EL 5953 Mt LEAN
ARNHEM LAND, NT

ANNUAL REPORT

ON EXPLORATION ACTIVITIES
YEAR THREE OF TENURE
3 AUGUST 2002 – 2 AUGUST 2003

submitted by

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on behalf of
Diamond Mines Australia Pty Ltd
and
Rio Tinto Exploration Pty Ltd
SUMMARY

EL 5953 forms part of a farmin agreement between Rio Tinto Exploration Pty Ltd (“Rio Tinto”) and Diamond Mines Australia Pty Ltd (“DMA”) covering numerous Rio Tinto-controlled tenements and applications in the Northern Territory. Under this agreement, DMA will conduct predominantly diamond exploration over the tenements and will utilise the newly-developed Falcon™ airborne gravity gradiometer system, which has been shown to be very effective in detecting kimberlite pipes.

Gravity Capital Ltd is managing the farmin arrangement for Diamond Mines Australia and owns 40% of DMA.

During the past year of tenure, a review of historic exploration data, including considerable surface sampling focussed on diamonds, was conducted by Gravity and numerous anomalous results were noted.

On this basis, a Falcon™ survey was planned to cover parts of EL 5953 and the neighbouring tenement EL5954 “Benda Bluff”, which is also included in the Rio Tinto-DMA farmin arrangement. At the time of writing, the survey had not commenced owing to turbulent weather conditions, and was scheduled to be flown as soon as weather permitted.

Expenditure on the tenement during the reporting period totalled $11,138.
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1. EL 5953 Tenement Location
2. Regional Geology showing tenements and historic sampling
INTRODUCTION

EL 5953 was granted to Rio Tinto Exploration Pty Ltd (“Rio Tinto”) on 3 August 2000. Since that time, Rio Tinto has established the diamond prospectivity of the area with helicopter-supported surface sampling. During 2002, Rio Tinto was entered into negotiation with Gravity Capital Limited (“Gravity”) concerning the deployment of the Falcon™ airborne gravity gradiometer system over Rio Tinto’s diamond tenements in northern Australia. The Falcon™ system is a unique exploration tool developed by BHP Billiton and it has particular application in diamond exploration.

BHP Billiton and Gravity concluded an arrangement on Falcon™ deployment in Australia during the year (ASX announcement 01/07/2003) and then Gravity formed a farmin joint venture, through its 40%-owned associated company, Diamond Mines Australia Pty Ltd (“DMA”)with Rio Tinto Exploration, concerning the diamond and base metal exploration over a large number of Rio Tinto-controlled tenements in the Northern Territory (ASX announcement 25/07/2003). EL5953 and the neighbouring EL5954 “Benda Bluff” form part of the DMA-Rio Tinto joint venture.

On the basis of these agreements, Gravity (on behalf of DMA) commenced diamond exploration in the Northern Territory during July 2003.

In essence, the agreements provide for DMA to deploy the Falcon™ system and earn an interest in any discovery. BHP Billiton retains a right to buy into DMA’s interest in any discovery. Gravity is managing all exploration for DMA.

The flying program was planned to cover parts of Els 5953 and 5954, focussed on areas of strongly anomalous diamond indicator mineral sampling results, obtained from Rio Tinto’s prior work.

While the principal target in the area is diamonds, some interest is also directed toward base metal deposits.

LOCATION AND ACCESS

EL 5953 Mt Lean is located in an isolated area within the freehold Arnhem Land Aboriginal Land Trust, Northern Territory (figure 1). Access to the area is via the Central Arnhem Highway that passes through the Bulman Zn-Pb district which lies 25 km northwest of the EL. Rio Tinto has only accessed the project area by helicopter.
Figure 1
Arnhem Project Area
EL5953 Location Map

Legend

- EL5953
- Other local tenements included in the Rio-DMA Joint Venture

Diamond Mines Australia

Project Location

NORTHERN ARNHEM ELA's IN MORATORIUM

Proposed FALCON™ Survey

Mountain Valley

Bulman Zn-Pb District

White Star Landing

Old Arafura

Mirnagadja Village

Scale: 1:1,000,000 Projection: Longitude / Latitude (NAD 83)
GEOLOGICAL SETTING and ECONOMIC POTENTIAL

EL 5953 lies on the Arnhem Shelf of the northern and central portion of the 1800-1400Ma McArthur Basin. The broad stratigraphy on the Shelf is as follows:

- **Cretaceous sediments** form isolated plateaus.
- **Cambrian Bukalara Sandstone/Wessel Group** (Arafura Basin).
- **Dolerite dyke and sill intrusions**.
- **1400Ma Roper Group** sandstone, iron formations and shales.
- **1550Ma Mt Rigg Group/Nathan Group** carbonates, minor sandstone; Bulman Zn-Pb mineralisation.
- **1700Ma Katherine River Group** sandstone. Uranium mineralisation occurs in the basal Kombolgie Formation at Jabiluka, Pine Creek Inlier.
- **+1800Ma granite basement**.

