

69 King William Road Unley SA 5061 PO Box 1210 Unley BC SA 5061

admin@andromet.com.au www.andromet.com.au

11 September 2020

Manager Announcements Company Announcements Office Australian Securities Exchange Limited Level 4, 20 Bridge Street Sydney NSW 2000

#### **INVESTOR WEBINAR PRESENTATION**

Andromeda Metals Limited (ASX: ADN, "Andromeda" or "the Company") is pleased to announce its participation in the Share Cafe Webinar - Micro/Small Cap "Hidden Gems" Webinar to be held today (Friday 11<sup>th</sup> September 2020) from 12:30pm AEST / 10:30am AWST.

Andromeda's Managing Director James Marsh will provide an overview of the Company's operations titled 'Developing a World-Class Halloysite-Kaolin Project'.

This FREE webinar is able to be viewed live via Zoom over the internet and will provide viewers the opportunity to hear from, and engage with, a range of ASX-listed leading micro/mid cap companies.

To access further details of the event and to register (for FREE), please copy and paste the following link into your internet browser:

https://us02web.zoom.us/webinar/register/WN xgg5pzuDQtmC60Y0M6Bs2A

A recorded copy of the webinar will be made available following the event. A copy of the investor presentation to be delivered during the webinar is attached.

Yours sincerely

**Nick Harding** 

**Executive Director and Company Secretary** 

ASX:ADN

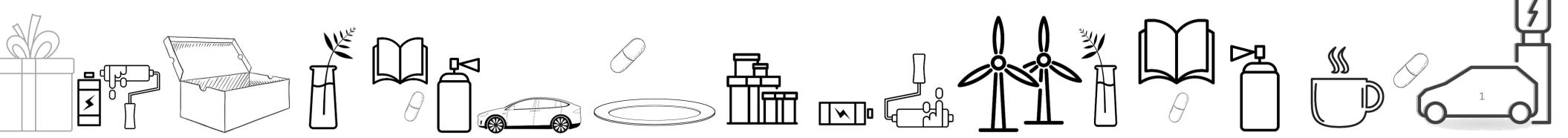
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# ANDROMEDA METALS

## INVESTOR PRESENTATION

DEVELOPING A WORLD-CLASS HALLOYSITE-KAOLIN PROJECT



## CORPORATE OVERVIEW

### **Capital Structure 10 September 2020**

- Market Capitalisation \$99.5M
- Cash \$3.4M
- Debt \$0M
- Enterprise Value \$96.1M
- 1,657,400,593 fully paid ordinary shares
- Current Share Price \$0.065 cents.

#### **Options**

- 490,636,147 listed (\$0.012 & expiry 30 Nov 2020)
- 17,500,000 unlisted (\$0.012 & expiry 15 Nov 2021)
- 59,000,000 unlisted (\$0.064 & expiry 28 Nov 2022)
- 20,000,000 unlisted (\$0.075 & expiry 28 Nov 2023)

