

EL24524 “EAST ARNHEM” GEMCO Project

ANNUAL & FINAL EXPLORATION REPORT For the Period Ended 19 April 2019

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Distribution:

GEMCO

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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. Exploration by GEMCO within the tenement targeted Manganese (Mn) mineralization and is based on historically reported Mn occurrences and previous exploration campaigns. GEMCO commenced exploration on the lease in 2009 and since then, numerous desk top studies, drilling campaigns and mapping exercises have been conducted on the lease to test the potential for manganese in the area. A portion of the lease was relinquished in 2015. This final report summarises the work conducted in the retained portion of the lease to fulfill relinquishment obligations.

INTRODUCTION

Exploration Licence (EL) 24524 was applied for by BHP Billiton Minerals Pty Ltd (BHPB) on 17 December 2004 and granted to the Grootte Eylandt Mining Company (GEMCO) on the 20th April 2009. The operation of exploration was transferred to GEMCO in January 2012. In December 2015 ownership of the tenure formally transitioned to GEMCO, South32 from BHP Billiton Minerals Pty Ltd.

This application is located within Aboriginal Freehold Land and consequently were lodged under the Aboriginal Land Rights (NT) Act 1976 (ALRA). Although the original application covered a much larger area, the Traditional Owners gave consent only to parts of the application. As a result, four new ELs were established to cover the non- contiguous consent areas. A location map is shown in Figure 1.

This Annual and Final report summarises the activities for the retained portion of EL24524.

