



Andromeda Metals Limited
ABN: 75 061 503 375

Quarterly Report

Period ending 30 September 2019

Corporate Details

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

Cash at 30 September 2019:
\$1.888 million

Issued Capital:
1,444,270,366 ordinary shares
700,863,798 ADNOB options
20,000,000 unlisted options

Directors

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

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Summary of the Company's activities for the past quarter:

Poochera Halloysite-Kaolin JV (right to earn up to 75% interest)

- Results of the Scoping Study were released during the quarter which supported the view that the Poochera Halloysite-Kaolin Project is a technically sound and financially robust venture with the potential to generate significant cash flows.
- The Scoping Study is based on an initial Direct Shipping Ore (DSO) operation with wet-refining in Asia, which reverts to on-site dry-processing while the plant is constructed during year 2, to occur over a 15 year mine life.
- Project economics from the Scoping Study show a cashflow generated of ~\$800M, a maximum cash requirement of \$25M prior to revenues being received, a payback of only 15 months from the start of mining and an NPV of \$413M and IRR of 174%.
- Non-binding offtake Letters of Intent have been signed by a number of large Chinese potential customers for both DSO, dry-processed and wet-refined halloysite-kaolin product.
- The Project tenure at both Poochera and Camel Lake has been increased with application made for two large tenements adjacent to both areas.
- Focus now directed towards an optimisation to the Scoping Study to consider wet-processing at site and purification of halloysite, while the Pre-Feasibility Study has now commenced.

Drummond Epithermal Gold Joint Venture

- Evolution Mining elected to proceed to Stage 2 under the terms of the Earn-in and Exploration Joint Venture Agreement which will see a further \$4.0 million spent on the Project over the next 2 years.

Moonta Copper ISR Joint Venture

- An initial JORC 2012 Inferred Mineral Resource of 66.1Mt grading 0.17% Cu comprising 114,000 tonnes of contained copper has been estimated covering a number of copper ISR prospects across the northern part of the Moonta tenement.

Rover Copper Gold Project

- The Rover Copper Gold Project was sold to a wholly-owned subsidiary of Westgold Resources for a total cash consideration of \$650,000.

Fundraising

- Subsequent to the end of the quarter, on 25 October 2019 the Company completed a Share Placement of ~85 million shares at an issue price of \$0.047 per share to raise ~\$4.0 million which will principally fund the Feasibility Studies and permitting approvals required for the Poochera Project up to a decision to mine.



James Marsh
31 October 2019



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 30 September 2019.

Poochera Halloysite-Kaolin Project

The Poochera Halloysite-Kaolin Project covers two main geographic areas of interest, both situated in the western province of South Australia (Figure 1). The main area of focus, the Poochera Halloysite-Kaolin Project on the Eyre Peninsula comprises three tenements and one tenement application and is located approximately 635kms west by road from Adelaide and 130kms east from Ceduna (Figure 2).

The Poochera Halloysite-Kaolin Project is an earn-in joint venture between Andromeda and Minotaur Exploration where Andromeda can earn up to 75% beneficial interest through expenditure of \$6 million over 5 years from April 2018. Andromeda is manager and operator of the joint venture.