#### **Board Members**

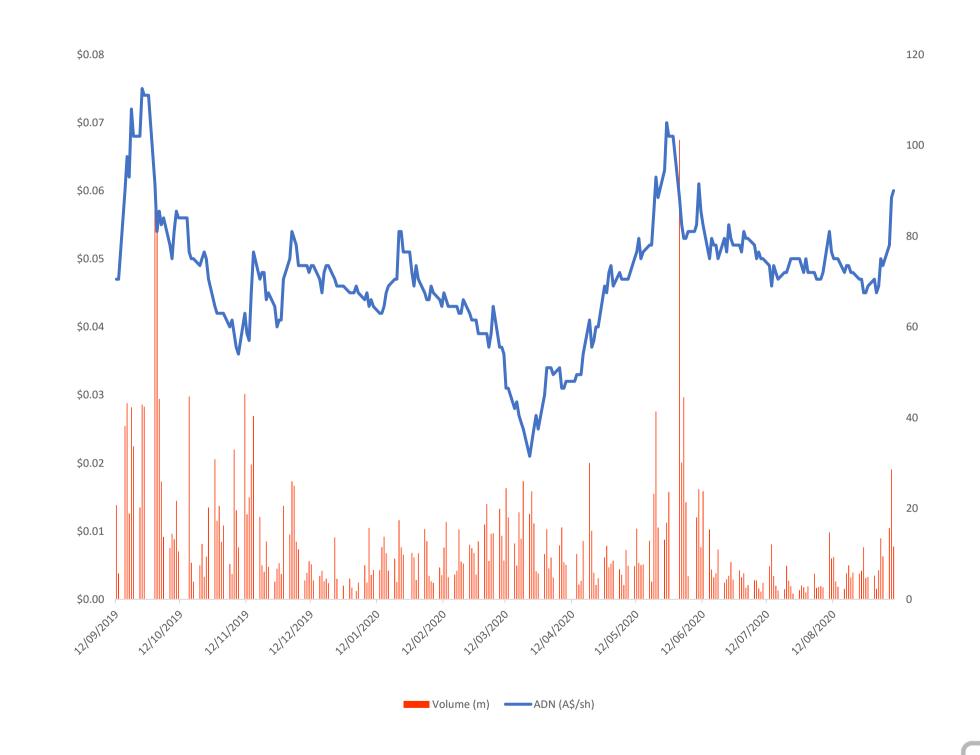
Rhod Grivas – Non Executive Chairman

James Marsh – Managing Director

Joe Ranford – Operations Director

Nick Harding – Finance Director

Andrew Shearer – Non Executive Director

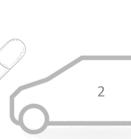












## ANDROMEDA ASSETS

**Evolution Mining JV** 

Gold in Qld



## Halloysite-Kaolin

**Primary Focus** 

Great White Kaolin (JV with MEP) and Mount Hope (100%) Projects in South Australia

Additional Assets & JV's

Gold

Cobra Resources JV Gold in SA

Gold Tenements
Pilbara WA

Copper

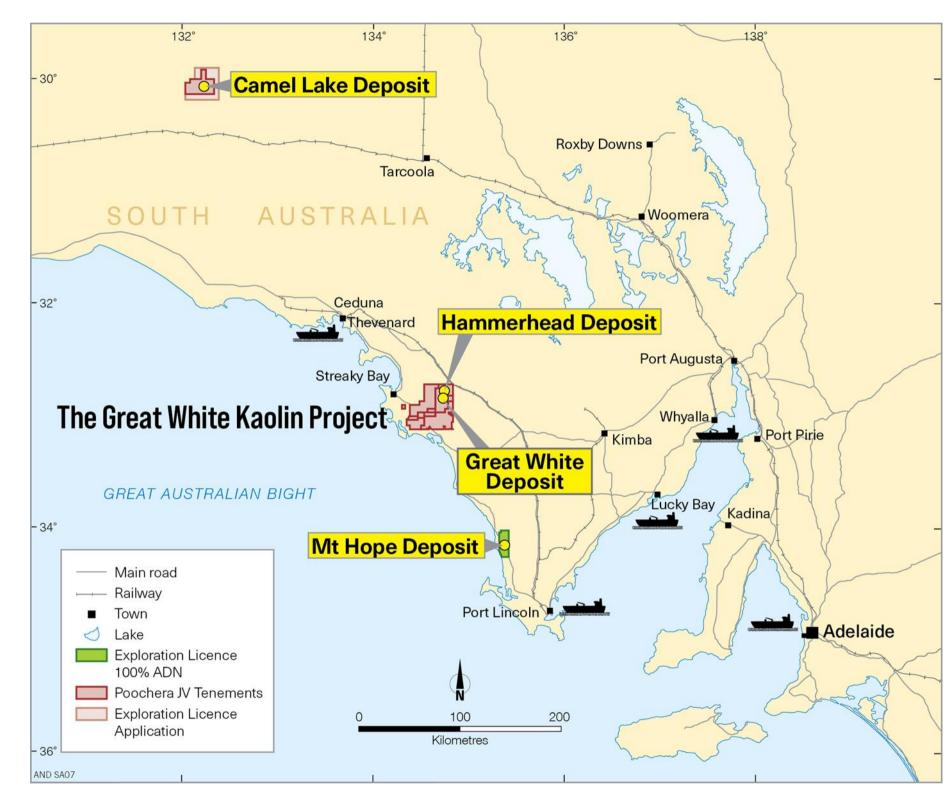
Environmental Copper Recovery JV Copper in SA