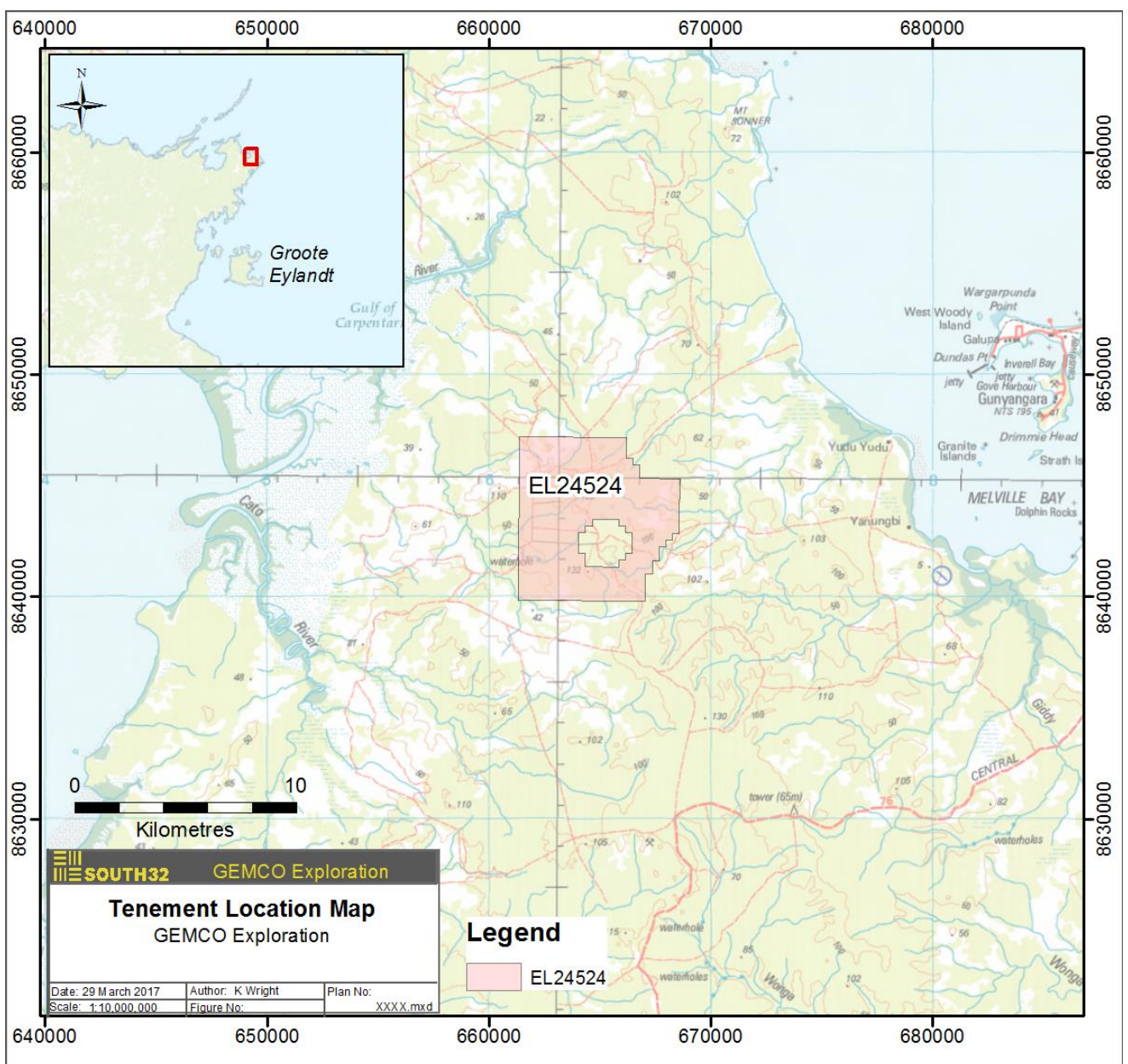


Figure 1: EL24524 Tenement Location Map



TENURE

LAND STATUS

Aboriginal Freehold Land – Northern Land Council

TITLES

EL24524 was granted to the Groote Eylandt Mining Company (GEMCO) on the 20th April 2009. The lease was renewed in April 2015 at which time 15 of the original 48 blocks were retained. Details are given below in Table 1. A renewal was granted in July 2017 for a further two years. The tenement expired on the 19 April 2019 and has been surrendered in its entirety.

Table 1: Tenement details

Tenement	Owner	Grant Date	Expiry Date	Number of blocks
EL 24524	Groote Eylandt Mining Company	20 April 2009	19 April 2019	15

PREVIOUS EXPLORATION ACTIVITIES

Historical 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 (S32 100%) and EL4171, a Rio Tinto Exploration (RTX) joint venture. 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 was identified and exploration was not pursued further.

RECENT WORK PROGRAMS

Mapping and Photo Interpretation

In 2007, BHP Billiton Minerals Exploration (MinEx) commissioned a photogeological exercise covering Groote Eylandt and the greater East Arnhem target area. The exercise used 1:100,000 scale stereoscopic Landsat 7/SRTM (Shuttle radar) satellite imagery to map Mesozoic and Cainozoic stratigraphy, structure and geomorphology in East Arnhem Land and Groote Eylandt, with particular emphasis on delineation of potential areas of sedimentary manganese mineralisation of the Groote Eylandt type. The mainland study region covered an area of some 20,000 km², and the Groote Eylandt study an additional 2,400 km².

The primary objective of the Arnhem Land study was to map landforms related to weathering of thin Cretaceous transgressive marginal-marine and terrestrial units develops on an irregular basement terrain formed on resistant Precambrian sediments. The Cretaceous strata are often covered by remnants of a regional laterite profile that forms a distinctive flat, dark plateau surface with underlying white saprolitic material. The data from this survey has been submitted in previous reports.



AEM Survey

Between the 29th May 2009 and the 7th June 2009, Fugro Airborne Surveys Pty. Ltd. Undertook an airborne TEMPEST electromagnetic and magnetic survey for MinEx over the East Arnhem Land Project area in the Northern Territory. The survey consisted of one area. Total coverage of the survey area amounted to 1,145 line kilometres flown in 8 flights (Figure 2). All data from the AEM survey has been submitted in previous reports.

Drilling

Between July and September 2009, MinEx completed a drilling program in EL24524. The program involved the drilling of 27 shallow Reverse Circulation (RC) holes totaling 1,344 metres which required the establishment of access tracks (~ 27 km) to reach the drill sites (Figure 2). 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.

A regional stratigraphic drilling program was conducted in 2012 with three diamond core drillholes drilled in EL24524, with a total of 142.2 metres drilled. These holes were drilled along the existing Mata Mata Road requiring only drill pad to be constructed, which were rehabilitated upon completion on the program.

A follow up infill drill program was conducted in 2013. A total of 37 aircore holes for 1,739 m were drilled from which 461 samples were collected for analysis. An additional two diamond holes (86.6 m) were drilled to support the stratigraphic model. 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.

In total 69 drillholes have been completed on EL24524, 59 holes were drilled on the ground being relinquished in this report, shown in Figure 2 (sorted by type). The 10 holes not shown in Figure 2 were previously reported in the 2014 Partial Relinquishment Report for EL24524.

