Rio Tinto Exploration Pty. Limited

ABN 76 000 057 125 / ACN 000 057 125

A member of the Rio Tinto Group

Partial Relinquishment Report
EL 4170 Cato Plateau
For the period 14 October 2006 to 13 October 2007
Gove Special SD 5304,
Northern Territory

Exploration Report No. 28218

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1. SUMMARY

EL 4170 Cato Plateau was applied for by BHP Minerals on 3 October 1982 and was granted on 14 October 2004. Rio Tinto Exploration Pty Limited (RTX) signed an agreement with BHP on 27 March 2000 whereby RTX took over management of the tenement. The original tenement application covered an area of 593.5km^2 of which only less than 10%, 57.0 km^2 (28 blocks) was granted. The remainder of the area was split off into a new application, EL 24389 and put into moratorium. The tenement is located 22km southwest of Nhulunbuy, east Arnhem Land and consequently is processed under the Aboriginal Land Rights Act 1975 (ALRA).

This is the first relinquishment of EL 4170 which includes 12 blocks (43%) relinquished. A waiver has been sought for the remaining area.

EL 4170 is part of the Cato Project, which is comprised of EL 4170 and EL 4171 and was granted combined reporting status on 3 August 2007. The Cato Project forms part of the larger contiguous tenement package in east Arnhem Land, which is prospective for bauxite.

EL 4170 covers part of the Cato Plateau, which is a known area of bauxite of similar style to the nearby world class Gove deposit.

Exploration was focused on testing the area for bauxite. Stream sampling for diamonds was a secondary opportunistic target. Work completed on the relinquished area includes:

- Review of previous exploration.
- Completion of consultation meetings and site clearance surveys.
- Interpretation of existing TM data.
- Establishment of an exploration camp.
- Collecting three gravel diamond indicator and five –80# stream sediment samples.

2. INTRODUCTION

EL 4170 Cato Plateau was applied for by BHP Minerals on 3 October 1982 and was granted on 14 October 2004. RTX signed an agreement with BHP on 27 March 2000 whereby RTX took over management of the tenement. The original tenement application covered an area of 593.5km^2 of which only 57.0 km^2 was granted. The remainder of the area was split off into a new application, EL 24389 and put into moratorium. The tenement is located 22km southwest of Nhulunbuy, east Arnhem Land and consequently is processed under the Aboriginal Land Rights Act 1975 (ALRA).

Tenement details are included in Table 1 below. See pAl07_026 for tenement location.

All exploration was completed in accordance with a DBIRD lodged and approved Mine Management Plan (Lilley and Smith 2003).

Table 1: Tenement Details

Tenement No.	Tenement Name	Application Date	Grant Date	Blocks Applied	Blocks granted	Blocks Relinquished
EL4170	Cato Plateau	3/12/1982	14/10/04	182	29.0	12.0

3. PREVIOUS EXPLORATION

Previous exploration over this area is described by 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.

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 El 4170 area.

4. GEOMORPHOLOGY

EL 4170 lies within the Arafura Fall physiographic sub-division adjacent to the western shore of Melville Bay (Rawlings et al., 1997). Most of the tenement is low lying (<50m elevation) and includes tributaries of the Giddy River. A spur of the Cato Plateau extends 4km across the centre of the tenement. The plateau has steep breakaways and a flat top at an elevation of approximately 100m.

5. GEOLOGY

The geology of the tenement area consists of Cretaceous sedimentary units (Yirrkala Fm) and younger Quaternary gravels and silts (Rawlings et al., 1997). The Yirrkala Fm consists of poorly sorted siltstone-sandstone units, which have a generally flat dip. This formation has undergone intense weathering to produce a lateritised land surface that in places is bauxitic. The laterite forms a flat topped plateau that has sharp breakaways at its margin.

The basement to the Cretaceous in the tenement area is either the Palaeoproterozoic Bradshaw Complex or similar age granite.

6. 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 distinguish the laterite-

covered areas from those of both basement and Quaternary sand cover. Thorium is mostly immobile in chemical weathering environments, and as such the intensity of the Thorium channel relative to the Potassium and Uranium channels can be used as a first pass proxy to estimate the degree of in situ weathering over a given area.

