

Rio Tinto Exploration Pty. Limited

A.C.N. 000 057 125

A member of the Rio Tinto Group

EL 9534 Mt Lynott Final Report and Annual Report for the Period Ending 18th August 2001

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ABSTRACT

Gravel samples taken by Ashton Mining within EL 9534 contained small numbers of micro diamonds and chromite grains. Ashton staff collected a bulk gravel from a creek draining the anomalous catchment areas, in an attempt to recover a sufficient quantity of chromites to allow an interpretation of mineral chemistry to be made, with a view to determining the most likely parent rock. This bulk sample yielded only three chromite grains, an insufficient number to allow reliable interpretation of mineral chemistry. It is considered unlikely that a single large body of chromite-bearing material is eroding into the current drainage system. It is recommended that Rio Tinto relinquish the tenement in full.

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BULK SAMPLE 00040-001

1. INTRODUCTION

EL 9534 was granted to Ashton Mining Limited on 19th August 1996. Rio Tinto Exploration Pty Limited acquired the tenement through the takeover of Ashton Mining in late 2000.

During the period 19th August 1996 to late 2000, Ashton Mining Ltd carried out a program of conventional and bulk gravel sampling within Exploration License 9534. This report provides details of work undertaken during the tenure, including the reporting period 19th August, 2000 to 18th August, 2001.

2. CONCLUSIONS AND RECOMMENDATIONS

Ashton Mining Ltd completed several phases of gravel sampling within EL 9534. This work defined a low-density cluster of samples containing single micro diamonds and/or chromite grains. A bulk sample was taken downstream from this cluster, in an attempt to assess the potential for a source of commercial-sized diamonds within the catchment area. This sample yielded a negative result. A second sample was taken from the same site, and processed to recover chromite grains, in order to provide a large enough population of indicator minerals to allow interpretation of the most likely provenance. Three chromites and three micro diamonds were recovered from this sample. Given the small numbers of diamond and chromite grains recovered, it is considered unlikely that a significant kimberlitic body is being eroded into the present-day drainage system within EL 9534. It is also unlikely that conventional exploration methods will locate a primary source for the scatter of micro diamonds and indicator minerals. It is recommended that Rio Tinto relinquish EL 9534 in full.

3. PREVIOUS EXPLORATION

Exploration carried out by Ashton Mining Ltd within EL 9534 consisted of several phases of gravel sampling. An initial program consisting of 21 reconnaissance gravel samples was completed in late 1996 (Kammermann, 1997), yielding one micro diamond. Four follow-up samples were collected and processed to yield one chromite (Lewis, 1998). Results of further sampling reported by Lewis (1998, 1999) defined a low-density regional micro diamond and chromite anomaly cluster in the drainages of the southeast portion of the license.

One 50 tonne bulk gravel sample (98063-001) was collected in the northeast corner of the tenement (Lewis, 1998) as part of an Ashton Mining regional program. This sample was processed through the Ashton Mining MkIII DMS plant at Cape Crawford and reported a negative result (Lewis, 1999).

In order to investigate the potential of the low-order indicator mineral cluster in the southeast portion of the tenement, a 30 tonne bulk gravel sample (98063-019) was collected from the creek fed by the anomalous tributaries (Lewis, 1999). Processing of this sample using the Ashton Mining Mk III DMS plant yielded a negative result (Thompson, 2000).

4. EXPLORATION COMPLETED DURING REPORTING PERIOD

4.1. Bulk gravel sampling

Failure to recover macro diamonds from the bulk gravel sample collected downstream from the micro diamond and chromite cluster in the southeast portion of the tenement raised concerns as to the origin of these minerals. In 2000, a second bulk gravel sample (00040-001) was collected from the same site as 98063-019 and processed through Ashton's Heavy Media Separation Plant, then submitted for further processing and observation in the Ashton Belmont Diamond lab. The purpose of the processing was to recover sufficient quantities of chromite to enable reliable interpretation of the provenance of these grains. Three micro diamonds and three chromite grains were recovered from this sample. The chromite grains were submitted for SEM probe analysis at the Rio Tinto Belmont Diamonds Lab (results included in Appendix I). Two of these chromite grains have compositions consistent with a mantle origin, whilst the third has a low-chrome composition more consistent with a crustal magmatic source.

5. REHABILITATION

Minimal disturbance was caused during the bulk sampling operations. Existing tracks were used to gain access to the sample sites. After the samples had been screened. The oversize gravel was redistributed into the excavated site and also used to sheet the small access cut that was made into the creek bank. All large rock piles were also levelled.

