 29914 for a period of 6 years till 21/4/19.**



**Location map of Emerald Hill Tenements**

## **PREVIOUS EXPLORATION**

The Emerald Creek mine is located approximately 9km south of the Horseshoe Tin Field and comprises open cut mines and alluvial workings which were worked between 1908 and 1913.

The majority of tin production, which totalled 43t of Sn concentrate, came from alluvial deposits which were extracted during the six year period.

The mineralization originates from iron rich quartz reefs which have intruded Burrell Creek Formation metasediments. Sulphides are present in the primary ore shoots.

McMahon (1968) describes the deposit as a quite large tin lode localised along shear zones.

Little to no tin exploration has occurred since mid 1960's, however the mine was re-opened in the mid 1970's. A large quantity of tin was produced during this period.

Current exploration in the area is concentrating on tin and rare earths.

## **EXPLORATION CARRIED OUT BY CDL**

Several site visits and reconnaissance visits by geologists for sample collections have been carried out during this period. CDL acquired the services of Mr C J Robinson and commissioned a report on the Emerald Hill Mineral Claims; in his report, Mr Robinson noted that Emerald Hill is regarded as a prospect that with little work could be mined and trucked to Mount Wells for treatment.

The cassiterite/kaolin/quartz lode occupies a shear within soft greywackes, with dimensions of 22m x 2m visible at surface and in workings. The prospect is tentatively regarded as a pipe, though only one control is seen – the footwall shear in the slot and tunnel. Grades range from 2% Sn to 47% Sn.

## **OUTBACK METAL'S EXPLORATION**

During 2008, the acquisition of Corporate Developments Pty Ltd by Outback Metals Ltd was completed and Outback Metals was listed on the ASX (OUM). During this time the company's tenements were reviewed and prioritized.

The Emerald Hill prospect forms part of a group of projects supporting the opening of the Mount Wells tin/copper mine.

Outback Metals consultant geologist Bill Fraser and Director Tony McGill visited Emerald Hill site during October 2009 to look over the area. No field work was carried out during this time.

Follow up visits have been carried out.

Exploration and mining activity at Emerald Hill is reliant upon further development of the processing plant at Mt Wells.

The deposit at Emerald Hill is too small to be a stand-alone project.

The recent fall in tin prices is not assisting with the progress of these projects.