

Rio Tinto Exploration Pty Ltd

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A member of the Rio Tinto Group

Sixth Annual and Final Surrender Report
EL 398 – Slippery Creek
For the Period 6 January 2010 to 18 December 2015
Arnhem Bay SD5303, Northern Territory

RTX Report No. 30306

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BIBLIOGRAPHIC DATA SHEET

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28914_App2_EL398_2010_A_05_rockgeochem.txt

29810_NTSG4_SURF2014A_06_rockgeochem.txt

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28914_App1_EL398_2010_A_03_lithology.txt

28914_App1_EL398_2010_A_04_downholegeochem.txt

1 SUMMARY

This is the Sixth Annual and Final Surrender report for EL 398 (*Slippery Creek*), East Arnhem Land. This report covers the surrender of all 53 sub blocks on the 18 December 2015.

EL 398 was granted on 06 January 2010 to Rio Tinto Exploration Pty Ltd. The EL was originally applied for by BHP on the 24 January 1972 covering an area of 1240.8km². EL398 was granted over an area of 53 sub blocks or 127.8km² which is just over 10% of the original application area. The small percentage of the area granted was a result of the consent process undertaken by the NLC. The non-consent area of the original application was split off into ELA 27873 and put into moratorium.

Rio Tinto Exploration Pty Limited (RTX) signed an agreement with BHP on 27th March 2000 whereby RTX took over management of the tenements leading to the transfer to Rio Tinto Exploration upon grant. This agreement was amended in 2007 to allow for BHPB to conduct simultaneous activities for manganese within the licence package. Following the demerger of South32 from BHPB, the joint venture has been transferred to GEMCO.

The licence is located about 100km west of Nhulunbuy, east Arnhem Land and consequently is processed under the Aboriginal Land Rights Act 1975 (ALRA).

EL 398 covers a small area close to the coast in east Arnhem Land that has potential to host deposits of both bauxite and manganese. RTX focussed on assessing this area for bauxite potential of similar style to the world class Gove deposit whilst BHP (GEMCO) were focussed on assessing the stratigraphy for manganese potential.

No field work was conducted in the current annual period from Jan 2015 till the surrender date, December 2015.

Exploration activities conducted within the surrendered EL398 included:

- General land access negotiations and engagement via the NLC, all years

Year 1 - 2010

- Reconnaissance mapping and hand auger sampling for bauxite
 - 19 hand auger holes from 1.5 – 2 m depth
 - 43 samples assayed from auger holes
 - 10 rock samples assayed

Year 2&3 - 2011, 2012

- No field work

Year 4 - 2013

- Mapping and sampling for manganese, 7 samples (GEMCO/BHP)
- Mobilisation of a drill rig to the area but work deferred/cancelled due to cyclone (GEMCO/BHP)

Year 5 - 2014

- Follow-up field checking of outcrops for manganese (GEMCO/BHP)

Year 6 – 2015 till Surrender

- No field work

Summary of drilling

Hole Type	Hole Number Range	No of Holes	Total Metres
Hand auger	ANMB0001 - 19	19	31.7
Grand Total		19	31.7

The results of the exploration have not shown any bauxite development within the EL. The auger drilling revealed the laterite is silica and iron rich with low alumina content.

The manganese exploration conducted by BHP/GEMCO as part of the joint venture has not shown any significant occurrences of manganese within the area.

2 INTRODUCTION

Exploration Licence EL 398 (Slippery Creek) was granted on 06 January 2010 under to Rio Tinto Exploration Pty. Limited. This tenement was originally applied for by BHP on the 24th January 1972 covering an area of 1240.8 km² and had been in moratorium since that date until the limited grant. EL398 was granted over an area of 127.8km² (53 sub blocks) 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.

Rio Tinto Exploration Pty Limited (RTX) signed an agreement with BHP on 27th March 2000 whereby RTX took over management of the tenements with the application transferred to Rio Tinto Exploration upon grant. This agreement was amended in 2007 to allow for BHP to conduct simultaneous activities for manganese within the licence package. Following the demerger of South32 from BHP, the joint venture has been transferred to GEMCO.

The licence was surrendered in full on the 18th December 2015.