6. 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

7. LOCALITY

1:100,000 Mallapunyah 6064

1:250,000 Bauhinia Downs SE53-03

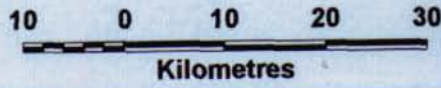
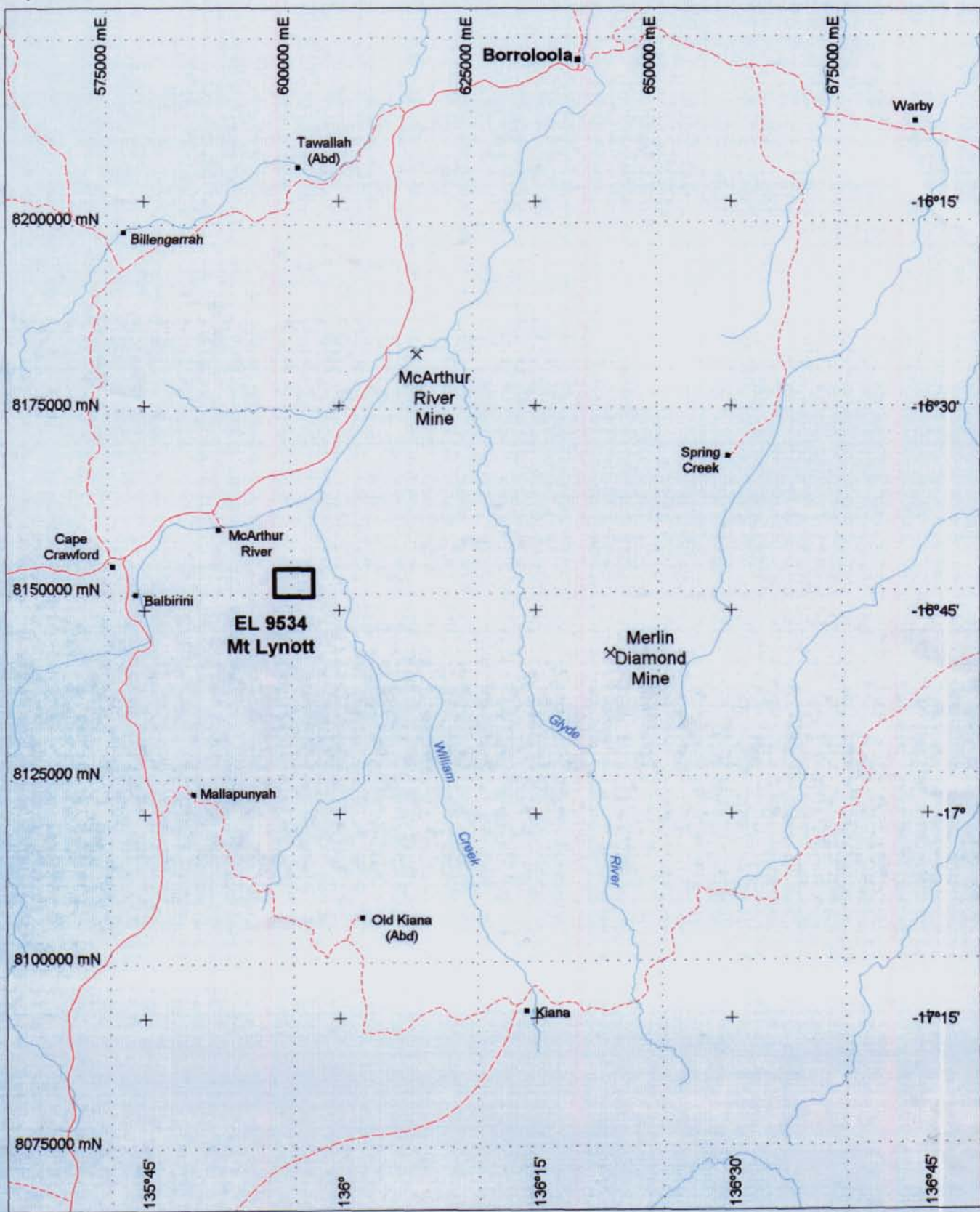
8. DESCRIPTOR

Report for the period of the current tenure, including the year ending 18th August 2001. Ashton Mining Ltd took one bulk gravel sample in 2000. Three chromites and three micro diamonds recovered. Two possibly kimberlitic chromites were identified. Insufficient numbers of diamonds or indicator minerals recovered to suggest a significant primary source within the tenement.

