

Minotaur Exploration | ASX: MEP

# ANNUAL GENERAL MEETING

## Corporate Snapshot

Andrew Woskett  
*Managing Director*

18 November 2020



MINOTAUR  
EXPLORATION



# MEP - Corporate snapshot

## Share price<sup>1</sup>

A\$0.155

## Shares on Issue<sup>1,2</sup>

493.4 million

## Market capitalisation<sup>1</sup>

A\$76.5m

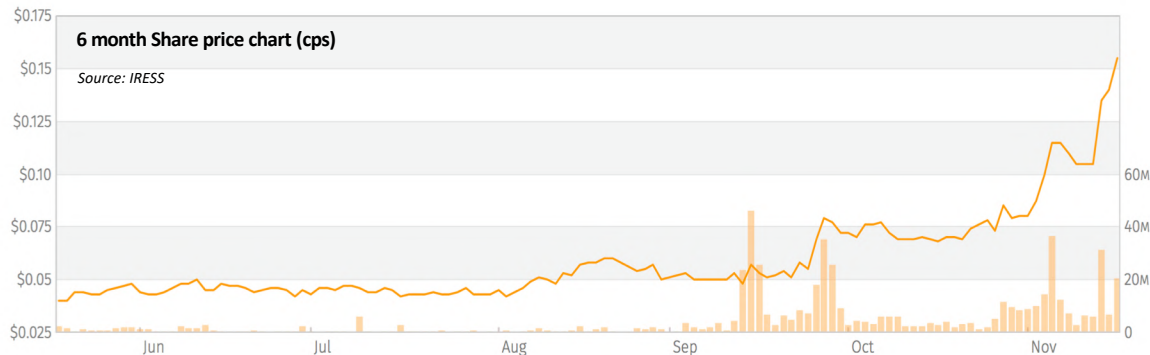
## Net Cash<sup>3</sup>

A\$8.3m

## Enterprise Value<sup>1</sup>

A\$68.2m

MEP price<sup>1</sup> is up 600% on its 52 week low of 2.2c



### Notes:

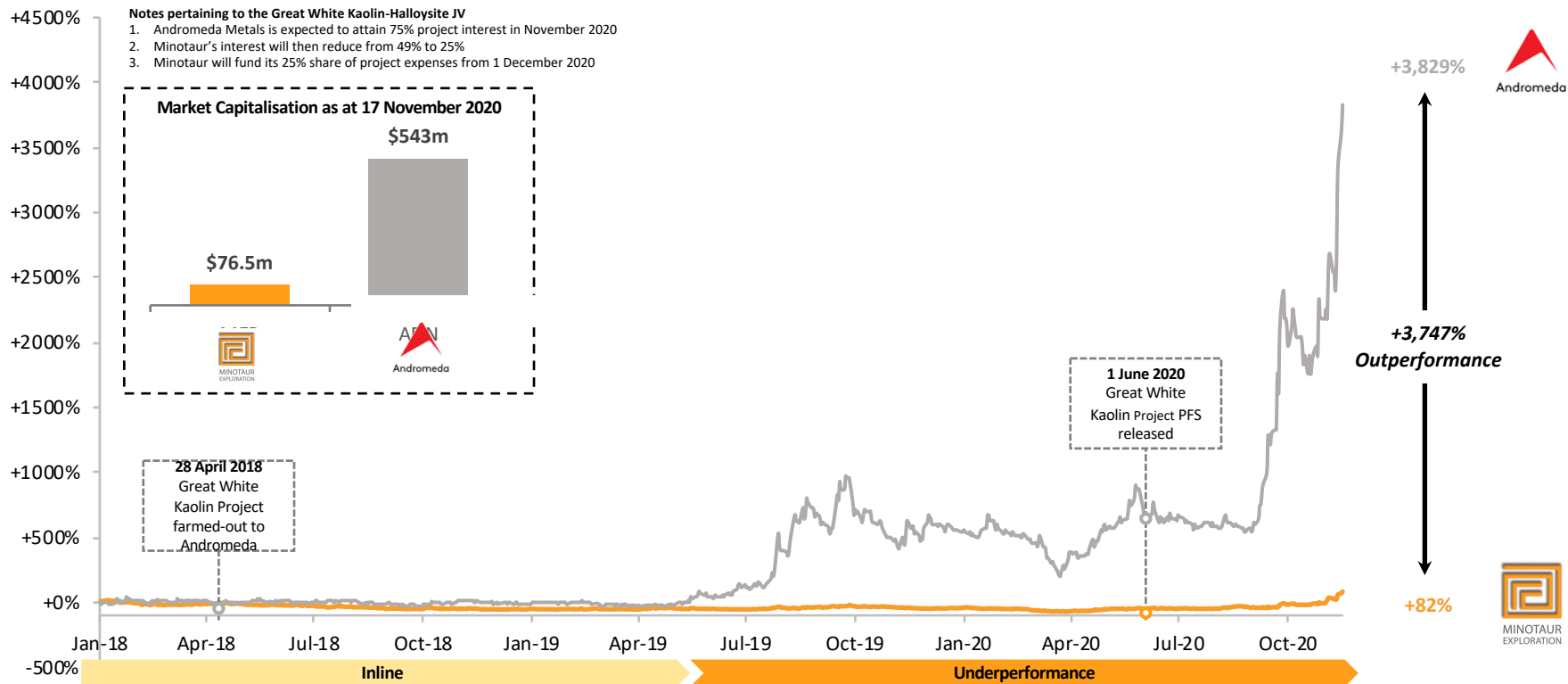
1. As at 17 November 2020
2. MEP has 493.398 million fpo shares on issue
3. Cash = A\$8.6m, Debt = A\$0.3m (real estate mortgage), as at 17 November 2020

