ENIGMA MINING LTD

MOUNT PEAKE PROJECT

ANNUAL REPORT

09/08/10 to 08/08/11

EL 27787

Tenement/s EL 27787

1:250 000 Sheet Name Mount Peake (SF5305)

Barrow Creek (SF5306)

1:100 000 Sheet Name Anningie (5554)

Barrow (5654)

Holder Enigma Mining Ltd

Manager Tennant Creek Gold (NT) Pty Ltd

Operator Enigma Mining Ltd

Commodity V, Ti, Fe, Ni, Cu, PGE

Elements Analysed N/A

Datum Mount Peake

GDA94-52

Keywords Literature Review, Geophysical review, anomalies

Authors S. Moyle (Geologist), C. Wetherley (Office Geologist)

Approved P.E. Burton (Managing Director)

Report Date September 2011

Distribution TNG Limited

Department of Resources – Minerals & Energy

(1)

(1)
Executive Summary

Exploration Licence 27787 was granted to Enigma Mining Limited (Enigma) on the 18/05/2010. Enigma is a wholly owned subsidiary of TNG Ltd. The licence forms part of TNG’s “Mount Peake” Project area together with EL 23074, EL 23271, EL 27069, EL 27070, EL 27706, EL 27941 and ELA 28491 and MLA 28341 and covers a total area of 579.58km².

Exploration carried out on EL 27787 during the reporting year has mainly been of a regional nature. A full literature review was carried out on the historical data and reviews of the current geophysical data were undertaken.

The literature review has provided a number of targets within the tenement worthy of follow-up and it is likely that reconnaissance mapping, geochemical sampling and ground geophysics will be undertaken during the next reporting year.
TABLE OF CONTENTS

1. INTRODUCTION ........................................................................................................ 5
2. LOCATION AND ACCESS ......................................................................................... 5
3. TENURE ...................................................................................................................... 6
4. AAPA .......................................................................................................................... 6
5. REGIONAL GEOLOGY ............................................................................................... 7
6. PREVIOUS EXPLORATION ....................................................................................... 8
7. EXPLORATION COMPLETED 2009-2010 ................................................................. 8
   7.1 Literature Review .................................................................................................... 8
       7.1.1 CRA Exploration ............................................................................................. 8
       7.1.2 Stockdale Prospecting ..................................................................................... 9
7.2 Regional Magnetic Data ......................................................................................... 10
8. EXPENDITURE ........................................................................................................... 11
9. PROPOSED 2011-2012 PROGRAMME ..................................................................... 11
   9.1 Proposed Expenditure ............................................................................................ 11
REFERENCES .................................................................................................................. 12
FIGURES

Figure 1: Location of Mount Peake project area. ........................................................ 5
Figure 2: Restricted Work Area as identified by the AAPA. ........................................... 6
Figure 3: Regional geological setting of the Mount Peake project area. ....................... 7
Figure 4: Uranium anomalies identified by CRA Exploration (Snelling, 1979). ........... 9
Figure 5: Mount Peake Tenements on Regional Magnetics........................................... 10
Figure 6: Anomaly 1 within EL 27787...................................................................... 12

TABLES

Table 1: EL 27787 tenement details........................................................................... 6
Table 2: Stream Sediment Results over EL27787 in ppm.......................................... 9
Table 3: Expenditure for the period 13/08/09 - 12/08/10............................................ 11
Table 4: Proposed Expenditure.................................................................................. 11
1. **INTRODUCTION**

Exploration Licence 27787 was granted to Enigma Mining Limited (Enigma) on the 09/08/2010. Enigma is a wholly owned subsidiary of TNG Ltd. The licence forms part of TNG’s “Mount Peake” Project area together with EL 23074, EL 23271, EL 27069, EL 27070, EL 27706 and EL 27941, EL 28491 and MLA 28341 (Figure 1).

All reference to work carried out by TNG Ltd or its subsidiaries will be referenced ‘TNG’ in this report.

Exploration carried out on EL 27787 during the reporting year has mainly been of a regional nature. A review of historical exploration was undertaken along with a review of existing geophysical data.

2. **LOCATION AND ACCESS**

EL 27787, part of the Mount Peake project, is located approximately 200km NNW of Alice Springs, with the sealed Stuart Highway to Darwin (Figure 1) running through the licence area. It covers the south-eastern portion of the Mount Peake (SF53-05), 1:250,000 mapsheet, with the far eastern edge of the tenement falling within the Barrow Creek (SF53-06) mapsheet. It lies within the Anningie and Stirling Perpetual Pastoral Leases. Access in the licence area is good with well-maintained station and previous exploration tracks.

The LNG gas pipeline runs through the project area and the Darwin to Adelaide railway 20km to the east.

![Figure 1: Location of Mount Peake project area.](image-url)
3. TENURE

Exploration Licence 27787 is part of the Mount Peake Project and covers a total area of 139.19\( \text{km}^2 \). It is 100% held by Enigma Mining Limited, a wholly owned subsidiary of TNG Limited. Tenure details for EL 27787 are summarised in Table 1.

