

**Fifth Annual Report**  
**on**  
**EL 6/2010 – Cleveland**

**Reporting Period:** 14 September 2014 – 13 September 2015  
**Project Operator:** ABx4 Pty Ltd  
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**Date:** 10 September 2015

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# 1 ABSTRACT

## Objective:

Exploration Licence (EL) 6/2010 “Cleveland” was applied for in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics, in an area with old peneplained surfaces preserved as plateaus. The goal of the program is to determine the quality and quantity of the bauxite in the area using an RC drill rig mounted on a light Mitsubishi 12 tonne truck.

## Methodology:

1. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
2. Systematic sampling of natural outcrops and exposures in road cuts of lateritic weathering profile.
3. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive silica, loss on ignition and other analyses as required in bauxite search.
4. Drill testing of zones with best potential defined by work under 1, 2 and 3, by an RC drill rig mounted on a light Mitsubishi truck to get samples representing the whole bauxite profile.
5. Systematic drill testing at close spacing's to obtain data for resource estimation in the best target areas defined by programme under 4.

## Results

A review of ecological assessments was undertaken for the Nile Road target area by EcoTas in order to assess the viability of ecological conservation during mining. This target occurs across both the EL 6/2010 Cleveland and EL7/2010 Conara tenements.

A field trip was undertaken by EcoTas and ABx4 on September 3, 2015, in order to review threatened flora locations and to predict flowering times for key species in anticipation of a detailed flora and fauna survey which is planned to take place in late September or early October.

ABx4 has prioritised its human and financial resources in late 2014-2015 towards developing and optimising the production of its Bald Hill Mine (ML 1961P/M) and the drilling of more prospective targets within other mineral tenements. On-site exploration activities did not occur within EL 6/2010 besides inclusion in several desktop reviews of bauxite targets across Tasmania. Exploration is set to continue within EL6/2010 within the next term of tenure.

**Recommendations for future work:**

Recommendation for future work include further:

1. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
2. Systematic sampling of natural outcrops and exposures in road cuts of bauxite profile.
3. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive silica, loss on ignition and other analyses as required in bauxite search.
4. Drill testing of zones with best potential defined by work under 1, 2. and 3, using an RC drill rig mounted on a light truck to get samples representing the whole bauxite profile.
5. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.
6. Detailed Flora and Fauna survey on Nile Road Target.

## 2 INTRODUCTION

### Exploration Rationale

ABx4 Pty Ltd, the holder of Category 1 Exploration Licence EL37/2010, is a wholly-owned subsidiary of Australian Bauxite Ltd. Australian Bauxite Limited (ABx) (ASX: ABZ) is an exploration company that holds the core of the Tasmanian Bauxite Province with all tenements selected on 3 principles:

- Quality – good quality bauxite with potential for significant resource tonnages;
- Proximity – easy access to infrastructure connected to export ports; and
- Accessibility – free of socio-environmental or native title land constraints.

Land within the tenement consists of freehold agricultural land with some forests and plantations. Bauxite targets are located mostly on freehold land.

EL 6/2010 “Cleveland” was applied for in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics in an area with old peneplained surfaces preserved as plateaus. The goal of the program was to determine the quality and quantity of the bauxite in the area using an RC drill rig mounted on a light 12 tonne truck.

### Geological Setting

The historic work done by H.B. Owen (‘Bauxite in Australia’, 1954) demonstrated that bauxite in Tasmania can be found in both Jurassic Dolerite and Tertiary Basaltic Volcanics. According to Owen, these bauxite deposits - regardless of host rock type - are thought to form either as ‘grouped remnants of former continuous sheet’ or ‘formed in lenticular or pod shaped bodies in localised depressions’.

### Tenement Information

EL 6/2010 “Cleveland” was granted on and from 14 September 2010 for a period of 5 years to ABx4 Pty Ltd (**ABx4**).

This is the Fifth Annual Report for the reporting period 14 September 2014 - 13 September 2015 incorporating the results of work completed during the Fifth year of tenure.

A renewal application will accompany this report in order to extend the licence term for a further 12 months.