## Major shareholders<sup>1</sup>

Yarraandoo Pty Ltd <i>private investor</i>	5.4%
T & A Sinozic <i>private investor</i>	1.9%
Citicorp Nominees	1.8%
OZ Minerals ASX listed copper-gold miner	1.6%
Chetan Enterprises	1.3%
<b>Top 20</b>	<b>26.1%</b>



# MEP – ADN price relativities





# MEP implied price for 25% of ADN valuation

## Andromeda Metals<sup>1</sup>

A\$0.275  
A\$543m

Minotaur's  
theoretical price<sup>4</sup> for  
25% share of *implied*  
project value

A\$0.367

*Implied value for  
100% of project<sup>1,2</sup>*

A\$724m



Minotaur's 25% share  
of *implied* project  
value<sup>4</sup>

A\$180m

### Notes pertaining to the Great White Kaolin-Halloysite JV

1. Reflecting closing share prices as at 17 November 2020 and other data provided by ASX
2. Calculated as ADN Market Capitalisation ÷ 75% (as expected) and assigns no value to all other company assets
3. MEP has 493.398 million fpo shares on issue
4. Calculated as Implied Project Value X 25% and assigns no value to all other company assets



# MEP implied price for 25% of PFS NPV

**Minotaur's NPV price  
per share<sup>2,3</sup>**

**A\$0.37**



**Notes pertaining to the Great White Kaolin-Halloysite JV**

1. Refer Andromeda Metals' PFS dated 1 June 2020 "Pre-feasibility Study further improves Poochera project economics"
2. Calculated as NPV x 25% and assigns no value to all other company assets
3. MEP has 493.398 million fpo shares on issue

**PFS<sup>1</sup>**

**NPV (25%)  
attributable to MEP**

**A\$184m**



Minotaur Exploration | ASX: MEP

# ANNUAL GENERAL MEETING

## Exploration Highlights

Glen Little

*Manager Exploration and Business Development*

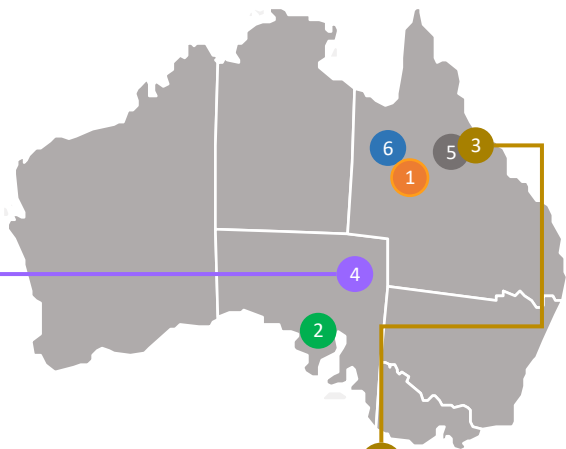
18 November 2020



MINOTAUR  
EXPLORATION



## Asset base built through systematic ground selection and project generation expertise



1

### Cloncurry partnerships with OZ Minerals



- i. Jericho JV (OZL 80%)** OZL has invested \$11m to date  
JORC resource of 9.1Mt @ 1.4% Cu & 0.3g/t Au for 130kt Cu & 88koz Au (@ 0.8% Cu cut-off)
- ii. Eloise JV (OZL 70%)** OZL has invested \$4m to date  
OZ Minerals is sole funding Eloise JV by A\$3m through 2021
- III. Cloncurry Alliance** OZ Minerals is funding Minotaur with \$1m for project generation activities through 2021
- IV. Breena Plains JV** OZ Minerals is sole funding \$1m initial earn-in phase  
First EM survey commenced 20 August 2020

4

### Peake & Denison (MEP 100%)

- 2,500km<sup>2</sup> potentially a new frontier IOCG terrane
- Multiple IOCG targets modelled from magnetics
- AMT geophysical survey underway

5

### Windsor base metals JV (MEP 100%)

- 650km<sup>2</sup> tenement package sited immediately east of Red River's Thalanga Zn-Pb-Cu mine
- Targeting polymetallic VMS-style mineralisation

3

### Pyramid (MEP acquiring 100%)

- Sale and Purchase agree executed to acquire 100% ownership
- 150km<sup>2</sup> tenement package covering two main gold corridors
- Significant historic gold drill intercepts at Gettysberg including 35m @ 4g/t, 23m @ 3.22g/t, 15m @ 4.22g/t
- Substantial upside for additional discoveries

2

### Poochera JV (MEP 49%; ADN earning 75%)

- Andromeda Metals (ASX: ADN) will reach its 75% for A\$6m threshold in 2020
- 'World-class' Kaolin-Halloysite deposits
- 'bright, white' Ore Reserves of 12.5 Mt
- ADN's June 2020 PFS reported 175% IRR for 26 year LoM; Project Capex & WC of \$28m
- ADN underway with mine permitting activities
- ADN planning to 'break ground' in February 2022
- Minotaur will receive 25% of mine cash flows

6

### Highlands (MEP: 100%)

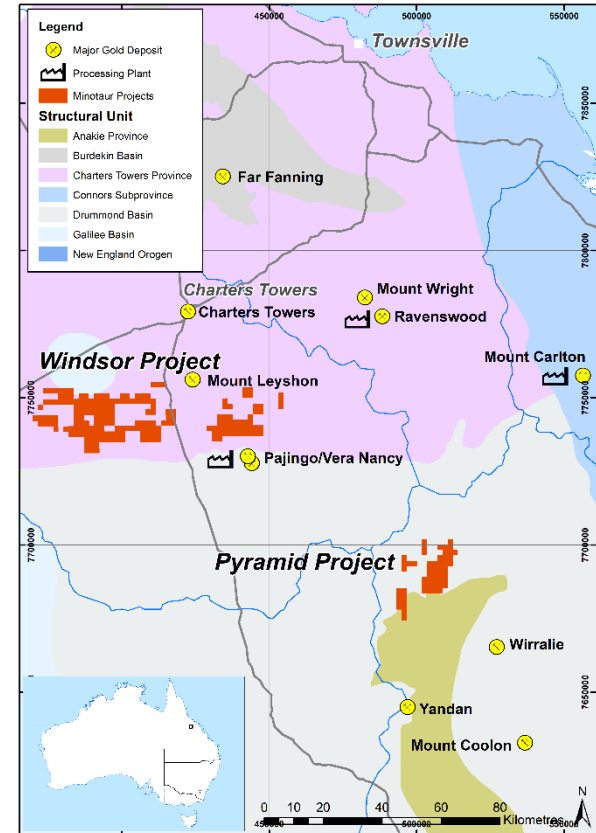
- 753km<sup>2</sup> surrounding Round Oak Minerals' Barbara Cu-Au mine



