

# **Partial Relinquishment Report**

**on**

**EL 7/2010 – “Conara”**

**Reporting Period:** 14 September 2011 – 13 September 2017

**Project Operator:** ABx4 Pty Ltd

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**Date:** 13 September 2017

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# 1 ABSTRACT

## Objective

Exploration Licence No. 7/2010 “Conara” 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.

## 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 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 the 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

ABx4 Pty Ltd (“ABx4”) conducted field work over much of the area in the two main land parcels proposed for relinquishment. Surface samples were collected in the northernmost parcel which possessed mixed assay results.

ABx4 subsequently completed scout drilling on two targets within the Quorn Hall property in the southernmost land parcel. 13 Reverse Circulation (RC) holes were drilled for 156 metres across the two targets, one of which is partially covered by the adjacent ABx4-held Ross tenement (EL3/2012). Drilling samples were analysed and selected samples were sent to ALS Laboratory in Brisbane for assaying. Unfortunately, all samples were of sub-economic grade.

No works were conducted on the three standalone units proposed for relinquishment. One of these units covers part of the Campbell Town build-up and the other two covers large lakes over which mining would clearly not ever occur.

## 2 INTRODUCTION

### Exploration Rationale

Exploration Licence (EL) 7/2010 “Conara” 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 form from either Jurassic Dolerite or Tertiary Basaltic Volcanics. According to Owen, these bauxite deposits - regardless of parent 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

EL7/2010 “Conara” was granted on and from 14 September 2010 for a period of 5 years to ABx4. Two 12-month Extension-of-Term (i.e. renewal) applications have been approved since such that the current tenement expiry is 13 September 2017.

This Partial Relinquishment Report has been written to document the exploration works conducted on the 55 km<sup>2</sup> of land being surrendered from the EL7/2010 tenement at the end of the seventh reporting period on 13 September 2017. The remaining area is currently proposed for renewal.

On 9 December 2016, adjacent ABx4-held tenement EL6/2010 “Cleveland” was consolidated into the EL7/2010 area, which prior to the current proposed relinquishment altogether made up 184km<sup>2</sup>. The northernmost land parcel proposed for relinquishment was originally a part of EL6/2010.

