



25 February 2021

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

### **EYRE PENINSULA LGA PRESENTATION AND EUREKA REPORT PODCAST**

Andromeda Metals Limited (ASX: ADN, "Andromeda" or "the Company") Managing Director James Marsh today gave a presentation at the Eyre Peninsula Local Government Association Annual Conference held in Port Lincoln, South Australia on the Great White Kaolin Project. A copy of this presentation is attached.

The presentation also included a short video of the Great White Kaolin Project, the link to which is as follows:

<https://vimeo.com/516477700>

James Marsh has also recorded a recent podcast interview with Alan Kohler of the Eureka Report, of which the transcript of the interview is also provided.

Yours sincerely

A handwritten signature in black ink, appearing to read "Nick Harding", with a stylized flourish at the end.

Nick Harding  
Executive Director and Company Secretary

***Feb 26, 2021***

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DEVELOPING A WORLD-CLASS  
HALLOYSITE-KAOLIN PROJECT



ASX:ADN  
[www.andromet.com.au](http://www.andromet.com.au)



**\$604M**  
MARKET  
CAPITALISATION

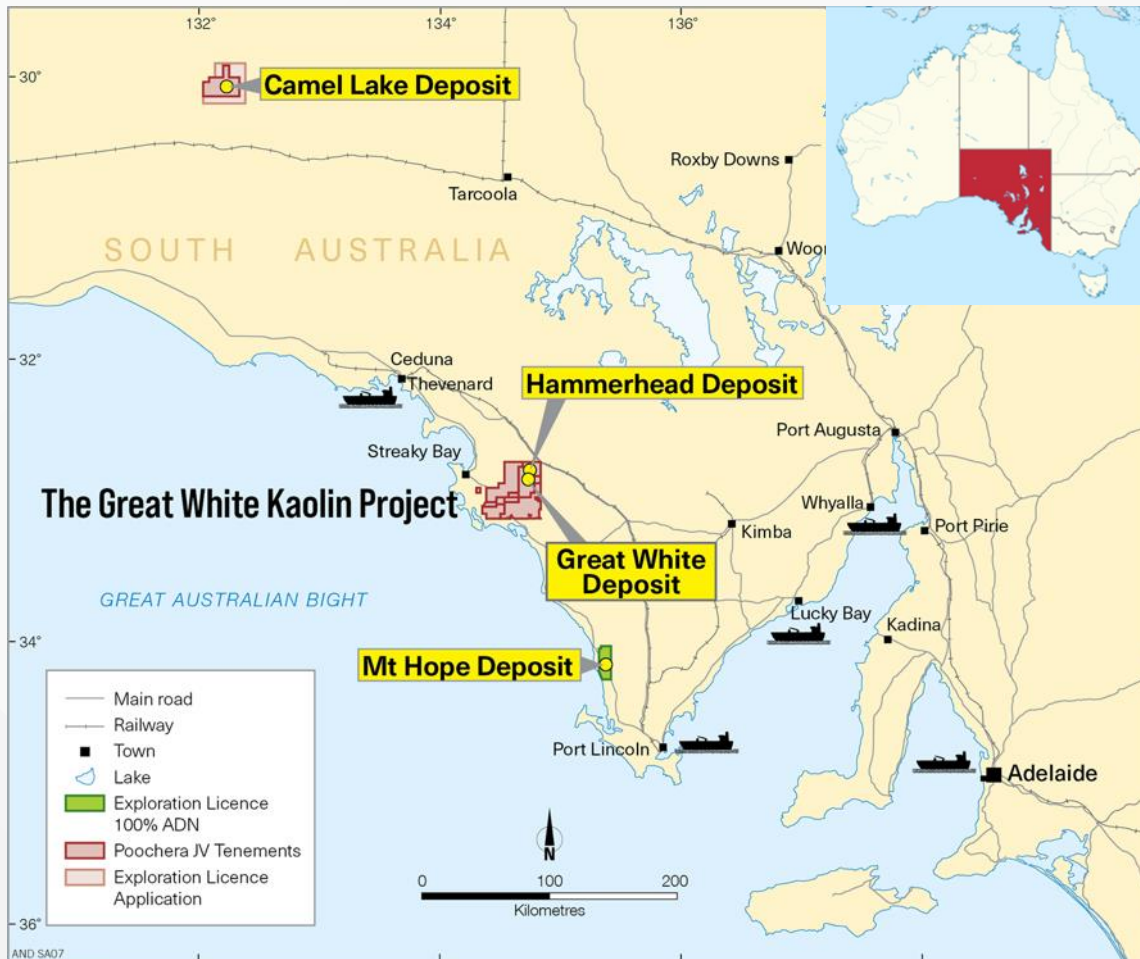
**\$7.9M**  
CASH  
(31 Dec 2020)

**\$0M**  
DEBT

**2,152M**  
FULLY PAID  
ORDINARY SHARES

**\$0.29c**  
CURRENT SHARE  
PRICE

- Andromeda (ASX:ADN) is an emerging industrial minerals company
- We have been exploring the Eyre Peninsula since 1996
- Primary focus is The Great White Kaolin Project near Poochera
- This is a world class resource of a rare and valuable form of kaolin called halloysite
- Great White is a very low impact mining project
- Andromeda has the experience and the team to succeed



