



**Annual General Meeting 2022**  
**Managing Director's presentation**  
21 November 2022

**Our Vision:** Leading the world in the sustainable supply of superior quality industrial minerals and advancement of nanotechnologies

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## Mineral Resources and Ore Reserves Estimates

As an Australian company with securities listed on the Australian Securities Exchange (ASX), Andromeda is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of ore reserves and mineral resources in Australia comply with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the **JORC Code**) and that the Ore Reserve and Mineral Resource estimates underpinning the production targets in this presentation have been prepared by a Competent Person in accordance with the JORC Code.

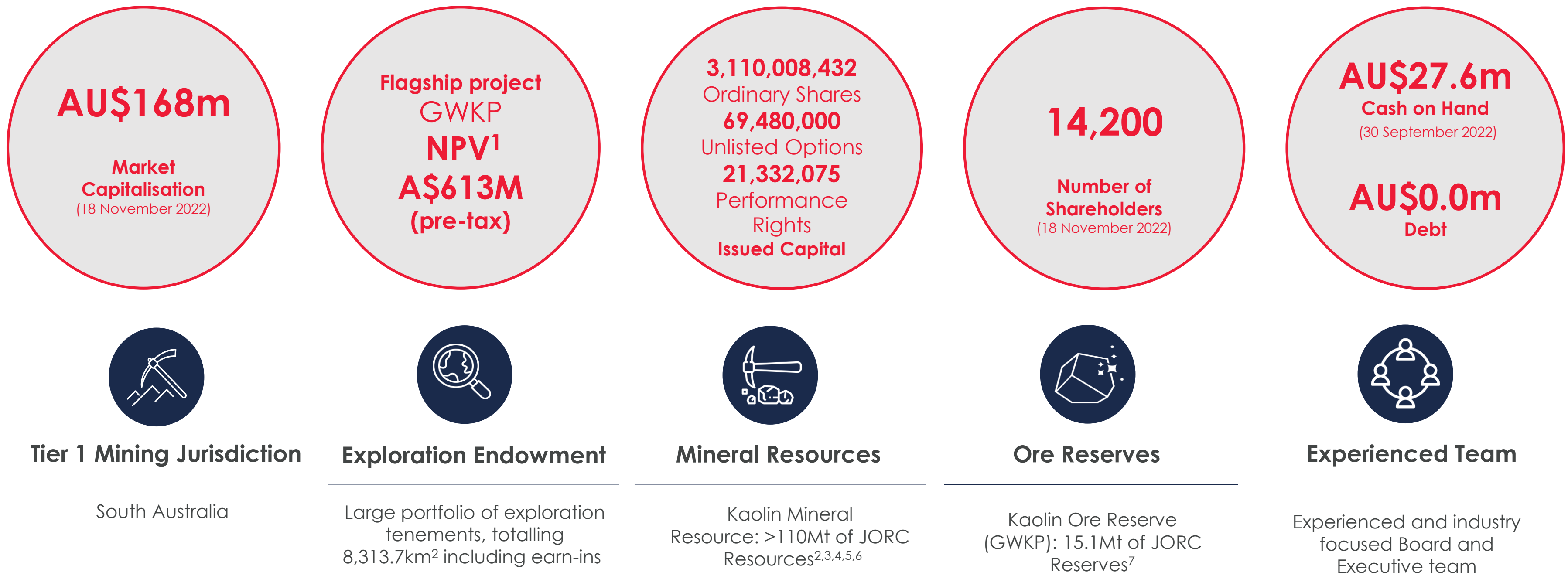
Information that relates to Mineral Resources estimates has been previously announced to ASX on 23 December 2019, "Significant increase in Mineral Resource for the Poochera Kaolin Project", 29 September 2020, "New mineral resource estimate for Hammerhead Halloysite-Kaolin Deposit" and 11 August 2020, "New Mineral Resource for the Mount Hope Kaolin project", all available at <https://www2.asx.com.au/markets/company/adn>. Andromeda confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. Andromeda confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## 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 who holds shares and options in the company and 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.

# Andromeda (ASX: ADN)

A near-term mining producer well placed for growth



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ASX 6 April 2022 Great White Kaolin Project - Definitive Feasibility Study

ASX 23 December 2019, "Significant increase in Mineral Resource for the Poochera Kaolin Project".

ASX 29 September 2020, "New mineral resource estimate for Hammerhead Halloysite-Kaolin Deposit".

ASX 11 August 2020, "New Mineral Resource for the Mount Hope Kaolin project"

"The Company is not aware of any new information or data that materially affects the information in the relevant market announcements. All material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed."

ASX 23 March 2022, Maiden Tiger Kaolin Resource and Regional Rare Earth Element Potential. Halloysite reported with kaolinite.

ASX 6 April 2022 Great White Kaolin Project - Definitive Feasibility Study



# Our Independent Non-Executive Board Members

New Board with exceptional industry expertise



**Mick Wilkes**

*Independent Non-Executive Chair*

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An experienced mining executive and company director with more than 35 years of broad international mining experience coupled with a successful track record of leading the development and operation of greenfield mines.



**Melissa Holzberger**

*Non-Executive Director  
Chair, Sustainability & Governance  
Committee*

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Director and mining lawyer with over 20 years' experience in the international energy and resources sector. Spanning legal, risk and compliance oversight, and environment, social and governance (ESG).



**Austen Perrin**

*Non-Executive Director  
Chair, Audit & Risk Committee*

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Considerable experience in mining, infrastructure, and oil and gas. In depth experience across accounting and finance, including acting as Chief Financial Officer for Whitehaven Coal Ltd, Asciano Limited, AJ Lucas Group and Toll NZ.

# Our Executive Team

Expanded team with strong operational capabilities



**James Marsh**

*Managing Director*

Highly qualified kaolin specialist with more than 30 years' industrial minerals experience, including notable, senior technical and marketing roles with two global market leaders.



**Joe Ranford**

*Operations Director /  
Chief Operating Officer*

Mining engineer with 25 years' senior management experience across both domestic and international mining companies, bringing mining operations into production within sensitive communities.



**Tim Anderson**

*Chief Commercial Officer*

An experienced executive with over 35 years of commercial experience through leadership, business development and commercialisation roles in energy, resources, water, technology and engineering.



**Michael Zannes**

*Chief Financial Officer*

A finance and commercial professional with over 25 years of experience managing operational and corporate finance functions.



**Andrea Betti**

*Company Secretary*

A corporate governance professional with over 20 years' experience in accounting, corporate governance, finance and corporate banking.

# Ideally positioned to meet growing global demand



Estimated Size of Global Kaolin Market

**US\$9.0 billion<sup>1</sup>**

in 2023 (41Mt)

