

**Second Annual Report**  
**on**  
**EL 6/2010 – CLEVELAND**

**Reporting Period:** 14 September 2011 – 13 August 2012  
**Project Operator:** ABx4 Pty Ltd  
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**Date:** 2 August 2012

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**NOTE: All Garmin maps use WGS – 84**

# 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 penneplained 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 quartz, 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 lateritic weathering profile (from upper-most iron rich zone through alumina rich zone down into mottled and pallid saprolite zone).
5. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.

## Results:

The Cleveland tenement EL6/2010 was applied for to cover part of a large lateritic plateau which occurs through the centre of the central midlands in Tasmania. After drilling and exploration, bauxite was only located in the far north eastern corner of the tenement and potential bauxite targets in the rest of the tenement were minimal. The bauxite deposits are formed on low ridges and hills from bauxitisation of Tertiary basaltic volcaniclastic deposits on the edges of the Longford Basin. ABx4 Pty Ltd (**ABx4**) has decided to relinquish most of the tenement (202sq km) so it can focus on areas with the most potential.

## Recommendations for future work:

Recommendation for future work include further:

- Detailed geological mapping, including geomorphological mapping and study of satellite images to define the areas with the best potential for bauxite.
- Systematic sampling of natural outcrops and exposures in road cuts of lateritic weathering profile.
- Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive quartz, loss on ignition and sieving (+0.26mm) at 260 microns as required in the bauxite search.

**ABSTRACT Cont**

- Drill testing of zones with best potential with an RC drill rig mounted on a light six wheel truck to get samples representing the whole lateritic weathering profile (from upper-most iron rich zone through alumina rich zone down into mottled and pallid saprolite zone).
- Systematic drilling at close spacings to obtain data for preliminary resource estimation in the best target areas defined by program.
- Systematic sampling and drilling at waypoints with best bauxite potential.
- Detailed analysis of assay results to determine assaying strategy for future drilling.

## 2 INTRODUCTION

### Exploration Rationale

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 12 tonne truck.

### Geological Setting

The bauxite in the Cleveland tenement occurs as regolith remnants on the edge of the Longford basin. Low ridges and hills are formed on gentle slopes from weathering/bauxitisation of Tertiary basaltic volcanoclastic deposits. The bauxite is generally Iron rich at surface with more gibbsitic layers occurring deeper in the profile. Bauxite could also be derived from Jurassic dolerites which form the basement to the Tertiary volcanism.