# Pyramid Gold Project

- Sale and Purchase Agreement executed to acquire project
- Located in NE Qld 180km south of Townsville and covers 150km<sup>2</sup>
- Positioned in historic gold province with numerous multi-million ounce gold deposits:
  - Charters Towers: 6.8Moz
  - Ravenswood: 7Moz
  - Mount Leyshon: 3.5Moz
  - Pajingo: 3.6Moz
  - Mount Wright: 1Moz
  - Wirralie: 1.1Moz

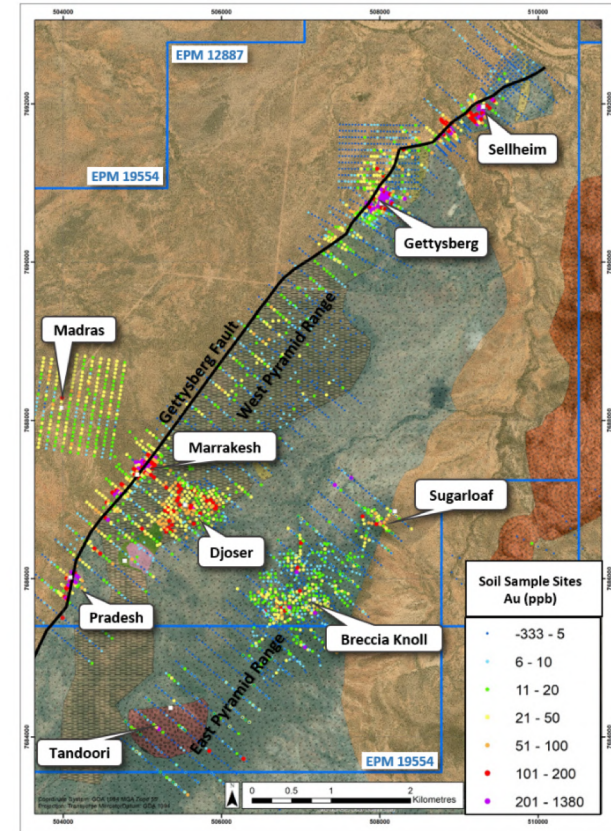
23Moz
- Neat logistical fit with Windsor base metals project for operating field activities





# Pyramid Gold Project

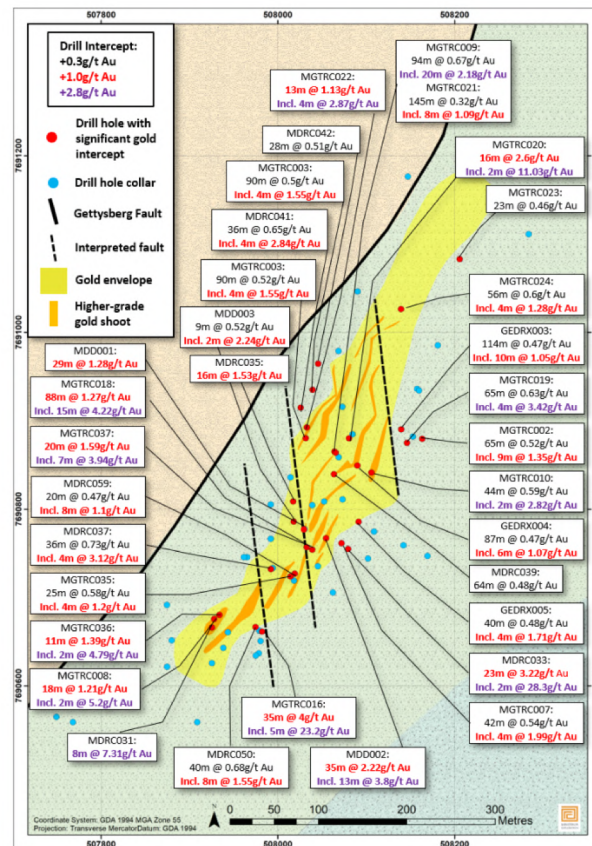
- Project has strategic mix of advanced gold prospects for early advancement and excellent project-wide prospectivity
- Highly prospective +8km long gold corridor along Gettysberg Fault
- Drilling targeted surface gold geochemical anomalies at Sellheim, Gettysberg, Marrakesh and Pradesh with bedrock gold mineralisation discovered at each location:
  - Gettysberg most advanced prospect
- Lode-style gold mineralisation along Gettysberg Fault
- Potential for Intrusion Related Gold Systems (IRGS's) at Djoser and Breccia Knoll





