

Rio Tinto Exploration Pty Ltd

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A member of the Rio Tinto Group

Fourth Combined and Final Report

for the period 15 October 2019 to 20 February 2020

EL 24389 Cato Plateau 2, EL 4171 Cato River & EL 4170 Cato Plateau

Combined Reporting Number GR077 – Cato Project

Tenement Holder: Rio Tinto Exploration Pty Ltd

Tenement Operator: Rio Tinto Exploration Pty Ltd

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1 Abstract

Based on a summary review of all historical and technical data collected for the Cato Project, Rio Tinto Exploration Pty Limited (RTX) decided to surrender these licences (EL4170, EL 4171 and EL 24389), effective from the 20th February 2020. The reasoning for this decision is outlined in this report as well as a summary of any activities completed in this final reporting period. This report constitutes the third combined and final report for the combined reporting group GR077 – Cato Project.

2 Summary

EL 4170 Cato Plateau and EL 4171 Cato River were applied for by BHP Minerals Pty Ltd (BHP) on 3rd December 1982. EL 4170 was granted on 14th October 2004 and EL 4171 was granted on 12th September 2005. EL 4170 was renewed until 13th October 2020 and EL4171 was extended until 11 September 2019. EL 24389 was granted on the 23rd of June 2016 for a period of 6 years which would have taken it until the 22nd of June 2022.

RTX signed an agreement with BHP on 27th March 2000 whereby RTX took over management of EL 4170 and EL 4171 (the tenements). This agreement was amended in 2007 to allow for BHP to conduct simultaneous activities for manganese within the licence package. GEMCO (a subsidiary of South32) are the responsible party for the agreement. GEMCO transferred ownership of EL 24389 to RTX on the 10th of May 2017.

Combined reporting of EL 4171, EL 4170 and EL24389 was granted in June 2017 and the project called 'Cato Project' with reporting number GR077. The Cato Project formed part of the larger contiguous tenement package in east Arnhem Land, which was considered prospective for bauxite and manganese.

These three licences (Cato project) cover the Cato plateau, which is a known occurrence of bauxite within the east Arnhem area. GEMCO, under the agreement with RTX, retained the right to explore for manganese on EL's 4170, EL4171 and 24389.

When EL 24389 was granted on 23 June 2016 (for a period of 6 years), the bauxite targets identified from the data review were prioritised. A program of work was developed and executed to drill test the priority bauxite targets on EL 24389 and accessible parts of the main plateau on EL 4170.

Follow up work to the drilling program included desktop assessment of the reported assay results and mineralogical estimates and a bulk sampling program to test the beneficiation potential of the identified bauxite. Follow up work aimed to identify the potential quality of the bauxite present and its spatial distribution across the plateau.

Subsequently to these work programs, it was determined that no economically viable resource of interest to Rio Tinto could be defined within the Project and hence the decision was made to surrender the tenements in full.

3 Copyright

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4 Introduction

4.1 Location

The project area (Cato Project) is located near the community of Dhalinybuy and approximately 50 km west of Nhulunbuy, East Arnhem Land. Vehicle access (largely restricted to the dry season) was via the Central Arnhem Highway from Nhulunbuy (Figure 1). There are two existing tracks within the area of operations, the Dhalinbuy road and the Mata Mata road. These roads and other historical tracks allowed access to the work areas.

4.2 Title History

Rio Tinto Exploration has a commercial agreement with GEMCO, which allows the potential for the two groups to explore the tenements for separate commodities simultaneously. Rio Tinto Exploration is focussed on exploring the area for bauxite. GEMCO, under a separate authorisation, are exploring the area for manganese.

Table 1 summarises the status of all three tenements within the Cato Plateau project area.

Table 1: summary of tenements

Title no	Owner	Operator	Grant date	Expiry date	Surrender Date	Sub blocks / area km ²
EL 24389	Rio Tinto Exploration Pty Ltd	RTX	23/06/2016	22/06/2022	20/02/2020	92 / 191.4
EL4170	Rio Tinto Exploration Pty Ltd	RTX	14/10/2004	13/10/2020	20/02/2020	16 / 38.7
EL4171	Rio Tinto Exploration Pty Ltd	RTX	12/09/2005	11/09/2019	20/02/2020	14 / 46.8

4.3 Physiography

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 kilometres across the centre of EL 4170, and another spur extends 3 kilometres into EL 4171 from the east. The plateau has steep breakaways and a flat top at an elevation of approximately 100m.

