Andromeda METALS

Andromeda Metals Limited
ABN: 75 061 503 375

Quarterly Report

Period ending 31 December 2020

Corporate Details

ASX Code:
ADN (ordinary shares)
ADNOB (listed options)

Cash at 31 December 2020:
$7.938 million

Issued Capital:
2,152,727,827 ordinary shares
90,820,000 unlisted options
23,250,000 perform. rights

Directors

Rhod Grivas
Non-executive Chairman
James Marsh
Managing Director
Nick Harding
Executive Director and Company Secretary
Joe Ranford
Operations Director
Andrew Shearer
Non-executive Director

Contact Details

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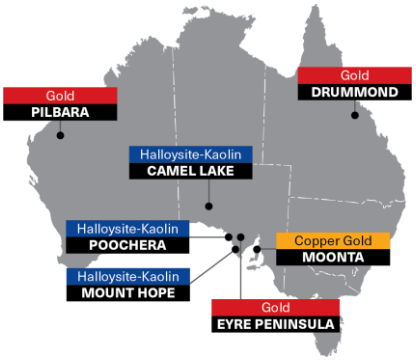

James Marsh
29 January 2021

Summary of Company activities for the December quarter:

Great White Kaolin JV (ADN 75% interest)

- ADN officially earnt a 75% equity interest in the Great White Kaolin Project during the quarter after meeting the Stage 2 expenditure requirement.
- An updated Mineral Resource Estimate completed for the Great White kaolin deposit of 34.6Mt of in-situ Bright White kaolinised granite, representing an increase of 8.6Mt or 33% over the previous estimate, to yield 17.4Mt of minus 45 micron quality kaolin product.
- The Great White Resource contains two sub-domains consisting of a halloysite zone (15.9Mt) and an Ultra Bright high-purity kaolin zone (1.2Mt) which shows exceptionally low iron contaminant and is potentially ideally suited to high-value markets in specialist coatings and polymers.
- Testing of Great White halloysite-kaolin across a number of concrete application mix designs continue to deliver positive results with clear strength gains and important handling and performance improvements to concrete observed through the addition of halloysite-kaolin, representing an additional significant domestic and global market opportunity.
- Testing of ultra-high purity kaolin sourced from Great White (and ADN's 100% Mount Hope Project) has delivered exceptional ISO brightness results superior to current market leading products making this material ideally suited to the high-value coatings and polymer markets.
- Significant progress made in respect to the Project with the Mining Lease application on schedule for submission in February 2021 and the Definitive Feasibility Study (DFS) evaluating various options to determine maximum returns with minimal risk due for release during the second quarter of 2021.
- Origin Capital appointed to assist with Bankable Feasibility Study (BFS) corporate finance considerations.

Camel Lake Halloysite Project (ADN 75% interest)

- Positive meeting held with traditional landowners during November resulting in an initial site inspection of targeted areas at Camel Lake in January.

Natural Nanotech Joint Venture (ADN 50% interest)

- Halloysite based nanocarbons (fullerenes) produced from Great White material with testing showing excellent results in a range of applications.

Drummond Epithermal Gold Joint Venture

- Evolution Mining has formally withdrawn from the joint venture with the Project reverting back to 100% ADN ownership.

Eyre Peninsula Gold Joint Venture

- Significant gold intercept of 31 metres at 3.06 g/t gold from 36 metres, including 15 metres at 5.35 g/t gold, returned at the Clarke Prospect.

Corporate

- Cash totaling $5.7M received during the quarter relating to the exercise options with a 99.8% take up by the 30 November expiry date.
- Taylor Collison engaged as corporate advisors to the Company.

The Board and management of Andromeda Metals Limited (ASX: ADN, Andromeda, the Company) is pleased to provide a summary of the Company's activities for the quarter ended 31 December 2020.

Great White Kaolin Project

The Great White Kaolin Project covers two main geographic areas of interest, both situated in the western province of South Australia (Figure 1). The current main area of focus for the Project is on the Eyre Peninsula which comprises four tenements and is located approximately 635 kms west by road from Adelaide and 130 kms south-east from Ceduna (Figure 2). The Project is a joint venture between Andromeda Metals and Minotaur Exploration Limited (ASX: MEP) in which ADN now holds a 75% equity interest.