### 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).

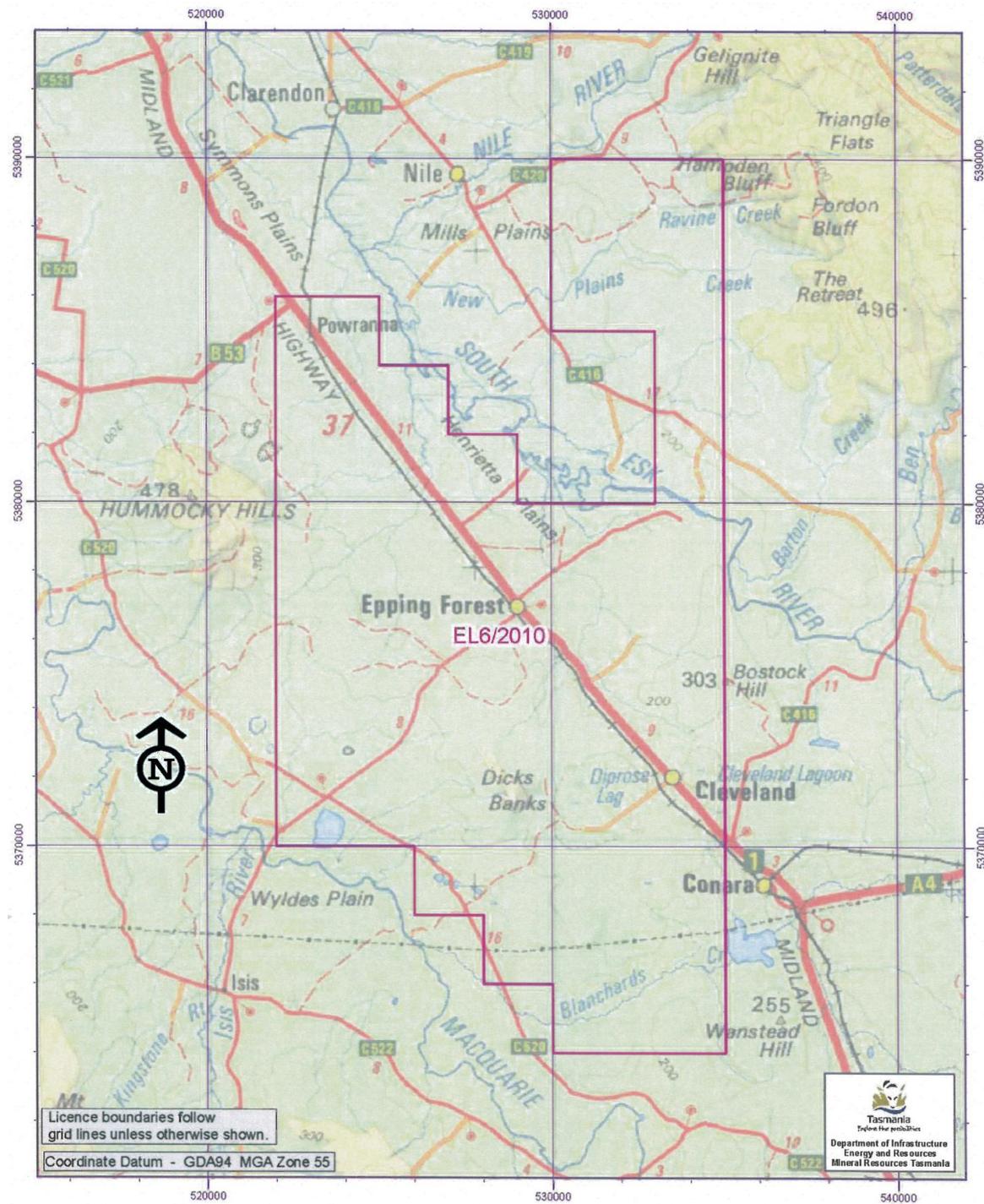
This is the Second Annual Report for the reporting period 14 September 2011 - 13 August 2012 incorporating the results of work completed during the second year of tenure.

Total area of the Licence is 209 sq km and its Mineral Category is 1 – Metallic Minerals and Atomic Substances. ABx4 intends on relinquishing 202sq km before the third year of tenure in order to focus on those areas most prospective for bauxite discovery.

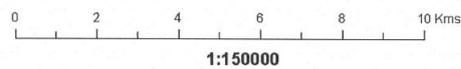
### Location

The Cleveland tenement is centred on the town of Epping Forest. The tenement covers an active railway with a siding at Conara 10km to the south-east. Cleveland tenement is only 75km away from the deep water port at Bell Bay. EL 6/2010 is close to the City of Launceston which could offer a wide range of services and skilled work force.