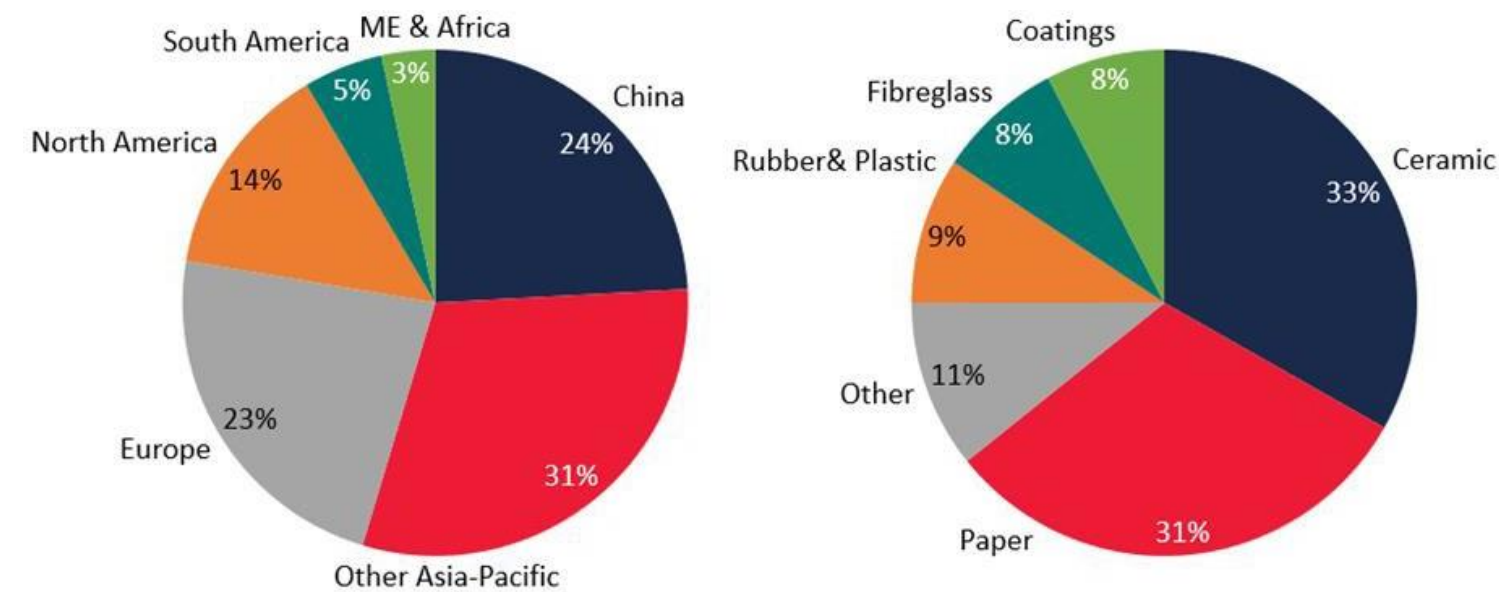


Estimated Growth of Global Kaolin Market

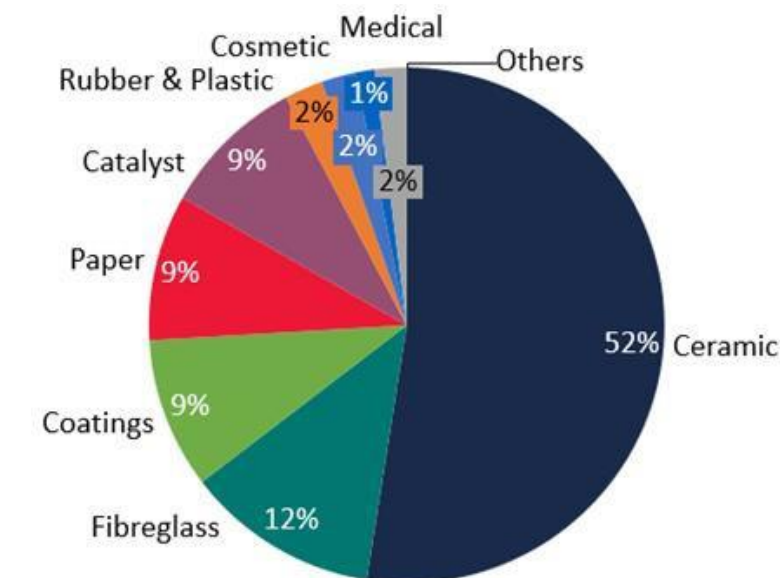
**11.1% p/a<sup>1</sup>**

2020-2027 CAGR (Asia Pacific)

Global kaolin demand by end use and region in 2021



Chinese kaolin demand by end use in 2021



1. Grand View Research Kaolin Market Estimates and Trend Analysis to 2025

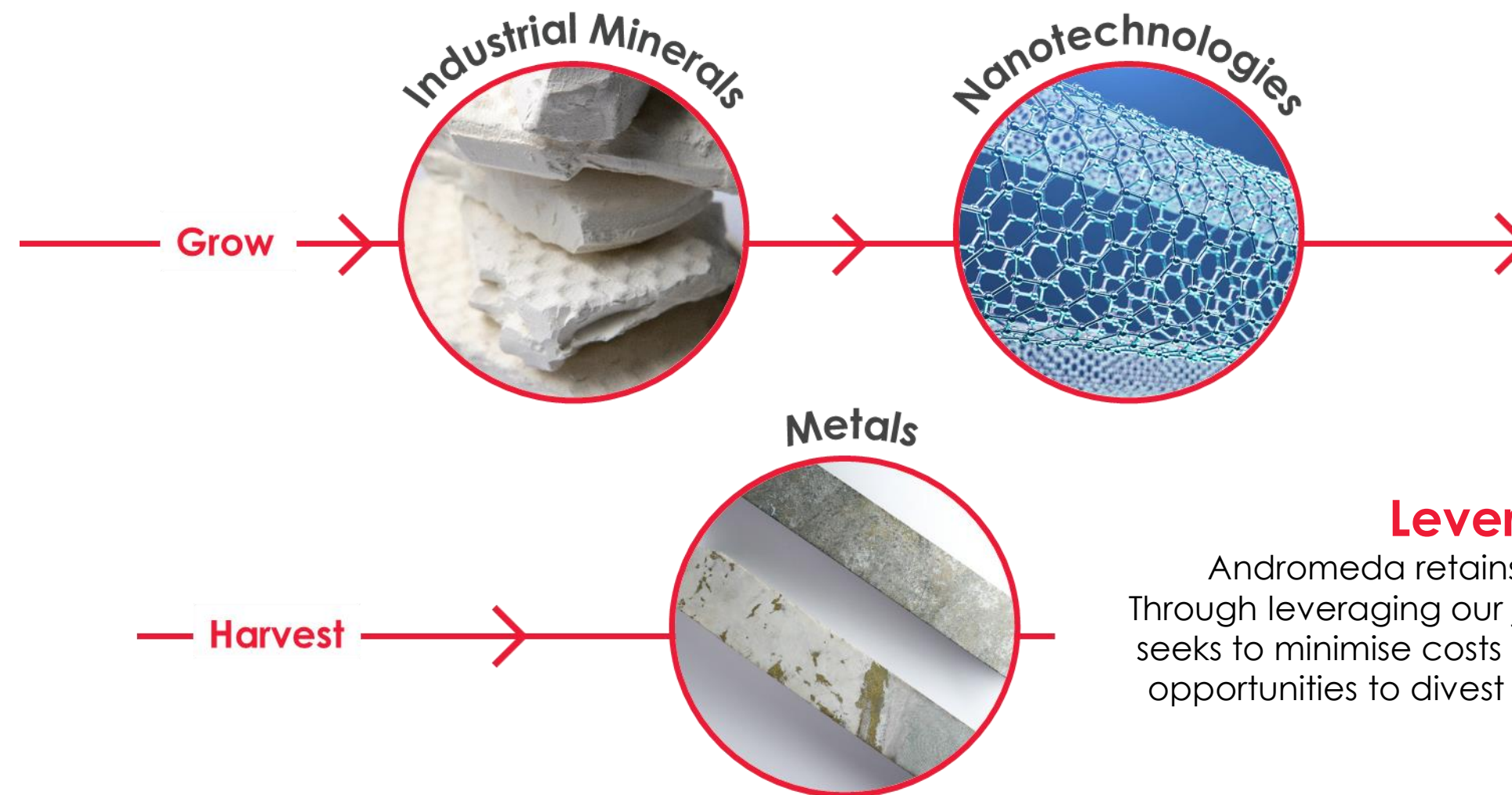


## Our purpose

Through the use of our halloysite-kaolin and nanotechnologies, we strive to enrich the lives of people by improving the environment, creating prosperity for our shareholders and delivering value for our stakeholders

## Our vision

Lead the world in the sustainable supply of superior quality industrial minerals and advancement of nanotechnologies.



## Our mission

To mine and process industrial minerals for supply, together with advancing nanotechnologies, to a global customer base by leveraging our unique natural resources and intellectual property portfolio.

## Leverage for growth

Andromeda retains legacy gold and copper assets. Through leveraging our joint venture partnerships, Andromeda seeks to minimise costs and management time, while seeking opportunities to divest and reinvest funds in growth projects.

## Our Values



Innovation



Teamwork



Integrity



Quality

The safety and wellbeing of our employees and our communities is our first priority



# Halloysite-Kaolin applications – current and potential

Andromeda is focused on high-value segments of Halloysite-Kaolin across multiple uses in many everyday products and across many emerging nanotechnologies and applications.