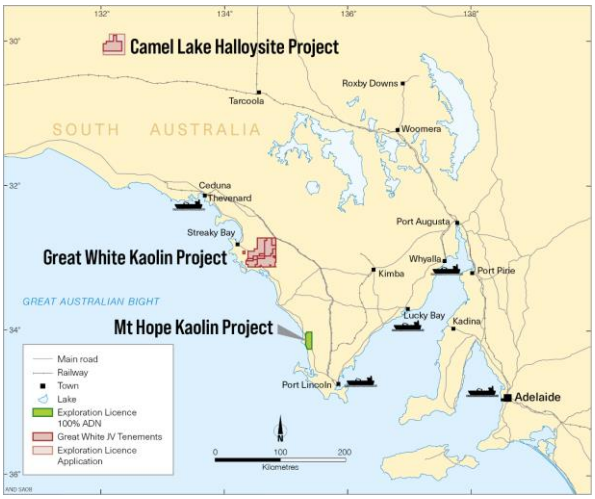

Figure 1 - Project Location Plan

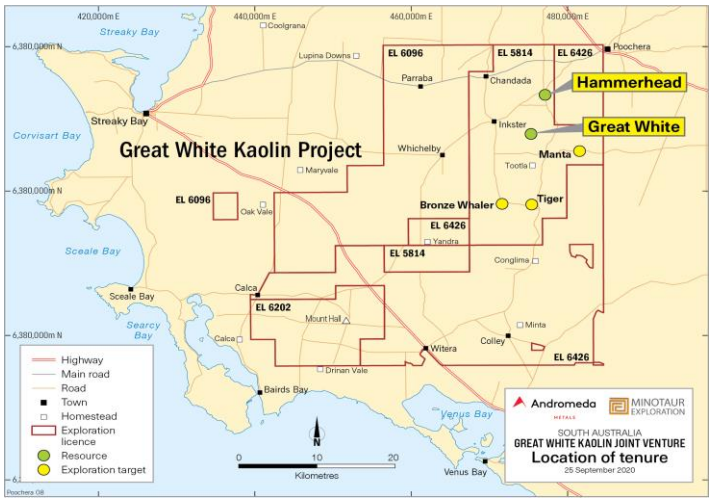

Figure 2 - Great White Joint Venture tenements

High quality halloysite-kaolin occurrences exist extensively across the Great White Project area making this a region of global significance for the mineral and capable of supporting a considerable long-life mining operation, should final feasibility studies determine the project to be commercially positive.

Andromeda also holds a 100% interest in the Mount Hope Kaolin Project which is located approximately 160 kms southeast of the Great White Kaolin Project.

Great White Mineral Resource Update

An updated Mineral Resource Estimate of 34.6Mt of kaolinised granite for the Great White Deposit was prepared during the December quarter *(refer ADN ASX release dated 26 November 2020 titled "Updated Mineral Resource for the Great White Kaolin Project")* and replaced the previous December 2019 Mineral Resource Estimate. The new Mineral Resource is reported at an ISO Brightness cut-off of 75% in the minus 45 micron size fraction and is shown in Table 1.

Table 1 - Great White Kaolin Mineral Resource

Class	Mt	PSD -45µm (%)	Kaolinite (%)	Halloysite (%)
Measured	5.7	50.2	39.5	6.9
Indicated	14.2	51.1	42.0	5.0
Measured + Indicated	***20.0***	***50.8***	***41.3***	***5.6***
Inferred	14.7	49.3	40.3	4.9
Total	**34.6**	**50.2**	**40.9**	**5.3**

Note that all figures are rounded to reflect appropriate levels of confidence

The Resource includes two subdomains; a halloysite-kaolin sub-domain "Halloysite Domain" and an ultra-high bright (ISO B >84%) high-purity kaolin subdomain "Ultra Bright Domain", as summarised in Table 2.