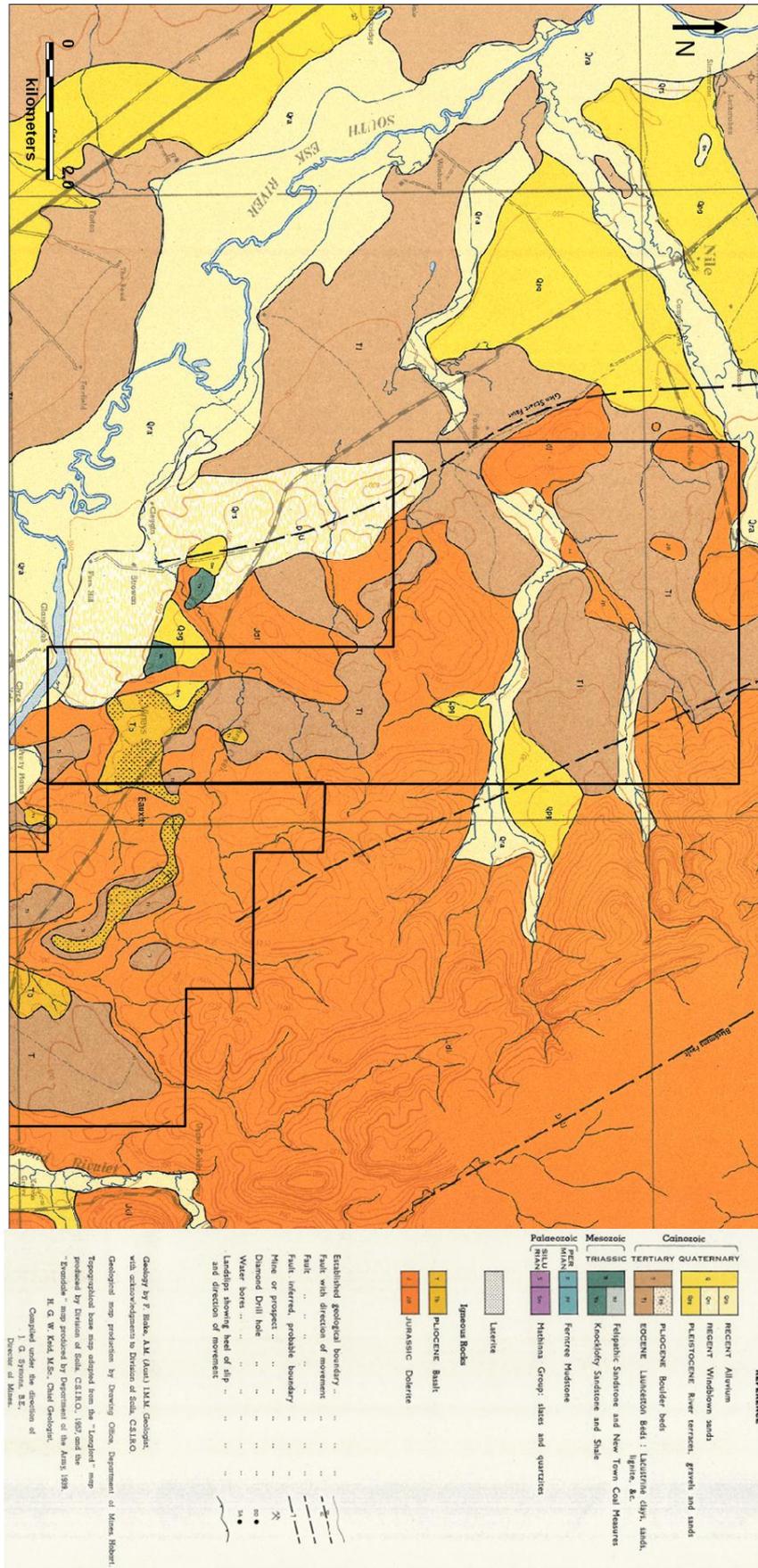
Total area of the Licence is 34 sq km and its Mineral Category is 1 – Metallic Minerals and Atomic Substances. ABx4 relinquished 202sq km in 2012 in order to focus on those areas most prospective for bauxite discovery.

