EL 24168

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 24168
Holder: Ashton Mining Limited
Grant Date: 23 September 2004
Surrender : 31 July 2006
1:250,000 Geological sheet : **Wallhallow SE 53-07**
Minerals Sought: Diamonds, Base metals

SUMMARY

Exploration Licence 24168 was granted to Ashton Mining Ltd on the 23rd September 2004 for a period of 6 years. The EL application was lodged after the expiry of EL 8134 Kilgour also held by Ashton Mining (expired on 23rd November, 2003). Ashton Mining is now a wholly owned subsidiary of Rio Tinto Exploration Pty Ltd.

EL 8134 was subject to a farm-in agreement between Rio Tinto Exploration Pty Ltd 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. EL 24168 has been included in the farm-in agreement with DMA. 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.

The area covered by EL 24168 was considered prospective for commercial sources of diamonds. Historic sampling within the EL had identified kimberlitic indicator mineral occurrences, including diamonds within the tenement. During 2003 Falcon™ data was acquired over all of the ground within EL 8134 (now EL 24168). The survey covering EL 8134 extended to other tenements to the south and east, which were also included in the farm-in agreement between Rio Tinto and DMA.

During the first year of EL 24168, 2 Falcon™ anomalies were field inspected and sampled if appropriate. This resulted in the collection of 1 loam sample, which returned a single chromite grain. However, probe data suggested the grain was not kimberlitic. Two Falcon™ anomalies remained to be field inspected within EL 24168 as vehicular access was difficult.

After disappointing results from exploration activities conducted during 2004 within EL 24168 and adjacent EL 10427, a review of the project tenements was conducted during Year 2 of EL 24168. The review recommended the surrender of the majority of the Lancewood project tenements. EL 24168 was subsequently handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

Total Expenditure on the licence during Year 2 totalled $2,594.30

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INTRODUCTION

EL 24168 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 24168 was subject to the DMA - Rio Tinto joint venture.

In essence, the agreements provided for DMA to deploy the Falcon™ system and earn an interest in any discovery. BHP Billiton retained a right to buy into DMA's interest in any discovery. Gravity was 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.

During 2003, Falcon™ data was acquired over all of EL 8134, the former title over the area that became subject to EL 24168. 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.

During the first year of tenure, 2 Falcon™ anomalies were field inspected within EL 24168 and sampled where appropriate. This resulted in the collection of 1 loam sample, which returned a single chromite grain. However, probe data suggested the grain was not kimberlitic.

After disappointing results from exploration activities conducted during 2004 within EL 24168 and adjacent EL 10427, a review of the project tenements was conducted during Year 2 of EL 24168. The review recommended the surrender of the majority of the Lancewood project tenements. EL 24168 was subsequently handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

LOCATION AND ACCESS

EL 24168 was located near the ruins of the old Kiana Station Homestead, 125 km SSW of Borroloola and 700 km south east of Darwin in the Northern Territory, Australia. The tenement straddled the McArthur River (PPL1051) and Kiana (PPL1065) Pastoral Leases on the Walhallow SD53-07 1:250,000 map sheet. Access from Darwin was provided by the Carpentaria and Tablelands Highways, and then via station tracks linking the Mallapunyah and Kiana station homesteads (Figure 1).

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.

EL 24168 was located on a poorly drained, flat, sand-covered plateau. The plateau is a gently folded broad syncline consisting of Cambrian Georgina Basin sediments consisting of Top Springs Limestone overlying Bukalara Sandstone (figure 2). Developed within the plateau surface of the Cambrian sediments are local clusters of small karstic cavities in-filled by Cretaceous Dunmarra Basin sediments. The Cambrian sediments overlie the Mesoproterozoic McArthur Group that outcrops in the adjacent low-lying areas to the north, east and west.

Regional geological and airborne geophysical data indicated that a number of NNW-SSE and N-S faults and lineaments passed through the EL. The major NNW-SSE trending Mallapunyah Fault is the largest of these. Photo geological mapping completed by Ashton identifies numerous NE-SW trending photo-lineaments (“interpreted faults”) within the Cambrian sediments.