Table 2 – Defined subdomains within Great White Kaolin Mineral Resource

Zone	Mt	PSD -45µm (%)	Kaolinite %	Halloysite %
Halloysite	15.9	50.6	40.0	6.8
Ultra Bright	1.2	54.0	50.3	0.8

The Resource yields 17.4Mt of High Bright kaolin product (ISO B >75%) when applying the minus 45 micron recovery factor, with the remaining approximate 50% of material being largely residual quartz derived from the weathered granite.

Table 3 - Great White Kaolin Mineral Resource minus 45µm

Domain	Mt	ISO B	Kaolinite (%)	Halloysite (%)	Al_2O_3 (%)	Fe_2O_3 (%)	TiO_2 (%)
Measured	2.9	83.9	78.8	13.8	36.7	0.52	0.32
Indicated	7.3	82.8	82.3	9.9	36.6	0.51	0.50
Measured + Indicated	*10.1*	*83.1*	*81.3*	*11.0*	*36.6*	*0.51*	*0.45*
Inferred	7.2	83.3	81.7	9.9	36.4	0.51	0.45
Total	17.4	83.2	81.5	10.5	36.5	0.51	0.45

Note that all figures are rounded to reflect appropriate levels of confidence

Drilling to the north of the Halloysite Domain identified the Ultra Bright Domain which consists of extremely high purity kaolinite with ultra-high brightness (ISO B >84%) and low halloysite levels that is ideally suited to high-value markets in specialist coatings and polymers.

Changes between the 2019 and 2020 Great White Mineral Resource Estimates

Material available for Reserve estimation has reduced by 0.3Mt (20.3Mt down to 20.0Mt), although grades have improved, as shown in Table 4. However, tighter constraints for the Measured classification saw the transfer of material from Measured to Indicated. Importantly the Resource in the proposed first six years of mining based on the June 2020 Pre-Feasibility Study (*refer ADN ASX announcement dated 1 June 2020 titled "Pre-Feasibility Study Further Improves Poochera Economics"*) is classified as Measured.

Table 4 - Comparison between Dec 2019 and Nov 2020 estimates

Company	H&SC Dec 2019				Andromeda Nov 2020			
Category	Mt	-45µm Rec %	ISO B	Kaolin %	Mt	-45µm Rec %	ISO B	Kaolin %
Measured	15.5	50.7	82.3	45	5.7	50.2	83.9	46.4
Indicated	4.8	49.8	81.7	43.4	14.2	51.1	82.8	47
Measured + Indicated	*20.3*	*50.5*	*82.2*	*44.6*	*20.0*	*50.8*	*83.1*	*46.9*
Inferred	5.3	50	82.1	42.7	14.7	49.3	83.3	45.2
Total	25.6	50.4	82.1	44.2	34.6	50.2	83.2	46.2

The increase in Inferred material from 5.3Mt to 14.7Mt reflects the new zones of halloysite kaolin identified in the June 2020 broad spaced drilling to the southeast of the December 2019 Resource estimate.

Application Testing

During the quarter the Company released further positive news from the testing of halloysite-kaolin in concrete and coatings applications (*refer ADN ASX release dated 12 November 2020 titled "Positive Results from Concrete and Coatings Application Testing"*).

Halloysite-Kaolin Testing for Concrete Applications

Following some initial encouraging test results of halloysite-kaolin material in concrete applications, testing was expanded into a number of commercially important concrete application mix designs, which continue to deliver very positive results. A number of important handling and performance improvements of the concrete were found with addition levels of only 1kg – 2kg/m^3 of halloysite-kaolin, which Andromeda considers to be of genuine commercial interest for the existing domestic and global markets. Testing was also continued in order to gain official Australian Concrete Standards Certification.

