

# ASX ANNOUNCEMENT 15 October 2018

ASX: ABX



AIF<sub>3</sub> for Aluminium smelters & Lithium ion batteries. Corethane: clean as gas, cheap as coal

# ALCORE Design Completed. First Milestone Achieved December Production On Target

Australian Bauxite Limited (ABx)'s wholly-owned subsidiary, ALCORE Limited has completed the design phase of the Stage 1 project on schedule and has commenced acquiring the equipment for production to commence before year-end, ahead of schedule.

- ALCORE's patent (pending) application technology is designed to refine raw bauxite to produce Aluminium Fluoride (AIF<sub>3</sub>) and other valuable co-products – see Figures 1 & 2. AIF<sub>3</sub> is a key electrolyte ingredient in the production of aluminium metal at aluminium smelters.
- Global demand for AIF<sub>3</sub> and associated co-products continues to increase as aluminium smelter production increases and the use of AIF<sub>3</sub> in lithium ion batteries increases.
- Site construction works for Stage 1 of the ALCORE project commenced on 1 July as planned at ALCORE's pre-approved Pilot Plant site in Berkeley Vale, Central Coast NSW.
- Stage 1 is designed to produce AIF<sub>3</sub> test samples for pre-qualified aluminium smelter customers & then produce **Corethane**, which is pure hydrocarbon powder refined from low-value coals.
- Corethane has been used to provide thermal and electrical power. It has been used as a
  gas-substitute to fuel a standard large gas turbine for 14 months and achieve accreditation
  as a turbine fuel to generate electricity with very low CO<sub>2</sub> emissions.
- Corethane has also been used as a diesel substitute for fuel security purposes and is ideally suited for use as a sulphur-free bunker fuel.
- Corethane also has industrial applications and several potential customers have already requested test samples for their industrial plants.
- Graphite refining to a very high purity for use in high-efficiency batteries will also be tested.
- Discussions continue with governments, agencies and major companies in the aluminium industry.

ABx CEO, lan Levy commented: "ABxs subsidiary ALCORE is sufficiently funded to deliver Stage 1 of the ALCORE project, thanks to strong support from seed capital investors. ALCORE's powerful new bauxite refining technology can lead to Australia's first production of AIF3 products to provide security of supply for Australasian aluminium smelters. ALCORE Limited is expected to unlock considerable value for ALCORE and ABX shareholders in the short and medium term.

"In addition to Corethane for energy and fuel security, ALCORE Technology will be tested to produce valuable co-products including **silica fume** for the cement industry that ABx already supplies cement-grade bauxite, as well as ultra-pure AIF<sub>3</sub> for Lithium-ion batteries, **iron oxide** pigments and **titanium oxide** pigments. Further potential exists for developing ultra-pure products such as high purity alumina ("HPA") for the manufacture of scratch-resistant sapphire glass for phones and computer screens.

"ABx is also pressing ahead with its three core bauxite projects; the Tasmanian mine, the large Binjour Project in central QLD and the Penrose refractory bauxite project 90km inland of Port Kembla NSW. Planning is underway for trial mining and processing testwork at the Binjour Project."







Figure 1: Summary of the ALCORE Business Strategy

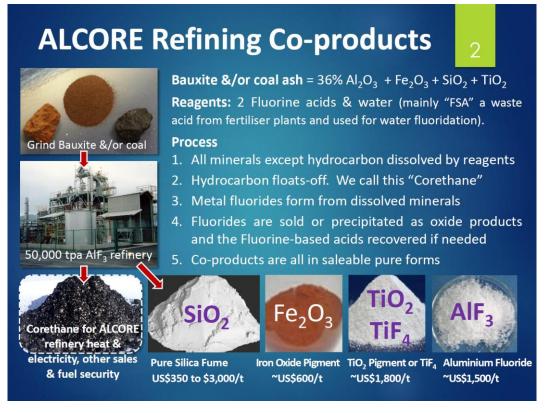


Figure 2: Summary of ALCORE Bauxite Refining Process and Co-products

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#### **About Australian Bauxite Limited**

#### ASX Code ABX Web: www.australianbauxite.com.au

Australian Bauxite Limited (ABx) has its first bauxite mine in Tasmania & holds the core of the Eastern Australian Bauxite Province. ABx's 14 bauxite tenements in Queensland, New South Wales & Tasmania totalled 914 km² & were selected for (1) good quality bauxite; (2) near infrastructure connected to export ports; & (3) free of socio-environmental constraints. All tenements are 100% owned, unencumbered & free of third-party royalties. ABx's discovery rate is increasing as knowledge, technology & expertise grows. The Company's bauxite is high quality gibbsite trihydrate (THA) bauxite that can be processed into alumina at low temperature.

ABx has committed a large proportion of its expenditure into Research and Development to find ways to capitalise on the main strengths of its bauxite type, mainly highly clean, free of all deleterious elements and partitioned into layers, nodules, particles and grains of different qualities that can be separated into different product streams using physical, chemical and geophysical methods.

ABx has declared large Mineral Resources at Inverell & Guyra in northern NSW, Taralga in southern NSW, Binjour in central QLD & in Tasmania, confirming that ABx has discovered significant bauxite deposits.

ABx's first mine commenced at Bald Hill near Campbell Town, Tasmania in December 2014 – the first new Australian bauxite mine for more than 35 years.

ABx aspires to identify large bauxite resources in the Eastern Australian Bauxite Province, which is a globally significant bauxite province. ABx has created significant bauxite developments in 3 states - Queensland, New South Wales and Tasmania. Its bauxite deposits are favourably located for direct shipping of bauxite to both local and export customers.

ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it. We only operate where welcomed.

### **About ALCORE Limited**



Australian Bauxite Limited (**ABx**) has incorporated ALCORE Limited as a wholly-owned subsidiary to fund and manage the ALCORE Project, to lead to the construction of an ALCORE Production Plant to produce Aluminium Fluoride (AIF<sub>3</sub>) and valuable co-products, using patent (pending) new technology. The ALCORE Technology is designed to convert low grade bauxite worth \$50 per tonne into a suite of valuable products worth more than \$800 per tonne. Site construction works for Stage 1 of the ALCORE project commenced on 1 July as planned at ALCORE's pre-approved Pilot Plant site in Berkeley Vale, Central Coast NSW.

Stage 1 is designed to produce  $AIF_3$  test samples for pre-qualified aluminium smelter customers & then produce Corethane, which is pure hydrocarbon powder refined from low-value coals and has been used to provide thermal and electrical power with low  $CO_2$  emissions when used as a gas-substitute to fuel large gas turbine. Corethane has also been used as a diesel substitute for fuel security purposes and is ideally suited for use as a sulphur-free bunker fuel.

Directors of ABx

Paul Lennon Chairman Ian Levy CEO & MD Ken Boundy Director

Henry Kinstlinger Company Secretary

Officers

Leon Hawker Chief Operating Officer
Jacob Rebek Chief Geologist

Paul Glover Marketing, Exploration & Relationships