**INTRODUCTION Cont**

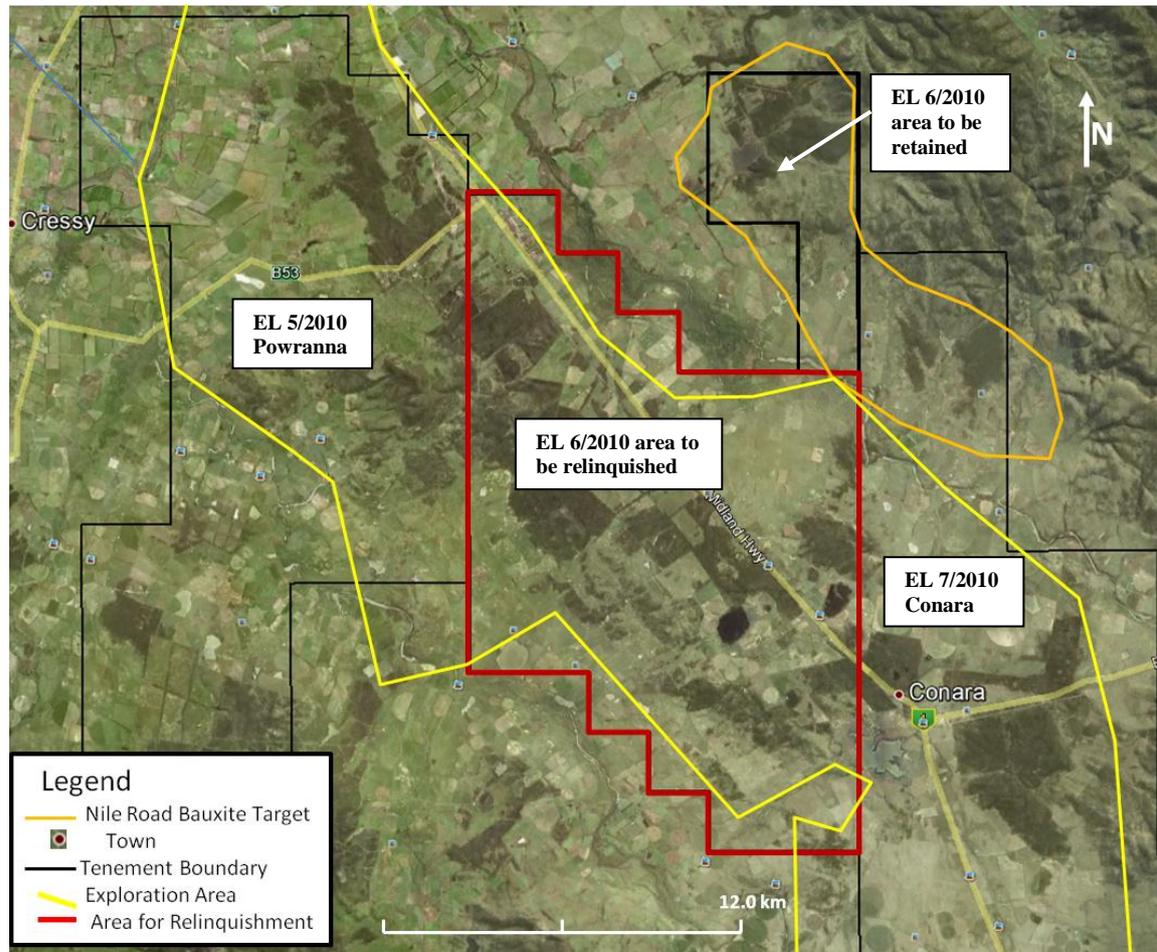


**EL 6/2010 209SKM  
Vicinity of Cleveland**



Map 1 – EL 6/2010 Cleveland Original Tenement Boundary Location Map

**INTRODUCTION Cont**



Map 2 – EL 6/2010 Relinquishment Area Represented by Red Outline

**Area Relinquished**

ABx4 intends to partially relinquish 202sq km of EL 6/2010 which includes relinquishment of the exclusion zones.

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

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

### 3 REVIEW OF PREVIOUS WORK

#### Prior to Current Tenement

- There are no recorded historical references for bauxite in the Cleveland Tenement.

#### During current Tenement (First Year of Tenure)

In October 2010 a drilling program was organized which drilled 4 holes into the Powranna target totalling 46m using an RC drill rig mounted on a light Mitsubishi 12 tonne truck. Only one hole PW004 was drilled on EL 6/2010 Cleveland tenement as seen in Map 3 below. These holes were to test the large plateaus of laterite which had formed in the central region of Tasmania. The 4 holes intersected a laterite profile rich in clay quartz and iron but very poor in alumina. The composition of the laterite suggests it's derived from tertiary sediments. If tertiary volcanics exist in the area, they could be worth exploring because they would make a good alumina rich host rock for bauxite to form.



