



Rio Tinto Exploration Pty. Limited

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A member of the Rio Tinto Group

**Combined Annual Report
for the Period Ending 13 October 2011
EL4170 Cato Plateau & EL4171 Cato River
'Cato Project'
Gove Special SD5304, Northern Territory**

Exploration Report No. 29177

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1 SUMMARY

EL 4170 Cato Plateau and EL 4171 Cato River were applied for by BHP Minerals Pty. Ltd. on 3rd October 1982. EL 4170 was granted on 14th October 2004, EL 4171 was granted on 12th September 2005. EL4171 was renewed until 13 October 12 and the renewal for EL4171 is in progress. Rio Tinto Exploration Pty Limited (RTX, previously RTE) signed an agreement with BHP on 27th March 2000 whereby RTX took over management of the tenements. The original EL 4170 tenement application covered an area of 593.5 km² of which only 57.0 km² was granted. The remainder of the area was split off into a new application, EL 24389 and put into moratorium. The original EL 4171 tenement application covered an area of 846 km² of which 598.2 km² was granted. The tenements are located 30 km west of Nhulunbuy, east Arnhem Land and consequently are processed under the Aboriginal Land Rights Act 1975 (ALRA). Combined reporting of EL 4171 and EL 4170 was granted on 3 August 2007, and called the 'Cato Project'. The Cato Project forms part of the larger contiguous tenement package in east Arnhem Land, which is prospective for bauxite.

The Cato project area covers part of the Cato Plateau, which is a well-documented occurrence of bauxite within the east Arnhem area. The Cato Plateau target, has the potential to contain resources similar in style to the nearby Gove deposit. BHP Billiton, through an agreement with RTX, retains the right to explore for manganese (Mn) on EL4170 and EL4171.

This combined annual report describes the exploration work completed by RTX and BHPB within Exploration License (EL) 4170 and EL4171 during the reporting period.

RTX completed the following work on EL4170 and EL4171:

- Review of retained tenement for any remaining bauxite targets
- Discussions with BHPB regarding their intended work on manganese
- Work programme meeting
- Biolithostratigraphic study on six samples from drill chips within EL4171 by BHPB as part of the joint venture.

No ground work was completed during the annual reporting period ending 14 October 2011.

2 INTRODUCTION

EL 4170 Cato Plateau and EL 4171 Cato River were applied for by BHP Minerals on 3rd October 1982. EL 4170 was granted on 14th October 2004, EL 4171 was granted on 12th September 2005. Rio Tinto Exploration Pty Limited (RTX) signed an agreement with BHP on 27th March 2000 whereby RTX took over management of the tenements. The original EL 4170 tenement application covered an area of 593.5 km² of which only 57.0 km² was granted. The remainder of the area was split off into a new application, EL 24389 and put into moratorium. The original EL 4171 tenement application covered an area of 846 km² of which 598.2 km² was granted. The tenements are located 30 km west of Nhulunbuy, east Arnhem Land and consequently are processed under the Aboriginal Land Rights Act 1975 (ALRA). Combined reporting was granted on 3 August 2007, and called the 'Cato Project'. The Cato Project forms part of the larger contiguous tenement package in east Arnhem Land, which is prospective for bauxite.

3 LICENCE DETAILS

EL 4170 Cato Plateau and EL 4171 Cato River were applied for by BHP Minerals on 3rd October 1982. EL 4170 was granted on 14th October 2004, EL 4171 was granted on 12th September 2005.

Tenement details are listed in Table 1 below. Combined reporting of EL4171 and EL4170 was granted to RTX on 3 August 2007.

Table 1: Tenement Details

Name	Owner	Appn Date	Grant Date	Renewal until	Area applied (km ²)	Area granted (km ²)	Area renewed (km ²)
Cato Plateau EL 4170	RTX	3/12/1982	14/10/2004	13/10/12	593.5	57.0	38.8
Cato River EL 4171	RTX	3/12/1982	12/09/2005	In progress	846.0	598.2	292.3

4 **PREVIOUS EXPLORATION**

Previous exploration over this area is described in Report 13 of the Northern Territory Geological Survey (Ferenczi, 2001). New Guinea Resources drilled 19 auger holes in the northern end of the Cato Plateau and concluded that most of the bauxite had been eroded off. In 1966 BHP drilled 89 auger holes for a total of 778m into the Cato Plateau to test the area for bauxite. Of these, only six holes are located within EL 4170. The BHP data (Chestnut et al., 1966) shows that there is patchy bauxite within the plateau however the silica values are generally high and the recoverable (ABEA) alumina is low. No further work has been conducted in the area since the late 1960's.

RTX completed a series of auger holes (10 holes) in late 2004 to try and replicate the original BHP data (Hartshorn, 2005).