# Gettysberg Gold Prospect

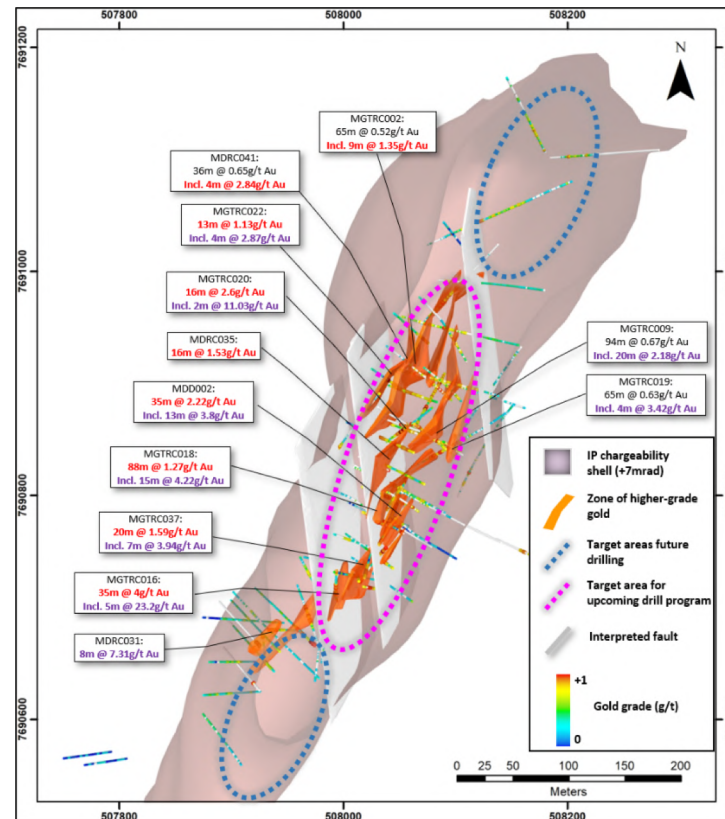
- Previous drilling covers 600m of strike defining an NNE gold envelope around 500m long, ranging 50m-100m wide to a vertical depth of 165m.
- Minotaur's geological model indicates discrete higher-grade gold zones occur within the broader gold envelope
- Selected stand-out historic gold assays include:
  - 35m @ 4g/t Au (MGTRC016)
  - 15m @ 4.22g/t Au (MGTRC018)
  - 8m @ 7.31g/t Au (MDRC031)
  - 23m @ 3.22g/t Au (MDRC033)
  - 12m @ 4.8g/t Au (MDRC034)
  - 35m @ 2.22g/t Au (MDD02)
  - 20m @ 2.18g/t Au (MGTRC009)
  - 16m @ 2.6g/t Au (MGTRC020)
- Excellent scope to expand areas with higher-grade gold zones





# Gettysberg Gold Prospect

- Mineralisation only sparsely drilled at each end of Gettysberg
  - Potential for additional higher-grade zone
- Modelling of historic IP geophysical data from Gettysberg shows chargeability zone at least 800m long open at each end
- IP chargeability anomaly shows a very clear spatial association with gold mineralisation which is associated with sulphide
  - Note - gold mineralisation at Sellheim, Marrakesh and Pradesh is also associated with sulphide but IP surveys not conducted at each of these prospects
- Central part of Gettysberg, where multiple high-grade shoots are defined, is open down dip and will be the focus of an initial drill program (magenta coloured area on map)
- RC drilling planned for commencement 01 December 2020 (QLD's recently imposed COVID border restrictions likely to delay activities)

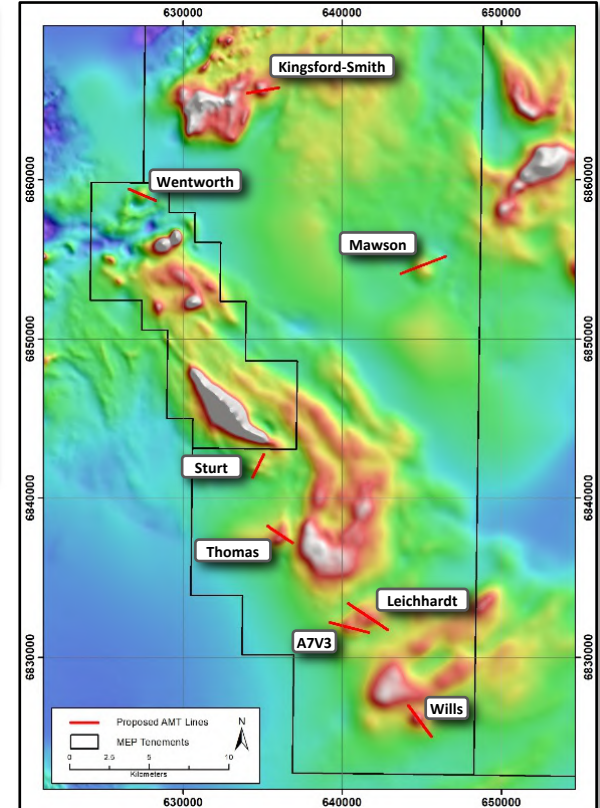
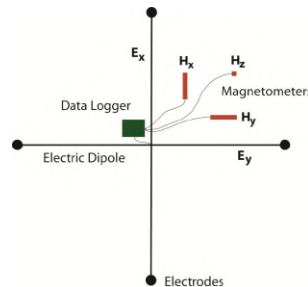
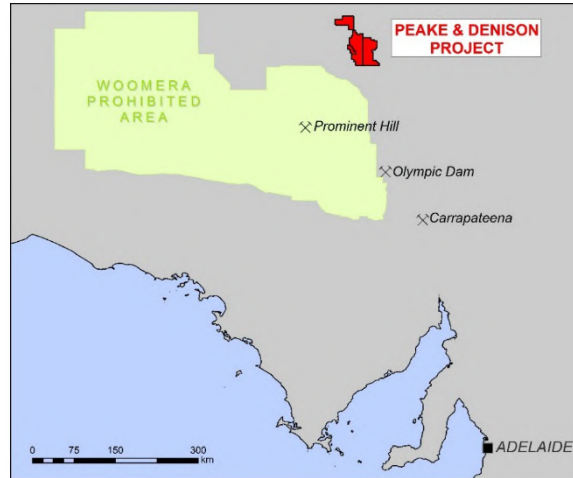