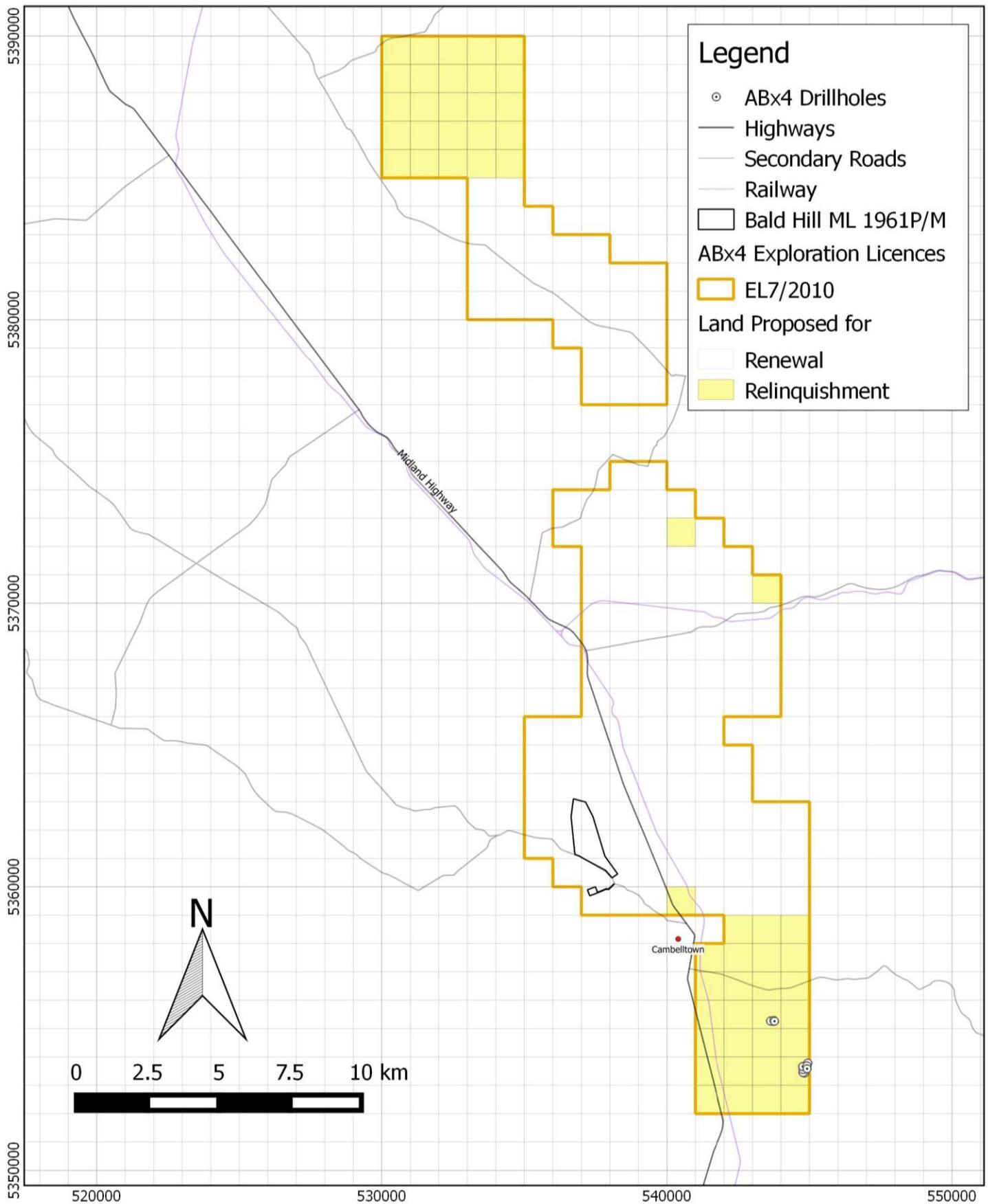
The licence category is Mineral Category 1 – Metallic Minerals and Atomic Substances.

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

EL 7/2010 “Conara” is 100% owned by ABx4 which is a wholly-owned subsidiary of Australian Bauxite Limited (ASX: ABX).

### Location

The Conara tenement is centred on the railway town of Conara where there is a railway siding and active railway. The tenement is only 90km from the large operating port at Bell Bay and the Midlands highway passes through the centre of the tenement. The Conara tenement is ideally located for both rail and road transport to the port. EL 7/2010 is close to the City of Launceston which could offer a wide range of services and skilled work force. The majority of the land usage in the tenement is private reserves, natural forest and agricultural land with land categories 4-6.



Map 1. Location Map of EL 7/2010 “Conara”. Areas currently proposed for relinquishment are shaded yellow. Drillholes within relinquished area shown as white circles. Coordinates are in metres (MGA94 Zone 55).

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

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

Historical references for bauxite in the Conara Tenement are reported by H.B. Owen in his book "Bauxite in Australia", 1954, which was the basis for Initial exploration of the area

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

## 4 EXPLORATION COMPLETED

### Current and Final Year of Tenure

Only a desktop prospectivity review was undertaken in the current year of tenure. The results of which led to the current designation of 55km<sup>2</sup> for relinquishment.

The rationale for relinquishment can be found in the 'Conclusions & Recommendations' section of this report.

