EL 22742
Hodgson Diamonds Project, NT

RELINQUISHMENT REPORT
ON BLOCKS DROPPED AT THE CONCLUSION OF
YEAR TWO OF TENURE
PERIOD ENDING 8 JULY 2004

Submitted by

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on behalf of
Diamond Mines Australia Pty Ltd
&
Rio Tinto Exploration Pty Limited

EL: 22742
Holder: Rio Tinto Exploration Pty Limited
Grant Date: 9 July 2002
1:250,000 Sheets: Hodgson Downs SD 53-14, Larrimah SD 53-13,
Daly Waters SE 53-01, Tanumbirini SE 53-02
Minerals Sought: Diamonds, Base metals
SUMMARY

EL 22742 is located approximately 215 km SE of Katherine, to the east of the Larrimah and Maryfield Station homesteads. The EL was granted on 9 July 2002 and comprises part of a larger block of tenements held by Rio Tinto Exploration Pty Ltd (“Rio Tinto”) and referred to as the Hodgson Diamonds Project.

The tenement forms part of a farm-in agreement between Rio Tinto and Diamond Mines Australia Pty Ltd (“DMA”) covering numerous Rio Tinto tenements and applications in the Northern Territory. Under this agreement, DMA will conduct predominantly diamond exploration by utilising the newly-developed Falcon™ airborne gravity gradiometer system. The Falcon™ system has been shown to be effective in detecting kimberlite pipes. Gravity Capital Ltd is managing the farm-in arrangement for Diamond Mines Australia and owns 40% of DMA.

The tenement is considered prospective for commercial sources of diamonds. Historic sampling identified kimberlitic indicator mineral occurrences, including microdiamonds within the tenement, but the source of these remains enigmatic.

During the past year of tenure, a review of historic exploration data was conducted by Gravity Capital, which confirmed the potential of the area to host diamondiferous kimberlite pipes. On this basis, a Falcon™ survey was planned to cover the most prospective area within adjoining EL’s 22740 and 22741. The survey was conducted in August 2003 and results were received by Gravity Capital in November 2003. Interpretation and exploration targeting from the Falcon™ data has been completed, with target areas defined for follow-up work. Statutory requirements for field access and approvals for work programs are currently being finalised and it is envisaged that testing of these targets will commence during the current field season.
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INTRODUCTION

EL 22742 was granted to Rio Tinto Exploration on the 9 July 2002. The EL comprises part of a larger tenement group in the area held by Rio Tinto and referred to as the Hodgson Diamonds Project. Rio Tinto had previously explored the tenement block area for diamonds, mainly using surface sampling techniques. This sampling identified kimberlitic indicator mineral occurrences, including microdiamonds, but currently the source 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 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 22742 forms 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.

The 2003 flying program was planned to cover areas of anomalous diamond indicator mineral sampling results, obtained from prior exploration work. This resulted in the acquisition of Falcon™ data over a portion of adjoining EL’s 22740 & 22741. While the principal target within the tenement block is diamondiferous source rocks, some interest is also being directed toward base metal deposits.
LOCATION AND ACCESS

EL 22742 forms part of a contiguous tenement block centered about 215 km SE of Katherine. The tenement block lies to the east of the Larrimah and Maryfield Station homesteads adjacent to the Stuart Highway (Figure 1). The tenement block overlies pastoral lease land used mainly for cattle grazing. Access is via the Stuart Highway from Katherine and turning east along station access roads near Larrimah Station homestead and near Daly Waters. Station tracks provide access to all other areas.

GEOLOGICAL SETTING AND ECONOMIC POTENTIAL

The tenement block overlies the north east margin of the lateritised Cretaceous Dunmarra Basin. All major river catchments within the tenement block are sourced from the Dunmarra Basin plateau in the south and drain northwards into the Roper River. The Strangways River, which traverses through the centre of the tenement block, incises through the Cretaceous rocks down into the underlying Proterozoic rocks. West of the Strangways River the Dunmarra Basin plateau is drained by the poorly developed Cattle and Birdum creeks. East of the Strangways River the tenement block is reasonably well drained by the tributaries of the Strangways and Hodgson River catchments.

