

Sixth Annual Report

on

EL 4/2010 – Evandale

Reporting Period: 14 September 2015 – 13 September 2016

Project Operator: ABx4 Pty Ltd

Address: Level 2, 131 Macquarie Street, Sydney, NSW, 2000

Authors: Tamara Coyte, Thomas Grieve

Date: 30 August 2016

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1 ABSTRACT

Objective:

Exploration Licence EL4/2010 “Evandale” was applied for in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics and Jurassic Dolerite, 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 potentially bauxitic rocks at natural outcrops and exposures in road cuts.
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 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:

In nearby tenement EL18/2014 a large and very extensive sheet like bauxite deposit was rediscovered. The implications of this discovery was not fully understood until early 2015 when widespread field reconnaissance and drilling of the St Leonards deposit delineated and interpolated the deposit over an area of up to 12km². The bauxite occurs on the Jurassic-Tertiary contact and is derived from Dolerite. This bauxite layer has a very specific stratigraphy.

The discovery at EL18/2014 sheds new light on the 2011 drilling program completed in EL4/2010 where similar bauxite was discovered in a long thin outcrop which is buried by volcanics.

A preliminary desktop review was completed in EL4/2010 to investigate bauxite potential on the Jurassic-Tertiary contact. The first step was to draw up a cross section which showed a steep bauxite ore body quickly dipping below significant overburden. Secondly all historical drilling information was reviewed in the tenement area. One of these holes showed a potential bauxite horizon at 142m. This is obviously too deep, drill holes to the east and south shows the bauxite approaching the surface at a very low angle. There is significant potential to find bauxite below thin cover in this tenement – this needs to be investigated further.

Recommendations for future work:

Recommendation for future work include further:

1. Desktop study to identify areas of bauxite potential.
2. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
3. Systematic sampling of natural outcrops and exposures in road cuts of bauxite profile.
4. 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.
5. 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.
6. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.

2 INTRODUCTION

Exploration Rationale

ABx4 Pty Ltd the holder of Category 1 Exploration Licences EL 4/2010 wholly owned subsidiary of Australian Bauxite Ltd. Australian Bauxite Limited (ABx) (ASX: ABX) 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.

EL 4/2010 “Evandale” was applied for in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics and Jurassic Dolerite 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

In EL4/2010, the majority of bauxite targets are hosted in Tertiary Volcanics, however, some bauxite derived from Jurassic Dolerite is also present.

The historic work done by H.B. Owen (‘Bauxite in Australia’, 1954) showed that bauxite in Tasmania forms either as ‘grouped remnants of former continuous sheet’ or ‘in lenticular or pod shaped bodies in localised depressions’. This generally occurs in areas with high water flow and low erosion where the old surface has been preserved.

Tenement Information

EL 4/2010 “Evandale” was granted on and from 14 September 2010 for a period of 5 years to ABx4.

This is the Sixth Annual Report for the reporting period 14 September 2015 - 13 September 2016 incorporating the results of work completed during the Sixth year of tenure.

ABx4 relinquished 113sq km in 2012 to bring the remaining total area to 83sq km. The Mineral Category for EL 4/2010 is 1 – Metallic Minerals and Atomic Substances.