### First Six Years of Tenure

#### **Summary**

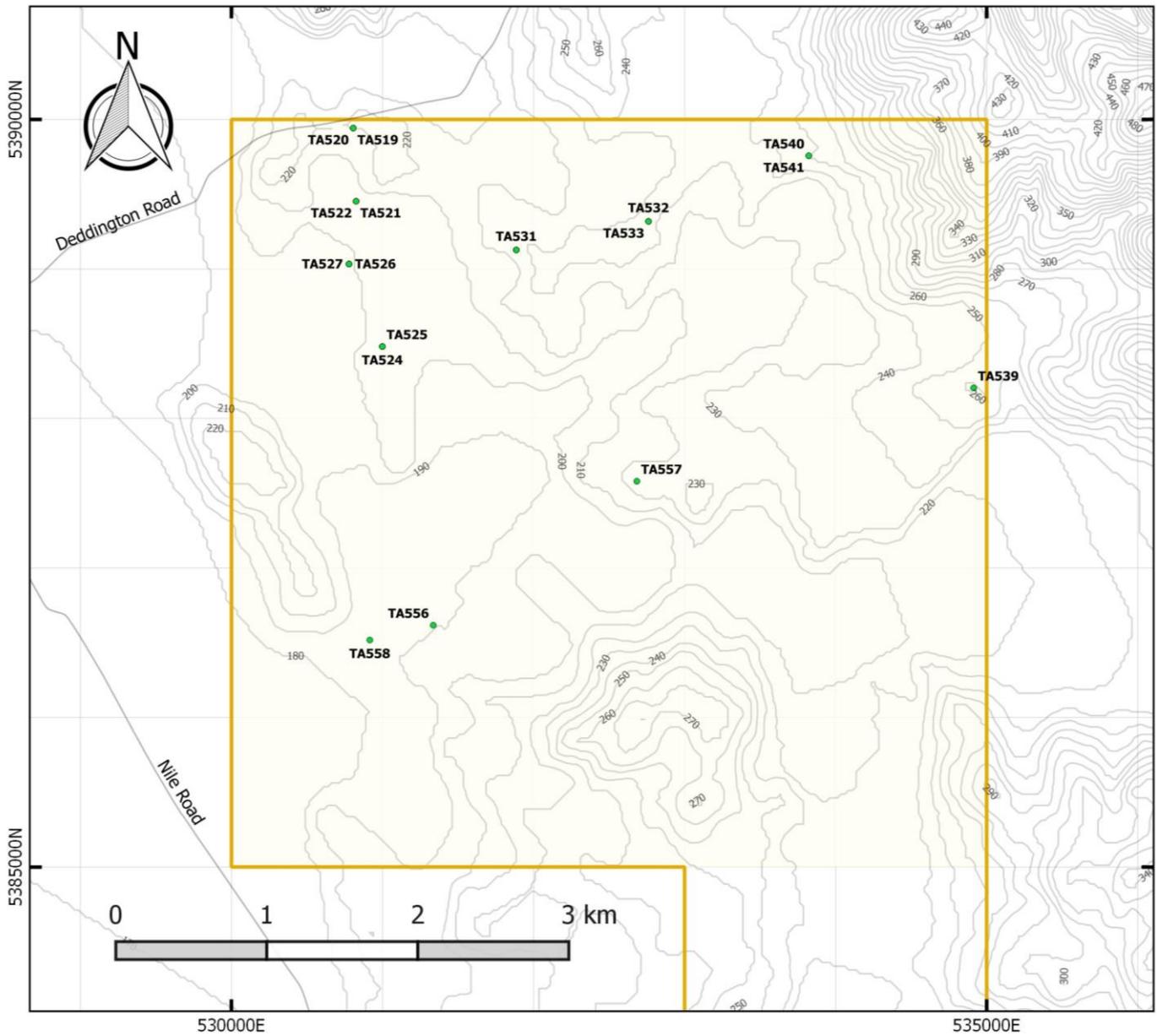
ABx4 Pty Ltd ("ABx4") conducted field work over much of the area in the two main land parcels proposed for relinquishment. Surface samples were collected in the northernmost parcel which possessed mixed assay results.