The lateritised Cretaceous sediments overlie Cambrian Nutwood Volcanics flood basalts, Neoproterozoic Bukalara Sandstone and Mesoproterozoic Roper Group. The Roper Group of the McArthur Basin is exposed along the Strangways River in the north of the tenement block, while the Cambrian flood basalts outcrop in the east and overlie Bukalara Sandstones of the Georgina Basin. Airborne magnetic data indicates that the Nutwood Volcanics are quite extensive beneath the thin veneer of Cretaceous sediments. While no Bukalara Sandstone has been mapped within the tenement block, it is most likely present below the Cambrian Volcanic units.

The tenement group is considered prospective for diamondiferous kimberlites by virtue of their location within the North Australian Craton, and also by the recovery of kimberlite indicator minerals from within the tenements themselves. Additionally, major geophysical lineaments which pass through the tenement block are suggestive of major, deeply penetrating structures which may have provided favourable pathways to kimberlitic intrusions.

Some 320 km to the south east of the tenement block, the Merlin kimberlite pipes are hosted by Bukalara Sandstone on a poorly drained plateau capped by lateritised Cretaceous sediments. Cretaceous sediments are known to fill karstic sinkholes and kimberlitic diatreme crater-like depressions developed on the pre-Cretaceous land surface. The Packsaddle and Blackjack kimberlite dykes are located about 50 km to the north of the tenement block. The Packsaddle-Blackjack kimberlite dykes are believed to be Jurassic in age and are hosted by Roper Group sediments.
PREVIOUS EXPLORATION

Both CRA Exploration and Ashton Exploration Australia previously explored the area covered by the tenement block for diamondiferous kimberlites. Both companies focussed most of their effort into gravel sampling the well-developed drainages within the eastern half of the tenement block, i.e., within the Strangways River and Hodgson River catchments. The weakly developed Cattle Creek and Birdum Creek catchments draining the western half of the tenement block were not sampled.

The previous gravel sampling by both companies returned numerous samples containing microdiamonds and other indicator minerals, mainly chromite. The results suggested that there were numerous geographic sources to the indicator mineral occurrences. Some chromite was identified as being possibly kimberlitic.

Ashton drilled a single RAB hole (HD001) within the tenement block that failed to intersect kimberlite. This hole formed part of the “Craters Project” targeting circular depressions and sinkholes in the region that might be associated with weathered kimberlite pipes.

During the previous reporting period Rio Tinto reviewed geomorphological, geological, geophysical, drilling and previous exploration data for the Hodgson Diamonds Project. The main conclusions from the review were that the source of the diamonds and indicator minerals within the tenement block remains enigmatic as the Cretaceous sediments may be a secondary source of non-kimberlitic / kimberlitic chromite while the Nutwood Volcanics are a possible primary source for non-kimberlitic chromite. However, the review did confirm the potential for the tenement block to host diamondiferous kimberlite diatremes, qualified by the fact that surface sampling may not be the most effective means for discovering them. Thus, there is significant potential to discover kimberlitic diatremes/dykes beneath the shallow Cretaceous cover using detailed geophysical surveys, particularly considering these methods have not previously been applied to diamond exploration in the area.

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 the current reporting period and this confirmed the potential for diamondiferous kimberlites to be located within the tenement blocks.

On this basis, a Falcon™ airborne gravity gradiometer survey was planned and acquired in August, 2003. Field survey work was done by Fugro Airborne Surveys under a contract with BHP Billiton, with whom Gravity Capital has the Falcon™ deployment agreement. The Falcon™ system was developed by BHP Billiton in the late 1990s and is considered to have the ability to detect kimberlite pipes.

A portion of adjoining EL’s 22740 & 22741 was covered in the 2003 flying program however the coverage did not extend to EL 22742.
ENVIRONMENT & REHABILITATION

No field-based exploration requiring rehabilitation was carried out during the reporting period. No environmental issues have been identified insofar as the relinquished portion of EL 22742 is concerned.

CONCLUSIONS AND RECOMMENDATIONS

EL 22742 comprises part of Rio Tinto Exploration’s (Rio Tinto) Hodgson Diamonds Project, Northern Territory, Australia. During the past year of tenure, a review of historic exploration data was conducted by Gravity Capital Limited. The tenement cover an area which is considered prospective for commercial sources of diamonds as anomalous kimberlitic indicator mineral results, including micro-diamonds have previously been recovered.

The results of the Falcon™ survey carried out over adjoining licences downgraded the southern section of the licence and this was relinquished at the conclusion of Year 2.