3 TENURE STATUS

EL 398 (Slippery Creek) was applied for by BHP Minerals Pty. Ltd. (BHP) on 24th January 1972 and was granted on 6th January 2010 to Rio Tinto Exploration as stipulated in the joint venture agreement between RTX and BHP(now transferred to GEMCO). EL 398 was granted covering 53 sub blocks of the original larger application area. The non-consent area of the original application was split off into ELA 27873 and put into moratorium.

Table 1: Tenement Details

Holder	Appn Date	Grant Date	Area applied (km ²)	Area granted (km ²) (sub blocks)
RTX	24/01/1972	06/01/2010	1240.8	127.8 53

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

4 LOCATION AND ACCESS

The licence (EL 398) is in East Arnhem Land approximately 100km west of Nhulunbuy. The main community located close to the licence is Gapawiak. Access is easily gained via the Central Arnhem highway and the roads extending through to local communities. An entry permit is required from the NLC to access the land.

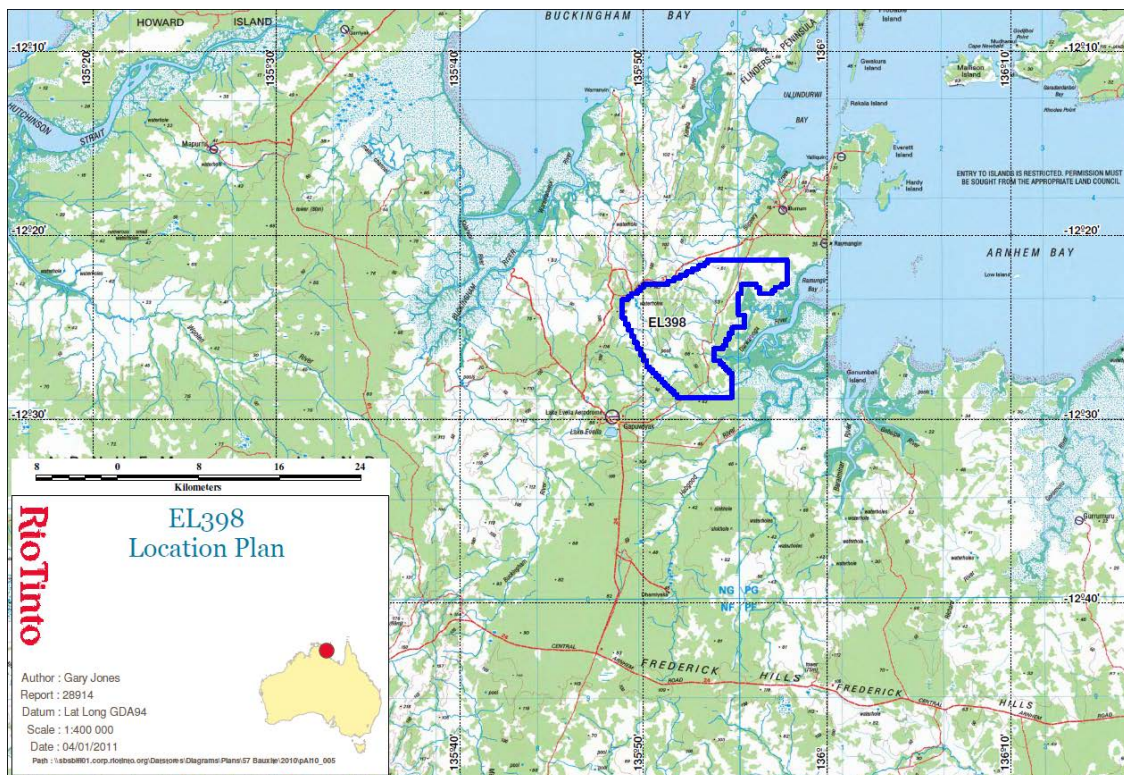


Figure 1: Tenement Location Plan

5 GEOLOGY

EL 398 lies near the coastal plains of Arnhem Land which has a basement of Proterozoic sediments overlain by Cretaceous deposits and more recent laterite.

The 1:250,000 geology sheet (SD5303-4, Arnhem Bay-Gove) shows Proterozoic sediments of the Balma group outcrop in the western part of the license and laterite in the east. One outcrop of Cretaceous, undifferentiated Walker River / Yirrkala formation is mapped within the license area. This suggests that Cretaceous sediments do occur in this part of Arnhem land and hence the area is prospective for both bauxite and manganese

The geological target formation for bauxite was the low level laterite in the east (Czl in figure 2). Manganese was targeted within the Cretaceous formation towards the basal contact.

