

**SLIPPERY CREEK  
2014 ANNUAL REPORT  
EXPLORATION LICENCE  
EL398**

Annual Report  
For the Period 6 January 2013 to 5 January 2014  
EL 398 Slippery Creek –  
SD5303 Arnhem Bay  
Northern Territory

RTX Report No. 29609

Author	G. Hartshorn
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## BIBLIOGRAPHIC DATA SHEET

<b>PROJECT NAME:</b>	Slippery Creek
<b>TENEMENT NUMBER/S:</b>	EL398
<b>TENEMENT OPERATOR:</b>	Rio Tinto Exploration Pty Limited & BHP Billiton Minerals Pty Ltd
<b>TENEMENT HOLDER:</b>	Rio Tinto Exploration Pty Limited
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## 1 SUMMARY

This is the fourth annual report for EL 398 (Slippery Creek).

Exploration Licence EL 398 (Slippery Creek) was granted on 6 January 2010 to Rio Tinto Exploration Pty Limited (RTX). This tenement was originally applied for by BHP Billiton Minerals Pty Ltd (BHP) on the 24 January 1972 covering an area of 1240.8km<sup>2</sup> and had been in moratorium since that date. The licence was granted to RTX under the conditions of the farm-in agreement with BHP which was executed in 2000 and revised in 2007.

EL 398 was granted over an area of 127.8km<sup>2</sup> (or just over 10% of the original application area). The non-consent area of the original application was split off into ELA 27873 and returned to moratorium.

RTX has a farm-in agreement with BHP whereby RTX manages the licence and has the rights to 100% interest in any discovered bauxite resource. As a condition of the amended agreement (2007) BHP retains 100% of the manganese rights and has access to the licence for exploration.

The tenement is located approximately 100 km west of Nhulunbuy in north-east Arnhem Land and is processed under the Aboriginal Land Rights Act 1975 (ALRA).

Exploration completed during the reporting year was conducted by BHP as part of their manganese programme. A drill rig was mobilised to the area (Gapuwiyak) in preparation for drilling 1 diamond and 4 RC holes, however the early onset of wet weather associated with cyclone Alessia resulted in the holes not being drilled.

## 2 INTRODUCTION

EL 398 (Slippery Creek) was granted on 6 January 2010 to Rio Tinto Exploration Pty Limited (RTX). This tenement was originally applied for by BHP Billiton Minerals Pty Ltd (BHP) on the 24 January 1972 covering an area of 1240.8 km<sup>2</sup> and has been in moratorium since that date. EL 398 was granted over an area of 127.8km<sup>2</sup> (or just over 10% of the original application area). The non-consent area of the original application was split off into ELA 27873 and put into moratorium.

RTX has an agreement with BHP to conduct exploration for bauxite within NE Arnhem Land. As a condition of this agreement RTX became the tenement holder upon grant and operates the permit in conjunction with BHP as they continue to have rights to explore for manganese. This report contains the combined data from both RTX and BHP conducted within the licence during the reporting period.

### 3 TENURE STATUS

EL 398 (Slippery Creek) was granted on 6 January 2010 to Rio Tinto Exploration Pty Limited (RTX). This tenement was originally applied for by BHP Billiton Minerals Pty Ltd (BHP) on the 24 January 1972 covering an area of 1240.8 km<sup>2</sup> and has been in moratorium since that date. EL 398 was granted over an area of 127.8km<sup>2</sup> (or just over 10% of the original application area). The area is officially listed as 53 sub blocks. The non-consent area of the original application was split off into ELA 27873 and put into moratorium. Both tenements reside within east Arnhem which is subject to the Aboriginal Land Rights Act 1975 (ALRA). Tenement details are listed in Table 1 below.