## Primary Project Focus – Halloysite-Kaolin

- Great White – probably the world’s largest known high-purity halloysite-kaolin resource
- Current total resources of well over 100Mt
- Offtake LOI’s for approx. 1Mt/pa mixed grades
- Located close to essential infrastructure
- Multiple Nanotechnology opportunities
- High Purity Alumina (HPA) opportunity

You already use kaolin in a vast number of applications, everyday



Ceramics



Medical



Paint & Coatings



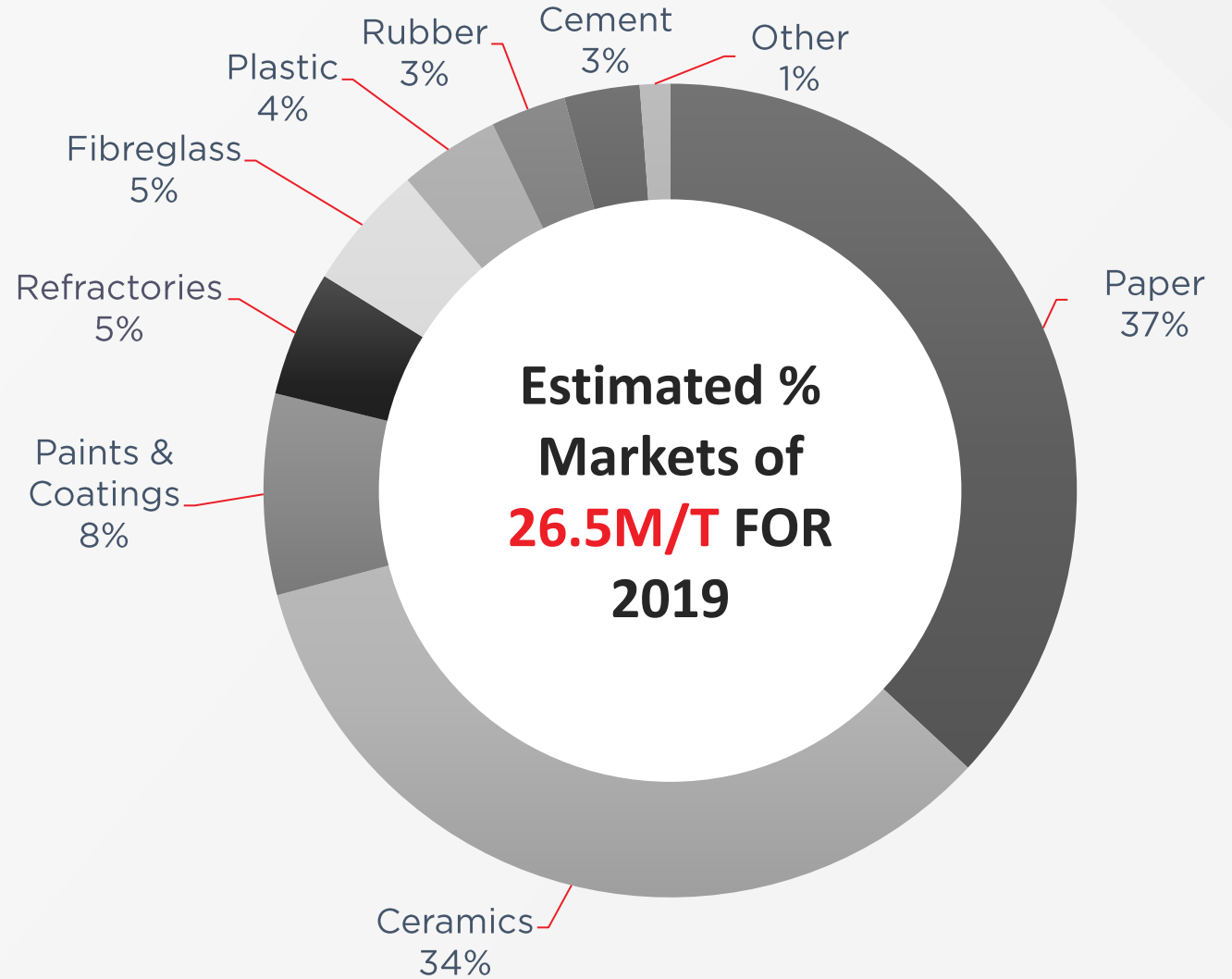
Transport



Plastic



Product



Most researched clay mineral in the world  
Use only constrained by supply shortage

100's of Patents Granted

Great White Project halloysite is being tested in numerous emerging and existing applications



Hydrogen Storage and Transport



Batteries and Super-Capacitors



Water Purification



Medical Delivery of Drugs



Carbon Dioxide Capture/Storage and Conversion to Fuels



Agriculture/Delivery of Herbicides & Fertilisers



Construction



Polymers and Coatings



Remediation of Contaminated Soils



Andromeda recognises that the project represents a change to the current economic and community norms and is undertaking our work in sympathy with existing values

The project is very small, with minimal impact on the existing environment, but with significant benefit to community, regional commerce and a sustainable future

### Specialist Studies:

- Public Safety
- Traffic
- Flora and fauna
- Surface water
- Ground water
- Air Quality
- Noise and vibration
- Soil and land quality
- Visual amenity
- Aboriginal and non-Aboriginal Heritage
- Social and economic



