BILLITON AUSTRALIA
THE METALS DIVISION OF
THE SHELL COMPANY OF AUSTRALIA LIMITED

PARTIAL RELINQUISHMENT REPORT FOR
E.L. 7206 — THOMPSON CREEK

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CONTENTS

1.0 INTRODUCTION

2.0 MINING AND EXPLORATION HISTORY

3.0 GEOLOGY
   3.1 Regional Geology
   3.2 Local Geology

4.0 PARTIAL RELINQUISHMENT

5.0 WORK COMPLETED IN RELINQUISHED GRATICULAR BLOCKS
   5.1 Airborne Geophysics
   5.2 Reconnaissance Geological Mapping

6.0 RESULTS

7.0 CONCLUSIONS

8.0 ENVIRONMENT

9.0 EXPENDITURE STATEMENT
<table>
<thead>
<tr>
<th>FIGURE NO.</th>
<th>TITLE</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Tenement Location</td>
<td></td>
</tr>
<tr>
<td>Figure 2</td>
<td>Regional Geology</td>
<td></td>
</tr>
<tr>
<td>Figure 3</td>
<td>Airborne Magnetics Contour Plan</td>
<td>1:50 000</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Airborne Radiometrics Contour Plan</td>
<td>1:50 000</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Reconnaissance Mapping</td>
<td>1:25 000</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

Tenure of Exploration Licence (E.L.) 7206 - Thompson Creek was granted to The Shell Company of Australia Limited for a period of three (3) years, on the 30th January, 1991. On the 18th January 1993, there was a partial relinquishment of Exploration Licence 7206 with two (2) graticular blocks surrendered. In accordance with statutory requirements, this report documents all work conducted in the two surrendered graticular blocks.

Exploration Licence 7206 is now comprised of two (2) graticular blocks which cover an area of 6.5 square kilometres. The tenement is located approximately 55 kms due north of Katherine, Northern Territory (Figure 1).

Access is gained via a vehicle track which turns off the Edith Falls Road, approximately 7km due east from the Edith Falls Road - Stuart Highway turnoff.

Topography within the tenement is generally of low relief and although the area is approximately trisected by both the Fergusson River and Wolfram Creek, the bedrock terrain is generally poorly incised. The majority of the area is covered by Quaternary silt and sand.

2.0 MINING AND EXPLORATION HISTORY

No significant mineralization is documented to occur within EL 7206, however, adjacent tenements do host small deposits of tin, tungsten, copper, gold, silver and lead. A series of small mines, collectively referred to as the Hidden Valley field, are situated approximately 6 km south-east of the tenement. These deposits characteristically comprise of disseminated cassiterite which occurs in shallowly dipping breccia zones hosted by slate. The total recorded production since 1905 is approximately 50 tonnes of tin concentrate.
The Last Hope gold workings are located approximately 3.0km to the north-east of the licence area. Narrow, east-west trending quartz reefs were worked via a series of shallow shafts, for which recorded production is approximately 30 ounces.

RGC Exploration Pty Ltd conducted a RC percussion drilling programme at the workings in 1989 which failed to intersect significant gold mineralisation.

3.0 GEOLOGY

3.1 Regional Geology

Exploration Licence 7206 is situated in the southern portion of the Pine Creek Geosyncline. The Burrell Creek Formation, which is the youngest unit of the Early Proterozoic geosynclinal sequence, is the most extensive unit exposed in the licence area apart from unconsolidated Quaternary alluvium and humic soils (Figure 2).

The unit represents a turbiditic sequence, predominantly comprising of greywacke, siltstone and minor conglomerate. Deformation and regional greenschist facies metamorphism of the geosynclinal sediments occurred subsequent to intrusion by syn to post-orogenic granitoids of the Cullen Batholith. An isolated cupola, designated part of the Wolfram Hill Granite, is considered to belong to the Cullen Batholith and is exposed approximately 3km due east of the tenement area. The granite is described as being a pink, coarse, equigranular biotite leucogranite.

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Upon intrusion of the granitic phases the adjacent metasediments were contact metamorphosed to hornblende hornfels facies.

3.2 Local Geology

From the limited outcrop observed it appears that stratigraphy generally strikes to the north-east and dips moderately (60°) to the south-west throughout the tenement area.

4.0 PARTIAL RELINQUISHMENT

On the 18th January 1993, there was a partial relinquishment of Exploration Licence 7206 - Thompson Creek. The two blocks to be relinquished are:-

WANDIE 1:50,000 Sheet Map 15/4-III
Blocks 68/22 and 68/23.
Leaving blocks 67/23 and 67/24 (refer Fig 2).

The following chapters detail work completed within these relinquished graticular blocks.

5.0 WORK COMPLETED IN RELINQUISHED GRATICULAR BLOCKS

Work completed on surrendered graticular blocks within EL 7206, prior to and during the first two years of tenure, initially included airborne geophysical surveying and reconnaissance geological mapping.
5.1 Airborne Geophysics
An airborne geophysical survey was completed over the Thompson Creek area, as part of a larger regional programme in April 1990. Both aeromagnetic and radiometric data was acquired for which contoured plans at 1:50,000 scale are shown in Figures 3 & 4, respectively.