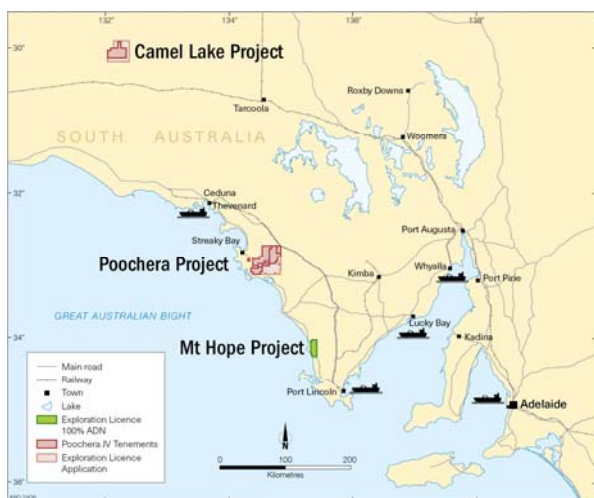


Figure 1 – Project Location Plan

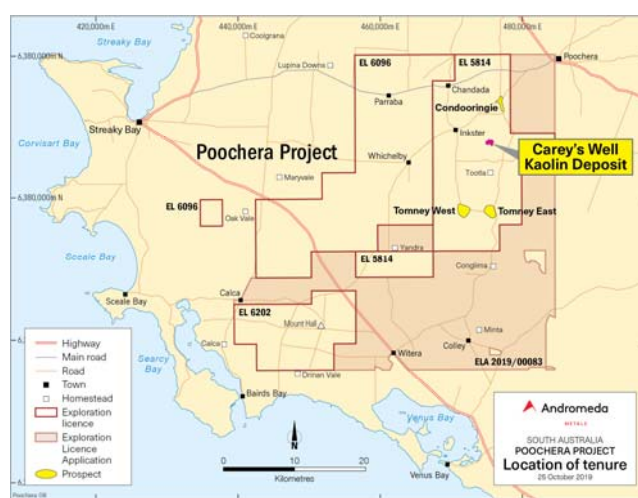


Figure 2 – Poochera Joint Venture tenements

The ports of Thevenard at Ceduna and at Lucky Bay Port potentially offer bulk export facilities suitable for early DSO handling. High quality halloysite-kaolin occurrences exist extensively across the Poochera Project area (Figure 2) 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 positively commercial.

Release of Scoping Study

The Scoping Study to consider a proposed open-cut mine and dry-processing plant for the Carey’s Well deposit located on the Poochera Halloysite-Kaolin Project on the Eyre Peninsula of South Australia was released to the market at the end of the quarter (refer ADN ASX announcement dated 30 September 2019 – “Scoping Study delivers robust economics for Poochera Halloysite-Kaolin Project”). The Study confirmed the Project to be a technically sound and financially robust venture with the potential to generate significant cash flows as a long-term supplier of high quality halloysite-kaolin product to meet a growing demand from ceramics industry manufacturers.

The Study adopted an approach of initially shipping raw material and toll wet-refining in Asia to generate early cash flows to fund the majority of costs associated with construction of an on-site dry-processing facility during the second year of operation. Production is then scheduled to convert to site dry-processing of mined kaolinised granite to remove the majority of the contained quartz sand in the material, which will generate significant transport savings, with the concentrated product shipped in bulk bags to Asia for toll wet-refining in order to produce a premium bright-white halloysite-kaolin product.

A summary of the key physical and financial statistics associated with the Scoping Study is shown in the table below:

Mine Plan – Production Target	
From Measured Resources	4.2 Mt
From Indicated Resources	3.4 Mt
From Inferred Resources	0.0 Mt
Total Production Target	7.6 Mt
Capital Costs	
Initial Capital Costs, Year 0	\$9M
Working Capital to Month 3, Year 1	\$16M
Maximum Cash Requirement	\$25M
Processing Plant, funded by internal cash flow, Year 2	\$28M
Sustaining Capital Costs (Years 3-15 @ \$600K/yr)	\$9M
Production Summary	
Mine life	15 years
Dry-processing rate of kaolinised granite	500ktpa
Stripping Ratio (Waste:Ore)	2.3
Premium Refined Kaolin Produced	187ktpa
Average Yield of Refined Kaolin (LOM average)	37%
Project Economics	
Kaolin Price – Premium Wet-Refined (A\$/tonne ex Asian works)	\$700/t
Revenue	\$1,953M
AISC equivalent (AUD/tonne Wet-Refined Premium Kaolin)	\$396/t
EBITDA LOM	\$844M
Cashflow	\$798M
NPV (8% pre-tax)	\$413M
IRR	174%
Payback from start of site works	15 months

Note – all figures are on a 100% project basis and rounded to reflect appropriate levels of confidence

After consideration of a number of potential mining and production scenarios, focus was directed towards a mining rate of 500ktpa of raw material for the 7.6Mt Production Target over a 15 year mine life, producing on average 187ktpa of premium refined kaolin product.

The Project will create approximately 30-40 jobs once the dry-processing plant is operating with most employees to be sourced locally and reside in the Streaky Bay district.

