



Astro Diamond Mines NL  
ACN 007 090 904

EXPLORATION LICENCE 23400

**MOUNT PEAKE PROJECT**

ANNUAL EXPLORATION REPORT

FOR THE PERIOD

**25 NOVEMBER 2005 TO 24 NOVEMBER 2006**

BY

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Department of Primary Industry, Fisheries & Mines, Darwin  
Astro Diamond Mines NL, Melbourne



## TENEMENT REPORT INDEX

<b>OPERATOR:</b>	Astro Diamond Mines NL
<b>PROJECT:</b>	Mt Peake
<b>TENEMENTS:</b>	Exploration Licences: EL23400
<b>REPORT PERIOD:</b>	25 November 2005 to 24 November 2006
<b>DUE DATE:</b>	24 December 2006
<b>AUTHOR:</b>	K. Washburn
<b>STATE:</b>	Northern Territory
<b>LATITUDE:</b>	S21° 05' – S21° 22'
<b>LONGITUDE:</b>	E132° 45' – E133° 20'
<b>MGA</b>	<b>mN:</b> 7635000 - 7670000
	<b>mE:</b> 268000 - 330000
<b>1 : 250,000 SHEET:</b>	SF53-05 Mount Peake
<b>1 : 100,000 SHEET:</b>	5455 Willowra, 5555 Conical Hill
<b>MINERAL FIELD:</b>	
<b>COMMODITY:</b>	Diamonds, gold
<b>KEYWORDS:</b>	Aeromagnetic survey, Landsat Interpretation, data review, geology



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1:500,000, A4, Landscape



## 1 SUMMARY OF EXPLORATION ACTIVITIES

Exploration carried out over the EL23400 during the reporting period was very limited.

## 2 TENEMENT STATUS

Astro Diamond Mines NL applied for EL23400 on 2 October 2001, the tenement was granted on 25 November 2003 covering an area of 1044.7 km<sup>2</sup>.

## 3 LOCATION AND ACCESS

[Figure 1](#)

Exploration Licence 23400 lies in the Tanami Desert of south central Northern Territory approximately 30km north of Mt Peake and 90km north-west of Barrow Creek. Access to the area would be through Barrow Creek, and then taking various station tracks.

## 4 GEOLOGY

[Figure 2](#)

The project area lies along the southern margin of the North Australian Craton (NAC) where remnants of the North Australian Platform Cover (NAPC), the Lander Rock Beds (equivalent to the Hatches Creek Group of the Tennant Creek Inlier, Ahmad 2000), have been intruded by granitic and mafic rocks at about 1820 Ma (Hendrickx et al 2000). This age of intrusion correlates with the intrusions in the Halls Creek Orogen and Vandenberg et al (2001) comments that the Tanami Event (1845-1830 Ma) reflects the collision of the North Australian Craton with the Kimberley Craton. In the King Leopold Orogen, in the West Kimberley, 1800 Ma age granitic and mafic rocks also occur within a zone of steeply dipping thrust faults (Griffin et al 1995). The West Kimberley lamproites occur in a similar structural setting to the Mount Peake Project area.

Previous exploration by Normandy NFM Limited indicates that outcrop of the Proterozoic rocks is very sparse in the area and is dominated by Quaternary aeolian sands and red soils, with minor Tertiary laterites. The Proterozoic bedrock in the region comprises the Lower Proterozoic Bullion Schist, which consists of metamorphosed shelf sediments and minor volcanics. These are overlain by Middle Proterozoic sediments and intruded by granites, and subsequently overlain by Late Proterozoic sediments.

The Cenozoic cover can vary from less than one metre, to over 50 m in large Tertiary palaeochannels. Previous workers have noted the occurrence of a number of extremely dense and magnetic circular bulls-eye aeromagnetic features that are probably concealed mafic plugs.



## **5 EXPLORATION**

### **5.1 DATA REVIEW**

An additional data review was conducted during the reporting year to further consolidate the geological understanding of the area.

### **5.2 TARGET GENERATION**

Magnetic targets were defined from a previous data review (Washburn, C.A. 2004). The targets were selected from stacked profiles prepared in house.

### **5.3 PROPOSED EXPLORATION**

As no on-ground exploration was conducted during the reporting year the proposed exploration remains the same as last year' report.

A helicopter-borne first pass reconnaissance will be carried out due to the remote nature of most of the anomalous areas. Rock chip sampling will be carried out over certain quartz outcrops, and soil and loam samples will be collected over the various areas of interest as there are no major or minor streams mapped within the tenement. If there are small drainages found on-site, then stream sediment samples will be collected and analysed for gold and trace elements.

The loam samples will be sent for analysis of heavy concentrates for chromites and any other kimberlite indicator minerals.



## 6 BIBLIOGRAPHY

Ahmad M. 2000. *Geological Map of the Northern Territory*, 1:2,500,000. Northern Territory Geological Survey.