## GREAT WHITE KAOLIN PROJECT

## Primary Project Focus - Halloysite-Kaolin

- Great White among the world's largest halloysitekaolin Reserves & Resources
- Located close to essential infrastructure
- extremely robust Pre-Feasibility Study
- High grade halloysite found at Hammerhead
- Significant high-purity kaolin found at Mt Hope
- Multiple opportunities in Halloysite Nanotube Technologies
- High Purity Alumina (HPA) testwork continuing options under evaluation





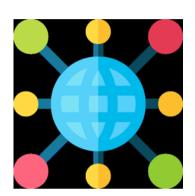
# KEY TAKEOUTS



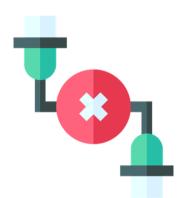




Andromeda Metals is a low capex, short payback period, large scale potential Halloysite- Kaolin miner



You already use Kaolin in a vast number of applications, every day



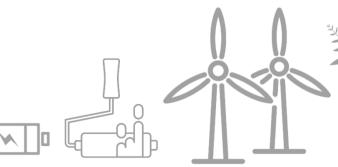
Global supply of high-quality halloysite-kaolin is reducing



Andromeda will be the largest supplier of Halloysite-Kaolin and nanotechnology materials in the world