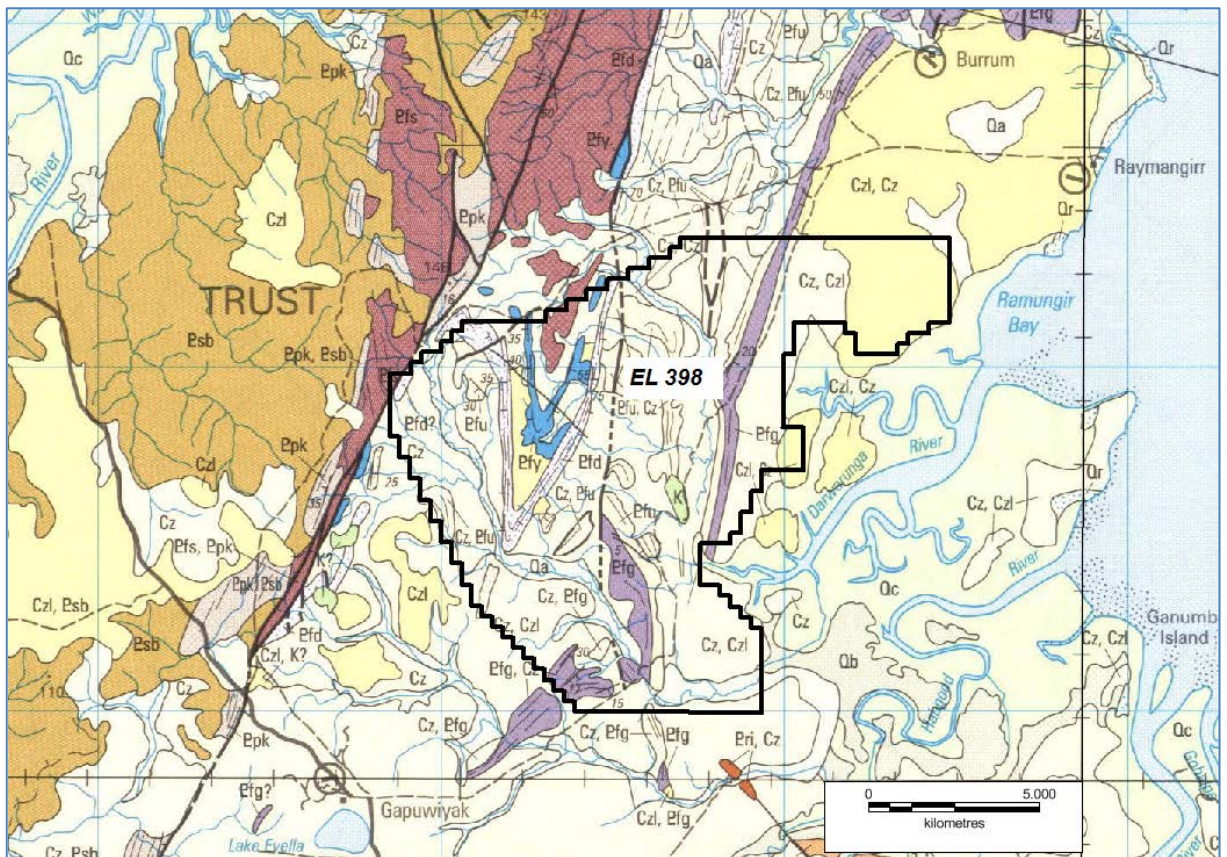


Figure 2: EL 398 showing the 1:250,000 geology. (SD5303-04 Arnhem Bay-Gove special sheet)

6 GEOMORPHOLOGY

The bulk of the area within the tenement (EL 398) consists of low flat areas (~45m RL) those slope into drainage channels and low-swampy areas (~10m RL) in the east. Streams flow south and east into the estuary of the Darwarunga river. Within the EL, several prominent ridges up to 100m in elevation of Proterozoic units trend in a north south orientation. These can be clearly seen on the space shuttle radar data (see figure 3 below).