7. EXPLORATION COMPLETED

Exploration completed included:

- Review of previous exploration.
- Completion of consultation meetings and site clearance surveys.
- Interpretation of existing TM data.
- Establishment of an exploration camp.
- Collecting three gravel diamond indicator and five –80# stream sediment samples.

7.1 Stream Sediment Sampling

A total of five, -80# stream sediment samples were collected from the active channel of selected drainages. Sample ledgers and results are included as Appendix 1. Analysis was undertaken at Ultratrace Laboratories in Perth using the protocols in Table 5.

Table 3: Stream Sediment Analysis Protocols

Preparation	Digest	Method	Elements (lower detection limit)
Dry and pulverise entire sample	Mixed acid (0.5 g aliquot)	ICPMS /ICPOES ICP302 ICP102	Ag* (0.5 ppm), Al (100 ppm), As* (0.5 ppm), Ba* (1 ppm), Ca (100 ppm), Cd* (0.5 ppm), Co (1 ppm), Cr (5 ppm), Cu (1 ppm), Bi* (0.1 ppm), Fe (100 ppm), K (100 ppm), Mg (100 ppm), Mn (1 ppm), Mo* (0.2 ppm), Na (100 ppm), Nb* (0.5 ppm), Ni (1 ppm), P (20 ppm), Pb* (1 ppm), Sb* (0.1 ppm), Sr* (0.1 ppm), Th* (0.05 ppm), Ti (10 ppm), U* (0.05 ppm), V (2 ppm), W* (0.5 ppm), Zn (1 ppm), Zr* (1 ppm).

**ICPMS*

7.2 Gravel Sampling

A total of three, -1mm gravel samples were collected from trap sites within active drainages across the tenement. Sample size was approximately 30kg. Samples were processed at RTX's mineral processing laboratory in Perth and heavy mineral concentrates observed for diamond indicator minerals. Sample ledgers and results are included as Appendix 2. The concentrates had significant amounts of heavy minerals (ilmenite), which reduced the efficacy of the processing.

7.3 TM Data Interpretation and Digital Terrain Data

Thematic Mapper and digital terrain data sets were used to define the size of the potential bauxite target. The Cato Plateau can be clearly seen on the digital terrain model of the region.

8. ENVIRONMENT

Only low impact, non ground disturbing work was completed in the relinquished area.

9. CONCLUSIONS AND RECOMMENDATIONS

There were no significant results from the stream or gravel sampling. The area relinquished is low lying flat topography, and holds negligible potential for bauxite.

REFERENCES

Chestnut W., Blayden, I., Edyvean, M. & Gee, C., BHP Pty Ltd., 1966. Report on Exploration Within AP1138, Eastern Arnhem Land. Northern Territory Department of Mines and Energy Open File Report CR1966-0008.

Chestnut W., Gunn, M. and McGregor, P., BHP Pty Ltd., 1968. Report on Exploration Within AP1138, Eastern Arnhem Land. Northern Territory Department of Mines and Energy, Open File Company Report CR1968-0011.Rawlings, D.J., 1997, 1:250 000 Geological Map. Explanatory Notes. Arnhem Bay Gove SD5303-04, Northern Territory Geological Survey.

Ferenczi P.A., 2001, Iron Ore, Manganese and Bauxite Deposits of the Northern Territory. Northern Territory Geological Survey Report No. 13.

Lilley, G.L. and Smith, S.L., 2004, Mine Management Plan, EL4170 Cato Plateau, Gove SD5304, Northern Territory. RTE Report Number 25807.

LOCALITY

Gove SD 5304 1:250 000

LIST OF DPO'S

DPO	No. Sample	Sample Range	Laboratory
206517	6	6023151 – 6023161	RTE Diamond Laboratory, Perth
206518	10	6023152 – 6023166	Ultratrace Analytical Laboratories, Perth

DESCRIPTOR

Partial Relinquishment Report, EL 4170 Cato Plateau Gove Special SD 5304, Northern Territory. Exploration activities consisted of the collection and assay of five stream sediment and three diamond gravel samples. Results were not encouraging.

KEYWORDS

Gove, bauxite, Cretaceous, stream sampling, diamond sampling.

APPENDIX 1

Stream Sediment Sample Data

EL4170_streamsediment.txt

APPENDIX 2

Diamond Gravel Sample Data

EL4170_gravel.txt