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PROSPECT</th>
<th>AREA (blocks)</th>
<th>GRANT DATE</th>
<th>EXPIRY DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 27787</td>
<td>Mount Peake</td>
<td>45</td>
<td>09/08/2010</td>
<td>08/08/2016</td>
</tr>
</tbody>
</table>

4. AAPA

In May 2010 TNG contacted the AAPA regarding the location of sacred sites within the Mount Peake tenement area. An Authority Certificate has previously been issued over much of the Mount Peake tenement area including EL 27787. As a consequence of this, under Section 19A-22 of the Act, the Authority has placed conditions relating to the protection of sacred sites in relation to particular works. Figure 2 shows the approximate location of Restricted Works Areas identified in the Certificate.

![Figure 2: Restricted Work Area as identified by the AAPA.](image-url)
5. REGIONAL GEOLOGY

The Mount Peake project area lies within the Aileron Province in the north-central part of the Paleoproterozoic Arunta Region (Donnellan, 2008). Neoproterozoic to Paleozoic rocks of the western edge of the Georgina Basin also occur in the area. The project area lies in the south-eastern portion of the MOUNT PEAKE (SF 53-05) 1:250,000 mapsheet, and south-western portion of the BARROW CREEK (SF53-06) mapsheet (Figure 3).

The Aileron Province includes at least five depositional packages that were deposited in the interval 1860-1740Ma (Scrimgeour, 2003), and has been affected by multiple tectonic events (Scrimgeour, 2006). The outcropping Paleoproterozoic geology of MOUNT PEAKE includes a succession of metapsammitic and metapelitic rocks of the Lander Rock Formation (Plr), which have been variably metamorphosed from greenschist to granulite facies (Donnellan, 2008). Stratiform amphibolites and retrogressed amphibolites outcrop locally. The Lander Rock Formation is intruded by a series of early (ca 1820-1770Ma) and late (post-1770Ma) granites. The dominant tectonic and thermal event in MOUNT PEAKE was the Stafford Event at 1805-1790Ma.

Figure 3: Regional geological setting of the Mount Peake project area.
The Georgina Basin is a widespread Neoproterozoic to Paleozoic intracratonic basin that was initiated as part of the Centralian Superbasin (Donnellan, 2008). The dominant lithologies are dolostone, limestone, shales, sandstone and siltstone. These rocks unconformably overlie rocks of the Aileron Province in south-eastern MOUNT PEAKE.

The only outcrop of Paleoproterozoic rocks within the tenement is a few small outcrops of the Esther Granite and equivalents. The NW corner of the tenement contains outcrop of the Central Mt Stuart Formation (Psf) but the majority of the tenement is overlain by Cainozoic and Quarternary cover sequences including a large amount of alluvial sediment (Qa) associated with the Hanson River which runs through the licence.

6. PREVIOUS EXPLORATION

The Mount Peake region has been partially explored for a variety of commodities including uranium, gold, copper, iron ore, bauxite and diamonds. Recent activities in the Mount Peake area have largely been directed towards U, Au and Ni (Donnellan, 2008). A brief summary of exploration within the area is summarized below, more detail can be found Section 6: Exploration Completed 2010-2011.

- In the late 1970’s and early 1980’s CRA undertook an exploration programme on EL 1881 in the Mount Peake area. This was predominantly for uranium and the programme included detailed airborne magnetic and radiometric surveys, follow-up on ground surveys, geochemical sampling (6 samples within EL 27787) and limited drilling (Harvey, 1982; Section 7.1.1). No significant results were returned and EL 1881 was relinquished in 1982.

- In June 1988 Stockdale Prospecting were granted a series of EL’s in the Mount Peake area as part of a regional diamond exploration programme. 11 of these samples were taken within EL27787 (See Section 7.1.2). No further work was warranted and the tenements were subsequently relinquished (Smith, 1989).

7. EXPLORATION COMPLETED 2009-2010

Exploration Licence 27787 was granted to Enigma Mining Limited (Enigma) on the 9 August 2010. Exploration carried out on EL 27787 during the reporting year has comprised a full literature review of the historical exploration in the area. Reviews of existing geophysical data resulted in the identification of one low priority target within EL 27787.

7.1 Literature Review

CRA conducted exploration for uranium in the Mount Peake region in the late 1970s and early 1980s and Stockdale Prospecting explored for diamonds in the late 1980s. The area has been largely untouched for the last 10-15 years.

7.1.1 CRA Exploration

CRA held EL 1881 in the Mount Peake region in the late 1970s and early 1980s. They were exploring primarily for uranium. In 1979 they undertook an airborne magnetometer-spectrometer survey. Uranium channel anomalies were identified and many selected for ground follow-up (Snelling, 1979; Figure 4).
On ground work revealed the anomalies were limited in size and results from grab samples taken from several sites showed low levels of uranium.

