

## TITLE PAGE AND BIBLIOGRAPHIC DATA SHEET

<b>Tenement Name:</b>	Lake Clear
<b>Tenement Numbers:</b>	E70/3831
<b>Tenement Operator:</b>	Bauxite Resources Limited
<b>Tenement Holder:</b>	Bauxite Resources Limited
<b>Report Type:</b>	Final Surrender
<b>Report Title:</b>	Final Surrender of E70/3831, Western Australia
<b>Report Period:</b>	15th February 2012 to 14th February 2013
<b>Author:</b>	Mark Menzies
<b>Date of Report:</b>	21/03/2013
<b>1:250 000 map sheet:</b>	Dumbleyung SH 50-7
<b>1:100 000 map sheet:</b>	Kojonup 2330
<b>Target Commodity:</b>	Bauxite
<b>Keywords:</b>	Bauxite, Aluminium, Laterite
<b>Prospects Drilled:</b>	Nil
<b>List of Assays:</b>	Nil

### ABSTRACT:

<b>Location:</b>	Exploration Licence E70/3831 is located to the north of the Kojonup township, on the Dumbleyung SH 50-7 1:250.000 and Kojonup 2330 1:100,000 map sheets.
<b>Geology</b>	The geology of the district is dominated by Archaean Granite and Granite Gneiss (that is often lateritised) on the western fault bounded periphery of the Yilgarn Craton. Minor units of metasediment, meta-volcanics and Proterozoic dolerite dykes are also present.
<b>Work completed:</b>	Exploration during the reporting period consisted of historical data review, and desktop assessments of non-bauxite mineral potential.
<b>Results:</b>	The tenement offers little opportunity for bauxite, and other minerals exploration target remain grass roots and highly conceptual
<b>Conclusions:</b>	No work is proposed, with a recommendation to fully surrender the tenement

# Final Surrender Report for Exploration Licence E70/3831

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**Author:**

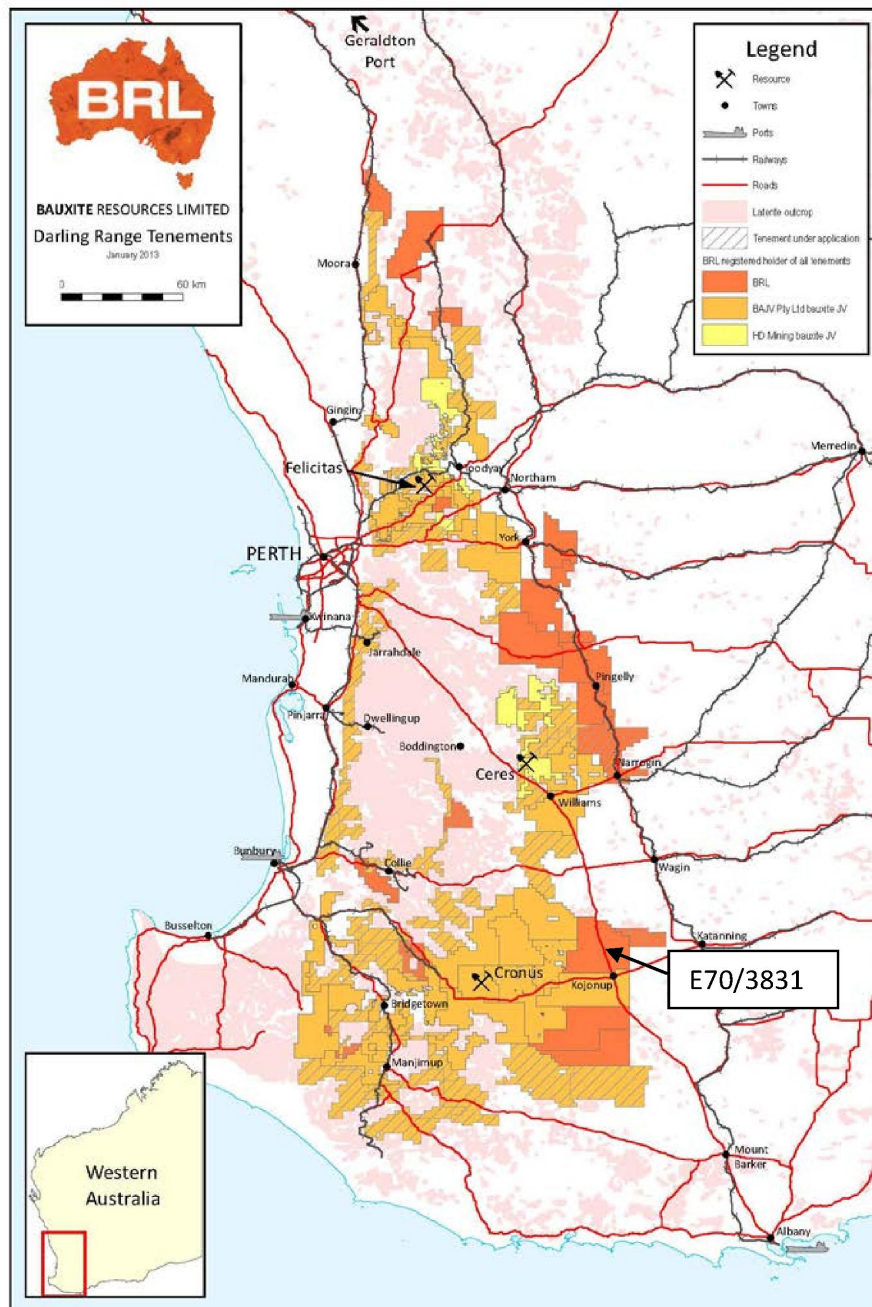
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## 1 EXECUTIVE SUMMARY