Table 2: Previous Exploration Summary

Year	Company	Tenement	Exploration Completed
1955	New Guinea Resources Prospecting Ltd	?	19 auger holes
1966	BHP Ltd	PA 1138	Bauxite exploration including the Cato Plateau area. 89 auger holes of which 6 are within the granted EI 4170 area.
2004	RTX	EL 4171	Auger drilling of small part of the Cato Plateau.
2007	RTX	EL 4171	Aircore drilling – 62 holes.
2008	RTX	EL 4170	Vacuum drilling – 52 holes.
2009	BHPB	EL 4171	RC Drilling for Mn – 21 holes.
2010	RTX	EL4171	Rock sampling

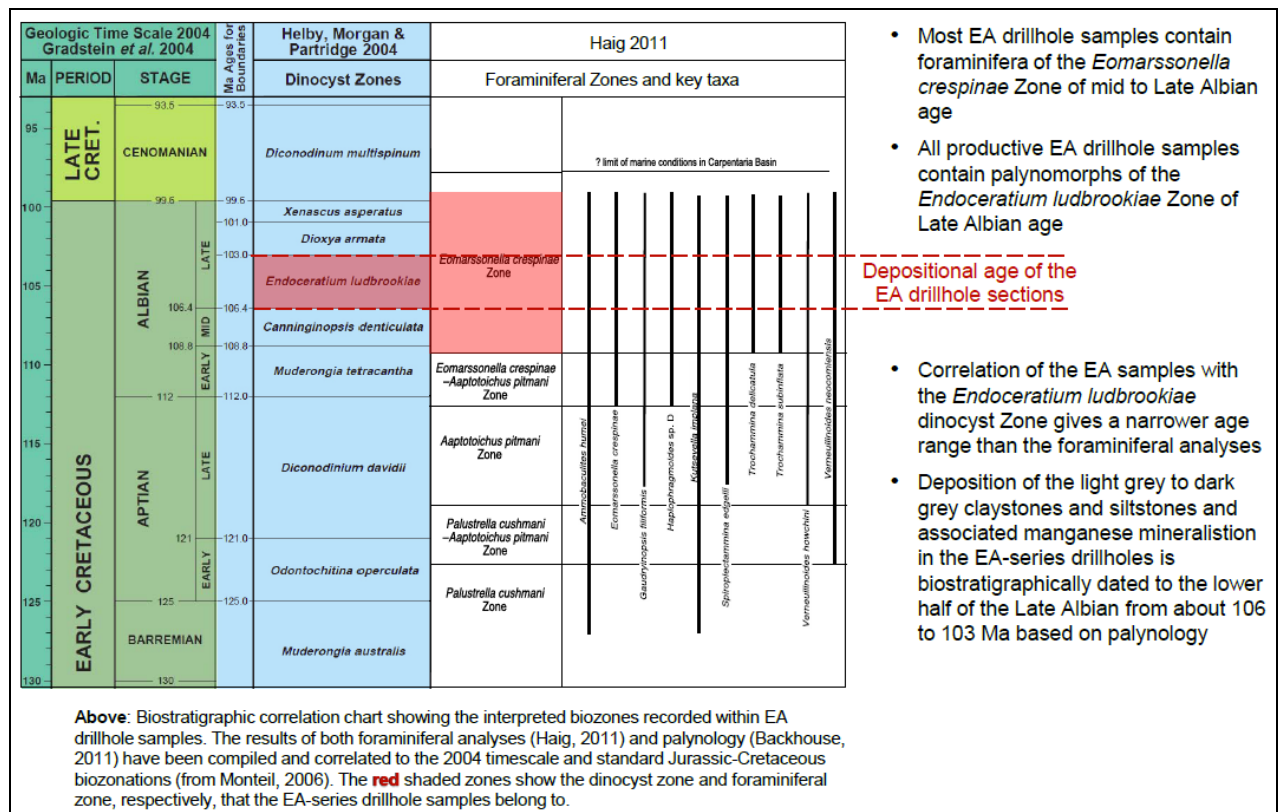
5 **GEOLOGY**

Geology of the Cato area comprises of a sequence of sedimentary sandstones and claystones belonging to the Walker River Formation (Middle Cretaceous) and the younger Yirrkala Formation (Upper Cretaceous) (Refer to SD5304 – Gove Special GSNT Geology Map). During the tertiary period, the Yirrkala Formation has undergone extensive lateritisation in the east Arnhem area, of which some is bauxite. The cretaceous sediments are overlain by Quarternary alluvials in places where the original laterite surface has been eroded.