## Building our understanding of impacts:

- Landholders
- Regulators
- District Council
- Local Community and Businesses
- Traditional Owners

## Design elements – minimising negative impacts:

- Reduction of 0.012% EP grain (~250t/pa)
- Use of existing roads and conventional trucks

## Positive impact on EP regional commerce:

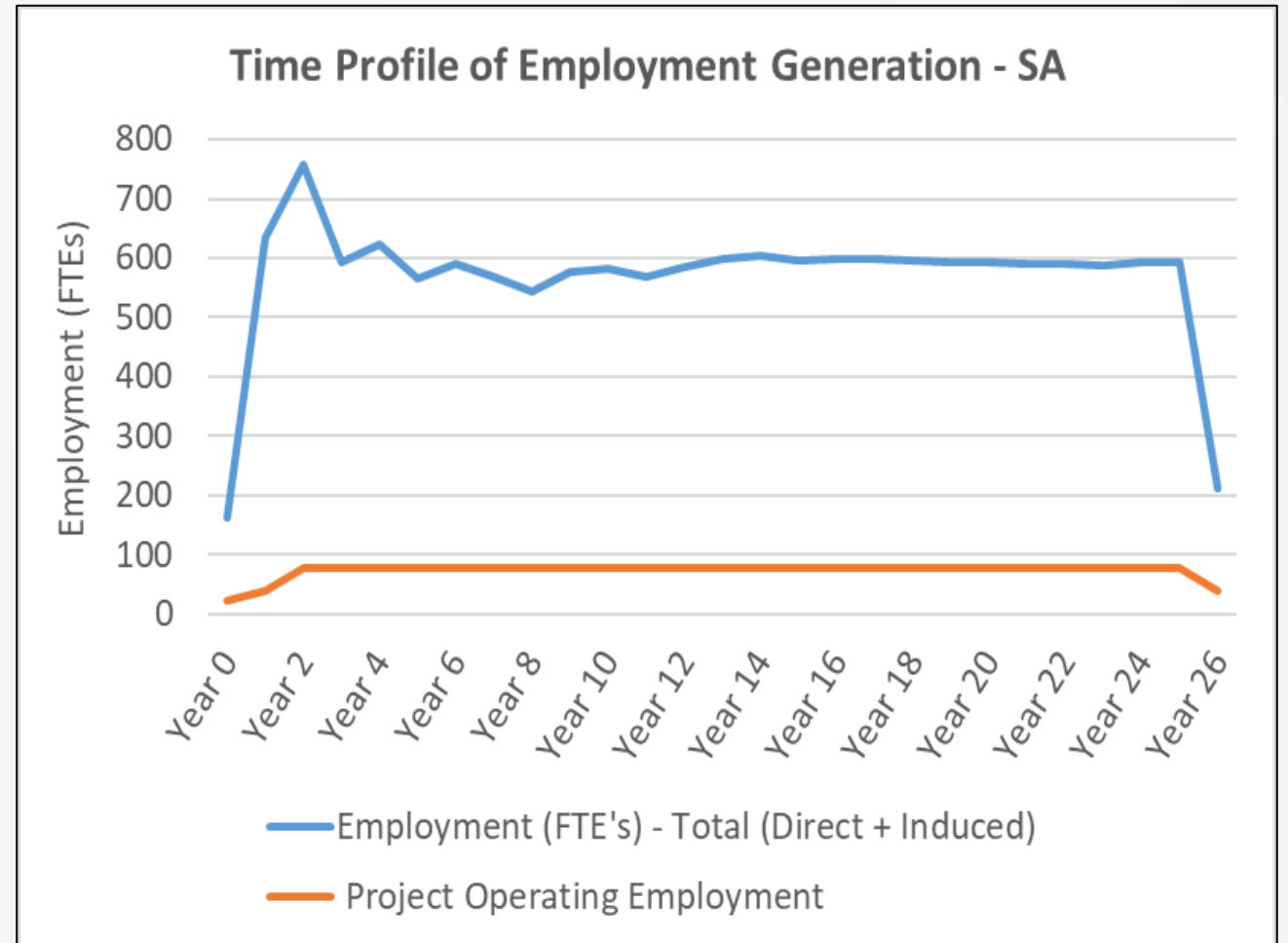
- 75 jobs – wages up to \$7M/pa
- Gross Regional Product (EP) - \$32M/pa
- Gross State Product impact - \$63M/pa