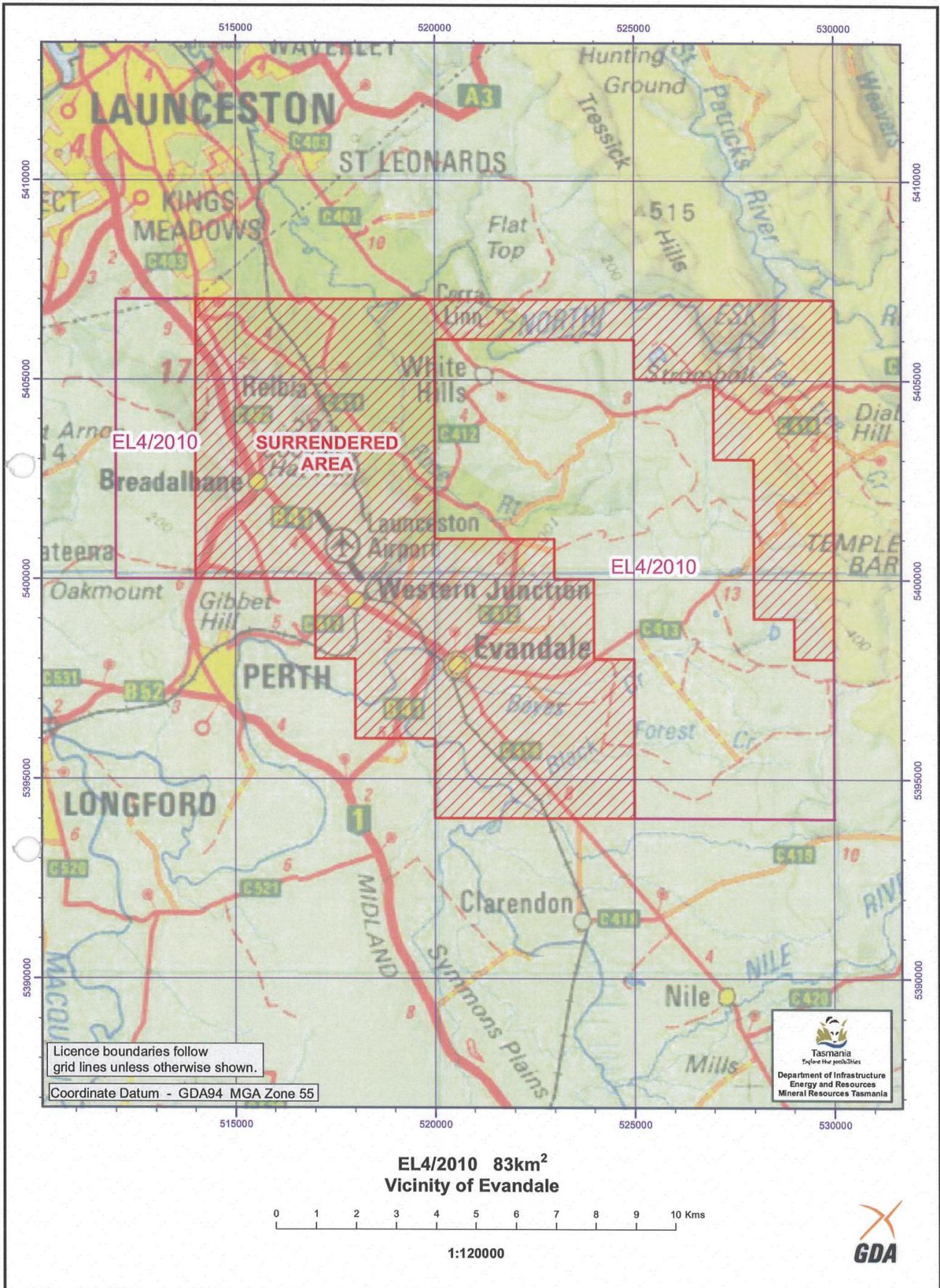
ABx4 is lodging an application to extend 100% of the EL 4/2010 area for a further 12 months.

Location

The Evandale tenement is located from the edge of Launceston where a rail line exists which connects to all Tasmania Ports. Ports and railway infrastructures in Tasmania are generally under capacity and tenements are often over the working railway lines. EL 4/2010 is close to the City of Launceston which could offer a wide range of services and skilled work force.

Tenure, including joint venture details and title transfers

EL 4/2010 “Evandale” is 100% owned by ABx4 which is a wholly-owned subsidiary of Australian Bauxite Limited (ASX:ABX).



Map 1. Location of EL 4/2010 "Evandale". Projection MGA94, Datum GDA94.

