



Rio Tinto Exploration Pty. Limited

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A member of the Rio Tinto Group

**Partial Surrender Report
For the Period Ending 22 September 2006,
EL 1638 Port Keats 1
Yambarra Project
Northern Territory**

Exploration Report No. 27980

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1	Gravel samples	Yam_NTSG3_DGLocated2006.txt Yam_NTSG3_Indicator2006A.txt Yam_NTSG3_SEM2006A.txt Yam_NTSG3_SEMSGA2006A.txt Yam_NTSG3_Traceelement2006A.txt
2	Stream sediment samples	Yam_NTSG3_Stream2006A.txt

LIST OF PLANS

Plan No.	Title	Scale
pDi07_003.pdf	Tenement Location Plan	1:500 000
pDi07_004.pdf	Exploration Summary	1:150 000
D146LSJ07	Yambarra Project Partial Surrender EL 1638	Non Standard

1. SUMMARY

This report presents results of diamond exploration completed by Rio Tinto Exploration Pty Limited (RTE) within the surrendered portion of EL 1638 Port Keats 1, Yambarra Project, Northern Territory, up until 22 September 2006. A total of 105 sub-blocks were surrendered in the far south of EL 1638.

The Yambarra project area covers parts of the Palaeoproterozoic Pine Creek Orogen, the Mesoproterozoic Victoria – Birrinduddu Basin and the Palaeozoic Bonaparte Basin.

Exploration completed within the surrendered portion of EL 1638 by RTE was as follows:

- Nine 30kg -1mm gravel samples processed for microdiamonds and indicator minerals.
- Nine -80# stream sediment samples analysed for a comprehensive multielement suite.

The exploration results provided no encouragement for follow up work in the area surrendered.

2. INTRODUCTION

This report presents results of diamond exploration completed by RTE within the surrendered portion of EL 1638 Port Keats 1 up to 22 September 2006 (pDi07_003). The report is one of four related surrender reports for contiguous blocks surrendered from EL 1638 Port Keats 1, EL 1639 Port Keats 2, EL 1641 Port Keats and EL 3404 Fitzmaurice on 22 September 2006, respectively (Bishop 2007a, Bishop 2007b and Bishop 2007c).

The tenement is located approximately 200 km south west of Darwin on the Daly River/Port Keats Aboriginal Land Trust, Northern Territory.

The Yambarra Project 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 Yambarra Project tenements in the late 1970’s and early 1980’s. EL 1638 was granted to Ashton Mining Limited on 23rd September 2003. Ashton was acquired by Rio Tinto Limited in late 2000. Work programmes on the project area are managed and operated by RTE.

3. TENEMENT DETAILS

The tenement details for EL 1638 Port Keats 1 is presented in Table 1. The surrendered blocks from EL 1638 are shown on Plan D146LSJ07. A total of 105 sub-blocks were surrendered from the far south of EL 1638 leaving 250 sub blocks.

Table 1: Tenement Details

Tenement No.	Name	Ownership	Application Date	Grant Date	No. Blocks Applied	No Blocks Granted	No Blocks surrendered
EL1638	Port Keats 1	Ashton Mining Ltd	02/06/1977	23/9/2002	355	355	105

4. EXPLORATION COMPLETED

RTE carried out helicopter-assisted gravel and stream sediment sampling within the surrendered portion of EL 1638 Port Keats 1. The exploration data is presented in Appendices 1 and 2. Sample locations are presented on pDi07_004.

A total of nine gravel samples were collected from the surrendered portion of EL 1638. Sample spacing was a notional 1 per 15 km² and consisted of approximately 30 kg of –1mm sieved gravel collected from trap sites. Sample site quality was assessed by the geologist in the field. Gravel samples were processed to 0.125 mm at RTE's Belmont laboratory and observed for kimberlitic indicators to 0.2 mm and diamonds to 0.125 mm. Kimberlitic Indicator grains (i.e. chromite, picroilmenite, pyrope garnet etc) were probed using an SEM. Data within Appendix 1 identifies grains as follows:

C= chromite
G = garnet
I = ilmenite
M = magnetite
O = olivine
P = pyroxene
R = rutile
S = spinel
T = tourmaline
X = unknown

The diamond exploration results from the surrendered portion of EL 1638 Port Keats 1 did not highlight the presence of a kimberlitic source in the area.