# ECONOMIC IMPACT SOUTH AUSTRALIA

## Economic Modelling Shows (Project Life):

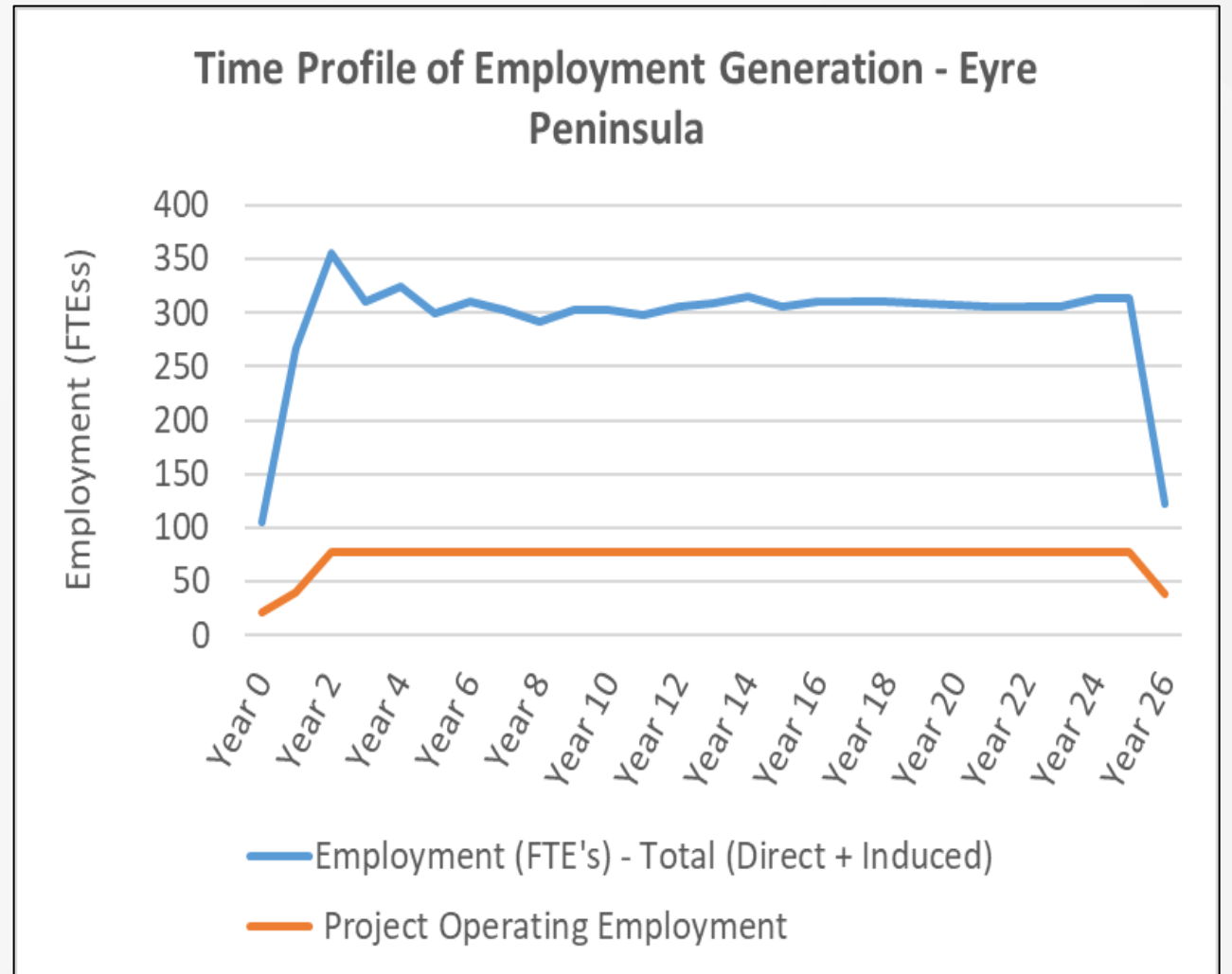
- Household income \$801M
- Contribution to State Gross Profit \$1.7B
- Person years of employment 15,229



# ECONOMIC IMPACT EYRE PENINSULA

## Economic Modelling Shows (LOM):

- Capital expenditure \$102.4M
- Direct wages \$178M
- Household income \$424M
- Operating expenditure \$2.0B
- Person years of employment 7,919



## Great White Project PFS

- 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%

## Next

- Mining lease approvals
- Definitive/Bankable Feasibility Studies
- High purity halloysite
- Concrete application testing
- Nanotechnology commercialisation
- High Purity Alumina

2022

- Breaking Ground at Great White - Feb 2022

# THANK YOU

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James Marsh  
Managing Director  
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ASX:ADN  
[www.andromet.com.au](http://www.andromet.com.au)



### 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 to 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 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 undertaken 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.

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Your email address is not verified. Please check the verification email sent to [nick.harding@andromet.com.au](mailto:nick.harding@andromet.com.au) on 25 Feb 2021.

[Click here](#) to resend the verification email.

## Market waking up to Andromeda's potential

Managing Director of Andromeda Metals, James Marsh, discusses its kaolin projects in South Australia which have captured the market's attention.



By **Alan Kohler**

25 Feb 2021

James Marsh is the Managing Director of Andromeda Metals, which has a very interesting couple of projects in South Australia of kaolin, which is the clay that I described as boring the other day but it is certainly not boring and it's used in lots of stuff and it's very expensive and has a high margin.

This stock has gone from not very much, like 4 cents, to 30 cents in a couple of months and it's now capitalised at \$700 million dollars, this company, and it's taking off. It's a very, very interesting business, they look like they're going to be able to process the material on-site rather than get it processed offshore, so that's an advance.

They're working on their definitive pre-feasibility study at the moment and James reckons they're going to be in production towards the end of next year.

**It's all happening for Andromeda Metals, here's James Marsh, the Managing Director.**



James Marsh - Andromeda Metals

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**Table of contents:****Cash situation****Prospect of capital raising****Kaolin projects****Production and sales expectations****Margins****Halloysite****Uses for nanotubes****Logistics and transportation****Production and material from both sites****Presentation to politicians**

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**James, I always start these interviews talking about cash and cash flow, so can we just deal firstly with that? Could you just take us through your latest 5B – what's your cash burn at the moment, how much have you got in the bank?**

At this point in time, we're quite fortunate we had a lot of options that were exercised fairly recently which brought in about \$8 million dollars. We had about a 99 per cent exercise rate because they went into the money. We're sitting now on about just over \$7 million dollars in the bank.