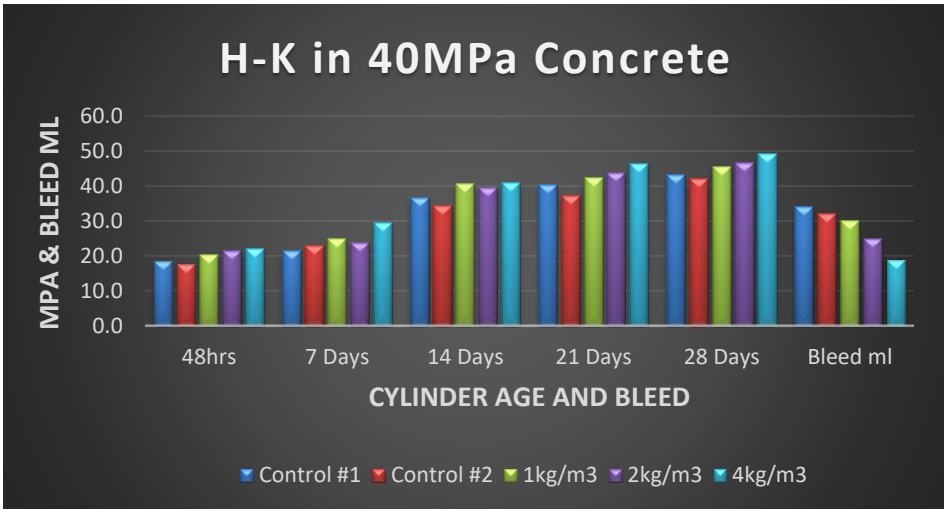

Figure 3 – Halloysite-Kaolin Results in 40MPa Concrete up to 28 Days

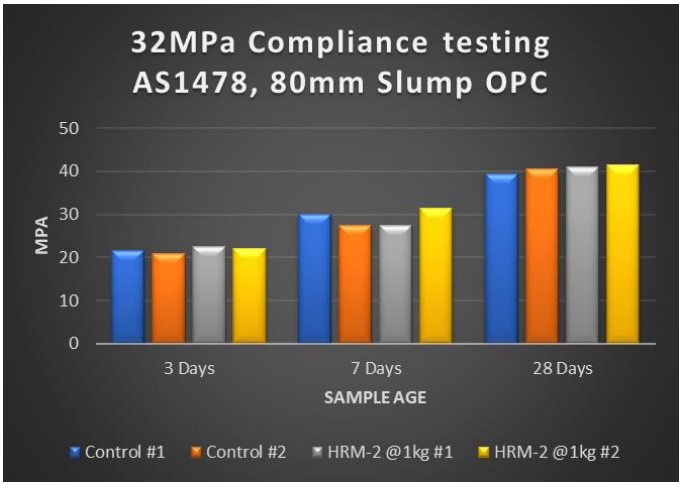

Figure 4 – Australian Standards Compliance Testing Progress

Concrete application areas under testing included self-consolidating concrete, shotcrete, pool mix and deep foundation pilings.

High-Purity Testing for Coating and Polymer Applications

Exploration drilling carried out at the Great White and Mount Hope deposits identified significant regions of kaolin with minimal halloysite content, but of exceptional high purity. Whilst this material does not have the right balance of properties for porcelain customers, it is of significant interest to the coatings and polymer sectors where such mineralogy is highly desirable. Consequently, large representative samples of ultra-high purity kaolin from the Great White and Mount Hope deposits were sent to Europe for processing and testing to determine their suitability for these high-value markets where commercial kaolin products are currently sold for approximately A$1,000/t.

The ISO brightness and the particle size distributions of the refined products at 70% and 90% < 2um from both Great White and Mount Hope were exceptional, indicating excellent potential in high value coatings and polymer markets. Ceramic fired brightness testing was also carried out as potential interest for product blending with halloysitic material, and the values were all over 100 (off-scale), which reflected the extremely high level of purity.

The refined 90% < 2um products are superior to the top commercial grades globally, and even the 70% <2um products are better in brightness, which is highly unusual.