Drill holes with gold assays showing discrete 'shoots' of higher-grade gold mineralisation, selected drill intercepts and IP chargeability shell



# Peake and Denison Project

- Project located 750km north of Adelaide, SA and covers ~2,500km<sup>2</sup>
- Targeting IOCG mineralisation under cover
- 8 priority magnetic/gravity targets being assessed with AMT geophysics (co-funded by ADI)
- Survey commenced 12 November (3 weeks to complete)
- Targets will be reprioritized for drill testing
- Aim for initial drill test first half 2021 (also co-funded by ADI)



Priority targets being investigated with AMT



# Disclaimer



## Disclaimer

This presentation has been prepared by the management of Minotaur Exploration Limited ("Minotaur", ASX: MEP) for the general benefit of analysts, brokers and investors and does not constitute specific advice to any particular party or persons. Information herein is based on publicly available information, internally developed data and other sources. Where an opinion, projection or forward looking statement is expressed in this presentation, it is based on the assumptions and limitations mentioned herein and is an expression of present opinion only. No warranties or representations are made or implied as to origin, validity, accuracy, completeness, currency or reliability of the information. Minotaur specifically disclaims and excludes all liability (to the extent permitted by law) for losses, claims, damages, demands, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance by any person on any of it. Where Minotaur expresses or implies an expectation or belief as to the success of future exploration and the economic viability of future project evaluations, such expectation or belief is expressed in good faith and is believed to have a reasonable basis. However, such projected outcomes are subject to risks, uncertainties and other factors which could cause actual results to differ materially from projected future results. Such risks include, but are not limited to, exploration success, metal price volatility, changes to current mineral resource estimates or targets, changes to assumptions for capital and operating costs as well as political and operational risks and government regulatory outcomes. MEP disclaims any obligation to advise any person if it becomes aware of any inaccuracy in or omission from any forecast or to update such forecast.

## Competent Person's Statement

Information in this presentation that relates to Exploration Results is based on information compiled by Mr. Glen Little, who is a full-time employee of the Company and a Member of the Australian Institute of Geoscientists (AIG). Mr. Little has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr. Little consents to inclusion in this document of the information in the form and context in which it appears.



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# ANNUAL GENERAL MEETING

## Kaolin – Halloysite Project

Dr Tony Belperio

*Non-Executive Director, Research & Development*

18 November 2020

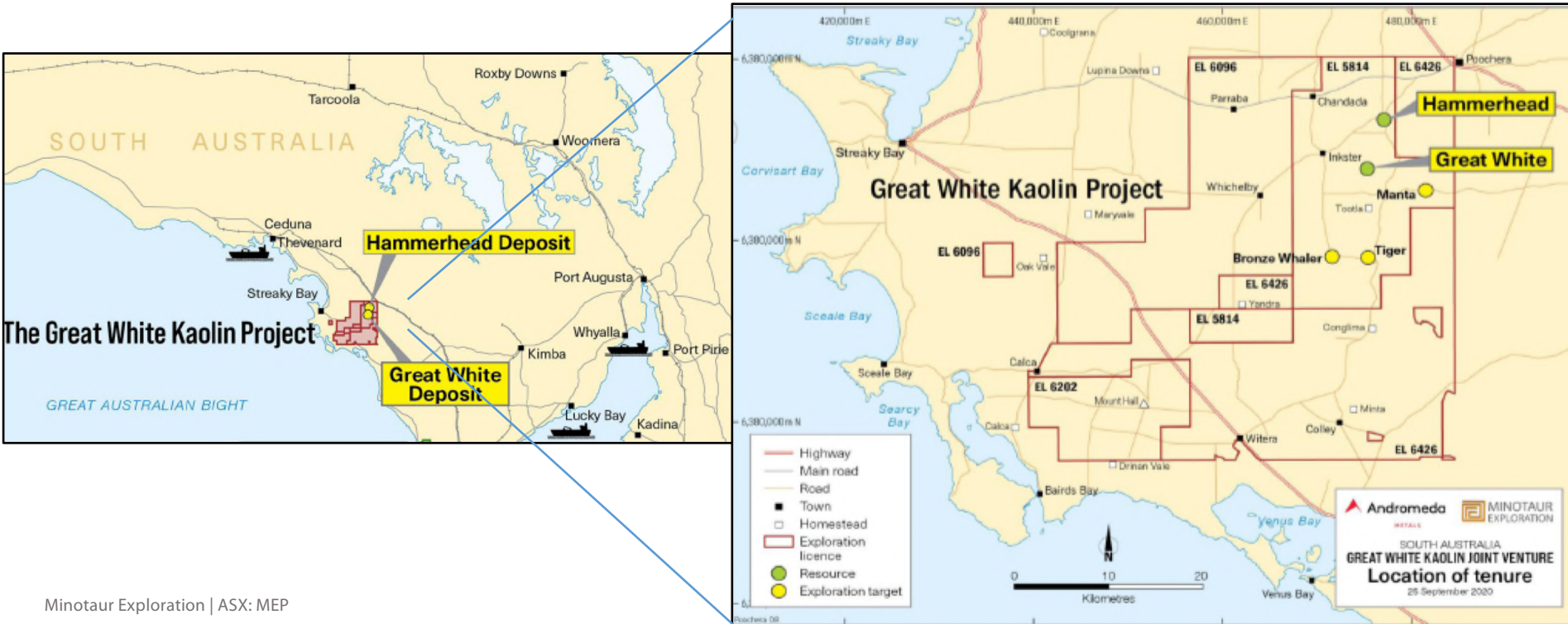


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# Kaolin – Halloysite Project