3 REVIEW OF PREVIOUS WORK

Prior to Current Reporting Period

Over the term of tenure twenty-one reverse circulation (RC) holes were drilled for 126m. A total of 53 samples underwent laboratory XRF analysis at ALS Laboratories, Brisbane. This consisted of 38 sieved and 15 whole analyses. A botanical survey was completed prior to drilling.

The results of a great deal of work in the first two years of tenure led to the relinquishment of most of the tenement area at the end of the second year of tenure.

In the last three years of tenure a combination of field reconnaissance, geological mapping and surface sampling (for chemical analyses) have taken place in order to investigate bauxite targets (e.g. at Strathroy and Norwich targets).

Ongoing desktop reviews have also taken place over the past six years in order to assess and prioritise the bauxite targets across all ABx4 tenements.

4 EXPLORATION COMPLETED DURING THE REPORTING PERIOD

Exploration Activities

A preliminary desktop review was completed which explored the possibility of bauxite forming on the Jurassic Tertiary contact. In EL18/2014 a large and very extensive sheet like bauxite deposit was rediscovered (a historical bauxite deposit). The implications of this discovery was not fully understood until early 2015 when widespread field reconnaissance and drilling of the St Leonards bauxite deposit delineated and interpolated the deposit over an area of up to 12km². The bauxite occurs on the Jurassic-Tertiary contact and is derived from Dolerite. This bauxite layer is typically 1-3m thick has a very specific stratigraphy which is described in detail by H. B. Owen in the book 'Bauxite in Australia'.

Figure 1. Extract from Bauxite Australia by H.B. Owen describing bauxite derived from dolerite.

The Bauxite Derived from Dolerite.

Three rather ill-defined and irregular zones may be recognized: (a) an upper zone consisting of hard coarse pisolitic and nodular bauxite variegated light brown to brownish-red in colour; (b) a zone of earthy textureless light brown, or less commonly pinkish, bauxite; and (c) a lower zone of light brown to yellowish bauxite which retains the granular texture of the parent dolerite.

Commonly the granular bauxite horizon is missing at Ouse and the earthy zone becomes progressively more clay-like with depth until it passes into kaolinized dolerite. At St. Leonards the granular bauxite commonly passes directly to fresh dolerite, but this sudden transition was not seen at Ouse.

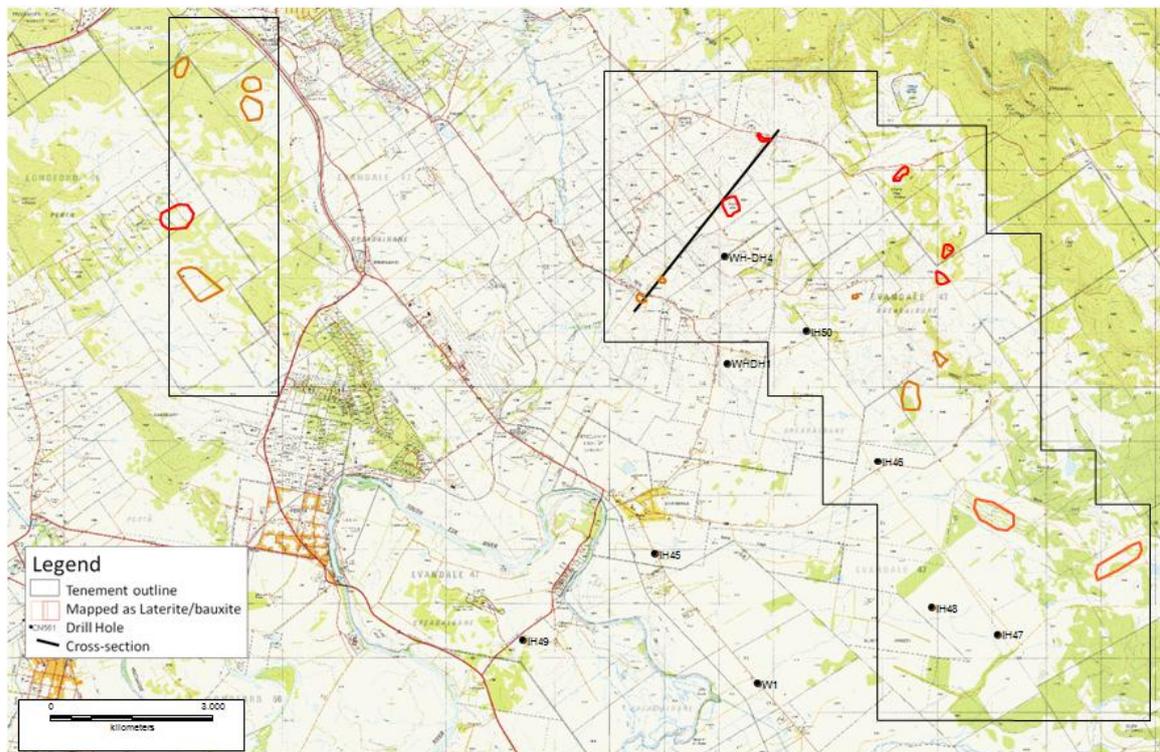
The upper horizon of hard coarsely nodular to pisolitic bauxite usually contains rather more iron and less alumina than the earthy variety. Bauxite from this zone presents a fragmental appearance which falsely suggests that it may have been derived from a pyroclastic rock. Many of the nodules of which it is composed present sub-angular outlines and show apparent differences in the relief doleritic texture of the cores due in part to greater or lesser porosity and diversified staining with iron oxide. The nodules generally are cemented together by dense dark-brown limonitic material, but may occur in a relatively soft matrix of light-brown earthy bauxite.

