

# **Rio Tinto Exploration Pty. Limited**

A.C.N. 000 057 125

A member of the Rio Tinto Group

**ELs 7970, 8819, 8820 and 8821 - Cox River Tenements**

**Annual Report**

**for the Year Ending 23rd July 2001**

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**Date: July 2001**

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Rio Tinto Exploration - Darwin  
Rio Tinto Exploration - Perth**

**Map Sheet: SD 5314 Hodgson Downs**

**Submitted by: .....**

**Accepted by: .....**

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**Exploration Report No. 24544**

## **ABSTRACT**

ELs 7970, 8819, 8820 and 8821 (the Cox River tenements) were granted to Ashton Mining Limited on 23rd June 2000. Ashton Mining Ltd was taken over by Rio Tinto Limited in the 4<sup>th</sup> quarter of 2000.

Historic gravel sampling collected by Ashton prior to the land being Aboriginal freehold, shows that there are unresolved sporadic chromite and diamond occurrences in an area of Bukalara Sandstone on EL 7970.

It is recommended that bulk gravel samples be collected from drainages on the Cox River tenements. This work will attempt to recover diamonds and chromite grains. The chromites will then be characterised from microprobing, to determine whether they are of kimberlitic origin.

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## **LIST OF PLANS**

NTd 6923	ELs 7970, 8819, 8820 and 8821 Location and Access	1 : 1,000,000
NTd 6924	ELs 7970, 8819, 8820 and 8821 Geology	1 : 250,000

## 1. INTRODUCTION

This report describes exploration completed in ELs 7970, 8819, 8820 and 8821 (the Cox River Tenements) during the first 12 month period ending 23rd July 2001.

Exploration Licences ELs 7970, 8819, 8820 and 8821 have a total area of 436 sub-blocks (1442 km<sup>2</sup>) as detailed in table 1. The Cox River tenements are located within the Alawa Aboriginal Land Trust area, 150km NE of Daly Waters (Ntd 6923).

Table 1 – Tenement Summary

EL Number	Blocks	Area (km2)
7970	208	687.7
8819	50	165.5
8820	91	301.1
8821	87	287.7
Total	436	1442

ELs 7970, 8819, 8820 and 8821 were granted to Ashton Mining Limited on 23rd June 2000.

Ashton Mining Ltd was taken over by Rio Tinto Limited in the 4<sup>th</sup> quarter of 2000.

## 2. CONCLUSIONS AND RECOMMENDATIONS

It is recommended that bulk gravel samples be collected from drainages on the Cox River tenements. This work will attempt to recover diamonds and chromite grains. The chromites will then be characterised from microprobing, to determine whether they are of kimberlitic origin.

## 3. GEOLOGY

ELs 7970, 8819, 8820 and 8821 are centred approximately 150km northwest of Daly Waters in the Northern Territory.

Rock types in the Cox River area include sandstones and minor siltstones of the NeoProterozoic Roper Group, Cambrian Bukalara Sandstone and Lower Cretaceous sediments. Bedrock units are commonly covered by laterite, lateritic soils and Quaternary deposits.

Sediments within ELs 7970, 8819, 8820 and 8821 are only gently folded, with bed dips rarely exceeding 15°.

Several North trending, pre-Cretaceous faults transect the eastern parts of the Cox River Tenement area.

Significant mineralisation is not known to occur within the Hodgson Down Sheet. However the tenements are considered to be prospective for diamondiferous kimberlite pipes.

#### **4. PREVIOUS EXPLORATION**

##### **4.1. Previous exploration prior to current tenement**

Historic gravel sampling collected by Ashton prior to the land being Aboriginal freehold, shows that there are unresolved sporadic chromite and diamond occurrences in an area of Bukalara Sandstone on EL 7970.

#### **5. EXPLORATION COMPLETED DURING REPORTING PERIOD**

Exploration activities completed during the reporting period consisted of a review and prioritisation of all former Ashton exploration licences and applications within Northern Australia. This review concluded that the Cox River tenements be retained.