# Why Andromeda?

<div>Completed over last 12 months</div>		
	Mining Approval	Granted
	Minotaur Acquisition	Completed
	Natural Nanotech	100% Owned
	DFS	Released
	Binding Offtakes	Five Binding offtake agreements signed
	Team	Expert and dedicated team built
	PEPR	Environmental Management Plan submitted for approval
	Land acquired	Agreements signed to acquire land covered under Mining Lease

## Halloysite - Kaolin

- Rare world class resource
- Halloysite is the highest value form of kaolin
- Developed significant in-house knowledge base



## New High Value Product Opportunities

Developing new high-value products including High Purity Alumina (HPA)



## Nanotechnologies

Strategic research relationship with University of Newcastle



## Intellectual Property

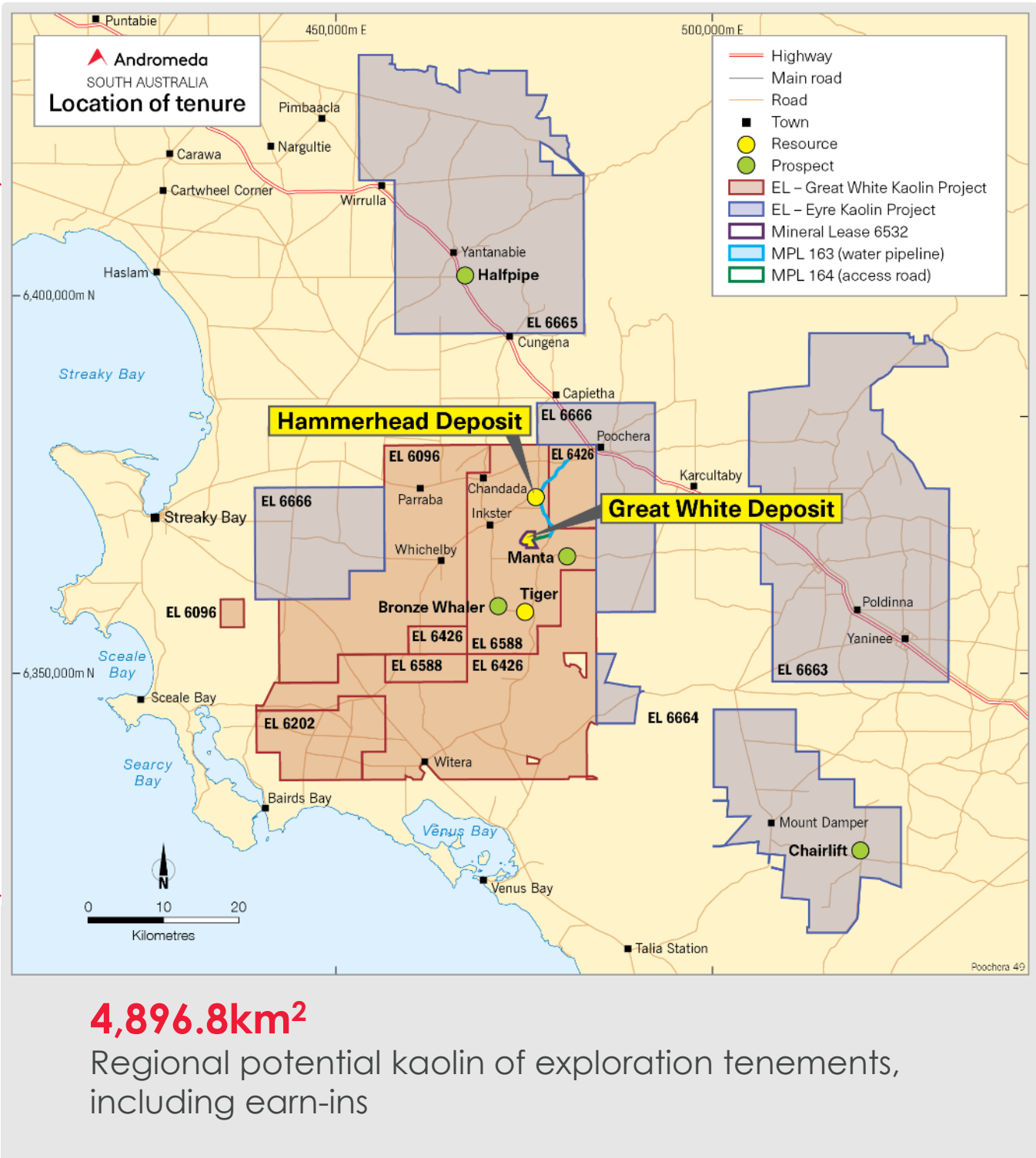
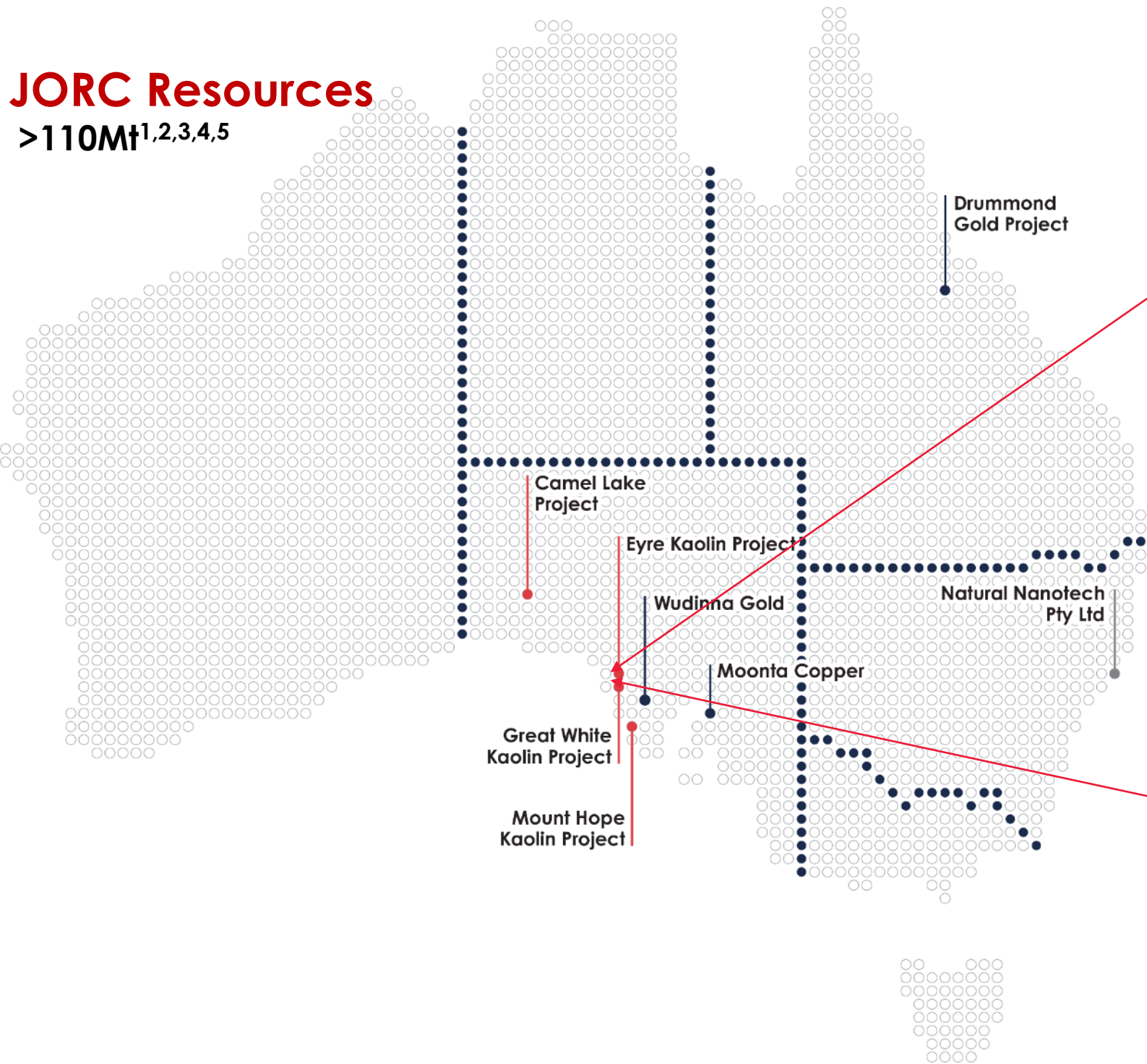
### Building our IP portfolio

- Carbon capture international patent application filed
- Carbon dioxide conversion provisional patent application filed
- HPA production process provisional patent application filed
- HRM approved for use in concrete

# Halloysite - Kaolin Resources & Exploration

Exploration efforts by our experienced Geological Team to grow the market base for value products.

