EL 24634 ‘MATCHBOX CREEK’
McARTHUR RIVER REGION, NT

RELINQUISHMENT REPORT
ON BLOCKS RELINQUISHED AT THE CONCLUSION OF
YEAR TWO OF TENURE

submitted by

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EL 24634 ‘Matchbox Creek’
Holder: Gravity Diamonds Ltd
Grant Date: 25 November 2005
1:250,000 sheet: Walhallow
Minerals Sought: diamonds, base metals
SUMMARY

EL 24634 forms part of a major diamond exploration enterprise in the Northern Territory initiated by Gravity Diamonds (then Gravity Capital) in 2003. The foundation of this enterprise has been a farmin agreement between Rio Tinto Exploration Pty Ltd (“Rio Tinto”) and Diamond Mines Australia Pty Ltd (“DMA”, a 100%-owned subsidiary of Gravity Diamonds) covering numerous Rio Tinto-controlled tenements and applications in the Northern Territory. Under this agreement, DMA has conducted diamond exploration over the tenements utilising the recently-developed Falcon™ airborne gravity gradiometer system, which has been shown to be very effective in detecting kimberlite pipes.

Gravity has also acquired a significant tenement holding in its own right in the NT. The initial Falcon™ programs in 2003 resulted in the discovery of a kimberlite pipe within the ‘Abner Range’ survey area, some 35 kilometres northeast of EL 24634, and this led Gravity to apply for a number of areas in proximity to the discovery.

EL 24634 comprising 30 sub blocks was granted to Gravity on 25 November 2005. A relinquishment of 15 blocks comprising the northern and southern sections of the licence was made at the conclusion of Year 2.
CONTENTS

1. Introduction
2. Location and Access
3. Geological Setting and Economic Potential
4. Previous Exploration
5. Work Completed in Year 1 on Relinquished Blocks
6. Work Completed in Year 2 on Relinquished Blocks
7. Environment and Rehabilitation
8. Conclusions and Recommendations

FIGURES

1. EL 24634 – Tenement Location
2. EL 24634 – Blocks Retained and Relinquished at end of Year 2
INTRODUCTION

EL 24634 comprising 30 sub blocks was granted to Gravity Diamonds Limited (‘Gravity’) on 25 November 2005.

The EL forms part of a major diamond exploration enterprise in the Northern Territory initiated by Gravity (then Gravity Capital) in 2003. The foundation of this enterprise has been a farmin agreement between Rio Tinto Exploration Pty Ltd (“Rio Tinto”) and Diamond Mines Australia Pty Ltd (“DMA”, a 100%-owned subsidiary of Gravity Diamonds) covering numerous Rio Tinto-controlled tenements and applications in the Northern Territory. Under this agreement, DMA has conducted diamond exploration over the tenements utilising the recently-developed Falcon™ airborne gravity gradiometer system, which has been shown to be effective in detecting kimberlite pipes.

Gravity has also acquired a significant tenement holding in its own right in the NT. The initial Falcon™ programs in 2003 resulted in the discovery of a kimberlite pipe within the ‘Abner Range’ survey area, some 35 kilometres northeast of EL 24634, and this led Gravity to apply for a number of areas in proximity to the discovery.

EL 24634 was one such area.

LOCATION AND ACCESS

EL 24634 is located 30 kilometres south south west of Cape Crawford and 65 kilometres west of the Merlin diamond mine on the Walhallow 1:250,000 map sheet in the northeastern part of the Northern Territory (Figure 1). It lies within the Mallapunyah Springs pastoral lease (PPL1075). Access to the area is via the Tablelands Highway and station tracks on Mallapunyah.

GEOLOGICAL SETTING AND ECONOMIC POTENTIAL

EL 24634 lies within the Batten Trough of the Mesoproterozoic McArthur Basin. The N-S trending Tawallah Fault Zone is the largest scale structure in the district and it is regarded as having similar significance to the Emu Fault, which lies 60km east of the tenement and is associated with McArthur River Zn-Pb mine and the Merlin diamond mine.

The 1800-1400Ma stratigraphy and mineralisation of the Batten Trough, from youngest to oldest, can be summarized as follows:

- Roper Group arenites, shales, iron formations and dolerite sills.
- Nathan Group (or Mt Rigg Group) carbonates that host Zn-Pb mineralisation, e.g. the Bulman Zn-Pb deposits.
- McArthur Group fine clastics and carbonates that host strata bound Zn-Pb-Ag and Cu deposits, eg, the HYC (McArthur) Zn-Pb-Ag mine, Mariner Zn-Pb and Sly Creek Cu deposits.
- Tawallah Group arenites, black shales and basalts hosting Cu in the Redbank district and U at Westmoreland. There are also a number of Cu occurrences hosted Talwallah Group proximal to the McArthur Project area.
Proterozoic outcrop within the project area is dominated by McArthur Group rocks with minor Tawallah Group occurrences and Cretaceous cover rocks in the southern part of the tenement. Figure 2

PREVIOUS EXPLORATION

Historic work in the area has included regional aeromagnetic surveys and reconnaissance sampling for diamonds and base metals.

Within EL 24634 five samples were gathered by CRA in the mid 1980’s. While these were all negative, the sample sizes were small and recent work has shown that such sampling may not have been definitive.

On this basis, and owing to the proximity of the area to the Merlin diamond field and Gravity’s recent discovery at Abner Range, the area is regarded as prospective for diamonds.

WORK COMPLETED IN YEAR 1 ON RELINQUISHED BLOCKS

During year 1 of tenure, open file data was gathered and re-assessed. No strong new exploration leads were revealed and a plan to increase the density of heavy mineral sampling was formed.

WORK COMPLETED IN YEAR 2 ON RELINQUISHED BLOCKS

During Year 2 of EL 24634 two Heavy Mineral gravel samples were collected within the tenement from the only suitable drainages within the licence area.

Neither sample location occurs within the relinquished portions of the tenement.

A relinquishment of 15 blocks comprising the northern and southern sections of the licence was made at the conclusion of Year 2.

ENVIRONMENT AND REHABILITATION

No requirement for rehabilitation arose as no ground disturbing exploration was carried out on the relinquished blocks.

CONCLUSIONS AND RECOMMENDATIONS

EL 24634 lies within 35 kilometres of the newly discovered, diamondiferous pipe at Abner Range. Geological reconnaissance suggests the area could contain a concealed kimberlite pipe and prior exploration has been minimal.

Suitable drainage locations within the relinquished portions of the tenement area were unable to be located and hence the ground has been dropped.