

ASX Announcement

16 May 2019

**Andromeda Metals Limited**

ABN: 75 061 503 375

Corporate details:

ASX Code: ADN

Cash: \$2.40 million

(as at 31 March 2019)

Issued Capital:

1,355,499,211 ordinary shares

704,588,163 ADNOB options

20,000,000 unlisted options

Directors:**Rhod Grivas**

Non-Executive Chairman

James Marsh

Managing Director

Nick Harding

Executive Director and

Company Secretary

Andrew Shearer

Non-Executive Director

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Joint Venture for Advanced Nanomaterial Research Formalised

Summary

- **Andromeda Metals and Minotaur Exploration will form a new 50/50 owned company to undertake research and hold title to any intellectual property developed in relation to new technology innovations created for halloysite application and uses along with the commercialisation of potential opportunities.**
- **The incorporated entity will be focused on new commercial applications for halloysite produced from the Poochera Halloysite-Kaolin Project.**
- **The Global Innovative Center for Advanced Nanomaterials (GICAN) located at the University of Newcastle (NSW) is currently producing some exciting research results using the Carey's Well halloysite in battery technology development, water purification and carbon capture and storage. Each of these applications has the potential to present unlimited global development opportunities.**
- **ADN will contribute a total of \$350,000 towards Research and Development investment by June 2020 to earn its 50% equity in the new company.**
- **At Poochera, the current drilling program has been designed to target areas of high purity halloysite.**

Discussion

Andromeda Metals (ASX: ADN, "Andromeda") and Minotaur Exploration (ASX: MEP, "Minotaur") have established a research and development partnership to develop intellectual property and investigate commercial applications for halloysite-kaolin nanotubes from the Poochera Halloysite-Kaolin Project in South Australia. This collaboration complements Andromeda's decision to forge ahead with its earn-in to the Poochera kaolin tenements.

The nature of the Research and Development ("R&D") and commercialisation venture is through a newly formed private company to be owned 50% by Minotaur and 50% by Andromeda, upon Andromeda achieving a 51% equity interest in the Poochera Halloysite-Kaolin Joint Venture. Andromeda and Minotaur have been funding innovative research at GICAN into new

technology applications for halloysite nanotubes (HNT's). HNT's are unique naturally occurring minerals that lend themselves to a wide range of nanotechnology applications.

Andromeda will contribute a total of \$350,000 of R&D expenditure by June 2020, to match an equal amount invested to date by Minotaur, in exchange for a 50% equity interest in the new company and thereafter each party will contribute funds as required on a proportional basis.

The new joint venture company will seek R&D funding assistance from federal and state governments as well as engage with other private companies to grow and commercialise any new technology developed. This will complement Andromeda's principal business of developing the Poochera halloysite-kaolin resource and explore for additional halloysite-kaolin deposits.

Using the new company as an R&D vehicle will greatly assist the development of these new emerging high-tech uses of the halloysite component of the Poochera kaolin resource, thereby creating new product and market openings.

Halloysite is a rare 'tubular shaped' derivative of kaolin that has a wide variety of industrial uses.

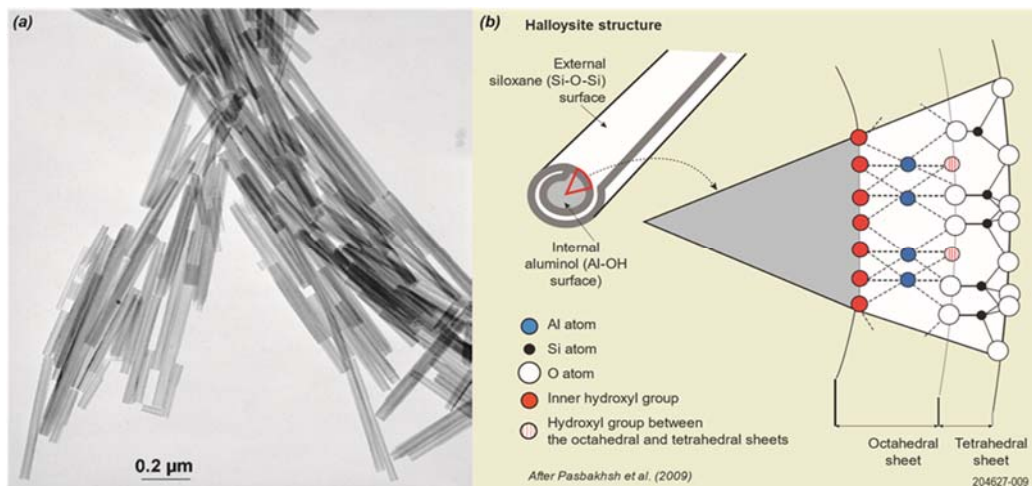


Figure 1: Pure Halloysite with Tubular Structure ($\text{Al}_2\text{O}_32\text{SiO}_2.2\text{H}_2\text{O}$)

The Carey's Well material is a naturally occurring hybrid blend of halloysite and kaolin.