Table 5 - Comparison vs Current Leading International Commercial Grades

Grade	90% <2um	70% <2um	90% <2um	70% <2um	Eckalite YMT	Supreme	Speswhite
Country	Australia	Australia	Australia	Australia	Australia	UK	UK
Company	Andromeda	Andromeda	Andromeda	Andromeda	Imerys	Imerys	Imerys
Deposit	Great White	Great White	Mt Hope	Mt Hope			
Brightness (%)	90.4	89.2	90.0	89.0	88.0	88.0	85.5
<2 um (%)	94	72	92	73	-	94	80
<1 um (%)	81	60	75	54	-	80	60
Surface Area (m^2/g)	16	14	17	15	-	16	14

Marketing Update

Hong Kong based marketing advisory group Conrad Partners have been engaged to drive the Asian marketing and services strategy with the aim to convert the existing Letters of Intent (LOI's) signed by identified potential customers into binding off-take agreements in addition to sourcing and negotiating with toll refining facilities in China.

Advanced discussions continued during the quarter with a number of these potential customers with the objective to lock in Binding Offtake Agreements. Conrad Partners are now on the ground following up all current opportunities in China, along with Andromeda staff who are working on a number of other customers targeted throughout Asia and Europe.

Definitive Feasibility Study and Mining Lease Application

Substantial effort by ADN employees and consultants over the past quarter has been directed towards progressing the DFS with a number of options being evaluated to provide for the optimal return for the Project whilst minimising key risks. Completion of the DFS is scheduled for the second quarter of 2021.

Significant progress was made during the quarter with respect to the Mining Lease application which is nearing completion and targeted for submission to the South Australian Department of Energy and Mining during late February, representing a key milestone towards the planned operational start of the Project in February 2022.

Camel Lake Halloysite Project

The Camel Lake Prospect in South Australia has long been known to be the source of samples of the highest purity halloysite ever found in the world.

During November 2020 a positive meeting was held with the Maralinga Tjarutja Council, who are the traditional landowners on which the Camel Lake tenement is located. Subsequent to the end of the quarter, progress has now been made on this favourable meeting with a site inspection completed in January and open communications in place with the Traditional Owners and their anthropologist. The next stage is to formalise a site access agreement with the Maralinga Tjarutja People followed by Andromeda geologists carrying out field exploration later in the year.

Halloysite Research and Development

Natural Nanotech Pty Ltd (NNT) is a research and commercialisation venture, jointly owned (50:50) by Andromeda and Minotaur, established to investigate new technology applications for halloysite-kaolin nanoparticles. Success will create new user markets for the halloysite nanotube material including the potential to produce a global alternative to inordinately expensive manufactured carbon nanotubes amongst other things.

Andromeda and Minotaur, through Natural Nanotech, are funding significant research programs at the University of Newcastle's Global Innovative Center for Advanced Nanomaterials (GICAN). Experimentation has continued on optimising the conversion process for high halloysite kaolin into a variety of functionalised nano-porous structures, including C_{60} and C_{70} fullerenes. With the combination of tuneable pores, high surface area, high-temperature stability, high charge-discharge capability and conductivity, the resultant nanomaterials have potential application in batteries, supercapacitors technologies, as antimicrobial agents in water treatment, in carbon capture-storage and in hydrogen storage-transport. As part of this program, a demonstration of battery cell based on halloysite-derived nanocarbon matrix is being prepared, and assembly of various components for a CO_2 capture pilot plant is underway.

The patent application process is ongoing for the unique technology involved in producing carbon nanomaterials from halloysite-kaolin precursors and the subsequent processing routes for their specific environmental uses.

Drummond Epithermal Gold Joint Venture

During the quarter Evolution Mining Limited (ASX: EVN, Evolution) completed the drilling program which had commenced in September to test a 300 metre strike length target of the Roo Tail Breccia, which is located at the southern end of the South West Limey Prospect. A total of 4 RC pre-collar holes with diamond tails for 980 metres were drilled with unfortunately no significant intercepts encountered.

As a consequence of these latest results, earlier this month Evolution advised ADN that it has decided to withdraw from the joint venture and return the Project to 100% Andromeda ownership, which it is entitled to do as expenditure on the Project has significantly exceeded the required minimum amount under the joint venture terms. In total Evolution has spent approximately $4.3M since September 2018 on the Drummond Project with drilling undertaken at the Bunyip and South West Limey targets, but with minimal success. In addition, EVN also paid the Company a total of $500K in two instalments at the commencement of each of the 2 stages defined under the joint venture agreement.

