CONTENTS

1.0 INTRODUCTION

2.0 GEOLOGY

3.0 WORK COMPLETED
   3.1 Regional Aeromagnetics
   3.2 Detailed Aeromagnetics

4.0 FUTURE WORK

5.0 EXPENDITURE

LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.</td>
<td>Location Plan</td>
<td>1:2,000,000</td>
</tr>
<tr>
<td>Figure 2.</td>
<td>Fact Geology</td>
<td>1:25,000</td>
</tr>
<tr>
<td>Figure 3.</td>
<td>Structural Interpretation</td>
<td>Scale Unknown</td>
</tr>
<tr>
<td>Figure 4.</td>
<td>Detailed Aeromagnetics</td>
<td>1:25,000</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

Compass Creek (E.L. 6443), comprising 33 blocks was granted to Billiton Australia, The Metals Division of The Shell Company of Australia Limited, on 22 March, 1989 for a period of six (6) years.

The Shell Company is the sole operator of EL 6443.

As this is the first anniversary of the licence, no reduction is required.

The following report contains a review of exploration activity undertaken to-date, and proposed future exploration within the area.

2.0 GEOLOGY

The licence area is located approximately 55 km north northwest of Pine Creek, (Figure 1), within the Lower Proterozoic Finniss River Group, more specifically the Burrell Creek Formation (Figure 2). Interbedded shales, siltstones and greywackes dominate this regionally significant metasedimentary package, which hosts the bulk of the major gold deposits in the Pine Creek Geosyncline.

Several small gold workings occur within the region, with the old Ringwood gold mining centre 10 kms to the north and Hardies workings immediately south of the licence area. Both these gold occurrences are hosted by coarse greywacke units within the Burrell Creek Formation.
3.0 WORK COMPLETED

Work to-date within the Compass Creek licence area has been concentrated on the collection, processing and interpretation of regional and detailed airborne magnetic and radiometric data. Geochemical sampling of the prospect has been delayed until interpretation of the airborne surveys is complete. Regional stream sampling is not a viable tool within the licence area because of poor stream definition, extensive black soil plains and a limited field season in the region.

3.1 Regional Aeromagnetics

Initially data tapes for the BMR regional airborne magnetic and radiometric surveys over the Darwin, Mt.Evelyn, Pine Creek, Fergusson River, and Katherine 1:250,000 sheets were purchased, along with the available gravity data, regional digital terrain model (DTM) data, and digital thermatic mapper (TM) data tapes covering the region.

Detailed processing of the BMR data was conducted by Geolmage of Brisbane, which included:

- grey scale magnetics
- colour scale magnetics
- 0°, 45°, 90°, and 135°, colour shade angles
- radiometric channels for Th, U, K.
- 3 colour composite radiometrics
- Landsat TM on channels 7,4 and 1
- data integration of TM and magnetic data.
Detailed interpretation of the regional aeromagnetic data by company geologists and geophysicists has resulted in the recognition of several significant features considered important in locating bulk tonnage gold mineralisation (Figure 3). These include:

- a linear north-northwest magnetic high which defines the eastern margin of the Pine Creek Shear Zone, the anomaly being attributable to dolerite dykes.

- a major north-northwest trending structure approximately 25km east of, and parallel to the Pine Creek Shear Zone. Several gold workings including Ringwood, Hardies and Frances/Watts Creek occur along this structure.

- significant structural settings where major north-northwest structures are intersected by northeast trending lineaments.

3.2 Detailed Aeromagnetics

A detailed aeromagnetic survey by Aerodata was commissioned by Billiton Australia during late 1989. A total of approximately 6,000 flight line kms were surveyed, the coverage of which includes the Compass Creek licence area. Survey details include:

- flight line spacing - 200m
- tie line spacing - 2000m
- sensor height - 70m
- magnetic sample interval - 14m
- radiometric sample interval - 70m
- cesium vapour magnetometer
- geometrics GR800B spectrometer
- 33.5 litre detector

The aeromagnetic survey was flown for the purpose of identifying regional structures and significant magnetic anomalies, similar to the pyrrhotite bearing veins at Mt Todd, which may host bulk tonnage gold mineralisation.

Detailed processing of the aeromagnetic survey was conducted by GeoImage of Brisbane, which included:-

- greyscale magnetics
- colour radiometric compositon (K, Th, U)
- greyscale K
- greyscale Th
- greyscale U
- thermatic mapper bands 1, 4, 7
- rainbow pseudocoloured magnetics with vertical shade
- " " " " a 90 az shade
- " " " " a 0 az shade
- " " " " a 45az shade
- " " " " a 135 az shade
- HSI combination of radiometrics and 90 az shade
- HSI combination of radiometric and vertical derivative
- magnetics with local area stretch
- vertical derivative on magnetics
- 50 metres downward continuation on magnetics
- clay image
Interpretation of the data by Billiton geologists and geophysicists is underway, with one significant anomaly having been identified within the Compass Creek licence area (Figure 4).

4.0 FUTURE WORK

During the second year of tenure it is proposed to undertake the following exploration programme:

- compilation of scout geological mapping, and all previous exploration data onto base sheets.
- interpretation of detailed airborne magnetic and radiometric data
- detailed ground magnetics and soil sampling of target areas
- drill testing if warranted.
Listed below are the costs incurred on E.L. 6443 for the period 22 March, 1989 to 21 March, 1990.

<table>
<thead>
<tr>
<th>Description</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Office Staffing</td>
<td>2,864</td>
</tr>
<tr>
<td>Regional Office Support</td>
<td>4,788</td>
</tr>
<tr>
<td>Tenement Costs</td>
<td>255</td>
</tr>
<tr>
<td>Geophysical Survey</td>
<td>15,404</td>
</tr>
<tr>
<td>Image Processing</td>
<td>2,500</td>
</tr>
<tr>
<td>Head Office Management and Technical services</td>
<td>1,838</td>
</tr>
<tr>
<td>Overheads</td>
<td>2,765</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30,414</strong></td>
</tr>
</tbody>
</table>