1. Minotaur – Andromeda Kaolin-Halloysite Joint Venture (25 : 75)
2. Minotaur – Andromeda Halloysite R&D Joint Venture (Natural Nanotech Pty Ltd 50 : 50)



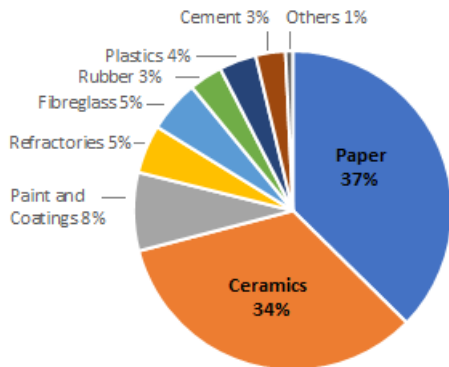


# Kaolin – Halloysite Project

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2. Minotaur – Andromeda Halloysite R&D Joint Venture (Natural Nanotech Pty Ltd 50 : 50)

- Great White Updated Resource & Reserve
- Updated Processing Routes & Products
- Scoping & Feasibility Studies, DFS
- Indicative Offtake Agreements
- Inaugural Hammerhead Resource
- Halloysite Quantification

ESTIMATED % MARKETS OF 26.5MT FOR 2019



Application	Estimated 2019 MT	%
Paper	9.9	37
Ceramics	8.9	34
Paint and Coatings	2.1	8
Refractories	1.3	5
Fibreglass	1.4	5
Rubber	0.9	3
Plastics	1	4
Cement	0.8	3
Others	0.2	1
<b>TOTAL</b>	<b>26.5</b>	<b>100</b>

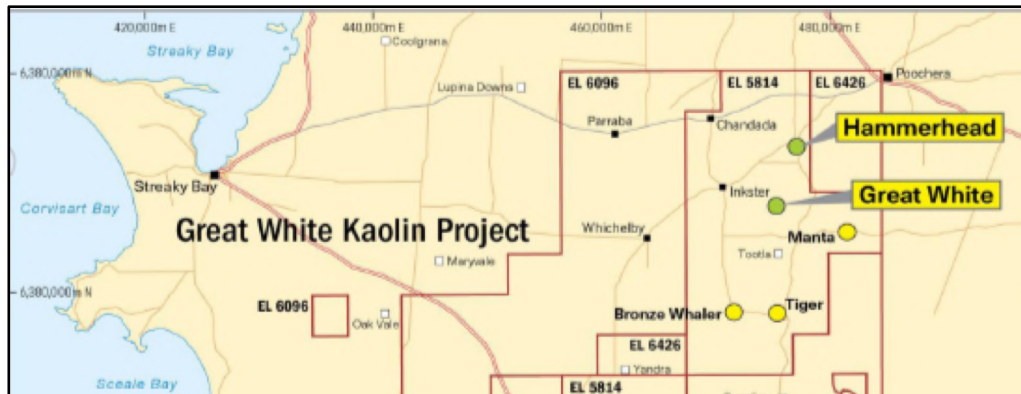


Table 2 - Hammerhead Kaolin Mineral Resource -45µm

Domain	Mt	ISO B	Kaolinite	Halloysite	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %
Main	22.4	82.0	82.7	10.4	36.90	0.63	0.73
Halloysite	4.7	82.9	72.9	<b>21.6</b>	37.47	0.64	0.62
<b>Total</b>	<b>27.1</b>	<b>82.2</b>	<b>81.0</b>	<b>12.3</b>	<b>36.99</b>	<b>0.63</b>	<b>0.71</b>



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## Great White Project PFS

12.5Mt Ore Reserve \*

High Halloysite component 9.7Mt

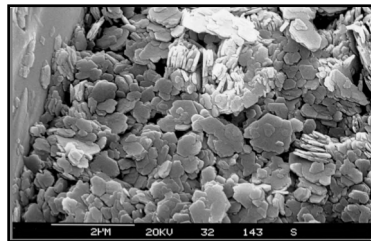
NPV of A\$736m (pre tax / 8% discount rate)

EBITA (LOM) A\$2.06B

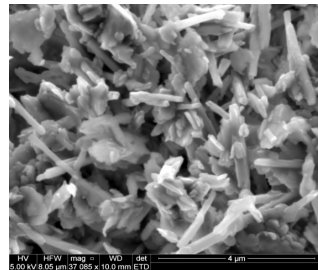
26 year mine life (@500ktpa)

15 month payback

IRR of 175%



*Pure kaolinite*



*Mixed  
kaolinite -  
halloysite*



*Pure Halloysite*



*High end ceramics*



# Kaolin – Halloysite Project

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## Market Value Overview

(After Andromeda Metals  
ASX Release 12-11-20)

A\$700/t

**Expected Profit: 50%**

Cost of Extraction & Processing 50%

Ceramic Porcelain Market (as per PFS)

