



**EL 23931 BATTEN
McARTHUR RIVER REGION, NT**

ANNUAL REPORT

**ON EXPLORATION ACTIVITIES
YEAR 2 OF TENURE
3 FEBRUARY 2005 – 2 FEBRUARY 2006**

Submitted by

**GRAVITY DIAMONDS LIMITED
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EL 23931 Batten

Holder: Gravity Diamonds Ltd

Grant Date: 3rd Feb 2004

1:250,000 Sheet: **Bauhinia Downs SE 53-03**

Minerals Sought: Diamonds, Base metals

SUMMARY

EL 23931 “Batten” was granted to Gravity Diamonds Ltd (“Gravity”) on 03 February 2004. The EL lies within a general area where Gravity is operating a large diamond exploration program, much of which is under an exploration agreement with Rio Tinto group companies and Diamond Mines Australia (DMA), which is a 100%-owned subsidiary of Gravity.

During 2003 and 2004, DMA had an exclusive arrangement with BHP Billiton to deploy the Falcon® airborne gravity gradiometer system in diamond exploration in Australia. The Falcon® system has proved very effective in diamond exploration since its development by BHP Billiton in the late 1990’s.

During the first year of tenure Falcon® data was acquired over the entire area of EL 23931. The system includes airborne gravity gradient data, high resolution magnetics and accurate elevation data derived from on-board differential GPS and laser scanner devices.

The area of coverage amounted to approximately 23 km² (~250 line kms) as shown in Figure.1

Survey results yielded no priority targets, but highly anomalous chromite populations remain unresolved within the EL. Owing to other field deployment priorities only limited field reconnaissance was conducted during 2005 and a sampling program is scheduled for 2006.

Expenditure on the tenement during the reporting period totalled **\$10,406**.

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1. EL 23931 Tenement Location
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INTRODUCTION

EL 23931 “Batten”, which lies approximately 75 kilometres west of Borroloola in the Gulf Region of the Northern Territory, was granted to Gravity Diamonds Ltd (“Gravity”) on 03 February 2004. The EL lies within a general area where Gravity is operating a large diamond exploration program, much of which is under an exploration agreement with Rio Tinto group companies and Diamond Mines Australia (DMA), which is a 100%-owned subsidiary of Gravity.

During 2003 and 2004, DMA had an exclusive arrangement with BHP Billiton to deploy the Falcon® airborne gravity gradiometer system in diamond exploration in Australia. The Falcon® system has proved very effective in diamond exploration since its development by BHP Billiton in the late 1990’s.

The area of EL 23931 was included in the 2003/04 flying program which covered seven separate areas in the Northern Territory and focused on areas of strongly anomalous diamond indicator mineral sampling results, obtained from prior work by Rio Tinto and others.

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

LOCATION AND ACCESS

EL 23931 is located near old Bauhinia Downs homestead, approximately 75 kilometres west of Borroloola in the Gulf Region of the Northern Territory. The tenement lies in the central part of the Billengarra pastoral lease (administered by the Northern Territory Land Corporation) and is accessible via station tracks (Figure 1).

GEOLOGICAL SETTING and ECONOMIC POTENTIAL

EL 23931 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 40km east of the tenement and is associated with McArthur River Zn-Pb mine and the Merlin diamond mine, which lies 75km to the south east of the tenement.

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, eg, 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, Batton 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 within Tawallah Group proximal to the McArthur Project area.

Proterozoic outcrops within the project area are predominantly McArthur Group.

PREVIOUS EXPLORATION

A number of strata-bound and vein-hosted base metal occurrences hosted by Proterozoic sediments are located near the Scrutton Range which lies north of EL 23931. Several base metal prospects lie within the tenement itself.

A substantial amount of historical diamond exploration work has been carried out in the general vicinity of the tenement. The main diamond prospect identified to date is the Tanaburs Prospect (also known as Leila Creek) which was identified by Ashton in the 1990s.

Tanaburs is centred on a 6km by 1.5km outlier (plateau) of Cretaceous sediments overlying Tawallah Group and McArthur Group sediments. Ashton noted that the Cretaceous sediments contain fossilised wood fragments similar to those found on the Merlin plateau. The prospect overlies the major, N-S trending Four Archers Fault Zone.

Stream sediment, loam and bulk sampling for diamonds, geomorphological studies, detailed airborne magnetics and drilling have been completed around the Tanaburs area. Macrodiamonds, microdiamonds and indicator minerals (chromite) have been reported from drainages sourced from the Cretaceous plateau.

WORK COMPLETED IN YEAR 1

On the basis of historic anomalous diamond and base metal results, the area of EL 23931 was included in the 2003/2004 Falcon™ airborne gravity gradiometer survey program. In addition to the gravity gradiometer data, the Falcon™ system records total magnetic intensity and laser scanner data, which is used to construct a very accurate (1m vertical resolution) digital elevation model.

The survey was flown on north-south oriented lines, 100m apart at a height of 80m above ground level. It covered the entire area (~23km²) of the tenement, amounting to a total of approximately 250 line kilometres of survey.

A number of second order Falcon features were noted within the survey area but no priority targets were identified for field follow up.

WORK COMPLETED IN YEAR 2

Although no priority Falcon anomalies were identified within the area covered by EL 23931, previous sampling has recovered numerous, repeatable chromite results from a small tributary within the headwaters of Ten Mile Creek. The origin of these chromite results has not been resolved. Previous explorers have suggested the chromite are not kimberlitic, with either volcanic rocks of the Tawallah group or secondary Cretaceous conglomerates cited as the likely source of these grains. Given that chromites from the Abner Range, some 70km to the south, where DMA discovered the ABN021 kimberlite in 2004, were similarly described, Gravity maintained the view that EL 23931 could contain kimberlites. A brief field reconnaissance program was conducted during the 2005 field season, but owing to deployment priorities being focused on the Abner Range discovery, access to desired sample sites was not achieved

A sampling program is scheduled for the 2006 field season.