The survey was conducted by Austirex for which the specifications are as follows:-

- Flight line spacing 300 metres
- Survey height 80 metres
- Flight line directions EW NE
- Spectrometer 33.6 litres

Image processing was carried out by GeoImage, Brisbane and inhouse at Billiton, Melbourne.

5.2 Reconnaissance Geological Mapping
Mapping within relinquished blocks (Fig 5) was limited due to poor outcrop.

6.0 RESULTS

Results of the 1992 exploration programme have not been positive. Geophysical and reconnaissance geological investigations have failed to define any interest in this area. Subsequently the two graticular blocks have been relinquished.

7.0 ENVIRONMENT

Minimal environmental disturbance has occurred in the course of the exploration programme. No clearing of natural vegetation was required. No additional tracks were blazed or constructed to gain access to the area.
RANFORD HILL
AIRBORNE GEOPHYSICAL SURVEY
BILLITON AUSTRALIA

Surveyed and compiled by AUSTREX INTERNATIONAL LIMITED
MARCH - MAY 1989
Job No. 205

austrex
Scale 1:150 000

AUSTRALIAN MAP GRID

AIRCRAFT
VH-MCH ROCKWELL SHARPE COMMANDER 500S
MAGNETOMETER
SPLIT BEAM Cesium Sontrex V201
RESOLUTION 0.05 nanotesla
CYCLE RATE 0.2 seconds
SAMPLE INTERVAL 12 metres
SPECIMETER
256 channel GEOMETRICS GB8000
VOLUME 33.56 litre
CYCLE RATE 1.0 seconds
SAMPLE INTERVAL 65 metres

DATA ACQUISITION
6 CHANNEL WATANABE WC 6700 CHART RECORDER
HEWLETT PACKARD COMPUTER
AUSTREX DIGITAL ACQUISITION SYSTEM
FLIGHT LINE SPACING
TRaverse LINES 300 metres
TIE LINES 3000 metres
FLIGHT LINE DIRECTION
TRaverse LINES 000 - 270 050 - 250 degrees
TIE LINES 190 - 360 140 - 320 degrees
SURVEY HEIGHT
80 metres - Mean Terrain Clearance

NAVIGATION
VISUAL FROM PLANE - FLIGHT STRIPS
FLIGHT PATH RECOVERY
ONTO A.M.S. CONTROLLED PHOTOGRAPHS

TOTAL MAGNETIC INTENSITY
DATA PROCESSING
REGIONAL FIELD IGRF MODEL 1985 REMOVED
GRID CELL SIZE 80 metres
CONTOUR INTERVAL 10 nanotesla
PARAXIAL CORRECTION 9.95 fadicsa
BASE VALUE ADDED 47490 nanotesla

North point north - Lines are drawn for the centre of the map.
Magnetic north in true for 1969.
GRID MAGNETIC ANGLE
GRID CONVERSION: +0°475.524
SECULAR VARIATION: +0°289.925 mGal per yr.
RANFORD HILL
AIRBORNE GEOPHYSICAL SURVEY
BILLITON AUSTRALIA

Surveyed and compiled by AUSTREX INTERNATIONAL LIMITED
MARCH - MAY 1990
Job No. 2105
austrex
Scale 1:50 000

AUSTRALIAN MAP GRID

AIRCRAFT
VH-MD ROCKWELL SHAFE COMMANDER 500S
MAGNETOMETER
SPLIT BOOM Cesium SINTREX Y260
RESOLUTION 0.01 nT per step
CYCLE RATE 0.2 seconds
SAMPLE INTERVAL 18 metres
SPECTROMETER
256 channel GEOMETRICS G8096
VOLUME 33.55 litres
CYCLE RATE 1.0 seconds
SAMPLE INTERVAL 65 metres

DATA ACQUISITION
8 CHANNEL WATANABE MC 6700 DATA RECORDER
HEWLETT PACKARD COMPUTER
AUSTREX DIGITAL ACQUISITION SYSTEM
FLIGHT LINE SPACING
TRIANGULATION LINES 300 metres
TIE LINES 3000 metres
FLIGHT LINE DIRECTION
TRIANGULATION LINES 050 - 270 050 - 230 degrees
TIE LINES 100 - 350 140 - 320 degrees
SURVEY HEIGHT
80 metres - MAIN TERRAIN CLEARANCE
NAVIGATION
VISUAL, FROM PLANNED FLIGHT STOPS
FLIGHT PATH RECOVERY
ONTD R.M.E. CONTROLLED PHOTOGRAPH

TOTAL COUNT

DATA PROCESSING
GRID CELL SIZE 80 metres
CONTOUR INTERVAL 250 counts
PARALLAX CORRECTION 2.98
The total count data have been corrected for:
aircraft background, atmospheric background,
atmospheric variation and micro leveling.

GRID / MAGNETIC ANGLE 4°52'3"1
GEOLOGIC CONSIDERANCE 0°14'0"1 count per
SECULAR VARIATION 0°30'1"1 count per

Billiton Australia
THOMPSON CREEK EL720F
NORTHERN TERRITORY

Title: AIRBORNE RADIOMETERS
TOTAL COUNT CONTOURS