**In fact, the exercise price was 6 cents or something, wasn't it?**

1.2.

**Oh, 1.2, goodness gracious, heavens – the share price is about 30 cents or something?**

Got to 32.5 yesterday, that's right. Surprisingly, there were a few people that didn't realise and some were sitting on \$1 million dollars' worth of shares who didn't even

realise.

**Yeah, right. Of course, the trouble with exercising old options is that it's quite dilutive, isn't it?**

Yeah, so we have got a lot of shares on issue, over 2 billion shares. We're also quite unique in that we've got about 10,300 shareholders who are all retail, we've got no institutions and that's a reflection, I think, of a commodity that people really don't

understand, especially the ASX, doesn't understand what we have and what the potential is, so it's been a big education process for me over the last couple of years.

**Yeah, well it's probably worth noting that even though your share price is 32 cents or something, your market cap is \$700 million because you've got so many shares on issue, it's unbelievable. You need to consolidate the number of shares, don't you?**

Well, we kept being told that. When I started we were 0.4 cents and we kept being told we've got to consolidate and we need to be around about 2 or 3 cents a share. Then the story started to sink in with the market to understand what we had and the potential of our material and suddenly the share price started shooting up. Then we got over 10 cents, over 20 cents and people were saying we don't need to consolidate now. There's two sides to the argument there. We have got a lot of paper on issue but the share price is very healthy now. It's not the top of our agenda but we will consider that as we move forward. We've got bigger things to get done at the moment.

**Yeah, I know. Just finally, on the cash, you're burning about \$1 million a quarter and you've got \$5 million or so in the bank. Are you going to have to raise some money fairly soon, do a serious capital raising at some point?**

I think, yeah, it's inevitable and as you say, we're burning a lot now because we're working through our definitive feasibility study which is, we're trying to get that done as quick as possible and also our approvals for the mining approval process which is also expensive, so we're burning a fair bit of money. At this current rate



which is also expensive, so we're burning a fair bit of money. At this current rate, we'll be out of money in the third quarter this year, so that's something we will consider.

**You've got two projects in South Australia, kaolin projects, one called Great White and another called something Camel – I can't remember – something to do with a Camel. Just take us through those, you're farming in, in fact, aren't you, from something that was owned by Minotaur Exploration?**

That's correct, yes, farming with Minotaur, they worked on it for about 12-13 years. I was actually a consultant for them about 13 years ago, so I had some background in the project.

**Did they find it?**

No, initially a friend of mine found it from Cornwall. A geologist came out – I used to work for a kaolin company called English Chinas Clays, which was the biggest kaolin company in the world over in Cornwall. He came out and he found it, but he was looking for a kaolin grade for paper, which is the normal commercial kaolin grade, which there's plenty of it around Australia but it's not worth a great deal on the market. But he found the halloysite kaolin grade which is – back then it wasn't actually valued, but in the 30 years since then, it's now become a hot item in the market.

We have a special form of kaolin, the halloysite form, it's just far more valuable and quite rare in the world and this is, from what I can tell, is the biggest high purity resource of anywhere in the world. This is why it's been so exciting and why the market has now warmed to it. But we've actually got more than – so we've got three resources already of this material, totalling over 100 million tonnes. One of those is 100 per cent owned by Andromeda and the other two are farm-ins, which we own 75 per cent with Minotaur. Camel Lake is still sitting there, we're hoping to get some samples out soon from there but that is the highest purity halloysite that's ever been found in the world and that material currently sells for about \$5,000 dollars a ton, so as an industrial mineral this is something quite special.

**Last September you appointed a marketing agent, are they just focusing on**

**Last September, you appointed a marketing agent, are they just focusing on China or are they global?**

They're focusing on China and my background is I spent 30 years in the industry and got an extensive network of contacts. I've got some very good contacts around the whole world but China, we had almost 1 million tonnes a year of letters of intent for offtakes for China, three product forms. We wanted to convert those across to binding, a certain proportion to binding anyway because that's too much for us, we couldn't actually do so much, and with the COVID problems now it's very difficult to get over there. We appointed the agents, so he's working on converting those offtakes off to binding offtake agreements. Whereas, the rest of the team are focusing on other regions of the world. Now we've got some serious discussions going on in Europe, Middle East and other parts of Asia. There's a lot of interest and there's a very healthy demand for this product around the world.

**How much do you think you'll be able to produce and sell, do you think?**

Well, in the pre-feasibility study, we had a total of 233,000 tonnes of fully processed material and that gave us some very nice numbers, we're over \$700 million NPV, 175 per cent IRR – some numbers there that would embarrass a lot of other mining projects in Australia. But we're now modelling different volumes there because if we go straight to a production unit onsite, then we have to decide how big we go to start with and do we ramp it up and all sorts of issues around that and do we do DSO in tandem or do we just do fully processed? The offtakes we have signed up, we actually got over 200,000 tonnes of fully processed material signed up by letters of intent, so we only need to convert maybe half of that across to binding in China and then focus on the rest of the world to de-risk the project further.