Table 2: Drillhole details

Year	Hole Type	Holes	Metres
2009	RC	27	1,344
2012	Diamond	3	142.2
2013	AC	37	1,739
2013	Diamond	2	86.6

Mapping and Sampling

A detailed mapping and sampling program was conducted in 2012 along the edges of plateaus where outcropping manganese sandstones were discovered. An alternate emplacement model to Groote Eylandt was proposed in which manganese formed as a matrix in a fining upward unit of sandstone at the base of the Yirrkala Formation. The fairly flat lying unit is exposed along the edges of plateaus in the region and can be traced for 8km on the western and southern flanks of the plateau.

Palynology

Palynology results and detailed logging of the stratigraphic core holes confirmed that the depositional event associated with the manganese sandstone unit occurred ~10Ma before the Groote Eylandt

depositional event. An alternate exploration model was developed based on the geomorphology of the area and drill tested.

Geophysical Surveys

In 2015 a proposed multi-technique geophysical survey was planned across a portion of EL24524. The aim of the survey was to determine the best survey methods to delineate the presence or absence of a targeted Mn rich sandstone layer. Subsequent program reviews, including a 2017 technical review postponed and eventually cancelled the proposed survey.

Rehabilitation

The drill pads and access tracks used during the 2009 and 2012 drilling campaigns were rehabilitated in the month following the completion of the drill program. The drill pads and access tracks where were used during the 2013 drilling program were rehabilitated during the 2014 field season, except for some tracks which were flagged by the traditional owners and were left open at their request. No ground disturbance has been conducted since this period, and all rehabilitation works have been inspected by the traditional owners and have been subsequently signed off (see Appendix A).