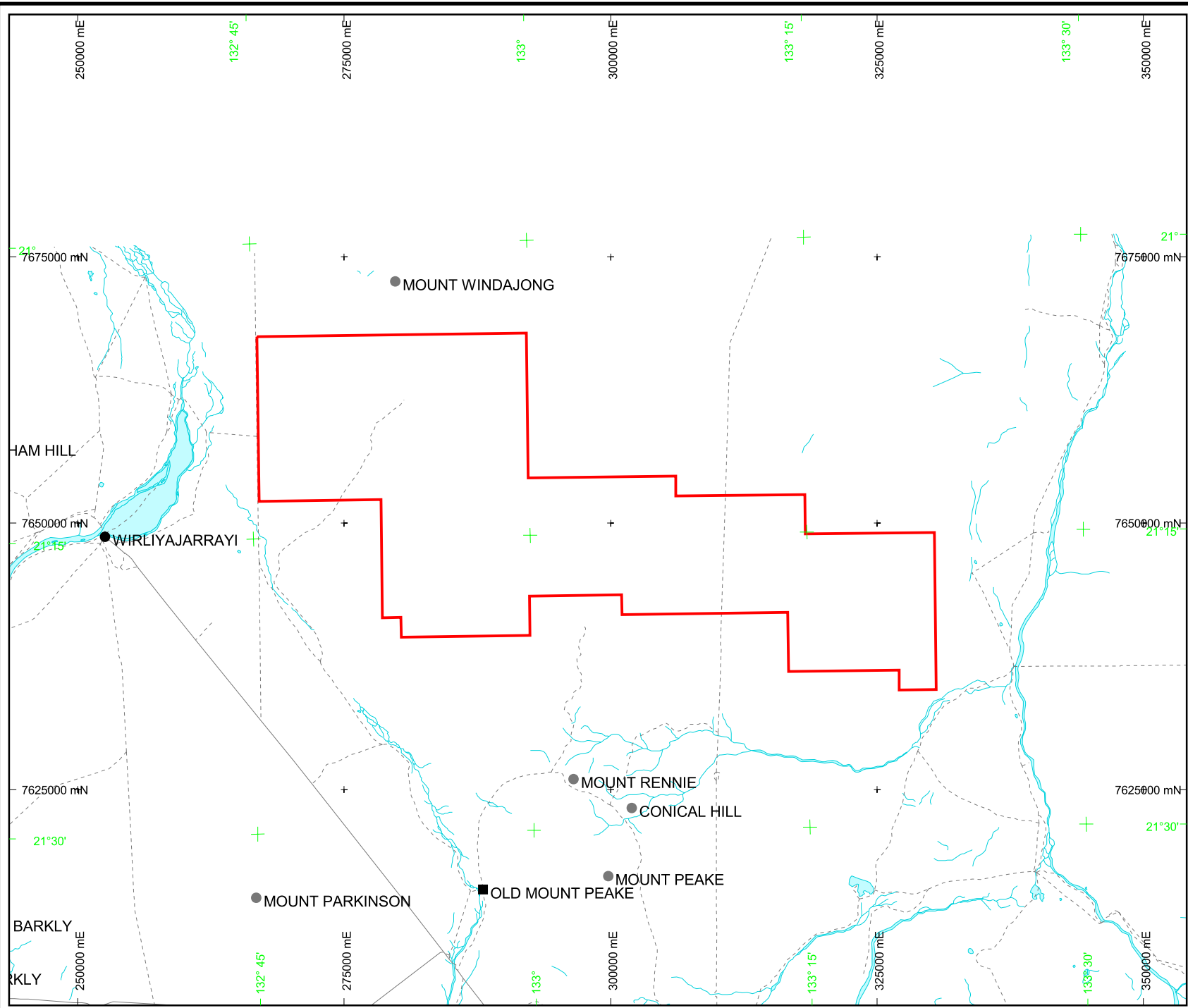
Griffin T J and Tyler I M. 1995. *Geological map of the King Leopold Orogen, West Kimberley Region*. Western Australia Geological Survey, Bulletin 143, plate 1.

Hendrickx M A, Slater K R, Crispe A J, Dean A A, Vandenberg L C and Smith J B. 2000. *Palaeoproterozoic stratigraphy of the Tanami Region: regional correlations and relation to mineralisation – preliminary results*. Northern Territory Geological Survey, Geological Survey Record GS2000-13.