**Have you decided to process the stuff onsite now or are you just working towards that?**

Well, that will be announced in a definitive feasibility study, so at the end of the second quarter. But I can say at this point in time, that's looking like the best option for us for those reasons I just mentioned that when we first looked at the pre-feasibility, we were sitting on a market cap of probably about \$10 million dollars and the actual plant itself might have cost \$20 million dollars. So then the DSO option was looking very attractive, getting some nice cash flow, but now we are

Option was looking very attractive, getting some nice cash flow, but now we are almost a \$700 million company, buying a plant for \$20 million is not such an issue.

### **Is that what the plant will cost, \$20 million?**

Probably the plant itself for about \$20 million, there's some infrastructure to go around that. It's quite conventional technology, it's off the shelf equipment, it's been around for 100 years, it's just a matter of getting the configuration right. We're talking about de-sanding it. We've got something that when it comes out of the ground, it's 50 per cent sand and 50 per cent halloysite kaolin, so what we're doing is de-sanding it, removing a few other impurities and then drying it and then you've got something that's fit for market. Having the halloysite angle there with the nanotubes in it, that's what makes it so interesting, it just lifts the value to approximately double what it would be without the halloysite component. This is why our margins are so strong and our numbers look very good. When you stack it up against commercial kaolin projects, then you're talking about twice the margin here.

### **What are the margins?**

In our PFS, we're about 50 per cent, which put us about \$300 dollars, but that was based on offshore processing, paying for a toll processing operation. If we do it ourselves on-site, then that will be reduced. The margins, at the moment, we're talking about \$300 a ton margin but that could be greatly improved. If we do actually move towards the other applications like concrete, then that could be improved a lot further because there we're talking about something that rather than selling for \$700 a ton, we'll sell it for probably \$1,000 a ton plus and actually require less processing. And then if we get the pure halloysite, then we move to something like \$5,000 a ton and the margins there are several thousand dollars per ton of profit.

And then, if we actually get the natural nanotech side of the business going, which is a halloysite nanotechnology, we're talking about products there that could sell for several million dollars a ton. So we've got some very exciting opportunities there as we move through that process.

**I consulted Wikipedia on the question of halloysite and they said that there's three deposits or three mines, there's one in New Zealand, one in Poland and one**

~~three deposits of three mines, there's one in New Zealand, one in Iceland and one~~  
**in Utah. Are you saying that your one is higher quality than those three? And the other question I suppose is, how much capacity is there in the market? I mean, are these three falling short of what's required or what?**

We have to differentiate here between the pure halloysite, so 100 per cent halloysite means 100 per cent of these tubes, these nanotubes. Those three mines or deposits that you mention there, all have 100 per cent pure halloysite tubes. Now, all those three have issues – I worked for the one in New Zealand, that company, so I know that one very well. That is pure halloysite, but it's the wrong sort of tubes for the new applications I'm talking about, it doesn't work in those applications. The other two are non-starters really, they're not genuine commercial operations. So it means that for pure halloysite, at this point in time there's no commercial operation in the world that produces the right type of pure halloysite that we do have, we have got that at Camel Lake, we're just not quite sure how much yet.

Last year alone, there was about 100 patents granted for that material in all sorts of new exciting applications, but no one can supply that material. We had people queueing up for that. As soon as we can produce that, then I've got people saying – there's a fortune 500 company in America saying they'll buy truckloads as soon as it's available. That's one situation. What we have at the moment in our resource in the Great White project is a hybrid material, so it's a blend of the tubes and normal kaolin plates.

The good thing is, that blend is what ceramics people want for porcelain production, so there are companies that make that synthetically which is very expensive and a difficult process, but we have that material straight out of the ground in exactly the right ratio, so those companies love that material. The biggest mine in the world that was producing that was in China and that's now virtually run out of material, so they actually want to buy...

**So to be clear then, you've got two different materials in Great White and Camel Lake. Great White is sort of a combination of nanotubes and the market for that is porcelain, is that right?**

That's correct, but we are using that material in our research. We get about 40 per cent tube – we can get higher, but 40 per cent of the tubes, we're using that in our

cent tube – we can get higher, but 40 per cent of the tubes, were using that in our research work and that's going into our research into hydrogen storage, carbon capture, batteries. Lithium-ion battery work and water purification are the main areas and it's working. In those areas, that 40 per cent odd tubes, because they're actually the right shape, right structure, right chemistry, it's working in those applications. As we move to the 100 per cent pure halloysite we know we've got, then that's only going to get better and better.

So the good news for us is, we have a material that now is highly valued and desirable for ceramics, but it's also working in these new applications and as we move forward, we are going to be increasing the performance of it as we get higher purity and better tubes to actually use for that for our research work.