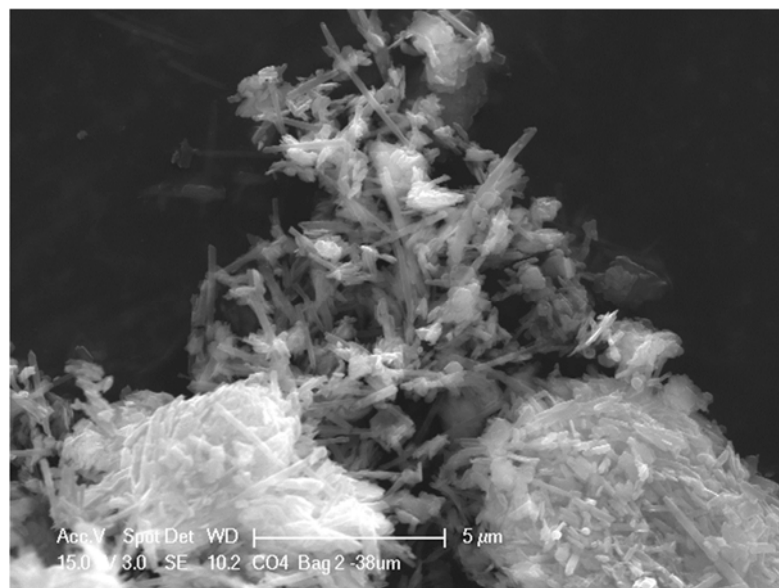
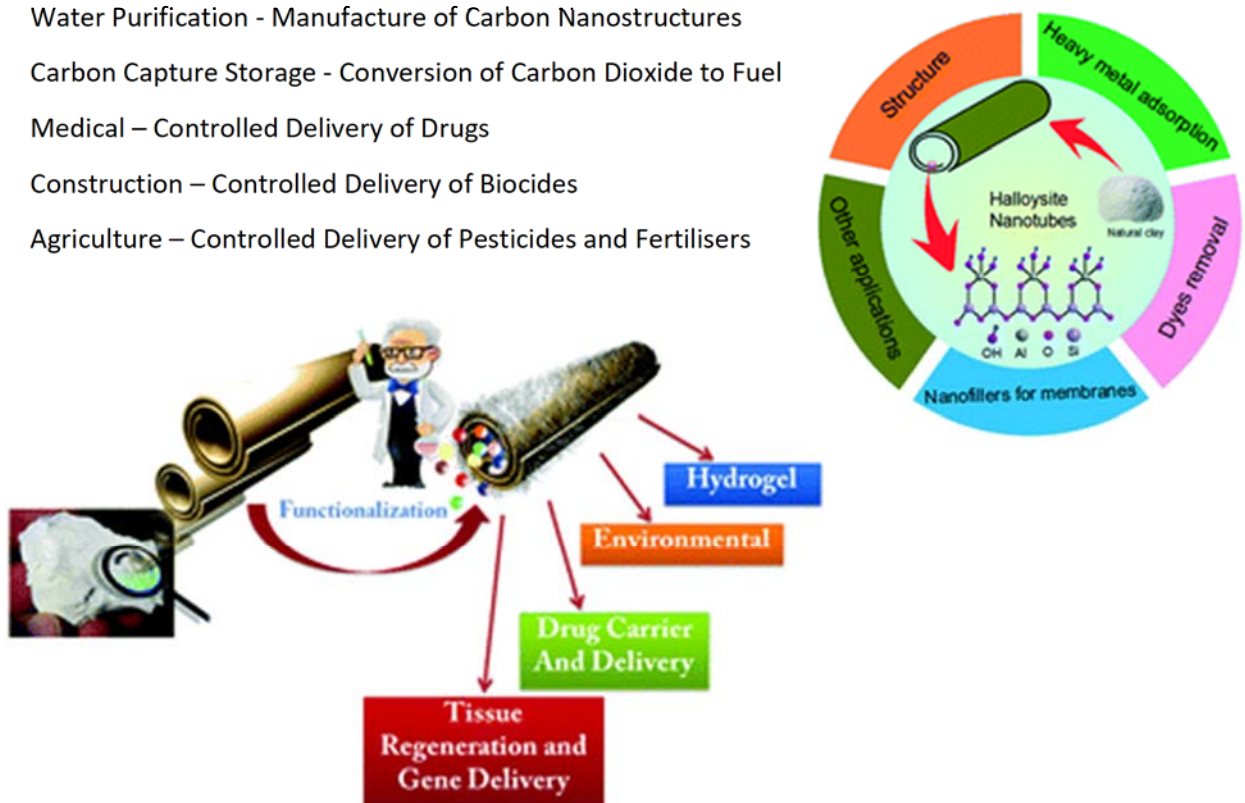