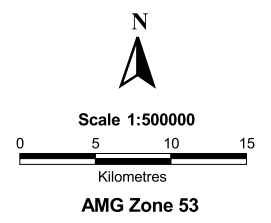
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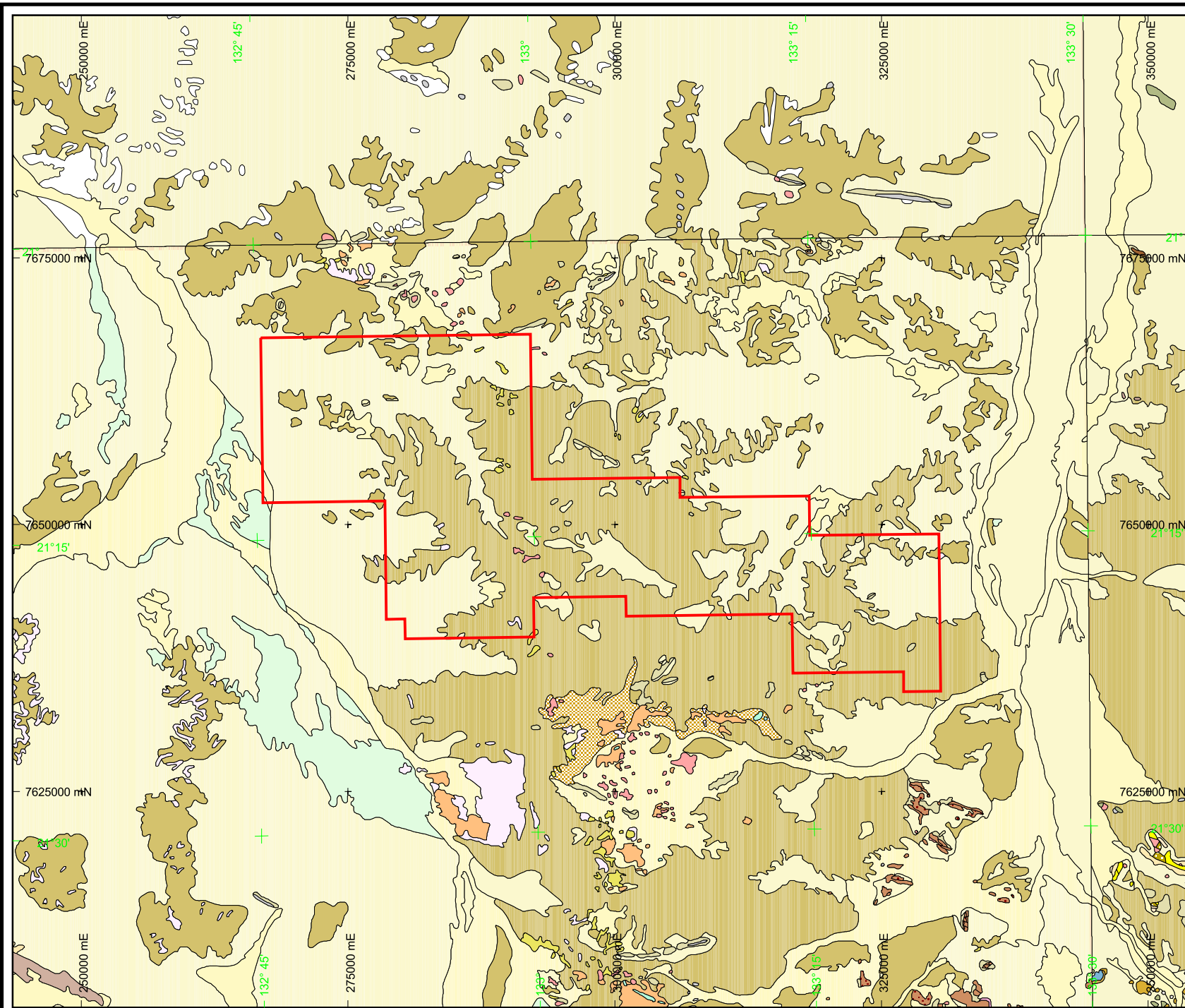
- LEGEND**
- Tenement Boundary
  - Waterbody
  - Drainage
  - Minor Road
  - Principal Road
  - Track
  - Homestead
  - Mountain-peak-hill
  - Populated place



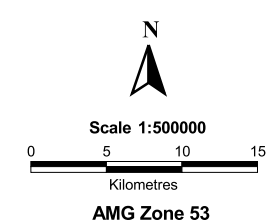
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**NORTHERN TERRITORY**  
**EL23400**  
**Location Plan**

Comp. :	<b>L Bowyer</b>	Date :	<b>14/03/07</b>
APR :	<b>eI23400,a06</b>	Loc. :	<b>Melbourne</b>
Plot :	<b>Plotname</b>	Figure :	<b>1</b>



**LEGEND**  
 Tenement Boundary



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**NORTHERN TERRITORY**  
**EL2340**  
**Geology Plan**

Comp. : **L Bowyer** Date : **14/03/07**  
 APR : **eI23400.a06** Loc. : **Melbourne**  
 Plot : **Plotname** Figure : **2**