### **What are the uses of the nanotubes that you're talking about and what are these new uses that everyone's lining up for?**

At the moment, it's been approved and used in very small amounts in plastics and coatings. Those customers want to use more of it but they can't access it at the moment, it's not available in the market. The new plants that are coming out and the work that's developing now that we are working on, first off, you activate these tubes and you can make modules from that. These modules which have very high surface area, activated halloysite in them, they can suck in vast amounts of carbon dioxide, one application, and then convert that to fuel, to methanol. It's a way of capturing carbon and converting it into a clean fuel, so that's working very well. Same thing with hydrogen, you can use it to store large amounts of hydrogen, but importantly, you can store it safely and transport it safely at low costs. The Achilles heel for hydrogen at the moment is you can make it fairly easily with electrolysis but it's very hard to actually store it and transport it safely at low costs. So we've got the potential to do that and also in batteries – you can use these tubes as a template or a mould to make nanocarbon structures very cheaply. We can use the halloysite to produce carbon with huge surface area, almost 2,000 square metres per gram and you put those into batteries in the anode and cathode, then you get a big boost in performance in lithium-ion batteries, so that's going on.

Plus, we also have found that our material is such high purity, kaolin material, that when you use it as a feed material for higher purity alumina or HPA for batteries, then you can jump to a super high purity version of that at essentially very low

opex. There's a whole load of new applications there that for our material – and I think that's what the markets like, the fact that we've got this base load business in ceramics where people want it, they will buy it tomorrow if we could produce it. That market's grown year on year for 20-25 years at 4 per cent, so it's very, very stable.

### **How much did you say you're going to be able to sell this stuff for?**

In our PFS we used \$700 Australian dollars per ton, which is about double what you'd get for a normal kaolin. Now, if we do get these other markets developed, concrete and high value coatings, then we're talking around about \$1,000 dollars a ton or possibly more. Then, if we get the higher purity halloysite, we're looking at \$5,000 dollars a ton, which is a huge jump up again. Then finally, if we get the halloysite nanotechnology working, then the carbon capture material currently sells for about \$4 million dollars a ton. One product that's actually better than that material so we're looking at multiples of that, possibly over \$10 million dollars per ton of that carbon capture material. In the first half of this year, we will have a pilot plant that can make reasonable amounts of that material and prove that up for that commercialisation process.

### **Are there any logistical challenges for transporting this stuff? Is it dusty? I mean, how are you going to transport it?**

Transport is a very important factor with industrial minerals. 80 per cent of the cost usually for industrial minerals is transport. We're lucky that we've got three ports that can do it for us around the mining area, so we've got no shortage of shipping options there. But the plan is to – when it comes out of the ground as a raw ore, it's actually got quite high levels of moisture, so it's not really dusty, it's sort of moisture material. When we process it, the plan would be to process it and form a noodle material, so it's refined and it's extruded in a noodle and these noodles are very low dust material, easy handling and they will go into big bags and the big bags will be transported by freight bulk, 5,000 tonne lots in a cargo ship hold.

That's the transport model, so dust isn't a problem, but the good thing for us is that dust kaolin is actually used as a crop protection material, so people buy it at quite high costs and spray it on crops to keep bugs off and also to improve productivity. Even if it was dusty, it wouldn't be harmful for any crops, it would actually boost

them.

**It sounds like it's a multi-purpose product, this stuff, you could use it for anything.**

Well, conventional kaolin is used in hundreds of thousands of applications used every day. There's 2.5 kilos in your car, for example, you have several tonnes in your house, it's in your food, it's in your medicines, you wear it, you're driving around in it. Kaolin is a material that people use every day and just don't realise. It's got a

whole host of uses, the good thing for us is we have the much rarer form and much more valuable form. This material is FDA approved, so it's not harmful, it's easy to handle, not hazardous and yet, what we have is a very high-value version of it.

**It's interesting your mate from Cornwall found this is in South Australia. The two projects are a fair way apart, a few hundred kilometres apart. How much of the area did he peg and how much have you got pegged still?**

He came out and he was told to look for a kaolin grade for paper, which back then was a big volume business and everyone was looking for paper grades around the world. He really was a quite clever geologist, he realised it was actually halloysite, which is not easy to distinguish the two forms. But the halloysite grade doesn't work in paper. It's very bright, very fine, but it gives completely wrong properties than paper. He was told to move on and he then went to Brazil and actually built a big mine in Brazil. He was left for a long time, Minotaur picked it up and since then, expanded the area. When I first joined the company, which is about two and a half years ago now, one of my first jobs was to look at other potential prospective areas for this around, so we extended our tenements to a very large area, several hundred kilometres, and we're happy that we've got the good quality material within our tenements.

We also picked up one over at Mount Hope near Port Lincoln, which was a historic resource. Again, had been explored for paper grade kaolin, hadn't worked because it's halloysite and they dropped it not realising it was actually more valuable. So we've picked that one up as well.

**Those three projects are in a line, so maybe there's a line of the stuff all the way**

**Those three projects are in a line, so maybe there's a line of the stuff all the way through, is there?**

Well, the geology is good for kaolin because it's granite-based, so when you have granite and hydrothermal activity, then you've got a good chance that kaolin will be formed from granite. It's quite rare though then for the kaolin to be transformed into halloysite. It usually takes very acidic water and millions of years to do that. There's been a whole rash of other companies that have seen the Andromeda story and now decided that they're going to look for halloysite, not surprising. But we're happy that, thanks to Minotaur, doing a lot of work and before then, the other drilling, there's 30 years of exploration in our tenements there and 10 years of intensive work and now since we joined, we've really concentrated for the last two years.