Previous diamond exploration by Ashton identified a substantial number of kimberlite indicator minerals forming a coherent 3km diameter anomaly within historic EL 8134. More recent work by RTE confirmed that the geology of the EL was prospective for Phanerozoic-age kimberlite diatremes, with further work recommended.

PREVIOUS EXPLORATION

Since the early 1980’s exploration for diamondiferous kimberlitic diatremes has been conducted in the McArthur Basin region, including the area covered by EL 24168. 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.

The area that was subject to EL 24168 had previously been explored by a number of companies, including CRAE. Detailed exploration within the area covered by EL 24168 was carried out by Ashton Mining during the period 1993 to 2000, which included gravel sampling, loam sampling, photogeological interpretation, geological / geomorphological studies, airborne / ground geophysics and drilling. Gravel and loam sampling by Ashton had identified macrodiamonds, microdiamonds and indicator minerals (chromite) within the license.

WORK COMPLETED IN FINAL YEAR OF TENURE – EL 8134

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) and this confirmed the potential within EL 8134 (now EL 24168) to host diamondiferous kimberlites.

On this basis, a Falcon™ airborne gravity gradiometer survey was planned and acquired in October 2003. Field survey work was completed by Fugro Airborne Surveys under a contract with BHP Billiton, with whom Gravity 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.

The Falcon™ system records gravity gradient data via a system of accelerometers. This gradient data is transformed to produce the vertical gravity gradient (‘Gdd’) which approximates the first vertical derivative of the vertical component of the gravity field. An integral transformation on Gdd is applied to generate ‘Gd’, which approximates the vertical component of the gravity field itself. Conventional total magnetic intensity is also acquired as is 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. Falcon™ coverage was obtained over all of EL 8134. Data was processed by BHP Billiton’s Falcon Operations Group and delivered to Gravity in February 2004. Interpretation and exploration targeting from the Falcon™ data was completed by DMA, which allowed testing of the selected targets to commence upon grant of EL 24168.

WORK COMPLETED IN FIRST YEAR OF TENURE – EL 24168

Work programmes completed within EL 24168 during the first year of tenure were campaign based, using a fly camp set up in proximity to the project area. A total of 2 Falcon™ anomalies were subjected to follow-up within EL 24168, which comprised field inspection and sampling where appropriate. This resulted in the collection of 1 loam sample on anomaly LAN004. Two Falcon™ anomalies remained to be field inspected within EL 24168 as vehicular access was difficult. Further details regarding the exploration completed in Year 1 of tenure for EL 24168 are contained within the Year 1 Annual Report lodged with DPIFM.

WORK COMPLETED IN SECOND YEAR OF TENURE – EL24168

After disappointing results from exploration activities conducted during 2004 within EL 24168 and adjacent EL 10427, a review of the project tenements was conducted during Year 2 of EL 24168. The review recommended the surrender of the majority of the Lancewood project tenements. EL 24168 was subsequently handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

ENVIRONMENT AND REHABILITATION

The sampling activities undertaken during Year 1 had negligible impact on the environment, and rehabilitation was not required. Ground access to the anomaly was predominantly via existing tracks. There was no work carried out in Year 2 which required rehabilitation.

CONCLUSIONS AND RECOMMENDATIONS

EL 24168 formed part of the McArthur Diamonds Project, located within the McArthur Basin, Northern Territory, Australia. The tenements within the McArthur Diamonds Project cover areas which are considered prospective for commercial sources of diamonds as anomalous kimberlitic indicator mineral results, including both macro and micro-diamonds have previously been recovered.

During the first year of tenure, 2 Falcon™ anomalies were field inspected within EL 24168 and 1 loam sample collected. Two Falcon™ anomalies remained to be field inspected within EL 24168 as vehicular access was difficult. Drilling of Falcon anomalies within adjacent tenements confirmed that the presence of cretaceous sediments infilling karsts formed in the Cambrian Top Springs Limestone were responsible for a number of Falcon™ anomalies, while the cause of other gravity anomalies drilled remain unexplained.

After disappointing results from exploration activities conducted during 2004 within EL 24168 and adjacent EL 10427, a review of the project tenements was conducted during Year 2 of EL 24168. The review recommended the surrender of the majority of the Lancewood project tenements. EL 24168 was subsequently handed back to Ashton Mining by DMA in June 2006 and Ashton Mining surrendered the licence on 31 July 2006.

