

**Rio Tinto Exploration Pty. Limited**

A.C.N. 000 057 125

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**EL 54/94 St Valentines Peak  
Final Report Incorporating Exploration  
for the Period from 25 January 1997 to 11 November 1997  
Tasmania, Australia**

**MICROFILMED  
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**Date:** November 1997

**Submitted to:** Chief Geologist, SE District

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Mineral Resources Tasmania  
Rio Tinto Exploration, SE District - Bundoora

MINERAL RESOURCES TASMANIA
EL 54/94
11 DEC 1997
See folio 50

**Submitted by:** Sarah Russell

**Accepted by:** [Signature]

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**97-4090****Rio Tinto Report No. 23620**

FINAL REPORT - EL 54/94  
RIO TINTO - SAJ RUSSELL

### Abstract

St Valentines Peak, EL 54/94 was granted to Rio Tinto Exploration Pty. Limited on 24 February, 1995. The licence covers 38 sq km and is located 30 km south of Burnie on the north-west coast of Tasmania (see Plan Tv1058).

Rio Tinto acquired EL 54/94 to explore for economic Irish-style zinc mineralisation in the Ordovician Gordon Group carbonates. Some encouraging zinc intersections from Rio Tinto's Zeehan licences sparked the acquisition of licences over other areas of poorly explored Gordon Group carbonates.

Secondary targets are W-Sn-F-Cu-Pb-Zn skarn/carbonate replacement mineralisation (cf. Kara Mine, Moina deposit, former Bischoff Mine, former Cleveland Mine, former King Island Scheelite Mine, Renison Mine, and Queen Hill deposit).

During recent project rationalisation and prioritisation, Rio Tinto Exploration Pty. Limited concluded that the Ordovician carbonates of western Tasmania are not a priority zinc target.

No work has been conducted on the licence since the last annual report.

Recommendation for relinquishment was made to Mineral Resources Tasmania in August 1997, and surrender in full was granted on 11 November 1997.

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## List of Plans

<b>Plan No.</b>	<b>Title</b>	<b>Scale</b>
TV1058	EL 54/94 St Valentines Peak Location Plan	1:100,000

## 1. Conclusions and Recommendations

During recent project rationalisation and prioritisation, Rio Tinto Exploration Pty. Limited concluded that the Ordovician carbonates of western Tasmania are not a priority zinc target.

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## 2. Introduction

St Valentines Peak EL 54/94 was granted to Rio Tinto Exploration Pty. Limited on 24 February, 1995. The licence covers 38 sq km and is located 30 km south of Burnie on the north-west coast of Tasmania (see Plan Tv1058).

Rio Tinto acquired EL 54/94 to explore for economic Irish-style zinc mineralisation in the Ordovician Gordon Group carbonates. Some encouraging zinc intersections from Rio Tinto's Zeehan licences sparked the acquisition of licences over other areas of poorly explored Gordon Group carbonates.

Secondary targets are W-Sn-F-Cu-Pb-Zn skarn/carbonate replacement mineralisation (cf. Kara Mine, Moina deposit, former Bischoff Mine, former Cleveland Mine, former King Island Scheelite Mine, Renison Mine, and Queen Hill deposit).

## 3. Review of Previous Work

### 3.1 Prior to Current Tenure

Significant exploration carried out prior to the current licence is summarised below. See Rio Tinto Report No. 21979 for a detailed summary of previous exploration.

#### *1958-? Rio Tinto Australian Exploration Pty. Limited*

- Regional airborne magnetic survey.

#### *1965-? Pickands Mather & Co. International*

- Reconnaissance stream sediment geochemistry survey.

#### *1968-85 Tasminex N.L., Australia and New Zealand Exploration Company, McIntyre Mines (Aust) Pty. Ltd.*

- Airborne magnetic and radiometric survey.
- Stream sediment geochemistry (W only) survey.
- Geological mapping.

- Auger sampling of Sutton's Skarn - analysed for W only.
- Helimagnetic survey.
- Resampling Sutton's Skarn.

#### *1976-84 Comalco-Billiton*

- Stream sediment geochemistry survey covering pre-Tertiary rocks.
- Stream sediment anomaly follow-up.
- Helimagnetic survey covering pre-Tertiary rocks.
- Heliborne magnetic and radiometric survey over area not covered by the early survey.
- Regional gravity survey.

More detailed descriptions of historical exploration can be found in Rio Tinto Report No.s: 21979 and 22236.