Map 3 – Base map (Google Earth Imagery) of 4 holes drilled at Powranna Target including PW004 on EL6/2010

#### Assay results

A total of 13 samples were sent to the lab for sieved analysis and an extra 4 samples were assayed whole. A typical assay at Powranna Target is: 0.6% Available Alumina (avl Al<sub>2</sub>O<sub>3</sub>), 28.6% Reactive Silica (rx SiO<sub>2</sub>), 27% Total Alumina, 38.2% Total Silica and 19.85% Iron oxide. All the Alumina in the samples will be bound up in clay minerals.

Table 1 – Assay results from Hole PW004 – sieved at 0.26mm

| From | To | Al <sub>2</sub> O <sub>3</sub> avl | Rx SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> | Fe <sub>2</sub> O <sub>3</sub> | TiO <sub>2</sub> | LOI  | Recovery |
|------|----|------------------------------------|---------------------|--------------------------------|------------------|--------------------------------|------------------|------|----------|
| 0    | 1  | 0.5                                | 7.6                 | 8.15                           | 33.5             | 53.7                           | 0.76             | 3.36 | 13.3     |

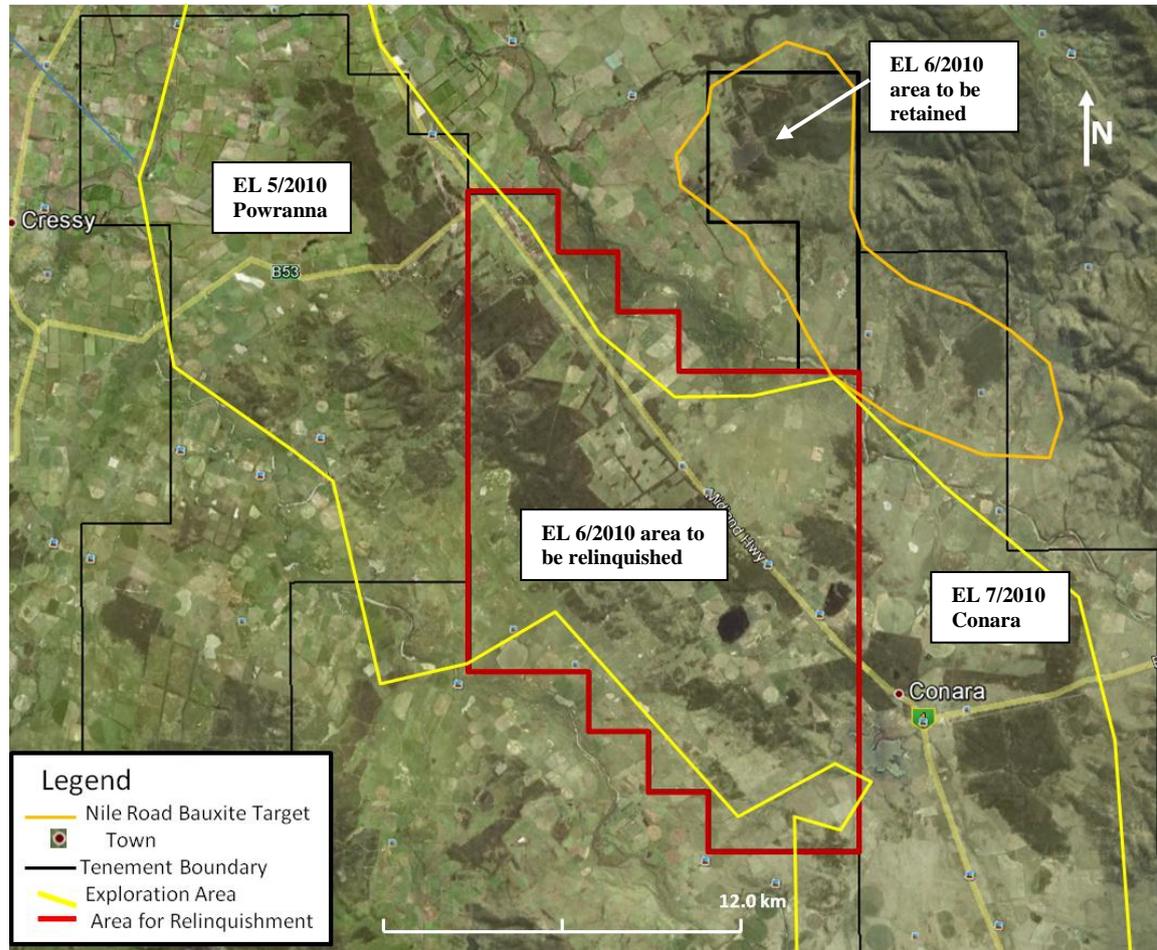
Complete assay results are found in Appendix B, C and D of First Annual Report EL 6/2010 - August 2011.