### Tenure, including joint venture details and title transfers

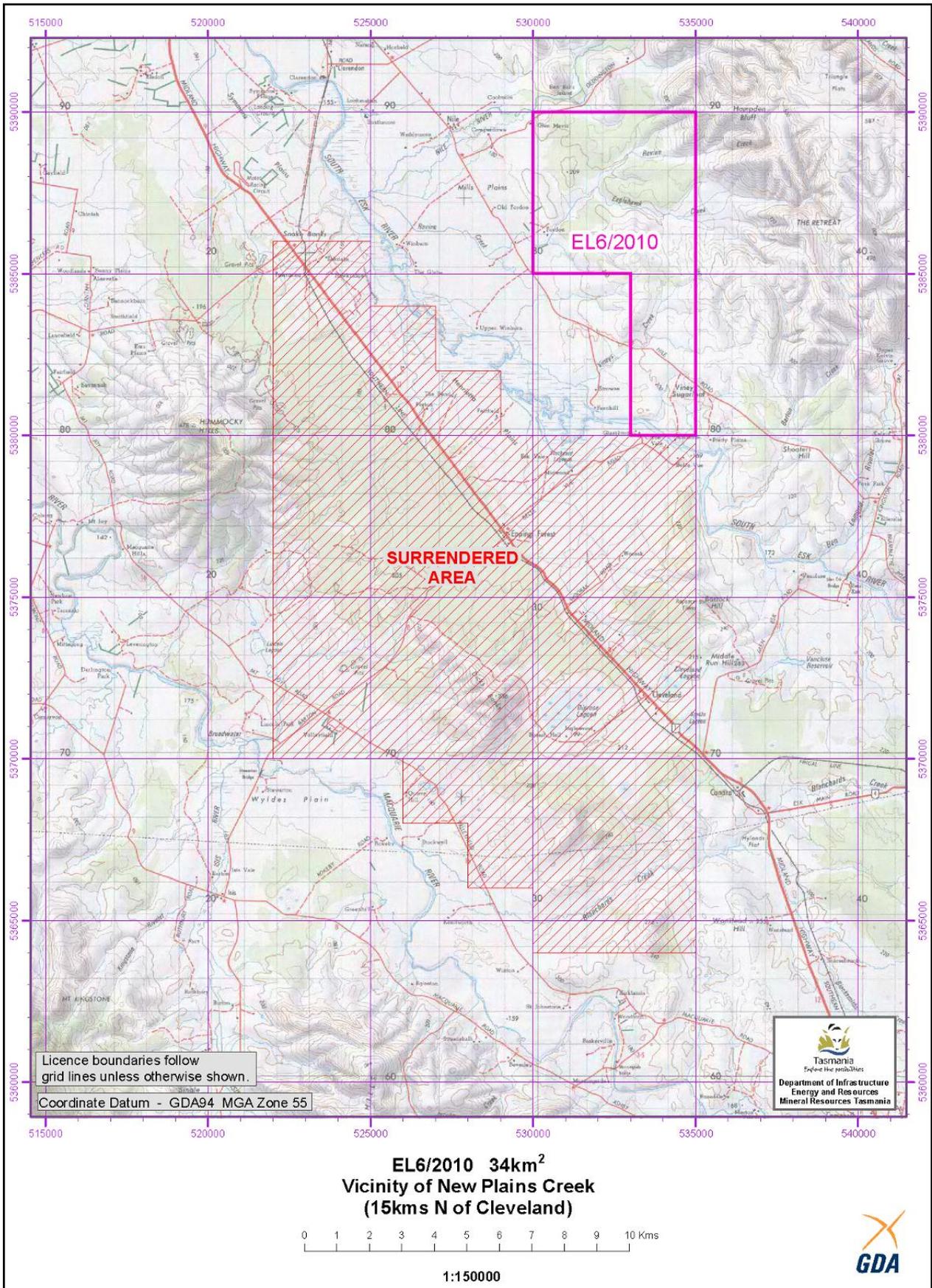
EL 6/2010 “Cleveland” is 100% owned by ABx4 which is a wholly-owned subsidiary of Australian Bauxite Limited.