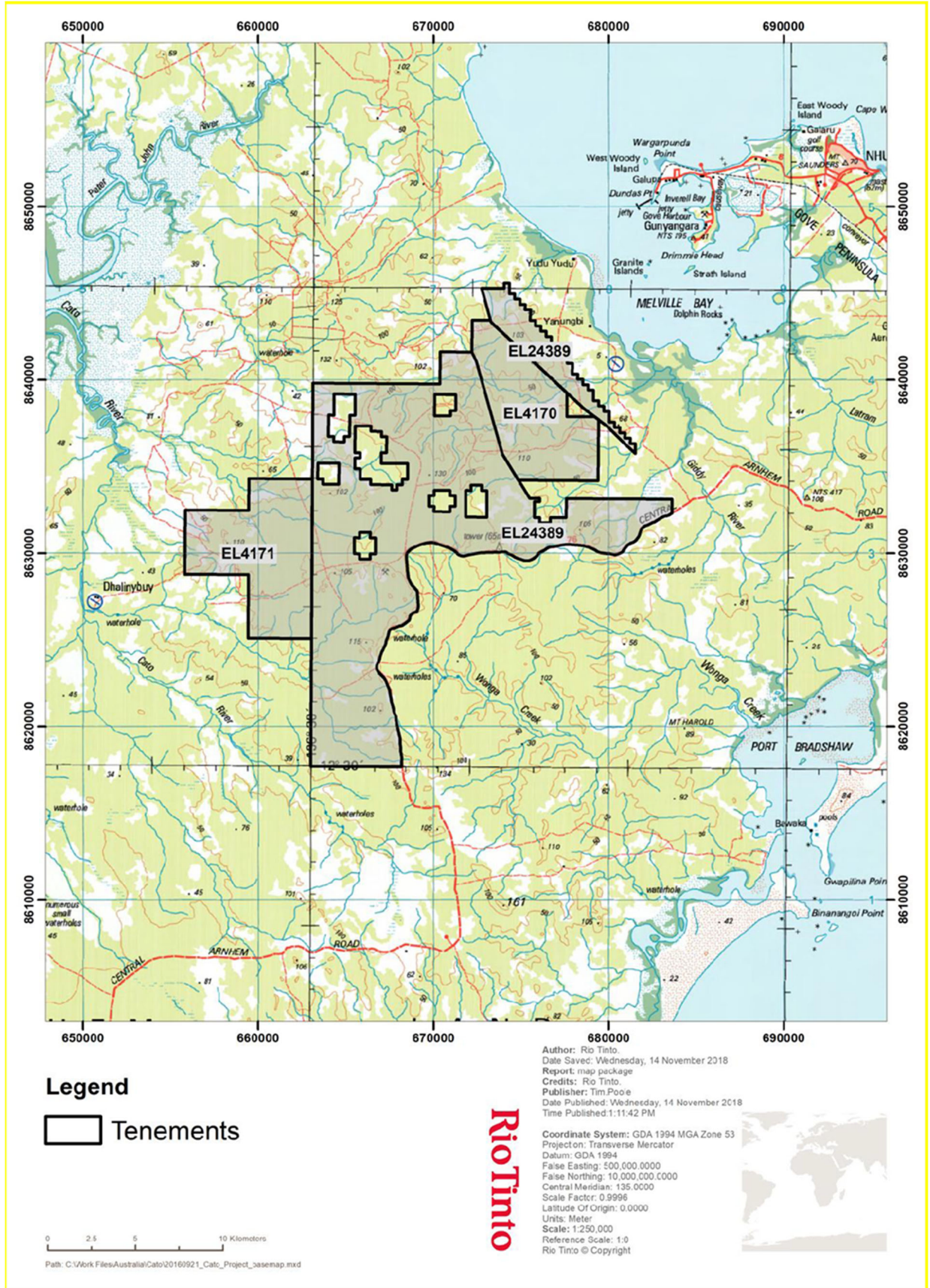


Figure 1: Location Map

4.4 Access

The tenements fall wholly within Arnhem Land and were subject to the provisions of the Aboriginal Land Rights Act, which is administered by the Northern Land Council (NLC).

For the Cato Plateau Project, RTX consulted with the NT Department of Resources and the communities via the NLC. Consultation with the regulators is a legislative requirement under the Mine Management Act. Over and above title grant, management and reporting requirements, RTX consulted with the Department of Mines and Energy when seeking detailed advice.

Formal consultation related to the proposed work programme was a requirement of the Exploration Deed signed by the company and the NLC on behalf of the Traditional Owners.

5 Geology

Geology of the Cato Project 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) which unconformably overly Proterozoic basement.