## 4 EXPLORATION COMPLETED DURING THE REPORTING PERIOD

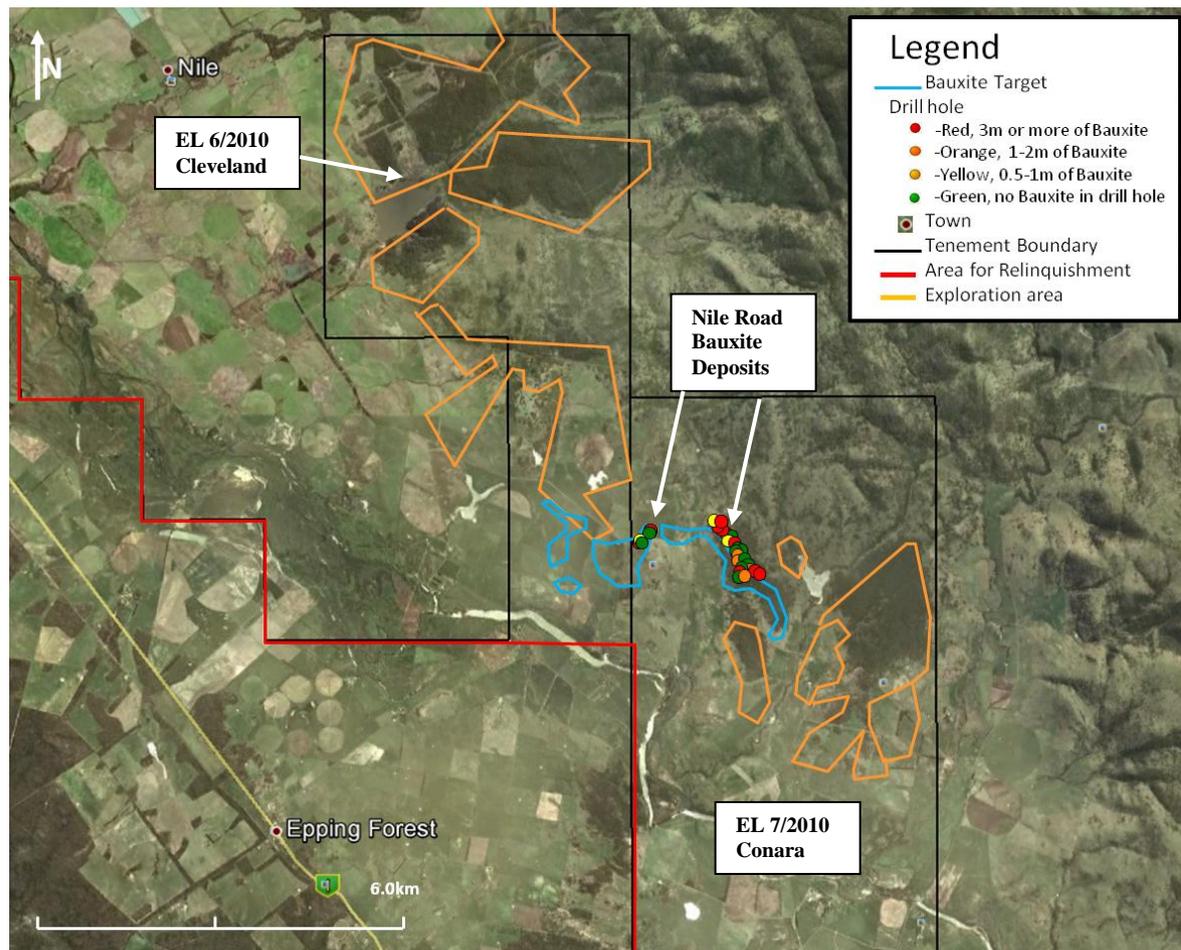
### Literature Review

- There are no recorded historical references for bauxite in the Cleveland Tenement.

