



Rio Tinto Exploration Pty. Limited

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A member of the Rio Tinto Group

Annual and Final Report
for the Period Ending 21 February 2002
EL9534, Mt Lynott
Bauhinia Downs SE5303,
Northern Territory

Exploration Report No. 25475

Tenement Holder:	Rio Tinto Exploration Pty Limited
Date:	September 2002
Author:	S R Bishop
Submitted:	G M Rheinberger
Distribution:	Dept of Business, Industry and Resource Development - NT RTE Perth Information Centre

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LIST OF PLANS

<u>Plan No.</u>	<u>Title</u>	<u>Scale</u>
NTd6965	Tenement Location Plan	1:500 000

1 SUMMARY

EL 9534 Mt Lynott is located on the eastern margin of Abner Range about 45km west-northwest of Merlin Diamond Mine and 7km northeast of the Abner Range kimberlitic sandstone breccia pipes.

No exploration work was completed on the tenement for the period 19 August 2001 to 21 February 2002. On the latter date the tenement was relinquished. This report summarises the results of exploration for the duration of the tenement.

Forty-one reconnaissance and infill gravel samples identified a cluster of micro diamonds and rare chromite occurrences within the tenement.

Two loam samples failed to return any kimberlitic indicator minerals.

Three bulk gravel samples were collected from two different sites. The first 50t bulk gravel sample failed to return any kimberlitic indicator minerals. From a different site, a 30t bulk gravel sample also failed to return any kimberlitic indicator minerals. A 12t bulk gravel sample from the same site as the 30t sample returned three micro diamonds and three chromite grains. SEM probing of the chromite grains suggested two were mantle-derived.

2 CONCLUSIONS AND RECOMMENDATIONS

RTE considers it unlikely that a significant kimberlitic body is being eroded into the present-day drainage system within EL 9534 so it was recommended that EL 9534 be relinquished.

3 INTRODUCTION

No exploration was completed within EL 9534 for the reporting period between 19 August 2001 and 21 February 2002 when the tenement was relinquished. This report provides a descriptive summary of the results of all exploration work completed for the period 19 August 1996 to 21 February 2002. No exploration data is presented in this report. All relevant exploration data can be found within the suite of unpublished annual exploration reports listed in the References at the back of this report.

EL 9534 Mt Lynott, held 100% by Rio Tinto Exploration Pty Limited (RTE), is centered 12 km southeast of the settlement of McArthur River and 45 km west-northwest of Merlin Diamond

Mine, Northern Territory, Australia (RTE Plan NTd6959). Access is good via the Carpentaria Highway and a road heading southeast from the McArthur River settlement.

EL 9534 was originally granted to Ashton Mining Limited (Ashton) on 19 August 1996, however, ownership was transferred to RTE as a consequence of the Ashton takeover by Rio Tinto in 2000. The tenement was relinquished on 21 February 2002 following six years of exploration for diamondiferous kimberlites. During this six-year period there was series of statutory 50% reductions from 41 down to 6 graticule blocks.

4 LIST OF EXPLORATION ACTIVITIES FOR 1996-2002

A list of the type and amount exploration work completed within the tenement is as follows:

1996-1997

- Previous exploration data review.
- 25 gravel samples.

1997-1998

- 16 gravel samples.
- 2 loam samples.
- 1 x 50t bulk sample.
- Rehabilitation of bulk sample site.
- Tenement reduction by 50%.

1998-1999

- 1 x 30t bulk sample.
- Rehabilitation of access tracks and bulk sample site.
- Tenement reduction by 50%.

1999-2000

- 1 x 12t bulk sample.
- Rehabilitation of bulk sample site.
- Tenement reduction by 50%.

2000-2001

- Rio Tinto takeover of Ashton.
- SEM probing of chromite grains retrieved from 1 x 12t bulk sample.

2001-2002

- No field work.
- Tenement relinquished.

