EL 23771 MT YOUNG
COX RIVER DISTRICT, NT

REPORT ON BLOCKS RELINQUISHED
AT THE CONCLUSION OF YEAR 3
PERIOD ENDING 18 AUGUST 2006

GRAVITY DIAMONDS LIMITED
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Level 7, Exchange Tower
530 Little Collins Street, Melbourne, Victoria, 3000

EL 23771
Holder: Gravity Diamonds Limited
Grant Date: 19 August 2003
1:250,000 Sheet: Hodgson Downs SD 53-14
Minerals Sought: Diamonds, Base metals
SUMMARY

EL 23771 “Mt Young” was granted to Gravity Capital Limited on the 19 August 2003. During the first year of tenure, on the basis of encouraging diamond sampling data from nearby tenements, a Falcon® airborne gravity gradiometer survey was flown over a substantial part of the Mt Young tenement and also over neighbouring tenements. This included some coverage on the blocks relinquished from EL23771.

Detailed interpretation, anomaly ranking and exploration targeting from the Falcon survey by Gravity Diamonds was completed during 2004. No priority targets were identified within EL 23771 but targets in adjacent EL’s currently being explored by Gravity were rated highly and raised the possibility of kimberlite pipes or alluvial diamonds occurring on EL 23771.

Gravity Capital Limited changed its name to Gravity Diamonds Limited in October 2004 to reflect its exclusive focus on diamond exploration.

During 2005, helicopter-supported heavy mineral sampling was carried out on ELs adjacent to EL 23771 focused on priority Falcon® target areas. Field reconnaissance was carried out at this time on EL 23771 but no appropriate sample sites were located.

Exploration in the district during 2006 was delayed by an extraordinarily late wet season and field work is currently under way.

Owing to limited encouragement during the 2005 season and a prolonged ‘wet season’ in the early part of 2006, 50% of the tenement area was relinquished in July 2006.
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INTRODUCTION

EL 23771 “Mt Young” was granted to Gravity Capital Limited (“Gravity”) on the 19 August 2003. Gravity was at that time in advanced negotiation with BHPB concerning the deployment of the Falcon™® airborne gravity gradiometer system. The Falcon® system is a unique exploration tool developed by BHPB and it has particular application in diamond exploration.

BHPB and Gravity concluded the arrangement on Falcon® deployment during 2003 (ASX announcement 01/07/2003) and also formed a joint venture, through its 100% 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).

On the basis of the 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 which covered parts of EL 23771 also included coverage of Exploration licenses controlled by Rio Tinto (and included in the Rio Tinto – Gravity Capital – DMA joint venture) and other EL application areas by Gravity. Gravity Capital Limited changed its name to Gravity Diamonds Limited in October 2004 to reflect its focus on diamond exploration.

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

LOCATION AND ACCESS

EL 23771 is located 25 kilometres west of Nathan River homestead in the Gulf Region of the Northern Territory. The tenement lies in the south west part of the pastoral lease and is accessible via station tracks (Figure 1).

GEOLOGICAL SETTING

The northern part of EL 23771 comprises gently deformed mid Proterozoic Roper River Group sediments of the McArthur Basin. In the southern part, the Roper River Group is overlain by the Bukalara Sandstone, which forms the basal part of the Cambrian Georgina Basin sequence. The area is of low relief, being drained by the Cox River and exposure is relatively poor.

The principal exploration target in the area is diamonds. The area lies within the northern Australian Craton “microdiamond field” which extends from the Camooweal region of NW Queensland to the East Kimberley district in north west WA. The diamondiferous “Packsaddle” kimberlite dykes area located 120km to the north west of the tenement and the Merlin diamond field lies approximately 200km to the south east.
While the McArthur Basin is known for its base metal potential, known occurrences are rare in the Roper River Group and exploration for lead, zinc and copper are a low priority.

**PREVIOUS EXPLORATION**

Two small, low grade kimberlitic dykes (Packsaddle and Blackjack) were discovered by Stockdale in the late 1980’s northeast of the Project area. These small dykes contain diamonds with low grades and shed kimberlitic chromite into drainages.

Surface sampling by both CRAE and Ashton was completed over the majority of the project area during the 1980’s with some subsequent infill sampling during the 1990’s. This sampling identified widespread macrodiamonds, microdiamonds and indicator minerals, mainly chromite, across the project area (Figure 2). The geochemistry of the chromite suggests they are derived from both kimberlitic and non-kimberlitic sources.

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. A review of available geophysical and sample data was carried out by Gravity (managing the project on behalf of DMA) during the current reporting period and this confirmed the potential for diamondiferous kimberlites to be located within the Arnold River tenement block.

On this basis, a Falcon™ airborne gravity gradiometer survey was planned and acquired in August and September, 2003.

The survey was completed on September 28th, 2003 and acquired a total of 5153 linear kilometres of gravity gradiometer, magnetics, and laser scanner data. Falcon™ coverage was obtained over an area of approximately 21 km² within EL 23771 approximating to 5% of the survey (see 2004 annual report). Images of the data from the Falcon survey covering the blocks relinquished from EL23771 are presented in figures 3 through 6.

Data processing and interpretation from the Falcon survey was completed during 2004. No priority targets were identified in EL 23771 but a number of targets were recognised in adjacent tenements close to the EL 23771 boundary. Statutory requirements for field access and approvals for work programs over the group of tenements covered by the Falcon® survey were also finalised in early 2005.

**WORK COMPLETED ON RELINQUISHED BLOCKS**

Drainage sampling within EL 23771 was planned for October 2005 as part of a helicopter-supported sampling program focused on the priority Falcon target areas. This program was undertaken and a number of locations of interest were visited, but no appropriate sample sites were located. Owing to limited encouragement during the 2005 season and a prolonged ‘wet season’ in the early part of 2006, 50% of the tenement area was relinquished in July 2006.
ENVIRONMENT AND REHABILITATION

There was no ground disturbing work carried out on the relinquished blocks and hence there was no requirement for rehabilitation.

CONCLUSIONS AND RECOMMENDATIONS

Exploration license 23771 occurs in an area that is considered prospective for diamonds as anomalous kimberlitic indicator mineral results have been recovered nearby.

A Falcon airborne gravity gradiometer survey has been flown over much of the EL area but no priority targets for kimberlite pipes have been identified from this data. Falcon targets have however been identified on adjacent ELs and the possibility remains that kimberlite pipes and/or alluvial diamonds are located within EL 23771. Owing to limited encouragement during the 2005 season and a prolonged ‘wet season’ in the early part of 2006, 50% of the tenement area was relinquished in July 2006.
Figure 3

Falcon Vertical Gravity "Gdd" Image.
Dynamic Range = 45 Eo (approx)

Date: 20/11/2006
Author: G Garton
Workspace: EL23771 report 2006 03
Scale: 1:100000
Projection: Longitude / Latitude (NAD 83)
Figure 4

EL23771
Falcon Vertical Gravity
"Gd" Image
Dynamic Range = 3 mGals (approx)

EL23771 report 2006 04
Workspace: 2.5 kilometres
Scale: 1:100000
Projection: Longitude / Latitude (NAD 83)

Location Map

Date: 20/11/2006
Author: G Garton
Office: West Perth
Drawing: nicolcad

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