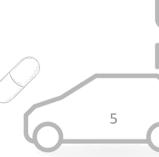






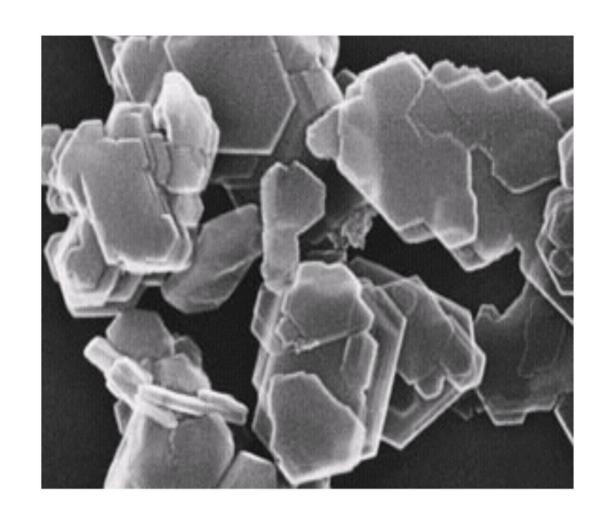






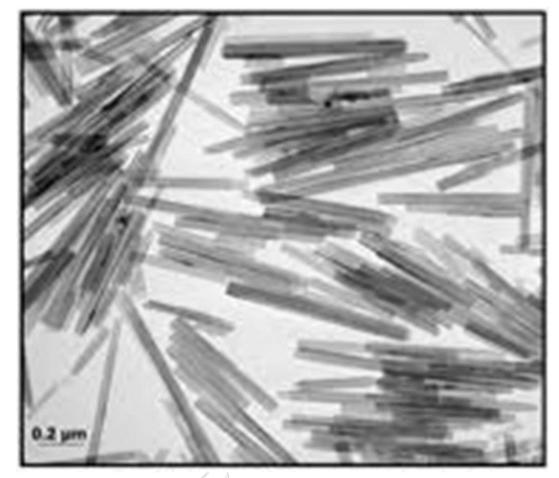
# WHAT IS HALLOYSITE-KAOLIN



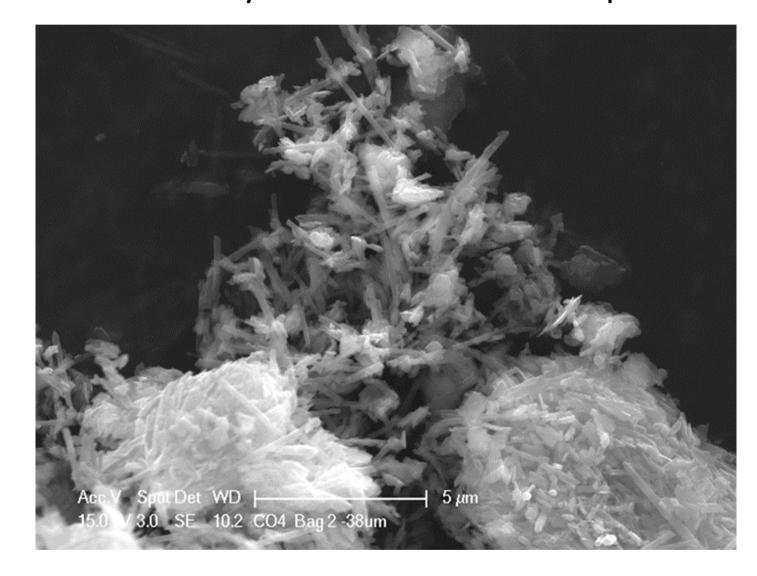


**Kaolinite Plates** 

Halloysite Tubes



The Great White resource is a naturally occurring blend of halloysite tubes and kaolinite plates