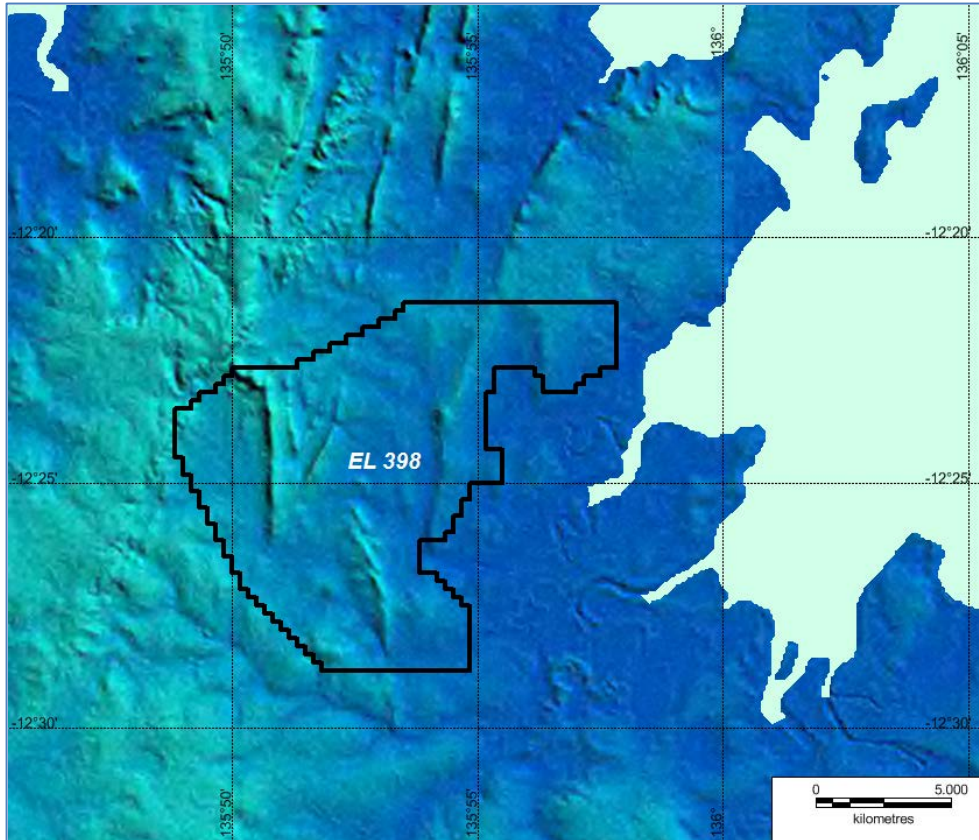


Figure 3: EL 398 showing the geomorphology on the digital terrain model

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 that may be prospective for bauxite and or areas that are not eroded. The lateritic surfaces of potential for bauxite can be seen as smooth flat areas.

8 PREVIOUS EXPLORATION

Previous exploration over this area is described in Report 13 of the Northern Territory Geological Survey (Ferenczi, 2001).

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.

Table 2: Previous Exploration Summary

Year	Company	Tenement	Exploration Completed
1960-1970	BHP Ltd	ATP1138	Manganese and bauxite reconnaissance exploration. Ten holes completed in original application area, of which three reside in the granted EL 398.

9 EXPLORATION COMPLETED DURING THE REPORTING PERIOD

This report covers the exploration completed within EL 398 since grant, 06 January 2010 till Surrender in full on the 18 December 2015. This is the annual report for the sixth year and Final Surrender Report.

The work completed has been focused on assessing the area for both bauxite which was completed by RTX and for manganese which was conducted under a joint venture by BHPB (now transferred to GEMCO). The limited area granted following the consent process, approximately 10% of the original application, has reduced very considerably the possible areas to test and hence led to only a minor amount of work being conducted.

In summary the work completed has included:

- Reconnaissance mapping, rock sampling and hand auger sampling of a small area of potential laterite on postulated Cretaceous (19 auger holes for 37.1m in total, 43 auger samples analysed and 10 rock samples.) Conducted by RTX in 2010
- Mapping and sampling for manganese potential (7 rock samples analysed) (BHP in 2014)

9.1 Bauxite Exploration

Rio Tinto Exploration focused efforts on assessing the license for the potential to host bauxite. Although most of the area was considered non prospective (exposed Proterozoic sediments), there was a small area in the north east where a low lying lateritic plateau on possible Cretaceous basement was interpreted to extend into the license.