At an assumed selling price of A\$700/tonne, total LOM revenues of A\$1,957M are estimated to be generated by the Project. Total All In Sustaining Cost (AISC) averages A\$396/tonne over the LOM and this presents a significant cash margin to be generated by the Project given LOM capital expenditure totals A\$62M which includes initial start-up and working capital expenditure of A\$25M and the cost of construction of a dry-processing plant of a further A\$28M in year 2. Total cumulative cash flow generated over the LOM is approximately A\$800M. At an assumed discount rate of 8%, the Project has an NPV of \$413M, an IRR of 174% and payback of initial capital and operating expenditures within 15 months from commencement of operations.

Additional other kaolin market areas, including supplying conventional grade kaolin, the High Purity Alumina (HPA) sector and halloysite nanotechnology research, have not been considered as part of the Scoping Study and represent potential future opportunities to be evaluated.

The anticipated timeline for Project development is to conduct environmental and Pre-Feasibility Studies from October 2019 to mid 2020. Subject to satisfactory progress on a subsequent Definitive Feasibility Study and the obtaining of all necessary regulatory approvals and agreements, commencement of operations is targeted for mid 2021.

The Company is currently undertaking an optimisation of the Scoping Study through the consideration of a wet-processing option utilising a low cost, highly efficient and commercially available facility to potentially be based on site that has the advantage in that it produces a fully wet-processed product that allows the Company to significantly increase product recovery. Work is also underway on a number of initial tasks associated with the Pre-Feasibility Study, including baseline environmental studies required for permitting approvals.

Offtake Letters of Intent

A visit to China in late June by Company representatives confirmed a significant demand for both halloysite-kaolin ore and dry-processed product by numerous potential Chinese customers. As a result, a number of non-binding offtake Letters of Intent (LOI) have been received over the September quarter for both DSO and dry-processed halloysite-kaolin material providing both an estimate of annual volumes and a price range that each customer would consider paying for the product. This is in addition to previously signed LOIs already in place for 208,000tpa of wet-processed product, being a premium grade for the ceramics industry.

A total of 405,000tpa of DSO halloysite-kaolin has been included in non-binding offtake LOIs with both Longyan Kaolin China, a world leader in speciality halloysite-kaolin materials for the ceramics industry, and Beihai Kaolin which owns one of China's largest capacity processing facilities (*refer ADN ASX announcement dated 19 August 2019 – "Direct Shipping Ore offtakes secured for Halloysite-Kaolin product"*). In addition, non-binding offtake LOIs have also been received totalling 307,000tpa from a number of significant Chinese companies including Anpeak China, China Mineral Processing Group, and a number of others (*refer ADN ASX announcement dated 29 July 2019 – "Additional offtake for dry-processed Halloysite-Kaolin product"*).

The offtake LOIs have been used in the Scoping Study to provide estimates of sales volumes and revenues for both DSO and dry-processing scenarios.

Expansion of Project Tenure

Two exploration licence applications that are considered prospective for halloysite-kaolin have been lodged for large areas adjacent to the Poochera and Camel Lake Projects. Both exploration licences will be included under the Joint Venture Agreement with Minotaur. ELA 2019/00083 "Mount Cooper" covers 648kms² directly south and east of the three tenements at Poochera and capture areas near the Tomney and Condooringie prospects, where previous drilling has encountered considerably high-purity halloysite (Figure 2). ELA 2019/00073 "Dromedary" comprises 481kms² bordering the Camel Lake tenement to the north, east and south and has been secured as part of a strategy to explore for further high-purity halloysite occurrences.

Camel Lake Halloysite Project

Planning for the commencement of exploration activities at Camel Lake is well advanced with drillhole planning complete and engagement with key stakeholders initiated. Previous near surface exploration sampling at Camel Lake has identified halloysite up to 99.6% purity containing rare, uniform and consistently shaped halloysite material.

Mount Hope Kaolin Project

Exploration plans are similarly being prepared to undertake drilling at the 100% owned Mount Hope Kaolin Project where a historical non-JORC kaolin resource of 12.26Mt has previously been reported.