## KAOLIN USES

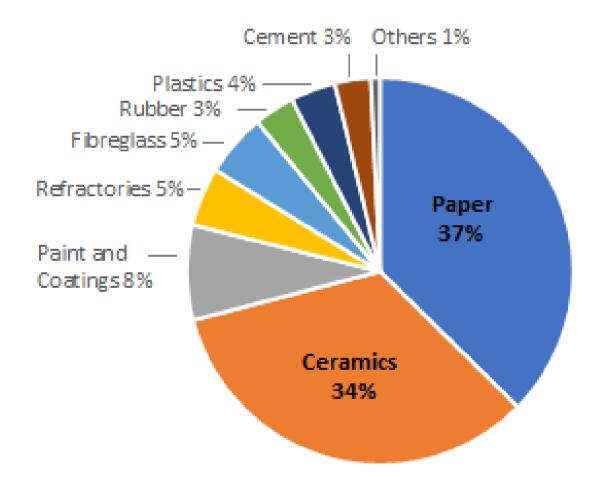
number of applications,

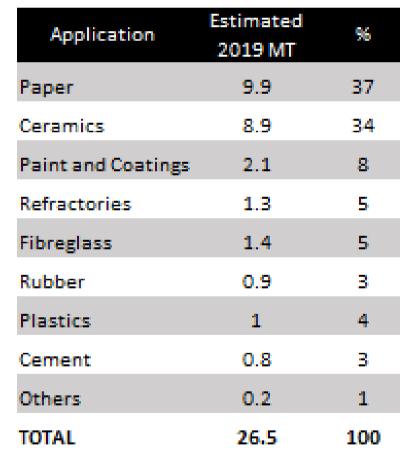








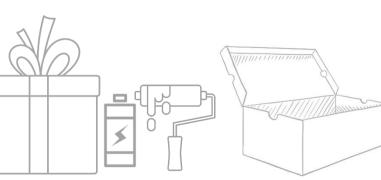






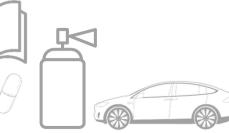






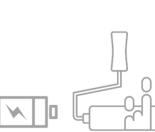
















ESTIMATED % MARKETS OF 26.5MT FOR 2019

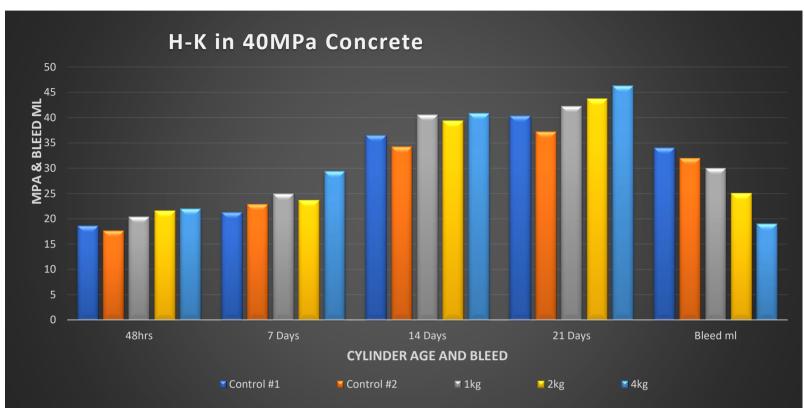






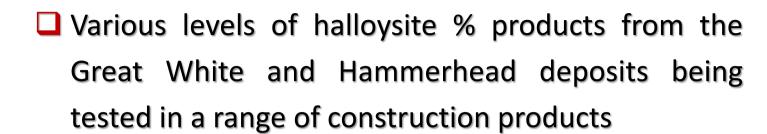
## HALLOYSITE-KAOLIN USES

### **Exciting New Applications in Construction Products**



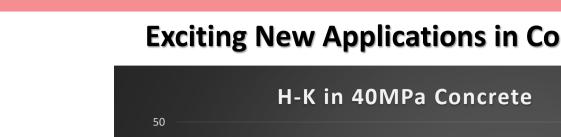
**Concrete Test Pieces** containing Halloysite-**Kaolin Rheology Modifier Products** 

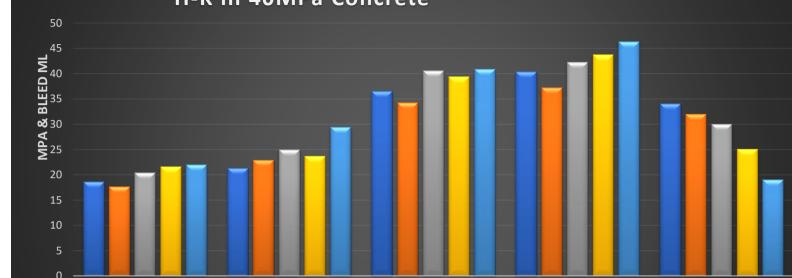




- ☐ Addition levels as low as 1kg/m³ of concrete show clear positive benefits in handling and strength
- ☐ Australian Industry Standards certification testing is currently being completed
- ☐ This opportunity represents a new high-value market with global reach







# HALLOYSITE USES



# MOST RESEARCHED CLAY MINERAL IN THE WORLD

>8000 Papers and 100's of Patents Granted Great White Project halloysite is being tested in all of these emerging and existing applications:

**Hydrogen Storage and Transport** 

**Batteries and Super-Capacitors** 

Water Purification

Carbon Dioxide Capture/Storage and Conversion to Fuels

Medical Delivery of Drugs and Anti-Bacterial Properties

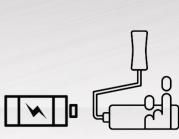
Construction

Agriculture/Delivery of Herbicides

**Polymers and Coatings** 

Remediation of contaminated soils













## CURRENT HIGHLIGHTS

## Great White Project PFS

12.5Mt Ore Reserve \*
High Halloysite component 9.7Mt

NPV of A\$736m (pre tax / 8% discount rate) EBITA (LOM) A\$2.06B

26 year mine life (@500ktpa) 15 month payback IRR of 175%

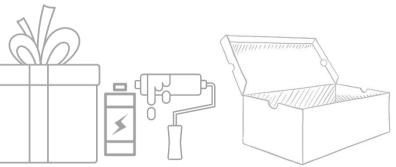
## Mid Term

High grade Halloysite found at Hammerhead

High-purity Kaolin resource at Mount Hope

Nanotube applications & HPA testing underway

<sup>\*</sup> Andromeda ASX Announcement July 10 2020 – 'Maiden Ore Reserve for Carey's Well Deposit'



























## Market Value Overview

A\$1,000/t - A\$5,000/t \* (depending on % purity)

A\$700/t(1) (230ktpa used in PFS)

Expected Profit 50%

Cost of Extraction & Processing 50%

Stage 1 – DSO

Expected Profit 80%

Cost of Extraction & Processing 20%

Stage 2 – Processing on Site

**Expected Profit Very Significant** 

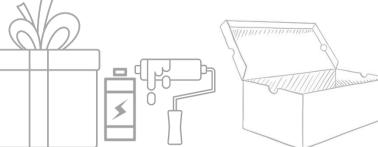
Cost of Extraction and Processing N/A

New Markets – Halloysite Nanotechnologies

- Project economics have been established on market research provided by First Test Minerals a world authority on clay materials. The high grade, rare halloysitekaolin product commands a US\$500/t (Ã\$700/t) in the ceramics industries of China, and a number of countries throughout Asia, the Middle East, and Europe.
- Andromeda ASX announcement Jul 10 2020 "Maiden Ore Reserve for Carey's Well Deposit'.