ABx4 completed scout drilling on two targets within the Quorn Hall property in the southernmost land parcel in March 2015. 13 Reverse Circulation (RC) holes were drilled for 156 metres across the two targets, one of which is partially covered by the adjacent ABx4-held Ross tenement (EL3/2012). Drilling samples were analysed and selected samples were sent to ALS Laboratory in Brisbane for assaying. Unfortunately, all samples were of sub-economic grade.

#### **'Nile Road North' Targets (northernmost land parcel)**

The Nile North target area is a large area of laterites forming in conjunction with Tertiary volcanics. Multiple field trip were taken to explore the area both on foot and in a vehicle covering large areas by driving on tracks.

21 surface samples were collected from this area over several field trips (TA519-533, TA539-541 & TA556-558), but only 3 sample tested positive for bauxite mineralisation. Two of these samples were collected from small area of bauxite outcrops above a large dam (TA521-522). The area in general is surrounded by unusual ferruginous lateritic formations. The bauxite outcrop is difficult to define and may dip below cover in an easterly direction. Sample TA526 was taken from 300m away on the other side of the dam. The analysis of this sample could not be repeated from this area and is likely to be a lump of bauxite sitting in the waste zone below the bauxite profile.



Map 2. Location of surface samples taken at 'Nile Road North' target. Relinquishment area shaded yellow. Coordinates are in metres (MGA94 Zone 55 – GDA94).

Table 1. Key assay results of surface samples collected a 'Nile Road North' target. Samples that met bauxite grade are highlighted red.

SAMPLE	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
TA519	1.4	17.2	17.65	23.9	43.4	1.6	12.9
TA520	1.3	16.6	16.6	24	49.5	1.39	7.76
TA521	35.3	4.5	41	5.2	25.7	3.12	24.31
TA522	35.7	7.3	44.3	8.03	18.8	2.81	25.57
TA523	1	9.3	9.53	16.7	59.8	0.38	12.86
TA524	1.4	9.2	10.3	16.45	59.8	0.44	12.37
TA525	1.1	8.9	8.64	15.8	61.6	0.34	12.85
TA526	23.1	11.8	36	13.35	26.5	1.26	22.1
TA527	2	35.2	33.4	38.5	11.1	1.66	14.91
TA528	1.7	13.9	14.8	16.85	54.2	1.16	12.34
TA529	1.3	13.6	13.25	21.6	51.3	0.78	12.03
TA530	1.6	5.4	6.61	10.65	75.6	0.28	8.52
TA531	1.4	10.3	11.05	17.65	57.2	0.74	12.65
TA532	1.1	5	7.01	39.1	46.9	1.78	4.64
TA533	1.1	4.6	4.79	47.5	42.8	1.52	2.87
TA539	0.9	9.9	9.93	49.2	32	1.68	6.64
TA540	1.3	7.9	9.93	31.6	46.1	2	9.76
TA541	1.1	8.2	9.35	38.4	40.6	2.42	8.58
TA556	1.4	14.9	14.55	34.5	39.3	1.64	9.55
TA557	1.6	11.7	13.35	13.1	57.5	1.69	13.49
TA558	1.4	13	13.2	18.6	53.7	0.54	13.1

\*Leach conditions to measure available alumina "Al<sub>2</sub>O<sub>3</sub> Avl" & reactive silica "Rx SiO<sub>2</sub>" is 1g leached in 10ml of 90gpl NaOH at 143 degrees C for 30 mins.

### Quorn Hall Targets (southernmost land parcel)

#### *Tom's Hill*

Four holes were drilled in the Tom's Hill target (CN709-CN712). Logging of drill sample material indicated that these holes were very clay-rich, with fragments that were bauxitic in appearance lying within the clay matrix in the upper metres (ranging from 2 to 6 metres depth below surface depending on hole). These fragments were hard in CN709, though were gritty and/or friable in the other three.