**Current PFS**

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

**Expected Profit  
80%**

Cost of Extraction & Processing 20%

New Markets

**Near-Term New Uses**

A\$1000's per gram

**Expected Profit  
Very Significant**

Cost of Extraction and Processing N/A

Halloysite Nanotechnologies

**"Blue-Sky"  
R&D**

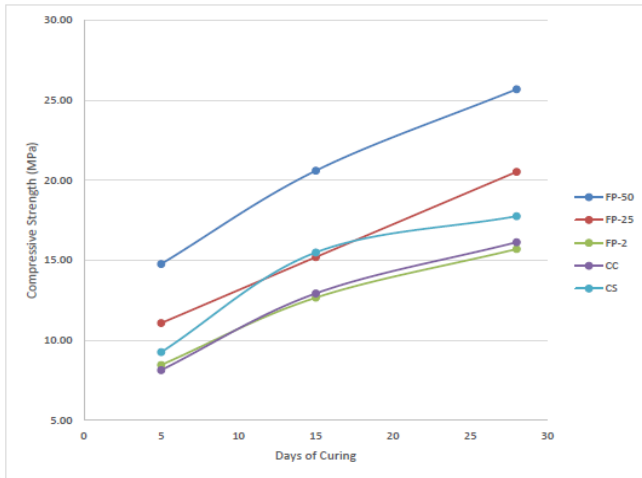
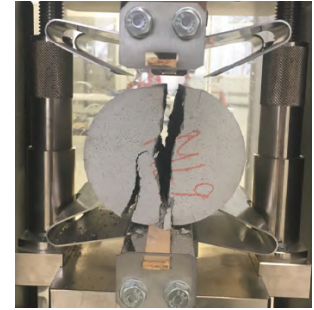
(1) Project economics have been established on market research provided by First Test Minerals a world authority on clay materials. The high grade, rare halloysite-kaolin product commands a US\$500/t (A\$700/t price) in the ceramics industries of China, and a number of countries throughout Asia, the Middle East, and Europe.



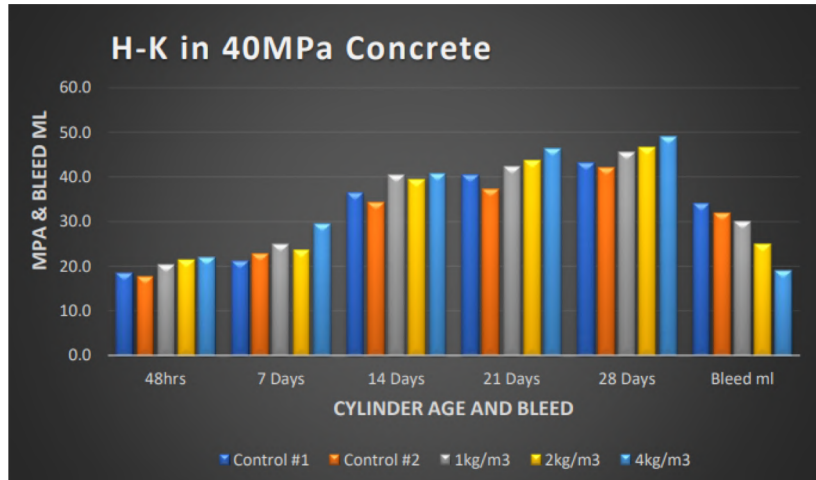
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**BENCH SCALE TESTWORK (MEP and ADN) - high halloysite kaolin as a strengthening filler in concrete positive results – significantly increasing compressive strength for high performance concrete, with halloysite tubules acting as a natural alternative to carbon nanotubes**



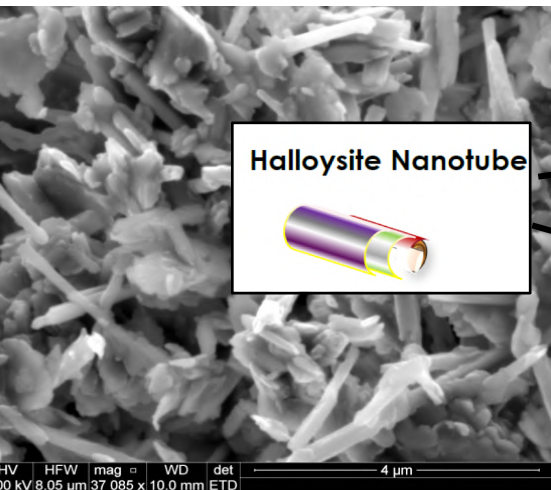
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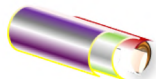


# Kaolin – Halloysite Project

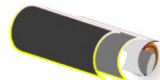
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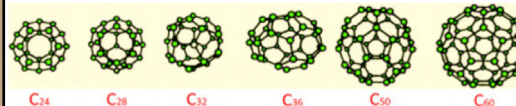
Halloysite Nanotube



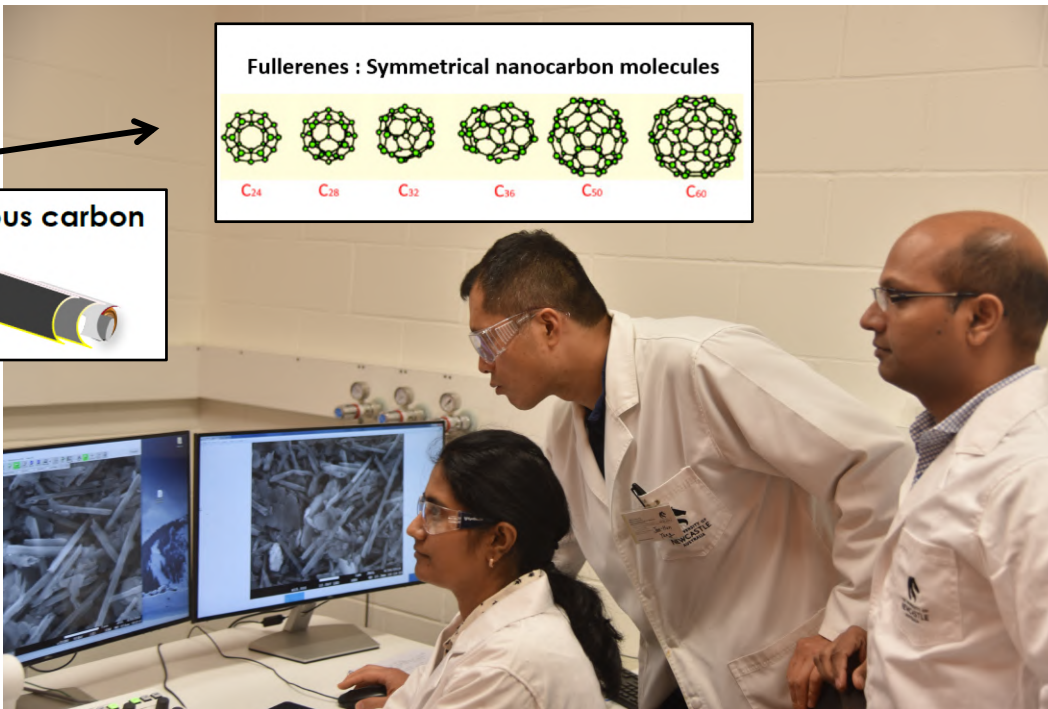
Porous carbon



Fullerenes : Symmetrical nanocarbon molecules



**Research Team:**  
**University of Newcastle**  
**Global Innovation Centre**  
**Advanced Nanomaterials**





# Kaolin – Halloysite Project

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 Innovation Connections Grant

