EXPLORATION LICENCES: EL23401

"MT PEAKE PROJECT"

ANNUAL REPORT

FOR THE PERIOD

25 NOVEMBER 2003 TO 24 NOVEMBER 2004

BY

C.A. WASHBURN
TENEMENT REPORT INDEX

OPERATOR: Astro Diamond Mines NL
PROJECT: Mt Peake
TENEMENTS: Exploration Licences: EL23401
JOINT REPORT PERIOD: 25 November 2003 to 24 November 2004
DUE DATE:

AUTHOR: C. A. Washburn
STATE: Northern Territory
LATITUDE: S21° 10’ – S21° 23’
LONGITUDE: E133° 23’ – E133° 55’
MGA mN: 7645000 - 7660000
mE: 330000 - 390000

1 : 250,000 SHEET: SF53-05 Mount Peake, SF5306 Barrow Creek
1 : 100,000 SHEET: 5555 Conical Hill, 5655 Crawford

MINERAL FIELD:

COMMODITY: Diamonds, gold

KEYWORDS: Aeromagnetic survey, Landsat Interpretation, data review, geology
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1 SUMMARY OF EXPLORATION ACTIVITIES
Exploration carried out over the EL23401 during the reporting period included the acquisition of geological, topographic and geophysical data, GIS compilations and data reviews, compilation of openfile data.

2 TENEMENT STATUS
Astro Diamond Mines NL (formerly Astro Mining NL) applied for EL23401 on 2 October 2001, the tenement was granted on 25 November 2003 covering an area of 939.3 km².

3 LOCATION AND ACCESS
Exploration Licence 23401 lies in the Tanami Desert of south central Northern Territory approximately 40km north-east of Mt Peake and 20km north-west of Barrow Creek. Access to the area would be through Barrow Creek, and then taking various station tracks.

4 GEOLOGY
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 tenement area itself is largely underlain by granites with roof pendants of Bullion Schist. 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

The areas selected for exploration are based on a regional diamond prospectivity review carried out by Astro (Wright 2000), and in areas of moderate to high prospectivity, available open ground was covered by exploration licence applications. Open file exploration data were obtained from the Northern Territory Geological Survey (NTGS), a division of the NT Department of Business, Industry and Resource Development (DBIRD), formerly the NT Department of Mines and Energy (DME).

Available exploration data comprised open file reports of past exploration activity, NTGS and company open file airborne geophysical survey data and Landsat 7 thematic mapper (TM) data. The data was available on CD-ROM by request to the NTGS.

Open file exploration reports were examined and diamond exploration sampling data entered into Excel and a GIS database. Topographic and geological maps at a scale of 1:250 000 were acquired in raster format as a base for the plotting of the data.

The NTGS supplied the available geophysical data as located data files and processed grid images. Astro has acquired approximately 1 million line kilometers of geophysical data over the Northern Territory. Stacked magnetic profiles of the first vertical derivative of the residual magnetics were processed from the located data and imported into the GIS. Images of total magnetic intensity and vertical derivatives were supplied by the NTGS. The stacked profiles were used to select pipe-like targets that may represent kimberlite or lamproite intrusives (Figure 3).

Geophysical processing was conducted in-house and a number of anomalies defined. The examination of stacked profiles is considered essential in searching for pipe-like targets as the gridding routines used to prepare images smooth the data and hence hide small targets. A pipe response may only occur on one line when using regional data and would be missed if only images are used.

Magnetic targets (Figure 4) were numbered using the abbreviated 1:100 000 map sheet name and a sequential number. The line spacing of these regional surveys ranges from 300 to 500 m, and has been used to detect pipe-like responses on one or more lines. The aim is to detect a pipe field by finding at least one pipe with the regional data, and then to acquire more detailed geophysics to identify other pipes in the field.

Landsat TM data was processed in-house using ERMapper and RGB colour images were produced comprising channels 321, 531, 741 and principle components (PC) 123. Thirty-three Landsat scenes have been acquired from the NTGS over the Northern Territory, covering all of the tenement areas.
5.2 PREVIOUS WORK

Searches of the open file exploration data indicate extensive gold exploration in the tenement area. Details of previous companies work is listed in the table below:

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Company</th>
<th>Exploration Undertaken</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 381</td>
<td>-</td>
<td>No Work</td>
</tr>
<tr>
<td>EL 803</td>
<td>Kewanee Australia Pty Ltd</td>
<td>Base metals, Sn, Ta, W, Air track drilling, Regional Mapping, Airborne mag, radiometrics, EM-Input surveys, grab samples</td>
</tr>
<tr>
<td>EL 804</td>
<td>Kewanee Australia Pty Ltd</td>
<td>Base metals, Sn, Ta, W, Air track, diamond, percussion drilling, Regional Mapping, Airborne mag, radiometrics, EM-Input surveys, grab samples</td>
</tr>
<tr>
<td>EL 1958</td>
<td>R.B Mining</td>
<td>Sn, Ta. Backhoe trenching, Auger drilling, mapping, Channel sampling, gravel sampling, ground radiometrics</td>
</tr>
<tr>
<td>EL 2188</td>
<td>R.B Mining</td>
<td>Sn, Ta. Backhoe trenching, Auger drilling, stream sediment sampling, mapping, Channel sampling, gravel sampling.</td>
</tr>
<tr>
<td>EL 3030</td>
<td>R.B Mining</td>
<td>Sn, Ta. Backhoe trenching, Auger drilling, mapping, Channel sampling, gravel sampling, ground radiometrics</td>
</tr>
<tr>
<td>EL 3046</td>
<td>R.B Mining</td>
<td>Sn, Ta. Backhoe trenching, Auger drilling, mapping, Channel sampling, gravel sampling, ground radiometrics</td>
</tr>
<tr>
<td>EL 5983</td>
<td>Stockdale</td>
<td>Loam, stream samples, TM aerial photos, for diamonds, no anomalies</td>
</tr>
<tr>
<td>EL 5984</td>
<td>Stockdale</td>
<td>Loam, stream samples, TM aerial photos, for diamonds, no anomalies</td>
</tr>
<tr>
<td>EL 7777</td>
<td>Poseidon Gold</td>
<td>Gold exploration, gridding, -80# soil, mapping, TM, vacuum drilling, orientation soil, RAB, Gravity survey</td>
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<tr>
<td>EL 8177</td>
<td>Poseidon Gold</td>
<td>Gold exploration, -80# soil, RAB, Vacuum drilling, airborne magnetic &amp; radiometrics, gravity, regolith studies, mapping, gridding</td>
</tr>
<tr>
<td>EL 8180</td>
<td>Poseidon Gold</td>
<td>Gold exploration, soil sampling, RAB, Vacuum drilling, gravity, regolith studies, gridding</td>
</tr>
<tr>
<td>EL 8431</td>
<td>Normandy NFM</td>
<td>Gold exploration, soil sampling, RAB drilling, gravity, regolith studies, gridding</td>
</tr>
<tr>
<td>EL 8718</td>
<td>Aberfoyle</td>
<td>Gold exploration including airborne magnetic &amp; radiometrics, ground magnetics, RAB drilling, lag and soil sampling, calcrete sampling, rock chip sampling</td>
</tr>
<tr>
<td>EL 9432</td>
<td>Normandy NFM</td>
<td>Gold exploration, geochem, RAB drilling, vacuum, airborne magnetic &amp; radiometrics</td>
</tr>
<tr>
<td>EL 9433</td>
<td>Normandy NFM</td>
<td>Gold exploration, airborne magnetic &amp; radiometrics, regolith</td>
</tr>
<tr>
<td>AP 1994</td>
<td>Australis Mining</td>
<td>No information</td>
</tr>
<tr>
<td>AP 2651</td>
<td>Kewanee Australia</td>
<td>Cu, Ni – Rock samples, petrology, IP, Diamond drilling, Grab samples, airtrac and auger drilling, gridding</td>
</tr>
</tbody>
</table>
5.3 GEOPHYSICS

Aeromagnetic data for the project area is contained in the Barrow Creek survey flown in 1981, the Mount Peake survey flown in 1995

<table>
<thead>
<tr>
<th>Survey</th>
<th>Direction (degrees)</th>
<th>Spacing (m)</th>
<th>Height (m)</th>
<th>Sample Interval (m)</th>
<th>Resolution (nT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow Creek</td>
<td>180</td>
<td>500</td>
<td>100</td>
<td>50</td>
<td>0.1</td>
</tr>
<tr>
<td>Mount Peake</td>
<td>180</td>
<td>500</td>
<td>100</td>
<td>7</td>
<td>0.001</td>
</tr>
</tbody>
</table>

5.4 LANDSAT7 TM

Landsat TM data was processed in-house using ERMapper and RGB colour images were produced comprising channels 321, 531, 741 and principle components (PC) 123. Thirty-three Landsat scenes have been acquired from the NTGS over the Northern Territory, covering all of the tenement areas.

5.5 PROPOSED EXPLORATION

Examination of the Landsat TM data indicates a number of circular features in the area and these require ground follow-up. Four discrete magnetic targets were located from the stacked profiles, and these will require ground follow-up.
6 BIBLIOGRAPHY


