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

EXPLORATION LICENCE 7275 — MARIA ISLAND

PARTIAL RELINQUISHMENT REPORT

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1.0 INTRODUCTION

Exploration Licence 7275 (Maria Island) comprising 30 blocks was granted to The Shell Company of Australia Limited on the 5th February 1991 for a period of six (6) years.

On the 20th January 1993 there was a partial relinquishment, leaving a total of 15 blocks.

The licence area lies solely within CL(P) portion 2373 held by the Northern Territory Land Corporation, and is covered under aboriginal land claim number NA71 - Maria Island and Limmen River.

This report details the work completed and results gained by Billiton Australia, The Metals Division of The Shell Company of Australia Limited within relinquished blocks.

2.0 LOCATION AND ACCESS

Exploration Licence 7275 lies over Maria Island which is located some 30km from mainland Australia in the Gulf of Carpentaria. It is situated 130km east of the township of Roper Bar and 150km north-northeast of Booroooloola (Figure 1).

The licence area can be more accurately described as commencing at a point being the intersection of Latitude 14°50'S and Longitude 135°41'E thence east to Longitude 135°47'E thence south to Latitude 14°55'S thence west to Longitude 135°41'E thence north to the point of commencement.

Access to Maria Island can prove difficult due to its remoteness and its distance from the mainland. After a great deal of work, access to the island to commence a work programme was secured by firstly taking a commercial airline flight to Groote Eylandt, then chartering a boat from Groote Eylandt for the 150km journey south to Maria Island.
3.0 REGIONAL SETTING

Maria Island lies in the central portion of the McArthur Basin (Figure 1). The McArthur Basin contains mainly mid-Proterozoic sedimentary rocks that form a platform cover sequence near the eastern edge of the North Australian Craton.

The rocks are gently folded and faulted, un-metamorphosed, and appear to have been deposited in mostly shallow environments in an intra-cratic basin, which at times was dominated by a prominent, north-trending half-graben—the Batten Trough (Jackson et al., 1987). The sedimentary sequence in the McArthur Basin is similar in succession to those in the Lawn Hill Platform and Mount Isa Orogen. The structure of the McArthur Basin is dominated by the Batten Fault Zone (the site of the earlier Batten Trough), and eastward-deepening half-graben—now expressed as a horst—containing up to perhaps 12km of sedimentary rock; the shelves either side of it contain only about 4km of rock (Jackson et al., 1987).

In the central portion of the McArthur Basin its sequence is divided into four stratigraphic groups, separated by unconformities; i.e. Tawallah group which is the oldest and overlies 1800 Ma old crystalline basement; the McArthur Group, the Nathan Group, and the Roper Group which is the youngest stratigraphy.

4.0 LOCAL GEOLOGY

Rocks of three formations in the McArthur Basinal sequence can be recognised on Maria Island. These include the Lynott Formation, the Yalco Formation and the Stretton Sandstone. These formations form part of the Batten Subgroup which is part of the McArthur Group (Figure 2).
5.0 PARTIAL RELINQUISHMENT

There was partial relinquishment of 15 graticular blocks on 20th January 1993.

The fifteen blocks to surrender are:

LIMMEN 1:100,000 Sheet Map 23/5
Blocks 22/61, 23/61, 26/61, 27/61
22/62, 27/62
22/63, 23/63, 27/63
22/64, 27/64
24/65, 25/65, 26/65, 27/65

Figure 3 reveals graticular blocks surrendered and the remaining 15 blocks which comprise EL 7275.

6.0 WORK COMPLETED ON RELINQUISHED BLOCKS

6.1 Aerial Photograph Interpretation

Initial photo interpretation was completed with features highlighted for ground truthing. Both black and white and colour aerial photographs covering Maria Island were obtained before attempting to visit the island.

6.2 Mapping/Rockchip Sampling

A number of mapping traverses were completed around the coast and across the island. Details on the geology are noted in Section 4.0 of this report and mapped areas within relinquished blocks are depicted in Figure 4.

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These samples were submitted to Classic Laboratories in Darwin for analysis of a suite of elements including Ag, Au, Pb, Zn, Cu, Ni, Bi, Mn, As, Sn, Al and Fe.

Assay results for all samples can be found on Figure 5, however assays for most elements were generally low.

6.3 Seismic Data

The work programme continued with an attempt to obtain seismic data in order to re-interpret and resolve the stratigraphic succession. However this was not successful. Some seismic sections were obtained, however the data were located too far from Maria Island to be of use.

7.0 CONCLUSION

The partial relinquishment of 15 blocks from EL 7275 was completed on 20th January 1993. Investigations in the area include reconnaissance mapping and aerial photography interpretation. Minor rock chip sampling failed to identify any zones of interest within relinquished blocks. Furthermore, most of the blocks surrendered consist of coastal zones surrounding the island, generally below the Mean Sea Level.

8.0 REFERENCES

Regional Stratigraphy

Fig. — Schematic stratigraphic column adjacent to the Hyc deposit (from Walker, Gulson and Smith, 1983).