



## **Rio Tinto Exploration Pty. Limited**

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A member of the Rio Tinto Group

**Combined Annual Report  
For the Cape Ford Project  
EL1924 Cape Ford and EL3405 Anson  
For the period 28<sup>th</sup> July 2006 to 27<sup>th</sup> July 2007  
Northern Territory**

**Exploration Report No. 28093**

Tenement Holder:	Ashton Mining Ltd
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Author:	M J Pankhurst, G Hartshorn
Submitted:	I M Clementson
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pAI07_016	Location Plan	1:250,000

## **1. SUMMARY**

This report describes exploration by Rio Tinto Exploration Pty Limited (RTX) within the Cape Ford Project area during the period 28 July 2006 to 27 July 2007. The Cape Ford Project is comprised of two exploration licences, EL1924 Cape Ford and EL3405 Anson. The tenements are owned by Ashton Mining Limited and Ashton Operations Australia Limited ("Ashton"), subsidiaries of Rio Tinto Ltd. Work programmes on the project area are managed and operated by RTX.

The Cape Ford tenement package is located approximately 140 km south west of Darwin on the Daly River/Port Keats Aboriginal Land Trust. The area covers portions of the Palaeoproterozoic Pine Creek Orogen, the Mesoproterozoic Victoria-Birrinduddu Basin and the Palaeozoic Bonaparte Basin.

No field-based exploration was completed during the current reporting period. Office-based interpretation of remote sensed data, including digital terrain images and TM scenes, concentrated on further refining and prioritizing bauxite exploration targets within the project area. Field work was postponed due to access issues.

## **2. CONCLUSIONS AND RECOMMENDATIONS**

Proposed bauxite exploration consisting of reconnaissance drilling for the Cape Ford Project area was planned for completion in July 2007 following the work programme meeting with traditional owners on 21 June 2007. This work was not conducted due to overgrown inaccessible tracks which were described as passable during consultation. This led to insufficient time to gain access prior to the demobilisation of the contracted drill company.

Office-based exploration has identified a number of areas within the Cape Ford Project with potential for bauxite that warrant aircore/auger drill testing.

## **3. INTRODUCTION**

This report describes exploration by RTX within the Cape Ford Project area for the year starting 28 July 2006 and ending 27 July 2007. The Cape Ford Project is comprised of two contiguous exploration licences, EL 1924 Cape Ford and EL3405 Anson (pAI07\_016). The tenement block is located approximately 140 km south west of Darwin on the Daly River/Port Keats Aboriginal Land Trust.

The tenements are owned by Ashton Mining Limited and Ashton Operations Australia Limited ("Ashton"), subsidiaries of Rio Tinto Ltd. Ashton Mining Limited and Ashton Operations Australia Limited ("Ashton") applied for the Cape Ford Project tenements in the late 1970's and early 1980's as a part of the broader Yambarra Project. The tenements were granted to Ashton on 28 July 2003. Ashton was acquired by Rio Tinto Limited in late 2000. Since acquisition the work programmes on the project area have been managed and operated by RTX. Combined reporting for these two tenements was granted on 30 April 2007.

The project area is considered prospective for diamonds and bauxite.

#### 4. **TENEMENT DETAILS**

Current tenement details are included in Table 1.

**Table 1: Tenement Details**

Tenement No	Name	Ownership	Application Date	Grant Date	Blocks Applied	Blocks Granted	Blocks Current
EL1924	Cape Ford	Ashton Mining Limited	8/09/1978	28/07/2003	249	250	94
EL3405	Anson	Ashton Mining Limited	29/09/1981	28/07/2003	108	112	54

#### 5. **GEOMORPHOLOGY**

The geomorphology of the Yambarra project area was described by Rheinberger (2003, 2004 and 2005). The five main geomorphological provinces are;

- i) lateritised mesa surfaces,
- ii) uplands,
- iii) escarpments and dissected hills,
- iv) alluvial lowlands, and
- v) flood plains.

Lateritised mesa surfaces and low lying plateaus on the flood plains adjacent to the coast currently provide the greatest exploration potential for bauxite. The Cape Ford project is dominantly comprised of lateritised mesa surfaces and flood plains.

#### 6. **GEOLOGY**

The geology of the Yambarra Project was described by Mendum (1972).

The project area covers the Palaeoproterozoic Pine Creek Orogen, the Mesoproterozoic Victoria-Birrindudu Basin and the Palaeozoic Bonaparte Basin.

The Middle Proterozoic Fitzmaurice Group unconformably overlies the Early Proterozoic basement. Middle Proterozoic intrusives of both basic and acid composition intrude the Fitzmaurice Group. Intrusives include Murrenja Dolerite (altered gabbro and dolerite) and the Ti-Tree Granophyre (variably altered adamellite). Regional transcurrent faults that are the northerly continuations of the major faults that define the Middle Proterozoic Fitzmaurice Mobile Zone and the Early Proterozoic Halls Creek Mobile Zone, are the dominant structural features of the project area.

Permian sediments of the Bonaparte Basin are present in the east of the project area. Cretaceous sediments form a thin but laterally extensive unit that caps mesas within the project area. Cainozoic sediments and Quaternary alluvium cover much of the bedrock.

The Cape Ford project is largely covered by Cretaceous and Cainozoic sediments, basement includes the Bonapate Basin and local inliers of Litchfield Complex (Early Proterozoic basement).

## **7. GEOPHYSICS**

Two regional scale aeromagnetic surveys cover the Yambarra Project area. In 1994 AGSO completed the Medusa Banks-Port Keats Survey over the western half of the project area at 500 m line spacing and 100 m elevation. In 1984 the NTGS completed the Litchfield South Survey over the eastern half of the area at 500m line spacing and 100 m elevation. The Cape Ford project area is largely covered by the Litchfield South Survey.

## **8. PREVIOUS EXPLORATION**

Exploration for the period up until 27 July 2006 has been documented within the Yambarra Project and is described in the relevant reports.

## **9. EXPLORATION COMPLETED DURING THE REPORTING PERIOD**

Exploration activities completed by RTX during the reporting period is summarised below;

- The consultation meeting to approve the work programme planned for November 2006 was cancelled by the Northern Land Council (NLC). This meeting was rescheduled and held on 21 June 2007. This meeting approved the planned aircore drilling of 18 holes along an existing access track within EL1924. During this meeting RTX was informed that the track all the way to the drilling was open and currently passable by four wheel drive vehicle.
- Reconnaissance of the access track on 27 June 2007 with a Traditional Owner representative found the track overgrown and underwater 15 km from the approved drill sites. This forced a postponement of the aircore programme as there was insufficient time to open the track before the drill contractor's availability expired.
- Most of the Anson work programme (EL3405) was not approved by Traditional Owners at the consultation meeting held on 21 June 2007.

## **10. PROPOSED EXPLORATION**

Exploration by RTX in the next period will focus on evaluating the bauxite potential of the tenements. This work will include:

- Geologic mapping
- Rock sampling
- Follow-up wide spaced auger/aircore drilling along existing tracks.
- If ground access continues to present a significant issue, a helicopter supported programme will be implemented.

A notional budget for the project area is provided for \$40,000.

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**LOCALITY**

Cape Scott

SD 5207

1:250 000

**DESCRIPTOR**

Combined Annual Report for the Cape Ford Project for the period 28<sup>th</sup> July 2006 to 27<sup>th</sup> July 2007, EL1924 Cape Ford and EL3405 Anson. No field work was undertaken during the reporting period.

**KEYWORDS**

Cape Ford, Bauxite, Cretaceous, Cape Scott, Diamond, Fergusson River, Nickel, Port Keats, Yambarra.