Initial research outcomes:

Great White halloysite nanotubes have remarkable selective adsorptive and differentially chargeable properties and can be functionalised and/or engineered to create advanced nanomaterial frameworks for a range of new technology uses

Research team now focussed on seeking commercial solutions for selected high tech applications in close cooperation with **Natural Nanotech Pty Ltd**, a Minotaur-Andromeda 50:50 Halloysite R&D company

- ☐ Carbon capture and conversion
- ☐ Hydrogen storage
- ☐ Remediation of wastewater
- ☐ Detoxification of pollutants
- ☐ Energy storage technologies
- ☐ Antibacterial applications
- ☐ Herbicide and pesticide applications



Natural Nanotech Pty Ltd



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Newcastle Herald, Newcastle



03 SEP, 2020

## Carbon capture that could help the world

BY DAMON CRONSHAW

A \$1.5 million pilot production plant will be established at the University of Newcastle to develop nanomaterials that capture carbon dioxide, giving fresh hope to humanity's need to tackle climate change.

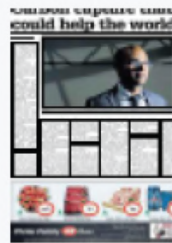
Professor Ajayan Vinu said the aim was to adsorb carbon emissions from coal-fired power plants and the environment and convert it to clean fuel.

Adsorbent	Specific Surface Area (m <sup>2</sup> /g)	CO <sub>2</sub> adsorbed mmol/g
Halloysite (PW 90B)	22	2.17
Activated porous Carbon Nanoflakes derived from PW 90B	1646	25.7
Mesoporous Carbon (CMK-3)	1350	22.3
Activated Carbon	747	3.71
Multiwalled Carbon nanotube (MWCNT)	250	5.60
Mesoporous Carbon nitride (MCN)	232	5.63



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03 SEP, 2020

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Newcastle Herald, Newcastle

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Sample	BET S.A (m <sup>2</sup> /g)	CO <sub>2</sub> adsorbed (mmol/g)	CO <sub>2</sub> adsorbed/unit area (μmol)
Halloysite (PW90 B)	22	2.17	9.9
Halloysite Carbon	1076	19.5	18.1
Doped HC	416	8.7	20.9
Activated Carbon	747	3.7	4.9
Multi walled CNT	250	5.6	22.4



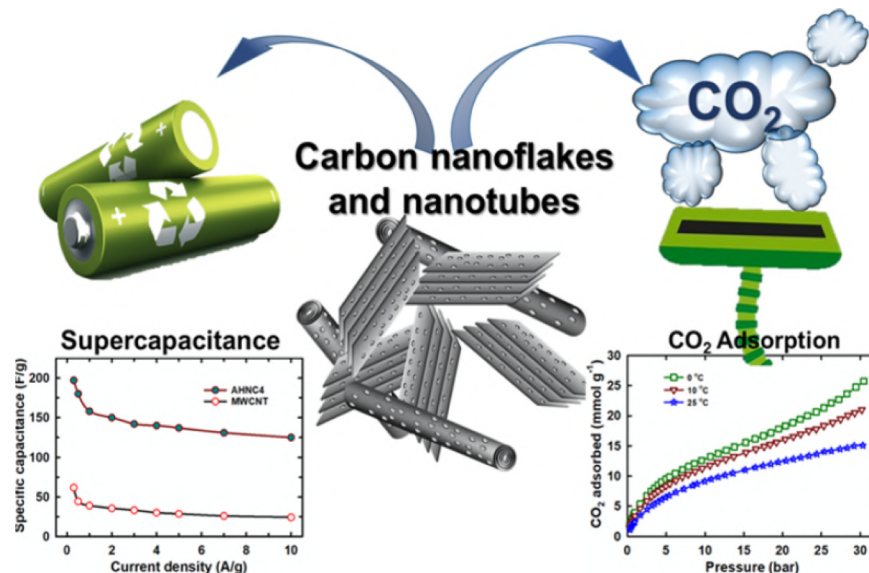
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## Professor Ajayan Vinu : Global Innovation Centre for Advanced Nanomaterials

*...“the Great White halloysite-kaolin has been successfully synthesized to create advanced nanomaterials to specifically adsorb CO<sub>2</sub> from a mixture of gases, up to 1.1 tonne of CO<sub>2</sub> per tonne of material has been achieved and we are working at capturing 2 tonne of CO<sub>2</sub> per tonne of material.*

*We are now constructing a pilot plant to make larger quantities of material for commercial scale testwork including converting the captured CO<sub>2</sub> into methanol. If we can get this right, and install it in CO<sub>2</sub> producing power plants and cement works, we can significantly reduce CO<sub>2</sub> emissions and create a new Australian industry with global application”...*





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Information in this presentation that relates to Research and Exploration Results is based on information compiled by Dr Antonio Belperio, a Director of the Company and a Member of the Australasian Institute of Mining and Metallurgy. Dr Belperio has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Dr Belperio consents to inclusion in this document of the information in the form and context in which it appears.