### Regional Exploration Activities



Map 4 –Location of Drill-hole Targets for EL 6/2010 Cleveland, showing adjacent tenements held by ABx4

**EXPLORATION COMPLETED DURING THE REPORTING PERIOD Cont****Nile Road Target**

Map 5 – Drill-hole map and target map of Nile Rd Target which extends into EL 6/2010

The Nile Road Target consists of two bauxite deposits located on the edge of Conara EL 7/2010 tenement adjacent to Nile Road. The target area for this bauxite crosses into EL 6/2010 Cleveland tenement and follows the edge of the Longford Basin. The largest deposit is located in an old growth eucalypt forest and is approximately 1Mt of bauxite. The bauxite deposits are formed on low ridges and hills from bauxitisation of Tertiary basaltic volcanoclastic deposits. The majority of the deposit is in EL 7/2010 but the smaller of the two deposits occurs right on the tenement boundary.

**Discussion of Results**

The bauxite is generally massive and Iron rich at surface with more gibbsitic layers occurring deeper in the profile. Bauxite could also be derived from Jurassic dolerites which form the basement to the Tertiary Volcanic.

The average grade for bauxite in holes CN0115-CN143 with a cut-off grade of 2.5 A/S ratio is; 28.2% Available Alumina (avl Al<sub>2</sub>O<sub>3</sub>), 4.3% Reactive Silica (rx SiO<sub>2</sub>), 35.5% Total Alumina, 5.4% Total Silica and 33.1 % Iron oxide. The average recovery with sieving was ok with an average of 53%.

**EXPLORATION COMPLETED DURING THE REPORTING PERIOD Cont**

Table 2 – Assay results for CN126, sieved at 0.26mm

| From | To | Al <sub>2</sub> O <sub>3</sub> avl | Rx SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> | Fe <sub>2</sub> O <sub>3</sub> | LOI   | AV/RX | A/S   | Recovery |
|------|----|------------------------------------|---------------------|--------------------------------|------------------|--------------------------------|-------|-------|-------|----------|
| 0    | 1  | 15.3                               | 3.9                 | 24.6                           | 8.84             | 49.4                           | 12.67 | 3.92  | 2.78  | 42%      |
| 1    | 2  | 39.6                               | 1.9                 | 44                             | 2.74             | 21.7                           | 25.11 | 20.84 | 16.06 | 74%      |
| 2    | 3  | 39.4                               | 1.5                 | 43.6                           | 2.42             | 22.9                           | 25.17 | 26.27 | 18.02 | 78%      |
| 3    | 4  | 52.4                               | 0.6                 | 54                             | 0.88             | 11.65                          | 29.67 | 87.33 | 61.36 | 81%      |
| 4    | 5  | 30.5                               | 10.1                | 41.4                           | 11.1             | 18.1                           | 22.11 | 3.02  | 3.73  | 31%      |

Complete assay results are found in Appendix B, C and D of the First Annual Report EL 7/2010 – August 2011.

## 5 CONCLUSIONS AND RECOMMENDATIONS

Bauxite has only been identified in one location at Nile Road Target on the boarder of EL 6/2010 Cleveland and EL 7/2010 Conara in the north east corner of the Cleveland tenement. This area is the most prospective area for finding bauxite in EL 6/2010. Bauxite was not located anywhere else on the tenement and potential targets are minimal. ABx4 has thus applied to relinquish the whole southern section of EL 6/2010 (202sq km) in order to focus its resources on areas with greater potential.