E70/3831, part of the Williams Reporting Group, is located ~220km southeast of Perth in Western Australia. Access to the area is via the Albany Highway, then by numerous wheat belt roads.



Map 1: Project Location

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The tenement is situated over Granite and Granite Gneiss of the Yilgarn Craton, which is bound to the west by the Darling Fault system. The resultant land form is a scarp elevated above the Perth Basin that sits along the west coast of Western Australia. The Darling Scarp often has preserved lateritic surfaces from deep weathering and this laterite is prospective for bauxite. Potential may also exist for other commodities including gold and iron.

Historical exploration targeting bauxite in the Darling Range was conducted in the late 1950s to early 1970s. This work was carried out by a number of commercial entities forming joint ventures and partnerships and resulted in Western Australia's first State Agreement Mineral Lease. Broad spaced drilling programs continue to be carried out throughout the region with the resulting data identifying areas with economic bauxite occurrences.

During the reporting period, work focussed around data review and desktop assessments of non bauxite commodity datasets, including regional public domain surface geochemistry, and DMP aeromagnetic surveys. The review identified the potential for commodities other than bauxite does exist however targets remain highly conceptual and "grass roots" in nature. The tenement is deemed to offer little opportunity for economic bauxite. Bauxite Resources Limited has therefore elected to fully surrender the tenement.

## **2 BACKGROUND**

Bauxite Resources Limited (BRL) was incorporated in May 2006 to participate in the bauxite and alumina industries in Western Australia. Since its inception, BRL has secured a tenement package of 112 Exploration Licences over prospective ground in the Darling Range and in April 2010 formed a joint venture partnership with Yankuang Resources Limited (Yankuang) with the objective of establishing a third alumina producer in Western Australia.

## **3 GEOLOGICAL SETTING**

### **3.1 Darling Range**

The Darling Range of Western Australia is the largest bauxite producing region in the world accounting for approximately 17% of total alumina production. It is home to four alumina refineries and four bauxite mines including the Alcoa Huntly Mine, the world's largest producing bauxite mine.

Remnants of the Archaean Yilgarn Craton weather to form extensive laterite coverage over the Darling Range under specific conditions. The underlying units are comprised of granites and granitic gneisses, with minor areas of metasediment and greenstone lithologies. The Darling Range laterite has extensive bauxite development and Gibbsite is the dominant bauxite mineral.

Economic bauxite mineralisation is confined to the lateritic upland of the Darling Plateau. The distribution, composition, thickness and areal extent of the Darling Range bauxite deposits reflect interacting depositional and erosional controls related to climate, parent rock type, drainage, topography and vegetation.

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### 3.2 Historical Exploration

The existence of bauxite in the Darling Range was established early last century but exploration by a commercial entity did not commence until the late 1950's.