During the Tertiary period, the Yirrkala Formation has undergone extensive lateritisation in the east Arnhem area. This has resulted in the formation of bauxite in areas where the protore was sufficiently clay rich, the landform allowed adequate drainage and the land surface has been preserved. The Cato Plateau has known bauxite occurrences. While several occurrences of bauxite have been recorded in the east Arnhem area, large, economic deposits outside the Gove mine site have not been delineated.

5.1 Exploration History

A summary of previous exploration across all licences that make up the Cato Plateau Project are detailed in table 2. All activities have been reported on under the relevant authorisations and all rehabilitation has been completed.

Table 2: summary of previous exploration

Year	Company	Tenement	Exploration Completed
1966	BHP Ltd	PA 1138	Bauxite exploration including the Cato Plateau area where 89 auger holes were drilled. Several tracks still visible for use.
2004	RTX	EL 4170	Toyota mounted auger drill holes 13 holes
2007	RTX	EL 4171	Aircore drilling 62 holes (0326-01)
2008	RTX	EL 4170	Vacuum drilling – 52 holes.
2009	BHPB	EL 4171	RC Drilling for Mn – 21 holes.(reported by BHP under their authorization 0671-01)
2013	BHPB	EL4171	RC Drilling for Mn – 4 holes.(reported by BHP under their authorization 0671-01)
2016	RTX South 32	EL24389, EL4171	Vacuum drilling of main plateau for bauxite (See below) RC drilling for manganese
2017	RTX	EL24389	Bulk sampling program targeting 3 sites within EL24389

5.2 Exploration Rationale

Rio Tinto owns (100%) and operates the Gove mine in NE Arnhem Land. Mining began in 1971 and ore reserves are declining.

The Cato Plateau is located approximately 45km from Gove mine. Previous exploration on the plateau by competitors intersected bauxite and it was considered a potential location for a crude bauxite resource. An economic valuation completed by Rio Tinto Aluminium (RTA) showed that even a small crude resource of 20- 50MT, even with the long haul distances, would delay mine closure by several years and add significant value to RTA's bauxite operations.

In order to evaluate the potential for a crude bauxite resource on Cato Plateau, in 2016, after the grant of EL 24389 (the bulk of the plateau) RTX planned and executed a vacuum drilling program to test for the presence of bauxite across EL 24389 and to a smaller extent, ELs 4170 and 4171. The drilling program helped to define the geometry, continuity, style and scale of the bauxite potential within the area of interest.

Results of the 2016 drilling indicated the presence of three pods of mineralisation where the bauxite is >1m thick. The Cato Plateau bauxite was determined to be clayey-bauxite and high in kaolinite silica and it did not meet the target definition criteria. The results revealed that the best bauxite occurs in three mineralised pods on the plateau which may host up to ~15Mt of crude bauxite on average 46% T.AI₂O₃, 16% T.SiO₂ (no mining factors, non-JORC).

Following on from the drilling program it was considered that the identified areas of bauxite mineralisation within the Cato Plateau may respond to simple beneficiation techniques such as simple screening for potential up-grading. Advances in dry screening technologies and availability of cost - effective mobile in-pit crushing and screening units were considered possible viable options for small-scale applications. Additionally, the vacuum drilling technique employed in 2016 is highly destructive and the bauxite material properties were largely undefined for Cato.

Given the above, a bulk sampling test program was designed and completed in 2017 with the aim of collecting representative bulk samples of the in situ material from trenches to test whether the Cato bauxite was amenable to simple beneficiation processes.

The results of these beneficiation tests showed that simple wet screening (the most cost effective option) was ineffective for the targeted bauxite material on the Plateau. It was thereby determined that dry screening would not be an effective option either.

6 Remote sensing

No remote sensing activities were undertaken on the listed exploration licences during this final reporting period.

7 Geophysical Activities

No geophysical activities were undertaken on the listed exploration licences during this final reporting period.

8 Surface geochemistry

No remote surface geochemistry activities were undertaken on the listed exploration licences during this final reporting period.

9 Drilling

No drilling activities were undertaken on the listed exploration licences during this final reporting period.

10 Geotechnical studies

No geotechnical studies were undertaken on the listed exploration licences during this final reporting period.

11 Resources and reserve estimation/modelling

No resource or reserve estimations were produced for the listed exploration licences during this final reporting period.

12 Conclusions and Recommendations

Based on the all historical work completed (as outlined in table 2) on the Cato Project and the subsequent analysis of the resource and its potential to be beneficiated, RTX determined that there

was no long term economic value to the ongoing exploration and development of the area and therefore decided to surrender the tenements. Licences were surrendered effective from the 20th February 2020.

13 References

Rawlings, D.J., 1997, 1:250 000 Geological Map. Explanatory Notes. Arnhem Bay Gove SD5303-04, Northern Territory Geological Survey.

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