Figure 2: Carey's Well Halloysite-Kaolin Hybrid

The main application of halloysites has historically been as an additive for high quality ceramics. However, there has been an exponential increase in global research aimed at new applications for halloysite nanotubes. This is because the nanotubular forms of halloysite have potential uses in nanocomposites with polymers, as carriers for active agents, e.g. in medicine, agriculture, cosmetics and environmental remediation, as well as in nano-templating, as supports for catalyst immobilization and as heterogeneous catalysts. They also hold promise for other medical uses besides drug delivery, e.g. in wound dressing and tissue engineering scaffolds, as anti-inflammatory agents and in water filtration. HNT's can be functionalised with chemical and biochemical agents and used for the capture of carbon dioxide from the atmosphere and conversion into fuel. Remarkably, since 2005 the number of HNT patents is almost equivalent to the number of research papers which is clear evidence that research on halloysite is readily converted into important new technologies, to a much greater extent than other clay minerals.

Emerging HNT Applications:

- Batteries and Super-Capacitors - Manufacture of Carbon Nanostructures
- Water Purification - Manufacture of Carbon Nanostructures
- Carbon Capture Storage - Conversion of Carbon Dioxide to Fuel
- Medical – Controlled Delivery of Drugs
- Construction – Controlled Delivery of Biocides
- Agriculture – Controlled Delivery of Pesticides and Fertilisers



The Poochera Project

The Poochera Kaolin-Halloysite Project covers two main geographic areas of interest, both situated in the western province of South Australia (Figure 3). The main area of focus, the Poochera Kaolin-Halloysite Project on the Eyre Peninsula comprises three tenements and is located approximately 635kms west by road from Adelaide and 130kms east from Ceduna (Figure 4).



Figure 3: Project location plan

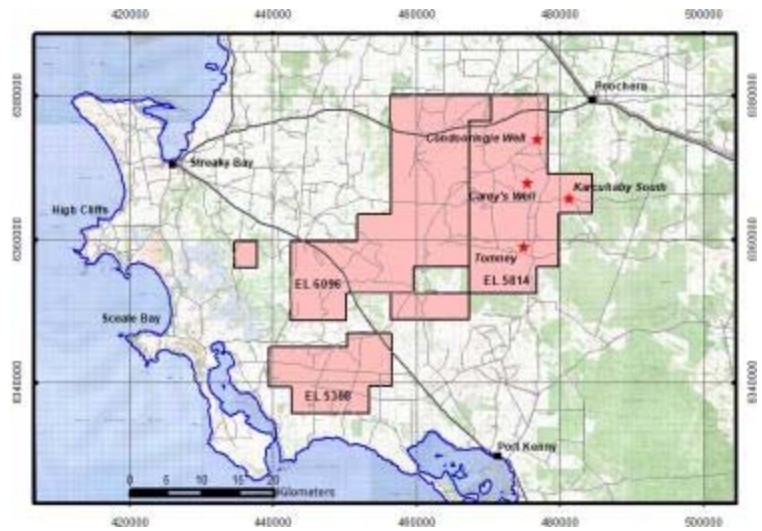


Figure 4: Poochera Tenements

High quality kaolin-halloysite deposits occur extensively across the Poochera Project area making this a region of global significance for the mineral and capable of supporting a considerable long-life mining operation should final feasibility studies determine the project to be economically viable. Halloysite is a rare derivative of kaolin where the mineral occurs as nanotubes. Halloysite has a wide variety of industrial uses beyond simple kaolin and commands a significant premium above the average kaolin price. The Poochera kaolin deposits contains a variable natural halloysite-kaolin blend that is in demand for the ceramic and petrochemical refining markets, as well as developments in new high-tech and nanotechnology applications.

The northern project area includes the near pure halloysite Camel Lake deposit on EL6128 (Figure 3) that could potentially be processed to provide a very high value pure product for the development of halloysite nanotubes technology in the areas of energy storage and carbon-hydrogen capture and storage.

Extensive test work has been completed on the Carey's Well deposit, including resource drilling, bulk sampling, pilot test trials and marketing, and ADN is working towards a Mining Lease application as part of feasibility evaluations.

Under the terms of the Poochera Halloysite-Kaolin Project Joint Venture, ADN can acquire up to 75% of the project by either sole funding \$6.0M over 5 years or alternatively a decision to mine is made by the Joint Venture partners, with an initial 51% interest earned by the Company through the expenditure of \$3.0M on advancing the project within the first 2 years.

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Competent Person's Statements

Information in this announcement has been assessed and compiled by Mr James Marsh, a member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Marsh an employee of the Andromeda Metals Limited has sufficient experience, which is relevant to metal recovery from the style of mineralisation and type of deposits under consideration and to the activity being undertaking to qualify as a Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 30 years of experience in kaolin processing and applications.