Granular bauxite, which constitutes the lowest horizon, usually shows a considerable increase in silica content, and generally is somewhat similar in appearance to the cores of the pisolitic or nodular bauxite just described. Petrological descriptions of the three main types mentioned above will be found in Appendix II, which also contains excellent photographic illustrations.

The discovery at EL18/2014 sheds new light on the 2011 drilling program completed in EL4/2010 where similar bauxite was discovered in a long thin outcrop. The bauxite layer appears to dip below extensive tertiary volcanics to the south.

Due to the similarities in stratigraphy between the outcrop in EL4/2010 and the historical St Leonards bauxite Deposit it can be theorised that the small outcrop in EL4/2010 is a continuation of the St Leonards deposit which has been dissected. This means an extensive sheet like bauxite ore body derived from dolerite could cover a significant part of the Evandale deposit.

The issue with both deposits is the significant overburden, which makes determining the depth of Jurassic-Tertiary contact across the Evandale Tenement crucial for discovering bauxite near surface in large quantities.



To test this theory and to determine priority areas for exploration, an analysis of historical drilling data was conducted. A Cross-section was completed using data from ABx and historical drilling programs in addition to topographic and geological information from the Longford 1:63,600 geological map by F. Blake (1959). This was done to predict the dip of the potential bauxite layer, overburden and the potential for other bauxite occurrences (see figure 2).