Not to scale

• Price depending on % purity































## So What's Next?

- Mining lease approvals in progress
- Definitive feasibility study in progress
- Progress customer offtake agreements through 2020 and 2021
- Define an halloysite-kaolin resource at Hammerhead imminent
- Define a halloysite-kaolin resource at Tiger Q4 2020
- Potential studies on Hammerhead & Mt Hope prospects 2020/2021
- Progress building product application testing in progress
- Progress halloysite nanotube application research ongoing
- Secure an HPA alliance/collaboration partner in progress
- Obtain a high purity halloysite resource 2021
- Evaluation of additional industrial mineral opportunities ongoing
- Commencement of operations at Great White target early 2022



Approximately 10t of Commercial Scale Product produced in Japan for Customer Offtake Approvals



# In Summary

- Andromeda has one of the world's largest resources of halloysite-kaolin
- This is a high value industrial mineral selling into a low-volatility market
- Global demand is increasing and supply is decreasing
- Low capex project with a short timeline to operation
- Simple business model with low impact mining
- Andromeda is well positioned to become the world's leading producer of this mineral
- Huge potential in new application, high-purity halloysite, nanotube technology and HPA
- Opportunities to build a diversified industrial minerals business















**MARKETING** 





METALS

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## THANK YOU



#### **Cautionary Statements**

The preliminary feasibility study (Pre-Feasibility Study, PFS) referred to in this announcement has been undertaken to study a range of options to produce high-quality halloysite-kaolin product from the Kaolin Resource at Poochera in South Australia in order to provide Andromeda Metals with a basis for more detailed Definitive Feasibilities Studies for the Project. It is a technical and economic study to identify preferred mining, processing and infrastructure requirements but it has not finalised these. The PFS work has advanced assessments of environmental and socio-economic impacts and requirements but these are also not finalised. The estimation of ore reserves is yet to be done.

The Production Target referred to in this announcement is based on this PFS and supported mainly by Measured and Indicated Resources and only minor Inferred Resources. Andromeda Metals has concluded that it has reasonable grounds for disclosing a Production Target, however there is no certainty that the Production Target or the economic assessment will be realised.

The PFS is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Andromeda Metals considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PFS will be achieved.

To achieve the range of outcomes indicated in the PFS, funding in the order of A\$28M, inclusive of working capital, is likely be required. Investors should note that there is no certainty that Andromeda Metals will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Andromeda Metals' existing shares. It is also possible that Andromeda Metals could pursue other 'value realisation' strategies to provide alternative funding options.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS.

This announcement includes forward looking statements. For further information on forward looking statements please refer to the end of this release.

#### Forward Looking Statements

Some of the statements contained in this report are forward looking statements. Forward looking statements, include, but are not limited to, statements concerning estimates of tonnages, expected costs, statements relating to the continued advancement of Andromeda's projects and other statements that are not historical facts. When used in this report, and on other published information of Andromeda, the words such as 'aim', 'could', 'estimate', 'expect', 'intend', 'may', 'potential', 'should' and similar expressions are forward looking statements. Although Andromeda believes that its expectations reflected in the forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward looking statements include the potential that Andromeda's project may experience technical, geological, metallurgical and mechanical problems, changes in market prices and other risks not anticipated by Andromeda. Andromeda is pleased to report this summary of the Study in a fair and balanced way and believes that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any mining of mineralised material, modifying factors, production targets and operating cost estimates.

This announcement has been compiled by Andromeda from the information provided by the various contributors. All financial assumptions and estimates are quoted in Australian Dollars ('A\$' or 'AUD') only, unless indicated otherwise.

#### **Competent Person's Statements**

Information in this announcement has been compiled by Mr James Marsh a member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Marsh is an employee of Andromeda Metals Limited has sufficient experience, which is relevant to the style of mineralisation, type of deposits and their ore recovery under consideration and to the activity being undertaking to qualify as Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). This includes Mr Marsh attaining over 30 years of experience in kaolin processing and applications. Mr Marsh consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