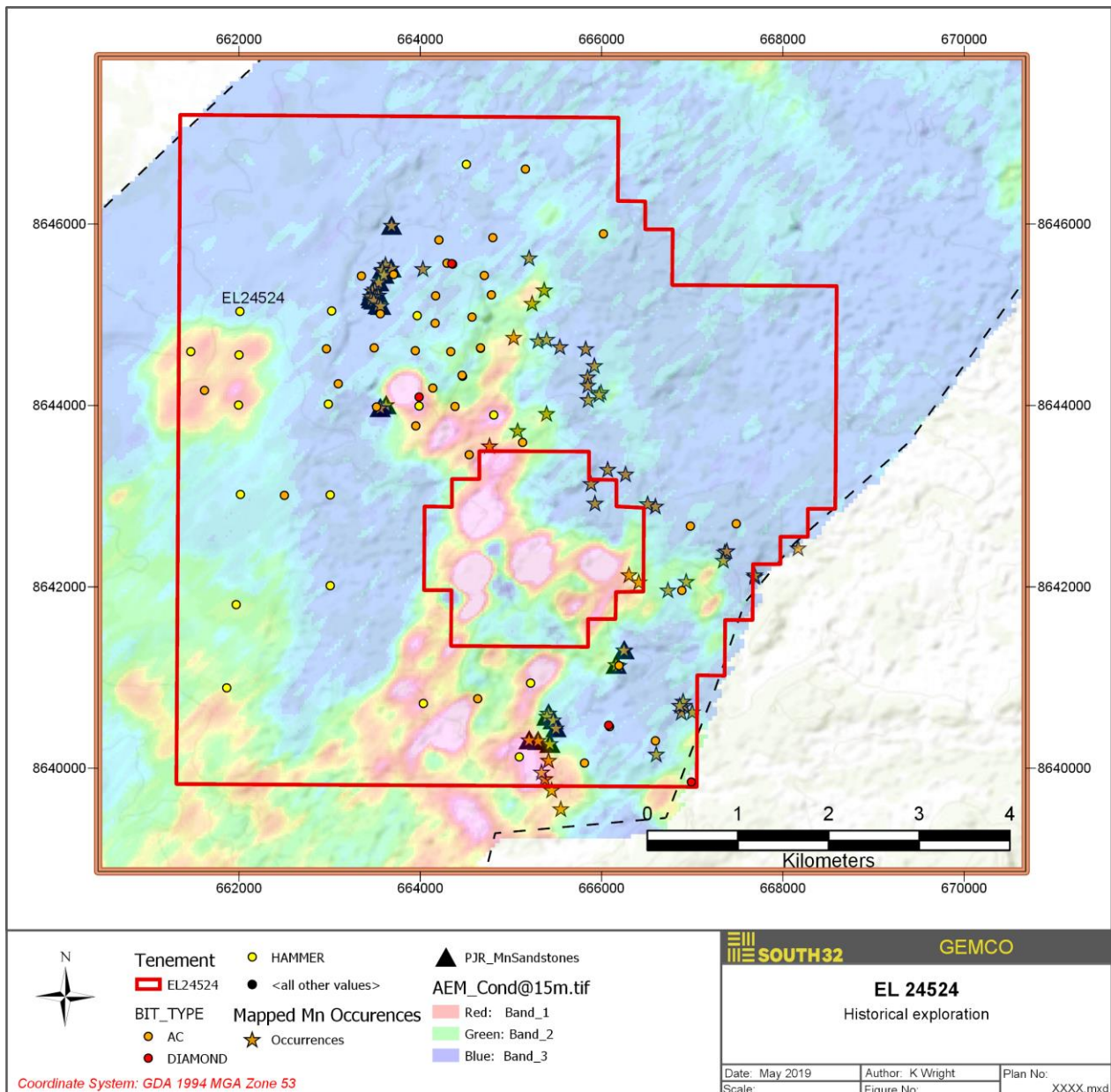


Figure 2: Historical Exploration Map



FINAL YEAR EXPLORATION ACTIVITIES

Work completed during the 2018-2019 reporting period consisted of:

- Desktop and technical reviews,
- Tenure reporting including previous period annual reports.

Desktop studies & Technical review

Desktop studies completed in the reporting period involved reviewing historical drilling considering exploration results on adjacent tenure. The exploration on adjacent tenure was designed to test the geological model developed in the Peter John River (PJR) prospect and target the proposed geological model for manganese mineralisation (Figure 2). The results did not upgrade the continuity or economic significance of the manganese intersected at the PJR prospect.

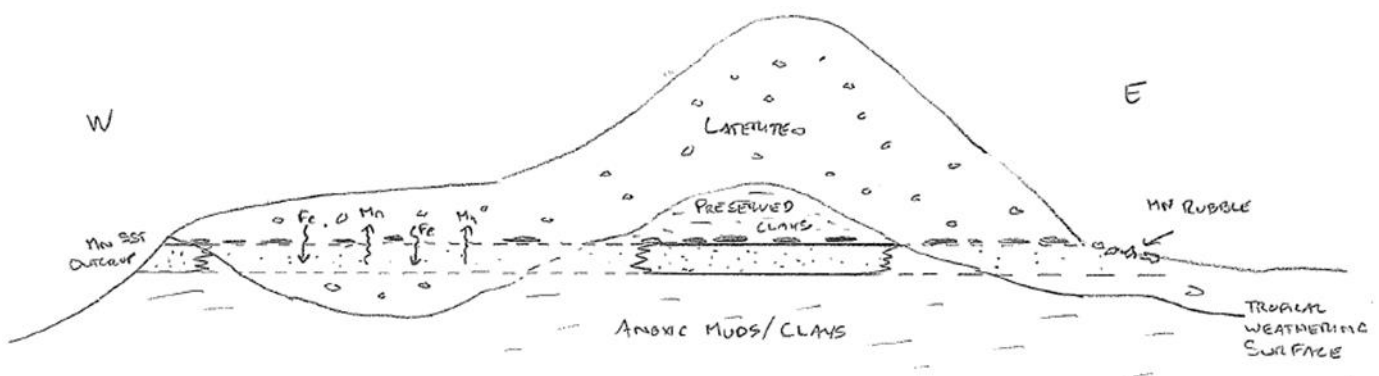


Figure 3: Mineralised Sandstone Model

FUTURE WORK PROGRAM

No further work is planned, and the tenement has been surrendered.

CONCLUSIONS AND RECOMMENDATIONS

Since date of grant, significant exploration effort has been undertaken across the tenement area. Identified manganese mineralisation is patchy, of low grade and generally discontinuous. The upside manganese potential has been reviewed and deemed not of significance to warrant any further exploration. The decision has been taken to surrender the tenement.

Drillhole results for the surrendered area are included as a digital appendix. All other associated data for work conducted on the lease has been supplied in previous annual reports.