**JORC Resources**  
**>110Mt<sup>1,2,3,4,5</sup>**

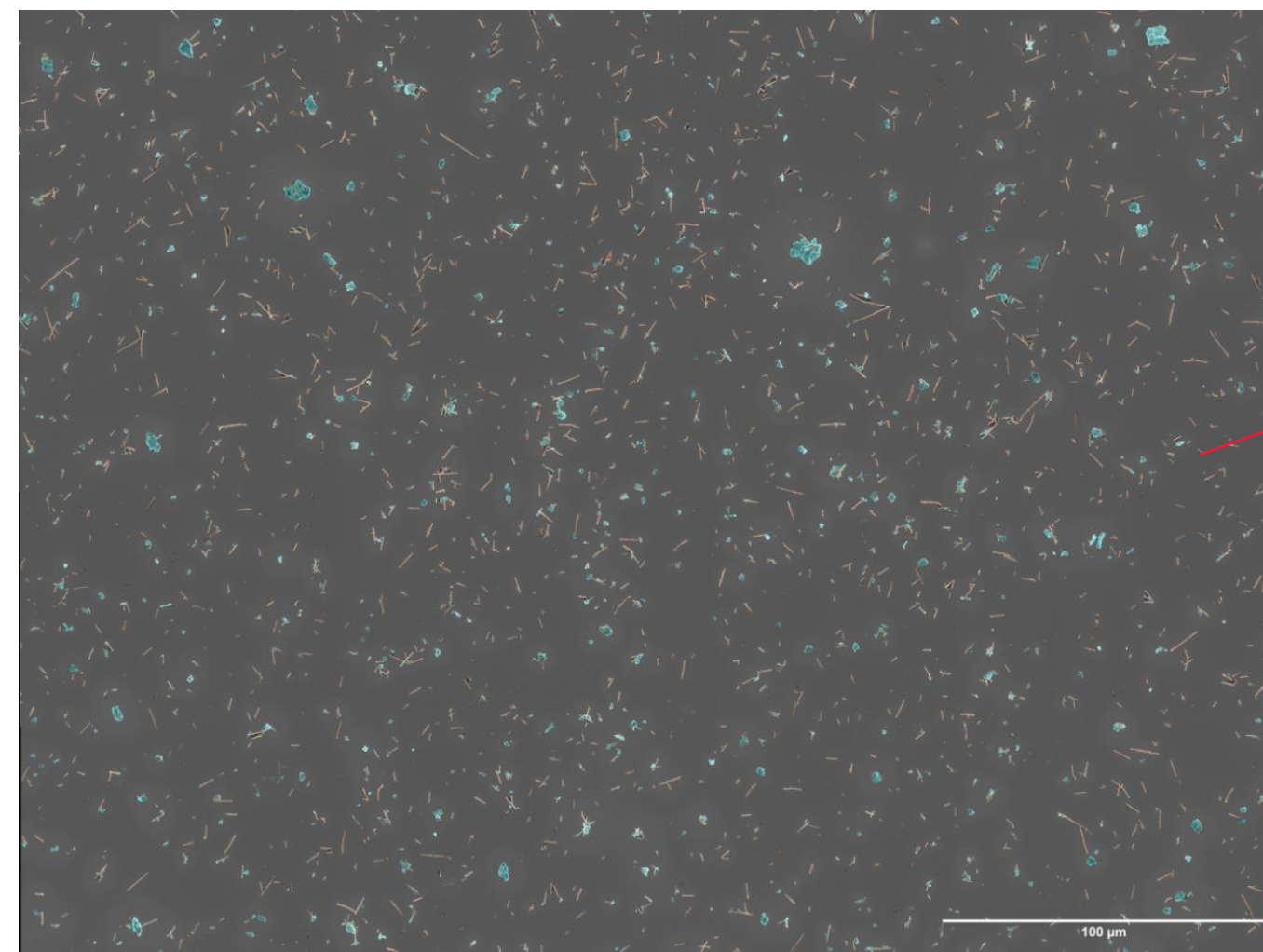


1. ASX 23 December 2019, "Significant increase in Mineral Resource for the Poochera Kaolin Project".  
2. ASX 29 September 2020, "New mineral resource estimate for Hammerhead Halloysite-Kaolin Deposit".  
3. ASX 11 August 2020, "New Mineral Resource for the Mount Hope Kaolin project".  
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5. ASX 23 March 2022, Maiden Tiger Kaolin Resource and Regional Rare Earth Element Potential. Halloysite reported with kaolinite.  
6. ASX 12 August 2021, "Andromeda enters new kaolin Joint Venture on the Eyre Peninsula, SA".

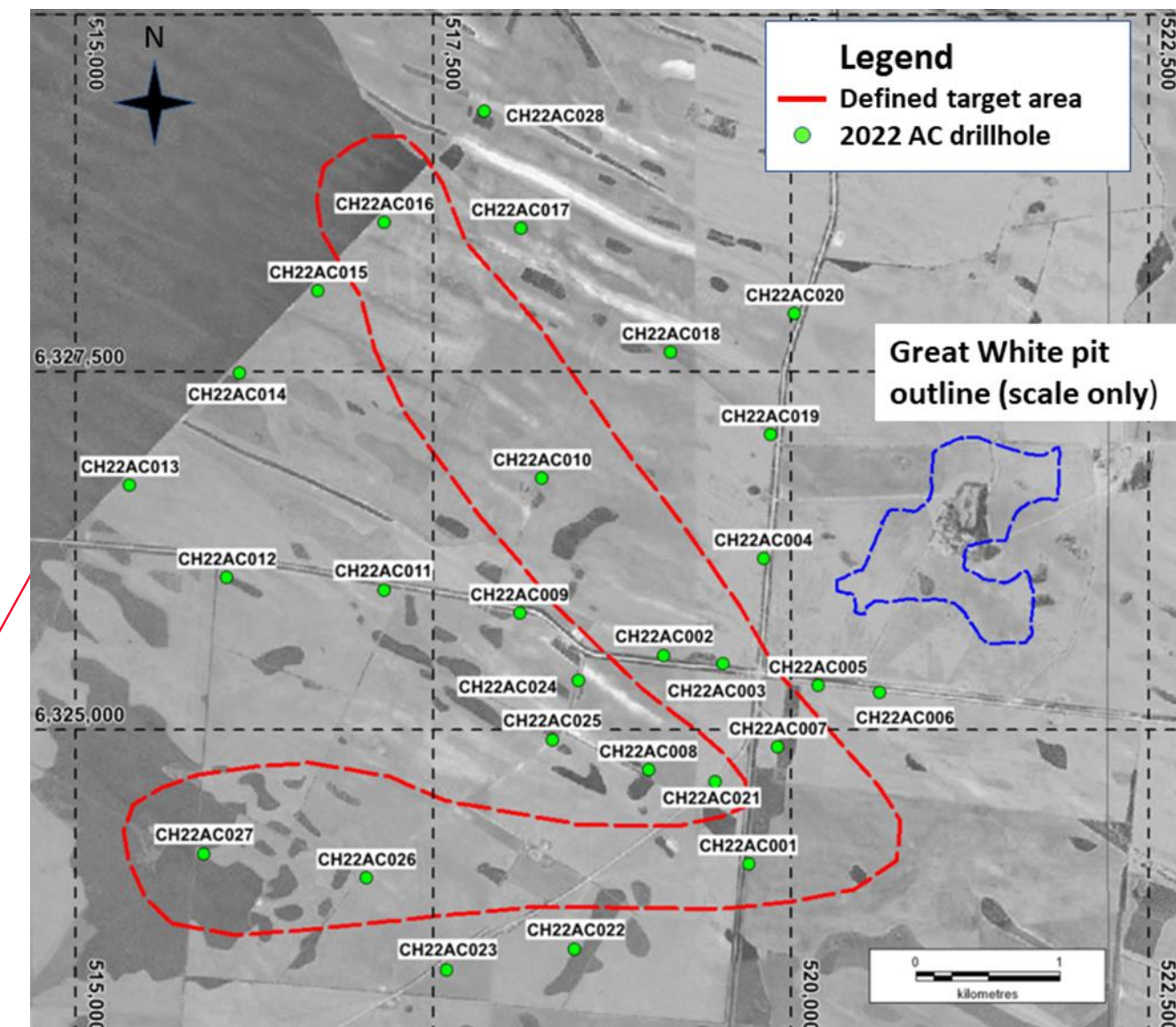
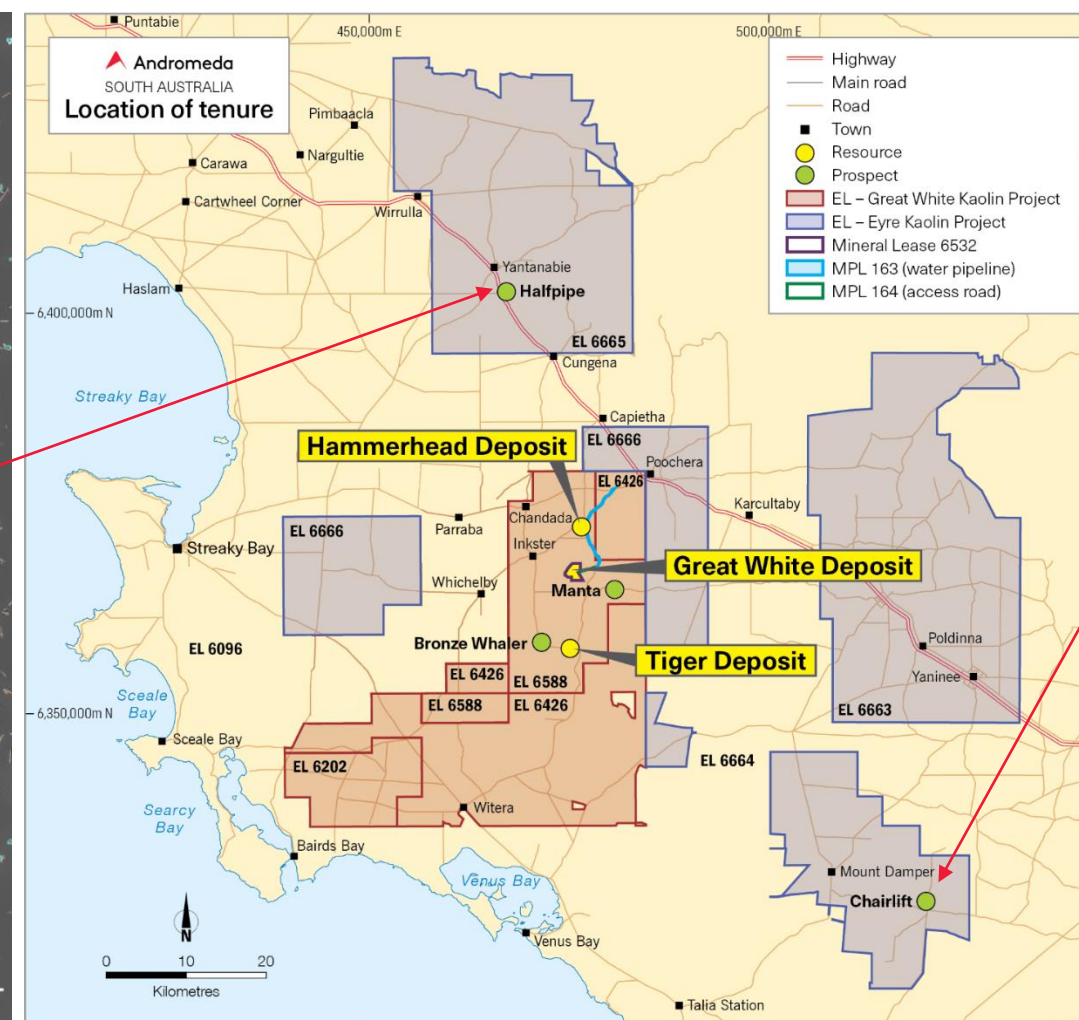