**Table 1: Tenement Details**

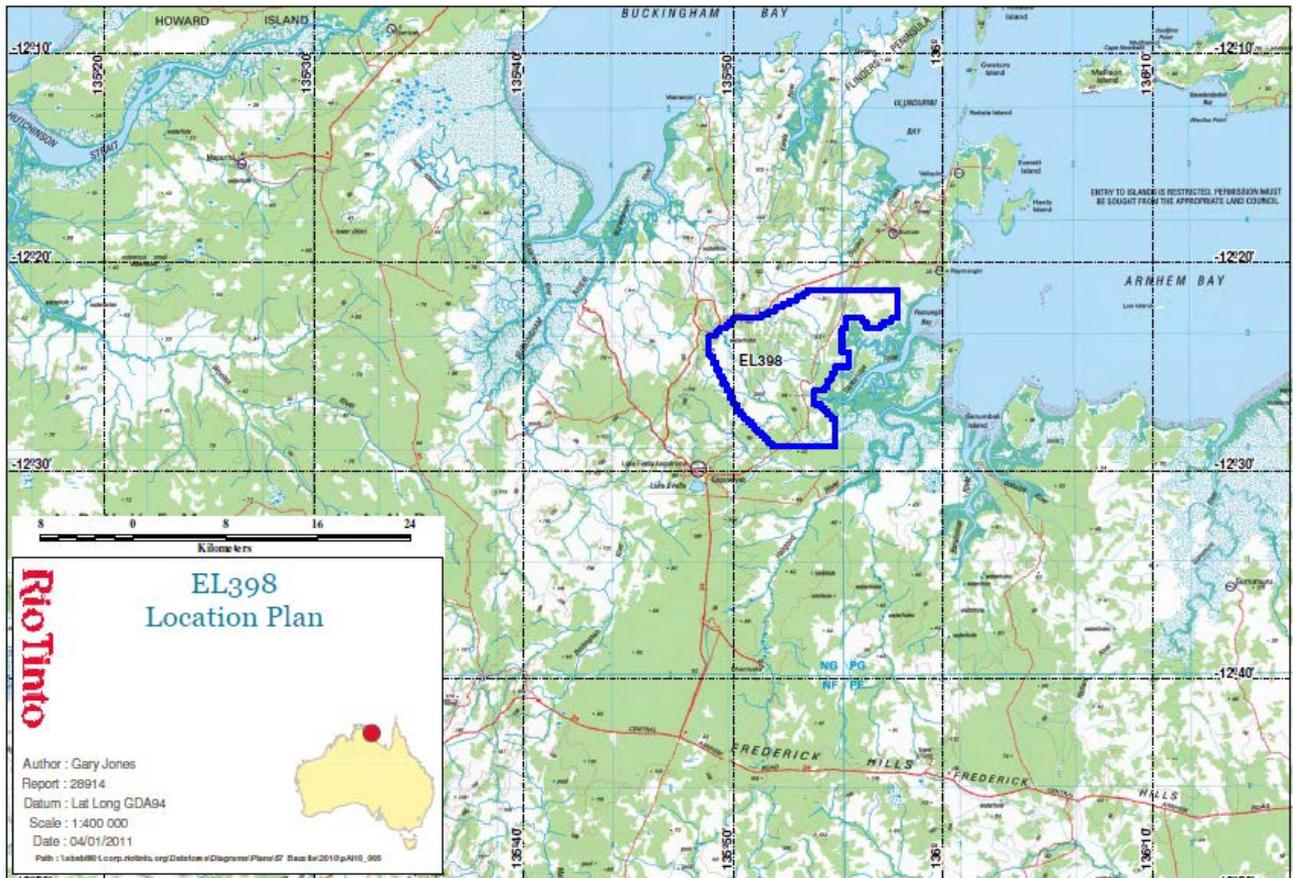
Tenement No.	Tenement Name	Ownership	Grant Date	Area Applied km <sup>2</sup>	Area Granted km <sup>2</sup> /blocks
EL398	Slippery Creek	Rio Tinto Exploration Pty Limited	06/01/2010	1240.8	127.8/ 53
EL27873	Slippery Creek 2	BHP Billiton Minerals Pty Ltd	moratorium	1240.8	1,112.6/ 397

The tenement falls wholly within Arnhem Land and is subject to the provisions of the Aboriginal Land Rights Act (ALRA) which is administered by the Northern Land Council (NLC).