The Company will now fully assess the results achieved under the joint venture and make a decision on how best to now advance the Project.

Eyre Peninsula Gold Joint Venture

Over the December quarter, joint venture partner Cobra Resources PLC (Cobra) completed a 41 hole 6,090 metre RC drilling program which commenced in late September targeting a number of prospects across the Project.

A significant gold intercept was returned of 31 metres at 3.06 g/t gold from 69 metres, including 15 metres at 5.35 g/t gold from 83 metres, at the Clarke deposit, which is located 1.75 kms north of the Baggy Green deposit and north of mineralization previously intersected at Clarke and which represents a high priority target for a future joint venture program. Some further good results from the drilling program were recorded at both Barns and Baggy Green including 9 metres at 1.07 g/t gold at Baggy Green and 3.25 g/t gold over 13 metres, including 1 metre at 33.60 g/t gold with 7.25 g/t silver and 1.71% copper, 8 g/t gold over 3 metres and a number of other solid gold intercepts returned at Barns. Cobra is now analysing the results of the full drilling program with a view to updating the geological interpretation and resource modelling at Baggy Green and Barns as well as consideration of further drilling to define a future maiden resource at Clarke.

With the completion of the RC drilling program, Cobra has now met the Stage 1 expenditure commitment under the joint venture and therefore earned a 50% equity interest in the Eyre Peninsula Gold Project tenements.

Moonta Copper ISR Joint Venture

During the quarter, work on lixiviant selection trials by joint venture partner Environmental Metals Recovery (EMR) continued. Additional leach tests were carried using lixiviants in a range of pH conditions with generally positive results achieved. Further work is be carried out to gauge the effects of gangue mineral species on copper recovery.

Hylogger analysis of selected Alford West chips has been undertaken, with the recently received results to be analyzed using artificial intelligence to compare spectral signatures for mineralized versus unmineralized samples.

Three water bores will be drilled during the March quarter to determine baseline hydrogeological parameters including water chemistry, transmissivity and flow rates.

Pilbara Gold Project

The Project was reviewed by a number of third parties during the quarter but no offers have been received. The Company is now considering its options for the Pilbara Gold Project.

Finance and Corporate

Andromeda's cash position at the 31 December 2020 stood at $7.938 million.

A total of 450,319,626 ordinary shares were issued during the quarter resulting from the exercise of 444,639,626 ADNOB listed options with an exercise price of $0.012 per option and 5,680,000 unlisted options with an exercise of $0.064 per option, providing the Company with cash receipts of $5,699,196.

In addition, a total of 23,250,000 performance rights were issued to directors during the quarter that were approved by Shareholders at the Annual General Meeting held on 26 November.

As of the date of this report, Andromeda Metals currently has on issue 2,152,727,827 ordinary shares, 90,820,000 unlisted options and 23,250,000 performance rights.

During the quarter, the Company appointed Taylor Collison Limited as its corporate advisor to assist with a range of corporate initiatives as ADN advances the Great White Kaolin Project through completion of final feasibility studies, obtaining of off-take agreements, implementation of project finance and construction of the Project. Origin Capital were also engaged to assist with the BFS from a corporate finance perspective.

Competent Persons 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.

Information in this announcement that relates to the Exploration Results for the Great White Kaolin Project and Mt Hope Halloysite-Kaolin Project is based on information evaluated by Mr Eric Whittaker who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Mr Whittaker is the Chief Geologist of Andromeda Metals Limited and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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 (the "JORC Code"). Mr Whittaker consents to inclusion in this document of the information in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on and fairly represents information and supporting documentation compiled by Paul Griffin, BMinTech, GradDip(Tech)Man, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM Member No. 100234). Paul Griffin is an Employee and Director of MinEcoTech Pty Ltd and is retained as a consultant and study manager by Andromeda Metals Limited. Paul Griffin holds options in Andromeda Metals Limited. Paul Griffin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Paul Griffin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