The drilling was conducted by RTX field support staff using an auger (Dormer 100mm shell style) to penetrate through the surface soil. Samples were taken approximately every meter. The results of the auger sampling (see appendix 2) showed that the laterite was generally silica and iron rich. The maximum alumina result was 20.8% Al₂O₃ which was associated with an iron grade of 40.2% Fe₂O₃.

The area was interpreted to be a lateritic surface on quartz rich sediment (possibly Cretaceous) which has little to no bauxite potential within the area of EL 398.

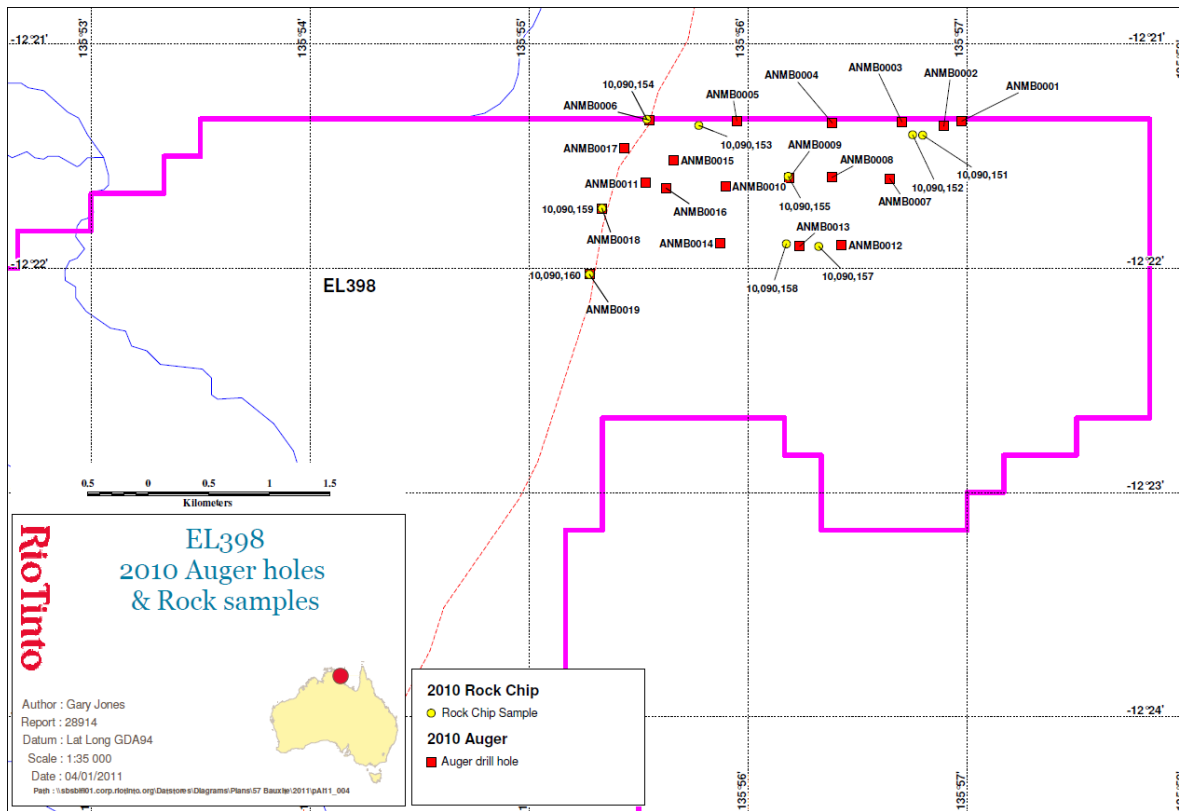


Figure 4: Location of auger drill sites and rock samples conducted to test the bauxite potential



Photo: (left) Typical course, silica rich laterite found in EL 398; (right) deepest hole reaching a depth of 4m, through silica-rich laterite into a saprolite-clay.