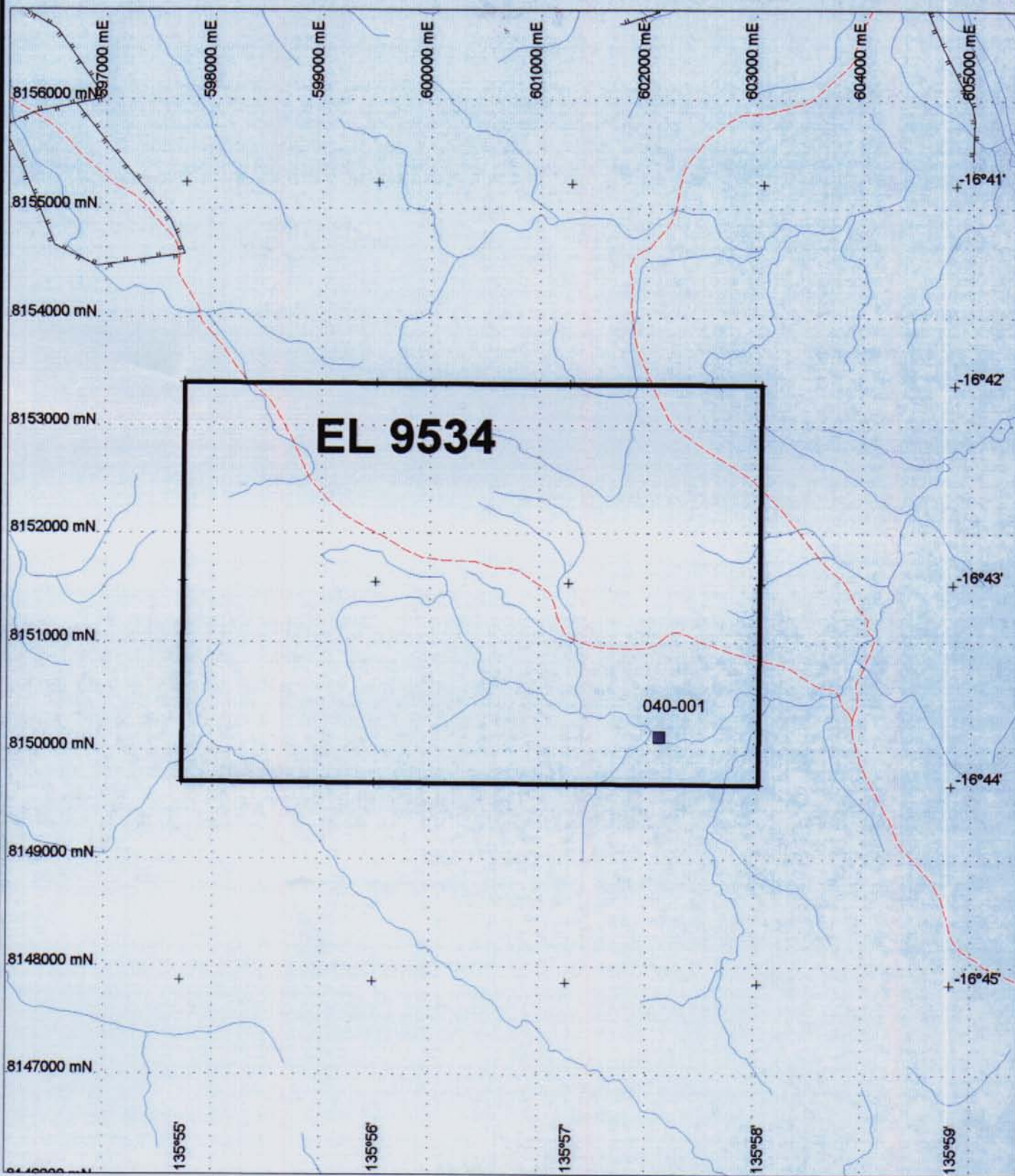
APPENDIX I

**SEM PROBE ANALYSES OF CHROMITE GRAINS RECOVERED FROM BULK
SAMPLE 00040-001**

Sample number	AMG Easting	AMG Northing	TIO2	AL2O3	V2O3	CR2O3	FEO	NIO	MNO	MGO	SO3	ZNO	TOTAL
00040-001	602098	8150090	0.2	55.93	0.24	14.87	11.12	0.25	0.4	19.68	0	0.3	102.99
00040-001	602098	8150090	0.85	26.15	0.03	42.68	16.13	0.09	0.59	14.31	0.03	0.07	101.18
00040-001	602098	8150090	0.49	10.92	0.17	44.63	30.62	0.43	0.87	11.95	0.15	0.29	101.19



RIO TINTO EXPLORATION PTY. LIMITED	
EL 9534 Mt Lynott	
Location Plan	
Author : D. Johnson	Ref : SE5303
Drawn : I. Hubbard	File Ref : NDIS/5/Carto/Plans
Date : 07-12-2001	Report No : 25004
Scale : 1:750 000	Plan No : NTd 6959



RIO TINTO EXPLORATION PTY. LIMITED

EL 9534 Mt Lynott

Bulk Sample Location

Author : D. Johnson	Ref : SE5303
Drawn : I. Hubbard	File Ref : NDIS/5/Carto/Plans
Date : 07-12-2001	Report No : 25004
Scale : 1:750 000	Plan No : NTd 6960