Recommendations for future work include:

- Detailed geological mapping, including geomorphological mapping and study of satellite images to define the areas with the best potential for bauxite.
- Systematic sampling of natural outcrops and exposures in road cuts of lateritic weathering profile.
- Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive quartz, loss on ignition and sieving (+0.26mm) at 260 microns as required in the bauxite search.
- Drill testing of zones with best potential with an RC drill rig mounted on a light six wheel truck to get samples representing the whole lateritic weathering profile (from upper-most iron rich zone through alumina rich zone down into mottled and pallid saprolite zone).
- Systematic drilling at close spacings to obtain data for preliminary resource estimation in the best target areas defined by program.
- Systematic sampling and drilling at waypoints with best bauxite potential.
- Detailed analysis of assay results to determine assaying strategy for future drilling.

## 6 ENVIRONMENT

### **Surface Disturbing Operations:**

No surface disturbing operations were undertaken by ABx4 in the second year of tenure.

Existing public roads were used for traversing.

ABx4's surface disturbing operations are minimal.

Drilling is conducted by an RC drill rig mounted on a light Mitsubishi 12 tonne truck. Drill holes are plugged using octo-plugs at a depth of 1.5m and are refilled using innocuous material from the drill hole immediately after completion.

Existing tracks are used wherever possible. In the event that any specific access is required for drill rigs and/or service vehicles, track construction will be minimised and in accordance with directions of any landowners who may be affected.

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

A botanical survey was conducted by Philip Milner Consultant Pty Ltd covering the Powranna Road target area for EL 6/2010.

Please refer to Appendix A of the First Annual Report for EL 6/2010 – August 2011 for the complete Survey.

### **Rehabilitation:**

No rehabilitation was required by ABx4 during the second year of tenure.

No drill holes were drilled during the reporting period and traversing was undertaken on public roads.

Drill holes at Nile Road Target in EL7/2010 were plugged and filled immediately after completion.

ABx4 has a policy that all drill holes and tracks are fully rehabilitated immediately after drilling. Drill-holes are plugged using octo-plugs at a depth of 1.5m and re-filled using innocuous material from the drill hole.

## 7 EXPENDITURE

Table 3 – Exploration Activity and Expenditure Table for reporting period 14 September 2011 – 14 September 2012

| Exploration Category         | Description of Activity                         | Quantity           | Expenditure     |
|------------------------------|---|--------------------|-----------------|
| <b>Office Administration</b> |   |                    |                 |
| <b>Authority Management</b>  | Rent  |                    | \$4,828         |
| <b>Office Activities</b>     | Data processing and interpretation              |                    | \$626           |
| <b>Field Activities</b>      | Geological Mapping                              |                    |                 |
|                              | Sampling  | core storage       |                 |
|                              | Equipment Hire                                  | Vehicle Hire       | \$149           |
|                              | Travel & Accommodation                          |                    | \$586           |
|                              | Field Supplies                                  |                    | \$45            |
|                              | <b>Geophysics</b>                               |                    |                 |
|                              | Airborne  |                    |                 |
|                              | Type  | Line kms           |                 |
|                              | Ground  |                    |                 |
|                              | Type  | Line kms           |                 |
|                              | <b>Drilling (program cost)</b>                  |                    |                 |
|                              | RAB/AC  | Holes/total metres |                 |
|                              | RC  | Holes/total metres |                 |
|                              | Diamond   | Holes/total metres |                 |
|                              | Other   | Holes/total metres |                 |
| <b>Laboratory</b>            | ME-XRF 13B, Reactive Silica & Available Alumina | Samples            |                 |
| <b>Salaries / Wages</b>      | Contractors - Geologists                        | Reconnaissance     | \$7,195         |
|                              |   |                    |                 |
|                              |   | <b>Grand Total</b> | <b>\$13,429</b> |

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

Due to disappointing reconnaissance results, ABx4 did not pursue an advanced exploration program and consequently expenditure was low. However, ABx4 has applied to relinquish 202sq km to focus its exploration on areas most prospective for finding bauxite in EL 6/2010.