It is recommended that bulk gravel samples be collected from drainages on the Cox River tenements. This work will attempt to recover diamonds and chromite grains. The chromites will then be characterised from microprobing, to determine whether they are of kimberlitic origin.

#### **6. EXPLORATION PROGRAM AND BUDGET FOR NEXT REPORTING PERIOD**

Exploration on the Cox River tenements for the next reporting period will comprise:

- ?? Liaison Committee Meeting and work area clearance surveys
- ?? Track construction and camp establishment
- ?? Infill and follow-up stream and loam sampling
- ?? Follow-up bulk sampling

This program is estimated to cost approximately \$80,000

#### **7. REHABILITATION**

No activities occasioning significant ground disturbance were undertaken during the reporting period. Therefore no rehabilitation work was completed.

#### **8. REFERENCES**

Dunn, P.R., 1963, Hodgson Downs N.T SD 53-14 1:250 000 Explanatory Notes.

Muggeridge, M.T., 1995, Pathfinder sampling techniques for locating primary sources of diamond: Recovery of indicator minerals, diamonds and geochemical signatures. Journal of Geochemical exploration v. 53, pp. 183-204.

## 9. KEYWORDS

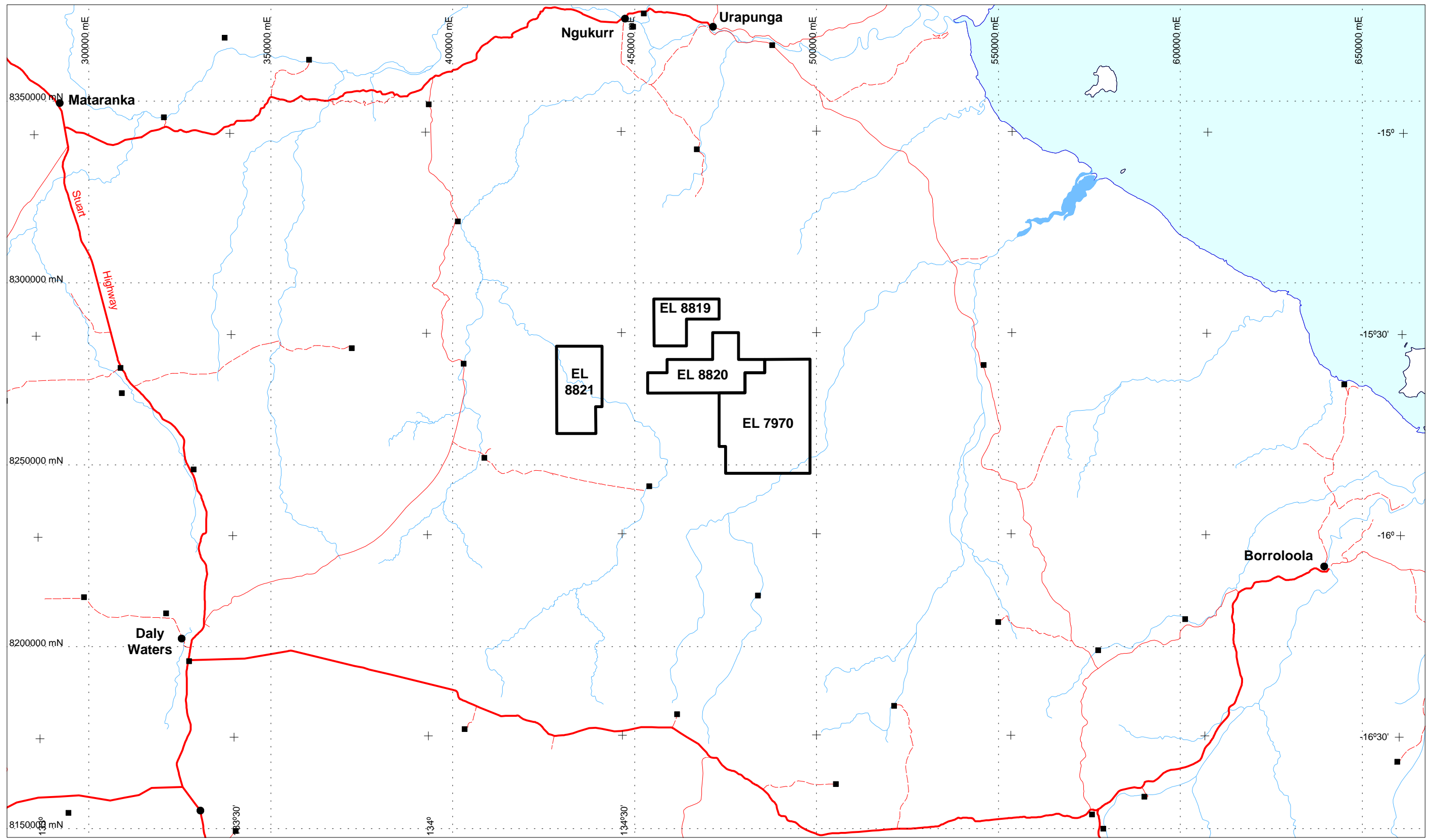
Diamonds; Proterozoic; Roper Group; Bukalara Sandstone; Gravel Sampling