# Exploration – building a leadership position in halloysite-kaolin

- Grade control drilling completed over Year 1 pit
- Regional drill programs at Chairlift 28 holes for 895.5 metres and at Chairlift and 24 holes for 1,173 metres at Halfpipe
- SEM images from Halfpipe indicate the presence of high grade halloysite



Halfpipe HA22AC015 15-17m SEM image with halloysite coloured orange by AI



Chairlift target area – with size comparison to Great White Deposit (not actual location)



# GWKP Pilot Plant

## Ongoing upgrades made to enhance operations



### Upgraded Pilot Plant

- AKW Apparate Verfahren GmbH Hydro-cyclones
- Upgraded screening
- Filter press – increased dewatering
- Cone bottom thickener
- Produced samples for customer testing
- Drum washer and centrifuge installed and operational





# Great White Kaolin Products & Marketing

Increasing acceptance of Andromeda's four high-grade Kaolin products, with initial production focused on 'Great White KCM' Kaolin concentrate

## Concentrate Product Great White KCM™90

*A semi-refined high-quality kaolin for direct use, further refinement or upgrade of resources*

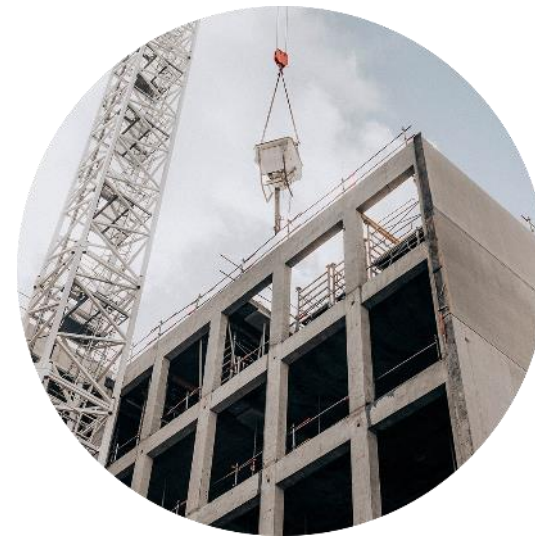


- Highly consistent premium grade
- Halloysite optimised
- Suitable as feed for HPA

*2 Binding Offtakes signed for minimum 66,000t during first 3 years with remaining capacity under negotiation*

## Concrete Product Great White HRM™

*A refined kaolin for sale for use as a concrete and building product additive*



- Decarbonisation of concrete
- Performance improvements
- Cost and labour savings

*Binding offtake agreement signed with IMCD for 22,500t during first 3 years*

## Ceramic Product Great White CRM™

*A fully refined product for the high-end ceramics market*



- World class grade
- High whiteness and translucency
- Good green and fired strength

*Binding Offtake for 5,000t/pa*

## Coatings Product Great White PRM™

*A fully refined product for the coatings and polymers markets*

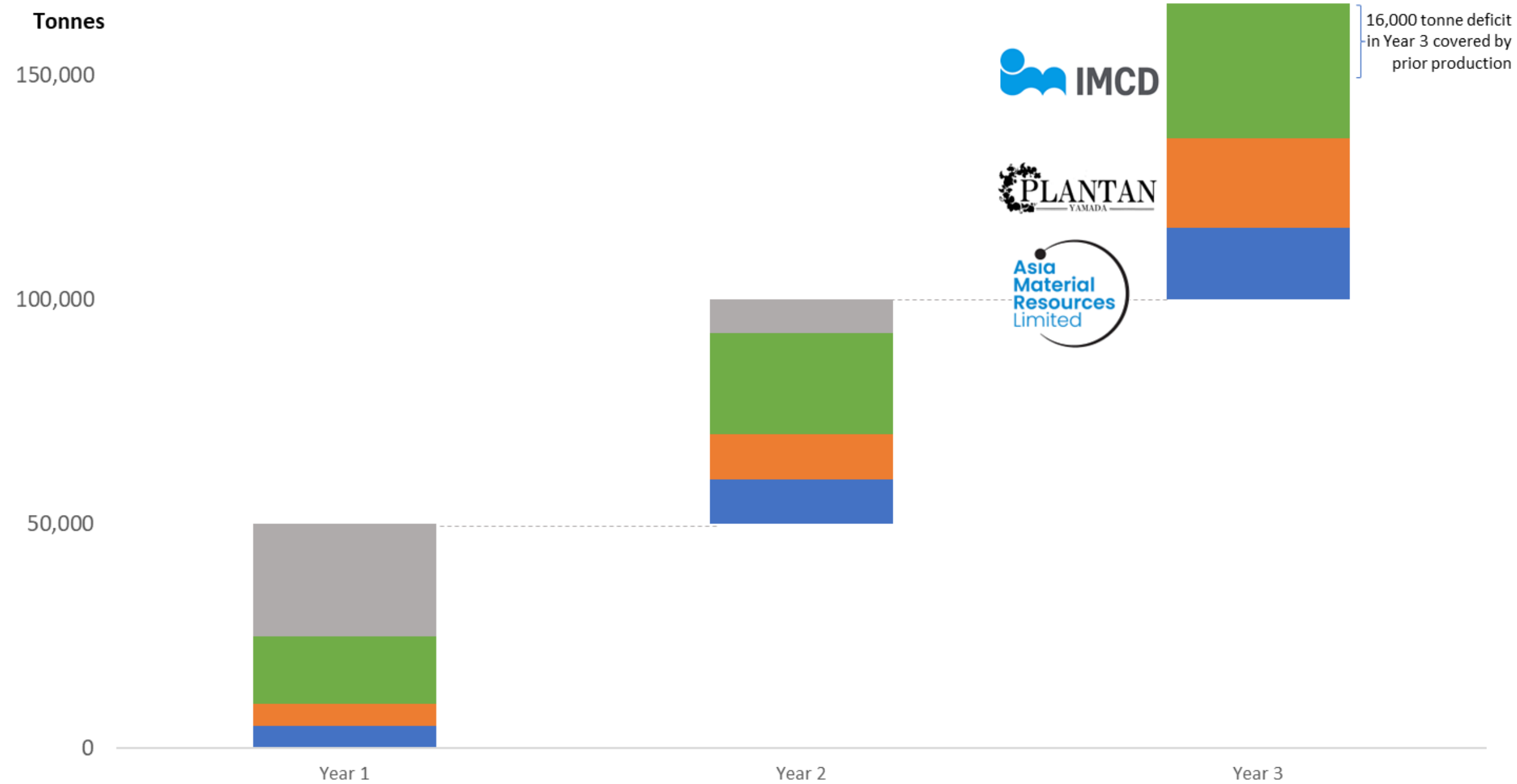


- World class grade
- Ultra-high brightness
- Cost savings

*Binding Offtake for 70,000t/pa*

# GWKP cumulative production and offtake profile

Increasing profile of committed production volumes results in production deficits from year 3, supporting future expansion plans