We aspire to be the world leaders in halloysite, experts in the whole process of exploration, looking where to find it, how to measure it, how to analyse it, how to produce it and how to sell it. Our team of geologists now are, I would say, the most experienced geologists in Australia easily in this mineral. They spent two and a half years learning all about it. There could be more stuff around there but we're happy that we've got over 100 million tonnes of this which will give us plenty of mine life for 200 years. So we've got no shortage and more importantly, we've got a very high purity and very consistent material that the market loves.

**When does your business planning have you producing for sale?**

We're going through an exciting stage now where we've planned this week hopefully our application for mining lease will go in, so the clock starts ticking from this week, end of this week, and then we're looking at a six-month approval time and then three months for the environmental sign-off. By this time next year, we plan to have broken ground, so less than a year now we'll have broken ground, that'll be a very exciting moment. Then, it will take probably six months from that point before we get the plant, if we have a plant in, up and operating by maybe the third quarter. So, not long to go now. In the scheme of things, we're talking about 250-odd days and we'll be operational.

**When you start producing, whenever it is, next year sometime, how much will you produce and what sort of material will it be?**



**you produce and what sort of material will it be:**

Yeah, so the first cab off the rank will be for ceramics because all the work's been based on that and that's what the market's waiting for it, so ceramics grade will come out. How much we produce, that's still a question mark because it depends on how big we go to start with on the plant and also, if and how much DSO we do alongside that.

### **What's DSO?**

Sorry, direct shipping ore. If we do the direct shipping ore and process offshore, which is where we get about a \$300 dollar margin, we can do that if we find the right partner and sign them up. We could do that or we may decide just to do it all ourselves onsite. The options there are to go straight to about a 230,000-tonne operation or start off maybe half that size, maybe 100-120,000 tonnes and ramp up with their business. That's why we're modelling these different options at the moment to find out what gives us the safest and the best model to get this going. It's going to be somewhere in the region of 100,000 to 200,000 probably onsite and then DSO – we have to decide on that separately.

### **And this is all from the Great White, right?**

This is all from Great White, yeah. We've got a resource there of 34 million tonnes of this material. There is more there, but that's enough – our PFS was based on 26 million tonnes which gave us a 26-year mine life, so we've got enough material there to last us over 30 years. Right next to it, we've got Hammerhead resource right next to it and that one is already 51.5 million tonnes and there's a lot more there, it's open in two directions so we can go on for probably 100 years in the area.

### **When will you start mining and shipping out of Camel Lake?**

Camel Lake is a little bit unknown. That's in the Maralinga area, so it's aboriginal free-hold land, so it's taken a while to gain their confidence, we've now got that and we've taken them out there and they've had a look around the area. The only people that have been there before recently were the government geologists from the South Australian Government who went out there and took samples and realised how good it was. No one's been out there since, in fact no one in the

realised how good it was. No one's been out there since, in fact no one in the community have been out there who's alive at the moment. It's a whole new area for the traditional owners. They've been out there and we're just waiting now to find out where we can go.

The next stage for us is to go out there in the cleared areas with our geological team and take some decent size samples – because I have people from around the whole world asking me for that material, all sorts of parts of the world, for these new applications because it looks like it could be perfect.

### **But it sounds like it's a long way off?**

The good thing there is, it is a bit of a long-term prospect, but the material there that's been found is literally shovel deep, you can dig it out with a shovel and it's 100 per cent pure in the ground, so what we're talking about here would be exceptionally easy. The Great White project is more like a coring operation, it's only 30 metres deep so it's very shallow. If it wasn't kaolin, if it was actually a rock material it would be a quarry and the process would take three months to get through and get approval...

### **But is it also half-sand?**

Half-sand, yeah, that's right, so it's a very friable mixture, it comes out very crumbly, but the good thing is it's very low impact, a very small footprint. If we did mine the Camel Lake, it could be done easily by the locals, it's more like an agriculture operation than the mining operation and the reason the Government likes it is because it's a low impact project that could create a huge amount of income for the state and for the region and modelling as recently shown, we could create indirectly over 700 jobs in that area, which is a huge increase to local employment.

**I think you're presenting to a bunch of politicians on Thursday I think you said, State and Federal, are you able to tell us what that's about, what you're going to tell them?**

Yes, this is an economic development forum for South Australia at Port Lincoln on Thursday and Friday, and they've asked some major projects in South Australia to come and present. Most of them are hydrogen projects. There's some other mining projects as well but they've picked up Andromeda as potentially a very exciting

projects as well but they've picked up Andromeda as potentially a very exciting development for South Australia and potentially for the country. They've asked us to present – normally you have to be a \$100-million-dollar-plus project to present, so we are below that, but the key there is to get the message across that mining approvals are going in, applications are going in this week and to reassure them that we're doing everything right.

We're engaging in the community, we're engaging all the local people, the aboriginal community, everyone. We're doing everything right and we've got this tremendous opportunity for the whole region, not just in the base load business for the ceramics, but there could be a whole lot of knock-on businesses here, downstream businesses in the hydrogen area. There's some hydrogen connection there with the people presenting, also the carbon capture. There'll be people there who are interested in that space, so we can talk about all these different downstream opportunities for Andromeda in the future.

**Very good, okay, well it's been terrific talking to you. Thanks very much, James.**

Thanks, Alan, pleasure.

**That was James Marsh, the Managing Director of Andromeda Metals.**

**i** For more information on [Andromeda Metals Limited \(ADN\)](#), please [click here](#)

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