While many occurrences of bauxite have been recorded in the east Arnhem area, large, economic deposits outside the general vicinity of the Gove mine site, have not been delineated.

A review of EL 4171 has identified one area adjacent to Arnhem Bay that is potentially laterite on Cretaceous sediments. This area which is a subtle elevated “plateau” without obvious drainage and is shown in plan pAI11_005.

BHPB conducted a biostratigraphic age dating of 6 samples collected from RC chips within EL4171 (see report in appendix 3). The figure below shows the depositional age of the sediments from the drilling.



6 GEOMORPHOLOGY

The Cato Project lies within the Arafura Fall physiographic sub division between the western shore of Melville Bay, and the eastern shore of Arnhem Bay (Rawlings et al., 1997). Most of the granted tenement is low lying (<50m elevation) and includes the Cato River, and tributaries of the Cato and Giddy Rivers. A spur of the Cato Plateau extends four kilometers across the centre of EL 4170, and another spur extends 3 kilometers into EL 4171 from the east. The plateau has steep breakaways and a flat top at an elevation of approximately 100m.

7 GEOPHYSICS

The project area is covered by a regional scale aeromagnetic survey flown for the NTGS in 1990-92 (Rawlings et al., 1997). The radiometric data can be used to help distinguish the laterite-covered areas from those of both basement and Quaternary sand cover. This method does not distinguish between bauxitic and non-bauxitic laterite.

Digital terrain data has been acquired and processed to assess areas for plateaus that may be prospective for bauxite. The Cato Plateau is clearly defined as a gently south-westerly dipping flat surface of approximately 100 km² in area. Less than 10 km² of the Cato Plateau lies within the granted ELs.

8 ENVIRONMENT/COMMUNITY

Discussions were held with the Traditional Owners at Dhalinbuy on the 15th July 2011 to present the proposed work programme. This work programme (see appendix 1) was approved however due to various cultural and logistical reasons it was not conducted prior to the annual reporting period.

BHPB submitted a closure document for their MMP for activities within EL4170 and EL4171, (see appendix 2)

9 EXPLORATION WORK

Exploration completed by RTX during the reporting year included:

- Review of tenement for high risk bauxite targets

- Work programme meeting at Dhalinbuy on 15 July 2011

No work was completed on EL4170. This tenement is being reviewed whilst negotiating access on the adjacent application, EL24389 which was split out of the original EL4170 application.

10 EXPLORATION EXPENDITURE

The details of exploration expenditure for EL4170/EL4171 by RTX combined with the expenditure of BHP Billiton for the same period, is presented separately in the Annual Expenditure Report.

11 PROPOSED PROGRAMME AND EXPENDITURE

Proposed expenditure for the next reporting period will be \$40,000 comprising:

- Meetings with Traditional owners and clearance surveys if required
- Hand-auger sampling of an area within the retained block of EL 4171 that was not conducted during this period.
- Access surveys for negotiation on adjacent ELA 24389.

Rio Tinto Exploration is currently in consultation with the Northern Land Council (NLC) with regards to the Cato Plateau 2 (EL24389) Exploration License Application. Due to the nature and location of the Cato Plateau target with respect to adjacent tenure blocks, including Cato Plateau EL4170 and Cato River EL4171, it is likely exploration plans on these tenements will be subject to thorough review in light of any change of terms on Cato Plateau 2 EL 24389.

12 CONCLUSIONS AND RECOMMENDATIONS

Rio Tinto conducted a work programme meeting and had their plans approved for a limited hand auger sampling programme on a subtle target adjacent Arnhem bay within EL 4171. This programme however was not conducted prior to the reporting period. This area shall be tested in the next annual period.

Rio Tinto Exploration intends to continue this exploration approach on the retained areas within EL 4170 and EL 4171 following the 50% relinquishment recently performed. Activities to gain access to exploration license application ELA 24389 which was split out of the original EL 4170 application is a high priority for this project.

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LOCALITY

Gove Special

SD 5304

1:250 000

LIST OF DPO'S

DPO (Work Order)	No. Sample	Sample Range	Laboratory

DESCRIPTOR

Combined Annual Report for the Period Ending 13 October 2011, EL 4170 Cato Plateau, EL4171 Cato River, Gove Special SD 5304, Northern Territory. Exploration activities consisted of data review and work programme meeting.

KEYWORDS

Cato, Gove, Bauxite, Surface Sampling, Laterite, Cretaceous.

APPENDIX 1

Cato Project 2011 Mine management Plan

Cato Project MMP 2011.pdf

APPENDIX 2

BHPB Closure report for Mine management Plan

*Close-out Report_East Arnhem Two Project (0509-01)_BHP
Billiton_2011.pdf*

APPENDIX 3

Biolithostratigraphic study of drill chips