## 10. LOCALITY

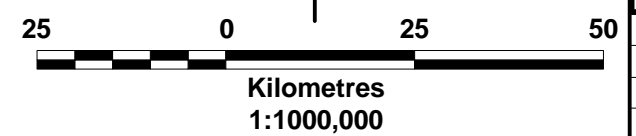
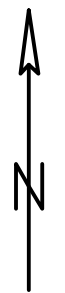
Hodgson Downs	SD5314	1:250,000
Nutwood	5766	1:100,000
Cox	5866	1:100,000
St Vidgeon	5867	1:100,000

## 11. DESCRIPTOR

Annual report for 2001. Review of previous exploration. No field work conducted in reporting period.

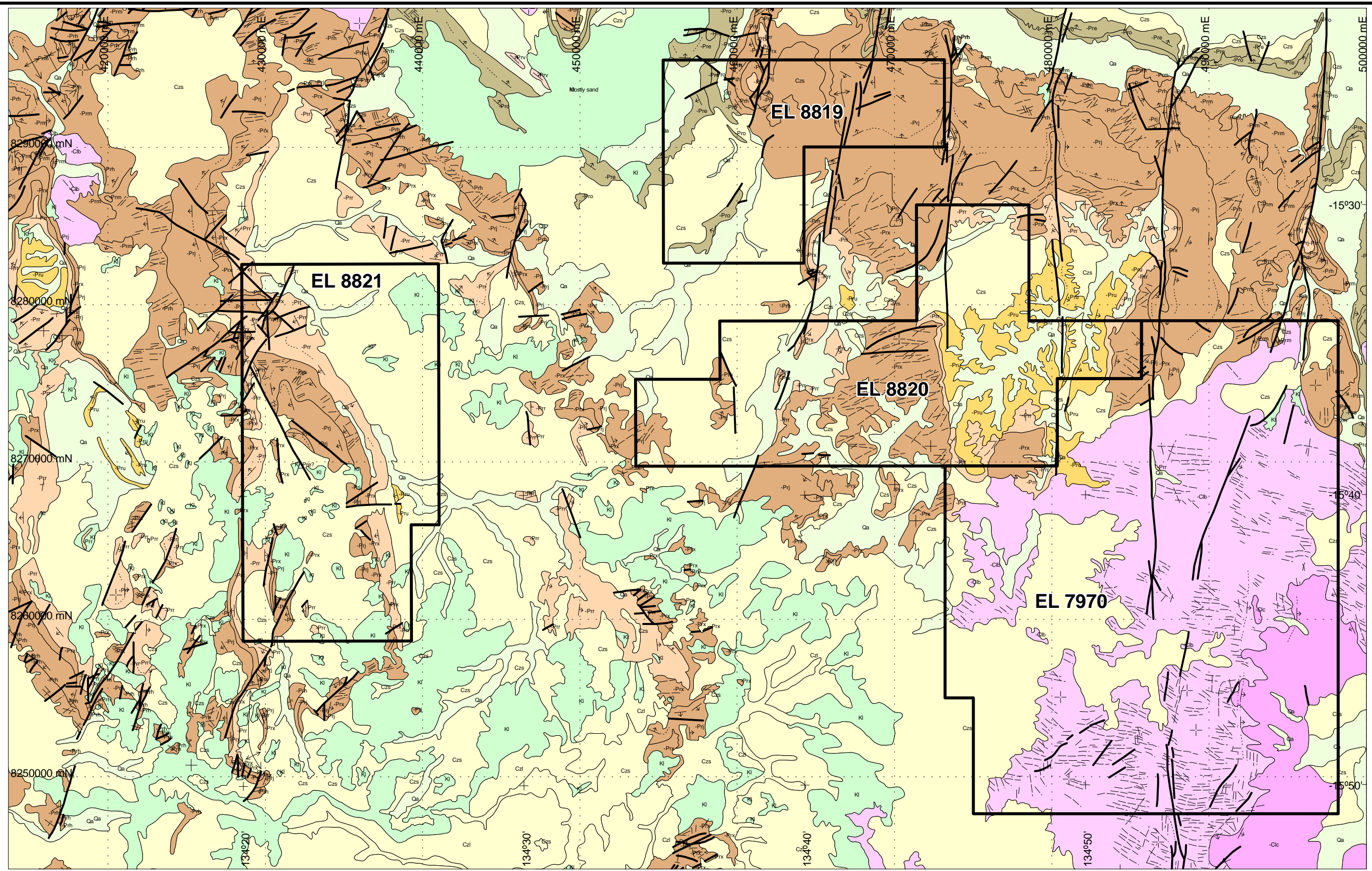


 Tenement

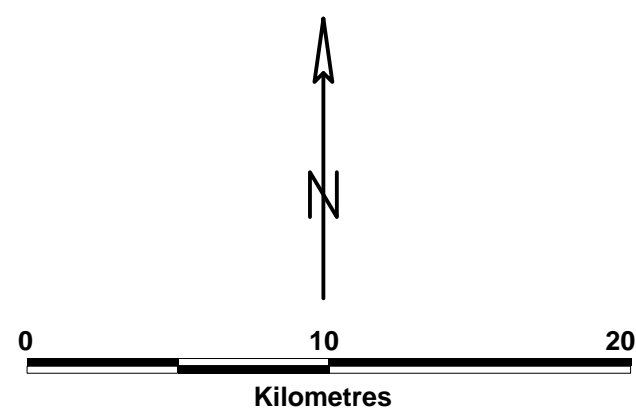


<b>RIO TINTO EXPLORATION PTY. LIMITED</b>	
COX RIVER PROJECT	
<b>EL 7970, 8819, 8820, 8821</b>	
<b>Location</b>	
Author : P. Walker	Ref : SD5314 Hodgson Downs
Drawn : I. Hubbard	File Ref : NDIS/5/Carto/Plans/NTd
Date : 14-08-2001	Report No 24544
Scale : 1:1000 000	Plan No : NTd 6923





- |  |               |  |                        |  |                    |
|--|---------------|--|------------------------|--|--------------------|
|  | Tenement      |  | Quaternary             |  | Corcoran Formation |
|  | Joint pattern |  | Cretaceous             |  | Abner Sandstone    |
|  | Trend-line    |  | Cox Formation          |  | Crawford Formation |
|  | Anticline     |  | Bukalara Sandstone     |  | Mainoru Formation  |
|  | Syncline      |  | Velkerri Formation     |  |                    |
|  | Fault         |  | Bessie Creek Sandstone |  |                    |



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