Rio Tinto Exploration Pty. Limited

ABN 76 000 057 125 / ACN 000 057 125

A member of the Rio Tinto Group

Annual Report (Combined Arrla Bay Project)
For the Period 6 June 2007 to 5 June 2008
EL 22744 Arrla Bay 1, EL 22708 Arrla Bay 2
EL 24657 Arrla Bay 2a, EL 22707 Arrla Bay 3
SD5301 Alligator River, SD5302 Milingimbi
SC5313 Coburg Peninsula
Northern Territory

Exploration Report No. 28355

Tenement Holder: Rio Tinto Exploration Pty Limited

Date: June 2008

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Submitted: I M Clementson

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RTX Perth Information Centre

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<th>Scale</th>
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<tr>
<td>pAI07_005</td>
<td>Simplified Geology</td>
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1. SUMMARY

The Arrla Bay Project consists of four granted Exploration Licences (EL) 22744, 22708, 24657 and 22707 that were applied for in 2000 by Rio Tinto Exploration Pty Limited (RTX). A further six applications that are in various stages of the grant process also form part of the project. The tenements are located approximately 60km northeast of Oenpelli in north-west Arnhem Land and consequently are processed under the Aboriginal Land Rights Act 1975 (ALRA).

The tenements were originally considered prospective for lateritic bauxite mineralisation, however the drilling reported in the previous annual report has greatly downgraded the potential. The tenements still have uranium and manganese potential.

Lateritised Cretaceous sediments of the Arafura Basin extend over most of the tenement area. Outcropping basement of Proterozoic granites and metamorphics also occur.

Exploration completed during the reporting period included access negotiations on the surrounding tenement applications and discussions with GA (Geoscience Australia) regarding participation in their proposed Pine Creek multi-client airborne EM survey.

No ground work was conducted.

2. CONCLUSIONS AND RECOMMENDATIONS

Work carried out during the 2007 dry season returned generally negative results for bauxite and diamonds. Participation in the GA multi-client airborne EM survey was planned to be completed prior to the anniversary of the tenements, however this survey has been delayed. Review of the EM survey should be completed prior to planning further ground work.

3. INTRODUCTION

The Arrla Bay Project consists of four granted Exploration Licences (EL) 22744, 22708, 24657 and 22707 that were applied for in 2000 by RTX. A further six applications that are in various stages or the granting process make up the full project. The tenements are located approximately 60km northeast of Oenpelli in north-west Arnhem Land and were consequently processed under the Aboriginal Land Rights Act 1975 (ALRA).

EL 24657 was split out of EL 22708 following the consent process from the Northern Land Council.

After the tenements were granted in 2005 (table 1), work programme clearance meetings were scheduled. Due to the inaccessibility of the proposed work area, a helicopter supported clearance survey was required. The approved work programme of aircore drilling was completed in the 2006 field season and described in report (RTX 27967). A review of the results was completed in this reporting period which led to recommended participation in the GA multi-client Pine Creek EM survey. This survey has not been conducted by the anniversary date.
Table 1: Tenement Details

<table>
<thead>
<tr>
<th>Tenement No.</th>
<th>Tenement Name</th>
<th>Ownership</th>
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<th>Grant Date</th>
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4. **GEOMORPHOLOGY**

The tenements are situated in low undulating terrain called “sandy plains” (Needham 1984) that has a range of elevations from sea level to approximately 150m. The two main topographic features of interest are low smooth elevated plateaus between Jungle creek and King River, referred to as the north plateau and the south plateau. These plateaus have mostly smooth sloping margins and an elevation of about 50m above sea level.

5. **GEOLOGY**

The tenement area is mostly covered by lateritic weathered Cretaceous sediments of the Arafura Basin. The Cretaceous units are named as the ‘Bathurst Island Formation’, although historically they are known as the ‘Mullaman beds’ (Rix, 1965). These sediments consist of variable amounts of sub-labile sandstone, poorly sorted quartz sandstone and siltstone and lesser mudstones. The units are fossiliferous in parts indicating a shallow marine origin. The units are roughly equivalent to the protore sediments upon which the Gove bauxite deposit has formed.