Nine –80# stream sediment sample were also collected, one from each gravel sample site. The -80# stream sediment samples were processed by Amdel using methods IC3M (Ag, As, Ba, Bi, Cd, Co, Cu, Mo, Nb, Pb, Sb, Sr, Th, U, W, Zn, Zr, Cs, Ce, Ga, In, La, Rb, Se, Te, Tl, Y), IC3E (Al, Ca, Cr, Fe, K, Mg, Mn, Na, Ni, P, S, Ti, V) and FA3 (Au, Pt, Pd).

Samples were crushed and pulverised to –75 micron. Digestion is HF/multi acid for methods IC3E and IC3M. Method FA3 is a fire assay extraction with graphite furnace ICPMS.

No geochemical assays from the -80# stream sediment sampling programme were returned that warranted additional follow up.

5. ENVIRONMENT AND REHABILITATION

All of the field-based exploration completed by RTE was helicopter-assisted and non-surface disturbing. No additional rehabilitation is required.

REFERENCES

- Bishop S R, 2007a Partial Surrender Report for the Period Ending 22 September 2006, EL 1639 Port Keats 2, Yambarra Project, Northern Territory. Rio Tinto Exploration Report No. 27981.
- Bishop S R, 2007b Partial Surrender Report for the Period Ending 22 September 2006, EL 1641 Port Keats, Yambarra Project, Northern Territory. Rio Tinto Exploration Report No. 27982.
- Bishop S R, 2007c Partial Surrender Report for the Period Ending 22 September 2006, EL 3404 Fitzmaurice, Yambarra Project, Northern Territory. Rio Tinto Exploration Report No. 27983.

LOCALITY

Port Keats	SD 5211	1:250 000
Keyling	4868	1:100 000

LIST OF DPO'S

DPO	No. Sample	Sample Range	Laboratory
200741	20	6014601 – 6014607 6014701 – 6014707 6014801 – 6014806	Belmont Diamond Laboratory
200742	71	6014608 – 6014635 6014708 – 6014728 6014807 – 6014829	Belmont Diamond Laboratory
200743	131	6014901 – 6014912 6015575 – 6015637 6015701 – 6015719 6015751 – 6015787	AMDEL
200744	65	6014616 – 6014616 6014636 – 6014654 6014729 – 6014746 6014751 – 6014762 6014830 – 6014844	Belmont Diamond Laboratory
200882	64	6014655 – 6014674 6014747 – 6014750 6014763 – 6014800 6014849 – 6014850 6014830 – 6014844	Belmont Diamond Laboratory
200883	54	6014913 – 6014920 6014928 – 6014930 6014955 – 6014967 6015638 – 6015650 6015720 – 6015736 6015788 – 6015797	Amdel

DESCRIPTOR

Partial surrender report for EL 1638 Port Keats 1, Yambarra Project, Northern Territory, for the period ending 22 September 2006. Nine gravel samples and nine stream sediment samples did not provide encouraging results for diamonds within the blocks surrendered.

KEYWORDS

Chromite, Diamond, Gravel sample, Indicator mineral, Port Keats, Proterozoic, Stream sediment sample.

APPENDIX 1

Gravel Samples

Yam_NTSG3_DGLocated2006A.txt

Yam_NTSG3_Indicator2006A.txt

Yam_NTSG3_SEM2006A.txt

Yam_NTSG3_SEMSGA2006A.txt

Yam_NTSG3_Traceelement2006A.txt

APPENDIX 2

Stream Sediment Samples

Yam_NTSG3_Stream2006A.txt

Yam_NTSG3_Indicator2006A.txt

Yam_NTSG3_SEM2006A.txt

Yam_NTSG3_SEMSG2006A.txt

Yam_NTSG3_Traceelement2006A.txt