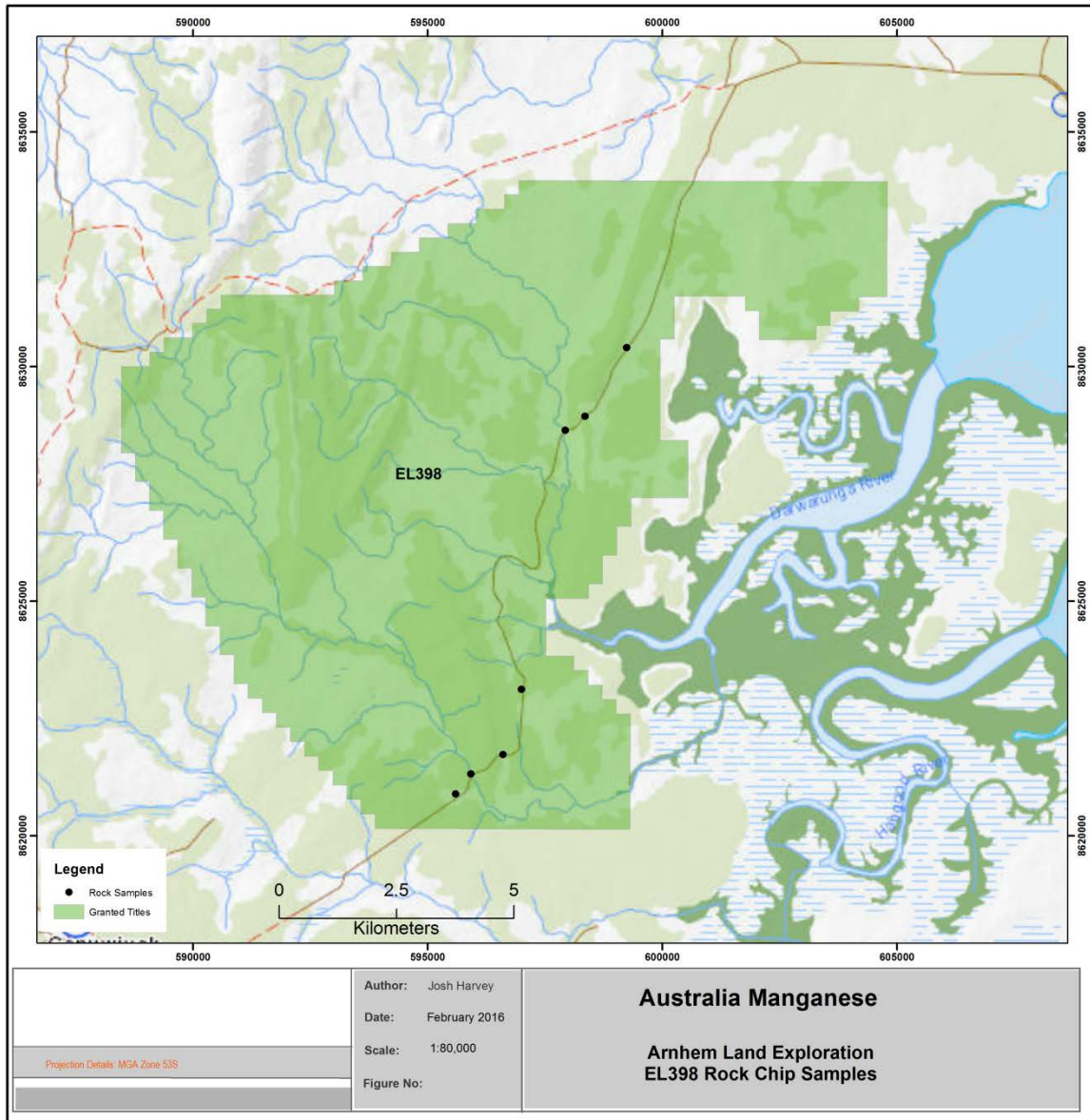
9.2 Manganese Exploration

Under the commercial agreement with RTX, BHPB (Now transferred to GEMCO) have simultaneous exploration rights over the granted tenement. Their focus was to assess the area for potential manganese accumulations within or at the base of the Cretaceous sediment.

A field programme was conducted in 2014 which included plans for several (4) stratigraphic drill holes. This drilling did not occur due to the early onset of the wet season leading to logistical constraints.

Surface samples (7 rock samples) were collected and analysed for their manganese potential. The results were generally negative and no further work was proposed.

Figure 5: Location of rock samples assessed for manganese potential



10 CONCLUSIONS

The results of the exploration did not show any potential for bauxite or manganese within the granted area of EL 398. The area has been surrendered in full.

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LOCALITY

Arnhem Bay

SD 5303

1:250 000