# Great White Kaolin Project– Post DFS Works

- Pilot Plant scaled-up for product samples to support marketing for Ceramics, Coatings, HPA and Nanotechnologies
- Starter Plant sized for production to match offtake profile
- Up-front capital requirements reduced
- Procurement process for long lead items underway
- Operational readiness - establishment, construction and starter pit detailed planning

## Great White Deposit and Starter Processing Plant Design

DFS design concept minimises capital with a staged approach to production capacity and product quality to self-fund capital upgrades.



3D elevation of Great White Kaolin Project – Stage 1a Starter Plant

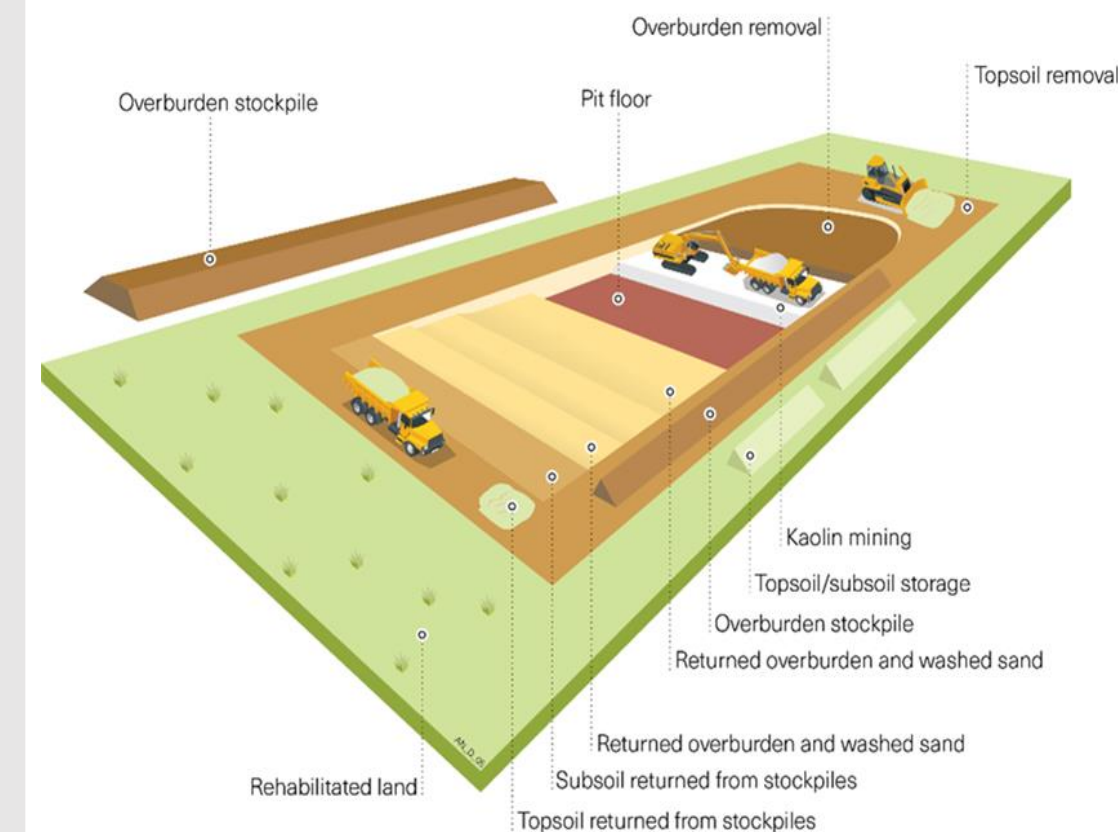
## DFS Highlights<sup>1</sup>

**NPV<sub>8</sub>**  
**A\$613M**  
(pre-tax)

**LOM**  
**28yrs**

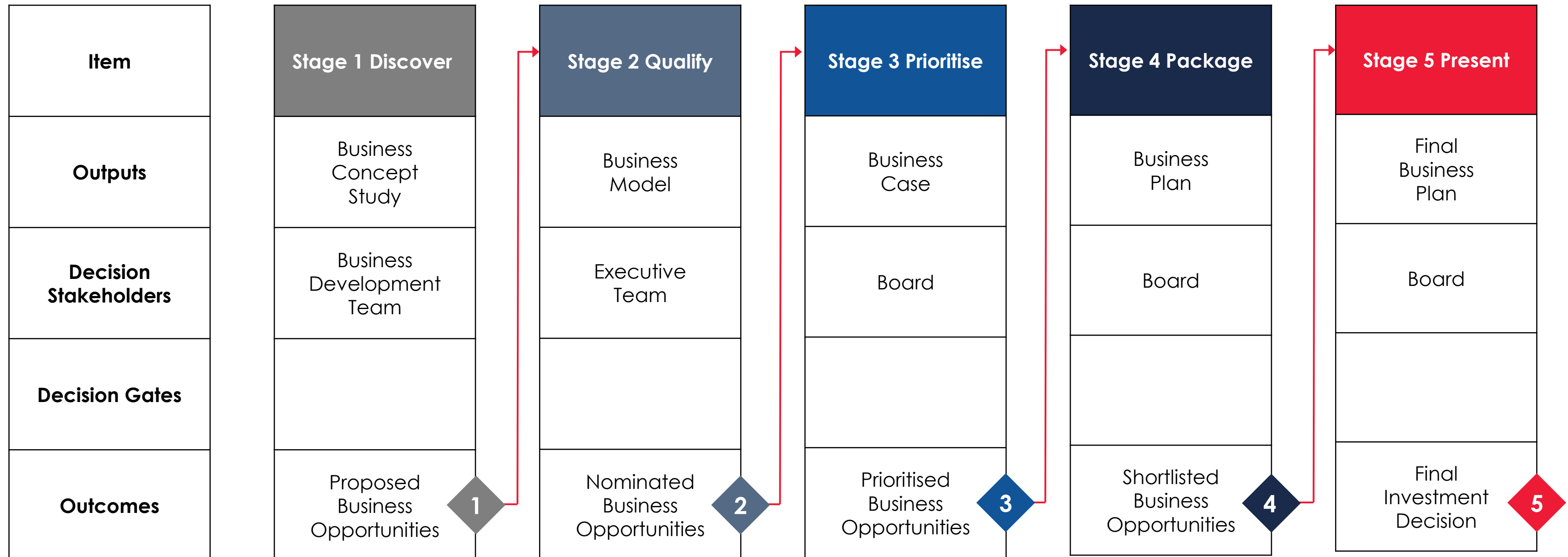
**15.1Mt**  
**Total Ore**  
**Reserves**

- IRR = 36%
- Stage 1 capital of A\$93.8M includes Starter Plant<sup>2</sup> capital of A\$50-60M



1. ASX 6 April 2022 Great White Kaolin Project - Definitive Feasibility Study  
2. ASX 26 August 2022 Andromeda Commencing Procurement of Long Lead Time Items for Great White Kaolin Project