### **3.2 During Current Tenement**

The following work was conducted on EL, 54/94 St Valentines Peak during the current tenement;

- Literature review and data compilation.
- Collection and multi-element analysis of 11 reconnaissance rockchip and 6 stream sediment samples.
- Follow-up of Shell's 'Peak Spur Road' prospect. 3 reconnaissance soil traverses were completed with a 50m sample spacing and 200m to 600m traverse spacing. 56 B to C horizon samples were collected and analysed for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb, Zn by ICP-OES, Sn, W and Mo by XRF, and Au by fire assay. No anomalous results were returned.
- Acquisition of 1:25,000 scale colour air photos of the licence area to locate logging tracks and creeks.
- Follow-up of Shell's 'Old Park Road' prospect. 3 repeat soil traverses over Shell lines and 4 infill soil traverses were completed for 121 soil samples. 10 rockchip samples were also taken. Samples were assayed for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb, Zn by ICP-OES, Sn, W and Mo by XRF, and Au by fire assay. This work identified 3 significant areas of anomaly in both Pb and Zn and open to the north (maximum >500m strike by up to 50m wide of up to 0.17% Pb and 947 ppm Zn). 3 rockchip samples taken in the southeastern grid area returned anomalous Au (0.03, 0.08 and 0.36 ppm) and some soil samples are Au anomalous (up to 0.04 ppm).
- Geostatistical analysis of -80# stream sediment data by Comalco in late 1980's indicated Pb to be an excellent pathfinder to mineralisation in the St Valentines Peak area. High Zn values typically indicate Tertiary basalt detritus. Hence the anomalous Zn returned for stream sediment samples taken in a Blythe River tributary and a creek

draining north from Old Park Road (358 ppm and 156 ppm respectively) are most likely due to basalt detritus, particularly as both drain the basalt plateau.

#### 4. Exploration Completed in Period 25 January 1997 to 11 November 1997

No work was conducted on EL 54/94, St Valentines Peak.

Recommendation for relinquishment was made in August 1997, and surrender in full was granted by Mineral Resources Tasmania on 11 November 1997.

#### 5. Rehabilitation

The following procedures were implemented to reduce environmental impact and enhance rehabilitation:

- Soil augers and field boots were cleaned prior to entering the area to prevent the introduction of weeds or the vegetation fungus *Phytophthora cinnamomi*.
- Reconnaissance soil geochemical traverses were surveyed using tape and compass and did not involve track cutting.
- Soil auger holes were backfilled.

An assessment for clearance of the environmental/performance bonds will be carried out in December 1997 by a representative of Mineral Resources Tasmania.

#### 6. Expenditure

Expenditure for EL 54/94, St Valentines Peak for the period 25 January 1997 to 11 November 1997 is \$7,084. Total expenditure for the licence is \$66,248.

#### 7. References

- |                         |      |   |
|-------------------------|------|---|
| Menpes, SA              | 1997 | Second Annual Report for the Period Ending 23 January 1996. EL 54/94 St Valentines Peak, Tasmania.<br><i>Rio Tinto Report No. 22236</i> |
| Menpes, SA and Maher, S | 1995 | First Annual Report for the Period Ending 23 January 1996. EL 54/94 St Valentines Peak, Tasmania.<br><i>Rio Tinto Report No. 21979</i>  |
| Simpson, DC             | 1984 | EL 4/77 Highclere. Report on the "Old Park Road Geochemically". The Shell Company of Australia.<br><i>TDR Report No. 84-2150</i>        |

**8. Location**

Burnie	SK55-3	1:250,000
Inglis	8015	1:100,000
Parrawe	3842	1:25,000
Loyetea	4042	1:25,000
Guildford	3841	1:25,000
Loongana	4041	1:25,000

**9. Keywords**

Tasmania \* Base Metals \* Zinc \* Ordovician \* Carbonate Hosted \* Hornfels \*  
Calc Silicate \* Soil Sampling \* Rockchip Sampling