### Location

The current EL 6/2010 area is located ~6km northeast of the town of Epping Forest. The tenement is nearby an active railway with a siding at Conara 10km to the south and is only 75km away from the deep water port at Bell Bay. The tenement is close to the City of Launceston which could offer a wide range of services and skilled work force.



Map 1. Longford sheet of the 1:63360 Geological Atlas Series centred on EL 6/2010. Projection MGA94 Zone 55, Datum GDA94.



Map 2. Location map of EL 6/2010 showing previously surrendered areas. Datum GDA94 (MGA zone 55).

### **3 REVIEW OF PREVIOUS WORK**

#### **Prior to Current Tenement**

Historical references for bauxite in the Cleveland Tenement are reported by H.B. Owen in his book "Bauxite in Australia", 1954, which was the basis for Initial exploration of the area. Bauxite was also mapped in the 1950's by F. Black.

- H.B. Owen, 1954, Bauxite in Australia, Bulletin 24
- F. Blake (compiler) 1959. Geological Atlas 1:63360 Series, Sheet No. 478 Longford, Division of Soils C.S.I.R.O.

#### **Prior to Current Reporting Period**

Over the course of the term of tenure, 1 Reverse Circulation (RC) drillhole was drilled for 14m. The top metre of this hole was assayed but did not make bauxite grade. This hole was drilled in conjunction with the Powranna Drilling Programme which was a contiguous tenement to Cleveland. A botanical survey was conducted prior to drilling.

A great amount of field reconnaissance and mapping (including surface sampling for chemical analysis) has been undertaken which has allowed geologists to prioritise targets for drilling and other works.

The majority of the tenement area was relinquished in the 2nd year as a result of drilling and field reconnaissance results. As a result, the remaining tenement licence area is quite modest in size.

## **4 EXPLORATION COMPLETED DURING THE REPORTING PERIOD**

### **Regional Exploration Activities**

Several desktop reviews have taken place in the last 12 months in order to assess and prioritise the bauxite targets across all ABx4 tenements. This is an informal process and, as such, no reports or figures have culminated from any recent reviews.

ABx4 has prioritised its human and financial resources in late 2014-2015 towards developing and optimising the production of its Bald Hill Mine (ML 1961P/M) and the drilling of more prospective targets within other mineral tenements. On-site exploration activities did not occur within EL 6/2010 besides inclusion in several desktop reviews of bauxite targets across Tasmania. Exploration is set to continue within EL6/2010 within the next term of tenure.

### **Prospect-based Exploration Activities**

#### **Nile Road Bauxite Deposit**

A review of ecological assessments was undertaken for the Nile Road target area by EcoTas in order to assess the viability of ecological conservation during mining.

A field trip was undertaken by EcoTas and ABx4 on September 3, 2015, in order to review threatened flora locations and to predict flowering times for key species in anticipation of a detailed flora and fauna survey which is planned to take place in late September or early October.

This target occurs across both the EL 6/2010 Cleveland and EL7/2010 Conara tenements despite all drilling on the target to date occurring within the EL7/2010 Conara tenement.

Any future mining lease at Nile Road will most likely cover part of the Cleveland tenement.

## **5 DISCUSSION OF RESULTS**

A review of ecological assessments was undertaken for the Nile Road target area by EcoTas in order to assess the viability of ecological conservation during mining.

A field trip was undertaken by EcoTas and ABx4 on September 3, 2015, in order to review threatened flora locations and to predict flowering times for key species in anticipation of a detailed flora and fauna survey which is planned to take place in late September or early October.

This target occurs across both the EL 6/2010 Cleveland and EL7/2010 Conara tenements despite all drilling on the target to date occurring within the EL7/2010 Conara tenement.

Any future mining lease at Nile Road will most likely cover part of the Cleveland tenement.