# Andromeda Business Development Framework





# High Purity Alumina (HPA) - Adding value through research

## Subject Matter Experts Directly Engaged

- Research and Development
- Market Analysis
- Scaling
- Commercialisation

## Intellectual Property

- Provisional Patent Application filed for HPA production process

## Estimated size & growth of global synthetic sapphire market

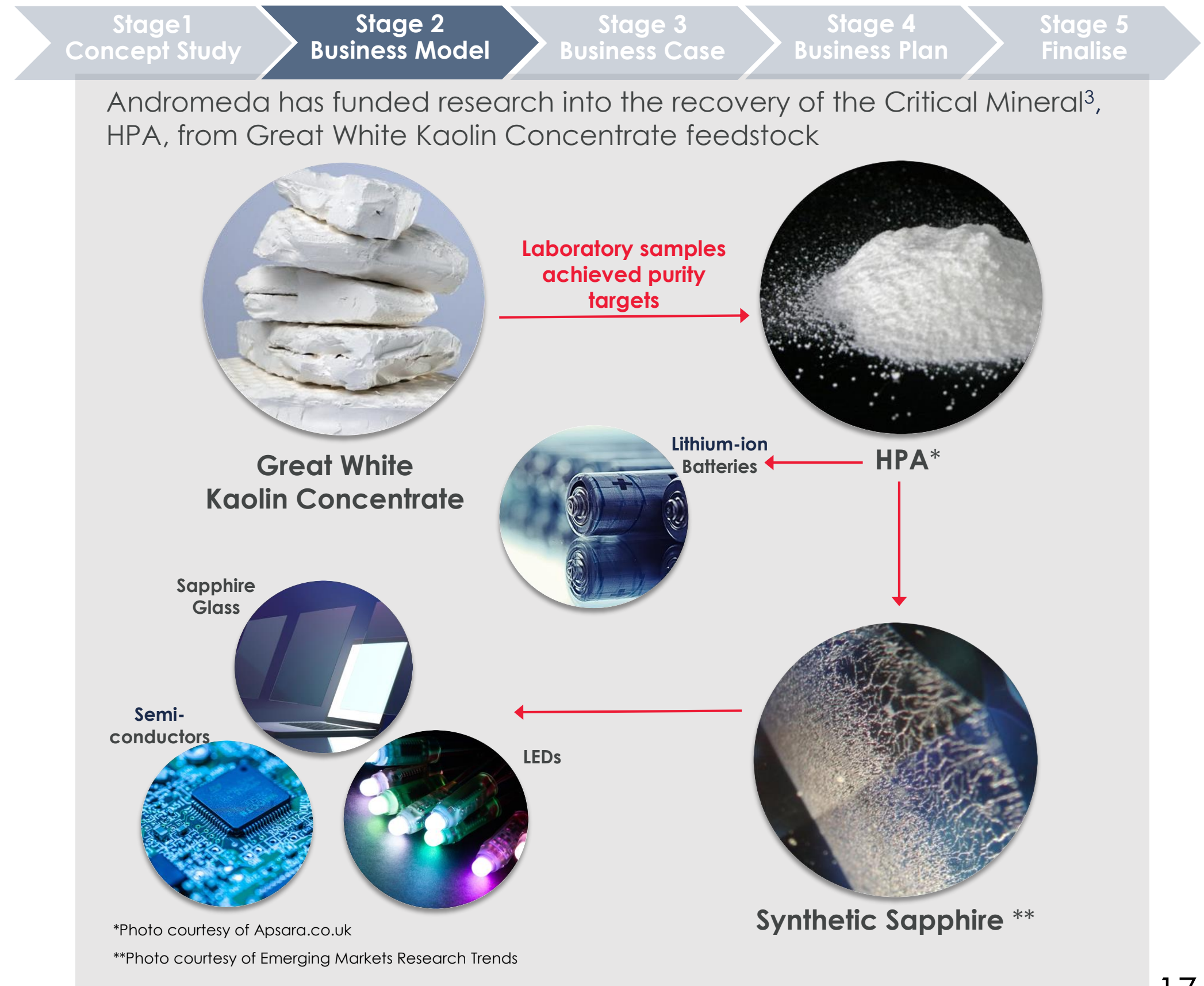
**US\$6.0B<sup>1</sup>**  
In 2020

**7.0% p/a<sup>1</sup>**  
2020-2027 CAGR

## Estimated size & growth of global lithium-ion battery market

**US\$41.1B<sup>2</sup>**  
In 2021

**12.3% p/a<sup>2</sup>**  
2021-2030 CAGR



<sup>1</sup>Research and Markets: Synthetic Sapphire – Global Market Trajectory & Analytics, April 2021

<sup>2</sup>Markets and Markets: Lithium-ion Battery Market, June 2021

<sup>3</sup>Australian Federal Government "2022 Critical Minerals Strategy", March 2022

# Nanotechnologies - Adding value through research

Stage 1  
Concept Study

Stage 2  
Business Model

Stage 3  
Business Case

Stage 4  
Business Plan

Stage 5  
Finalise

## Research & Development

- Strategic partnership with Global Innovative Centre for Advanced Nanomaterials (GICAN)

## Intellectual Property

- International (PCT) Patent Application filed for carbon capture
- Provisional Patent Application filed for carbon dioxide conversion

## Estimated size of global nanomaterials market

**US\$8.0B<sup>1</sup>**  
In 2020

## Estimated growth of global nanomaterials market

**14.1% p/a<sup>1</sup>**  
2020-2027 CAGR



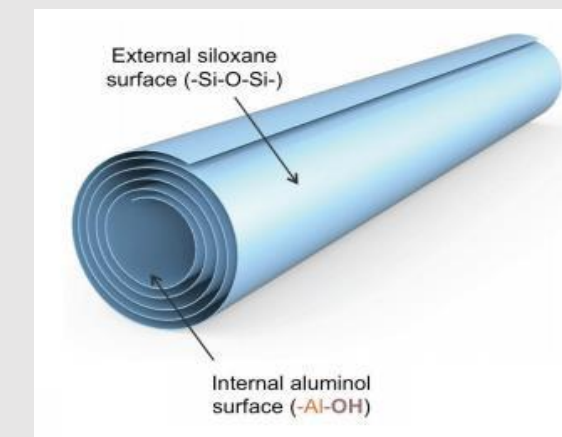
**Carbon Capture Pilot Plant designed, manufactured (Height 5.0m) and in Newcastle, Australia**

Andromeda has funded research into the production of nanomaterials from Great White Halloysite Kaolin feedstock



**Great White Halloysite Kaolin**

**Nanomaterials produced at laboratory scale**



**Halloysite Nanomaterials**



**Energy**



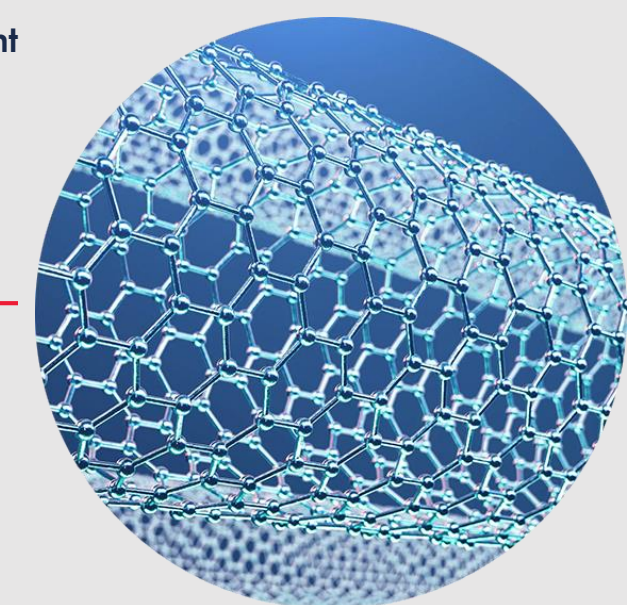
**Environment**



**Health**



**Agriculture**



**Industry Applications**

**Nanotechnologies**



# Metals

Optimise shareholder return on currently held copper and gold tenements

## Moonta Copper

- Historical data
- ~4,500 holes dating from 1905
- Collating and reviewing potential

## Wudinna Gold

- Assay results received from June 22 drilling
- Re-analysis of historic drill-holes for rare earth elements (REE)

## Drummond Gold

- Term Sheet Agreement signed with Rush Resources Limited for ~\$250,000 of shares in Rush