Table 1

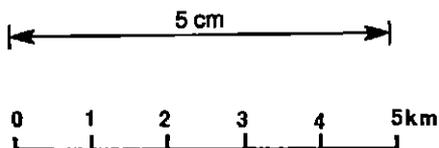
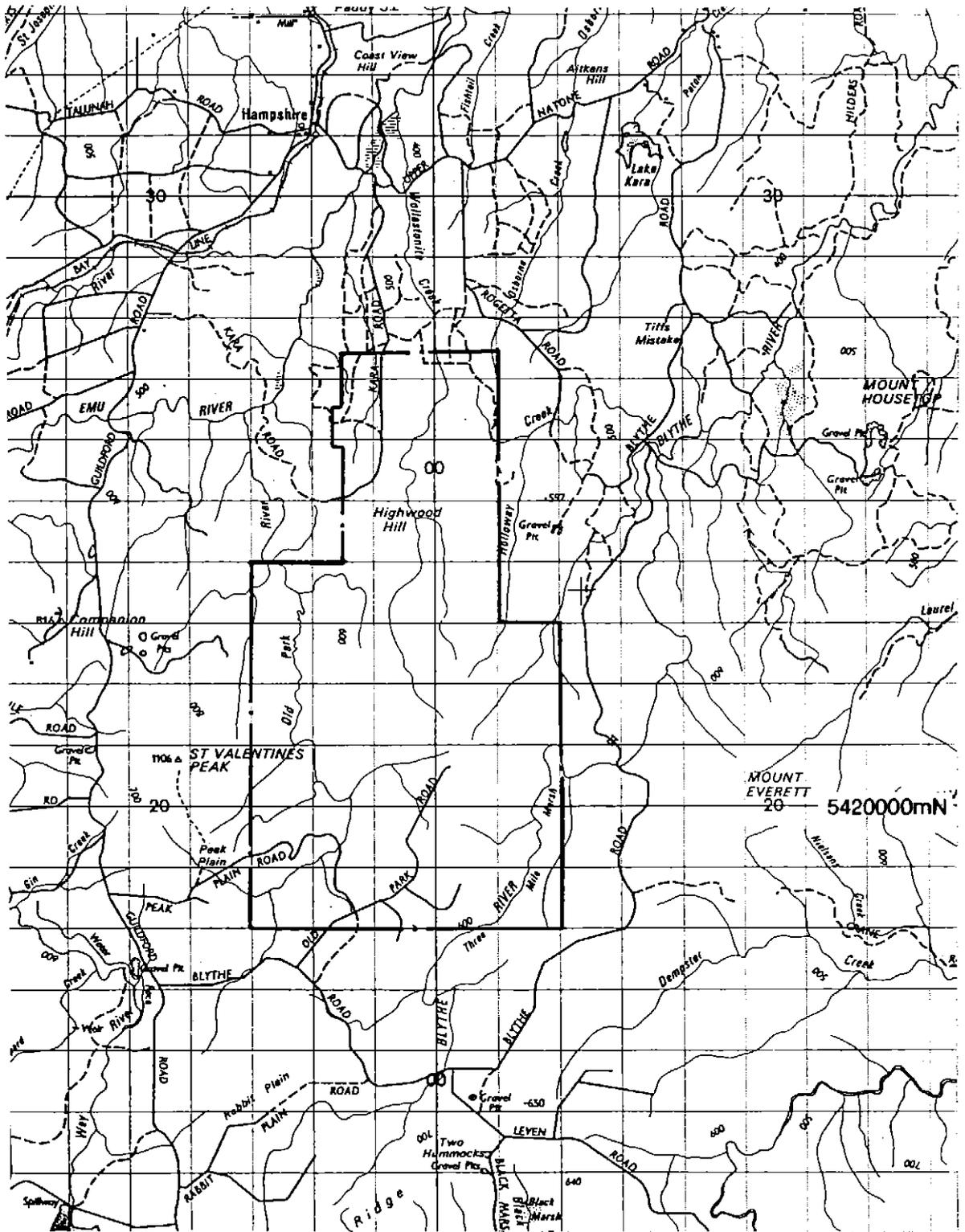
**EL 54/94 St Valentines Peak  
Total Expenditure**

	1/2/97 - 11/11/97	TOTAL
<b>Drilling</b>	0	0
<b>Contractors</b>	0	81
<b>Laboratory</b>	0	8,904
<b>Rent &amp; Property</b>	234	1,580
<b>Payroll &amp; Benefits</b>	2,462	23,706
<b>Field &amp; Transport</b>	348	8,948
<b>Travel &amp; Accommodation</b>	0	3,156
<b>Computer Services</b>	258	1,303
<b>Professional</b>	163	653
<b>Office &amp; Miscellaneous</b>	1,229	2,696
<b>District Administration</b>	917	4,607
<b>Regional Costs</b>	1,384	6,905
<b>Tenements</b>	90	3,710
<b>TOTAL</b>	7,085	66,249

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542000mN

542000mN



<b>RIO TINTO EXPLORATION PTY. LIMITED</b>	
<b>ST VALENTINES PEAK EL 54/94</b>	
<b>LOCATION PLAN</b>	
Author: <b>S.Menpes</b>	Reference: <b>SK55-3</b>
Drawn: <b>A.Jelen</b>	File Name:
Date: <b>May 1996</b>	Report No: <b>23620</b>
Scale: <b>1:100 000</b>	Plan No: <b>Tv 1058</b>