Eastern Areas Exploration Annual Report
EL10115 / EL10108

13 October 2006 – 13 October 2007
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1 Executive Summary

Exploration licences were granted to GEMCO for EL 10115 and EL 10108 on the 13 October 2000 in the region of Groote Eylandt known as the Eastern Areas.

In the first year, an exploration program was undertaken to collect raw data on the potential deposit. This involved aerial photography, ground reconnaissance, upgrading of access tracks, preparation of grid lines and reverse circulation drilling. The drill program intersected between 0.5-4.5m of sub-economic siliceous and medium grade lump manganese in 16 of the 30 holes drilled. From October 2001 to October 2002, the activities focussed on sample preparation and analysis of the samples generated from the RC drilling program in Year One, enabling preliminary data analysis and interpretation of the eastern areas.

During 2003, a broad-based review of all available data was conducted and maps required for target generation were digitised into Vulcan. Investigation commenced on a replacement database and accompanying management system for improved validation and interpretation on the Eastern Area drilling information.

In the fourth year, between October 2003 and October 2004, drill hole data in the GDHS database was converted to a new GBIS database, an outcrop mapping and sampling program was undertaken to assist in identifying potential drill targets and the 1991 GEOTEM data was re-analysed and modelled by BHBP Geophysicists in Brisbane, indicating weak to moderate conductivity of manganese ores and clays. In addition, different EM survey techniques were investigated to differentiate manganese ores from clays.

From October 2004 to October 2005, activities involved compilation of all historical exploration data for review, delineation and target generation, planning of a reverse circulation drilling program, gridline clearing and drill pad preparation to provide access for the drilling rig, and site visits with the traditional land owners to define areas of sacred significance.

GEMCO completed a total of 138 RC drill holes for 3,038 metres during 2006. Drilling confirmed the presence of massive (lump) siliceous manganiferous material. Assay results were returned in late 2006 (this reporting period). Additionally two diamond holes were also drilled (one in each lease). These will allow some preliminary density test work to be conducted.

In early 2007 GEMCO completed geological modeling and a resource estimate of the exploration results. Follow-up infill drilling is planned for the current drill season based on the significant results. It is planned to complete this phase in November 2007. Additional work also includes geochemical sampling and testwork.

2 Location

The Eastern Areas are located approximately 6km SE of GEMCO’s southern most mining operation (D Quarry), and approximately 16km SSE of the Angurugu community.

Access into EL10115 is obtained via Emerald River road to D Quarry and then east on a sandy access track. Access into EL10108 is via Emerald River road south to Emerald River, then east onto the King’s Crossing Track approximately 1km south of Emerald River. There is one track connecting the two leases.

Refer to Figure 1 below: Location of Eastern Lease Exploration Areas (Eastern Areas).
3 Regional Geology

The geology of the region, including the exploration leases, consist of the Mullaman beds which unconformably overlays a “basement” of Middle Proterozoic quartz sandstones up to 600 m in thickness named the Groote Eylandt Beds.

Within the mining leases (located 16km NNW of EL10108 and 6km NW of EL10115), manganese ores, which are either exposed or at shallow depth, were deposited in several sedimentary environments in early Cretaceous. The ore occupies a series of WNW trending, joint controlled, partly in filled depressions between elongate inliers of the Groote Eylandt beds (F3, AS, B & D Quarries). Elsewhere within the mining leases, ore lies directly on broad terraces cut into the basement quartzite (C and F1 Quarries). The westerly part of the orebody, form a mostly continuous sheet-like body (ES, ICI, C-West and Pole 80 areas) which has been deposited in a beach environment lapping onto palaeo-basement highs or island structures.

In the mining leases, the concentration of manganese within the stratum varies from massive oxides, through mixtures of oxides with kaolinitic clays and quartz sands, to disseminated oxides in a sandy clay matrix. The manganese ore minerals are chiefly pyrolusite and cryptomelane, with minor amounts of manganite. Lateritisation, probably of Tertiary age, has altered most of the surface sediments. Where lateritisation has truncated the ore horizon, a
variety of supergene rock types is common, including manganiferous spherulites, concretions and dendrites, and massive layers of secondary manganese oxides. Refer to Figure 2 below: Groote Eylandt regional geology.

Figure 2 - Groote Eylandt regional geology
4 Exploration Activities

4.1 2006 Drill Results

A total of 529 samples were presented to the on site Laboratory for preparation and analysis. Figure 3 below presents a flow chart diagram of the sample preparation process. All samples are split to enable the determination of a head and product grade. The wet screen process is designed to simulate current practice through the concentrator. A product Yield is calculated from the dry and wet weights following wet screening.

Figure 3 - Sample Preparation Flowchart

A total of 25 holes from the 2006 campaign report intersections ≥1metre and >40% screened Manganese grade.
4.2 Geological and Resource Model

GEMCO undertook a full resource revision for their Mining and Exploration Leases (including the Eastern Areas) in based on the results from the 2005 and 2006 drilling campaigns. Due to the broad spaced nature of the drilling at the Eastern Areas, the resource has been estimated with a low level of confidence. However target areas for additional exploration have been developed from this work.

4.3 2007 Program Reconnaissance & Preparation

188 Reverse Circulation or RC drill holes are planned for the two tenements. Field checking of the area reduced the total number of planned holes to 184 holes for several reasons including:

- Holes located adjacent to basement outcrop;
- Holes located within culturally sensitive areas.

Establishment of access roads, grid lines and drill pads was undertaken by a Caterpillar 824C wheel dozer over three weeks. Clearing was undertaken in the Eastern Areas, effectively minimising any additional environmental impact.

5 Cultural Aspects

5.1 Instruction in Aboriginal Culture

As per clause 20.1 and Annexure G of the exploration agreement, GEMCO ensured that all employees, contractors and consultants engaged in the work program, were given appropriate instruction in Aboriginal traditions and culture. Prior to entering the Eastern Areas, personnel were given cross-cultural instruction, which included the following:

- Permit requirements for off-lease areas;
- Alcohol restrictions and policy;
- Conduct whilst on Aboriginal land;
- Basic understanding of Aboriginal culture;
- Significance of Aboriginal sacred sites;
- Listing of Aboriginal organisations and community structures.

6 Expenditure

Many of the costs associated with exploration on the eastern lease areas were shared costs with exploration and infill drilling within GEMCO’s mining leases. The total cost for the period between 13 October 2006 and 13 October 2007 is shown in the Appendix.
Unfortunately as drilling for the 2007 campaign commenced later than expected the costs for drilling and at the time of reporting no drill holes had been completed on the Eastern Areas, the cost of drilling the proposed holes (as associated costs – sample preparation and assay, etc) have been rolled over into the next reporting period.

7 Future Exploration Activities

The next stage of exploration will focus on proving up a resource in the Eastern Areas through:

- Complete 2007 RC drilling program.
- Review of drill results, planning of follow-up infill drilling.
- Geological interpretation, including domaining and geostatistical analysis.
- Resource modelling and generation of reserve estimates.
- Geochemical soil testwork
- Further test work and analysis to determine if areas can be handed back to the Traditional Owners.

Planned expenditure for future exploration activities for the 2007 period is $289,000 in EL10115 and $613,000 in EL10108.
Appendix A – Expenditure Report for EL10115_2007
Appendix B – Expenditure Report for EL10108_2007