Grab sample MC40 falls just within the tenement boundaries and returned assays results of Cu 850ppm, Ni 130ppm, Zn 150ppm, U 44ppm.

Geochemical stream sampling was undertaken in 1980, with 6 samples within the tenement. See Table 2. No significant anomalies were detected (Fraser, 1980). CRA relinquished all but the NW corner of EL 1881 later that year.

### Table 2: Stream Sediment Results over EL27787 in ppm.

<table>
<thead>
<tr>
<th></th>
<th>Pb</th>
<th>Zn</th>
<th>Cu</th>
<th>Ni</th>
<th>Co</th>
<th>Cr</th>
<th>Mo</th>
<th>W</th>
<th>Sn</th>
<th>Ag</th>
<th>Au</th>
<th>Mn</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>812023</td>
<td>10</td>
<td>12</td>
<td>8</td>
<td>10</td>
<td>&lt;5</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>10</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>85</td>
<td>4</td>
</tr>
<tr>
<td>812026</td>
<td>10</td>
<td>18</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>&lt;10</td>
<td>&lt;1</td>
<td>&lt;10</td>
<td>6</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>140</td>
<td>4</td>
</tr>
<tr>
<td>812428</td>
<td>10</td>
<td>22</td>
<td>8</td>
<td>15</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>&lt;10</td>
<td>8</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>110</td>
<td>6</td>
</tr>
<tr>
<td>812429</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>&lt;5</td>
<td>&lt;10</td>
<td>1</td>
<td>&lt;10</td>
<td>6</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>55</td>
<td>4</td>
</tr>
<tr>
<td>812430</td>
<td>15</td>
<td>20</td>
<td>8</td>
<td>15</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>&lt;10</td>
<td>8</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>160</td>
<td>4</td>
</tr>
<tr>
<td>812431</td>
<td>5</td>
<td>12</td>
<td>5</td>
<td>10</td>
<td>&lt;5</td>
<td>&lt;10</td>
<td>1</td>
<td>&lt;10</td>
<td>4</td>
<td>&lt;1</td>
<td>&lt;0.05</td>
<td>55</td>
<td>4</td>
</tr>
</tbody>
</table>

7.1.2 Stockdale Prospecting

Stockdale prospecting held a series of exploration licences over the Mount Peake area as part of a regional diamond exploration program. Eleven diamond loam samples fell within EL27787. Specific sample results are unavailable however Stockdale concluded that no kimberlite or
lamproite was detected in these licences. No further work was recommended and the licences were relinquished.

7.2 Regional Magnetic Data

The regional magnetic data over the Mount Peake project area covers the entire area of EL 27787. The data displays part of a magnetic high zone within the north eastern portion of the license. The greater portion of the magnetic high falls within TNG’s EL 27941 which has been identified as an area of interest for drill testing.

Figure 5: Mount Peake Tenements on Regional Magnetics.
8. EXPENDITURE

Expenditure for this reporting period is $30,182.04 as shown in Table 3.

Table 3: Expenditure for the period 13/08/09 - 12/08/10.

<table>
<thead>
<tr>
<th>EXPENDITURE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Studies</td>
<td>$22,463.58</td>
</tr>
<tr>
<td>Contractors/Consultants – Geological</td>
<td>$893.26</td>
</tr>
<tr>
<td>Contractors/Consultants – Native Title</td>
<td>$4,958.81</td>
</tr>
<tr>
<td>Travel/Accommodation</td>
<td>$1,528.72</td>
</tr>
<tr>
<td>Vehicle Costs</td>
<td>$91.22</td>
</tr>
<tr>
<td>Storage</td>
<td>$134.02</td>
</tr>
<tr>
<td>Minor Purchases</td>
<td>$112.43</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$30,182.04</strong></td>
</tr>
</tbody>
</table>

9. PROPOSED 2011 PROGRAM

Two areas of interest have been identified by TNG as a result of the literature review carried out during the year. These are the CRA grab sample (Anomaly 1) that returned anomalous copper and the magnetic high in the northeastern corner of the tenement.

Anomaly 1 (Figure 6) falls outside the vicinity of Restricted Work Areas as identified by the AAPA and may be accessible for additional exploration.

Reconnaissance mapping, sampling and ground geophysics are likely to be carried out within the tenement.

9.1 Proposed Expenditure

The proposed expenditure for the next reporting year is shown in Table 4.

Table 4: Proposed Expenditure.

<table>
<thead>
<tr>
<th>EXPENDITURE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geochemical Sampling</td>
<td>$2,000</td>
</tr>
<tr>
<td>Assaying</td>
<td>$1,000</td>
</tr>
<tr>
<td>Ground Geophysics</td>
<td>$10,000</td>
</tr>
<tr>
<td>Interpretation and Analysis</td>
<td>$2,000</td>
</tr>
<tr>
<td>Office Administration</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$17,000</strong></td>
</tr>
</tbody>
</table>
Figure 6: Anomaly 1 within EL 27787.

REFERENCES