The assay results of selected Tom's Hill drill samples support that the subsurface material is very clay-rich – both by the high reactive silica and low yields from wet screening sample at 0.26mm. In only one of the Tom's Hill drill samples that were assayed does Avl Al<sub>2</sub>O<sub>3</sub> (Gibbsite) exceed 25%. It is possible that some gibbsite could occur within the fine clay-rich fraction that is washed away, however, this is not considered recoverable. The hard fragments within CN709 are likely to be iron-rich fragments (e.g. haematite) as opposed to bauxite. As such, no economic quantities of bauxite were discovered at the Tom's Hill target.

#### *Quorn Hall Target #1*

Twelve holes were drilled in the Quorn Hall Target #1 – nine within the Conara tenement (CN713-CN721) and three within the Ross tenement (RS001-RS003). Initial results of logging indicated that several metres of red/black pisolitic bauxite was intersected in most of the Quorn Hall Target holes and graded into a clay-rich bottom layer. In some holes hard "matte red" fragments occurred either instead of the pisolitic bauxite layer or between the pisolitic bauxite layer and the underlying clay layer. Fragments of this material have been observed elsewhere and have been shown not to be bauxitic.

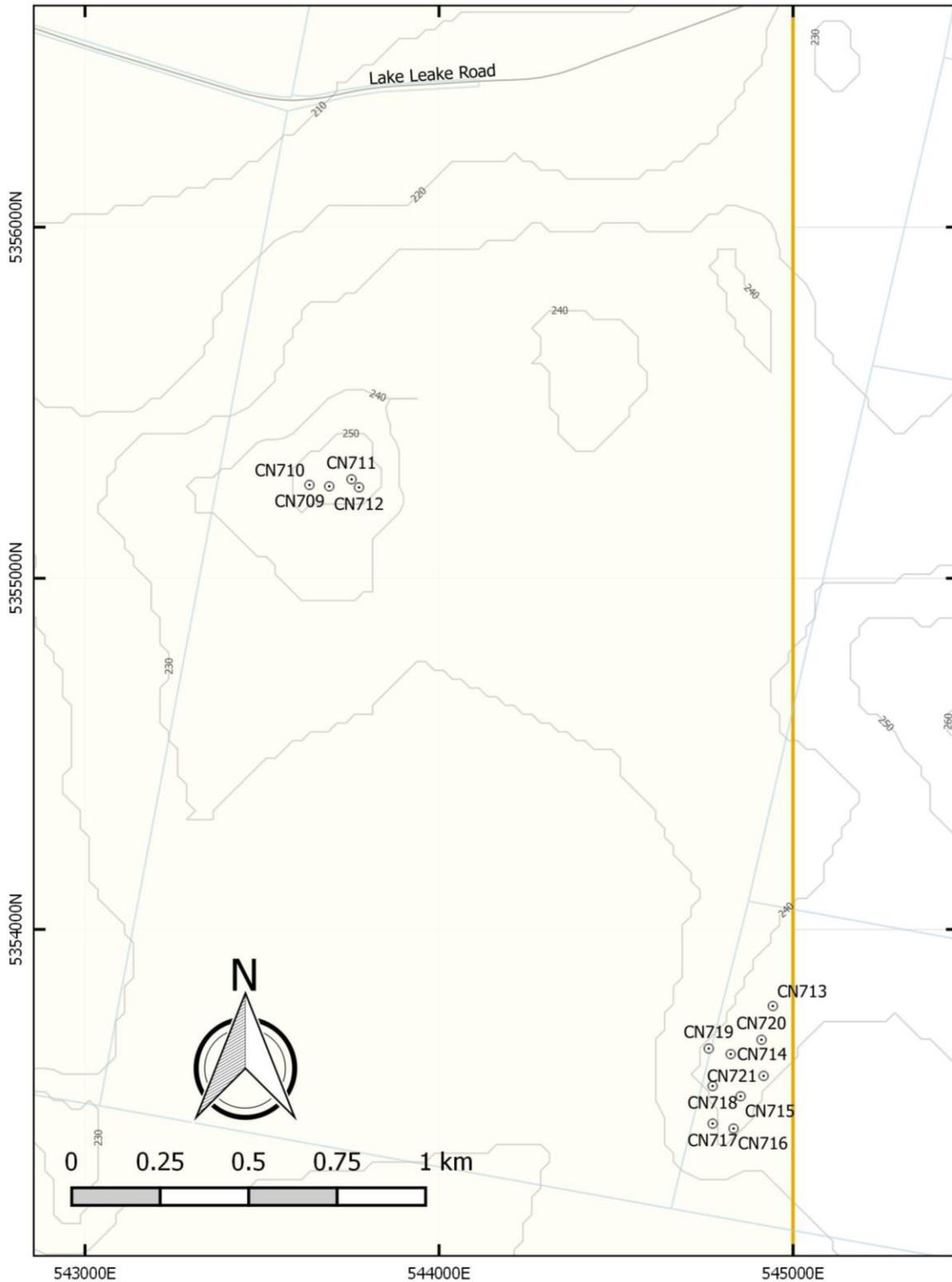
The prospective upper meters from holes CN713 and CN715 were assayed and yielded disappointing results. The upper layer thought to be pisolitic bauxite was instead very Fe-rich material and mostly clay (the average yield of the Fe-rich material from wet screening at 0.26mm was 35%). The gibbsite