## Moonta Copper Project (Alford Copper Project)

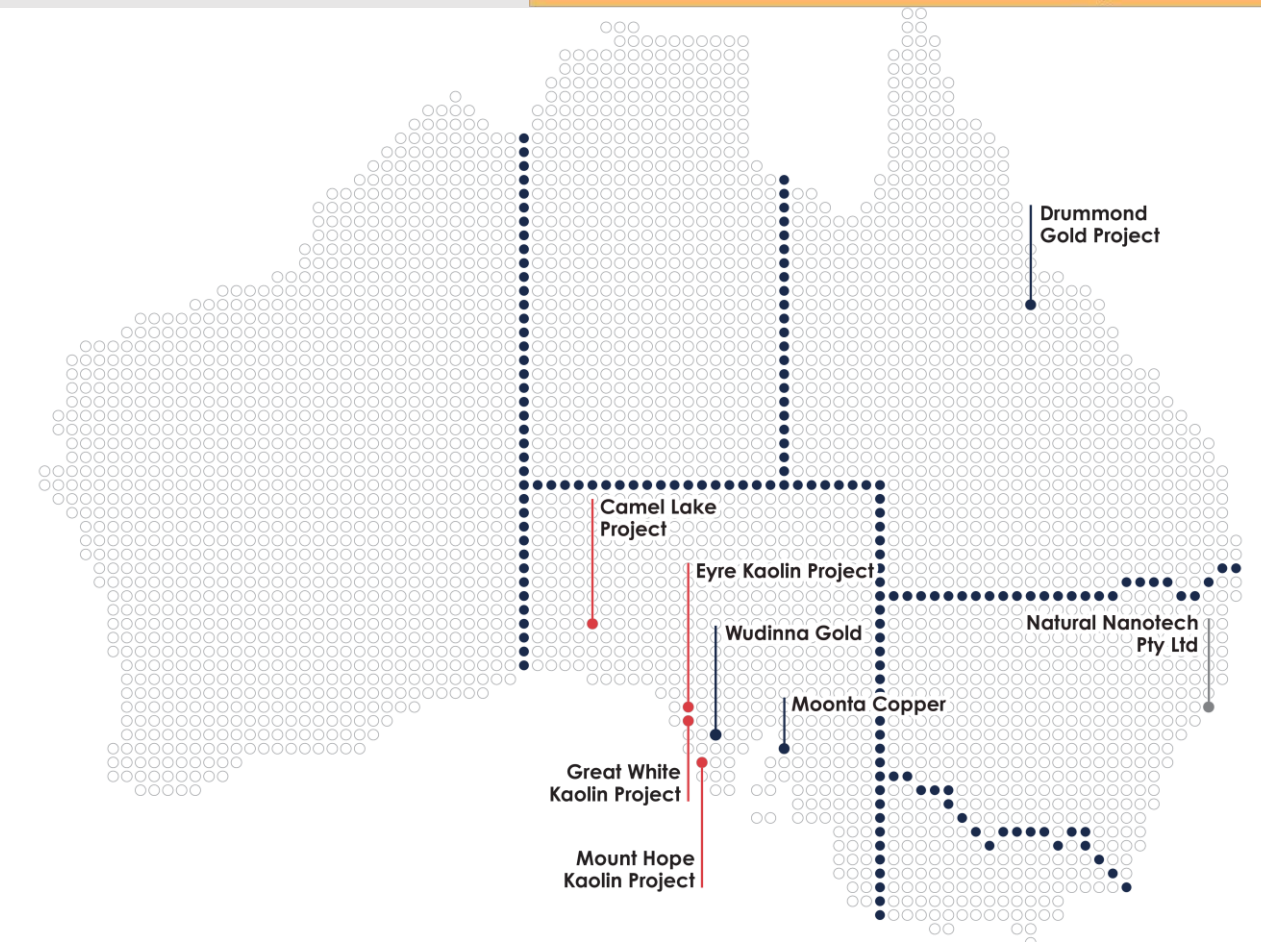
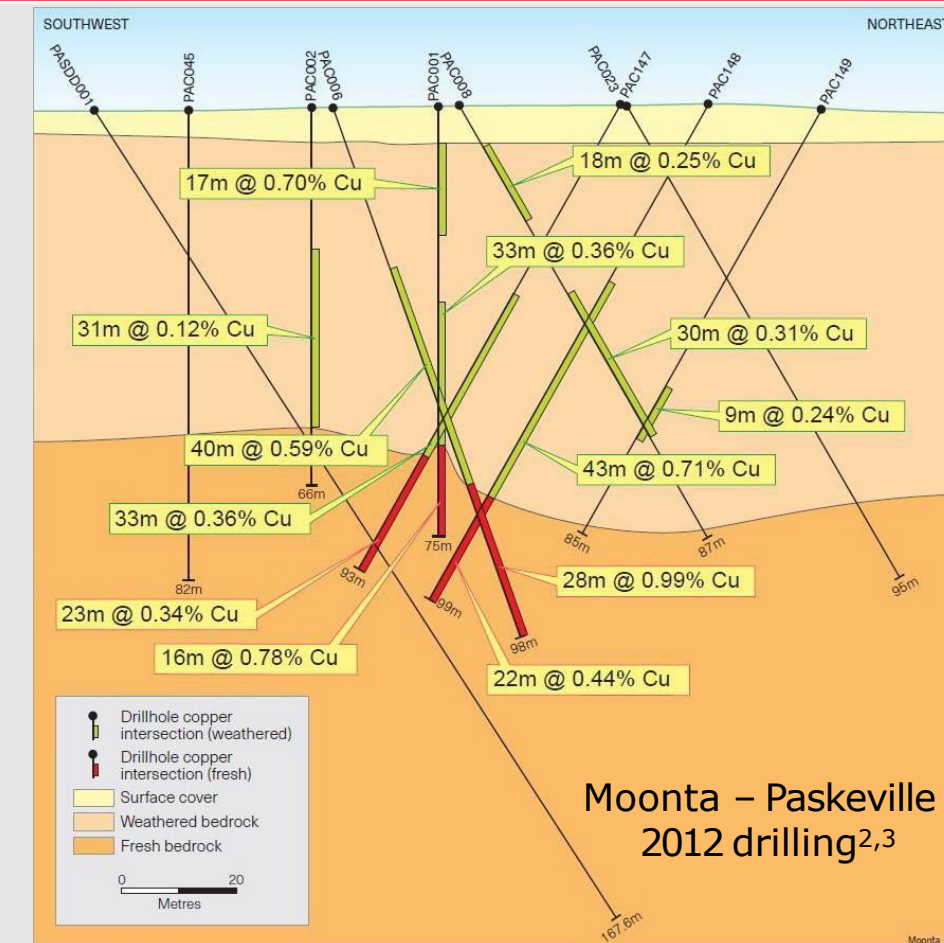
- Alford West **ISR** Resource of **66.1Mt @ 0.17% copper for 114kt** contained metal<sup>1</sup> (Enviro Copper Recovery Pty Ltd JV Stage 1 - earning 51%)
- Reassessment of 100% ADN held Moonta tenements for ISR potential

## Wudinna Gold Project (Eyre Peninsula Gold Project)

- Bams, Baggy Green and White Tank combined resources of 4.43Mt @ 1.5g/t gold for 211,000 oz gold<sup>4</sup> (Cobra Resources PLC JV Stage 3<sup>5</sup> – earning 75%)

## In-Situ Recovery (ISR) economics

- Supports projects at significantly lower grades than traditional mining methods.
- Limited to weathered bedrock (copper carbonates, oxides and secondary sulphides)
- Low environmental impact, extraction has minimal long-term impact on agricultural land



1- THR ASX release dated 15 August 2019 "Substantial initial copper resource – Moonta Project, inferred ISR copper resource of 114,000 tonnes contained copper".

2 - ADN ASX announcement dated 12 April 2012 "Significant copper-gold discovery confirmed at Paskeville, SA"

3 - ADN ASX announcement dated 5 June 2012 "Paskeville prospect delivers further copper hits, SA"

4 - ADN ASX announcement dated 8 May 2019 "Increased ounces in updated Wudinna Gold Project Mineral Resource"

5 - ADN ASX announcement dated 31 Oct 2017 "Eyre Peninsula Gold project 100% Owned South Australia".

# Operational and Corporate Readiness



## Long Lead Items

Progressing procurement of long lead items in parallel with design and construction



## Suppliers

Build relationships with local contractors and suppliers



## Site Establishment

Works scoped and designed



## Agreements

Preparation of agreements to establish site infrastructure and operations



## Logistics

Multiple port facility options with individual attributes remain open



## Organisational Capability

Building our team and organisational structure that is ready for construction and operations



## Management Operating Systems

Enhanced operational enablement ahead of construction and production



## Policies & Procedures

Developed new policies and procedure to support sustainable operations

# Next Steps - Future catalysts



## In Progress

- |   |                                  |   |
|---|----------------------------------|---|
| → | <b>Agreements</b>                | Drafting to establish site infrastructure and operations                          |
| → | <b>Pilot Plant</b>               | Ongoing upgrades in progress, following installation of centrifuge                |
| → | <b>Binding Offtakes</b>          | Remainder of planned capacity and expansion under negotiation                     |
| → | <b>PEPR</b>                      | Application with South Australia Government awaiting approval                     |
| → | <b>Logistics</b>                 | Multiple port facility options with individual attributes remain open             |
| → | <b>Suppliers</b>                 | Long lead items procurement is underway   |
| → | <b>Funding</b>                   | Various funding options are under consideration on both the debt and equity sides |
| → | <b>High Growth Opportunities</b> | HPA, Carbon Capture/Conversion and Nanotechnologies progressing                   |





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