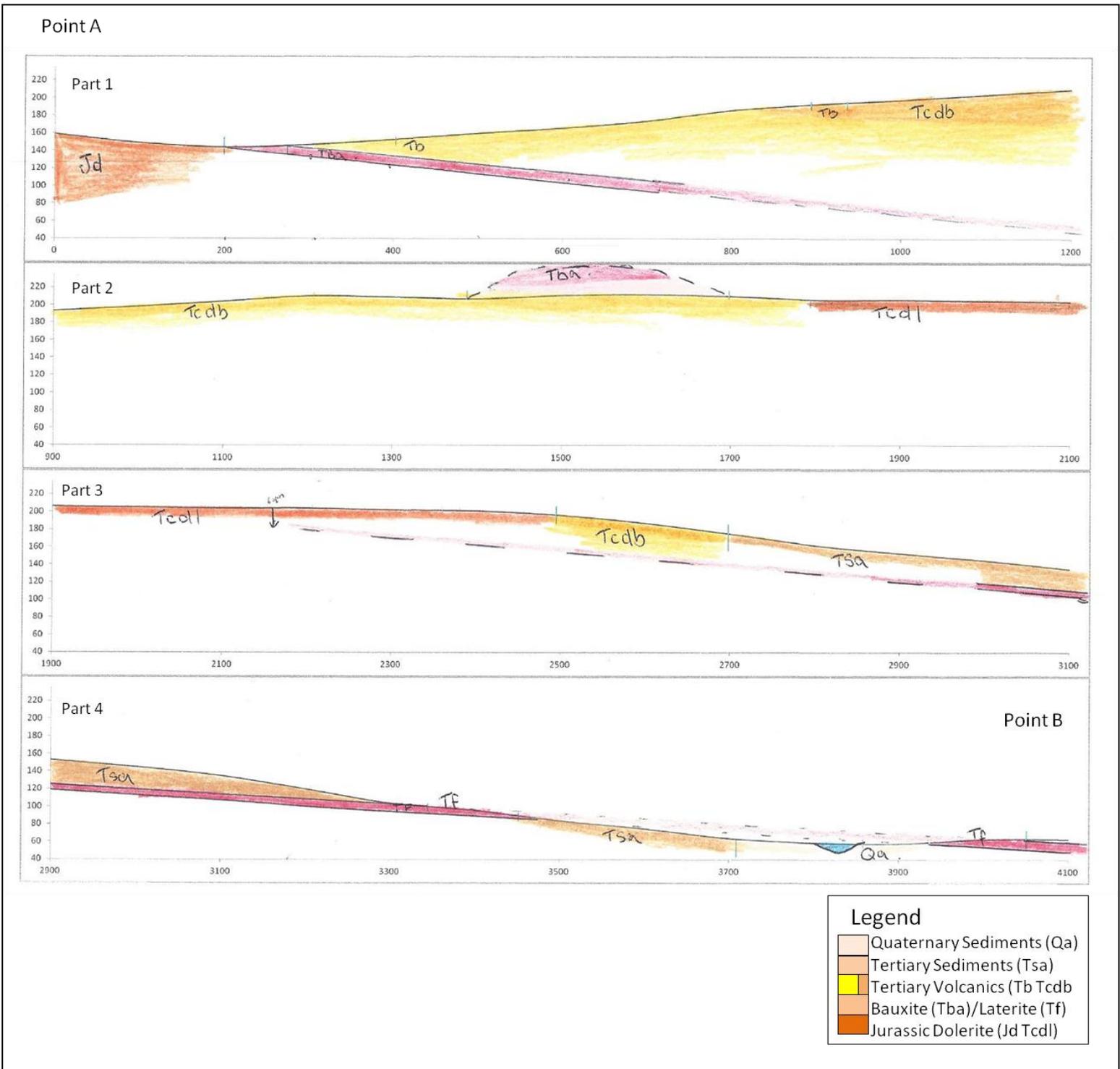


Figure 2. Geological cross section

Figure 2 shows the bauxite layer derived from dolerite quickly dipping below thick tertiary volcanics (part 1). A second bauxite layer seen in part 2 occurs above these volcanics at Bailey's hill (unverified), this is suspected of being a volcanogenic bauxite like the White hills deposit to the east. In part 4 there are small outcrops of 'Tf' mapped in the sides of the valleys. These appear red at surface but have not been investigated thoroughly. It is not known what the parent rock is for these Laterites (bauxite?).