## 6 CONCLUSIONS AND RECOMMENDATIONS

The remaining licence area of EL6/2010 is quite modest in size and covers the north-west extensions of the Nile Road target which remain to be drill-tested. The Nile Road target within the contiguous ABx4-held Conara tenement has a JORC-compliant inferred resource of 0.73 million tonnes of bauxite.

As such, exploration within the modest-sized Cleveland tenement is thought to be highly prospective. Drilling would likely occur within both the Cleveland and Conara parts of the Nile Road target area once pending ecological surveys confirm mining is viable from an ecological conservation perspective. Detailed flora and fauna surveys are expected to occur in late September or early October 2015. Any future mining lease on the Nile Road target will likely overlap onto the Cleveland tenement.

Exploration is set to continue within EL6/2010 within the next term of tenure.

ABx4 has prioritised the majority of its human and financial resources in late 2014-2015 towards developing and optimising the production of its Bald Hill Mine (ML 1961P/M) and the drilling of more prospective targets within other mineral tenements. Robust exploration activities did not occur on-site with the exception of a one-day field trip to the Nile Road target to address ecological matters. EL 6/2010 targets have, however, been included in previous ongoing desktop reviews of bauxite targets across Tasmania. This is an informal process and, as such, no reports or figures have culminated from any recent reviews.

ABx4 is in the process of lodging an application to extend the term of the EL6/2010 exploration licence for a further 12 months. The application will be submitted alongside this report.

### **Recommendations for future work include:**

1. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
2. Systematic sampling of natural outcrops and exposures in road cuts of bauxite profile.
3. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive silica, loss on ignition and other analyses as required in bauxite search.
4. Drill testing of zones with best potential defined by work under 1, 2, and 3, using an RC drill rig mounted on a light truck to get samples representing the whole bauxite profile.
5. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.
6. Detailed Flora and Fauna survey on Nile Road Target.

## **7 ENVIRONMENT**

### **Surface Disturbing Operations:**

No surface disturbing operations were undertaken in the fifth year of tenure.

### **Surveys (archaeological, botanical):**

A review of previous ecological surveys on the Nile Road target was completed by ECOtas and has been attached as an appendix.

A field trip was undertaken by EcoTas and ABx4 on September 3, 2015, in order to review threatened flora locations and to predict flowering times for key species in anticipation of a detailed flora and fauna survey which is planned to take place in late September or early October. However, this was a brief site visit, and not a survey, so no reports were produced.

### **Rehabilitation:**

No rehabilitation was required during the current reporting period.

## 8 EXPENDITURE

Table 1. Exploration expenditure for EL6/2010 over the 5<sup>th</sup> annual reporting period.

EL 6/2010 Cleveland - Expenditure over 5th Year of Tenure	
<b>1. Geoscientific costs</b>	
Geology	\$2,467
Geochemistry	
Geophysics	
Remote sensing	
<b>2. Drilling and Gridding Costs</b>	
Gridding	
Drilling	
Holes/metres	
<b>3. Land Access Costs</b>	
<b>4. Rehabilitation Costs</b>	
<b>5. Feasibility Study Costs</b>	
<b>6. Other Costs</b>	
<b>7. Administration Costs (&lt; 10%)</b>	
<b>8. Total Costs</b>	<b>\$2,467</b>

Note: Office Administration was met by parent company – Australian Bauxite Limited.

## 9 REFERENCES

T. Coyte, J. Rebek, EL 6/2010 *Cleveland First Annual Report - August 2011*, ABx4 Pty Ltd

T. Coyte, J. Rebek, EL 6/2010 *Cleveland Second Annual Report - August 2012*, ABx4 Pty Ltd

T. Coyte, EL 6/2010 *Cleveland Third Annual Report - August 2013*, ABx4 Pty Ltd

T. Coyte, EL 6/2010 *Cleveland Fourth Annual Report - September 2014*, ABx4 Pty Ltd

H.B. Owen, 1954, *Bauxite in Australia*, Bulletin 24

F. Blake (compiler) 1959. *Geological Atlas 1:63360 Series, Sheet No. 478 Longford*, Division of Soils C.S.I.R.O.