ENVIRONMENT AND REHABILITATION

Work conducted in 2005 involved low impact field inspection activities and no ground disturbance was required. Hence there was no requirement for rehabilitation.

CONCLUSIONS AND RECOMMENDATIONS

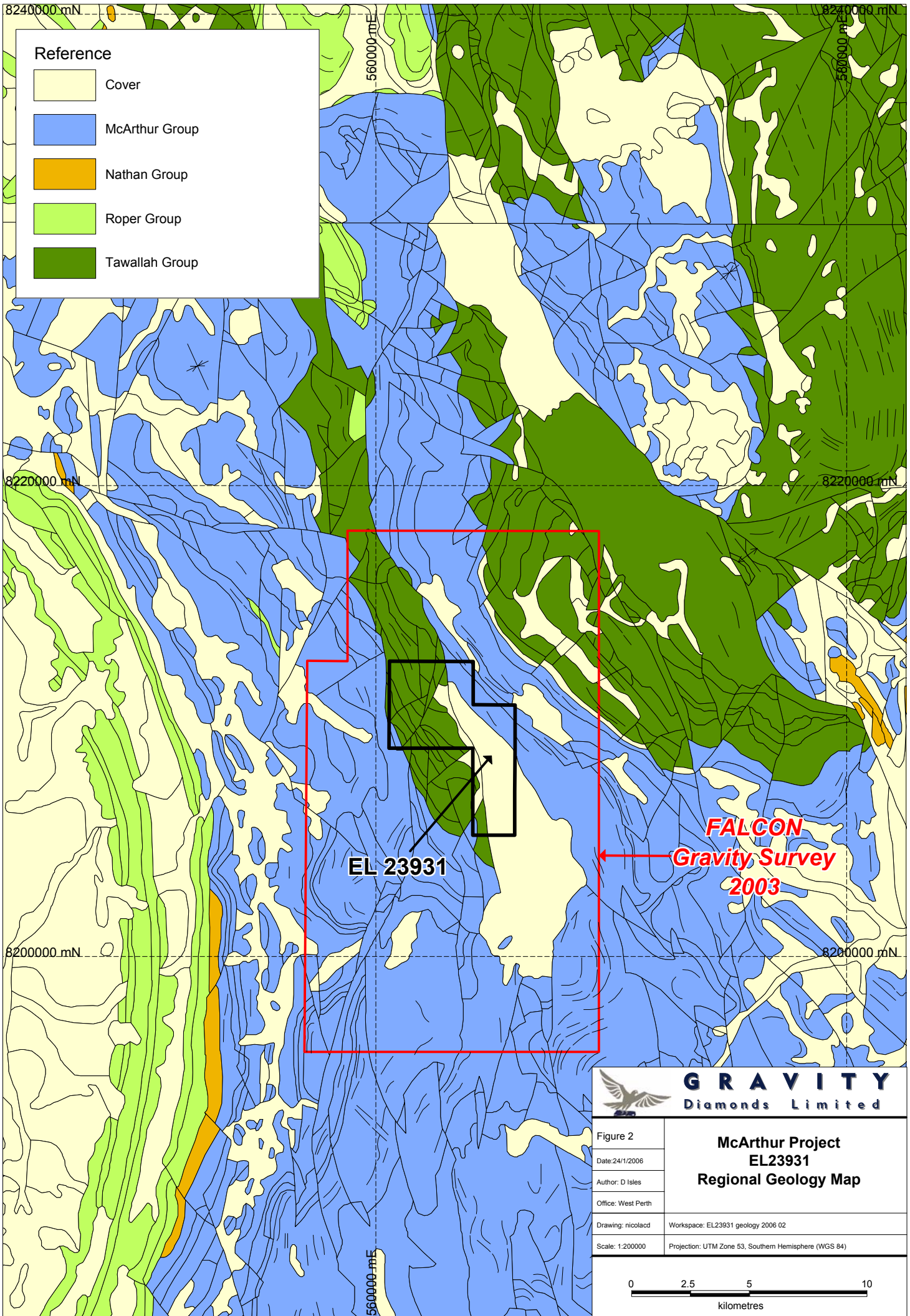
EL 23931 lies within an area of anomalous kimberlitic indicator sampling results as well as having defined base metal prospects. Although no priority Falcon have yet been identified within the area covered by EL 23931, historic sampling has recovered numerous, repeatable chromite results. The origin of these chromites has not been resolved, and work programmes are planned for this area in 2006.

PROPOSED EXPLORATION BUDGET

Professional Personnel costs	\$5,000
Field support & consumables	\$5,000
Sampling and sample analysis costs	\$5,000
Office support/Administration costs	\$2,000
TOTAL	<u>\$17,000</u>

EXPENDITURE STATEMENT

Professional personnel costs	\$ 4,172
Data processing / computing / cartography costs	\$ 920
Field Operations support & consumables	\$ 1,172
Travel and accommodation costs	\$ 1,532
Legal/Tenement maintenance costs	\$ 1,344
Administration/overhead	\$ 1,266
TOTAL	<u>\$10,406</u>




Reference

- Cover
- McArthur Group
- Nathan Group
- Roper Group
- Tawallah Group

FALCON
Gravity Survey
2003

EL 23931

	
Figure 2	McArthur Project EL23931 Regional Geology Map
Date: 24/1/2006	
Author: D Isles	
Office: West Perth	
Drawing: nicolacd	Workspace: EL23931 geology 2006 02
Scale: 1:200000	Projection: UTM Zone 53, Southern Hemisphere (WGS 84)