Review of Historical Drillholes in EL4/2010

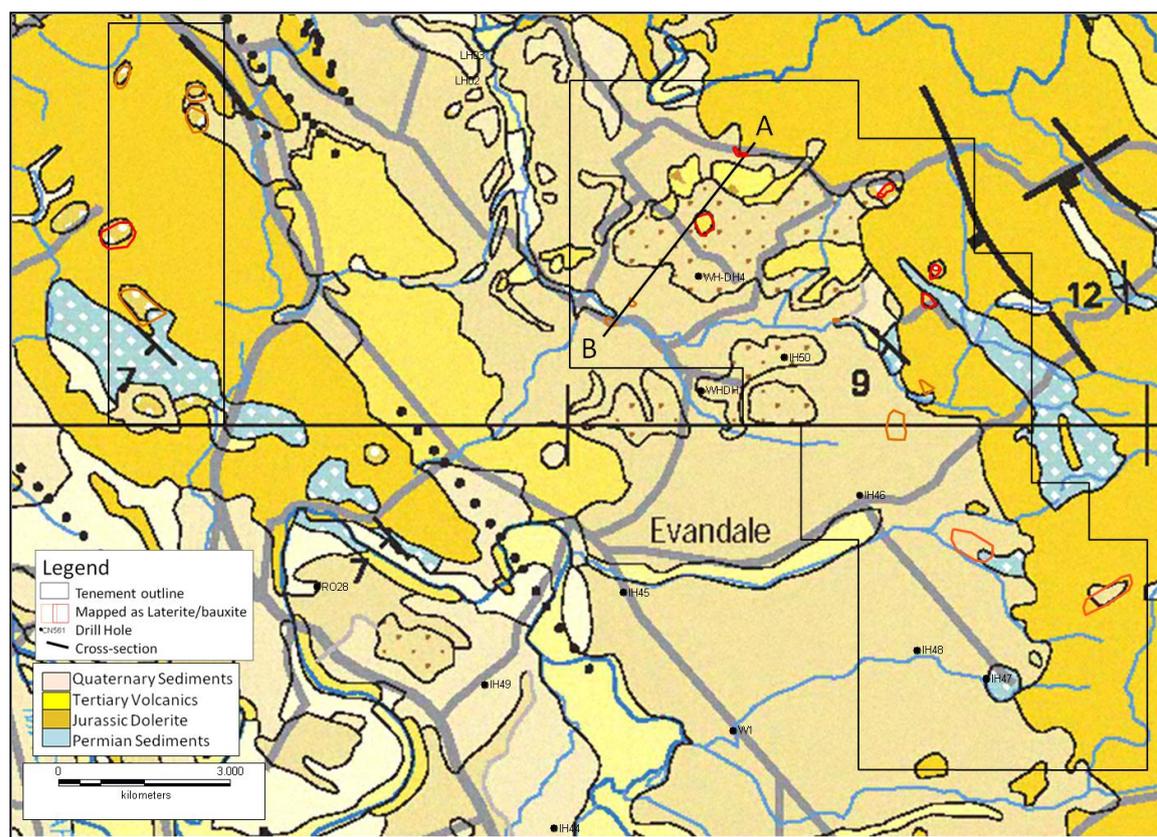
Historical Drill Hole 'WH-DH4 White Hills' drilled into the Egerton Road near the Volcanogenic Bauxite occurrence at Bailey's Hill (not verified). The Volcanic layer is 46m thick with the hole ending at 66m in Tertiary sediments. This area is predicted to be one of the thicker areas of Tertiary sediments.

Drill hole IH50 intersects the Jurassic-Tertiary contact at 142.8m and intersects part of the bauxite layer. Described as 'mottled area near dolerite contact', unfortunately the core for this hole is not Stored at MRT so the layer cannot be confirmed are mottled zone or bauxite. Bauxite is often logged as other units such as Laterite, Mottled Clay, Iron stone (when Iron rich), red clay, all of which are fairly accurate representations of the variations in the bauxite layer

Drill Hole IH46 intersected dolerite at 52.5m, no other information was provided so it is unknown what overlies the dolerite here. Important to note that the dolerite is closer to surface

Drill Hole IH48 intersected Permian Siltstone at 57.9m. This has passed the Jurassic-Tertiary contact. It is not known if the contact was intersected in this hole but Jurassic Dolerite derived bauxite would not occur within the Siltstone unit by known methods of formation.

Drill hole IH47 intersected Permian Shale from surface; this location is not prospective for bauxite.



Map 2. Geology of the EL 4/2010 area with Historical Drill holes (Geology of Northeast Tasmania 1:250 000 sheet). Projection MGA94, Datum GDA94.