Significant bauxite laterite deposits were discovered by Western Mining Corporation in 1957. The deposits were deemed economically viable and WMC established the Western Aluminium No Liability (WANL) joint venture. A special mining lease covering an area of 12,619km<sup>2</sup> of mainly forested Crown land was granted for WANL in 1961. Scout drilling and sampling of the duricrust revealed significant deposits in the Jarrahdale-Dwellingup region to the south-east of Perth, which were later exploited after Aluminium Company of America (Alcoa) joined the WANL venture to become Alcoa World Alumina Australia in 1977. Additional drilling and in-fill drilling and grade-control drilling allowed the ore body to be defined.

The first State Agreement Mineral Lease, ML1SA, was granted to Alcoa over a large part of the bauxite resources in Western Australia's south west region. In a similar fashion to Alcoa, Worsley Alumina Pty Ltd explored the area near Mt Saddleback in a joint venture with BHP Billiton, Japan Alumina Associates and Sojitz Alumina Pty Ltd. The consortium was granted State Agreement Mineral Lease, ML258SA, to develop the Mt Saddleback bauxite mine in 1970, and later a refinery was established at Worsley.

Exploration and investigations into the economic bauxite potential of the area north-east of Perth was conducted by a consulting geologist, Dr Bruno Campana in the mid 1960's. In 1966, Campana was granted exploration rights and entered into a partnership with Hancock & Wright Prospecting of Perth (Hanwright). Several properties in the Darling Range were held in the partnership, and exploration consisting of mapping, surface sampling, scout-drilling and assaying was undertaken. Their interest was centred on deposits in the Chittering area, north north-east of Perth, and the Mt Talbot area due east of Perth.

In 1968, Colonial Sugar Refining Company (CSR) sought to establish a new alumina plant in Western Australia and joined the Hanwright partnership. Exploration was expanded to include drilling (>6,000 holes) with associated sampling and assaying (50,000 samples) and preliminary resource estimates across nineteen separate areas. Twenty six pits were sunk in order to obtain samples for density testing and mineralogical studies and a pilot mine at Gidgegannup was started for the collection and metallurgical testing of bulk samples.

In 1970, Pacminex Pty Ltd (the exploration and mining subsidiary of CSR) was commissioned to conduct a feasibility study for the project which extended from Perth between York to the east, and Moora to the north collectively known as the Chittering/Muchea Alumina Project. Pacminex proposed to establish an alumina refinery to the north of Perth (producing 800,000 tons expandable to 1,600,000 tons of alumina). The project's development included exploration, title negotiations, laboratory test refinements, discussions with important consumers and negotiations with the relevant government departments of Western Australia.

Pacminex completed a number of non-Joint Ore Reserves Committee (non-JORC) compliant resource estimates at various cut-off grades that outlined a resource between 234 million to 320 million long tonnes. Resource grades were in the range of 28 - 31% extractable Al<sub>2</sub>O<sub>3</sub> and 3 – 3.5% reactive SiO<sub>2</sub>. From these non-JORC compliant resources, Pacminex estimated reserves of 156 million to 216 million tonnes.

The Environmental Protection Authority (EPA) refused the proposal by Pacminex to locate an alumina refinery in the Upper Swan Valley and the Chittering/Muchea Alumina Project did not proceed any further.

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## 4 PROJECT LOCATION AND TENURE

### 4.1 East Darling Range Project

The East Darling Range Project (EDRP) covers part of a large area of the Darling Range which was the subject of major exploration programs completed in the late 1960's, 1970's and 1980's by CSR/Pacminex, Project Mining Company (PMC) and Bridge Oil Company.

Areas of bauxitic laterite overlying granite and gneiss were identified and recorded by the Geological Survey of Western Australia (GSWA). These areas are investigated as part of the exploration process and assist in the identification of exploration targets.

E70/3831 is located within the Shires of Kojonup and Woodanilling. Agriculture is the dominant land use in the area.

Access is via the Albany Highway, then by local road networks.

**Table 1: Tenement Schedule**

Tenement	Name	Blocks	Commitment	Application Date	Grant Date
E70/ 3831	Lake Clear	199	\$199,000	16/02/2010	15/02/2011

## 5 ACTIVITY COMPLETED DURING REPORTING PERIOD

### 5.1 Exploration Targeting

#### 5.1.1 Data Review

The data review included an investigation of historical bauxite exploration, and a review of the potential to contain commodities other than bauxite. The review was based on publically available DMP release aeromagnetic data.

## 6 CONCLUSION AND RECOMMENDATIONS

Work conducted during the period indicates limited potential for bauxite mineralisation. Further, potential for other commodities is deemed conceptual and high risk. As such no further work is proposed, and it is recommended the tenement be surrendered.