content in these CN713 and CN715 metres averaged less than 1% and suggests that no significant bauxite mineralisation occurs across the Quorn Hall Target #1. The hard matte red material found in some holes was not assayed but is likely to simply have a greater proportion of silica to iron. No economic quantities of bauxite were discovered at the Quorn Hall Target #1.

Table 2. Key assay results of drilling samples - Tom's Hill and Quorn Hall targets. Samples were wet sieved at 0.26mm at ALS Laboratories, Brisbane. The +0.26mm fraction was assayed and w/w yields measured.

Sample No.	Avl							Yield +0.26mm
	Al <sub>2</sub> O <sub>3</sub> *	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	
	%	%	%	%	%	%	%	%
CN70901	13.4	9	29.47	18.2	36.9	2.39	12.09	<b>24</b>
CN70902	16.6	9.8	30.25	16.3	35.1	2.81	15	<b>30.8</b>
CN70903	17.4	17.6	36.54	20.4	20.8	2.29	19.28	<b>26.5</b>
CN70904	16.8	19.7	37.93	20.9	18.05	2.44	19.9	<b>31</b>
CN70905	1.7	27.8	27.07	30.1	25.2	2.79	13.79	<b>16.8</b>
CN71001	2	22.2	23.41	33.3	29.3	1.82	11.56	<b>7.1</b>
CN71002	1	16.5	15.26	45.4	29.7	1.16	8.04	<b>9.8</b>
CN71003	0.8	24.8	21.03	59.8	7.79	2.04	8.97	<b>10.1</b>
CN71101	25.5	9	37.92	10.4	27.3	3.02	20.84	48.2
CN71102	23.3	11.7	37.28	12.6	25.4	3.1	21.12	<b>29.8</b>
CN71103	22	15.4	37.68	16.75	22	2.84	20.34	<b>20.1</b>
CN71104	10.6	17.9	29.23	18.7	31.8	3.19	16.38	<b>15</b>
CN71201	12	16.9	31.84	21.6	30	2.72	12.91	<b>22.8</b>
CN71202	1.8	24.2	24.24	25.2	33.5	2.71	13.35	<b>18.6</b>
CN71301	1.4	15.6	16.1	26.6	46.9	1.09	8.75	<b>5.5</b>
CN71302	1.2	16.8	16.74	26.7	44.4	1.28	10.41	<b>40.7</b>
CN71303	1	20.3	18.41	31.4	37.7	1.62	10.28	<b>24.6</b>
CN71304	0.9	14.7	14.14	32.1	41.7	1.99	9.54	<b>29.1</b>
CN71305	0.9	18	16.79	28.1	43.2	1.36	10.09	<b>44.8</b>
CN71501	1.1	10.7	12.2	23.4	53.6	1.34	8.96	<b>33.9</b>
CN71502	0.9	12.4	13.46	21.3	53.3	1.04	10.4	<b>28</b>
CN71503	0.4	35.3	26.83	43	16.25	1.64	11.77	<b>30.3</b>
CN71504	0.3	37.3	27.79	45.9	12.55	1.66	11.68	51.3
CN71505	0.5	28.3	22.98	40.8	22.8	2.31	10.58	<b>33</b>
CN71506	0.6	26.1	22.55	30.6	33.1	1.56	11.61	49.7
CN71507	0.8	14.8	14.86	19.2	54.3	0.91	10.23	<b>38.1</b>