Drummond Epithermal Gold Joint Venture

The diamond drilling program, which commenced in May, was finalised during the quarter by joint venture partner Evolution Mining (ASX: EVN, Evolution). A total of 10 diamond holes for 4,568 metres were drilled with 5 holes for

2,159.7 metres drilled at Bunyip (*refer ADN ASX announcement dated 31 July 2019 – “Quarterly Activities Report”*) and 5 holes for 2,408.3 metres drilled at South West Limey. All assays have been received for the Bunyip drilling but a number are still awaited for South West Limey. The highest intercept achieved at Bunyip was 3.42g/t Au from 7 metres while at South West Limey the results received to date have returned only narrow low grade intersections.

In addition to the drilling undertaken, during the quarter Evolution extended the geological mapping of the Limey Trend (from South West Limey to North Limey along a 2.5km strike length), completed an extension to the ground magnetic survey north of South West Limey along the Limey Trend to North Limey, commenced a soil sampling program over the Stones Creek Volcanics, performed geological mapping of the Breccia Hill prospect, and undertook significant track upgrades to provide access for further regional and remote work across the Drummond Project.

During the quarter, Evolution advised that it had met the Stage 1 expenditure commitment of \$2.0 million within the first year of execution of the Earn-in and Exploration Joint Venture and on 11 September 2019 gave notice of its decision to proceed with Stage 2 under which it is required to spend an additional \$4.0 million over the next 2 years to acquire an 80% equity interest in the Project. Under the terms of the Agreement, Andromeda received a cash payment of \$200,000 from Evolution on its decision to proceed with Stage 2.

Moonta Copper ISR Joint Venture

During the quarter, Moonta ISR Joint Venture partner Environmental Metals Recovery (EMR) completed a JORC 2012 Mineral Resource Estimate incorporating historical drilling results from a number of copper prospects over the area of interest covered by the joint venture that are considered favourable for ISR application. The results from this work has determined an Inferred Resource of 66.1 million tonnes grading 0.17% Cu, containing 114,000 tonnes of contained copper at a cut-off grade of 0.05% Cu (*refer Thor Mining THR ASX announcement dated 15 August 2019 – “Substantial Mineral Resource Estimate for Moonta Copper”*).

Samples from the Wombat and Alford West prospects have been submitted to CSIRO laboratories in Waterford, Perth where they will undergo mineral characterisation using XRD and QEMSCAN. Following this, the samples will be put through bottle-roll testing using a variety of lixiviants to ascertain what systems may be appropriate to test column leach work to be carried out later in the year.

CT scanning of selected ore is being planned to further analyse porosity and permeability properties.

Eyre Peninsula Gold Joint Venture

Joint Venture partner Cobra Resources is currently finalising a capital raising following which funds will be allocated towards an extensive exploration program across the Wudinna Gold Project to further drill test areas open at Baggy Green and other prospects identified within the project area.

Pilbara Gold Project

The Company has made an application to acquire a tenement adjacent to E46/1196 “Rooneys” to add to the Pilbara Gold Project tenement portfolio. The new tenement E43/1336 has significant interest in that the Mount Roe Basalt and Hardey Formation, which are the targeted units found in the Pilbara Conglomerate Gold Models, outcrop along with the basement Pilbara Craton Inlier for approximately 14 kms. The tenement has evidence of historical alluvial gold workings and past metal detecting for nuggets, with gold anomalous rock chips encountered over the 14 kms of strike. However no drilling has been completed over the tenement other than two shallow holes previously drilled for uranium.

Andromeda is currently considering how best to move the project forward given the focus of the Company is directed towards development of the Poochera Halloysite-Kaolin Project.

Rover Copper Gold Project

On 2 August 2019 the Company executed a binding Sale and Purchase Agreement for the sale of the Rover Copper Gold Project to Castile Resources Pty Ltd, a wholly owned subsidiary of Westgold Resources Limited, for a total cash

consideration of \$650,000 which was received on 3 September 2019 following receipt of Ministerial consent for the sale to Castile.

Finance and Corporate

The Company's cash position at the 30 September 2019 stood at \$1.888 million.

Subsequent to the end of the quarter, the Company completed a Share Placement of 85,046,790 ordinary shares at an issue price of \$0.047 per share to professional and sophisticated investors raising a total of \$3,997,199 before costs.

In addition, a total of 2,738,326 ordinary shares have been issued during and subsequent to the end of the quarter resulting from the exercise of ADNOB listed options by optionholders, providing the Company with cash receipts of \$32,860 at the exercise price of \$0.012 per option.