5 LICENCE DETAILS

Table 1: Tenement Details

Name	Tenement No.	Grant Date	Relinquishment Date	Sub-Blocks	Area (km²)
Mt Lynott	EL 9534	19 August 1996	21 February 2002	6	

6 GEOLOGY

EL 9534 is located within the Mesoproterozoic McArthur Basin overlying the North Australian Craton close to the contact with the unconformably overlying Cambrian Georgina Basin and Cretaceous Dunmarra Basin. The tenement lays on the eastern margin of Abner Range a prominent perched syncline of Proterozoic sediments. Preserved on top of the synclinal range are small outlying plateaus of sediments belonging to the Cretaceous Dunmarra and Cambrian Georgina basins. These Phanerozoic sequences overlie the Mesoproterozoic Roper and Nathan Groups that define the perched synclinal range. These latter two groups, in turn, stratigraphically overlie the Mesoproterozoic McArthur Group. The Top Springs Fault is a sinuous, approximately north-south trending, regional fault that lies along the western margin of Abner Range. Within the adjacent EL, about 7km to the southwest of the center of EL 9534, are the two Abner Range kimberlitic sandstone breccia pipes. These two pipes are closely associated with a northeast-trending fracture that lies proximal to the western margin of EL 9534.

7 PREVIOUS EXPLORATION DATA REVIEW

In 1996 Ashton completed a review of previous exploration carried out within the EL area. The review; 1) identified "open file" samples within the EL boundaries containing micro diamonds; and 2) considered that the EL remained under-explored for diamonds.

8 GRAVEL SAMPLING

Ashton completed several phases of reconnaissance and infill gravel sampling (41 samples). The gravel sampling defined a low-density cluster of 5 micro diamonds and 1 chromite occurrences in a 4km by 3km area in the south east corner of the tenement. Tenement reductions progressively closed down around this area.

9 LOAM SAMPLING

Ashton collected two loam samples within the EL but no kimberlite indicator minerals were identified in these samples.

10 BULK SAMPLING

Ashton collected three bulk gravel samples from within the tenement:

1. A 50t bulk gravel sample collected downstream from the cluster of gravel sample micro diamonds returned a negative result.
2. A 30t bulk gravel sample also downstream of the cluster, but in a different location to the previous bulk sample, returned another negative result.
3. From the same site as the 30t bulk sample, Ashton collected a 12t bulk gravel sample that returned three micro diamonds and three chromite grains. SEM probe analyses of the chromite grains by RTE suggested that two were of mantle origin and the third was of crustal magmatic source.

11 ENVIRONMENT AND REHABILITATION

Tracks and bulk gravel sample sites were rehabilitated by Ashton. RTE completed no work requiring rehabilitation.

REFERENCES

Kammermann M., 1997, Annual Report Exploration License 9534 Mount Lynott 19th August 1996 to 18th August 1997: Ashton Mining Limited.

Lewis S.J., 1998, Annual Report Exploration License 9534 Mount Lynott 19th August 1997 to 18th August 1998: Ashton Mining Limited.

Lewis S.J., 1999, Annual Report Exploration License 9534 Mount Lynott 19th August 1998 to 18th August 1999: Ashton Mining Limited.

Thompson B., 2000, Annual Report Exploration License 9534 Mount Lynott 19th August 1999 to 18th August 2000: Ashton Mining Limited.

Johnson S.J., 2001, Final and Annual Report for the Period Ending 18th August 2001. Rio Tinto Exploration Report No. 25004. Rio Tinto Exploration Pty Limited.

LOCALITY

Robertson	SF51-13	1:250 000
Mallapunya	6064	1:100 000

DESCRIPTOR

No exploration work was completed for the reporting period within EL 9534. Exploration from 1996 to 2002 by Ashton and RTE identified a cluster of micro diamonds and chromite in gravel samples and bulk gravel samples within the EL. RTE does not consider these to be derived from a kimberlitic intrusion within the boundaries of the tenement. The EL was relinquished on 21 February 2002.

KEYWORDS

Robertson, Mallapunyah, Abner Range, Proterozoic, Cambrian, Cretaceous, McArthur Basin, Georgina Basin, Dunmarra Basin, Kimberlite, Diamonds, Chromite, Indicator minerals, Gravel sample, Loam sample, Bulk sample.

