

## **DEFINITIVE FEASIBILITY STUDY COMMENCES AT HIGH PURITY ALUMINA PROJECT**

### **HIGHLIGHTS**

- **Perth-based process engineering and metallurgical consultants appointed to undertake the Definitive Feasibility Study (DFS) on AMMG's HPA project.**
- **Consultants are highly experienced in designing and building acid-based mini plants both in Australia and overseas.**
- **DFS to commence with targeted completion in December quarter, 2013.**
- **AMMG is now assessing funding options for the processing facility.**

Australia Minerals and Mining Group Limited (ASX: AKA) ("AMMG" or "the Company") is pleased to announce that it has appointed a highly experienced Perth-based metallurgist and process engineering company to complete the Definitive Feasibility Study (DFS) for its 100% owned South West High Purity Alumina Project located in the south west of Western Australia.

AMMG managing director, Mr Ric Dawson, said "*The DFS is the next stage of development for this project as it will detail the design, construction, capex and opex costings necessary for pursuing financing options for a HPA pilot/mini-production plant.*

*"The appointment of this highly experienced metallurgical/process engineering company is based on their previous success in the optimisation and management of efficient laboratory and processing plant operations both in Australia and overseas.*

*"The DFS is scheduled for completion in September 2013; subsequent to this and provided the securing of the necessary funding requirements occurs, a tendering process would ordinarily follow, with commencement of operations anticipated around mid to later next year", he concluded.*



The DFS is scheduled to commence immediately, with the aim of addressing key processing technology criteria:

- Data Review
  - Flowsheet Review
  - Pilot data and equipment
- Process engineering
  - Revised Process Design Criteria development
  - SysCAD Model development
  - Plant layout design
  - Process Flow Diagram development
  - Equipment List and Capital Expense
  - Piping and Instrumentation Diagram and Control Philosophy
  - Operational Expense
  - Plant Layout design
  - Safety and Operational Philosophy

### **Project Background**

The Company's 100% owned South West HPA Project is within relatively close proximity to existing infrastructure, including Kwinana.

AMMG developed its innovative acid-based processing technology in collaboration with consulting processing chemists TSW Analytical Pty Ltd. The processing technology is a low energy intensive process that uses low temperatures and pressures; it produces saleable by-products and the key reagents are recyclable. The aluminous clay feedstock is unique in that it contains extremely low levels of impurities such as iron and titanium. The final HPA product is a premium high-value product that is used in high-performance electronic applications, such as tablet screens and LED's.

AMMG previously announced the successful production of 99.99% (4N) HPA ([please click here to view the announcement dated 21 May 2013](#)) using its processing technology. AMMG is confident that it will be able to produce higher 5N or 6N purity levels, subject to further successful development of the process. The Company lodged three patent applications in February 2013 to protect the intellectual property of its processing technology (patent numbers 2013900637, 2013900636, 20139000639).

The DFS is the next stage of development in this project as it will scope the design, construction and financing requirements for a HPA production plant. AMMG is currently targeting potential investors and off-take customers.

AMMG's process is favoured by the unique mineralogy of its aluminous clay material, which contains extremely low levels of impurities, such as iron and titanium. The Company's aluminous clay deposits are hosted by the Yilgarn Craton, which is one of the oldest weathered cratons on earth. The ancient weathering has left the aluminous clay as a primary or in-situ resource; it is whitish in colour and extends from the surface to a reported depth of 42 metres.

## High Purity Alumina (HPA)

HPA refers to alumina that has a purity level of more than 99.99% (4N). It is a premium high end product that is used in a number of applications such as high-performance electronics; tablet, smartphone and computer screen backlighting; LED's; and hybrid cars.

HPA is a specialised alumina that is used for its superior hardness, high brightness, inertness (non-conductive), superior corrosion resistance and its ability to withstand extreme temperatures.

It is utilised in automotive sensor applications as an alumina substrate, and is used for its excellent electrical insulating properties and high heat conductivity. Due to the high level of plasma corrosion resistance, HPA is also used in semiconductor applications.

While HPA is used in a variety of markets, it is reported that about 60% of HPA is designated to the LED industry. Reported worldwide production of HPA is estimated at 15,000tpa, which is expected to increase at 7% CAGR, predominantly driven by the rising LED market. Prices for HPA range from approximately **US\$40/kg to US\$300/kg**, depending on the level of purity.



Figure 1. HPA is used in the LED industry; computer, tablet and smartphone backlighting; and semiconductors.

**ENDS**

### **Competent Persons Statement**

*Technical information in this report is based on information compiled by Mr Michael O'Mara, B.Sc. Geology, AMMG Chief Geologist and a member of the Australasian Institute of Geoscientists. Mr O'Mara has sufficient exploration experience, which is relevant to the styles of mineralisation and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC 2004"). Mr O'Mara consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.*

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## **About AMMG**

AMMG was established for the purpose of securing exploration ground over areas that have typically been subject to **historical exploration** and where **significant geological data** was available and/or the land was considered sufficiently prospective. Areas with existing or potential access to infrastructure were also targeted.

To date, the Company has identified project areas located in Western Australia and Queensland, which the directors believe may have the potential for the realisation of economic resources of these commodities currently targeted, being - **iron ore, alumina, aluminous clay (kaolin), coal, mineral sands, salt, gypsum and gold.**

The Company itself or under joint venture now has **21 granted tenements and 31 applications** for tenements covering approximately **9,140km<sup>2</sup>** over the project areas. AMMG is pursuing a **diversification strategy** at this stage of the Company's development in order to provide additional development options and potential production opportunities.