5 DISCUSSION OF RESULTS

In neighbouring ABx4 tenement EL18/2014, a large and very extensive sheet like bauxite deposit was rediscovered. The implications of this discovery was not fully understood until early 2015 when widespread field reconnaissance and drilling of the St Leonards deposit delineated and interpolated the deposit over an area of up to 12km². The bauxite occurs on the Jurassic-Tertiary contact and is derived from Dolerite. This bauxite layer has a very specific stratigraphy.

The Discovery at EL18/2014 sheds new light on the 2011 drilling program completed in EL4/2010 where similar bauxite was discovered in a long thin outcrop which was buried by volcanics.

A preliminary desktop review was completed in EL4/2010 to investigate bauxite potential on the Jurassic-Tertiary contact. First a cross section was drawn up which shows a steep bauxite ore body quickly dipping below significant overburden. Secondly all historical drilling information was reviewed in the tenement area. One of these holes showed a potential bauxite horizon at 142m. This is obviously too deep but drill holes to the east and south show the bauxite approaching the surface at a very low angle. There is significant potential to find bauxite below thin cover in this tenement; this needs to be investigated further.

The cross section show that the bauxite layer where the cross section was draw, is dipping too steeply but the Bailey's Hill bauxite has no overburden.

The small tertiary laterite deposit in the sides of the hills is in need of on foot reconnaissance.

Review of historical drilling showed there is potential for bauxite under significant cover, this potential is less in the southern part of the deposit

6 CONCLUSIONS AND RECOMMENDATIONS

The preliminary desktop review was completed in EL4/2010 to investigate bauxite potential on the Jurassic-Tertiary contact shows that there is potential for significant sheets of bauxite just below cover.

The analysis shows that the dolerite/bauxite horizon goes to great depth in the centre of the EL but moves closer to the surface toward the south-east of the tenement. The Jurassic-Tertiary contact will need to be thoroughly checked to determine any areas of higher priority. Bauxite outcrops are likely to be very small and difficult to find. The 'Tf' outcrops will also need reconnaissance work to determine its identity.

The Bailey's Hill bauxite which is identify as bauxite in the Longford 1:63, 600 geological map will need to be identify assayed and drilled. This is suspected of being volcanogenic bauxite but this will need to be confirmed.

ABx4 has prioritised its human and financial resources in late 2015-2016 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 4/2010 besides inclusion in several desktop reviews of bauxite targets across Tasmania.

ABx4 is in the process of lodging an application to extend the term of the EL4/2010 exploration licence for a further 12 months. The application will be submitted alongside this report.

Recommendation for future work include further:

1. Desktop study to identify areas of bauxite potential.
2. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
3. Systematic sampling of natural outcrops and exposures in road cuts of bauxite profile.
4. 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.
5. 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.
6. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.

7 ENVIRONMENT

Surface Disturbing Operations:

No surface disturbing operations took place during the current reporting period.

Surveys (archaeological, botanical):

No archaeological or botanical surveys took place during the current reporting period.

Rehabilitation:

No rehabilitation was required during the current reporting period.

8 EXPENDITURE

Table 1. Exploration expenditure for EL4/2010 over the 6th annual reporting period.

EL 4/2010 Evandale - Expenditure over 6th Year of Tenure	
1. Geoscientific costs	
Geology	\$5,171
Geochemistry	
Geophysics	
Remote sensing	
2. Drilling and Gridding Costs	
Gridding	
Drilling	
Holes/metres	
3. Land Access Costs	
4. Rehabilitation Costs	
5. Feasibility Study Costs	
6. Other Costs	
7. Administration Costs (< 10%)	
8. Total Costs	
	\$5,171

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

9 REFERENCES

H. B. Owen (1954). *Bauxite in Australia*, Bureau of Mineral Resources Bulletin no. 24

F. Blake (1959). Longford 1:6336000 geological map, *Geological survey of Tasmania -Department of Mines*

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