As a consequence of the security issues described above, Andromeda currently has on issue 1,444,270,366 ordinary shares, 700,863,798 ADNOB listed options and 20,000,000 unlisted options.

Annual General Meeting

The Company will hold the 2019 Annual General Meeting at The Science Exchange, 55 Exchange Place, Adelaide, South Australia on Thursday 28 November commencing at 2.00 pm (Adelaide time ACDT).

Competent Persons Statements

Information in this announcement has been assessed and compiled from previous ADN ASX releases by Mr James Marsh and Mr Rhoderick Grivas, both members of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Marsh and Mr Grivas are employees of the Andromeda Metals Limited and have 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 a 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 and Mr Grivas consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report that relates to Exploration Results for the Drummond Gold Project is based on information compiled by Rex Brommecker, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Brommecker is employed by Evolution Mining Limited on a full time basis. Mr Brommecker 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'. Mr Brommecker 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 30 SEPTEMBER 2019

Project	Tenement	Tenement Name	Area km ²	Registered Holder or Applicant	Nature of Company's Interest %
South Australia					
<i>Wudinna Gold Joint Venture</i>	EL 6317	Pinkawillinie	156	Peninsula Resources Ltd ¹	100%
	EL 6131	Corrobinnie	1303	Peninsula Resources Ltd	100%
	EL 5615	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%
<i>Moonta Copper Gold Project</i> ⁹	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
<i>Poochera Kaolin Project</i>	EL 5814	Tootla	372	Great Southern Kaolin Pty Ltd ²	GSK 100% ADN earning 51% over 24 months
	EL 6096	Whichelby	447	Minotaur Operations Pty Ltd ³	MOP 100% ADN earning 51% over 24 months
	EL 6202	Mt Hall	147	Minotaur Operations Pty Ltd	MOP 100% ADN earning 51% over 24 months
	EL 6128	Camel Lake	455	Minotaur Operations Pty Ltd	MOP 100% ADN earning 51% over 24 months
<i>Mt Hope Kaolin Project</i>	EL 6286	Mt Hope	227	Andromeda Industrial Minerals Pty Ltd ⁴	100%
Queensland					
<i>Drummond Gold Project</i> ⁶	EPM 18090	Glenroy	196	Adelaide Exploration Pty Ltd ⁵	ADN 100% EVN earning 51% over 24 months
	EPM 25660	Gunthorpe	74	Adelaide Exploration Pty Ltd	ADN 100% EVN earning 51% over 24 months
	EPM 26154	Sandalwood Creek	109	Adelaide Exploration Pty Ltd	ADN 100% EVN earning 51% over 24 months
	EPM 26155	Mount Wyatt	144	Adelaide Exploration Pty Ltd	ADN 100% EVN earning 51% over 24 months
Western Australia					
<i>Pilbara Gold Project</i>	E 46/1196	East Rooneys	54	Frontier Exploration Pty Ltd ⁷	100%
	E 46/1336 (Application)	Rooneys	95	Frontier Exploration Pty Ltd	100%
	E 08/2954	Wyloo	124	Mylo Gold Pty Ltd ⁸	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 Great Southern Kaolin Pty Ltd ("GSK") is a wholly owned subsidiary of Minotaur Exploration Ltd.

3 Minotaur Operations Pty Ltd ("MOP") is a wholly owned subsidiary of Minotaur Exploration Ltd.

4 Andromeda Industrial Minerals Pty Ltd (incorporated 9 August 2018) is a wholly owned subsidiary of Andromeda Metals Ltd.

5 Adelaide Exploration Pty Ltd (incorporated 13 July 2001) is a wholly owned subsidiary of Andromeda Metals Ltd.

6 Andromeda Metals Ltd has formed a Joint Venture with Evolution Mining Ltd ("EVN") over the Drummond Epithermal Gold Project.

7 Frontier Exploration Pty Ltd (acquired 21 December 2017) is a wholly owned subsidiary of Andromeda Metals Ltd.

8 Mylo Gold Pty Ltd (acquired 21 December 2017) is a wholly owned subsidiary of Andromeda Metals Ltd.

9 Andromeda Metals Ltd has partnered with Environmental Metals Recovery Pty Ltd ("EMR") to form the Moonta ISR Joint Venture.