In the southern tenement (EL 22707) there are large areas of sub-cropping basement consisting mostly of Proterozoic granites and dolerites of the Nimbuwah Complex (see plan pAI07_005).

Tertiary weathering and subsequent development of laterite has been described on Croker Island and Coburg Peninsula to the north east where there have been small bauxite deposits drilled (Ferenczi, 2001). The bauxite profile in these locations occurs on gently sloping areas less than 20 m above sea level. The occurrences are reported to be up to 9.7Mt in size @ 46.2% Al₂O₃, averaging 3m thick. These deposits are covered by approximately 0.5m of soil.

The tenements are within the East Alligator River uranium province.
6. **GEOPHYSICS**

Airborne magnetic and radiometric data are available across the project area. The aeromagnetic data are from the Milingimbi 1992 and West Arnhem 2000 surveys that were flown at 500m and 400m line spacing and mean survey elevation of 100 and 60m respectively. Cameco Pty Ltd (Cameco) has also flown airborne surveys over parts of the tenement. The regional airborne survey indicates the plateau of primary interest (north) has an elevated thorium anomaly indicative of laterite development. Radiometric response is less developed across the south plateau, indicating a lower degree of lateritisation, more siliceous protolith, or both.

GA (Geoscience Australia) is conducting a wide spaced regional airborne EM survey. RTX will participate in this survey and plan to fly in-fill lines across the tenement area. This will provide a method of interpreting the basement geology under the thin Cretaceous sediments.

7. **PREVIOUS EXPLORATION**

Bauxite exploration in the region was conducted in the late 1950’s to early 1970’s, work focussed on the coastal areas of Arnhem Land including the Coburg Peninsula and Croker Island where small resources were found. In 1964, United Uranium NL conducted both ground and helicopter supported exploration for bauxite and manganese in the Cretaceous laterites along the coastline between Coburg and Milingimbi. No significant occurrences were discovered however minor tubular laterite indicative of bauxite development was recorded near Maningridi in the Arrla Bay region.

The Arrla Bay Project area has been explored primarily for uranium: tenements EL 734 and EL 5890 were relinquished by Cameco in 1999. Their work did not consider the potential for bauxite deposits.

RTX conducted wide spaced aircore drilling in the 2006 field season. This data is reported in RTX 27967.

8. **EXPLORATION COMPLETED DURING REPORTING PERIOD**

Exploration completed during the reporting year included:

- Review of the previous exploration results.
- Negotiations with GA on a multi-client EM survey

9. **ENVIRONMENT**

No field work was conducted during the period.
10. **EXPLORATION EXPENDITURE**

The exploration expenditures have been reported separately from the technical report.

11. **PROPOSED EXPLORATION**

Participate in the GA multi-client Pine Creek airborne EM survey. Follow-up mapping and or drilling of any sub-surface anomalies.
REFERENCES

G K Hartshorn, M J Pankhurst, K M Fry. 2007, Annual Report (Combined Arlla Bay Project) For the period Period 6 June 2006 to 5 June 2007 EL 22744 Arlla Bay 1, EL22708 Arlla Bay 2 EL24657 Arlla Bay 2a, EL22707 Arlla Bay 3, SD5301 Alligator River, SD5302 Milingimbi SC5313 Coburg Peninsula, Northern Territory.

LOCALITY

Alligator River       SD5301       1:250 000
Milingimbi          SD5302       1:250 000
Coburg Peninsula    SC5313       1:250 000
Junction Bay        SC5314       1:250 000

DESCRIPTOR

Annual Report for the Period 6 June 2007 to 5 June 2008, EL 22744 Arlla Bay 1, EL 22708 Arlla Bay 2, EL 24657 Arlla Bay 2a, EL 22707 Arlla Bay 3, SD5301 Alligator River, SD5302 Milingimbi, SC5313 Coburg Peninsula, Northern Territory located within the Arnhem Lands Aboriginal Land Trust, Northern Territory, Australia. Exploration activities were restricted to planning for participation with the Pine Creek GA multi-client EM survey.

KEYWORDS

Alligator River, Coburg Peninsula, Milingimbi, bauxite, Cretaceous laterite, EM survey.