EXPENDITURE STATEMENT – YEAR 2

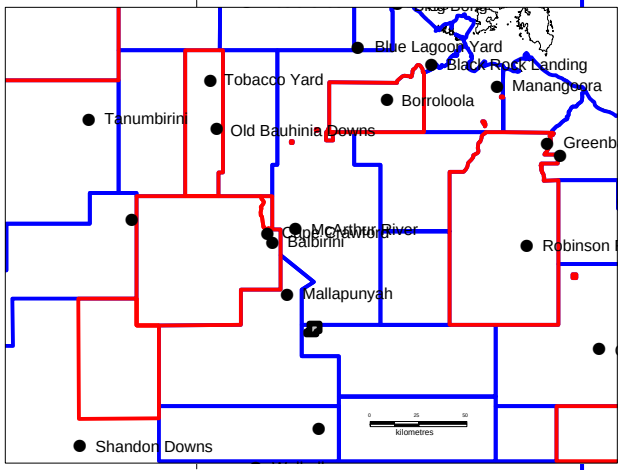
TENEMENT	EL24168
Legal/Tenement maintenance costs	$470.00
Professional personnel costs	$1,657.53
Support costs	$53.18
Data processing / computing costs	$93.00
Travel and accommodation costs	$30.27
Administration/overhead	$290.32
TOTALS	**$2,594.30**

REFERENCES

Bishop, S.R. Eighth Annual Report for the Period Ending 24th November 2001, EL 8134 Kilgour Gorge, Walhallow SE53-07, Northern Territory. Rio Tinto Exploration Pty. Limited.

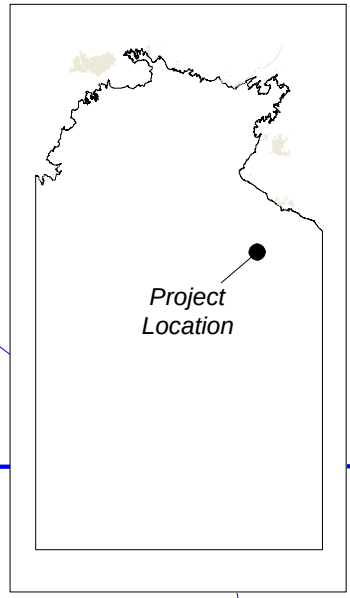
Gravity Diamonds Ltd. Second Annual Report for the Period Ending 23 July 2004, EL 10427 Spellesie Creek, EL 10428 Lancewood Creek 2 & EL 10436 Top Spring, McArthur Diamonds Programme Bauhinia Downs SE 53-03, Wallhallow SE 53-07, Northern Territory, Australia

Gravity Diamonds Ltd. Third Annual Report for the Period Ending 23 July 2004, 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



136°

PPL1051
McArthur River
Mount Isa Mines Limited



EL24168

PPL1075
Mallapunyah Springs
Mallapunyah Springs Pty Ltd

-17°10'

-17°10'

PPL1065
Kiana
Bright, Cecilia Iris

135°50'