EL 5953 comprises gently deformed Roper Group sediments containing dolerite sills and dykes that form part of the Urapunga Tectonic Ridge that separates the Walker and Batten troughs to the north and south respectively. Proximal to the tenement, the regional NW-SE Bulman Fault corridor intersects a major N-S trending fault zones related to the Walker Trough. The regional structural configuration of the basin in this area is considered favourable to the development of base metal deposits and the intrusion of kimberlite diatremes.

PREVIOUS EXPLORATION

EL 5953 lies in the Arnhem Land region of the Northern Territory where very little modern mineral exploration has been carried out. Western Nuclear completed some reconnaissance regional exploration in the region between 1965 and 1969 but failed to locate any mineralisation.

During the first reporting period Rio Tinto completed reconnaissance drainage sampling for kimberlite indicator minerals. This sampling returned grains of chromite, garnet, ilmenite and picroilmenite but no micro diamonds. It was interpreted that the chromite, garnet and ilmenite were of crustal origin, while the picroilmenite might be sourced from kimberlite.

Reconnaissance stream sediment samples were also collected by RTE and assayed for a broad multi-element suite. No significant geochemical anomalies for base metals were identified.

Subsequent work by Rio Tinto consisted of a review of the exploration data for EL 5953 relative to its Australia-wide diamond exploration tenement holdings. It was recognised that:

- The reconnaissance sampling completed during the initial reporting period did not provide a comprehensive coverage of the tenement and large areas remain to be tested for the first time with reconnaissance sampling.
- More detailed reconnaissance sampling coverage on EL 5954, the contiguous tenement immediately to the south, provided some encouragement to persist.
During 2002 Rio Tinto assessed the status of its extensive diamond exploration tenement holdings around Australia. EL 5953 and the contiguous EL 5954 were selected for divestment and discussions were initiated with various interested parties.

**WORK COMPLETED IN YEAR 3**

As mentioned above, an agreement covering much of the Rio Tinto-controlled diamond exploration tenements in northern Australia was finalised in July 2003 between Rio Tinto and DMA. Review of available geophysical and geochemical data was carried out by Gravity (managing the project on behalf of DMA) and this confirmed considerable potential for diamondiferous kimberlites. EL 5953 and particularly the neighbouring tenement EL5954 which form part of the Gravity Capital – Diamond Mines Australia – Rio Tinto “Northern Australia Diamonds” Joint Venture were shown to contain numerous microdiamonds and kimberlitic indicator minerals.

On this basis, a Falcon™ airborne gravity gradiometer survey was planned and scheduled for October 2003. In addition to the gravity gradiometer data, the Falcon™ system records total magnetic intensity and laser scanner data, which is used to construct a very accurate (1m vertical resolution) digital elevation model.

The Falcon™ system was developed by BHP Billiton in the late 1990s and has since shown a remarkable ability to detect kimberlite pipes.

The survey was planned to be flown on north-south oriented lines, 100m apart at a height of 80m above ground level. Coverage of 70 km² within the tenement comprising a total of approximately 800 line kilometres of effective survey coverage is planned.

At the time of this report, the Falcon™ system was awaiting suitable weather conditions to mobilise to the area and complete the survey.

**ENVIRONMENT AND REHABILITATION**

No requirement for rehabilitation arose during the reporting period as no field work was carried out.
CONCLUSIONS AND RECOMMENDATIONS

EL 5953 lies within an area of anomalous kimberlitic indicator sampling results. A critical part of the tenement is to be flown with the Falcon™ system airborne gravity gradiometer system as soon as weather conditions permit. The results of the airborne survey and interpretation should be complete before the commencement of the 2004 field season.

Recommendations for further exploration will be based on the interpretation of the Falcon™ data.

PROPOSED EXPLORATION BUDGET

Falcon™ Survey – acquisition and processing costs $75,000
Interpretation costs $5000
Field reconnaissance $20,000
Sampling and sample analysis costs $20,000

TOTAL $120,000

EXPENDITURE STATEMENT

Legal/Tenement administration costs $2,800
Professional personnel costs $3,600
Data processing / computing costs $1,224
Cartography $832
Travel and accommodation costs $1322
Administration/overhead $1360

TOTAL $11,138