SCHEDULE OF TENEMENTS AS AT 31 DECEMBER 2020

Project	Tenement	Tenement Name	Area km^2	Registered Holder or Applicant	Nature of Company's Interest %
South Australia					
Wudinna Gold Joint Venture	EL 6317	Pinkawillinie	156	Peninsula Resources Ltd[1]	100%
	EL 6131	Corrobinnie	1303	Peninsula Resources Ltd	100%
	EL 6489	Wudinna Hill	42	Peninsula Resources Ltd	100%
	EL 5953	Minnipa	184	Peninsula Resources Ltd	100%
	EL 6001	Waddikee Rocks	147	Peninsula Resources Ltd	100%
	EL 6262	Acraman	96	Peninsula Resources Ltd	100%
Moonta Copper Gold Project[2]	EL 5984	Moonta-Wallaroo	713	Peninsula Resources Ltd	100%
	EL 5984	Moonta Porphyry JV	106	Peninsula Resources Ltd	90% - option to acquire 100% from Minotaur Exploration Ltd
Great White Kaolin Project	EL 6588	Tootla	372	Great Southern Kaolin Pty Ltd[3]	AIM 75%[4] GSK 25%
	EL 6096	Whichelby	447	Minotaur Operations Pty Ltd[5]	AIM 75% MOP 25%
	EL 6202	Mt Hall	147	Minotaur Operations Pty Ltd	AIM 75% MOP 25%
	EL 6426	Mt Cooper	684	Minotaur Operations Pty Ltd	AIM 75% MOP 25%
Camel Lake Halloysite Project	EL 6128	Camel Lake	455	Minotaur Operations Pty Ltd	AIM 75% MOP 25%
	ELA 2019/73	Dromedary	481	Minotaur Operations Pty Ltd	AIM 75% MOP 25%
Mt Hope Kaolin Project	EL 6286	Mt Hope	227	Andromeda Industrial Minerals Pty Ltd	100%
Queensland					
Drummond Gold Project[6]	EPM 18090	Glenroy	196	Adelaide Exploration Pty Ltd[7]	100%
	EPM 25660	Gunthorpe	74	Adelaide Exploration Pty Ltd	100%
	EPM 26154	Sandalwood Creek	109	Adelaide Exploration Pty Ltd	100%
	EPM 26155	Mount Wyatt	144	Adelaide Exploration Pty Ltd	100%
	EPM 27501	Packhorse Creek	16	Adelaide Exploration Pty Ltd	100%
Western Australia					
Pilbara Gold Project	E 46/1196	East Rooneys	54	Frontier Exploration Pty Ltd[8]	100%
	E 46/1336	Rooneys	95	Frontier Exploration Pty Ltd	100%
	E 08/2954	Wyloo	124	Mylo Gold Pty Ltd[9]	100%
	E 08/2955	Cheela Plains	123	Mylo Gold Pty Ltd	100%

1 Peninsula Resources Ltd (incorporated 18 May 2007) is a wholly owned subsidiary of Andromeda Metals Ltd.
2 Andromeda Metals Ltd has partnered with Environmental Metals Recovery Pty Ltd ("EMR") to form the Moonta ISR Joint Venture.
3 Great Southern Kaolin Pty Ltd ("GSK") is a wholly owned subsidiary of Minotaur Exploration Ltd.
4 Andromeda Industrial Minerals Pty Ltd ("AIM"; incorporated 9 August 2018) is a wholly owned subsidiary of Andromeda Metals Ltd.
5 Minotaur Operations Pty Ltd ("MOP") is a wholly owned subsidiary of Minotaur Exploration Ltd.
6 Andromeda Metals Ltd has formed a Joint Venture with Evolution Mining Ltd ("EVN") over the Drummond Epithermal Gold Project.
7 Adelaide Exploration Pty Ltd (incorporated 13 July 2001) is a wholly owned subsidiary of Andromeda Metals Ltd.
8 Frontier Exploration Pty Ltd (acquired 21 December 2017) is a wholly owned subsidiary of Andromeda Metals Ltd.
9 Mylo Gold Pty Ltd (acquired 21 December 2017) is a wholly owned subsidiary of Andromeda Metals Ltd.