EL 10436 Top Spring
McArthur Diamonds Programme, NT

REPORT ON BLOCKS RELINQUISHED
AT THE CONCLUSION OF YEAR 4
PERIOD ENDING 28 JULY 2006

submitted by

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

EL 10436
Holders: Rio Tinto Exploration Pty Ltd (EL10436)
Grant Date: 29 July 2002
1:250,000 sheet: Bauhinia Downs SE 53-03, Wallhallow SE 53-07
Minerals Sought: Diamonds, Base metals
SUMMARY

EL 10436 Top Spring forms part of a farm-in agreement between Rio Tinto Exploration Pty Ltd (“Rio Tinto”) and Diamond Mines Australia Pty Ltd (“DMA”) covering numerous Rio Tinto tenements and applications in the Northern Territory. Gravity Diamonds Ltd (formerly Gravity Capital Ltd) is managing the farm-in arrangement for Diamond Mines Australia.

Under the terms of the farm-in agreement, DMA has been conducting predominantly diamond exploration by utilising the Falcon™ airborne gravity gradiometer system. The Falcon™ system has been shown to be effective in detecting kimberlite pipes.

EL 10436 is considered prospective for commercial sources of diamonds. Historic sampling has identified kimberlitic indicator mineral occurrences, including diamonds within the tenements. Sampling was carried out during Year 4 however the results were disappointing and led to the relinquishment of the western and southern sections of the licence together with a small section in the southeastern corner. There was no sampling work carried out on these relinquished blocks.
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INTRODUCTION

EL 10436 Top Spring is located within the McArthur Basin, Northern Territory, Australia. The tenement 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 tenements and applications in the Northern Territory. Gravity Diamonds Ltd (formerly Gravity Capital Ltd) is managing the farm-in arrangement for Diamond Mines Australia.

Historic sampling with EL 10436, predominantly by Ashton Mining, has identified kimberlitic indicator minerals (including diamonds) within EL 10436. To date the source of these indicator minerals remains enigmatic.

During 2002, Rio Tinto 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 2003 (ASX announcement 01/07/2003). Gravity then formed a farm-in joint venture with Rio Tinto, through its then 40% owned associated company, Diamond Mines Australia Pty Ltd (“DMA”), with regard to diamond and base metal exploration over Rio Tinto-controlled tenements in the Northern Territory (ASX announcement 25/07/2003). EL 10436 forms part of the DMA - Rio Tinto joint venture.

In essence, the agreements provide for DMA to deploy the Falcon™ system at its discretion 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. On the basis of these agreements, Gravity (on behalf of DMA) commenced diamond exploration in the Northern Territory during July 2003.

In October 2004 Gravity Capital changed the name of the company to “Gravity Diamonds Ltd” and acquired the 60 % share of DMA it did not already own. DMA is now 100 % owned by Gravity Diamonds.
LOCATION AND ACCESS

EL 10436 is located near Mullapunyah station in the Gulf region of the Northern Territory (Figure 1). The tenement is predominantly located in the northeast corner of the Wallhallow 1:250,000 map sheet, approximately 120 km SW of Borroloola. Access is via the Carpentaria Highway heading west from Borroloola and turning south along the Tablelands Highway. The Tablelands Highway bisects EL 10436.

GEOLOGICAL SETTING AND ECONOMIC POTENTIAL

EL 10436 is located within the Batten Trough region of the Mesoproterozoic McArthur Basin (Figure 2). Mesoproterozoic outcrops within the McArthur Diamonds Project area are predominantly McArthur Group or Tawallah Group. However, within a few synclines younger Nathan Group and Roper Group are exposed.

Major faults associated with kimberlite fields in the region are interpreted to pass through the Project area. Many of the major diamond prospects identified within the project area are located along, or proximal to, these major faults and/or their interpreted intersections or splays. Various major faults that are associated with, or parallel to, the major structures spatially associated with the Merlin and Abner Range kimberlite fields pass through the EL’s. There is potential for repetitions of the structure that characterises the Merlin kimberlite field to occur within EL 10436.

The geomorphology of the area around EL 10436 is broadly characterised by the high level, poorly-drained, lateritised Cretaceous Dunmarra Basin plateau to the south and low level, well-drained and eroded (dissected) Neo- to Mesoproterozoic rocks to the north. Between these two extremes is a broad, moderately-drained, intermediate level plateau broadly associated with the outcropping distribution of Neoproterozoic-Cambrian rocks, but also incorporates Cretaceous sediments in the south and Mesoproterozoic rocks in the north. The intermediate plateau probably represents the remains of a Palaeozoic-Mesozoic peneplained unconformity surface and incorporates outlying plateaus in the north that host the Merlin kimberlite field and the Abner Range kimberlite pipes. The geomorphology appears to have had a particularly strong influence on diamond exploration results in the region. There is a relationship between the location of kimberlitic diatremes and the major diamond prospects with the outer margin of the intermediate level plateau. The EL reported here overlies this intermediate plateau.

The 1800-1400Ma stratigraphy and mineralisation of the Batten Trough, from youngest to oldest, can be summarised 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 stratabound Zn-Pb-Ag and Cu deposits, e.g., 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.

PREVIOUS EXPLORATION

Since the early 1980’s exploration for diamondiferous kimberlitic diatremes has been conducted in the McArthur Basin region, including the areas covered by the EL being reported here. This exploration resulted in the discovery of the Merlin kimberlite field and two kimberlitic sandstone breccia pipes at Abner Range by Ashton Mining. In 2004, DMA discovered a new kimberlite pipe at Abner Range in close proximity to the smaller, less evolved breccia pipes. The latest discovery was a direct result of the follow-up of a Falcon™ airborne gravity anomaly.

Previous exploration by Ashton within EL 10436 has identified macrodiamonds, microdiamonds and indicator minerals.

WORK COMPLETED ON RELINQUISHED BLOCKS

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 sample data was carried out by Gravity (managing the project on behalf of DMA) during year 2 of tenure and this confirmed the potential within EL 10436 to host diamondiferous kimberlites.

No exploration was conducted within the blocks relinquished from EL 10436 during year 2 of tenure.

Work programs completed within the project area during year 3 of tenure were limited to work on the adjoining EL 10427. No on-ground exploration activities were conducted within the blocks relinquished from EL 10436 during year 3 of tenure.
During Year 4 of EL 10436, sampling was carried out however this was on the blocks retained. The results of the sampling carried out were disappointing and led to the relinquishment of the western and southern sections of the licence together with a small section in the southeastern corner.

There was no work carried out in Year 4 on the blocks relinquished from EL 10436.

ENVIRONMENT AND REHABILITATION

There was no work carried out on the relinquished blocks that required rehabilitation.

CONCLUSIONS AND RECOMMENDATIONS

EL10436 is located within the McArthur Basin, Northern Territory, Australia. The tenement covers an area which is considered prospective for commercial sources of diamonds as anomalous kimberlitic indicator mineral results, including both macro and micro-diamonds have previously been recovered.

The results of sampling carried out on EL 10436 during Year 4 were disappointing and led to the relinquishment of the western and southern sections of the licence together with a small section in the southeastern corner. There was no sampling work carried out on these relinquished blocks.

REFERENCES

Bishop, S.R. First Annual Report for the Period Ending 23 August 2003, EL 10427 Spellesie Creek, EL 10428 Lancewood Creek 2 & EL 10436 Top Spring, McArthur Diamonds Programme Bauhinia Downs SE 53-03, Wallhallow SE 53-07, Northern Territory, Australia

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