### 4 LOCATION AND ACCESS

EL 398 is approximately 15km northeast of the township of Gapuwiyak and 100km west of Nhulunbuy in northeast Arnhem Land, Northern Territory. Access is via the Central Arnhem Highway. Permits from the NLC are required to access this area.

Figure 1 Location Map



## 5 GEOLOGY

Geology of the Slippery Creek area comprises of a sequence of sandstones and claystones belonging to the Walker River Formation (Middle Cretaceous) and the younger Yirrkala Formation (Upper Cretaceous) (Refer to SD5304 – Gove Special GSNT Geology Map). Proterozoic basement outcrops in the west of the tenement.

During the Tertiary period, the region underwent extensive lateritisation resulting in bauxite development such as that seen at Gove. While several occurrences of bauxite have been recorded in the east Arnhem area, large, economic deposits outside the general vicinity of the Gove mine site, have not been discovered.

## 6 GEOMORPHOLOGY

The area covered by tenement EL 398 consists of mostly of a low flat surface (~45m RL) that grades into drainage channels leading to swampy areas (~25m RL). The Proterozoic rocks form narrow northerly trending ridges that cut across the area

## 7 GEOPHYSICS

The project area is covered by a regional scale aeromagnetic survey flown for the NTGS in 1990-92 (Rawlings et al., 1997). The radiometric data can be used to help distinguish the laterite-covered areas from those of both basement and Quaternary sand cover. This method does not distinguish between bauxitic and non-bauxitic laterite.

Digital terrain data has been acquired and processed to assess areas for plateaus that may be prospective for bauxite. The Slippery Creek area contains a slightly elevated area that is interpreted as a remnant lateritic surface. This area is defined by an elevated thorium response in the regional geophysics.

## 8 PREVIOUS EXPLORATION

Previous exploration over this area has been undertaken in the past, however, of less detail than that of the most-easterly region of Arnhem Land. Within the original application area, BHP had previously drilled 10 holes, of which 3 holes are in EL 398. Of these three holes which were drilled to depths ranging from 19 to 62m, no geochemical assays are recorded. No further work has been conducted in the area since the late 1960's until the license was again granted in 2010 when shallow hand auger sampling was conducted to test for bauxite.

**Table 2: Previous Exploration Summary**

Year	Company	Tenement	Exploration Completed
1960-1970	BHP	ATP1138	Manganese and bauxite reconnaissance exploration. Ten holes completed in original application area, of which three reside in the granted EL 398.
2010	RTX	EL398	Auger and rock sampling
2011-12	RTX / BHP	EL 398	Review of tenement and renewed interest by BHPB under their JV agreement in the manganese potential

## 9 EXPLORATION ACTIVITIES DURING THE REPORTING PERIOD

No field work was completed by RTX during the period. RTX closed out its Environmental Authority covering the Slippery Creek project. No further bauxite work is planned within the licence, however under the joint venture agreement with BHP, manganese exploration will be ongoing.

During 2013, BHP mobilised a multi-purpose drill to the area in anticipation of drilling 1 stratigraphic diamond core hole and 4 RC exploration holes. In country meetings were conducted and tracks were prepared for two of the most northerly drillholes (EARC352 and EARC 353), however due to the early onset of wet weather associated with cyclone Alessia, the rig was demobilised without conducting any drilling. It was BHP's opinion that the risk of heavy machinery damaging local roads would be too high.

During this period however, field reconnaissance mapping and hand sampling was carried out. A total of 7 samples were collected for assay and petrographic analysis. Results are yet to be received and will be reported during the next reporting cycle.

**Figure 2 Work summary completed within EL 398 by BHPB**

