

# Annual Technical Report 2015

## EL 24524

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## **EXECUTIVE SUMMARY**

East Arnhem Land is Aboriginal-owned land, as granted under the *Aboriginal Land Rights (NT) Act 1976 (ALRA)*. The Groote Eylandt Mining Company Pty Ltd (GEMCO) has its obligations defined in various lease documents. During the reporting period, GEMCO completed its rehabilitation obligations for the lease. In addition, all results for the lease were reviewed and 48 blocks were identified for surrender.

<b>Titleholder</b>	Groote Eylandt Mining Company Pty Ltd (GEMCO)
<b>Operator (if different from above)</b>	
<b>Tenement Manager/Agent</b>	Manganese Australia
<b>Titles/Tenements</b>	EL24524
<b>Mine/Project Name</b>	East Arnhem Project (Peter John River)
<b>Report title including type of report and reporting period including a date</b>	2015 Annual Report 2015
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<b>Corporate author(s)</b>	BHP Billiton GEMCO
<b>Company reference number</b>	
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<b>Date of report</b>	13 May 2015
<b>Datum/Zone</b>	UTM Zone 53S
<b>250 000 K mapsheet</b>	Gove (SD5304) / Arnhem Bay (SD5303)
<b>100 000 K mapsheet</b>	Gove(6273) / Arnhem (6173) / Durabudboi (6172)
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## 2.0 Tenure

### 2.1 Land Status

Aboriginal Freehold Land – Northern Land Council (NLC).

### 2.2 Tenements Involved

Table 1 below lists the details of the tenements

EL No	Holder	Application Date	Grant Date	Expiry Date	No of Blocks
EL 24524	BHPB	17-Dec-2004	20-Apr-2009	19-Apr-2015	48

**Table 1 - Tenement details**

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## 3.0 Previous exploration

Previous exploration over this area is described in Report 13 of the Northern Territory Geological Survey (Ferenczi, 2001).

In the mid 1960's, BHPB (then BHP Ltd) explored parts of the eastern Arnhem Land area for sedimentary-diagenetic Mn after the discovery of the Groote Eylandt deposit. A variety of exploration campaigns were completed by BHPB in the 1960's, including helicopter reconnaissance work, regional mapping, pitting and regional drilling at some prospects (e.g. Caledon Bay, Peter John River, Lake Evella).

The Peter John River prospect extends over an area of about 10 sq km straddling EL24524 (BHPB 100%) and EL4171 (RTX). In 1965, a total of 33 exploration pits were dug. Subsequently 11 holes were drilled to various depths to test the manganese potential. However, no significant manganese mineralisation occurrences were identified at this prospect.

Between July and September 2009, BHPB Minerals Exploration (MinEx) completed a drilling program in EL24524. The programme involved the drilling of 27 shallow Reverse Circulation (RC) holes and establishment of access tracks (~ 27 km) to reach the drill sites. The drilling concluded in August 2009 and all the drill sites and access tracks were rehabilitated in the following month prior to closure of the field camp and withdrawal from the project site.

Due to a shift in exploration focus by BHP Billiton, MinEx did not conduct any exploration on the East Arnhem Project during the 2011 dry season.

During 2012 BHPB Manganese Australia (Mn Australia) completed three diamond drillholes in EL24524, again to establish stratigraphic control in the area. The holes were planned along the existing Mata Mata Road requiring only drill pad construction.

A follow up infill drill program was conducted in 2013. A total of 39 aircore holes for 1,803m were drilled from which 461 samples were collected for analysis. Results indicated that a deep chemical weathering profile where iron oxides are prevalent affects most of the target horizon. Some grades at very low yields were found to be preserved in areas of deeper cover. An additional two diamond holes were drilled to support the stratigraphic model.

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## 4.0 Exploration activities

During the 2014 field season, all outstanding rehabilitation of tracks and pads were conducted. Some tracks were flagged by the traditional owners and were left open at their request. All rehabilitation works have been inspected by the traditional owners and have been subsequently signed off.

A review of all available data collected during the life of the lease was conducted during 2014. Results show that the geological conditions favourable for manganese mineralisation only occur in the south-west portion of the lease. The majority of the lease was flagged for surrender on expiry, and 15 blocks were retained for future exploration programs.

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## 5.0 Future work program

Lack of access to ground in the region has resulted in Mn Australia decreasing its planned activity substantially in the area for the upcoming field season. The next season will focus on investigating and planning geophysical techniques to best characterise this type of deposit in order to optimise future exploration in the area.

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## 6.0 Conclusions and recommendations

Mn Australia's long term plan for exploration in the area is currently hampered by access to land currently under application and in moratorium. Mn Australia has relinquished the majority of its tenure this year and larger scale exploration in the area will only be economically viable when more land becomes available.