Legend

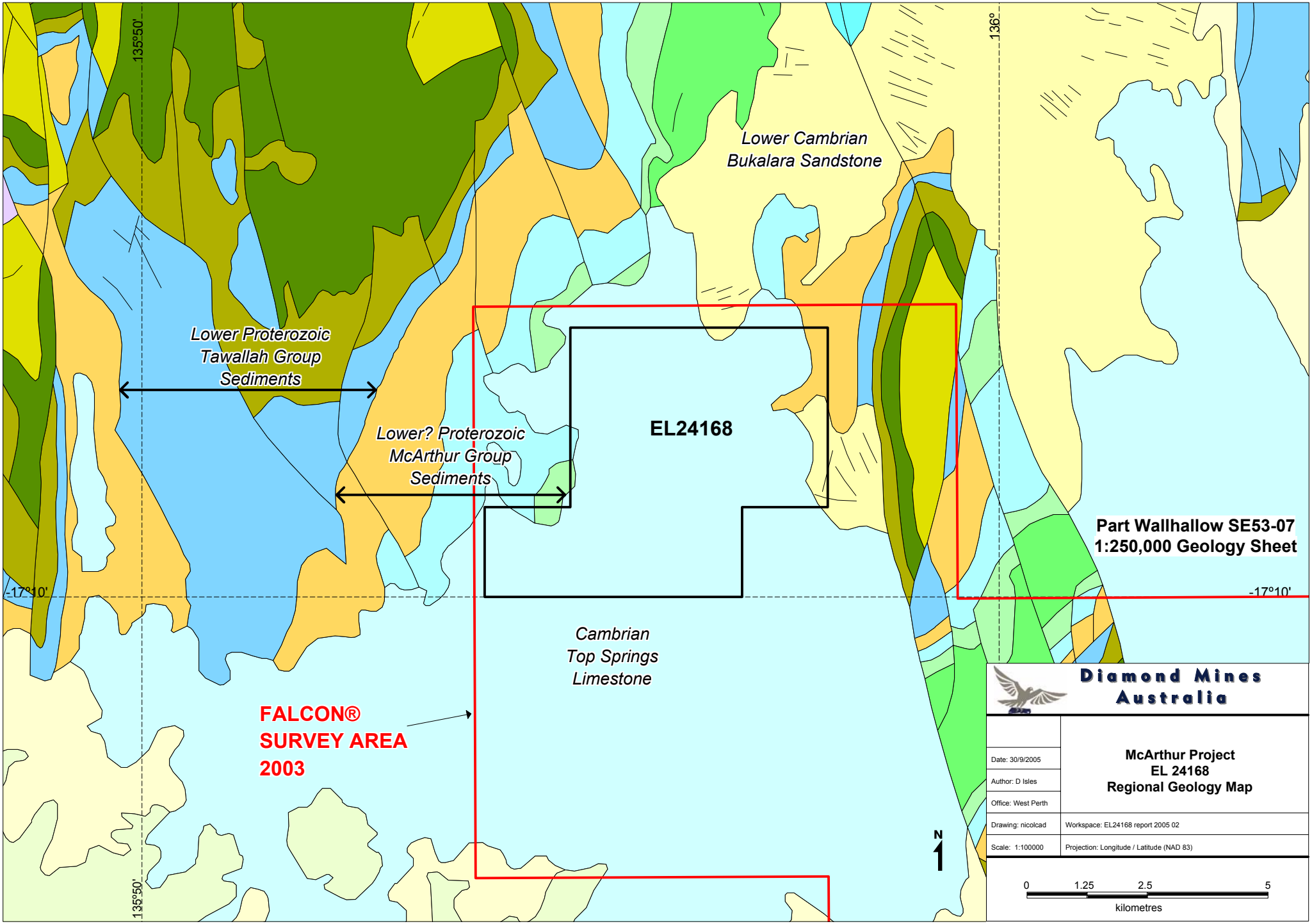
- Rio Tinto tenement
- Aboriginal LandTrust
- Pastoral Lease
- Locality
- Drainage

N

Diamond Mines Australia

	McArthur Project EL 24168 Location Map
Date: 30/9/2005	
Author: D Isles	
Office: West Perth	
Drawing: nicolcad	Workspace: EL24168 report 2005 01
Scale: 1:100000	Projection: Longitude / Latitude (NAD 83)

0 1.25 2.5 5
kilometres


135°50'
136°
Lower Cambrian
Bukalara Sandstone
Lower Proterozoic
Tawallah Group
Sediments
Lower? Proterozoic
McArthur Group
Sediments
EL24168
Part Wallhallow SE53-07
1:250,000 Geology Sheet
-17°10'
-17°10'
Cambrian
Top Springs
Limestone
FALCON®
SURVEY AREA
2003
135°50'
N
1
Diamond Mines
Australia
Date: 30/9/2005
Author: D Isles
Office: West Perth
McArthur Project
EL 24168
Regional Geology Map
Drawing: nicolcad
Workspace: EL24168 report 2005 02
Scale: 1:100000
Projection: Longitude / Latitude (NAD 83)
0
1.25
2.5
5
kilometres