Quantum Resources Limited
ACN 006 690 348

MT. PEAKE
EXPLORATION LICENCE 23400

ANNUAL REPORT

FOR THE PERIOD
25 NOVEMBER 2006 to 24 NOVEMBER 2007

BY

N.FARRELL

DUE DATE: 24th of December 2007

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Department of Primary Industry, Fisheries & Mines, Darwin
# TENEMENT REPORT INDEX

**COMPANY / OPERATOR:** Quantum Resources Limited  

**PROJECT:** Mt Peake  

**PROSPECT:**  

**TENEMENTS:** Exploration License 23400  

**REPORTING PERIOD:** 25 November 2006 to 24 November 2007  

**AUTHOR:** N. Farrell  

**DUE DATE:** 24 December 2007  

**STATE:** W.A.  

**LATITUDE:** S21°22’ – S21°42’  

**LONGITUDE:** E133°23’ – E133°50’  

**AMG mN:** 7600000 – 7635000  

**AMG mE:** 330000 - 380000  

**1:250,000 SHEET:** SF53-05 Mount Peake, SF53-06 Barrow Creek  

**1:100,000 SHEET:** 5555 Conical Hill, 5655 Crawford, 5654 Barrow  

**COMMODITY:** Au, Pb, Cu, Zn, Ag  

**KEYWORDS:** Gold, Base Metals, Aeromagnetic survey, Landsat Interpretation, data review, geology
TABLE OF CONTENTS

CONTENTS

1. SUMMARY OF EXPLORATION ACTIVITY  1
2. TENEMENT STATUS  1
3. LOCATION AND ACCESS  1
4. GEOLOGY  1
   4.1 Exploration Target  1
   4.2 Regional Geology  1
   4.3 Local Geology  2
5. EXPLORATION  2
   5.1 Summary  2
   5.2 Geological and Geophysical Data Review  2
   5.3 Program Development  3
   5.4 Recommendations  3
6. BIBLIOGRAPHY  4

LIST OF FIGURES

1. LOCATION PLAN
   1:5Million SCALE, A4 Portrait
2. REGIONAL LOCATION PLAN
   1:250,000 SCALE, Landscape
3. TENEMENT LOCATION PLAN
   1:100,000 SCALE, A3 Landscape
4. REGIONAL GEOLOGY PLAN
   1:100,000 SCALE, A3 Landscape
5. PROPOSED DRILLING & SAMPLING PLAN
   1:500,000 SCALE, A3 Landscape

LIST OF APPENDICES
1. **SUMMARY OF EXPLORATION ACTIVITY**

This report describes exploration carried out on the Mt Peake Project tenement E 23400 between 25 November 2006 and 24 November 2007 (Figure 1). An investigation was undertaken of previous exploration geological data and airborne geophysical data. A preliminary exploration strategy was devised, including a detailed aeromagnetic/radiometric survey. A heritage application has been submitted and a Mine Management Plan approved, however, drilling and sampling is yet to commence.

2. **TENEMENT STATUS**

Exploration Licence EL 23400 was granted to Astro Diamond Mines NL on 25 November 2003. The licence is managed by Quantum Resources Limited.

<table>
<thead>
<tr>
<th>TENEMENT</th>
<th>DATE OF GRANT</th>
<th>STATUS</th>
<th>AREA (km²)</th>
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<td>EL 23400</td>
<td>25/11/2003</td>
<td>Live</td>
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3. **LOCATION AND ACCESS**

Exploration Licence 23400 lies in the Tanami Desert of south central Northern Territory between Rabbit Flat and Barrow Creek. Access to the area would be through Barrow Creek for the eastern area and Willowra Station and other aboriginal lands for the central and western areas.

4. **GEOLOGY**

4.1 **Exploration Target**

The tenement is prospective for base metals mineralisation. The proposed exploration activities will include airborne surveying, sampling and drilling to investigate the nature of base metal mineralisation associated with the unconformity between the Killi Killi Beds and the Gardiner Sandstone. This mid-Proterozoic sandstone outcrops as a part of the Northern Ware Range in the east of the tenement and the Birrindudu Range, just off the west of the tenement. The presence of potentially reducing shales is optimistic for the presence of base metals.

4.2 **Regional Geology**

The project area lies along the southern margin of the North Australian Craton (NAC) where the Lander Rock Beds have been intruded by granitic and mafic rocks at about 1820 Ma.
(Hendrickx et al 2000). This remnants of the North Australian Platform Cover (NAPC), is equivalent to the Hatches Creek Group of the Tennant Creek Inlier (Ahmad 2000). The intrusion is attributed to the Tanami Event (1845-1830 Ma), reflecting the collision of the North Australian Craton with the Kimberley Craton and they are also correlative with intrusions in the Halls Creek Orogen. Similarly, the King Leopold Orogen in the West Kimberley, lamproites, granitic and mafic rocks occur in a similar structural setting and age to the Mount Peake Project area. (Griffin et al 1995).

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, intruded by granites, and subsequently overlain by Late Proterozoic sediments. 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.

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 Cenozoic cover can vary from less than one meter, to over 50 m in large Tertiary palaeochannels.

4.3 Local Geology

Locally, the tenement is dominated by sands, gravels and Quaternary Aeolian sediments. Alluvial sands and silts from ephemeral drainage, river gravel and red soils containing ferruginous pisoliths are common. Gravel sand, colluvium and scree surround the ranges in the east and a very small outcrop of granitoid occurs in the south of the tenement.

5. EXPLORATION

5.1 Summary

The proposed exploration activities will include a full geophysical analysis and a programme of sampling and drilling to investigate the nature of base metal mineralisation associated with the unconformity between the Killi Killi Beds and the Gardiner Sandstone.

5.2 Geological & Geophysical Data Review

Multi-client airborne magnetic data with 500m line spacing was acquired from The Department of Mines and Energy, Northern Territory Geological Survey, 1995. This data was used in conjunction with a full review of Open File Exploration Research to assist in generating an appropriate exploration strategy. Subsequently, a more detailed magnetic and
radiometric survey has been commissioned. It will be conducted within the next reporting year at 100m line spacing by Fugro.

5.3 Program Development

Due to the extensive recent alluvium, the lack of definition in the current TMI data and the Greenfields nature of the exploration, broad hole spacing may allow a general idea of stratigraphy. Hence, the potential for mineralizing lithologies and can be followed up with a more intensive program as reducing shales, which may be suitable hosts to mineralization, may be as narrow in places as 20-60m.

The sampling programme will include loam sampling of targets over the defined region and stream sediment sampling of the sparse drainage in the region. The drilling programme will include approximately 40 RAB/RC holes at 500m spacing, across 2 traverses running north-south. The traverses shall cross cut the strike of the more distinctive magnetic-highs.

5.4 Recommendations

The alluvial cover that dominates the tenement can only be effectively explored using RAB drilling. The Birrindudu group unconformably overlies the lower-Proterozoic sedimentary Killi Killi Beds of the Tanami Complex and both have experienced regional tectonism. Hence, they warrant investigation to determine the extent of any existing mineralization particularly shale-hosted base metal mineralisation.

Analysis of geophysics and historical geochemistry will enable target selection based on geochemical anomalies, structural targets associated with granite intrusives, flexures in the regional magnetics, suitable host lithologies and areas beneath cover. This program, including the attainment of more detailed geophysical data, sampling and drilling will continue in the broader context of the Mt.Peake exploration project with a view to acquiring more detailed information about the stratigraphy to assist with delineating appropriate targets for mineralisation.
6. **BIBLIOGRAPHY**