\*Leach conditions to measure available alumina "Al<sub>2</sub>O<sub>3</sub> Avl" & reactive silica "Rx SiO<sub>2</sub>" is 1g leached in 10ml of 90gpl NaOH at 143 degrees C for 30 mins.



Map 3. Location of Quorn Hall topographical targets with showing holes drilled in March 2015. Relinquishment area shaded yellow. Coordinates are in metres (MGA94 Zone 55 – GDA94).

## **5 DISCUSSION OF RESULTS**

ABx4 Pty Ltd (“ABx4”) conducted field work over much of the area in the two main land parcels proposed for relinquishment. Surface samples were collected throughout the northernmost land parcel. The results of sample assays were mixed.

ABx4 subsequently completed scout drilling on two targets within the Quorn Hall property in the southernmost land parcel. 13 Reverse Circulation (RC) holes were drilled for 156 metres across the two targets, one of which is partially covered by the adjacent ABx4-held Ross tenement (EL3/2012). Drilling samples were analysed and selected samples were sent to ALS Laboratory in Brisbane for assaying. Unfortunately, all samples were of sub-economic grade.

No works were conducted on the three standalone units proposed for relinquishment. One of these units covers part of the Campbell Town build-up and the other two covers large lakes over which mining would clearly not ever occur.

## **6 CONCLUSIONS AND RECOMMENDATIONS**

The areas proposed for relinquishment were done so for various reasons.

The northernmost parcel remains reasonably prospective for bauxite exploration but is considered low-priority compared to ABx4's other exploration targets, including in other tenements. Further exploration was not planned in this area within the near to mid-term so management made the prudent decision to relinquish these areas.

Two of the main bauxite targets within the southernmost land parcel were drilled in March 2015. Drillhole sample assays were unfortunately quite poor. This indicated that economic quantities of bauxite do not occur in these target locations. It is possible that economic quantities of bauxite could occur within the wider southernmost land parcel but it is considered unlikely.

The remaining three standalone units were relinquished on the basis that they cover part of the Campbell Town built-up area or large lakes adjacent to the Fingal Rail deposit, over which mining could never feasibly occur.

## **7 ENVIRONMENT**

### **Surface Disturbing Operations:**

Surface disturbing activities occurring in the relinquished areas since grant were limited to the drilling of 13 Reverse Circulation (RC) drillholes which left a 9cm diameter hole in the ground. No track clearing or site preparation was required as drilling was conducted on cleared to semi-cleared farmland predominantly used for grazing.

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

A botanical and fauna habitat survey was conducted for the Quorn Hall and adjacent properties in July 2013. This report was previously submitted as an appendix in the Third Annual Report for EL3/2012 but will be resubmitted with the current EL7/2010 relinquishment report.

### **Rehabilitation:**

The drillholes were rehabilitated immediately after drilling. The method of rehabilitation was to cap at 1.5m depth using an “OctoPlug” and backfill the remaining hole with innocuous drillhole material and/or any excess topsoil. All rehabilitation was done completely and to the satisfaction of the landholder.

## **8 REFERENCES**

H.B. Owen (1954), Bauxite in Australia, Bulletin 24

T. Coyte, T. Battaglia, T. Grieve & G. Harvey (September 2015), 'Fifth Annual Report on EL 7/2010 Conara', ABx4 Pty Ltd