EL 10428 Lancewood Creek 2
McArthur Diamonds Programme, NT

FINAL REPORT

ON EXPLORATION ACTIVITIES

submitted by

GRAVITY DIAMONDS LIMITED
(ABN - 72 009 178 689)
Level 7, Exchange Tower
530 Little Collins Street, Melbourne, Victoria, 3000

on behalf of
Diamond Mines Australia Pty Ltd
and
Ashton Mining Limited
(a wholly owned subsidiary of the Rio Tinto Group)

EL 10428
Holder: Ashton Mining Ltd
Grant Date: 23 July 2002
Surrender Date: 31 July 2006
1:250,000 sheet: Bauhinia Downs SE 53-03, Wallhallow SE 53-07
Minerals Sought: Diamonds, Base metals
SUMMARY

EL 10428 Lancewood Creek 2 formed 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) was managing the farm-in arrangement for Diamond Mines Australia.

Under the terms of the farm-in agreement, DMA is 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 10428 was considered prospective for commercial sources of diamonds. Historic sampling had identified kimberlitic indicator mineral occurrences, including diamonds within the tenements.

After disappointing results from exploration activities conducted during 2004 in adjacent EL 10427, a review of the project tenements was conducted during Year 4 of EL 10428. The review recommended the surrender of the majority of the Lancewood project tenements. EL 10428 was handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

Total Expenditure on EL 10428 during Year 4 totalled $2,965.63
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INTRODUCTION

EL 10428 Lancewood Creek 2, comprised part of Rio Tinto Exploration’s (RTE) McArthur Diamonds Project located within the McArthur Basin, Northern Territory, Australia. The tenement was considered prospective for commercial sources of diamonds. Historic sampling, predominantly by Ashton Mining, had identified kimberlitic indicator minerals (including diamonds) within the tenement. 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 10428 formed part of the DMA - Rio Tinto joint venture.

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. 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.

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LOCATION AND ACCESS

EL 10428 clusters around the Kiana Station Homestead area and the upper catchments to the Spellesie and McArthur Rivers (Figure 1). The tenement is predominantly located in the north of the Wallhallow 1:250,000 map sheet, approximately 120 km SSW of Borroloola. Access is via the Carpentaria Highway heading west from Borroloola and turning south along the Tablelands Highway.

GEOLOGICAL SETTING AND ECONOMIC POTENTIAL

The McArthur Diamonds Project tenements overlie the Batten Trough and Wearyan Shelf of the Mesoproterozoic McArthur Basin. The N-S trending Emu Fault Zone separates the Batten Trough in the west from the Wearyan Shelf in the east. 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 McArthur Diamonds 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. There was potential for repetitions of the structure that characterises the Merlin kimberlite field to occur within the EL.

The geomorphology of the Project area is broadly characterised by the high level, poorly-drained, lateritised Cretaceous Dunmarra Basin plateau in the south and low level, well-drained and eroded (dissected) Neo- to Mesoproterozoic rocks in 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. EL 10428 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.

The bedrock geology of the project area is summarized in figure 2.

**PREVIOUS EXPLORATION**

Since the early 1980’s exploration for diamondiferous kimberlithic diatremes has been conducted in the McArthur Basin region, including the area covered by the EL 10428 being reported. This exploration resulted in the discovery of the Merlin kimberlite field and two kimberlithic 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 work within EL 10428 included surface sampling, geological mapping, airborne and ground geophysics and drilling. Reconnaissance and infill gravel and loam sampling by Ashton had identified macrodiamonds, monds and indicator minerals within EL 10428. Ashton carried out detailed exploration of this licence during the period 1993 to 1998 and included gravel sampling, loam sampling, bulk sampling, soil geochemical sampling, detailed airborne magnetics, airborne EM, ground EM-34 surveys and some gravity traverses. Sampling returned a significant number of macrodiamonds, abundant microdiamonds and few indicator minerals (chromite). Various geophysical and soil geochemistry anomalies were drill tested, however, the general paucity of indicator minerals frustrated the definition of a source for the recovered diamonds.
WORK COMPLETED IN YEAR 2

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 10428 to host diamondiferous kimberlites.

WORK COMPLETED IN YEAR 3

Work in this Project Area was predominately undertaken on adjacent EL 10427 and comprised field inspection, sampling and drilling. No on-ground activities were undertaken on EL 10428 during Year 3 of tenure.

WORK COMPLETED IN YEAR 4

After disappointing results from exploration activities conducted during 2004 in adjacent EL 10427, a review of the project tenements was conducted during Year 4 of EL 10428. The review recommended the surrender of the majority of the Lancewood project tenements. EL 10428 was handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

ENVIRONMENT AND REHABILITATION

There were no activities carried out that required rehabilitation.
CONCLUSIONS AND RECOMMENDATIONS

EL 10428 formed part of the McArthur Diamonds Project, located within the McArthur Basin, Northern Territory, Australia. The tenement covered an area which was considered prospective for commercial sources of diamonds as anomalous kimberlitic indicator mineral results, including both macro and micro-diamonds had previously been recovered.

Work in Year 4 downgraded the potential of EL 10428 and the licence was handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

EXPENDITURE STATEMENT – YEAR 4

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<td><strong>TOTALS</strong></td>
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REFERENCES

Bishop, S.R. First Annual Report for the Period Ending 23 August 2003, EL 10428 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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